# COMPREHENSIVE REPORT – GROUNDWATER STUDIES AT THE SRB TECHNOLOGIES FACILITY, PEMBROKE, ON

Report prepared for:

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# COMPREHENSIVE REPORT – GROUNDWATER STUDIES AT THE SRB TECHNOLOGIES FACILITY, PEMBROKE, ON

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# EXECUTIVE SUMMARY

Tritium lighting units have been manufactured at the SRB Technologies (Canada) Limited (SRB) facility in Pembroke, Ontario, since 1990. The facility processes tritium gas resulting in small releases of this gas that occur under normal operating conditions that are vented to the atmosphere at high velocity, vertically through "stacks" that are located at the rear of the building. The amount of tritium that can be released to the atmosphere is prescribed in the licence conditions set out by the Canadian Nuclear Safety Commission (CNSC) and is stipulated as a total activity per annum. Records of tritium release are maintained by SRB and the licensed emission limits have not been exceeded during the operation.

A study was undertaken by SRB to assess the Derived Release Limit (DRL) for the facility in 2004-05. During that study, soil moisture and groundwater samples were collected on site were analyzed and showed that some samples exhibited tritium concentrations above the Ontario drinking water guideline of 7,000 Bq/L. In response to the observed concentrations in subsurface water, CNSC developed a control order that, in part, required SRB to complete a groundwater investigation to determine the source of elevated tritium levels in groundwater, and to develop an understanding of the distribution of tritium in the subsurface in the vicinity of the SRB facility. EcoMetrix Incorporated (EcoMetrix) was retained to complete the groundwater investigation.

The groundwater investigation was undertaken in four phases. A total of 37 monitoring wells were installed during the investigation, together with the collection and analysis of overburden samples and collection of bedrock cores. Nine (9) wells were installed in the overburden, seventeen (17) wells were screened at the top of bedrock, four (4) were installed in shallow bedrock and seven (7) were screened in deeper bedrock (5 to 6 m below top of bedrock). Many locations included nested wells that were screened in the different hydrostratigraphic units. This comprehensive report was developed after Phase 4 of the field investigation was completed.

This investigation identified four hydrostratigraphic units of interest. These include the clay-rich overburden, a zone at the top of bedrock between clay and bedrock surface, the shallow bedrock (top 3 m) and deeper bedrock (3 to 6 m below the bedrock surface). The overburden is described as clay-silt and the hydraulic conductivity values measured by single well recovery tests had a geometric mean of about $1x10^{-8}$ m/s. The zone at the top of bedrock consists of carbonate rocks with shale interlayers that exhibited a higher mean hydraulic conductivity of $4x10^{-7}$ m/s even though there was no obvious sand or gravel layer that has been reported in studies of other properties in the Pembroke region. The shallow and deeper bedrock zones had similar hydraulic conductivity values near $2x10^{-6}$ m/s even though the shallow bedrock exhibited more fracturing than the deeper bedrock.

Groundwater flow in the area starts as soil moisture at the surface with downward flow through the overburden to the bedrock. With the higher permeability at the top of bedrock, flow then becomes more lateral. Some downward flow into the shallow bedrock is expected

with a dominantly lateral flow in the bedrock. This conceptual flow regime is consistent with the measured vertical and horizontal hydraulic gradients. The vertical gradients were downward and high throughout the profile, with average values of 1 (m/m) through the clay, 0.3 (m/m) across the top of bedrock and 0.6 (m/m) between the shallow and deeper bedrock zones. These vertical gradients result from low permeability, resistive horizontal layers. The overburden is composed of clay silt and the measured permeability in this unit is consistent with this resistance to vertical flow. The high gradients into the bedrock indicate that there are competent low permeability horizontal layers, likely thin shale units in the limestone that represent barriers to vertical flow, and are not reflected in the higher measured values that generally represent the horizontal component of hydraulic conductivity. The high vertical gradients from the top of bedrock into the deeper bedrock show that the vertical hydraulic conductivity values in the rock must be much lower that the horizontal values, likely by a factor of 10 or more.

Horizontal flow along the top of bedrock and within the shallow bedrock below the site occurs toward the east, representing the closest direction to the Muskrat River. The largest groundwater velocity based on the geometric mean hydraulic conductivity of the bedrock (most permeable unit) and measured gradients, assuming a porosity of 0.3, is about 4 m/a. A groundwater divide occurs off-site, adjacent to the southwest corner of the building. Flow at this location heads in a north to northwest direction, but does not involve groundwater originating on the SRB property. All groundwater originating on site migrates in an easterly direction toward the industrial areas adjacent to the Muskrat River.

Overburden samples were collected during drilling and samples were analyzed for tritium. Multiple samples were collected in each borehole to assess the vertical profiles to the top of bedrock. These profiles show that concentration generally exhibit maximum tritium concentrations at depths intermediate between the ground surface and the top of bedrock. The observed concentrations fall within the ranges expected for air dispersion of tritium emissions to the borehole locations and equilibrium exchange with soil water at those locations. The results in the overburden clearly show that the source of tritium in soil and groundwater is from atmospheric emissions and air dispersion, and therefore not from any release of liquid containing elevated tritium concentrations.

A total of 55 groundwater wells are sampled on a regular basis, including the 37 monitoring wells. Two-thirds of the groundwater samples from the monitoring wells had tritium concentrations below the drinking water guideline of 7,000 Bq/L. All but two groundwater samples had tritium concentrations that were consistent with values expected from the emissions history and air concentrations at the well locations. The two groundwater samples that were greater than those expected from air dispersion were affected by water draining from roof downspouts or from snow storage areas in which water or snow would have developed higher tritium levels in closer proximity to the stacks.

There are two locations on the SRB site that have elevated tritium concentrations that are in the range of 40,000 to 50,000 Bq/L, or several times the drinking water guideline value.

Only two water supply wells are located down gradient from those areas on site. Those supply wells are located on the Superior Propane property. The one well that is used to supply water to the office has been monitored regularly and exhibits tritium concentrations less than 1,500 Bq/L. The other well is used to supply water for truck washing and is not used for drinking purposes and has not exceeded 5,000 Bq/L.

The Muskrat River likely represents the main discharge area for shallow groundwater in the area and is about 420 m from the SRB property along the shortest pathway. Assessment of groundwater velocities in conjunction with natural decay of tritium indicates that any discharge of groundwater, at the river, that originated at the SRB site will have tritium levels below the drinking water guideline. Groundwater with elevated tritium levels will migrate at an average horizontal velocity of 4 m/a in the shallow bedrock. At this rate, tritium concentrations will decline by natural decay to 10% of their initial values after about 160 m of travel, and will decline to 1% of initial values in 340 m of travel. Because the highest concentrations of tritium on site are about 50,000 Bq/L, the maximum concentrations at a distance of about 100 m down gradient, after about 3 half-lives of travel, will be less than the drinking water guideline of 7,000 Bq/L.

Soil samples taken over time have clearly shown decreases in tritium concentrations that are directly correlated with decreases in emissions of tritium from the facility. Therefore, the planned decrease in operating emissions will eliminate soil water and groundwater with tritium exceeding the drinking water guideline. This planned decrease in emissions together with natural decay will eliminate all tritium concentrations in groundwater in excess of the drinking water guideline within a few decades, and there is no indication of residual risk while this natural mitigation occurs.

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# 1.0 INTRODUCTION

## 1.1 Background

SRB Technologies (Canada) Limited (SRB) has operated a tritium lamp factory at 320-140 Boundary Road in Pembroke, Ontario since December 1990. EcoMetrix Incorporated (EcoMetrix) was retained by SRB to assess emissions from the facility, including tritium concentrations in groundwater. Tritium is imported to the facility in sealed glass for the production of various instruments that rely on tritium for their function. During the routine handling of imported tritium and the manufacture of instruments, best practices are employed to manage the tritium inventory and prevent tritium loss. Some losses are unavoidable, and releases of tritium (HT and HTO) to atmosphere do occur as a result of routine operational procedures. This necessitates efforts to quantify the exposure of members of the public to these radionuclides, and also to quantify the radiation dose received as a result of this exposure. Accordingly, SRB has established an environmental monitoring program (EMP) to measure levels of tritium in environmental media (air, plant products, animal products) in the vicinity of the facility. Radiation doses to members of the public are also regularly determined, and derived release limits (DRLs) have been established as required by the Canadian Nuclear Safety Commission (CNSC).

The SRB facility is not designed to collect, treat or discharge any liquid sources of tritium that could contribute to on-site contamination of groundwater, and thus the EMP was not focused on groundwater as an environmental media to be assessed. Equally, the DRL that was recognized in the facility license (Canatom, 1996) had assumed that public exposure to tritium in groundwater was not significant.

However, the CNSC has expressed concern for levels of tritium in the subsurface water (groundwater) at and near the SRB facility at Pembroke. The concern relates to the potential for transport of water with tritium levels above the drinking water guideline to local wells where the water can be ingested by humans.

On November 16, 2005, an Order was issued by CNSC requiring SRB to have an independent third party characterize and confirm all sources and causes of elevated tritium in groundwater, and to identify any continuing sources of tritium in groundwater. This Order was eventually revoked and incorporated into condition 12.2 of SRB's Licence NSPFOL-13.02/2006.

In March 2006, a Groundwater Study report was prepared by EcoMetrix Inc. and submitted to the CNSC. That report concluded that atmospheric stack emissions from the SRB facility were the sole significant source of tritium in groundwater, both on and off site. Further, tritium presently observed in groundwater at and near the SRB facility is of historical origin. All available information considered in the 2006 Groundwater Study Report suggested that stack emissions, which have been diminishing steadily in time, have not led to levels of tritium in groundwater that are of concern with respect to either human or ecological exposure. With decreasing rates of atmospheric emission and continual radiological decay of legacy tritium in groundwater, the levels of tritium in groundwater observed at present should exhibit a declining trend in coming years.

Since the completion of the original Groundwater Study Report, a number of additional efforts have been made to refine the understanding of the distribution and fate of tritium in groundwater, particularly in the immediate area of the facility and to confirm the original conclusions.

## 1.2 Study Objective and Scope of Work

The objectives of the groundwater study were to provide an understanding of the nature of potential release of tritium from SRB that could affect groundwater, and the current levels of tritium activity in groundwater, and the spatial variability thereof.

The scope of work involved two primary components; an initial review of documentation and data relating to the potential influence of the SRB Facility on local groundwater resources and a field-level investigation including installation of groundwater monitoring wells, primarily focused on sampling and analysis of soil moisture and groundwater for tritium.

The study was conducted over four phases, with the results of each phase providing guidance on the areas of focus for the next phase. The initial phase of the study was completed in accordance with the Terms of Reference (TOR; EcoMetrix, 2005) provided to, and approved by, CNSC (Appendix A). Prior to the outset of each phase of field activities, a work plan was prepared and forwarded to CNSC and/or MOE for comment and approval.

Although it is recognized that discussion of the amount of tritium in media (e.g. soil, water, air) is typically described in terms of “tritium activity concentration”, for the purposes of this report, “tritium concentrations” are used with typical units of Bq/L.

# 2.0 SITE SETTING

## 2.1 Facility Characterization

In 1997, a Phase 1 Environmental Site Investigation of 320 Boundary Road was completed, examining the potential environmental liabilities associated with the property. The associated report (GeoCor, 1997) provides a basic understanding of the facility history along with some construction details.

The building which currently houses SRB's operations is situated on Parts of lots 28 and 29 of Concession 1. It was constructed in 1990 with a slab-on-grade floor, with no floor drains in the controlled Zones 2 or 3 of the facility, where significant levels of tritium could be encountered. During the site reconnaissance completed in December 2005 by EcoMetrix, this floor was in very good shape, and there were no cracks observed in Zones 2 or 3.

As noted in the Introduction, some environmental releases of tritium in gas form do occur as part of normal Facility operations at SRB. The primary route of release of tritium from the Facility is to atmosphere via two exhaust stacks located at the western corner of the building. The Facility generates small amounts of operational liquid effluents. This includes ongoing clean-up of residual tritium in Zones 2 and 3. Clean-up practices involve wipe down and mopping of floors and walls with clean water, and subsequent collection of clean-up water for regulated disposal via the municipal sewer system. Other maintenance-related waste streams (e.g. pump-fluids, broken glass vessels) are handled as controlled wastes and they are appropriately handled and disposed at AECL's Chalk River facility.

## 2.2 Surrounding Area

The current zoning of the SRB facility is M3 (Industrial Park Zone), as designated under municipal By-law 88-17. This zoning permits a variety of light industrial uses, but excludes residential use. The closest area under residential zoning is Johnson's Meadows, which was originally developed in the 1970s, but is currently being expanded. At the closest point, this residential area is approximately 250 m from SRB (measuring from the location of the stacks). The centre of this development is situated more-or-less west-northwest of SRB, thus lying within a high frequency wind sector. This development is fully serviced by the municipality's central water supply.

A narrow band of land along Boundary Road, approximately southeast of SRB, is also zoned as residential. This area is also within a compass sector with a relatively high frequency of winds coming from the direction of SRB (Appendix B). The closest lot in this strip is greater than 200 m from the SRB stacks. This lot is currently being developed and is serviced by municipal water. To the west of SRB lies the as-of-yet undeveloped lands of the TransCanada Corporate Park, located within an area zoned for Industrial Use.

The main portion of the City of Pembroke lies within the northwest to northeast compass sectors relative to SRB. For the most part, these are relatively low wind frequency sectors (Figure 2.1). The closest lot is to the north-northeast of SRB, just over 600 m from the stacks.

Other than the noted residential zones, the majority of lands adjacent within 1 km of the SRB Facility are zoned Industrial.

## 2.3 General Geology

In advance of field activities, regional and local geological conditions were defined, primarily from existing documentation (e.g., Gillespie *at al*., 1964; Golder, 2003). This hydrogeological information was further developed at a local scale during the field-level reconnaissance and subsequent drilling programs, and ultimately serves in understanding groundwater transport. Information of relevance includes hydrogeologic characteristics, water table elevations, hydraulic gradients, and various characteristics of the pore-water and groundwater media (overburden and bedrock), such as porosity and hydraulic conductivity.

The study area, including the City of Pembroke and the Township of Laurentian Valley, is located on the oldest part of the Canadian Shield, in the Central Meta-Sedimentary Belt Boundary and the Central Gneiss Belt of (tectonic) Grenville Province. The dominant crust is the "Algonquin Terrane", and the most common deposit is the Opeongo domain. The Ottawa Valley Clay Plain and the Petawawa Sand Plain are the physiographic regions present.

The City and Township encompass a wide representation of Paleozoic geology, and Precambrian rocks dominate as they are present throughout the township and at the west and southwest perimeter of the city. Other Paleozoic formations also exist. The Rockcliffe Formation runs along the Muskrat River and into the Ottawa River. It is also found in association with the Gull River and Bobcaygeon Formations east of the Muskrat River and on Morrison Island. The Gull River and Bobcaygeon Formations are also found at the east end of Beckett Island and run eastwards north of Cotnam Island. The Oxford Formation is found only just south of Beckett Island (MNDM, 1988). Within the study area, Paleozoic rock formations are Precambrian, undifferentiated metamorphose and igneous rocks. Starting at the northeast corner of Boundary Road and Paul Martin Drive and continuing northwards, the Oxford Formation is present. A bedrock fault running along parallel to Boundary Road in front of the SRB facility is also identified in Ontario Geological Survey (OGS) Map P2727 (Russell and Williams, 1985) and shown in Figure 2.2

The soils of the area have been well characterized in the Ontario Soil Survey (Gillespie *at al*., 1964). Figure 2.3 depicts the soil survey map for the Pembroke area. The soils in the study area are generally clay silt, silty clay, and clayey silt mixtures. Pockets of sandy to silt, stony subglacial till are present just south of the site. For the most part, the soils are characterized by relatively poor drainage.

## 2.4 General Hydrogeology – Previous Information

In 2003 a groundwater study was completed for the Mississippi Valley Conservation Authority for Renfrew County (Golder, 2003). This study encompassed both the City of Pembroke and adjacent townships. The following general conclusions are drawn from this study:

- Pembroke is entirely within the Ottawa Valley Clay Plain physiographic region.
- Regionally, shallow (<15 mbgs) and deep (>30 mbgs) groundwater flows from the Madawaska Highlands towards the Ottawa River valley (i.e., from the southwest to the northeast).
- Local groundwater flow direction can vary significantly from regional flow direction, reflecting local topography and the presence of bodies of surface water (lakes, rivers).
- In terms of recharge, the area around SRB is indicated as being transitional (i.e. not predominantly discharge nor recharge). Being close to both the Muskrat and Ottawa Rivers, the area in general represents a discharge zone.
- Typical recharge rates for the region are 150 to 400 mm per annum, but in the area of Pembroke recharge rates are very low (i.e. 0 to 100 mm per annum).
- Overburden in the area is comprised primarily of Champlain Sea deposits (marine offshore clay-silt).
- Typical overburden thickness in the area around Pembroke is 20 to 30 m, with a relatively thin layer of sand and gravel (2 to 4 m thick) generally found immediately above bedrock.
- Hydraulic conductivity is reported as approximately $10^{-5}$ m/s for basal sand and gravel, and in the range of $10^{-10}$ to $10^{-6}$ m/s for clay/till overburden.
- Bedrock elevation in the Pembroke area ranges from 100 to 150 meters above sea levels (masl), which is low for the region.
- The shallow water table is indicated as being in the order of about 125 masl in the Pembroke area.
- In the Ottawa River valley, depressions in bedrock are typically filled with clay which functions as aquitards, creating a poor connection between overburden and bedrock zones.
- The Renfrew Groundwater (Golder, 2003) study reports that majority of water supply wells in close proximity to Pembroke are screened into limestone or Precambrian

bedrock (granite), as is also indicated by the MOE Well Records for the area within 5 km of SRB.

- Bedrock of sedimentary origin, such as the Rockcliff formation along the Muskrat River, is characterized by both vertical and horizontal fractures.

The site-specific study (INTERA, 1994) at the commercial property immediately adjacent to SRB, provided the following conclusions regarding groundwater:

- The site is not connected to an aquifer or sensitive surface water receptor via natural or man-made conduits.
- The direction of groundwater flow is generally to the east, towards the Muskrat River.
- The highest annual water table is likely at or above the bottom of basements, with the mean water table depth reported as ~ 4.5 mbgs
- Overburden is composed of primarily of silty-clay to a depth of about 5.5 mbgs, where a layer of dense and plastic brown clay is encountered.
- Hydraulic conductivity of sub-surface materials is likely less than $10^{-6}$ m/s.

# 3.0 METHODOLOGY

To meet the objectives of this study, a number of activities were completed between December 2005 and October 2007 including:

- an initial review of all potential sources of tritium and receptors;
- review of all groundwater wells in the area of SRB including review of all available MOE Well records as well as a door-to-door survey;
- surface soil sampling by SRB in September of 2006 and 2007;
- air dispersion modelling that included predictions of the spatial distribution of tritium in soil moisture;
- precipitation and standing water sampling by SRB;
- geophysical survey to evaluate the depth to bedrock in the area of SRB;
- installation of 37 groundwater monitoring wells on- and off-site of SRB; and
- regular water level monitoring and groundwater sampling for tritium analysis.

More detailed descriptions of the study components are discussed in the following sections.

## 3.1 Initial Review

### 3.1.1 Existing Data and Documents

The first effort at the onset of the study was an initial review of SRB Facility operations (past and current) to identify and characterize all possible releases of tritium that could enter into groundwater. Relevant information from SRB, the CNSC, and other sources was obtained for review purposes.

In general, the initial review served to identify and characterize:

- sources of tritium to groundwater;
- locations of potential public exposure to groundwater in the vicinity of the SRB facility; and
- existing points of access for direct assessment of the current distribution of tritium in groundwater.

In the identification of sources, all facility processes and releases (past and present) were considered, including any unmonitored fugitive emissions and one-time events that might contribute to the total loading of tritium to groundwater. An analysis of the tritium sources from the Facility was completed by SRB and the results provided in a report submitted to CNSC titled "Systematic And Quantitative Analysis Of Tritium Sources And Their Potential Contribution To Groundwater Contamination" (SRBT, 2007a).

Municipal zoning was consulted to identify locations in close proximity to the Facility that could be developed in the near future.

Regional and local hydrogeological conditions were also delineated in the initial review, primarily through review of regional surveys (e.g. Gillespie at al., 1964 and Golder, 2003).

### 3.1.2 Existing Water Supply Wells

City of Pembroke Zoning By-Law 97-38 requires all buildings within the city, including residential dwellings, to be connected to the municipal piped water services, and prohibits the installation of water supply wells within the city. However, to identify possible water supply wells that might have been installed prior to the existence of the By-Law, a search of the MOE Well Record database was completed. Copies of available MOE Well Records for identified wells are provided in Appendix C. A door-to-door survey was also completed by SRB in November 2006 to identify any additional groundwater wells within 400 m of the SRB facility not in the MOE database.

In total, six water supply wells were identified to be located within close proximity to SRB, with five of the wells used for human consumption (two for commercial and three residential purposes). The other well is used for washing vehicles at a commercial establishment. The locations of the water supply wells are provided in Figure 3.1.

### 3.1.3 Site Reconnaissance

An understanding of SRB Facility characteristics and local ambient conditions of relevance to the groundwater study was developed in part through a site reconnaissance, conducted by EcoMetrix staff on 28 December 2005. The reconnaissance included a complete tour of the facility and a detailed examination of all processes involving the use and handling of tritium. A key focus of the reconnaissance was to identify any possible pathways of release of tritium to groundwater at the facility. Atmospheric releases are well-characterized and the focus of the reconnaissance was to identify any potential direct releases of tritium in liquid form to the surrounding environment.

The area surrounding the facility was also surveyed to gain a first-hand understanding of the overall scenario in which exposure to tritium emissions from the facility might occur. During the site survey, five groundwater monitoring wells were identified on inactive rail lands to the north of SRB. No details on the installation of these monitoring wells were available. In addition, no protective casing was placed over these wells and, based on visual examination, the integrity of these wells is questionable. The locations of these monitoring wells are provided in Figure 3.3. During the initial phases of this study, water levels and samples were collected from these wells. However, since little was known about the installation details and integrity of these wells, and as more information was obtained from newly installed wells during subsequent work phases, sampling from these wells was reduced to every 4 months.

### 3.1.4 Air Dispersion Modeling

It has been shown that air emissions represent the only source of tritium originating from the SRB facility to groundwater. Historical air emissions from the facility, which include total reported HTO and 2% of total reported HT to account for HT oxidation to HTO, are summarized in Table 3.1, and show that the highest annual emissions were in 2000 at $1.7x10^6$ GBq/a. However, emissions in 2006 have decreased to levels less than 5% of the 2000 values . As part of the EMP, SRB also completes regular monitoring of passive air samplers located in various locations on and off-site as shown in Figure 3.2. The results to date are provided in Table 3.2.

Air dispersion modelling was recently completed to provide proposed Facility DRLs for SRB (EcoMetrix, 2006). The overall site DRL model included sub-models for atmospheric dispersion and also transfer from atmosphere to soil moisture. The model was applied predicatively to understand the general distribution of tritium in soil moisture and groundwater in the area surrounding the SRB Facility, including estimation of the tritium concentrations in groundwater at each of the monitoring wells.

## 3.2 Field Investigation

### 3.2.1 Borehole Drilling and Monitoring Well Installation

A total of 37 monitoring wells were installed both on and off-site as part of the groundwater investigation. Borehole drilling and monitoring well installation was completed in four separate phases between January 2006 and October 2007, and included monitoring well installations in the clay overburden (9 wells), at the clay-bedrock interface (17 wells), within the shallow bedrock (4 wells) and at deeper depths within the bedrock (7 wells). A summary of the well installation details is provided in Table 3.3, with well locations shown in Figure 3.3. It is noted that monitoring wells MW06-4S and MW06-4D are no longer in place due to residential development. However, tritium concentrations in these wells were low (211 and 3 Bq/L for MW06-4S and MW06-4D, respectively for 24 February 2006). Monitoring well MW06-7 was planned as part of the original investigation but was never completed and does not exist. It is noted that some historical documentation have mistakenly referred to MW06-7 in place of MW06-6.

Borehole drilling was completed by Geo-Logic Inc. of Pembroke, ON, and their sub-contracted drillers (George Downing Estate Drilling Ltd. of Grenville-Sur-La-Rouge, QC and Air Rock Drilling Co. of Brockville, ON), under the technical supervision of EcoMetrix.

Boreholes completed within the overburden were completed using either a track-mounted CME drill rig and standard 21 cm (8”) OD hollow stem auger drilling techniques or a track-mounted 6620DT Geoprobe percussion drill rig using 8.3 cm (3.25”) casings. During borehole excavation, soil samples were collected by hammering a 5 cm (2 inch) diameter sampling spoons into the formation. Continuous depth samples were collected immediately after spoon retrieval from the borehole and placed in 250 mL amber glass jars with Teflon lids for tritium analysis by Atomic Energy of Canada Limited (AECL) in Chalk River, ON. The remainder of the soil in the split spoon was used to evaluate and log the soil profile of the borehole. Excess soil was placed in a 45-gallon drum under controlled storage at the SRB Facility. Copies of the field borehole (well) logs are provided in Appendix D. All drill cuttings were placed in 45-gallon drums and are currently under controlled storage at the SRB Facility.

Boreholes within the bedrock were completed using an Air-rotary drill rig with either a 6" or 8" drill bit. Due to the drilling method, soil profile samples could not be obtained. However, most boreholes completed within the bedrock were located adjacent to boreholes completed within the overburden and for which soil profiles were obtained previously. Cave-in of rock fragments from the top of bedrock was noted during drilling of some of the bedrock boreholes, as described in the Borehole Logs (Appendix D). Cave-in depths ranged from about 0.2 to 1.4 m in length.

Boreholes MW07-28 through MW07-33 were originally completed using a truck mounted CME drill rig with a standard 21 cm (8") OD hollow stem auger to the bedrock surface, and NQ core into bedrock. Drill core samples were collected during bedrock drilling, and photos of selected drill core samples are provided in Appendix E. Due to problems encountered during monitoring well installation, as discussed later in this report, these wells were subsequently over-drilled using an air-rotary drill as described above.

Groundwater monitoring wells were installed within each borehole. All wells were constructed from either 5.1cm (2") or 3.2cm (1.24") diameter, schedule 40, polyvinyl chloride (PVC), flush-threaded casing. The appropriate number of risers was coupled with screen sections via threaded joints to construct the well. The well screens consisted of PVC pipe with 0.010-inch factory-generated slots. No PVC cements or other solvents were used in the construction of the wells. The bottoms of the screens were plugged with appropriately sized screw-in end caps. During well installation the tops of the wells were covered with slip-fit caps to prevent the entry of foreign materials. The characteristics of the monitoring wells are summarized in Table 3.3.

A primary filter pack consisting of Silica Sand was placed around the well screen in the bore hole and extended above the top of the well screen. Hole Plug, a swelling Bentonite clay that forms an effective barrier to the vertical movement of fluids when installed in a boring, was used as a seal above the filter pack. Each well was fitted with an above-grade lockable protective casing.

The elevations of the tops of the well casings and the ground surface adjacent to the well were surveyed relative to a geodetic datum by Adam Kasprzak Surveying Ltd. of Pembroke, ON. The ground surface and top of pipe (TOP) elevations for each well are provided on the field borehole logs (Appendix D).

Each monitoring well was outfitted with dedicated Waterra™ foot valve attached to a length of 5/8-inch OD, low-density polyethylene (LDPE) tubing. Oscillation of the tubing, together with the action of the foot valve, forces water to the ground surface.

At the completion of each phase of the field investigations, drilling rods, augers, drill rig treads and equipment used during drilling were subject to swipe tests by SRB to determine levels of tritium on the drill equipment and to prevent possible off-site transport. Bioassay samples of all workers involved was also completed. Bioassay and swipe test results were near background to negligible.

Due to leakage between the top of bedrock and deeper bedrock at MW07-13 and MW07-30, as discussed below, MW07-30 was over-drilled, sealed and abandoned on 14 December 2007 by MacKinnon Well Drilling of Pembroke, ON. The well was sealed by over-drilling the existing borehole using a 27.3 cm (10.75") air rotary drill bit and extending casing down to bedrock surface. The existing hole within the bedrock was then over-drilled with at a diameter of 19 cm (7.5") to a depth of 14.3 m (47 feet) below ground surface. The hole was then filled from the bottom up with approximately 379 L (100 gal.) of a 35% solid mixture of liquid bentonite slurry that was pumped through a pipe into the hole.

### 3.2.2 Well Development and Recovery Testing

All monitoring wells were developed prior to collection of groundwater samples. The wells were developed to: (1) remove fine soil particles adjacent to the well screen that may otherwise interfere with water quality analyses; (2) restore the groundwater properties disturbed during the drilling process; and (3) improve the hydraulic communication between the well and the geologic materials. Wells were developed by removing a minimum of three times the volume of water contained in the well casing (casing volume) using the dedicated Waterra™ sampling devices.

After well development, recovery or slug tests were completed on the newly installed wells. The results of the tests are presented in Appendix F and provide information regarding the hydraulic conductivity of the soils or rock surrounding the well screen. The test method consisted of either an initial purging of the well and subsequent monitoring the rise in the water level in the well over time (recovery test) or dropping of a solid steel rod into the well and monitoring the drop in the water level in the well over time (slug test). All water removed from the wells during recovery testing was temporarily placed in 45-gallon drums until analysis could be completed on the water by AECL prior to disposal in accordance with SRB's licence requirements for liquid effluent.

### 3.2.3 Groundwater Sampling

Prior to collecting groundwater samples for chemical analysis, the depth-to-water (water level) in monitoring wells was measured using a battery-operated signal water level tape. The stagnant water in the well is then evacuated to allow groundwater representative of the aquifer to enter the well. A minimum of three casing volumes of water was removed ("purged") from each well prior to sampling. If well recovery was slow, then the monitoring well was completely purged a minimum of three times prior to sample collection.

Groundwater samples have been collected by AECL on a regular basis since the monitoring wells were installed. Well MW06-4S was also sampled for dissolved metals and tracer parameters (e.g., chloride, nitrates) on 13 January 2006. These samples were submitted to Enviro-Test Laboratories (ETL) in Waterloo, ON (now ALS Environmental Laboratories). ETL/ALS is accredited with the Canadian Association of Environmental Analytical Laboratories (CAEAL).

Groundwater samples were collected by direct transfer of groundwater from the Waterra™ pumping system to appropriate containers after the well had been purged. Sample bottles were supplied by AECL and were not stored at the SRB facility at any time in order to eliminate the possibility of any sample contamination from other sources.

### 3.2.4 Residential Well Sampling

As part of SRB's updated environmental monitoring program (EMP), a number of residential wells are sampled and analysed for tritium by AECL. The residential wells included in the EMP and their general characteristics are shown in Figure 3.1. Samples are typically collected from a tap after allowing the water to run for approximately 1 minute, to ensure that fresh groundwater was collected from the well.

### 3.2.5 Precipitation and Standing Water Samples

To evaluate the effects of atmospheric deposition of tritium to groundwater, depth-integrated samples of the snow pack were collected by EcoMetrix at select locations on 12 January and 24 February 2006. Depth-integrated snow samples were also collected at the same locations by AECL during the February sampling campaign. Samples were collected at the following locations:

- Midway between MW06-1 and MW06-2
- Adjacent to MW06-3, MW06-4S and -4D, MW06-5, and MW06-6
- Between CN-1, CN-2 and CN-3 (January only)
- Adjacent to CN-1, CN-2 and CN-3 (February only)
- Adjacent to the SRB emission stacks (February only), and
- Adjacent to the Precipitation Monitor located 500m North of SRB (February only).

Samples were collected in areas that had not been disturbed by drilling or walking and/or sampling.

SRB has also collected a number of precipitation and standing water samples from various locations around the facility including water dripping from the stacks, standing water near the stacks, ditches surrounding the property and downspouts draining precipitation from the roof of the Facility (refer to Appendix I for sample locations).

### 3.2.6 Surface Water Samples

Samples of surface water were collected on 23 February 2006 at selected locations along the Muskrat and Indian Rivers as shown in Figure 3.4. Samples were collected as grab samples (~0.2 m below surface) at the following locations:

- Muskrat River at Mud Lake Road (labeled as SW Stn B)
- Muskrat River at Bennett Street (labeled as SW Stn C)
- Muskrat River at Pansy Patch Park (labeled as SW Stn D)
- Indian River at Boundary Road (labeled as SW Stn E)

The rationale for these locations was to allow collection of representative surface water samples at the approximate point of discharge of groundwater potentially originating from SRB, and also upstream and downstream of that location.

SRB has collected surface water samples on a monthly basis during non-frozen months from upstream (SW Stn-B) and downstream (SW Stn-C) locations since June 2007.

### 3.2.7 Geophysical Survey

A geophysical (resistivity) survey was completed by Dillon Consulting between 23 to 25 October 2006 to estimate the depth of the bedrock in the vicinity of the SRBT facility, and to the north between the SRBT facility and the Muskrat River (Dillon, 2006). Details of the methodology and results of the survey are provided in Appendix G.

# 4.0 RESULTS

## 4.1 Local Hydrogeological Conditions

### 4.1.1 Local Geology

The local overburden conditions observed at the site during drilling were generally consistent with conditions ascertained from the existing local and regional documentation. Geological cross-sections for selected transects, as shown in Figure 4.1, are presented in Figures 4.2 through 4.5. Borehole Logs for all wells are provided in Appendix D.

Overburden typically included a thin layer of topsoil at surface, underlain at some locations by silty sand or gravel fill with underlying native material to depths up to 6 mbgs (MW06-5). The native material typically consisted of grey silty clay that was generally compact above the water table, becoming loose below the water table. Sand seams were noted in a number of the boreholes.

Bedrock was found to range from 5.2 to 7.5 metres below ground surface (mbgs) in the vicinity of SRB and consisted of shaley limestone. The upper 1 to 3 m of bedrock was typically fractured. The rock quality designation (RQD) is defined as the cumulative length of core pieces longer than 10 cm in a drill core run divided by the total length of the core run (generally 1.5 m), and provides insight into the competency of the rock. Higher values, therefore, represent more competent rock with less fracturing. The core samples collected during bedrock drilling at SRB had RQD values between 0 and 75%, with lower values typically observed in the upper portions of the bedrock. The RQD values are presented on the drill logs in Appendix D.

The observed depth to bedrock is generally consistent with results of the Geophysical survey (Appendix G), which suggested a bedrock surface is about 7 mbgs at the stacks, and ranges from greater than 6 m to about 30 mbgs in other areas adjacent to the SRBT facility. The depth to bedrock at borehole MW07-14, and paired wells MW06-9 and MW07-19, however, was determined to be about 6.5 m during drilling, which is similar to the other boreholes, but less than that expected from the results of the geophysical survey. The resistivity survey indicates the depth to bedrock in the northwest corner of the property is over 15 m (refer to Survey Line 1 in Figure 4 of Appendix G). However, drilling in this area indicates that the bedrock is only about 6.5 mbgs, and is consistent with the average depth to bedrock across the site. The trough observed near MW07-14 appears to extend in a northwest direction across Boundary Road (Survey Lines 3 and 4 in Figure 4 of Appendix G). A similar trough was inferred to be present in the north eastern portion of the Superior Propane property near water supply well B-2 (Survey Line 6 in Figure 4 of Appendix G).

Copies of the borehole logs for all of the installed wells are provided in Appendix D.

### 4.1.2 Local Hydrology

**Water Levels and Pieziometric Surfaces**

The groundwater levels are generally measured in all the on-site monitoring wells five days per week. Monitoring wells MW06-4S and -4D were removed in the spring of 2006 due to residential construction. However, tritium concentrations in these wells were low with values of 211 and 3 Bq/L for MW06-4S and MW06-4D, respectively for 24 February 2006. The monitoring wells north of the SRB site on the railway lands (CN wells) are only sampled every 4 months due to likely surface water intrusion and questionable integrity of the wells. In addition, wells MW06-5 and MW06-6 were installed as part of the original phase of the investigation to provide information on tritium concentrations in areas surrounding the SRB Facility. Subsequent phases of the investigation focused on on-site and adjacent impacts, and therefore due to their location, these wells have been phased out of routine monitoring. The concentrations in monitoring wells MW06-5 and -6 were 14 and 376 Bq/L, respectively, on 24 February 2006.

The water levels are presented as time series for the individual wells in Figures 4.6 through 4.11. Complete water level monitoring data are provided in Appendix H. The results shown in Figure 4.6 for wells screened in overburden and Figure 4.8 for wells screened at the top of bedrock include water levels from 2006 to December 2007. These results show seasonal variations ranging over 7 m. With the exception of some suspect measurements (i.e. outlier values), trends in groundwater elevations are generally consistent among wells. The effect of monthly well purging and sampling is evident in some of the wells that have slower recharge (e.g., MW06-8 and MW06-9). Monitoring well MW06-3 also appears to respond relatively quickly to precipitation events.

Drilling into bedrock was completed for two main purposes. First, drilling included coring to obtain rock samples and to confirm the presence of bedrock. Second, boreholes were drilled in order to install monitoring wells that could be used to determine hydraulic conditions in the rock and to collect samples for tritium analysis. The initial drilling into rock to collect cores involved NQ size core and the resulting holes were 7.6 cm in diameter. The PVC well pipes installed in the holes were 3.2 cm (1.25") OD and therefore the annular radius for the installation of sand pack and bentonite (hole plug) above the sand pack was small. The water levels, as described below, suggest that some of the installations experienced leakage along the annular space and remedial action was taken. All wells originally drilled with NQ coring were re-drilled with larger diameter holes, and wells were re-set and re-sealed.

The water levels in nested wells that have screens in the different hydrogeologic units clearly show that the gradients are downward across the site. The results of water levels at ten nested well locations are shown in Figure 4.12. Water levels in the overburden (clay) with screens at approximately 5 mbgs are shown as circle symbols and generally had elevations in the range of 125 to 128 masl. In contrast, the water elevations in wells with screens at the top of bedrock (diamond symbols) were between 124 and 125 masl for the period of record. Water level elevations in wells with screens within the shallow bedrock (square symbols) were less than 125 masl. Wells with the deepest well screens within bedrock (triangle symbols) had water levels with the lowest elevations that were typically about 120 to 122 masl. In all cases in Figure 4.12, water levels show downward gradients. A detailed discussion of gradients is provided in a subsequent section. However, the knowledge of these gradients along with observed rapidly changing water levels after the drilling of bedrock wells (24-27 September 2007) suggested concern for short-circuiting of water along the annular radius of bedrock wells.

The water level changes suggested that leakage was occurring between some of the paired wells causing a disturbance in the natural pieziometric surface within and at the top of bedrock. For example, during the drilling of MW07-29, the water level in MW07-18, located beside MW07-29, dropped over 2 m, and remained relatively steady at the lower elevation afterward (Figure 4.13). The head difference between the two wells was about 1 m after initial completion of MW07-29 (Figure 4.12), despite a 2.8 m elevation difference between well screens. The small diameter of the NQ size drill holes in the rock (7.6 cm) was suspected to have interfered with placement of the bentonite seal above the sand pack in many of the wells. To prevent the leakage between stratigraphic units, all of the deep bedrock monitoring wells installed between September 24 and 27, 2007 were re-drilled the following week between 04 and 05 October 2007. After re-drilling, the head difference between wells MW07-29 and MW07-18 increased to over 3 m, more typical of vertical gradients in the bedrock, indicating that a proper seal had been achieved between stratigraphic units (Figure 4.13).

Despite the efforts of re-drilling, detailed review of water levels for MW07-30 suggested that an ideal seal in the borehole may not have been achieved. The data showed a higher head in the well in comparison to other deeper bedrock wells and smaller vertical gradients than expected (see Figures 4.4 in cross section and 4.12 to compare water levels to those in other deeper bedrock wells). These water levels suggested that there was residual leakage through the borehole between the deeper bedrock and bedrock surface. In addition, the concentration of tritium in well MW07-30 was noted to be about 10,000 Bq/L, a value that was similar to that observed in the top of bedrock well (MW07-13) but was much higher than those observed in other deeper bedrock wells (see Figure 4.4). The source of this elevated tritium was suspected to be the short circuiting from the top of bedrock through the borehole annulus. Therefore, MW07-30 was subsequently decommissioned, sealed and abandoned by a licensed well driller.

The water levels in nested wells above and into bedrock were examined to determine the vertical head difference or gradient across the top of bedrock (Figure 4.12). When this difference is small, the hydraulic connection through the rock is inferred to be high. Conversely, when the water level differences are large, the presence of a resistive (low permeability) horizontal layer is inferred. Large differences in water levels between vertically nested wells also imply that the well screens are effectively sealed, and that no leakage along the borehole annulus is occurring.

The water elevations in monitoring wells MW07-22 and MW07-37 are almost identical (Figure 4.12, left side, second plot from bottom), suggesting that there is a hydraulic connection between the two wells. The hydraulic connection is likely due to caving of the bedrock surface into the borehole and widening of the hole diameter during drilling of MW07-31. However, an effective seal is present within MW07-31, as evidenced by the observed vertical gradient between MW07-31 and MW07-22. Therefore, although leakage is likely between the bedrock surface and shallow bedrock, tritium concentrations are low at the surface of the bedrock (184 Bq/L in MW07-22 in December 2007), and therefore the risk for elevated tritium to short-circuit to the shallow bedrock does not appear to be an issue at that location. However, as discussed in Section 7 of this report, it is recommended that MW07-37 also be carefully monitored and abandoned during future activities at the site if levels of tritium increase to values near the drinking water standard.

A water table map for the overburden was produced for a previous report with a combination of on- and off-site wells. The general horizontal flow direction based on water levels in the overburden was toward the east and northeast, toward the nearest reaches of the Muskrat River. There are only four overburden wells on-site (not including MW06-3 that extended to auger refusal but is believed to be on a boulder) and therefore a water level map at the site scale was not produced for this report. However, as shown below, the general horizontal gradient to the east in the overburden is consistent with horizontal gradients in the deeper hydrogeologic units.

The potential short-circuiting of water down the boreholes in the bedrock wells installed in September 2007 has resulted in distorted water level surfaces. A water level map produced for wells at the top of bedrock on 22 May 2007 shows a consistent gradient to the east (Figure 4.14). However, water elevations at the top of bedrock showed inconsistent trends after the installations of bedrock wells in September/October 2007. The water levels at the top of bedrock after October appeared to be influenced by possible leakage or short-circuiting down the bedrock boreholes.

Four monitoring wells have screens in shallow bedrock (MW-07-34, -35, -36, -37). The resulting water level map for shallow bedrock is shown in Figure 4.15. Water levels in the two on-site wells are consistent with flow to the east, while the two off-site wells to the northwest of the stacks suggest that there is a groundwater divide. Although the data are sparse, the flow appears to be toward the northwest. However, these data and those for the deeper bedrock indicate that the divide occurs just off-site to the northwest, and therefore on-site groundwater does not migrate to the north or northwest, but rather migrates in an easterly direction toward the Muskrat River.

A pieziometric surface contour map was created for the 30 November 2007 water levels for the deep bedrock zone, and is shown in Figure 4.16. The water level elevation for monitoring well MW07-30 was not included in the pieziometric surface contouring due to probable leakage from the bedrock surface. The data indicates that groundwater originating on-site within the shallow and deeper bedrock has a general flow in an easterly direction. Water levels within the bedrock to the west (MW07-28, -29, -34, -35, and -36) indicate the presence of the groundwater divide just west of the property line resulting in a north to north-westerly component of flow in that area.

**Hydraulic Gradients**

The vertical movement of groundwater is determined through measurement of the vertical hydraulic gradients that indicate whether the groundwater is moving downward (recharge) or upward (discharge). Vertical hydraulic gradients were assessed at all locations where monitoring wells were screened in multiple zones (Figure 4.12) and suggest that effective resistive horizontal layers appear to be present between most of the hydrogeologic units. All measured vertical gradients were downward, indicating that the area surrounding SRB is mainly a groundwater recharge zone.

Four hydrostratigraphic zones were investigated in this study. These include, from the surface downward, the clay-rich overburden, the zone at the top of bedrock, the shallow bedrock (1 to 3 metres below bedrock surface) and deeper bedrock (6 to 8 metres below bedrock surface). The two upper units are well defined while the two lower units are less defined but have distinct water levels.

Most of the well screens in the clay overburden bottom out at about 5 mbgs while the top of bedrock wells bottom out at about 6 mbgs. The differences in water levels between nested wells in these units is large, as shown in Figure 4.12 and, because of the small vertical separation of these wells, the vertical gradients are large. The typical vertical gradients from the clay to top of bedrock are high, often exhibiting values of about one (in the range of 1.0 to 1.1). These high gradients are an indicator that the vertical hydraulic conductivity is low and is resistive to vertical migration. The vertical gradients between the top of bedrock and the shallow bedrock are also high. These gradients are in the range of 0.3 to 0.35 and indicate resistance to vertical flow.

The vertical gradients from the shallow bedrock to the deeper bedrock zones are generally twice as large as those from the top of bedrock to the shallow bedrock, and are in the range of 0.61 to 0.65. Again, these values indicate the presence of low permeability horizontal layers, likely related to shale layers in the carbonate bedrock.

Vertical gradients measured at nested wells may be influenced by connectivity (or absence of low permeability horizontal layers) between the stratigraphic units, such as MW07-22 and MW07-37 where water levels are virtually identical (Figure 4.12). Other nested wells with smaller differences and almost identical time trends in water levels include MW07-18/ MW07-34 and MW07-27/MW07-35, again suggesting closer hydraulic connection between zones.

The large vertical hydraulic gradients (large differences in water levels between wells), indicating that there are horizontal resistive layers of low permeability, and predominant horizontal flow within the shallow bedrock suggest that there is a low risk for tritium to naturally migrate vertically from the shallow bedrock into the deeper bedrock. By inference, the main flow pathway for groundwater below the site is horizontally at the bedrock surface or through the shallow bedrock.

The horizontal hydraulic gradients within the shallow and deeper bedrock were determined for the 30 November 2007 water levels (Figures 4.15 and 4.16). The horizontal gradients within the deeper bedrock ranged from 0.008 m/m to 0.015 m/m. Similar gradients were observed for the shallow bedrock, ranging from 0.012 m/m to 0.018 m/m. The horizontal gradients at the top of bedrock for 18 May 2007 were slightly higher but consistent with the November values, and ranged from about 0.015 m/m to 0.035 m/m. The horizontal gradient within the clay is higher at about 0.06 m/m.

**Hydraulic Conductivity**

Recovery or slug tests were completed on the groundwater monitoring wells to estimate the hydraulic conductivity of the overburden or bedrock surrounding the wells. The mathematical solution by Hvorslev (1951) was used, and involved matching a straight-line solution to water-level displacement data collected during the recovery or slug test. The time required for the water level in the well to reach 37% of the initial change ($T_o$) is determined from the plot, and used in the following equation to estimate the hydraulic conductivity (K);

$$K = [ r^2 \ln(L/R) ] / [ 2 L T_o ]$$

where: r is the radius of the well casing,
R is the radius of the well screen, and
L is the length of the well screen.

In low-permeability aquifers, such as that observed at the wells installed at SRB, Freeze and Cherry (1979) and Fetter (2001) advise using the length and radius of the sand pack in the well annulus for L and R, respectively. The length of cave-in of rock fragments in some of the boreholes (MW07-29, -32, -33, -34 and -37) would also be accounted for in the value of L.

The results for hydraulic conductivity calculations are presented in Table 4.1, with calculation details in Appendix F, and show that estimated hydraulic conductivity, based on geometric mean values for each stratigraphic unit, ranges from $1.2\times10^{-8}$ m/s for the clay overburden to $1.9\times10^{-6}$ m/s for shallow bedrock for wells in the vicinity of SRB. The results suggest that the shallow bedrock represents the most important horizontal groundwater flow pathway in the vicinity of SRB. Although based on hydraulic gradient and hydraulic conductivity, horizontal flow will also be important along the top of the bedrock zone that had a geometric mean hydraulic conductivity of $4.3x10^{-7}$ m/s, a value that is a factor of 5 lower than the shallow bedrock.

The estimated hydraulic conductivity values are within the range reported for overburden in the vicinity of SRB ($10^{-6}$ m/s; INTERA, 1994) and for the Renfrew County area ($10^{-6}$ to $10^{-10}$ m/s; Golder, 2003). The hydraulic conductivity values observed at the SRB site are also consistent with the range of values typical of the types of silty clay overburden and limestone bedrock observed at the site ($10^{-7}$ to $10^{-10}$ m/s for marine clay, $10^{-3}$ to $10^{-7}$ m/s for silt and $10^{-4}$ to $10^{-9}$ m/s for limestone bedrock; Freeze and Cherry, 1979).

The hydraulic conductivity values measured by a single well slug or recovery test represent that property in the horizontal plane. The measurements do not provide a measure of hydraulic conductivity in the vertical direction. However, some inferences about anisotropy can be made from the differences in gradients that develop in response to the resistance of flow from permeability contrasts. The measured hydraulic conductivity values, together with horizontal and vertical gradients, are summarized in Table 4.2 It is clear that the vertical gradients are a factor of 10 or greater than the horizontal gradients. This implies that the vertical hydraulic conductivity values are lower than the horizontal values, likely by a factor of 10 or more. So although there are no direct measures of vertical hydraulic conductivity values, the gradient data imply that anisotropy is substantial and may represent $K_H/K_Z$ ratios on the order of 10 or more. This is consistent with comments by Freeze and Cherry (1979).

### Groundwater Velocities

The groundwater velocity (v) for each stratigraphic unit in the vicinity of SRB can be estimated by the following equation:

$$V = -K\,(dh/dl)/\,\eta$$

where: dh/dl is the hydraulic gradient,
K is the geometric mean hydraulic conductivity and
η is the porosity (generic value of 0.30 as per Novakowski and van der Kamp, 1996).

The use of a geometric mean value of hydraulic conductivity is appropriate since the hydraulic gradients are averaged over the scale of the site, and therefore the hydraulic conductivity should also be representative of the similar area, rather than on single points.

Lateral groundwater velocities within the clay are on the order of 0.1 m/a. The horizontal velocity at the bedrock surface is approximately 1.8 m/a. Lateral flow velocities within the shallow and deeper bedrock are about 4.0 m/a and 3.7 m/a, respectively, a factor of two larger than those at the top of bedrock (Table 4.2). However, the large vertical gradient between the top of bedrock and the shallow bedrock suggests that there is substantial resistance to vertical flow between those units, and therefore vertical flow will not likely be larger than flow in the horizontal directions.

In general, it is expected that the low K clay overburden observed at the SRB site creates a predominant downward groundwater flow until the underlying higher K layers are encountered, in this case the top of bedrock and the shallow bedrock. The travel path for tritium into groundwater therefore includes infiltration and downward migration from soil moisture at the surface, through the clay to the top of bedrock and the shallow bedrock where horizontal flow will occur. Based on the large vertical gradients observed between the shallow and deeper bedrock, the natural hydraulic connectivity between these layers is low, suggesting that infiltrating moisture from surface will not likely migrate downward into the deeper bedrock at rates greater than those in the horizontal direction.

The K value for the clay material was estimated to be $1.2 \times 10^{-8}$ m/s (geometric mean). However, the ratio of horizontal to vertical hydraulic conductivity, referred to as anisotropy, can be very significant in stratified unconsolidated units with clay layers. However, for vertical flow calculations, anisotropy was ignored in order to remain conservative in travel time estimates. Assuming a porosity of 0.3 and vertical gradient of about 1.0 m/m, the estimated vertical (downward) groundwater velocity through saturated silty clay overburden is 1.3 m/a, based on the equation provided above. This means that travel time for water to migrate from ground surface to the top of bedrock (about 6 m) is on the order of five years or more.

## 4.2 Tritium Concentrations in Media

### 4.2.1 Soil Water

During drilling of the wells completed in overburden, soil samples were collected and sent to AECL in Chalk River for tritium analysis. Tritium concentration profiles are provided in Figures 4.17 and 4.18, with data provided in Appendix I. These plots show the tritium concentrations in soil samples collected from drill core (smaller triangles), together with concentrations in separate hand-collected soil samples at surface (larger triangles) and concentrations in groundwater from the monitoring wells at the bottom of the profiles (large circles). The dashed vertical lines on these plots provide the minimum and maximum concentrations at each location estimated from the air emissions from the stacks from 1991 to 2006. Concentrations of tritium in soil water typically show an increasing trend with depth over the initial few meters before decreasing with greater depth. These profiles are consistent with the emissions history that increased from 1991 before peaking in 2000 and declining through to 2006 (Table 3.1). Locations of the surface soil samples collected by SRB in September 2006 are shown in Figure 4.19.

Tritium concentrations in the soil water are generally consistent with predicted values from air dispersion of historic tritium emissions. The ranges of predicted concentrations in soil water based on air emissions are presented on Figures 4.17 and 4.18 as vertical dashed lines. As noted in the AECL results (Appendix I), some of the samples collected from the bottom of the boreholes contained rock fragments (e.g. MW07-19). Therefore the sample results may not be directly comparable to groundwater results due to the limited moisture contents of the rock fragments. However, the results for the sample collected immediately above the bottom borehole sample can also be used for comparison purposes.

Table 4.3 provides an updated summary of predicted annual average estimates of tritium in soil moisture or porewater in the upper 10 cm of soil similar to that shown in the potential groundwater source report (Table 2 of SRBT, 2007a). The majority of the soil concentrations can be explained by known historical air emissions and predicted values from air dispersion and exchange with soil moisture. For example, the soil porewater concentration at the bottom of MW07-11 (6.8 mbgs) is about 490 Bq/L, and is consistent with early 1991 predicted concentration at surface of about 1,200 Bq/L with decay over 16 years (or 1.3 half-lives). In addition, the measured concentrations at surface of 1,285 Bq/L (September 2006) and 706 Bq/L (September 2007) are consistent with the predicted soil moisture concentrations between 2005 and 2006 based on air dispersion (between 90 to 1,100 Bq/L).

The tritium concentrations in soil profiles are generally consistent with historic and predicted values (Figures 4.17 and 4.18). However, the air dispersion model over-estimates tritium concentrations in soil for some locations (e.g. MW07-24). In addition, there are a locations that exhibit higher measured concentrations than predicted values (e.g. paired wells MW06-9 and MW07-15 and the bottom of paired wells MW07-18 and MW07-29). The higher than predicted values are associated with areas of runoff from building down-spouts (MW06-9 and MW07-15) or snow management practices (i.e., piling of snow during parking lot clearing).

Figure 4.20 provides comparison of soil concentration profiles for paired boreholes located in close proximity to each other; including those at wells MW07-13 and -30, MW07-18 and -29, MW06-8 and -12, and MW07-9 and -15. These sets of wells were drilled approximately 6 months apart, in either April or October 2007 and September 2006 or April 2007. The tritium concentrations at the surface consistently decreased during those periods. The results also showed a general downward shift in the concentration profiles between drilling sessions of between 1 and 2 m, respectively over the approximate 6 month period, suggesting vertical groundwater flow velocities between 2 and 4 m/a. This velocity range generally agrees with the estimate of 1.3 m/a from the hydraulic conductivity and measured vertical gradients.

### 4.2.2 Distribution of Tritium in Groundwater

The tritium concentrations in samples from the monitoring wells are presented in Appendix I. Results for April to December 2007 are also presented in Table 4.4. Concentrations for 22 November 2007 are also presented graphically in the cross-sections in Figures 4.2 through 4.5. Tritium concentrations in groundwater initially collected from the monitoring well after installation are also shown at the base of soil profiles in Figures 4.17 and 4.18. The data are tabulated in Appendix I.

Concentrations in groundwater are below 7,000 Bq/L, the drinking water guideline, in two-thirds of the monitoring wells. Those that exceed the drinking water guideline include wells at the northern corner of the property (MW06-1, MW07-13 and -30), at the stacks (MW06-10), along the western property boundary near the stacks (MW07-18, -29 and -34), and behind the neighbouring property to the west (MW07-35 and -36). Tritium concentrations in groundwater in the north-eastern and eastern portions of the site are fairly low and typically below 500 Bq/L.

The levels of tritium in monitoring wells screened in clay are all below 3,500 Bq/L with the exception of MW06-1 which exhibits concentrations of about 40,000 to 45,000 Bq/L. It is believed that this well may be influenced by snow removal practices and precipitation run-off from the SRB facility roof down-spouts. Concentrations of precipitation melt water have been collected in the past from the area of MW06-1 with similar concentrations as those observed in groundwater, as discussed below in greater detail.

In general, the tritium concentrations in most wells are stable or declining. Figure 4.21 presents the change in tritium concentration in groundwater as a function of time for selected monitoring wells. Note that the concentrations are shown on a log-scale and that some changes are substantial over the period of observation. In most wells with concentrations above the drinking water criteria, decreasing trends are noted and are likely a result, in part, to the reduction in atmospheric emissions from the facility over the past several years. The concentration of tritium in MW07-17 increased in December 2007 to levels similar to that observed immediately after installation of the monitoring well. It is possible that this increase is due to lateral migration of tritium in groundwater that entered the deeper bedrock groundwater flow as a result of leakage between the shallow and deeper bedrock during the drilling and installation of MW07-29, located immediately upgradient and short distance from MW07-17, in September 2007. The concentration is still below 700 Bq/L, 10% of the drinking water guideline value, and would be expected to show a decrease in concentration in subsequent sampling.

The groundwater concentrations in wells screened in the clay and at the top of the bedrock are either consistent with or lower than observed concentrations in soil at the same depths, with a few exceptions (Figures 4.17 and 4.18). Tritium concentrations in groundwater that are lower than those in soil at the same depths are likely due to dilution from groundwater.

Concentrations in monitoring wells located in the vacant lot to the west of SRB (MW07-27, -28, -35 and -36) for November 2007 ranged from about 6,600 Bq/L in MW07-28 to about 13,600 Bq/L in MW07-35. Concentrations in December 2007 decreased in MW07-28 and -35, but wells MW07-27 and -36 were dry for December. These wells are located along the predominant wind direction from the stacks, and concentrations correlate with predicted values from atmospheric dispersion modeling. In addition, although only a few water samples have been collected from these wells, concentrations showed a decrease from October 2007 values. The decreases may in part be a result of flushing of elevated tritium concentrations resulting from monitoring well installation. A similar effect was noted in

MW07-17 after installation in April 2007, where concentrations decreased by about 80% over a four-month period before stabilizing (Figure 4.21).

Tritium concentration in groundwater for 19 December 2007 in the deeper bedrock at well MW07-29 (30,500 Bq/L) is also likely influenced by residual carry-down of soil from the top of bedrock containing elevated levels of tritium as a result of drilling, since the concentration of tritium in groundwater at MW07-17, located only 14 m away, was only 660 Bq/L. The tritium concentrations at MW06-30 may also be partially attributed to carry down of soils during drilling. However, as discussed above, tritium concentrations in this well were also affected by hydraulic connectivity with the top of bedrock.

### 4.2.3 Groundwater Supply Wells

Routine monitoring is completed on groundwater supply wells in the vicinity of SRB. The results are presented in Table 4.5 and show that tritium concentrations have remained below the drinking water criteria of 7,000 Bq/L. Concentrations in the water supply well closest to SRB (Superior Propane office well) have remained less than about 1,500 Bq/L (1,006 Bq/L in December 2007) over a year of sampling. However, as a precautionary measure, SRB has been, and continues to supply Superior Propane with bottled water for drinking water purposes. The highest tritium concentration observed in these wells to date was about 4,100 Bq/L in the Superior Propane Truck Wash well located about 160 m to the northeast of the SRB facility. This well is not used for drinking water purposes.

It should be noted that the residential wells with the relatively high tritium content may be influenced by surface water ingress. For example, the tritium levels in RW-1 (413 Boundary Road; 1,399 Bq/L in November 2007) are approximately equivalent to levels that were measured in the snow pack in 2006 (Table 4.6) and are consistent with air dispersion model results (Table 4.3). In addition, residential well RW-1 is located approximately 450 m from the SRB Facility, and if groundwater flow was directly towards this well, it would take approximately 112 years for water from the SRB site to travel to this well assuming an average groundwater flow velocity of 4 m/a. Also, non-radiological parameters measured at RW-1, including high levels of chloride, sodium, iron, and nitrate indicate possible surface water ingress (Table 4.7).

Well RW-1 was visually inspected by SRB with the assistance of a licensed well drilling company on 11 December 2007. The visual inspection of the well indicated deterioration of the cement well casing at surface and vegetation growth extending inside the well casing (Figure 4.22). The Superior Propane Truck Wash well may also be influenced by surface water, as the well head is located within an open concrete casing which was observed to have debris in and around it (Figure 4.23). According to the business owner, the water from this well is not used for human consumption.

### 4.2.4 Surface Water

The Provincial Water Quality Objective (MOE, 1999) for tritium in surface water is based on the Groundwater Drinking water value of 7,000 Bq/L (MOE, 2003). The sampling and analysis of tritium in surface water revealed low levels of tritium in both the Muskrat and Indian Rivers (Table 4.8). The measured values range from 7.4 to 14 Bq/L. However, the concentrations are low relative to levels observed in the snow-pack within the watershed (Table 4.6), suggesting that concentrations are a result of atmospheric deposition.

# 5.0 DISCUSSION

## 5.1 Hydrogeological Conditions

The initial phases of the groundwater investigation focused on groundwater flow through the clay and top of bedrock because the thick clay layer over a sand and gravel layer zone at the bedrock surface was considered to be important for the groundwater flow regime. Later phases in the investigation confirmed the depth to bedrock and included collection of bedrock core samples. The bedrock drilling indicated that the bedrock was typically fractured at surface, and therefore suggested that the shallow bedrock could also be an important component for the groundwater flow along with the zone at the bedrock surface.

The results of the drilling program indicate that the bedrock surface in the area of the SRB Facility is on average about 6 m below ground surface and is composed of shaley limestone that is typically fractured at surface. The depth to bedrock is consistent with MOE Water Well Records for groundwater supply wells in the immediate vicinity of the site (e.g. Nos. 551537 (Well B-1), 551819, 5502335; Appendix C). However, the depth to bedrock appears to be quite variable in the Pembroke area, as evidenced by additional MOE Water Well Records for the area and the presence of outcrops along Highway 17 approximately 1 km away from the SRB site. In addition, bedrock was not encountered in the borehole for well MW06-4D which extended to over 12 m in depth, and is located approximately 400 m to the west of the site. A regional groundwater study completed by Golder (2003) also indicated an overburden thickness between 20 to 30 m thick across the Pembroke region.

The observed depth to bedrock is also generally consistent with results of the Geophysical survey (Appendix G), which suggested that the apparent bedrock surface was about 7 mbgs at the stacks, and ranged from greater than 6 m to about 30 mbgs in other areas adjacent to the SRBT facility. The depth to bedrock at MW07-14 and paired wells MW06-9 and MW07-19, however, was determined to be about 6.5 m during drilling, which is similar to the other boreholes, but less than that expected from the results of the geophysical survey. The resistivity survey indicates the presence of a trough in the northwest corner of the property, with an apparent depth to bedrock of over 15 m (refer to Survey Line 1 in Figure 4 of Appendix G). The trough appears to extend in a northwest direction across Boundary Road (Survey Lines 3 and 4 in Figure 4 of Appendix G). A similar trough was inferred to be present in the north eastern portion of the Superior Propane property near water supply well B-2 (Survey Line 6 in Figure 4 of Appendix G). The presence of these troughs, however, is not evident in the hydrological data, and may be a result of other effects on the resistivity measurements during the geophysical survey.

The estimated geometric mean hydraulic conductivities of the clay overburden at the site is about $1.2 \times 10^{-8}$ m/s, or about two orders of magnitude lower than that within the shallow and deeper bedrock (Table 4.1). These values are consistent with a predominant vertical downward flow through the clay. The large vertical hydraulic gradients between stratigraphic units agree with the observed contrast in hydraulic conductivity and demonstrate the very large resistance to flow vertically into the underlying bedrock.

The water that migrates to the top of the bedrock and into the shallow bedrock is effectively the only groundwater that can be transported laterally for any significant distance from the SRBT facility. With the difference in hydraulic conductivity between the overburden and shallow bedrock, it is evident that water that enters the soil surface, as precipitation, will migrate downward to the bedrock and will not migrate laterally through the clay overburden for any significant distance. This is a classical groundwater recharge scenario that occurs in areas with low permeability surficial deposits. Once the water has migrated from the surface to the bedrock, then it will migrate laterally through the higher permeability bedrock toward the Muskrat and/or Ottawa Rivers. The travel velocity downward trough the clay will be slower than the lateral velocity through the shallow bedrock.

The high vertical gradients observed in nested monitoring wells suggest that effective resistive horizontal layers appear to be present between most of the stratigraphic units. At some locations, there appears to be some natural connectivity with lower vertical gradients, such as that seen at nested wells MW06-8/MW07-15 and MW07-27/MW07-35. Although the hydraulic conductivity values for the shallow and deeper bedrock layers are similar and relatively high, horizontal layers with low vertical hydraulic conductivity are inferred to be present between the shallow and deeper zones, as indicated by the large gradients between the units (Figure 4.12). Therefore, there is a low risk for tritium to naturally migrate vertically into the deeper bedrock at rates faster than those estimated for horizontal migration.

Horizontal groundwater flow is predominately in the shallow bedrock zone, as indicated by the higher hydraulic conductivity estimates. However, based on hydraulic gradient and hydraulic conductivity, horizontal flow will also be important along the top of the bedrock. Therefore, the two main pathways for horizontal migration of tritium in groundwater in the vicinity of the SRB facility include the zone at the top of bedrock as well as the shallow bedrock. Both of these zones have been instrumented and are readily monitorable.

The agreements among the predicted historic air emissions with the tritium levels in soil water through the clay overburden and with the tritium levels in the groundwater at each of the well locations clearly show that the tritium in groundwater originated as emissions from air and not as a result of any releases of tritiated water at surface. It can therefore be expected that a reduction in air emissions will also lead to a reduction in concentrations of tritium in soil water and groundwater. Evidence of this can been seen in the comparison of historical air emissions and that indicate the highest values in 1998 and 2000 (Table 3.1) with profiles of tritium in soil water with depth (Figures 4.17 and 4.18).

As part of their application for an Amendment to their Operating Licence, SRB is proposing a future emission limit of 67,200 GBq/a as tritium oxide (HTO), which is about 50% of the current licensed release limit (SRBT, 2007b). The predicted tritium concentrations in soil moisture for operations with the proposed emission limits based on air dispersion modelling are shown in Figure 5.1, together with results based on historical air emissions. The patterns of the concentration contours are the result of local wind patterns. The model results suggest that tritium concentrations in soil moisture will be substantially lower than those from historical emissions and below the drinking water guideline of 7,000 Bq/L across the site.

Three locations on the SRB property (MW06-1/MW07-13, MW06-9/MW07-15, and MW07-18/MW07-29) exhibit tritium concentrations in soil moisture and/or groundwater that are not completely consistent with expectations based on atmospheric influences on soil and groundwater. However, it is possible to explain higher than expected tritium levels in the soils as a result of runoff from roof downspouts that would have had higher tritium concentrations on the roof near the stacks, or snow management practices in which snow is mounded near some of the monitoring wells (refer to pages 48-52 in SRBT, 2007a). For example, paired wells MW06-01 and MW07-13 are located at the front of the SRBT facility parking lot directly across from the outlet of a roof downspout. This location is known to collect and pond runoff from the parking lot and water from the roof drains during precipitation events. Sampling of the roof drain water has exhibited tritium concentrations in the past as high as 93,000 Bq/L (refer to Appendix I), with an average of 15,300 Bq/L between 3 April and 2 August 2006 (Table 5.1). Similarly, sampling of precipitation water dripping from the Stacks and ponded water near MW06-9 and MW07-15 averaged 2,300,000 Bq/L and 19,300 Bq/L, respectively, before processing was eliminated during precipitation events. The concentrations in waters at these locations were therefore likely influenced by runoff during precipitation events. In comparison, sampling completed by SRB at similar locations between 11 October and 5 December 2006, during a period when tritium processing was not conducted during precipitation events, exhibited concentrations that were a fraction of previous concentrations observed when processing occurred during precipitation events.

Therefore, it is concluded that the proposed emission limit of 67,200 GBq/a will address the sources of elevated tritium in soil and groundwater. The reduction in emissions combined with the elimination of processing during precipitation events, will translate directly to a reduction in tritium concentrations in water in the surrounding environment. All of the data on soil and groundwater support this conclusion.

## 5.2 Implications for Off-Site Migration

The groundwater velocities in the horizontal direction in the shallow bedrock were calculated to have an average value of about 4 m/a with a maximum value of 16 m/a based on the geometric mean and the single highest values of hydraulic conductivity, respectively for the shallow bedrock.

The groundwater flow directions for water originating from the SRB site are generally consistent with shortest path to the Muskrat River. However, a groundwater flow divide is present at the southwest corner of the site. Although concentrations of tritium in shallow bedrock monitoring wells located in the vacant lot to the west of SRB (MW07-35 and -36) were above the drinking water guideline, these wells are located along the predominant wind direction from the stacks, and observed concentrations correlate with values predicted from atmospheric dispersion modeling. It is noted that any tritium migrating to the west originates off-site as a result of air emissions, and would not be influenced by the elevated concentrations observed in well MW07-18.

The nearest known groundwater supply well in the westerly direction is well RW-1, a dug well located at 413 Boundary Road and approximately 450 m from the SRB facility. The well was examined by SRB with the assistance of a licensed well driller on 11 December 2007 and was found to be 11.69 m in depth with a depth to water of 6.87 m corresponding to an elevation of 124.8 masl (based on the surveyed ground surface elevation of 131.67 masl). It is unknown if the bottom of the well is located within the clay or within the bedrock surface. The water elevation at RW-1 was lower than those within the overburden at MW06-1 and MW06-9 on the same date, suggesting that if the bottom of well RW-1 is located within the clay, then there is a potential for flow toward RW-1 laterally through the clay overburden. The measured water level in RW-1, however, was higher than those at the bedrock surface (MW-07-14, -15 and -16) and this indicates that the flow direction would be from RW-1 toward the SRB site at the top of or within the shallow bedrock. This means that although it is conceivable that groundwater could flow through the overburden from the SRB facility toward RW-1, it would do so at a very slow rate of about 0.1 m/a so that post 1990 groundwater would not have arrived at the RW-1 well via this pathway. Therefore, the water levels indicate that groundwater travel from the SRB facility to the residential well (RW-1) is highly unlikely to impossible.

Even if an individual, conservatively assumed to be an infant, was to consume 300 L of the water from the residential well RW-1 (tritium concentration of 1,399 Bq/L in November, 2007) as a sole source of drinking water for the entire year, their dose from consuming that water would be approximately 0.025 mSv (millisieverts) for the entire year, or approximately 2.5% of the annual public dose limit set by the Canadian Nuclear Safety Commission of 1 mSV (millisieverts).

It is highly likely that the tritium concentrations in well RW-1 are affected by surface water leakage into the casing, as indicated by the questionable integrity of the rim of the cement casing, and elevated concentrations of inorganic parameters typical of surface water intrusion. The well owner has also indicated that the land surrounding the well is subject to frequent flooding in spring, during snow melt.

The estimated flow path of groundwater originating from the SRB site is in an easterly direction, the shortest distance to the Muskrat River, at a maximum velocity, corresponding to the shallow bedrock zone, of 4 m/a. Two groundwater supply wells are located along this general flow path; wells B-1 and B-2 representing the Superior Propane office and truck wash, respectively (Figure 3.1). Only the Superior Propane office well is currently used for drinking water, although tritium concentrations in both wells are below the drinking water criterion of 7,000 Bq/L. The average concentrations in these wells are about 1,100 and 2,675 Bq/L, respectively, with maximum concentrations approximately 1,500 and 4,100 Bq/L.

The Superior Propane office well (B-1) is located approximately 100 m down gradient from the paired wells MW06-1 and MW07-13. The concentrations of tritium in groundwaters at these monitoring wells in December 2007 were about 42,000 and 10,000 Bq/L in the clay and at the top of bedrock, respectively. Assuming a direct groundwater flow path between MW07-13 and B-1, it would take about 25 years for groundwater to travel from the monitoring well location to well B-1. Based on a half-life of about 12.3 yrs, this would equate to concentrations at the water supply of about 2,500 Bq/L. The change in concentrations with time will also be small enough to observe important changes if monthly sampling is continued.

The groundwater in the clay at MW06-1 may travel laterally through the clay at a rate of about 0.1 m/a for a travel time of about 1,000 years or vertically downward to the top of bedrock before migrating laterally. Therefore, any risk of off-site migration of elevated tritium concentrations above 7,000 Bq/L will be preceded by an increase in concentrations in MW07-13 at the top of bedrock. Ongoing monitoring of these two wells has shown that, while tritium concentrations in MW06-1 have decreased from about 62,000 Bq/L in February 2006 to about 42,000 Bq/L in December 2007, a decrease of about 20,000 Bq/L, the concentrations have increased from 6,400 to 10,000 Bq/L from April to December 2007. These changes are consistent with the anticipated movement of water downward through the clay to the top of bedrock. At a velocity representative of the geometric mean hydraulic conductivity in the shallow bedrock ($2x10^{-6}$ m/s), the travel time of 25 years to well B-1 indicates that concentrations at MW07-13 would need to exceed 28,000 before the concentrations at well B-1 could exceed 7,000 Bq/L (after travelling for two half-lives). Monitoring of MW07-13 provides an early indication of exceeding the drinking water guideline at the nearest off-site well (B-1). Ongoing monthly monitoring of well B-1 will also provide adequate warning of tritium levels potentially approaching the drinking water guideline.

Similarly, concentrations originating from MW07-18 of about 52,000 Bq/L, located about 150 m away from B-1, would decrease to approximately 6,400 Bq/L, based on geometric mean groundwater velocity of 4 m/a. However, concentrations in monitoring wells (MW07-20 and -21) located between well B-1 and areas with elevated tritium on the SRB site are low, and suggest that lateral flow of tritium has not yet reached the water supply well.

In addition to decay of tritium during groundwater transport, further attenuation may be expected to result from longitudinal dispersion along the direction of groundwater flow and from matrix diffusion within the fractured rock. Dispersion at the front of plumes generally attenuates the peak concentrations and causes gradual increases in concentration during "breakthrough" so that monitoring with a reasonable frequency can provide adequate warning of concentration increases.

Lateral transport of tritium within the bedrock would also be affected by matrix diffusion, where a portion of the tritium migrates by molecular diffusion into the porous limestone and is temporarily removed from the groundwater flow regime within the fractured bedrock (Freeze and Cherry, 1979). Although this may not result in substantial attenuation in highly fractured rock, this mechanism effectively reduces velocities in fractured rock to those representative in an equivalent porous media. This mechanism, in effect, removes the uncertainty of potentially high velocities through fractures. However, no attempt has been made here to estimate the retardation effect of matrix diffusion on the transport of tritium within the groundwater flow.

The migration of groundwater with elevated tritium concentrations off-site is limited by the natural decay of tritium. In the most permeable hydrostratigraphic unit, shallow bedrock, groundwater migrates at an average linear velocity of 4 m/a. After 3.3 half-lives, tritium concentrations will decline to 10% of their original values and, after 7 half-lives, only 1% of the original concentration remains. These represent times of about 40 and 86 years, respectively. At a velocity of 4 m/a, these times represent travel distances of 160 and 340 m for the 10% and 1% residual concentration values. This shows that travel in the subsurface will effectively eliminate tritium in groundwater within 0.5 km of the SRB facility boundary or before arrival at the Muskrat River that is 420 m from the site in the groundwater flow direction. Furthermore, with maximum tritium concentrations on site of about 50,000 Bq/L, only 3 half-lives of travel time or about 100 m of travel distance is required to achieve tritium concentrations less than 7,000 mg/L. This means that the elevated concentrations at MW07-18, near the stacks, will decay to levels below the drinking water guideline before encountering the northern property boundary. The maximum concentrations of about 40,000 Bq/L at MW06-1, near the northwest corner of the property will decay to values less than the drinking water guideline before encountering the nearest supply well (B1) that is about 100 m from the north property boundary at SRB.

## 5.3 Potential Future Impacts

Natural decay of tritium, together with the reduction of emissions, and source concentrations in soil water will ensure that tritium concentrations in groundwater on the SRB property, and off-site will naturally decline to levels well below the drinking water guideline of 7,000 Bq/L within a few decades. While this natural mitigation occurs, the system can be readily monitored to ensure that there are no risks to nearby water supply wells from tritium concentrations that exceed the drinking water guideline. At this time, there is no indication of current or future risk related to groundwater with elevated tritium levels in the vicinity of the SRB facility.

The City of Pembroke Zoning By-Law 97-38 requires all buildings within the city, including residential dwellings, to be connected to the municipal piped water services, and prohibits the installation of water supply wells within the city limits. Therefore, no new groundwater supply wells are expected to be installed in the vicinity of the SRB facility.

SRB has agreed with the owner of the land where SRB is located to restrict excavation or modification of the land until an assessment is performed by SRB to ensure that the work undertaken will not result in a risk to a worker performing such work. (Appendix J).

Vacant lands in the vicinity of SRB are primarily zoned as Industrial. SRB has agreed with the City of Pembroke to perform surface soil sampling at all new developments within the vicinity of the SRB Facility (Appendix J). To date, two developments have been initiated near the site, including the construction on the vacant lands immediately to the east of SRB (Cliché Property). The second development of a motel is approximately 500 m to the southeast of the site (Motel 6 property), near the City of Pembroke Tourist Information Centre. Soil samples were collected for both sites by SRB on 19 October 2007, with tritium concentrations in surface soil water of less than 340 Bq/L (Table 5.2). The sampling of soils prior to construction activities will ensure that new developments will not be at risk from elevated tritium concentrations.

In addition, SRB has agreed with the current property owner of the land where SRB is located to restrict excavation or modification of the land until an assessment is performed by SRB to ensure that the work undertaken will not result in a risk to a worker performing such work (Appendix J).

# 6.0 CONCLUSIONS

A multi-phased investigation was completed in order to evaluate the potential impact of tritium on groundwater at the SRB Technologies site.. This investigation included installation of 37 groundwater monitoring wells, regular monitoring of water levels at and around the site, sampling and evaluation of water quality, including groundwater, surface water and soil water, and air dispersion modeling. The various phases of this investigation have provided an understanding of the hydrogeological conditions at the Facility. Based on the results of the investigation, the following conclusions were developed:

- The depth to bedrock at the site ranges from 5.2 to 7.5 m below surface. Overburden generally consists of silty clay and bedrock consists of shaley limestone that is typically fractured near the surface.

- Hydraulic conductivity values estimated from single well recovery or slug tests are $1.2 \times 10^{-8}$ m/s for the clay overburden, $4.3 \times 10^{-7}$ m/s for the zone at the top of bedrock, $1.9 \times 10^{-6}$ m/s for shallow bedrock and $1.8 \times 10^{-6}$ m/s for deeper bedrock.

- Vertical hydraulic gradients were about 1.0 through the overburden, about 0.3 through the top of the bedrock and 0.6 through the shallow bedrock. Horizontal gradients through the zone at the top of bedrock and in the bedrock were on the order of 0.02, resulting in average lateral groundwater flow velocities of about 4 m/a.

- Groundwater flow is predominately downward within the clay, until the underlying higher conductivity layers of bedrock surface and shallow bedrock are encountered. Lateral groundwater flow for water originating from SRB is in a general easterly direction towards the Muskrat River. A groundwater divide is located to the west of the site; however, any westerly migrating groundwater originates from the adjacent property to the west, and is not impacted by groundwater originating below the SRB site.

- The large vertical gradient between the top of bedrock and the shallow bedrock indicates that there is substantial resistance to vertical flow between those units, and therefore that there are low permeability competent horizontal units dividing the bedrock zones. This also implies that vertical flow will be small.

- Tritium concentrations in soil water and groundwater are generally consistent with predicted values from air dispersion of historic tritium emissions and discharge with soil water. The few exceptions that exist can be explained by either run-off and pooling of precipitation water from roof downspouts and/or snow management practices at the site.

- Concentrations of tritium in groundwater are below the drinking water criteria in two-thirds of the groundwater monitoring wells. The maximum observed concentrations (about 52,000 Bq/L in December 2007) were observed in MW07-18, located a few metres to the west of the stacks. However, these concentrations are also consistent with air dispersion modeling and are exhibiting a downward trend in concentration with time.

- Residential and Commercial groundwater supply wells in the vicinity of SRB do not appear to be impacted by lateral migration of tritium containing groundwater from the SRB site, based on current concentrations in the wells, distance and groundwater flow velocities. RW-1 and B-2 may, however, be influenced by surface water intrusion resulting from leakage at the top of the well collars.

- Migration of tritium containing groundwater does not appear to be affecting the concentrations in the Muskrat River.

- The agreement among the predicted historic air emissions with the tritium levels in soil water through the clay overburden and with the tritium levels in the groundwater at each of the well locations clearly show that the tritium in groundwater originated as emissions from air and not as a result of any releases of tritiated water at surface. It can therefore be expected that a reduction in air emissions would also lead to a reduction in concentrations of tritium in soil water and groundwater.

- The maximum tritium concentrations on site near 50,000 Bq/L will decay to less than the drinking water guideline of 7,000 Bq/L in about 3 half-lives. At the maximum expected groundwater velocity of 4 m/a in the shallow bedrock, this represents a travel distance of about 100 m. This means that the elevated concentrations near the stacks will decay to less than 7,000 Bq/L during travel eastward across the site. The elevated concentrations, of about 40,000 Bq/L, at MW06-1 near the northwest corner of the property would be expected to decay to levels below 7,000 Bq/L before migrating to the nearest downgradient supply well at the Superior Propane office.

# 7.0 RECOMMENDATIONS

The average lateral groundwater velocity indicates that any changes that might occur in groundwater quality would take place relatively slowly, and could be readily observed with the sampling frequency of the current monitoring program. In support of this statement, the minimum time interval between sampling events that will allow one to obtain an independent groundwater sample can be determined by dividing the monitoring well diameter by the horizontal component of the average linear velocity (U.S. EPA, 1989). Given well diameters between 8.3 and 21 cm and an average horizontal groundwater velocity of 4 m/a, the minimum time interval between sampling events should be between 0.25 and 0.63 months. Therefore, the current monthly sampling frequency is sufficient to maintain a high probability of detecting changes in the groundwater quality and minimize redundant sampling. If future groundwater data indicate a slow change in tritium concentrations with time, it would be logical to reduce sampling frequency to possibly quarterly per year at a later date.

A hydraulic connection between monitoring wells MW07-22 and MW07-37 is likely to exist based on almost identical water levels (Figure 4.12) and is likely due to caving of the bedrock surface into the borehole and widening of the hole diameter during drilling of MW07-31. However, the observed vertical gradient between MW07-31 and MW07-22 indicates that an effective seal is present within MW07-31. Current tritium concentrations in MW07-22 are low, and therefore there is little risk for migration of elevated tritium into the shallow bedrock at this location. However, it is recommended that MW07-37 be carefully monitored and abandoned during future activities at the site if levels of tritium increase to values near the drinking water standard.

A groundwater divide exists to the west of the SRB Facility. Tritium within the groundwater migrating to the west originates just off-site and is a result of air emissions. Concentrations of tritium in groundwater in two of the monitoring wells to the west of the site are above the drinking water guideline, but are exhibiting a decreasing trend with time. Although there is not enough data to determine the exact flow direction for the groundwater to the west, it is recommended that the groundwater concentrations in the current off-site wells (MW07-27, -28, -35 and -36) continue to be monitored. If results suggest an increase in tritium concentrations, additional groundwater monitoring wells may be required to the west of the site to determine the extent and degree of tritium migration in this direction.

Concentrations of tritium in MW07-20 and MW07-21, located between SRB and Superior Propane, are low (<700 Bq/L) and decreasing, and suggest that lateral transport of tritium has not arrived at groundwater supply well B-1. However, if continued monitoring indicates an increase in concentrations in these wells, additional actions, including possible completion of additional monitoring wells into shallow bedrock near B-1, should be assessed.

The SRB wells are currently samples and analyzed for tritium monthly. Water levels have been collected daily for since the wells were installed. Daily water levels are not required for the interpretation of groundwater flow directions. There has been some disruption of the water levels at some wells since drilling of the deeper bedrock wells, however, and it is recommended that the water levels be taken weekly for the next two months to confirm that the levels are representative of natural conditions without the influence of short circuiting down boreholes in the rock. After this is confirmed, then it is recommended that water levels be taken monthly to be harmonized with the water sampling. Monthly data will be more than adequate to monitor both tritium concentrations and water levels from wells at the SRB facility.

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# TABLES

**Table 3.1: Summary of Historical Air Emissions from SRB**

| Year | HTO Emissions[1] (GBq/a) |
|---|---|
| 1991 | 160,000 |
| 1992 | 260,000 |
| 1993 | 150,000 |
| 1994 | 220,000 |
| 1995 | 260,000 |
| 1996 | 620,000 |
| 1997 | 1,200,000 |
| 1998 | 1,600,000 |
| 1999 | 770,000 |
| 2000 | 1,700,000 |
| 2001 | 1,300,000 |
| 2002 | 930,000 |
| 2003 | 550,000 |
| 2004 | 420,000 |
| 2005 | 270,000 |
| 2006 | 74,000 |
| 2007[2] | 6,348 |

**Notes:**
1 - Emissions include total reported HTO and 2% of total reported HT (to account for HT oxidation to HTO)
2 - To end of 10 December 2007
Data provided by SRB Technologies

**Table 3.2: Summary of Tritium Concentrations in Air From Passive Air Sampling**

| Monitor | Year | Tritium Concentration (Bq/m$^3$) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Month** | **Jan.** | **Feb.** | **Mar.** | **Apr.** | **May** | **Jun.** | **Jul.** | **Aug.** | **Sep.** | **Oct.** | **Nov.** | **Dec.** | **Average** |
| **1** | **2001** | | | 61.3 | | | 126.2 | | | 164.8 | | | 484.3 | 209.2 |
| | **2002** | 0.0 | 0.0 | 0.0 | 16.0 | 0.0 | 137.9 | | 276.4 | 101.4 | 80.6 | 31.6 | 39.3 | 62.1 |
| | **2003** | 43.8 | 45.7 | 104.1 | 178.0 | 93.8 | 72.7 | 120.6 | 86.4 | 185.8 | 273.9 | 56.3 | 58.4 | 110.0 |
| | **2004** | 0.0 | 33.6 | 45.5 | 138.8 | 230.9 | 252.6 | 263.1 | 409.2 | 52.4 | 76.1 | 370.0 | 107.8 | 165.0 |
| | **2005** | 108.2 | 197.1 | 110.8 | 181.0 | 175.7 | 160.7 | 1.7 | 210.5 | 63.3 | | | | 134.3 |
| | **2006** | 4.1 | 5.3 | 4.3 | 9.4 | 21.2 | 27.2 | 25 | 4.4 | 7.22 | 8.46 | 13 | 7.46 | 11.4 |
| | **2007** | 8.9 | 0.7 | 0.4 | 0.6 | 0.8 | 1.2 | 1.2 | 1.2 | 1.0 | | | | 1.8 |
| **2** | **2001** | | | 58.5 | | | 130.0 | | | 90.1 | | | 84.2 | 90.7 |
| | **2002** | 24.7 | 28.6 | 11.6 | 42.7 | 14.5 | 242.8 | 63.1 | 74.6 | 49.3 | 85.8 | 18.7 | 52.9 | 59.1 |
| | **2003** | 23.1 | 25.7 | 82.8 | 100.0 | 88.8 | 55.3 | 74.1 | 50.7 | 270.3 | 137.6 | 38.5 | 34.1 | 81.7 |
| | **2004** | 56.0 | 76.8 | 149.7 | 65.0 | 332.6 | 171.9 | 324.4 | 289.2 | 48.7 | 152.3 | 153.5 | 112.2 | 161.0 |
| | **2005** | 156.3 | 37.9 | 103.3 | 168.6 | 162.2 | 83.3 | 1.7 | 54.6 | 252.0 | | | | 113.3 |
| | **2006** | 3.5 | 5.7 | 2.4 | 3.2 | 9.6 | 14.2 | 15.1 | 2.6 | 3.8 | 5.0 | 5.0 | 5.6 | 6.3 |
| | **2007** | 5.5 | 0.8 | 0.3 | 0.5 | 0.5 | 0.7 | 0.9 | 1.1 | 0.6 | | | | 1.2 |
| **3** | **2001** | | | 22.1 | | | 53.2 | | | 74.7 | | | 90.3 | 60.1 |
| | **2002** | 10.3 | | 0.0 | 32.0 | 9.7 | 66.2 | 178.3 | 102.8 | 158.6 | 113.5 | 17.4 | 40.6 | 60.8 |
| | **2003** | 35.0 | 1.4 | 44.8 | 53.3 | 20.0 | 36.7 | 45.3 | 31.4 | 145.8 | 32.7 | 0.0 | 3.8 | 37.5 |
| | **2004** | 7.2 | 19.4 | 38.6 | 8.1 | 33.7 | 126.7 | 121.9 | 199.2 | 11.9 | 102.6 | 62.5 | 87.0 | 68.2 |
| | **2005** | 92.6 | 25.8 | 59.2 | 91.4 | 769.2 | 36.0 | | | | | | | 179.0 |
| | **2006** | 1.2 | 3.5 | 0.7 | 2.0 | 4.4 | 5.0 | 4.9 | 1.0 | 1.6 | 1.4 | 2.2 | 1.9 | 2.5 |
| | **2007** | 1.6 | 0.3 | 0.1 | 0.3 | 0.3 | 0.4 | 0.5 | 0.5 | 0.3 | | | | 0.5 |
| **4** | **2001** | | | 105.3 | | | 128.2 | | | 44.0 | | | 103.6 | 95.3 |
| | **2002** | 24.7 | 22.8 | 0.0 | 48.0 | 10.3 | 82.8 | 59.4 | 33.9 | 88.6 | 90.9 | 16.1 | 34.8 | 42.7 |
| | **2003** | 41.9 | 27.1 | 89.0 | 115.3 | 78.8 | 33.3 | 62.4 | 27.9 | 305.8 | 38.2 | 222.2 | 7.6 | 87.4 |
| | **2004** | 16.0 | 49.0 | 260.0 | 50.0 | 84.0 | 168.9 | 184.4 | 203.9 | 34.1 | 59.4 | 103.0 | 90.4 | 108.6 |
| | **2005** | 108.2 | 38.8 | 51.7 | 101.9 | 106.0 | 15.3 | 0.0 | 43.9 | 145.0 | | | | 67.8 |
| | **2006** | 11.8 | 6.7 | 10.1 | 56.4 | 52.1 | 31.6 | 20.4 | 3.9 | 14.3 | 9.7 | 5.5 | 6.1 | 19.1 |
| | **2007** | 5.3 | 1.0 | 1.1 | 0.6 | 2.7 | 2.0 | 2.1 | 1.8 | 1.5 | | | | 2.0 |
| **5** | **2001** | | | 13.6 | | | 15.0 | | | 24.2 | | | 30.4 | 20.8 |
| | **2002** | 0.0 | 0.0 | 0.0 | 0.0 | 5.4 | 60.7 | 14.6 | 27.1 | 64.3 | 81.3 | 8.4 | 29.0 | 24.2 |
| | **2003** | 40.0 | 2.1 | 41.4 | 62.7 | 55.6 | 22.7 | 40.6 | 17.1 | 95.5 | 31.5 | 93.3 | 0.0 | 41.9 |
| | **2004** | 33.6 | 67.1 | 34.5 | 5.0 | 48.0 | 91.1 | 74.4 | 97.7 | 0.0 | 43.2 | 0.0 | 134.8 | 52.4 |
| | **2005** | 97.0 | 30.4 | 41.7 | 60.0 | 14.1 | 3.3 | | | | | | | 41.1 |
| | **2006** | 5.0 | 3.7 | 6.9 | 15.8 | 14.6 | 13.9 | 5.6 | 1.6 | 5.5 | 4.1 | 3.0 | 5.2 | 7.1 |
| | **2007** | 3.4 | 0.5 | 0.4 | 0.4 | 1.0 | 1.0 | 1.1 | 0.9 | 0.8 | | | | 1.1 |
| **6** | **2001** | | | 13.2 | | | 6.5 | | | 4.4 | | | 19.8 | 11.0 |
| | **2002** | | 0.0 | | 0.0 | 0.0 | 0.0 | 19.4 | 20.4 | 72.8 | 58.1 | 5.2 | 31.0 | 20.7 |
| | **2003** | 30.0 | 7.9 | 38.6 | 46.0 | 38.1 | 18.7 | 35.3 | 15.7 | 85.8 | 36.4 | 0.0 | 0.0 | 29.4 |
| | **2004** | 20.0 | 16.1 | 24.8 | 1.3 | 16.6 | 64.4 | 23.8 | 100.8 | 0.0 | 29.0 | 32.5 | 71.3 | 33.4 |
| | **2005** | 83.0 | 31.7 | 40.8 | 59.1 | 30.3 | 0.0 | | | | | | | 40.8 |
| | **2006** | 3.9 | 3.7 | 2.9 | 7.2 | 6.5 | 5.1 | 2.4 | 0.9 | 2.2 | 2.3 | 1.3 | 2.7 | 3.4 |
| | **2007** | 1.4 | 0.4 | 0.2 | 0.3 | 0.5 | 0.4 | 0.4 | 0.5 | 0.4 | | | | 0.5 |
| **7** | **2001** | | | 0.0 | | | 11.0 | | | 4.4 | | | 9.4 | 6.2 |
| | **2002** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24.3 | 0.0 | 55.7 | 32.9 | 0.0 | 26.4 | 11.6 |
| | **2003** | 21.3 | 2.1 | 43.5 | 35.3 | 15.0 | 20.0 | 25.3 | 27.9 | 94.2 | 24.2 | 8.2 | 0.0 | 26.4 |
| | **2004** | 2.4 | 3.9 | 13.1 | 0.0 | 4.6 | 75.6 | 0.0 | 98.5 | 0.0 | 25.8 | 34.0 | 64.4 | 26.8 |
| | **2005** | 80.0 | 23.3 | 31.7 | 66.7 | 9.2 | 0.0 | | | | | | | 35.1 |
| | **2006** | 2.5 | 2.1 | 2.2 | 3.7 | 4.5 | 2.5 | 1.4 | 0.7 | 1.8 | 1.6 | 1.3 | 2.2 | 2.2 |
| | **2007** | 0.8 | 0.4 | 0.1 | 0.2 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | | | | 0.4 |
| **8** | **2001** | | | 0.0 | | | 6.5 | | | 6.6 | | | 29.2 | 10.6 |
| | **2002** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.1 | 0.0 | 55.7 | 75.5 | 5.2 | 27.7 | 14.4 |
| | **2003** | 24.4 | 2.9 | 24.8 | 42.0 | 38.1 | 16.0 | 35.3 | 20.7 | 105.8 | 29.7 | 32.6 | 0.0 | 31.0 |
| | **2004** | 0.0 | 5.8 | 31.0 | 0.0 | 2.9 | 105.9 | 0.0 | 107.7 | 0.0 | 30.3 | 34.5 | 74.8 | 32.7 |
| | **2005** | 81.5 | 17.5 | 39.2 | 66.7 | 10.3 | 3.3 | 0.0 | 0.0 | 25.5 | | | | 27.1 |
| | **2006** | 32.4 | 18.6 | 5.2 | 54.5 | 43.9 | 15.5 | 3.7 | 4.6 | 3.0 | 3.1 | 6.2 | 0.8 | 16.0 |
| | **2007** | 1.8 | 1.0 | 0.5 | 0.7 | 0.8 | 0.5 | 0.5 | 0.6 | 0.6 | | | | 0.8 |
| **9** | **2001** | | | 8.7 | | | 19.0 | | | 17.6 | | | 29.6 | 18.7 |
| | **2002** | 0.0 | 0.0 | 0.0 | 5.3 | 0.0 | 0.0 | 36.6 | 13.6 | 67.8 | 55.5 | 7.1 | 40.0 | 18.8 |
| | **2003** | 41.9 | 5.7 | 38.6 | 39.3 | 25.0 | 25.3 | 31.2 | 34.3 | 83.2 | 24.2 | 72.6 | 8.7 | 35.8 |
| | **2004** | 24.0 | 11.0 | 18.6 | 0.0 | 16.6 | 82.2 | 61.3 | 120.8 | 0.0 | 44.5 | 95.0 | 79.1 | 46.1 |
| | **2005** | 91.1 | 32.1 | 53.3 | 48.6 | 20.5 | | | | | | | | 49.1 |
| | **2006** | 20.9 | 13.3 | 2.8 | 26.5 | 24.2 | 7.7 | 2.5 | 2.6 | 2.4 | 1.5 | 4.4 | 0.6 | 9.1 |
| | **2007** | 1.1 | 0.5 | 0.3 | 0.5 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 | | | | 0.5 |
| **10** | **2001** | | | 3.1 | | | 0.0 | | | 0.0 | | | 8.8 | 3.0 |
| | **2002** | 18.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.1 | 33.9 | 67.8 | 56.8 | 13.6 | 22.6 | 18.5 |
| | **2003** | 25.0 | 0.0 | 66.9 | 35.3 | 24.4 | 14.7 | 10.0 | 17.9 | 76.8 | 32.7 | 13.3 | 0.0 | 26.4 |
| | **2004** | 3.2 | 0.0 | 8.3 | 0.0 | 2.9 | 71.9 | 0.0 | 83.9 | 0.0 | 24.5 | 25.5 | 73.0 | 24.4 |
| | **2005** | 75.6 | 17.5 | 32.5 | 52.4 | 10.3 | 0.0 | 12.0 | 0.9 | 0.0 | | | | 22.3 |
| | **2006** | 22.2 | 10.7 | 2.5 | 14.2 | 10.1 | 2.7 | 1.5 | 1.3 | 0.1 | 1.6 | 2.6 | 0.7 | 5.9 |
| | **2007** | 1.6 | 0.5 | 0.3 | 0.3 | | 0.1 | 0.2 | 0.3 | 0.3 | | | | 0.5 |
| **11** | **2001** | | | 0.6 | | | 3.8 | | | 4.4 | | | 23.2 | 8.0 |
| | **2002** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.2 | 13.6 | 80.0 | 56.8 | 5.2 | 27.7 | 16.0 |
| | **2003** | 16.9 | 5.7 | 33.1 | 46.7 | 26.3 | 14.7 | 45.3 | 0.0 | 81.3 | 34.6 | 9.6 | 0.0 | 26.2 |
| | **2004** | 7.2 | 1.9 | 28.3 | 0.0 | 7.4 | 80.7 | 1.9 | 114.6 | 0.0 | 44.5 | 38.0 | 67.8 | 32.7 |
| | **2005** | 85.2 | 25.8 | 39.2 | 62.9 | 22.7 | 0.0 | 0.0 | 4.3 | 8.1 | | | | 27.6 |
| | **2006** | 5.9 | 7.8 | 2.2 | 10.1 | 30.1 | 6.7 | 4.0 | 5.9 | 3.2 | 1.4 | 12.8 | 0.7 | 7.6 |
| | **2007** | 1.1 | 0.7 | 0.7 | 1.2 | 0.8 | 0.5 | 0.9 | 0.7 | 0.7 | | | | 0.8 |
| **12** | **2001** | | | 0.0 | | | 0.0 | | | 0.0 | | | 19.2 | 4.8 |
| | **2002** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 54.0 | 12.8 | 80.7 | 71.0 | 0.0 | 29.7 | 20.7 |
| | **2003** | 22.5 | 0.0 | 21.4 | 41.3 | 53.1 | 16.7 | 17.7 | 8.6 | 60.0 | 13.3 | 0.0 | 0.0 | 21.2 |
| | **2004** | 5.6 | 0.0 | 0.0 | 0.0 | 0.0 | 70.4 | 0.0 | 85.4 | 0.0 | 31.6 | 28.0 | 69.6 | 24.2 |
| | **2005** | 72.6 | 22.1 | 20.0 | 59.1 | 2.7 | 0.0 | 2.6 | 0.0 | 0.0 | | | | 19.9 |
| | **2006** | 0.5 | 1.0 | 2.3 | 2.5 | 1.9 | 2.0 | 0.8 | 0.8 | 0.8 | 0.5 | 0.8 | 0.1 | 1.2 |
| | **2007** | 0.5 | 0.4 | 0.2 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | | | | 0.3 |
| **13** | **2001** | | | 9.0 | | | 88.0 | | | 257.1 | | | 396.7 | 187.7 |
| | **2002** | 3.3 | 5.7 | 5.2 | 48.0 | 38.8 | 77.2 | 73.5 | 154.3 | 76.4 | 73.6 | 9.0 | 30.3 | 49.6 |
| | **2003** | 90.6 | 225.0 | 86.2 | 178.7 | 83.8 | 71.3 | 64.1 | 45.0 | 114.8 | 94.6 | 5.2 | 21.6 | 90.1 |
| | **2004** | 27.2 | 22.6 | 132.4 | 91.3 | 114.3 | 205.2 | 219.4 | 338.5 | 73.5 | 118.7 | 164.0 | 130.4 | 136.4 |
| | **2005** | 88.2 | 41.3 | 377.5 | 179.1 | 338.9 | 140.0 | 13.4 | 155.9 | 125.7 | | | | 162.2 |
| | **2006** | 1.0 | 0.4 | 0.9 | 0.8 | 0.9 | 0.9 | 0.3 | 0.4 | 0.5 | 0.1 | 0.5 | 0.1 | 0.6 |
| | **2007** | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.2 | | | | 0.1 |

**Notes:**
Data provided by SRB Technologies

**Table 3.3: Summary of Monitoring Well Installation Details[1]**

| WELL ID | Date Drilled | Method | Geologic Zone Sreened | Location | Depth[2] (m) | Ground Surface Elevation (masl) | Top of Pipe (TOP) Elevation (masl) | Screen Length (m) | Hole Radius (m) | Pipe Radius (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| MW06-1 | Jan 2006 | CME | Clay | 335449m E/5074615m N | 4.34 | 130.17 | 130.99 | 1.524 | 0.102 | 0.025 |
| MW06-2 | Jan 2006 | CME | Clay | 335478m E/5074578m N | 4.54 | 129.24 | 130.03 | 1.524 | 0.102 | 0.025 |
| MW06-3 | Jan 2006 | CME | Clay [3] | 335363m E/5074535m N | 5.36 | 132.32 | 133.09 | 1.524 | 0.102 | 0.025 |
| MW06-4S | Jan 2006 | CME | Clay | 334996m E/5074545m N | 5.20 | 132.88 | 133.63 | 1.524 | 0.102 | 0.025 |
| MW06-4D | Jan 2006 | CME | Clay | 334997m E/5074545m N | 12.87 | 132.92 | 133.73 | 1.524 | 0.102 | 0.025 |
| MW06-5 | Jan 2006 | CME | Clay | 335359m E/5074056m N | 6.64 | 136.67 | 137.46 | 1.524 | 0.102 | 0.025 |
| MW06-6 | Jan 2006 | CME | Clay | 335933m E/5074585m N | 5.12 | 127.57 | 128.34 | 1.524 | 0.102 | 0.025 |
| MW06-8 | Sept 2006 | Geoprobe | Clay | 335464m E/5074590m N | 5.98 | 129.58 | 130.30 | 1.524 | 0.041 | 0.016 |
| MW06-9 | Sept 2006 | Geoprobe | Clay | 335401m E/5074605m N | 4.64 | 129.86 | 131.15 | 1.524 | 0.041 | 0.016 |
| MW06-10 | Sept 2006 | Geoprobe | Top of Bedrock | 335408m E/5074506m N | 6.69 | 130.24 | 131.32 | 1.524 | 0.041 | 0.016 |
| MW07-11 | Apr 2007 | Geoprobe | Top of Bedrock | 335478m E/5074576m N | 6.31 | 129.15 | 130.06 | 0.610 | 0.041 | 0.016 |
| MW07-12 | Apr 2007 | Geoprobe | Top of Bedrock | 335465m E/5074588m N | 6.61 | 129.58 | 130.41 | 0.305 | 0.041 | 0.016 |
| MW07-13 | Apr 2007 | Geoprobe | Top of Bedrock | 335448m E/5074616m N | 5.72 | 130.03 | 130.92 | 0.914 | 0.041 | 0.016 |
| MW07-14 | Apr 2007 | Geoprobe | Top of Bedrock | 335415m E/5074617m N | 6.40 | 129.98 | 130.86 | 0.457 | 0.041 | 0.016 |
| MW07-15 | Apr 2007 | Geoprobe | Top of Bedrock | 335403m E/5074605m N | 6.32 | 129.93 | 130.84 | 0.457 | 0.041 | 0.016 |
| MW07-16 | Apr 2007 | Geoprobe | Top of Bedrock | 335393m E/5074599m N | 6.23 | 130.16 | 130.98 | 0.610 | 0.041 | 0.016 |
| MW07-17 | Apr 2007 | Air Rotary | Deeper Bedrock | 335392m E/5074599m N | 13.70 | 130.16 | 131.08 | 1.524 | 0.102 | 0.025 |
| MW07-18 | Apr 2007 | Geoprobe | Top of Bedrock | 335387m E/5074595m N | 6.38 | 130.37 | 131.23 | 0.914 | 0.041 | 0.016 |
| MW07-19 | Apr 2007 | Geoprobe | Top of Bedrock | 335378m E/5074587m N | 6.59 | 130.79 | 131.61 | 0.914 | 0.041 | 0.016 |
| MW07-20 | Sept 2007 | Geoprobe | Top of Bedrock | 335296m E/5074616m N | 6.97 | 129.85 | 130.70 | 1.524 | 0.041 | 0.016 |
| MW07-21 | Sept 2007 | Geoprobe | Top of Bedrock | 335522m E/5074584m N | 6.85 | 128.78 | 129.51 | 1.524 | 0.041 | 0.016 |
| MW07-22 | Sept 2007 | Geoprobe | Top of Bedrock | 335472m E/5074584m N | 6.27 | 129.05 | 130.25 | 1.524 | 0.041 | 0.016 |
| MW07-23 | Sept 2007 | Geoprobe | Top of Bedrock | 335492m E/5074560m N | 5.16 | 129.29 | 130.04 | 0.610 | 0.041 | 0.016 |
| MW07-24 | Sept 2007 | Geoprobe | Top of Bedrock | 335519m E/5074530m N | 5.72 | 128.22 | 129.03 | 0.610 | 0.041 | 0.016 |
| MW07-25 | Sept 2007 | Geoprobe | Top of Bedrock | 335466m E/5074498m N | 5.93 | 129.03 | 129.85 | 0.762 | 0.041 | 0.016 |
| MW07-26 | Sept 2007 | Geoprobe | Top of Bedrock | 335357m E/5074567m N | 6.74 | 131.85 | 132.42 | 1.524 | 0.041 | 0.016 |
| MW07-27 | Sept 2007 | Geoprobe | Top of Bedrock | 335354m E/5074611m N | 7.46 | 132.02 | 132.89 | 1.524 | 0.041 | 0.016 |
| MW07-28[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335352m E/5074612m N | 13.73 | 132.04 | 132.71 | 1.524 | 0.102 | 0.016 |
| MW07-29[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335384m E/5074592m N | 12.48 | 130.57 | 131.09 | 1.524 | 0.076 | 0.016 |
| MW07-30[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335447m E/5074620m N | 13.22 | 130.10 | 130.80 | 1.524 | 0.076 | 0.016 |
| MW07-31[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335471m E/5074583m N | 12.46 | 129.38 | 130.16 | 1.524 | 0.076 | 0.016 |
| MW07-32[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335517m E/5074530m N | 12.46 | 128.23 | 128.86 | 1.524 | 0.076 | 0.016 |
| MW07-33[4] | Oct 2007 | Air Rotary | Deeper Bedrock | 335465m E/5074497m N | 13.61 | 129.26 | 129.88 | 1.524 | 0.076 | 0.016 |
| MW07-34 | Oct 2007 | Air Rotary | Shallow Bedrock | 335393m E/5074591m N | 8.70 | 130.71 | 131.12 | 0.457 | 0.076 | 0.016 |
| MW07-35 | Oct 2007 | Air Rotary | Shallow Bedrock | 335354m E/5074613m N | 8.66 | 132.16 | 132.89 | 0.610 | 0.076 | 0.016 |
| MW07-36 | Oct 2007 | Air Rotary | Shallow Bedrock | 335338m E/5074629m N | 8.54 | 132.31 | 133.10 | 0.610 | 0.076 | 0.016 |
| MW07-37 | Oct 2007 | Air Rotary | Shallow Bedrock | 335468m E/5074589m N | 8.00 | 129.47 | 130.06 | 0.457 | 0.076 | 0.016 |

**Notes:**
1 - Borehole Logs are provided in Appendix D
2 - Relative to Ground Surface
3 - Hole was completed to auger refusal, but believed to be boulder and not bedrock. Refer to Section 4.1.1.
4 - Original well installed in NQ bore hole in bedrock 24 - 27 September 2007. Well overdrilled and new well installed in 8" air rotary drill hole, 3 - 4 October 2007

**Table 4.1: Summary of Hydraulic Conductivity Values Estimated from Short-Term Recovery or Slug Tests**

| Monitoring Well | Hydraulic Conductivity (m/s) |
|---|---|
| **Screened in Clay Overburden** | |
| MW06-1 | $6.24x10^{-7}$ |
| MW06-2 | $1.68x10^{-8}$ |
| MW06-3 | $3.25x10^{-9}$ |
| MW06-4S | $1.21x10^{-7}$ |
| MW06-4D | $1.06x10^{-9}$ |
| MW06-5 | $1.56x10^{-9}$ |
| MW06-6 [A] | $6.31x10^{-7}$ |
| MW06-8 | $5.50x10^{-9}$ |
| MW06-9 | $2.84x10^{-10}$ |
| *Geometrix Mean* | *$1.24x10^{-8}$* |
| **Screened at Top of Bedrock** | |
| MW06-10 | $1.14x10^{-6}$ |
| MW07-11 | $1.65x10^{-6}$ |
| MW07-12 | $6.98x10^{-6}$ |
| MW07-13 | $6.40x10^{-7}$ |
| MW07-14 | $5.09x10^{-8}$ |
| MW07-15 | $1.37x10^{-7}$ |
| MW07-16 | $3.44x10^{-6}$ |
| MW07-18 | $8.83x10^{-7}$ |
| MW07-19 | $3.66x10^{-6}$ |
| MW07-20 | $7.78x10^{-7}$ |
| MW07-21 | $6.49x10^{-8}$ |
| MW07-22 | $1.86x10^{-6}$ |
| MW07-23 | $1.62x10^{-8}$ |
| MW07-24 | $3.72x10^{-7}$ |
| MW07-25 | $6.42x10^{-7}$ |
| MW07-26 | $1.42x10^{-8}$ |
| MW07-27 | $1.56x10^{-7}$ |
| *Geometrix Mean* | *$4.27x10^{-7}$* |
| **Screened in Deeper Bedrock** | |
| MW07-17 | $4.57x10^{-8}$ |
| MW07-28 | $2.68x10^{-6}$ |
| MW07-29 | $2.72x10^{-6}$ [B] |
| MW07-30 | $1.86x10^{-6}$ |
| MW07-31 | $6.73x10^{-6}$ |
| MW07-32 | $3.78x10^{-7}$ [B] |
| MW07-33 | $3.57x10^{-5}$ [B] |
| *Geometrix Mean* | *$1.91x10^{-6}$* |
| **Screened in Shallow Bedrock** | |
| MW07-34 | $7.92x10^{-6}$ [B] |
| MW07-35 | $1.89x10^{-6}$ |
| MW07-36 | $2.71x10^{-6}$ |
| MW07-37 | $3.28x10^{-7}$ [B] |
| *Geometrix Mean* | *$1.78x10^{-6}$* |

**Notes:**
A - Located on opposite side of Muskrat River than SRB Facility
B - Accounts for length of natual cave-in of rock fragments during monitoring well installation

**Table 4.2: Summary of Hydraulic Conductivity Values of the Main Hydrostratigraphic Units with Hydraulic Gradients and Groundwater Velocities**

| Hydrostratigraphic Unit | Geomean Hydraulic Conductivity (m/s) | Hydraulic Gradients | | Horizontal Groundwater Velocity [2] (m/s) |
|---|---|---|---|---|
| | | Horizontal [1] (m/m) | Vertical (m/m) | |
| Overburden | $1.24x10^{-8}$ | 0.06 | 1.0 | 0.1 |
| Top of bedrock | $4.27x10^{-7}$ | 0.04 | 0.3 | 1.8 |
| Shallow bedrock | $1.91x10^{-6}$ | 0.02 | 0.6 | 4.0 |
| Deeper bedrock | $1.78x10^{-6}$ | 0.02 | - [3] | 3.7 |

**Notes:**
1 - Maximum gradient used to be conservative
2 - Assumes a porosity of 0.3
3 - No vertical gradient can be calculated as no underlying unit below deeper bedrock is monitored

**Table 4.3: Estimated Concentration of Tritium in Soil Water Based on Atmospheric Deposition Modeling**

| Location | Tritium Concentration in Soil Water (Bq/L) [2] | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 |
| **Actual Air Emissions (GBq/a)[1]** | 160,000 | 260,000 | 150,000 | 220,000 | 260,000 | 620,000 | 1,200,000 | 1,600,000 | 770,000 | 1,700,000 | 1,300,000 | 930,000 | 550,000 | 420,000 | 270,000 | 74,000 |
| **MW06-1 MW07-13 MW07-30** | 4,557 | 7,441 | 4,373 | 6,433 | 7,484 | 17,810 | 25,798 | 34,120 | 16,535 | 35,517 | 27,275 | 19,895 | 11,686 | 8,909 | 5,738 | 1,015 |
| **MW06-2 MW07-11** | 1,225 | 2,001 | 1,176 | 1,730 | 2,013 | 4,789 | 4,853 | 6,418 | 3,110 | 6,681 | 5,130 | 3,742 | 2,198 | 1,676 | 1,079 | 90 |
| **MW06-3** | 2,151 | 3,512 | 2,064 | 3,036 | 3,533 | 8,407 | 11,601 | 15,343 | 7,435 | 15,971 | 12,265 | 8,946 | 5,255 | 4,006 | 2,580 | 515 |
| **MW06-8 MW07-12** | 3,016 | 4,924 | 2,894 | 4,257 | 4,953 | 11,787 | 13,972 | 18,479 | 8,955 | 19,236 | 14,772 | 10,775 | 6,329 | 4,825 | 3,108 | 369 |
| **MW06-9 MW07-15** | 273 | 446 | 262 | 385 | 448 | 1,067 | 292 | 386 | 187 | 402 | 309 | 225 | 132 | 101 | 65 | 1 |
| **MW06-10** | 85,076 | 138,931 | 81,640 | 120,104 | 139,740 | 332,529 | 183,077 | 242,134 | 117,339 | 252,051 | 193,559 | 141,184 | 82,932 | 63,221 | 40,720 | 9,338 |
| **MW07-14** | 2,614 | 4,269 | 2,509 | 3,691 | 4,294 | 10,218 | 19,616 | 25,944 | 12,573 | 27,006 | 20,739 | 15,127 | 8,886 | 6,774 | 4,363 | 492 |
| **MW07-16 MW07-17** | 2,120 | 3,462 | 2,034 | 2,992 | 3,482 | 8,285 | 15,923 | 21,060 | 10,206 | 21,922 | 16,835 | 12,280 | 7,213 | 5,499 | 3,542 | 228 |
| **MW07-18 MW07-29 MW07-34** | 5,636 | 9,203 | 5,408 | 7,956 | 9,257 | 22,027 | 42,462 | 56,160 | 27,215 | 58,460 | 44,894 | 32,746 | 19,235 | 14,663 | 9,444 | 700 |
| **MW07-19** | 4,030 | 6,582 | 3,868 | 5,690 | 6,620 | 15,753 | 30,418 | 40,230 | 19,496 | 41,878 | 32,160 | 23,458 | 13,779 | 10,504 | 6,766 | 474 |
| **MW07-20** | 1,925 | 3,143 | 1,847 | 2,717 | 3,162 | 7,524 | 10,222 | 13,520 | 6,552 | 14,074 | 10,808 | 7,883 | 4,631 | 3,530 | 2,274 | 449 |
| **MW07-21** | 3,296 | 5,382 | 3,163 | 4,653 | 5,414 | 12,882 | 19,042 | 25,184 | 12,204 | 26,216 | 20,132 | 14,684 | 8,626 | 6,576 | 4,235 | 943 |
| **MW07-22 MW07-31** | 4,425 | 7,226 | 4,246 | 6,247 | 7,268 | 17,296 | 23,698 | 31,343 | 15,189 | 32,627 | 25,055 | 18,276 | 10,735 | 8,184 | 5,271 | 902 |
| **MW07-23** | 4,698 | 7,672 | 4,508 | 6,633 | 7,717 | 18,363 | 27,638 | 36,554 | 17,714 | 38,051 | 29,221 | 21,314 | 12,520 | 9,544 | 6,147 | 1,236 |
| **MW07-24 MW07-32** | 4,736 | 7,734 | 4,545 | 6,686 | 7,779 | 18,511 | 29,370 | 38,845 | 18,824 | 40,436 | 31,052 | 22,650 | 13,304 | 10,142 | 6,533 | 1,414 |
| **MW07-25 MW07-33** | 3,779 | 6,171 | 3,627 | 5,335 | 6,207 | 14,771 | 23,870 | 31,570 | 15,299 | 32,863 | 25,237 | 18,408 | 10,813 | 8,243 | 5,309 | 1,164 |
| **MW07-26** | 1,737 | 2,836 | 1,666 | 2,452 | 2,852 | 6,788 | 7,728 | 10,221 | 4,953 | 10,640 | 8,171 | 5,960 | 3,501 | 2,669 | 1,719 | 293 |
| **MW07-27 MW07-28 MW07-35** | 5,195 | 8,484 | 4,986 | 7,335 | 8,534 | 20,307 | 21,849 | 28,897 | 14,004 | 30,080 | 23,100 | 16,849 | 9,897 | 7,545 | 4,860 | 643 |
| **MW07-36** | 6,197 | 10,119 | 5,946 | 8,748 | 10,178 | 24,220 | 34,324 | 45,396 | 21,999 | 47,255 | 36,289 | 26,469 | 15,548 | 11,853 | 7,634 | 1,475 |
| **MW07-37** | 3,705 | 6,050 | 3,555 | 5,230 | 6,085 | 14,480 | 18,129 | 23,976 | 11,619 | 24,958 | 19,166 | 13,980 | 8,212 | 6,260 | 4,032 | 592 |
| **RW-1 (413 Boundary Rd.)** | 649 | 1,054 | 608 | 892 | 1,054 | 2,233 | 4,321 | 5,762 | 2,773 | 6,122 | 4,681 | 3,349 | 1,981 | 1,512 | 972 | 250 |
| **RW-2 (185 Mud Lake Rd.)** | 375 | 609 | 351 | 515 | 609 | 1,358 | 2,628 | 3,504 | 1,686 | 3,723 | 2,847 | 2,037 | 1,205 | 920 | 591 | 156 |
| **RW-3 (183 Mud Lake Rd.)** | 346 | 563 | 325 | 476 | 563 | 1,257 | 2,434 | 3,245 | 1,562 | 3,448 | 2,637 | 1,886 | 1,115 | 852 | 548 | 144 |
| **RW-4 (711 Bruham Rd.)** | 185 | 301 | 174 | 255 | 301 | 670 | 1,297 | 1,730 | 833 | 1,838 | 1,406 | 1,006 | 595 | 454 | 292 | 78 |
| **RW-5 (171 Sawmill Road)** | 68 | 111 | 64 | 94 | 111 | 248 | 479 | 639 | 308 | 679 | 519 | 371 | 220 | 168 | 108 | 29 |
| **RW-6 (RR #4, Hwy 41)** | 56 | 91 | 52 | 77 | 91 | 203 | 394 | 525 | 253 | 558 | 426 | 305 | 180 | 138 | 89 | 24 |
| **RW-7 (40925 Hwy 41)** | 50 | 81 | 47 | 69 | 81 | 182 | 351 | 469 | 225 | 498 | 381 | 272 | 161 | 123 | 79 | 21 |
| **RW-8 (204 Boundary Road)** | 567 | 921 | 532 | 780 | 921 | 2,045 | 3,958 | 5,278 | 2,540 | 5,608 | 4,288 | 3,068 | 1,814 | 1,385 | 891 | 233 |
| **RW-9 (206 Boundary Road)** | 623 | 1,013 | 584 | 857 | 1,013 | 2,246 | 4,347 | 5,796 | 2,789 | 6,159 | 4,710 | 3,369 | 1,992 | 1,522 | 978 | 256 |
| **RW-10 (208 Boundary Road)** | 661 | 1,074 | 620 | 909 | 1,074 | 2,380 | 4,607 | 6,142 | 2,956 | 6,526 | 4,991 | 3,570 | 2,111 | 1,612 | 1,037 | 271 |
| **B-1 (Superior Propane Office)** | 2,834 | 4,605 | 2,657 | 3,897 | 4,605 | 8,789 | 17,012 | 22,682 | 10,916 | 24,100 | 18,429 | 13,184 | 7,797 | 5,954 | 3,828 | 902 |
| **B-2 (Superior Propane Truck Wash)** | 1,224 | 1,989 | 1,148 | 1,683 | 1,989 | 3,942 | 7,629 | 10,172 | 4,896 | 10,808 | 8,265 | 5,913 | 3,497 | 2,670 | 1,717 | 431 |
| **B-3 (International Lumber)** | 1,294 | 2,102 | 1,213 | 1,779 | 2,102 | 4,595 | 8,894 | 11,859 | 5,707 | 12,600 | 9,635 | 6,893 | 4,076 | 3,113 | 2,001 | 519 |

**Notes:**
1 - Emissions include total reported HTO and 2% of total reported HT (to account for HT oxidation to HTO)
2 - Values not corrected for tritium decay since deposition
Data provided by SRB Technologies

**Table 4.4: Concentrations of Tritium in Groundwater - April to December, 2007**

| Monitoring Well | Screened Geological Zone | Sampling Date | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 27-Apr-07 | 17-May-07 | 14-Jun-07 | 18-Jul-07 | 13-Aug-07 | 11-Sep-07 | 19-Oct-07 | 22-Nov-07 | 19-Dec-07 |
| MW06-1 | Clay | 50,170 | 51,972 | 46,565 | 47,489 | 44,653 | 41,651 | 43,586 | 42,299 | 41,947 |
| MW06-2 | Clay | 4,657 | 4,646 | 4,538 | 4,365 | 4,329 | 3,997 | 4,050 | 3,695 | 3,641 |
| MW06-3 | Clay [1] | 3,273 | 3,267 | 3,288 | 3,187 | 3,247 | 3,139 | DRY | DRY | DRY |
| MW06-8 | Clay | 209 | 207 | 172 | 202 | 236 | 247 | 311 | 225 | DRY |
| MW06-9 | Clay | 1,450 | 1,609 | 1,526 | 1,866 | 1,704 | 1,723 | 1,489 | 1,402 | DRY |
| MW06-10 | Top of Bedrock | 104,350 | 94,956 | 70,225 | 46,379 | 49,347 | 39,228 | 29,795 | 30,326 | 25,712 |
| MW07-11 | Top of Bedrock | 203 | 638 | 936 | 866 | 898 | 955 | 400 | 485 | 727 |
| MW07-12 | Top of Bedrock | 152 | 154 | 114 | 106 | 117 | 151 | 194 | 177 | DRY |
| MW07-13 | Top of Bedrock | 6,358 | 7,781 | 8,070 | 9,463 | 9,221 | 9,287 | 10,057 | 7,859 | 9,968 |
| MW07-14 | Top of Bedrock | 1,504 | 1,662 | 1,895 | 2,526 | 3,494 | 3,610 | 2,357 | 3,692 | 2,048 |
| MW07-15 | Top of Bedrock | 690 | 675 | 672 | 314 | 376 | 255 | 227 | 170 | 112 |
| MW07-16 | Top of Bedrock | 6,855 | 6,845 | 7,059 | 4,927 | 6,381 | 6,148 | 6,646 | 6,776 | 6,358 |
| MW07-17 | Deeper Bedrock | 521 | 519 | 233 | 109 | 107 | 106 | 103 | 117 | 663 |
| MW07-18 | Top of Bedrock | 110,422 | 108,879 | 97,441 | 100,612 | 93,704 | 85,781 | 58,139 | 52,516 | 52,009 |
| MW07-19 | Top of Bedrock | 28,788 | 25,806 | 20,475 | 13,852 | 16,329 | 18,318 | 4,229 | 2,230 | DRY |
| MW07-20 | Top of Bedrock | - | - | - | - | - | - | 628 | 674 | 667 |
| MW07-21 | Top of Bedrock | - | - | - | - | - | - | 102 | 116 | 111 |
| MW07-22 | Top of Bedrock | - | - | - | - | - | - | 557 | 421 | 184 |
| MW07-23 | Top of Bedrock | - | - | - | - | - | - | 595 | 668 | 610 |
| MW07-24 | Top of Bedrock | - | - | - | - | - | - | 102 | 118 | 111 |
| MW07-25 | Top of Bedrock | - | - | - | - | - | - | 1,230 | 176 | 111 |
| MW07-26 | Top of Bedrock | - | - | - | - | - | - | 2,731 | 2,609 | 2,533 |
| MW07-27 | Top of Bedrock | - | - | - | - | - | - | 6,959 | 6,652 | DRY |
| MW07-28 | Deeper Bedrock | - | - | - | - | - | - | 8,088 | 6,569 | 4,957 |
| MW07-29 | Deeper Bedrock | - | - | - | - | - | - | 38,797 | 35,421 | 30,468 |
| MW07-30 | Deeper Bedrock | - | - | - | - | - | - | 14,185 | 10,457 | N/A |
| MW07-31 | Deeper Bedrock | - | - | - | - | - | - | 801 | 1,394 | 1,436 |
| MW07-32 | Deeper Bedrock | - | - | - | - | - | - | 143 | 117 | 111 |
| MW07-33 | Deeper Bedrock | - | - | - | - | - | - | 678 | 428 | 458 |
| MW07-34 | Shallow Bedrock | - | - | - | - | - | - | 45,544 | 23,711 | 15,094 |
| MW07-35 | Shallow Bedrock | - | - | - | - | - | - | 14,824 | 13,641 | 12,948 |
| MW07-36 | Shallow Bedrock | - | - | - | - | - | - | 9,100 | 7,504 | DRY |
| MW07-37 | Shallow Bedrock | - | - | - | - | - | - | 3,297 | 2,490 | 2,466 |

**Notes:**

1 - Hole was completed to auger refusal, but believed to be boulder and not bedrock. Refer to Section 4.1.1.

2 - "-" indicates no sample was collected as well was not installed until the end of September 2007

Groundwater Concentrations provided by SRB Technologies

Complete data provided in Appendix I

**Table 4.5: Concentration of Tritium in Residential and Commercial Groundwater Supply Wells**

| Well ID | RW-1 | RW-2 | RW-3 | RW-4 | RW-5 | RW-6 | RW-7 | RW-8 | RW-9 | RW-10 | B-1 | B-2 | B-3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Well Location** | 413 BOUNDARY ROAD | 185 MUD LAKE ROAD | 183 MUD LAKE ROAD | 711 BRUHAM AVENUE | 171 SAWMILL ROAD | 40987 HWY 41 | 40925 HWY 41 | 204 BOUNDARY ROAD | 206 BOUNDARY ROAD | 208 BOUNDARY ROAD | SUPERIOR PROPANE OFFICE | SUPERIOR PROPANE TRUCK WASH | INTERNATIONAL LUMBER OFFICE |
| **22-Nov-05** | 1,811 | - | 430 | - | - | - | - | - | - | - | - | - | - |
| **29-Dec-05** | 1,884 | 354 | 395 | - | - | - | 123 | - | - | - | - | - | - |
| **5-Jan-06** | 1,872 | 388 | 331 | | - | - | - | - | - | - | - | - | - |
| **12-Jan-06** | 1,915 | - | 397 | 3 | 13 | - | - | - | - | - | - | - | - |
| **19-Jan-06** | 1,895 | - | 411 | 2 | - | - | - | - | - | - | - | - | - |
| **26-Jan-06** | 1,902 | 362 | 437 | 4 | 18 | - | - | - | - | - | - | - | - |
| **2-Feb-06** | 1,900 | - | 423 | 2 | - | - | - | - | - | - | - | - | - |
| **15-Feb-06** | 1,826 | - | - | 3 | - | - | - | - | - | - | - | - | - |
| **24-Feb-06** | 2,061 | - | 481 | 2 | 15 | 77 | - | - | - | - | - | - | - |
| **13-Oct-06** | 1,626 | 313 | 366 | 4 | 14 | 67 | 90 | - | - | - | - | - | - |
| **26-Oct-06** | - | - | - | - | - | - | - | 260 | - | - | 1,264 | 2,145 | - |
| **15-Nov-06** | - | - | - | - | - | - | - | - | 455 | 7 | - | - | 15 |
| **16-Mar-07** | 1,506 | 336 | 186 | 4 | 14 | 69 | 67 | 254 | 268 | 4 | 979 | 1,849 | 6 |
| **17-May-07** | 1,366 | - | - | - | - | - | - | - | - | - | 1,289 | - | - |
| **14-Jun-07** | - | - | - | - | - | - | - | - | - | - | 1,515 | - | - |
| **18-Jul-07** | 1,370 | 311 | 358 | 3 | 18 | 70 | 38 | 294 | 269 | 2 | 1,022 | 2,222 | 6 |
| **13-Aug-07** | - | - | - | - | - | - | - | - | - | - | 1,126 | | |
| **11-Sep-07** | - | - | - | - | - | - | - | - | - | - | 848 | | |
| **19-Oct-07** | - | - | - | - | - | - | - | - | - | - | 865 | | |
| **22-Nov-07** | 1,399 | 287 | 323 | 4 | 17 | 82 | 25 | 236 | 583 | 4 | 1,075 | 3,087 | 4 |
| **19-Dec-07** | - | - | - | - | - | - | - | - | 442 | - | 1,006 | 4,073 | - |

**Notes:**
1 - "-" indicates no sample was collected
Groundwater Concentrations provided by SRB Technologies

**Table 4.6: Tritium Concentration in Precipitation Samples**

| Sample Date | 12-Jan-06 | 24-Feb-06 | 24-Feb-06 | 10-Mar-06 | 13-Mar-06 | 14-Mar-06 | 17-Mar-06 | Average Concentration |
|---|---|---|---|---|---|---|---|---|
| Collection/Analysis[1] | EcoMetrix/OPG | AECL | EcoMetrix/OPG | SRB | SRB | SRB | SRB | |
| SRB Stacks Snow[2] | - | - | 5,883 | - | - | - | - | 5,883 |
| MW06-1 Snow | 1,760 | - | 1,588 | - | - | - | - | 1,674 |
| MW06-2 Snow | - | - | - | 550 | | | 5,350 | 2,950 |
| MW06-3 Snow | 1,068 | - | 2,177 | - | - | - | - | 1,623 |
| MW06-4 Snow | 556 | 4,431 | 2,786 | - | - | - | - | 2,591 |
| MW06-5 Snow | 204 | 216 | 72 | - | - | - | - | 164 |
| MW06-6 Snow | 133 | 303 | 161 | - | - | - | - | 199 |
| CN[3] Snow | 332 | - | - | - | - | - | - | 332 |
| CN-1 Snow | - | 1,268 | 1,011 | - | - | - | - | 1,140 |
| CN-2 Snow | - | - | 452 | - | - | - | - | 452 |
| CN-3 Snow | - | - | 586 | - | - | - | - | 586 |
| Precipitation Monitor[4] | - | 230 | 182 | - | - | - | - | 206 |
| N. corner of SRB property - Snow | - | - | - | 550 | - | - | 290 | 420 |
| MW06-1 Meltwater | - | - | - | 700 | - | - | 1,490 | 1,095 |
| Meltwater (between MW1 and MW2) | - | - | - | 320 | - | - | 2,630 | 1,475 |
| NW boundary of SRB - snow | - | - | - | 810 | - | - | 1,050 | 930 |
| NW boundary of SRB - meltwater | - | - | - | 40,480 | 12,020 | 5,180 | 1,110 | 14,698 |
| Roof runoff @ NW corner | - | - | - | - | - | - | 2,410 | 2,410 |
| Roof runoff @ SE corner | - | - | - | - | - | - | 3,740 | 3,740 |

**Notes:**

Values are in units of Bq/L, as reported by the respective lab.

1 - parties responsible for precipitation sample collection, and anaylsis of tritium content

2 - snow samples were collected as an integrated composite sample of the complete depth of existing snow pack

3 - snow samples collected on CN property were initially collected as a composite for all well locations, and subsequently as composites at each individual well head

4 - fallout bucket

5 - "-" indicates no sample was collected

**Table 4.7: Results of Non-radiological Analyses of Water Samples from Monitoring and Residential Wells**

| Parameter | | MW-4S | RW-1 | RW-3 | RW-4 | RW-5 |
|---|---|---|---|---|---|---|
| Chloride (Cl) | (mg/L) | <2 | 32 | 331 | 46 | 183 |
| Nitrate ($NO_3$) | (mg/L) | 0.60 | 3.90 | 0.70 | <0.1 | <0.1 |
| Nitrite ($NO_2$) | (mg/L) | <0.1 | <0.1 | <0.3 | <0.1 | <0.3 |
| Sulphate ($SO_4$) | (mg/L) | 22 | 13 | 45 | 16 | 166 |
| Total Aluminum (Al) | (mg/L) | 0.02 | 0.01 | 0.01 | <0.01 | 0.03 |
| Total Calcium (Ca) | (mg/L) | 18 | 40 | 149 | 57 | 11 |
| Total Copper (Cu) | (mg/L) | 0.001 | 0.004 | 0.013 | 0.010 | 0.008 |
| Total Iron (Fe) | (mg/L) | <0.05 | 0.11 | 0.07 | <0.05 | <0.05 |
| Total Lead (Pb) | (mg/L) | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Magnesium (Mg) | (mg/L) | 9.40 | 17 | 83 | 21 | 0.60 |
| Total Manganese (Mn) | (mg/L) | 0.05 | 0.03 | 0.003 | 0.02 | 0.01 |
| Total Nickel (Ni) | (mg/L) | 0.01 | <0.002 | 0.003 | <0.002 | <0.002 |
| Total Phosphorus (P) | (mg/L) | 0.11 | <0.05 | <0.05 | <0.05 | 0.13 |
| Total Potassium (K) | (mg/L) | 4.00 | 3.00 | 5.00 | 4.00 | 1.00 |
| Total Silicon (Si) | (mg/L) | 18.8 | 13.3 | 8.1 | 14.0 | 10.2 |
| Total Sodium (Na) | (mg/L) | 9.80 | 32.7 | 116 | 11.8 | 380 |
| Total Strontium (Sr) | (mg/L) | 0.06 | 0.19 | 1.23 | 0.14 | 0.06 |
| Total Zinc (Zn) | (mg/L) | 0.15 | 0.06 | 0.07 | 0.008 | 0.07 |

**Table 4.8: Tritium Concentration in Stream Water Samples**

| Sample Location[1] | | Tritium Concentration (Bq/L) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 23-Feb-06 | 16-Apr-07 | 18-Jul-07 | 13-Aug-07 | 11-Sep-07 | 19-Oct-07 | 22-Nov-07 |
| SW Stn B | Muskrat River at Mud Lake Rd | 8.3 | 10 | 7 | 6 | 5 | 9 | 7 |
| SW Stn C | Muskrat River at Bennett St. | 11 | 14 | 11 | 7 | 8 | 8 | 9 |
| SW Stn D | Muskrat River at Pansy Park | 12 | 13 | NS | NS | NS | NS | NS |
| SW Stn E | Indian River at Boundary Rd | 7.4 | 9 | NS | NS | NS | NS | NS |

**Notes:**
1 - Refer to Figure 3.5 for Sample Locations
NS - Not Sampled
Surface Water Concentrations provided by SRB Technologies

**Table 5.1: Tritium Concentration in Miscellaneous Water Samples**

| Sample Description | Processing During Precipitation Events [1] | | Not Processing During Precipitation Events [2] | | Reduction in Tritium Concentration |
|---|---|---|---|---|---|
| | Average | Standard Deviation | Average | Standard Deviation | |
| Water Dripping from Stacks (Bq/L) | 2,298,133 | 10,104,316 | 3,009 | 1,225 | 99% |
| Standing Water near Stacks (Bq/L) | 19,339 | 23,155 | 664 | 900 | 97% |
| Downspouts (Bq/L) | 15,288 | 28,730 | 540 | 299 | 96% |
| Ditches Along Property Line (Bq/L) | 759 | 716 | 427 | 441 | 43% |
| Average Weekly Emissions [3] (Gbq) | 2,267 | 2,211 | 349 | 162 | 85% |

**Notes:**
1 - Average value between April 3 to August 2, 2006
2 - Average value between October 11 to December 5, 2006
3 - Emissions include total reported HTO and 2% of total reported HT (to account for HT oxidation to HTO)
Complete data and sample locations provided in Appendix I
Data provided by SRB Technologies

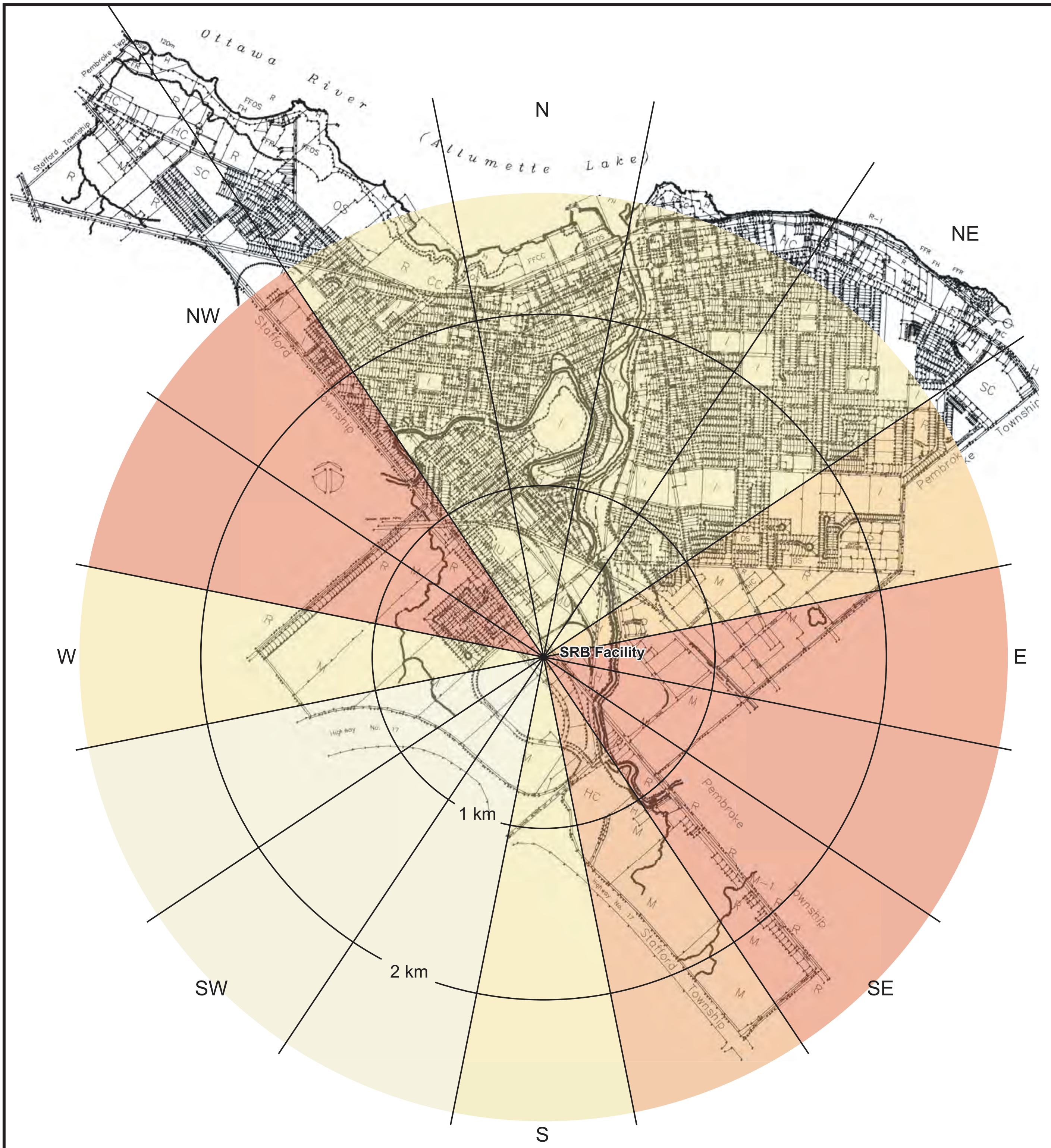
**Table 5.2: Tritium Concentrations in Surface Soil Samples Collected at New Developments in the Vicinity of SRB**

| Sample ID | Tritium Concentration in Soil Water (Bq/L) |
|---|---|
| **Cliché Property** | |
| SE #1 | 153 |
| SE #2 | 143 |
| NW #1 | 289 |
| NW #2 | 340 |
| **Motel 6 Property** | |
| #1 | 56 |
| #2 | 32 |
| #3 | 27 |
| #4 | 51 |

**Notes:**
Data provided by SRB Technologies

EcoMetrix
INCORPORATED

# FIGURES

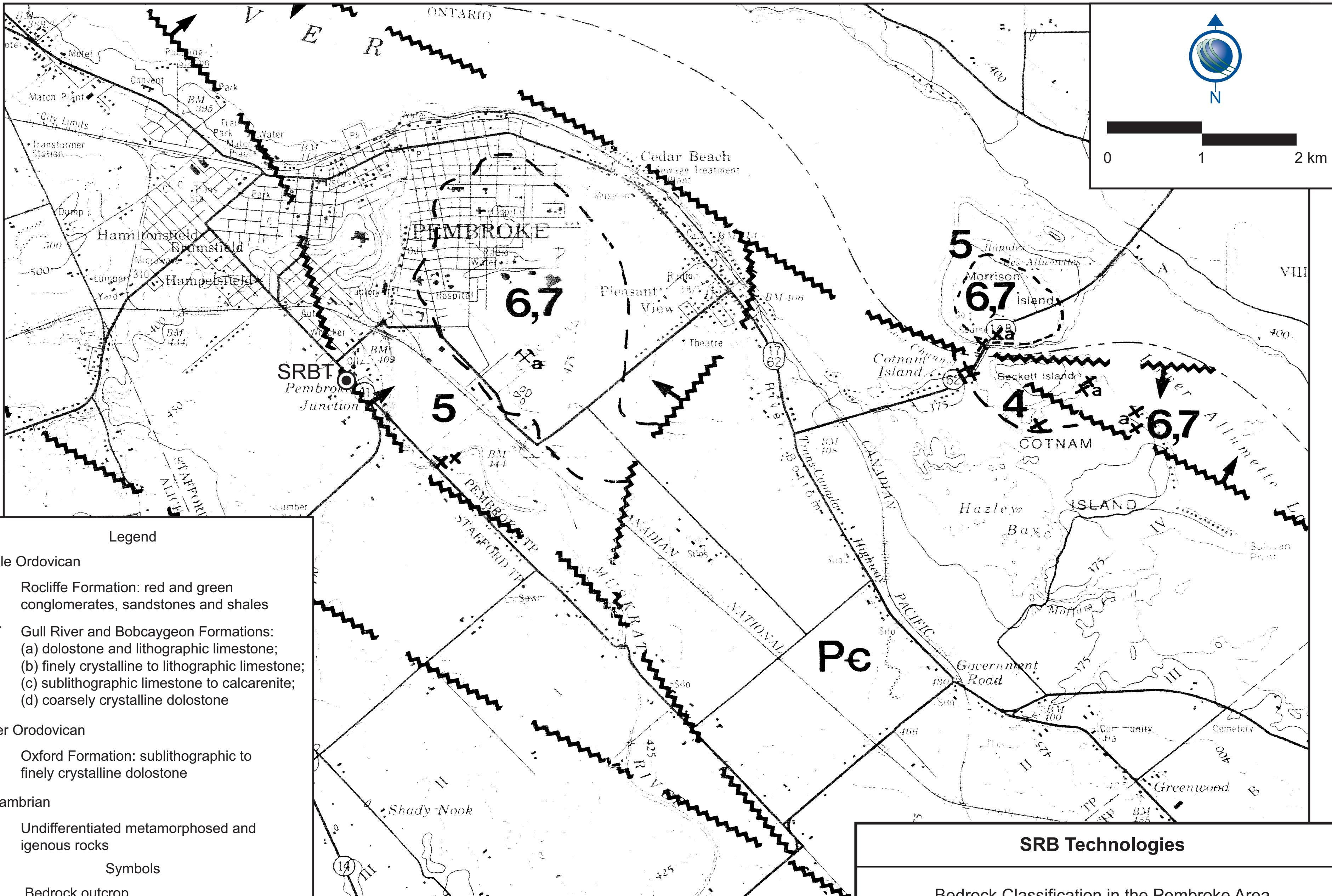



**LEGEND**

**Frequency of Winds from the Direction of SRB**

- Very Low (<3%)
- Low (3-5%)
- Moderate (5-7%)
- High (7-9%)
- Very High (>9%)

| **SRB Technologies** | | |
|---|---|---|
| Frequency of Winds from the Direction of SRB | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 2.1** |




Legend

Middle Ordovician

| | |
|---|---|
| 5 | Rocliffe Formation: red and green conglomerates, sandstones and shales |
| 6, 7 | Gull River and Bobcaygeon Formations:<br>(a) dolostone and lithographic limestone;<br>(b) finely crystalline to lithographic limestone;<br>(c) sublithographic limestone to calcarenite;<br>(d) coarsely crystalline dolostone |

Lower Ordovician

| | |
|---|---|
| 4 | Oxford Formation: sublithographic to finely crystalline dolostone |

Precambrian

| | |
|---|---|
| PC | Undifferentiated metamorphosed and igenous rocks |

Symbols

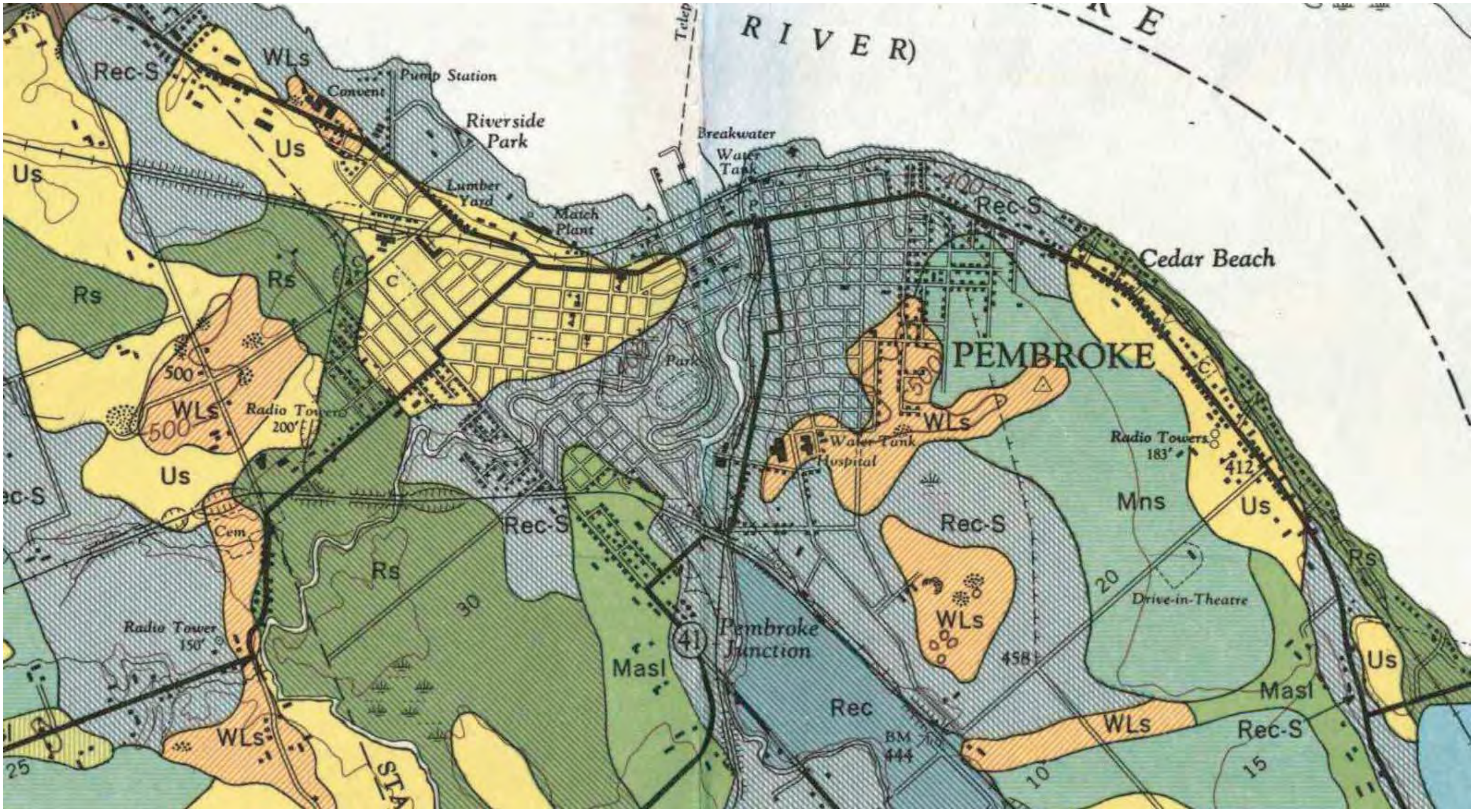
| | |
|---|---|
| x | Bedrock outcrop |
| (fault symbol) | Fault, approximate position (arrow indicates downthrown side) |
| (quarry symbol) | Quarry |

Reference:
Russell, D.J. and Williams, D.A.
1985: Paleozoic Geology of the Pembroke Area, Southern Ontario; Ontario Geological Survey, Geological Series - Preliminary Map P. 2727. Scale 1: 50 000, Geology 1981, 1983, 1984.

**SRB Technologies**

Bedrock Classification in the Pembroke Area

EcoMetrix INCORPORATED | January 2008 | **Figure 2.2**

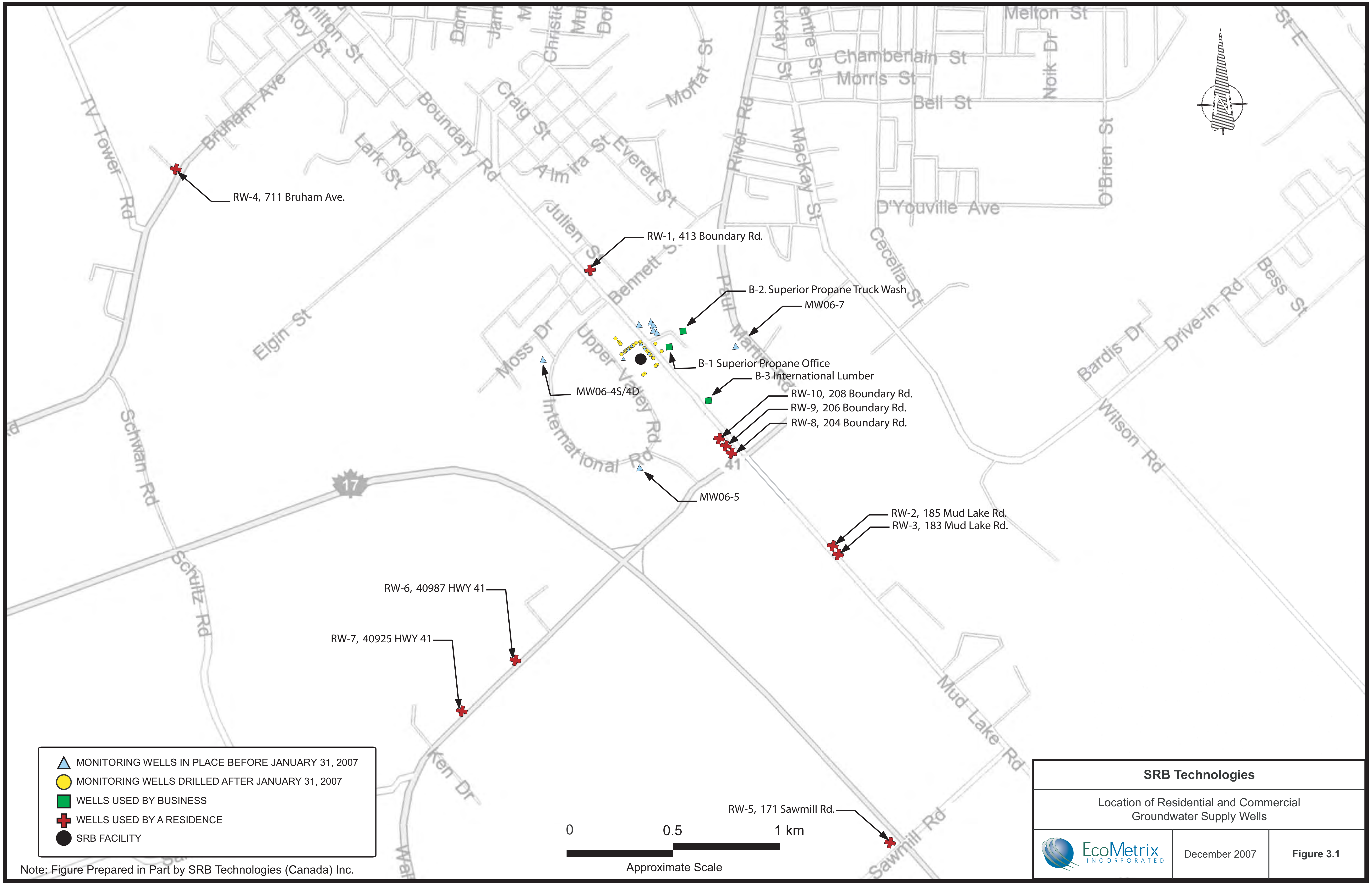



Source: Gillespie, J.E., Wicklund, R.E. and B.C. Matthews. 1964. Soils Survey on Renfrew County. Report No. 37 of the Ontario Soil Survey.

**Legend**

WLs – White Lake gravelly sandy loam
Rec – Renfrew clay
Rec-S – Renfrew sandy series complex
Rs – Rubicon sandy loam
Masl – Monotick sandy loam
Mns – Mountain sandy loam
Us – Uplands sandy loam

| **SRB Technologies** | | |
|---|---|---|
| Soil Classification in the Pembroke Area | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 2.3** |

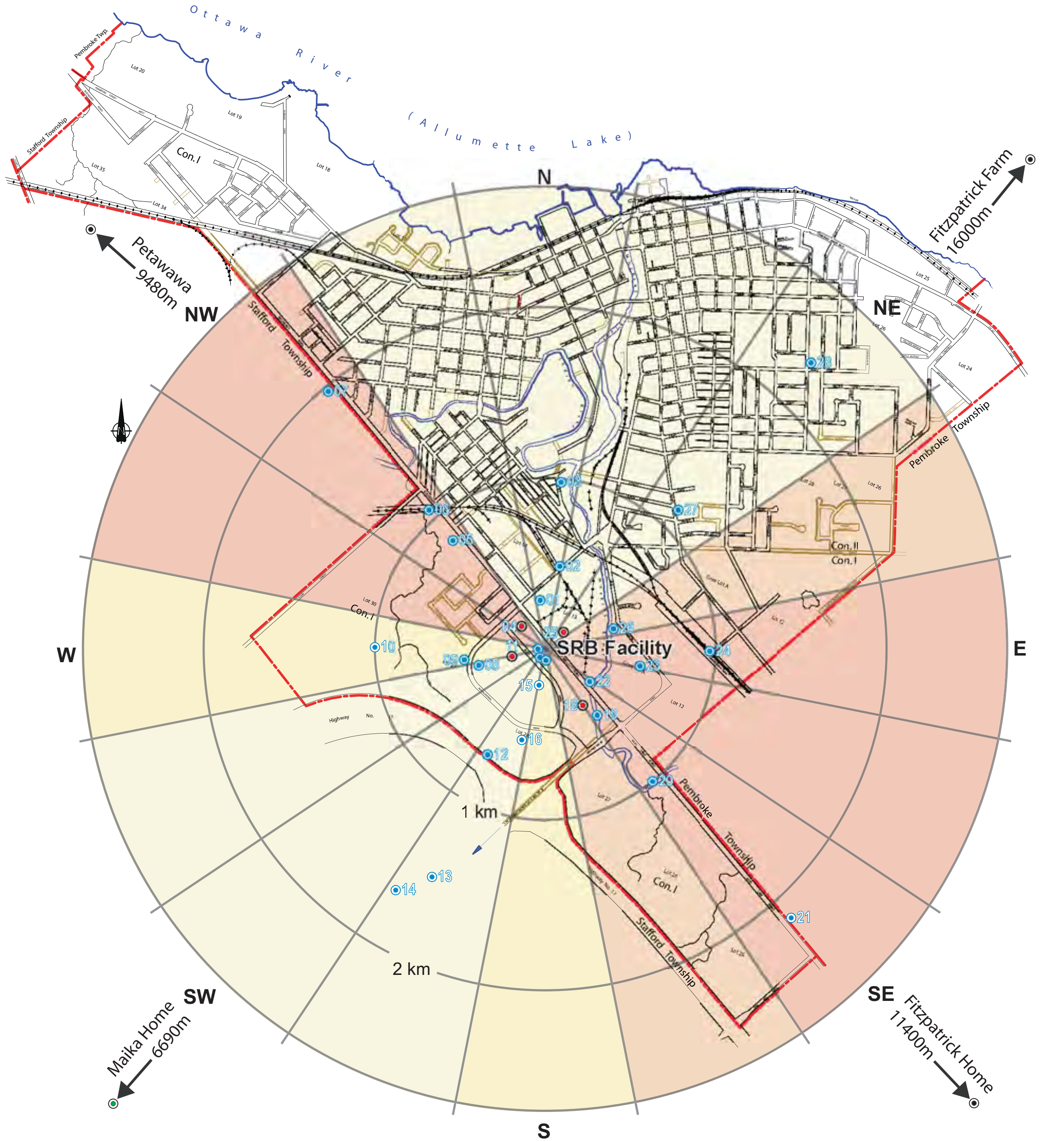


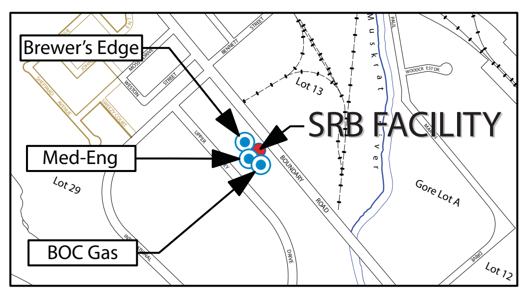

**SRB Technologies**

Location of Residential and Commercial Groundwater Supply Wells

EcoMetrix INCORPORATED | December 2007 | Figure 3.1

REV. DEC 20/2007




REV. JAN 10/2008

## LEGEND

- Air Monitoring Station
- Background Air Monitoring Station
- Air Monitoring Station With Duplicate
- Background Air Monitoring Station With Duplicate

**Frequency of Winds from the Direction of SRB**

- Very Low (<3%)
- Low (3-5%)
- Moderate (5-7%)
- High (7-9%)
- Very High (>9%)

Note: Figure Prepared in Part by SRB Technologies (Canada) Inc.

**SRB Technologies**

Location of SRB Passive Air Samplers and Predominant Wind Directions

EcoMetrix INCORPORATED | January 2008 | **Figure 3.2**



| SRB Technologies | | |
|---|---|---|
| Location of Groundwater Monitoring Wells Installed on and Around SRB | | |
| EcoMetrix INCORPORATED | December 2007 | Figure 3.3 |

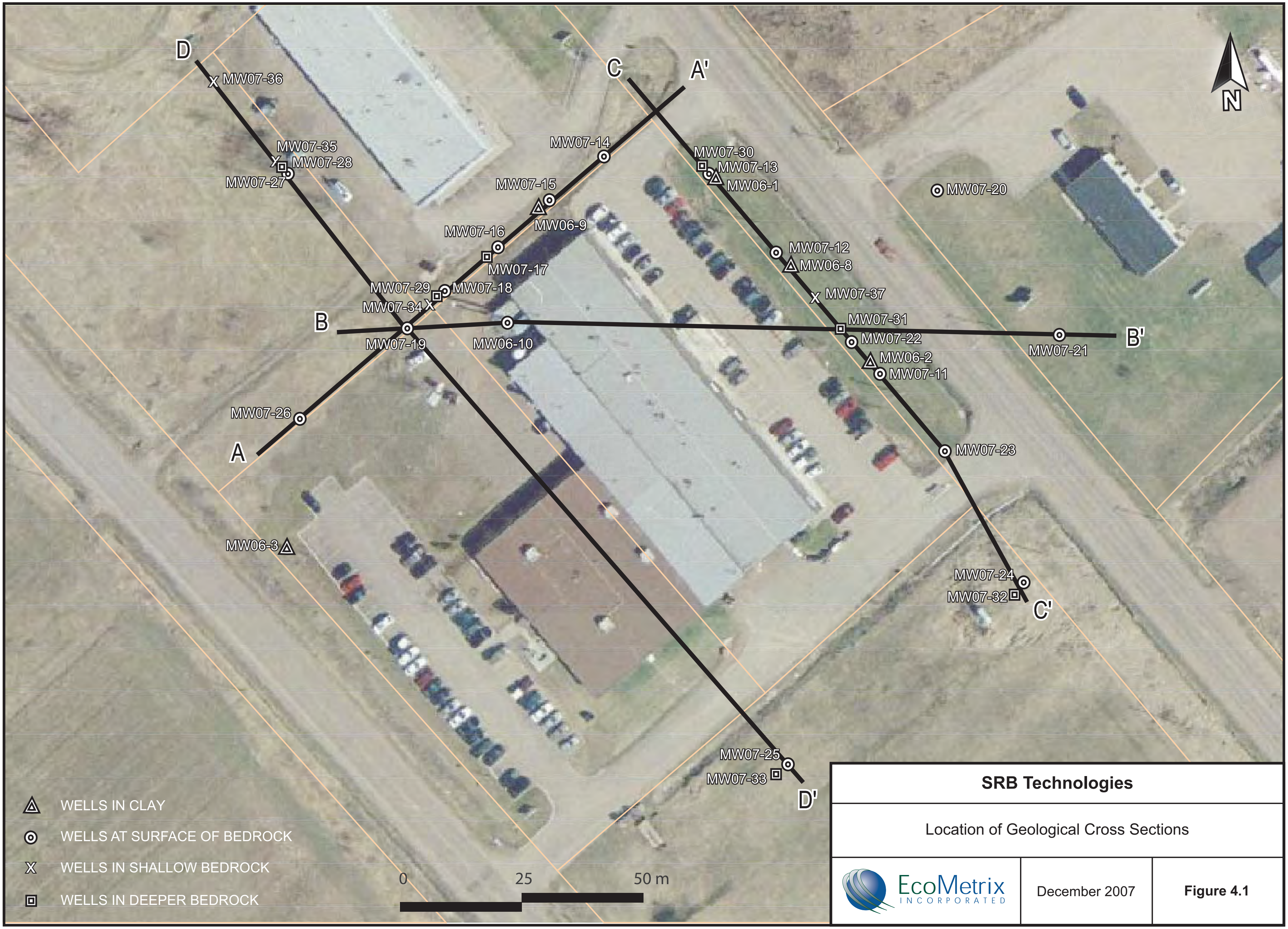

Basemap Source: City of Pembroke (www.pembrokeontario.com)

**Surface Water Sample Location**

0 0.5 1 km

Approximate Scale

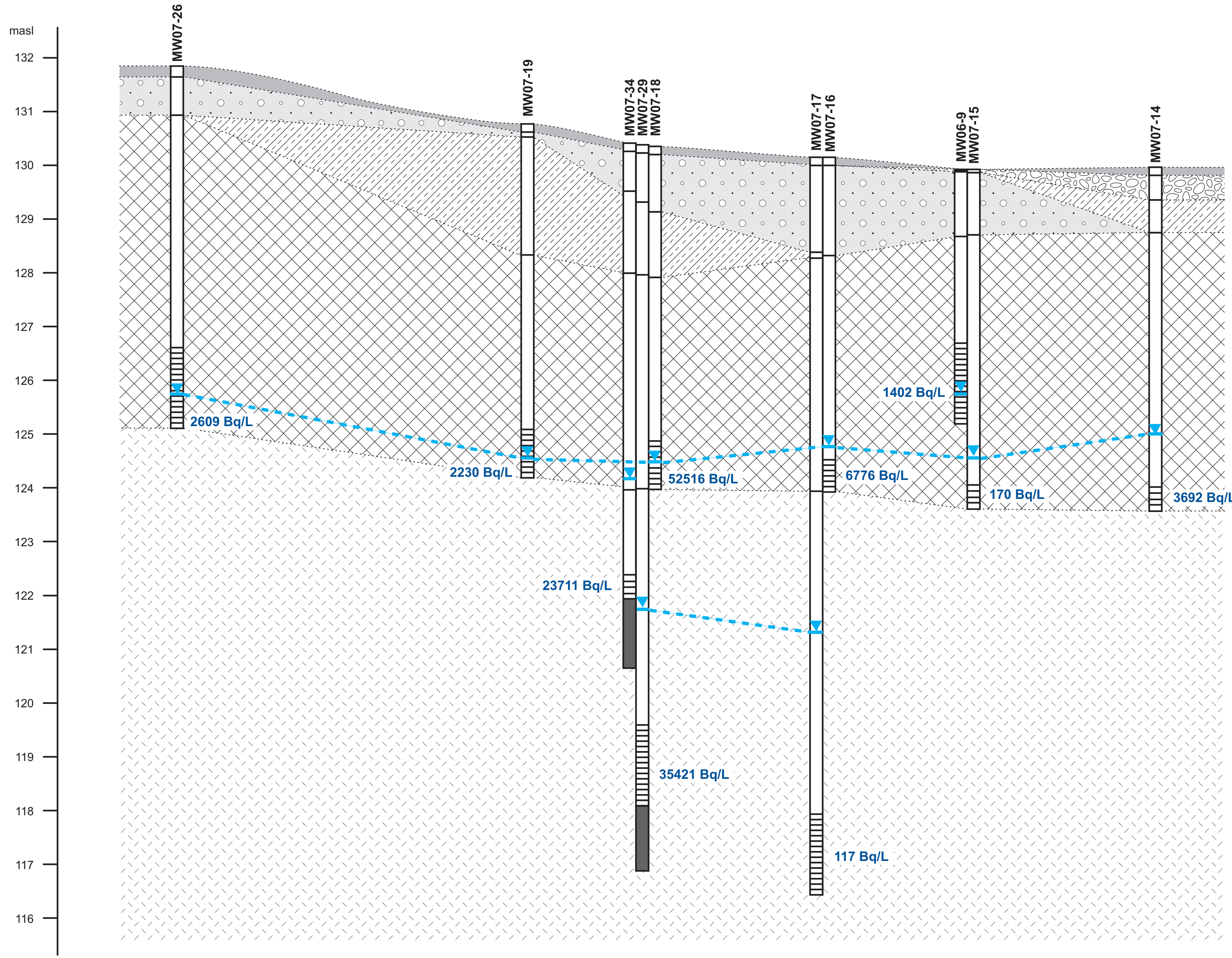
| **SRB Technologies** | | |
|---|---|---|
| Surface Water Sampling Locations | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 3.4** |




**SRB Technologies**

Location of Geological Cross Sections

EcoMetrix INCORPORATED | December 2007 | **Figure 4.1**




**Legend**

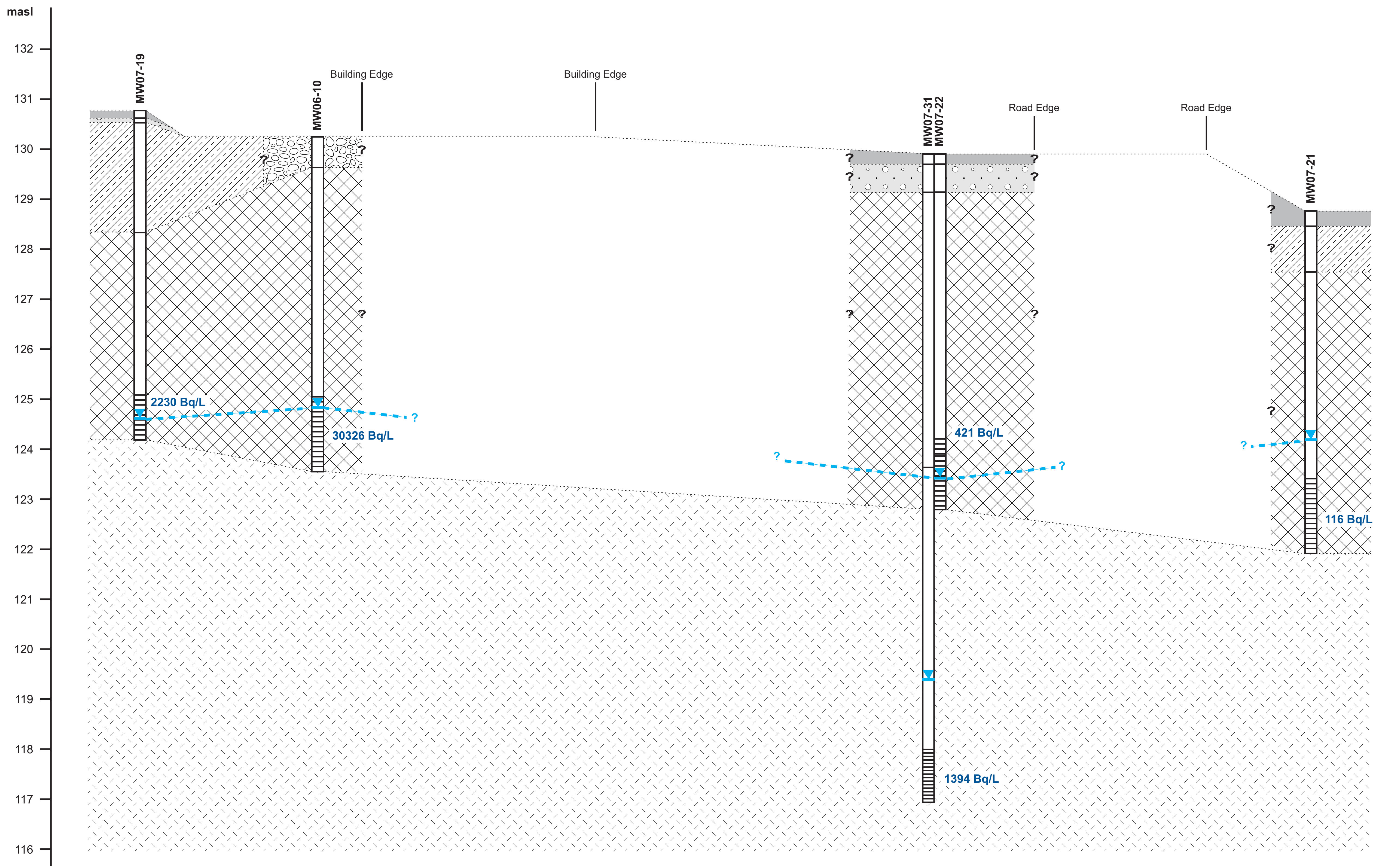
- Topsoil
- Brown Sand Fill
- Gravel Fill
- Sandy Silt
- Brown-Grey Silty Clay
- Fine Silt with Red Sand Striations
- Dolomitic Limestone Bedrock Below Wells
- Well Screen
- Borehole Cave

117 Bq/L - Groundwater Concentrations - November 22, 2007
- Piezometric Surface - November 19, 2007

0 5 10 m
Approximate Horizontal Scale

| **SRB Technologies** | | |
|---|---|---|
| Schematic of Approximate Geological Cross-Section A-A' | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.2** |

Ref: 07-1436_SRB_mdk_06/12/2007




**Legend**

Topsoil
Brown Sand Fill
Gravel Fill
Sandy Silt
Brown-Grey Silty Clay
Fine Silt with Red Sand Striations
Dolomitic Limestone Bedrock Below Wells
Well Screen
Borehole Cave

**421 Bq/L** - Groundwater Concentrations - November 22, 2007
▼ - Piezometric Surface - November 19, 2007

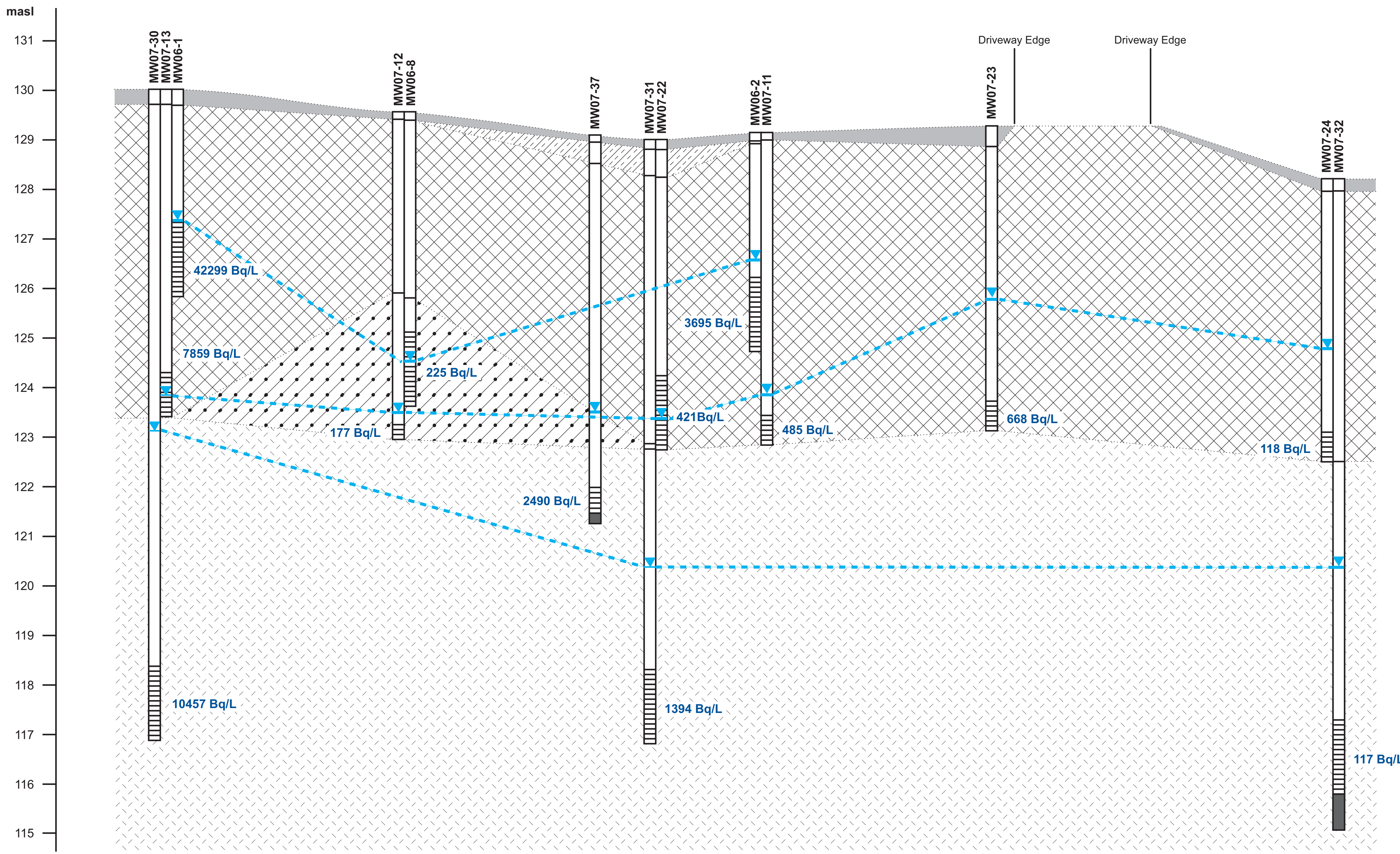
0 5 10 m
Approximate Horizontal Scale

**SRB Technologies**

Schematic of Approximate Geological Cross-Section B-B'

EcoMetrix INCORPORATED | December 2007 | **Figure 4.3**

Ref: 07-1436_SRB_mdk_06/12/2007




**Legend**

Topsoil
Brown Sand Fill
Gravel Fill
Sandy Silt
Brown-Grey Silty Clay
Fine Silt with Red Sand Striations
Dolomitic Limestone Bedrock Below Wells
Well Screen
Borehole Cave

177 Bq/L - Groundwater Concentrations - November 22, 2007
- Piezometric Surface - November 19, 2007

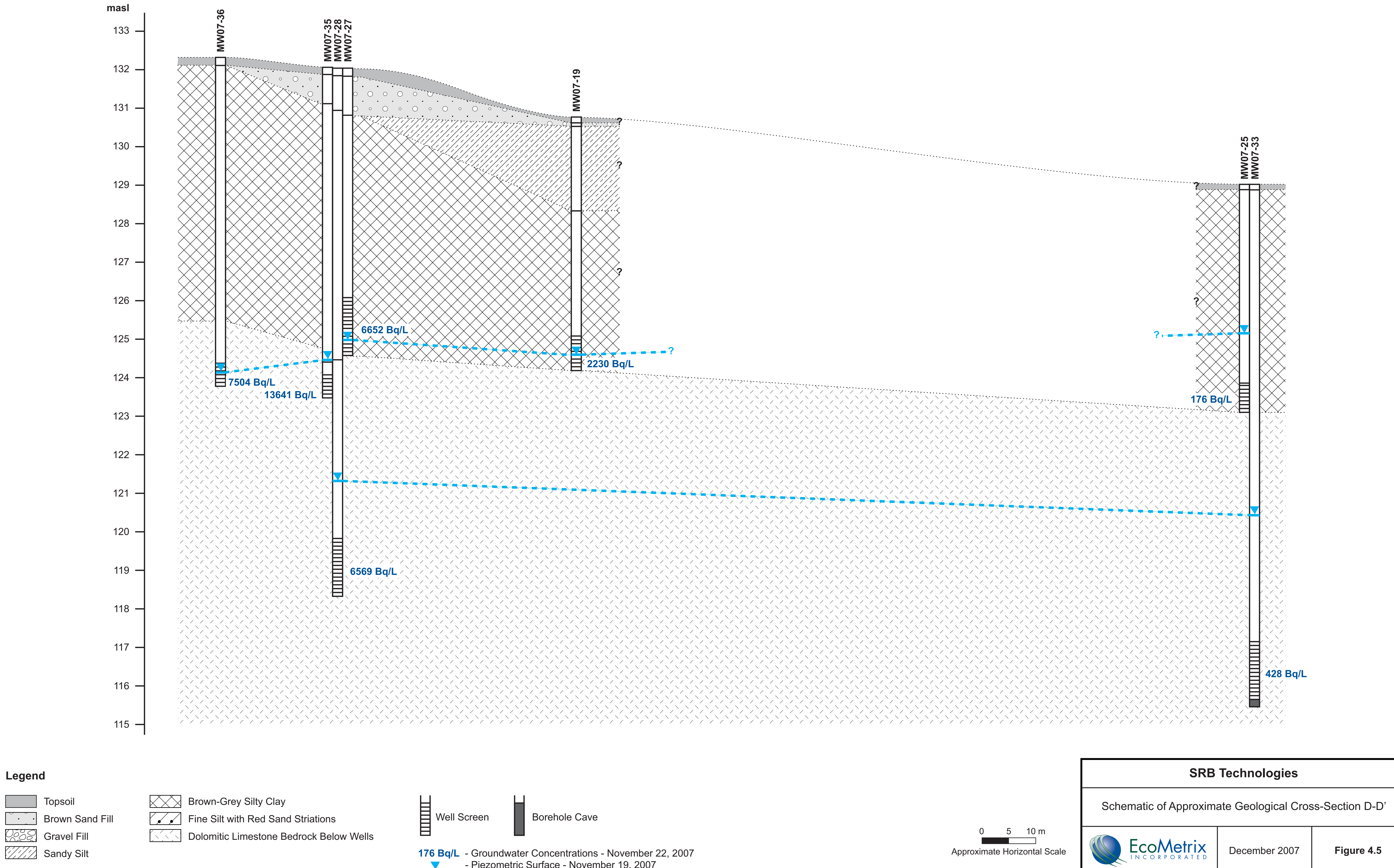
0 5 10 m
Approximate Horizontal Scale

**SRB Technologies**

Schematic of Approximate Geological Cross-Section C-C'

EcoMetrix INCORPORATED | December 2007 | **Figure 4.4**

Ref: 07-1436_SRB_mdk_06/12/2007

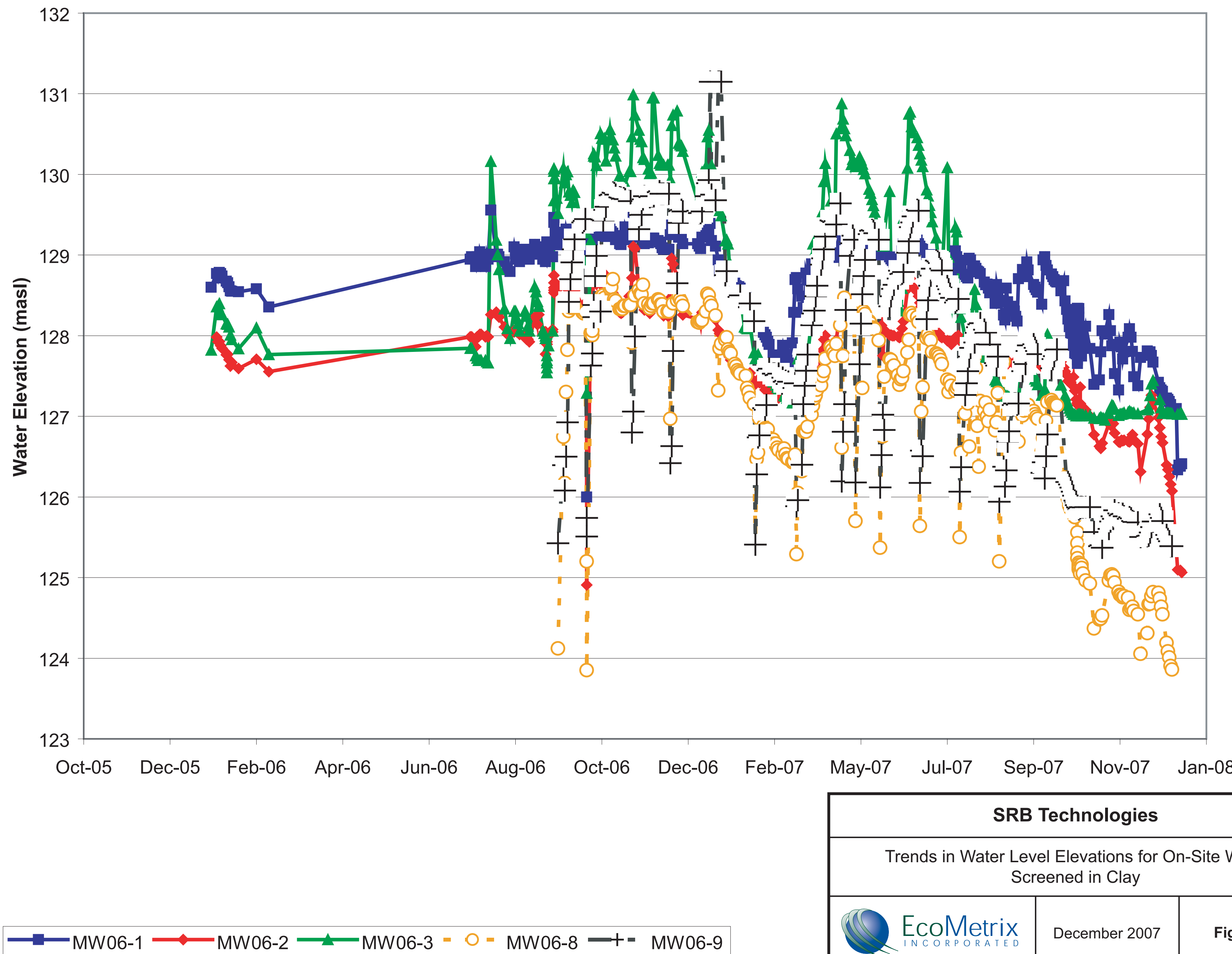



**SRB Technologies**

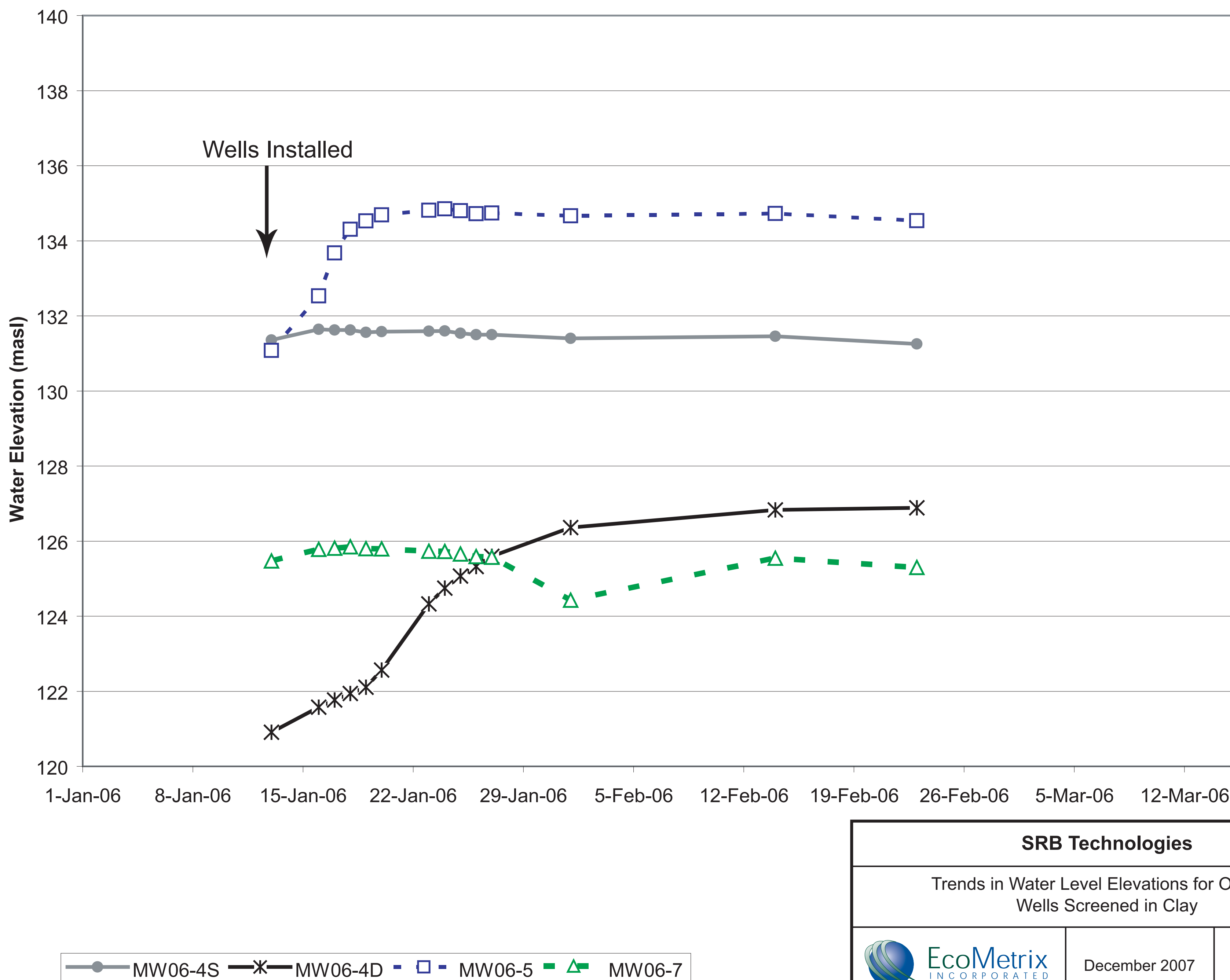
Schematic of Approximate Geological Cross-Section D-D'

EcoMetrix INCORPORATED | December 2007 | Figure 4.5

Ref: 07-1436_SRB_mdk_06/12/2007



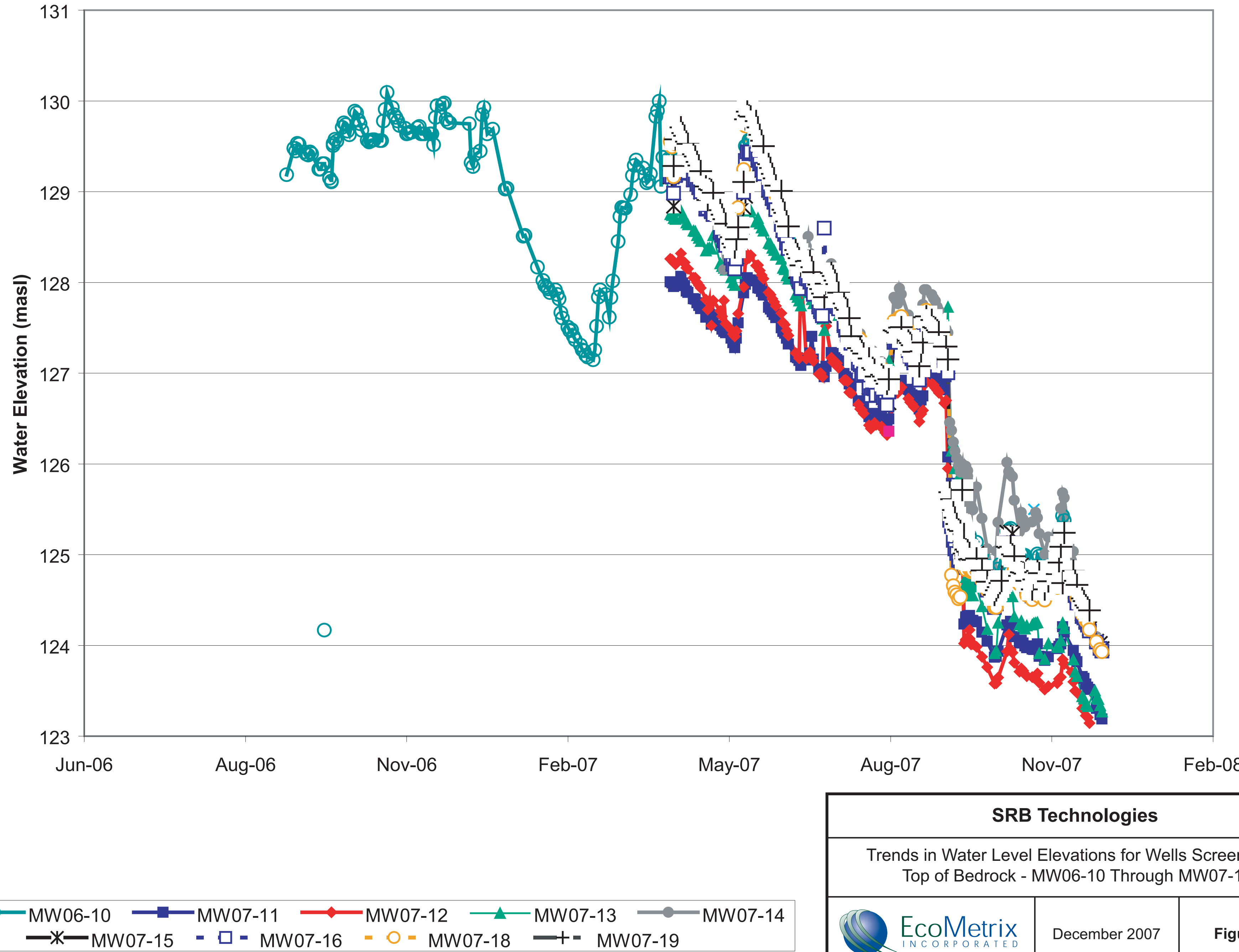

| **SRB Technologies** | | |
|---|---|---|
| Trends in Water Level Elevations for On-Site Wells Screened in Clay | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.6** |




**SRB Technologies**

Trends in Water Level Elevations for Off-Site Wells Screened in Clay

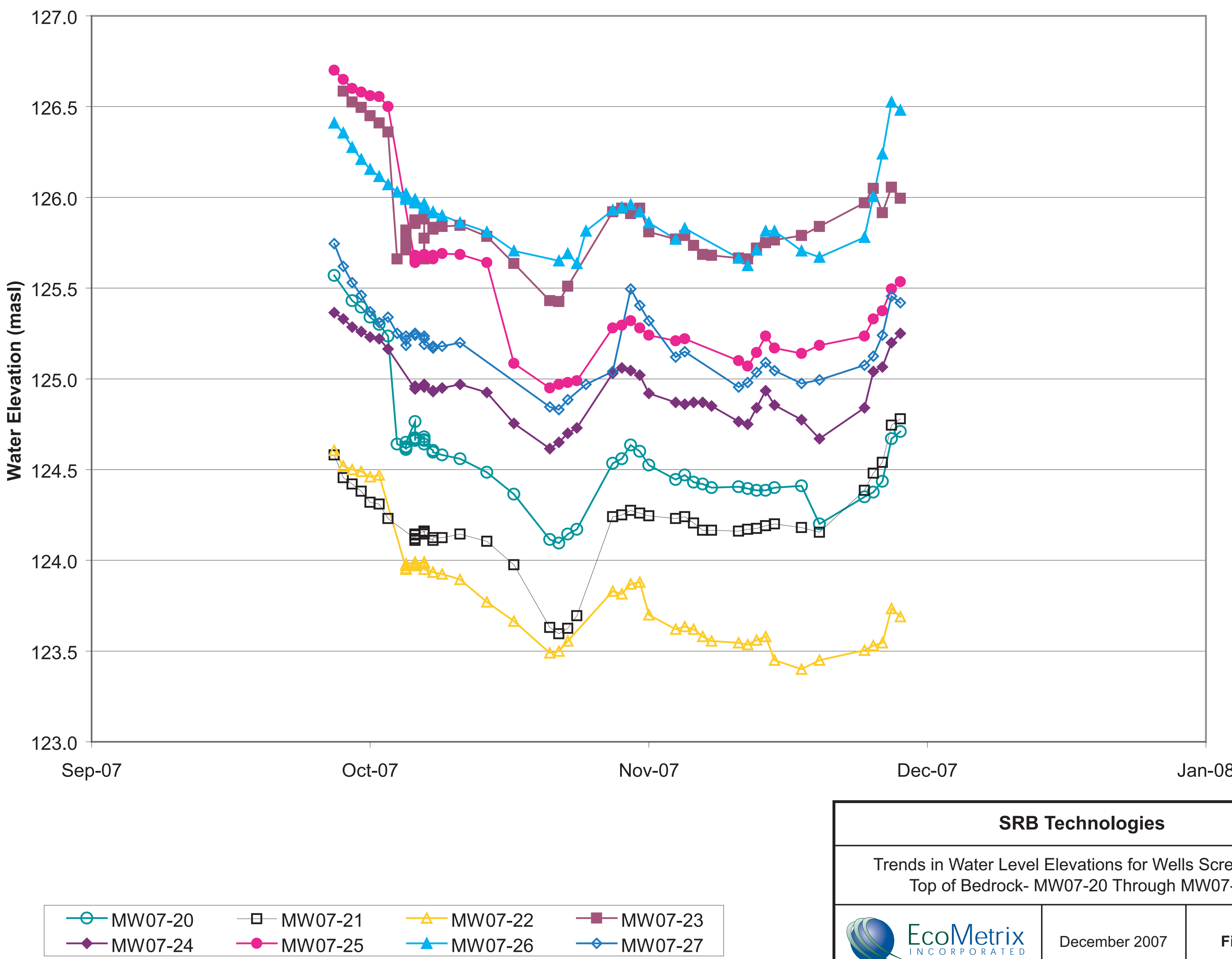
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.7** |
|---|---|---|




**SRB Technologies**

Trends in Water Level Elevations for Wells Screened at Top of Bedrock - MW06-10 Through MW07-19

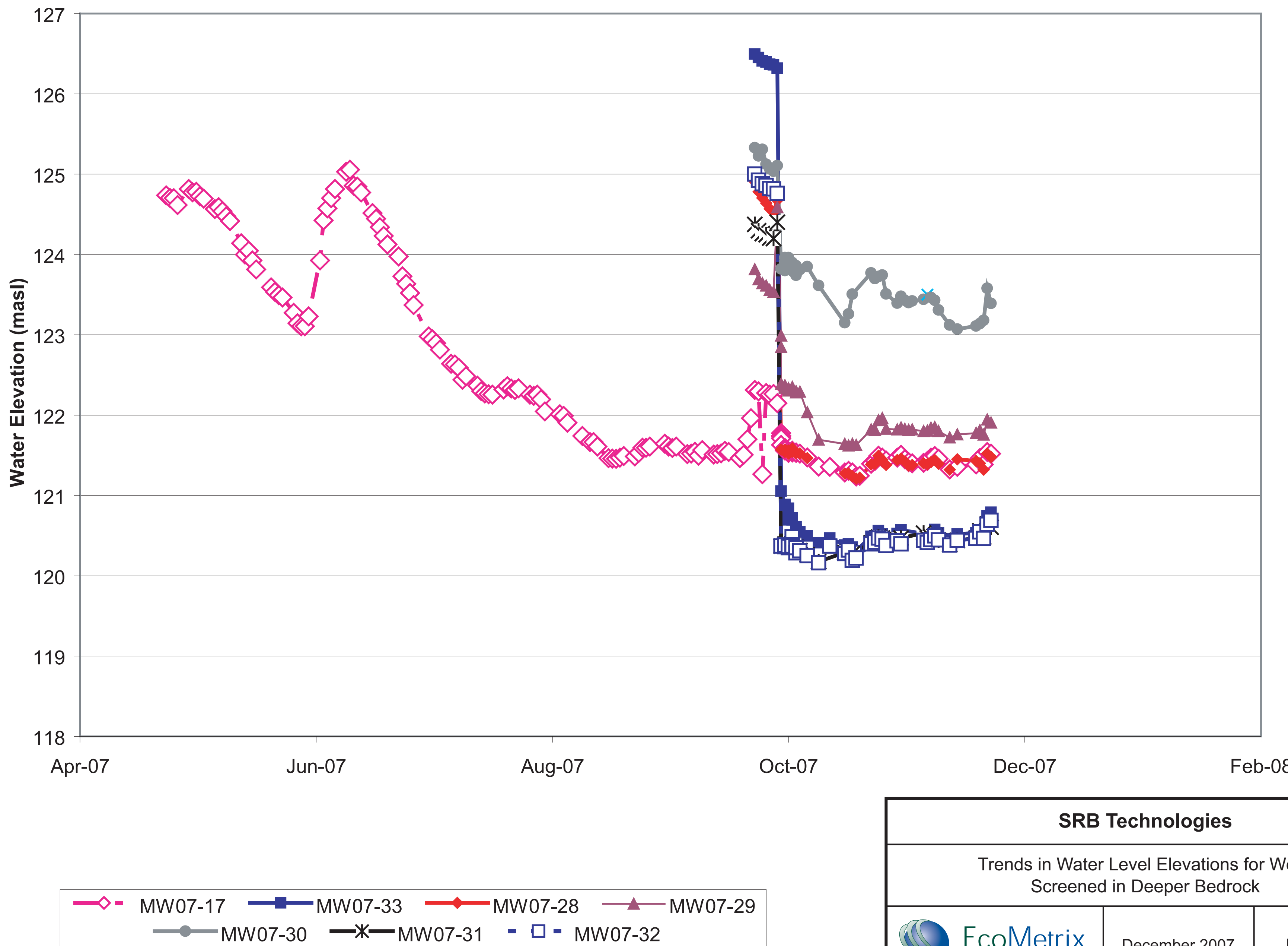
EcoMetrix INCORPORATED | December 2007 | **Figure 4.8**



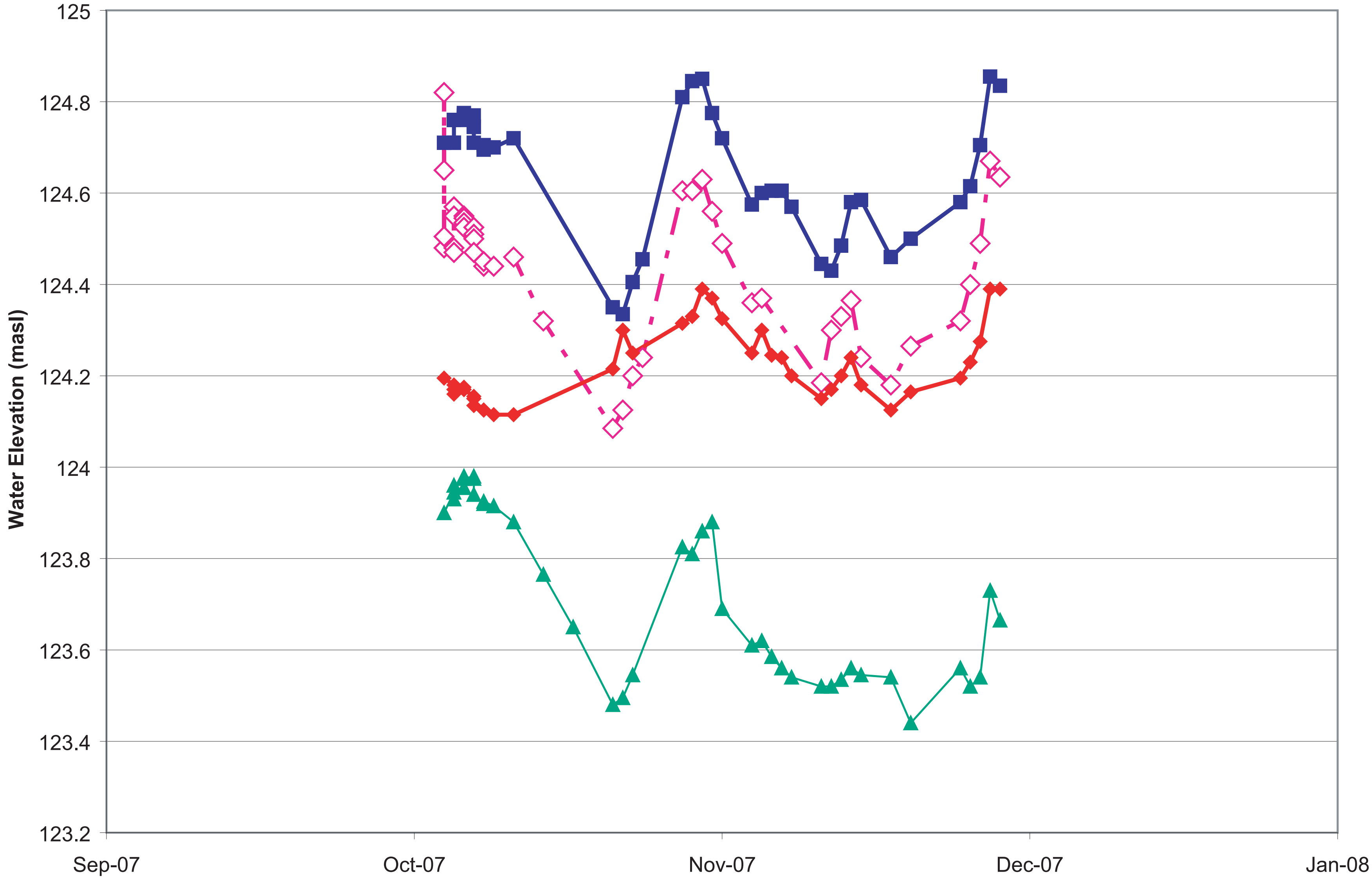

**SRB Technologies**

Trends in Water Level Elevations for Wells Screened at Top of Bedrock- MW07-20 Through MW07-27

EcoMetrix INCORPORATED | December 2007 | **Figure 4.9**




| SRB Technologies | | |
|---|---|---|
| Trends in Water Level Elevations for Wells Screened in Deeper Bedrock | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.10** |



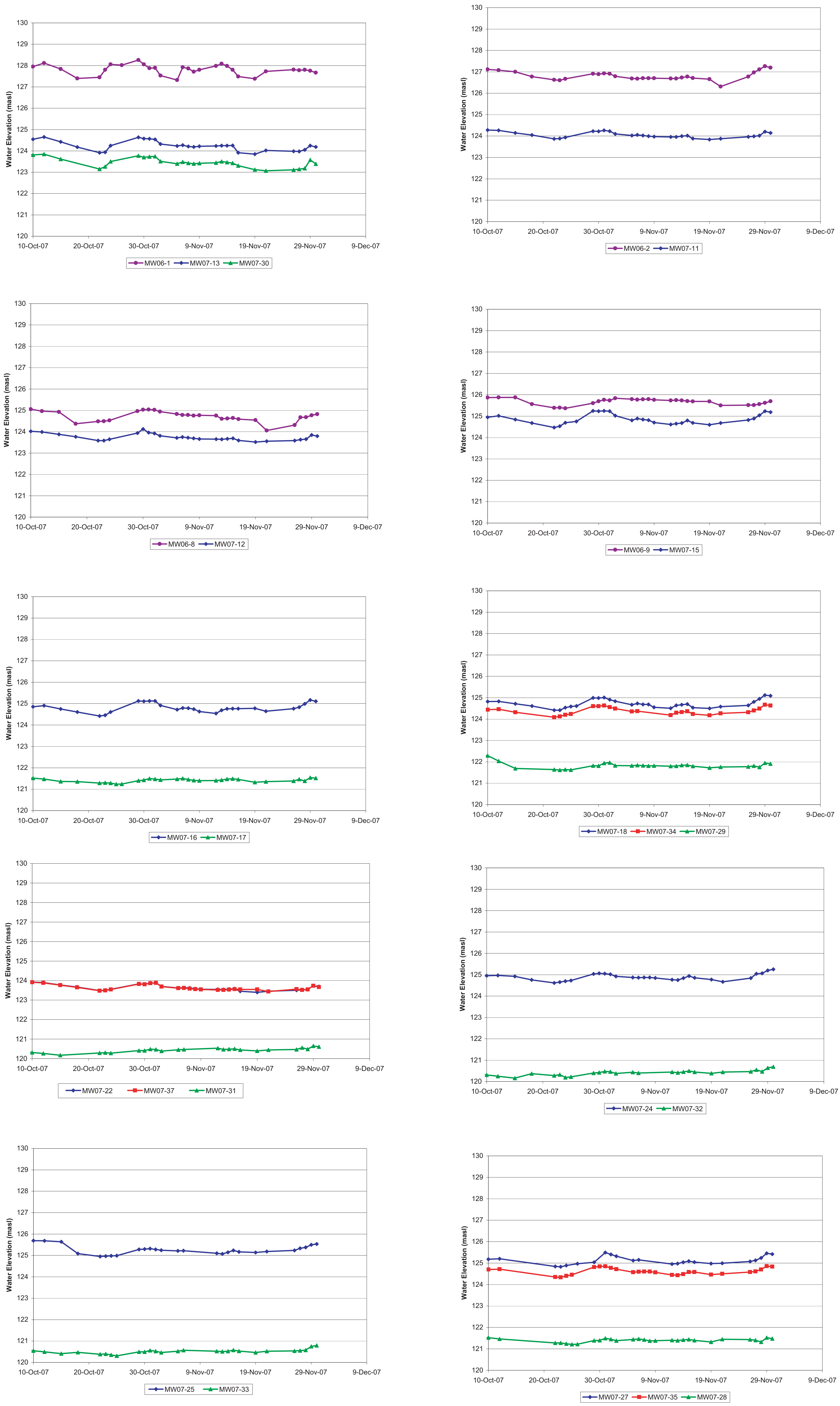

**SRB Technologies**

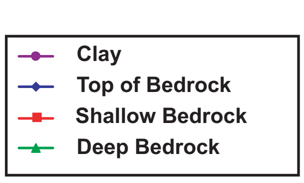
Trends in Water Level Elevations for Wells
Screened in Shallow Bedrock

EcoMetrix INCORPORATED

December 2007

**Figure 4.11**

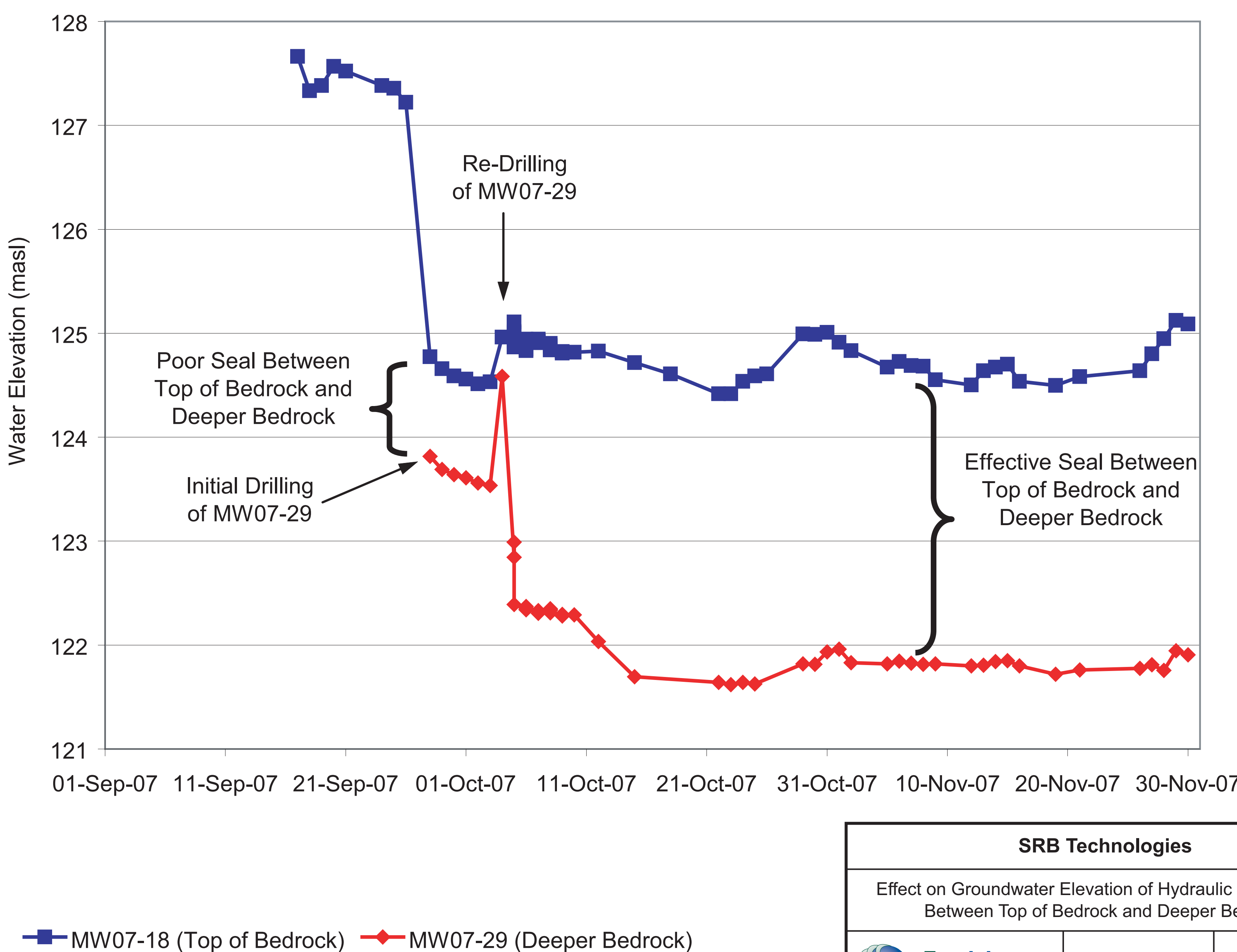



**SRB Technologies**

Comparison of Groundwater Elevations in Nested Wells

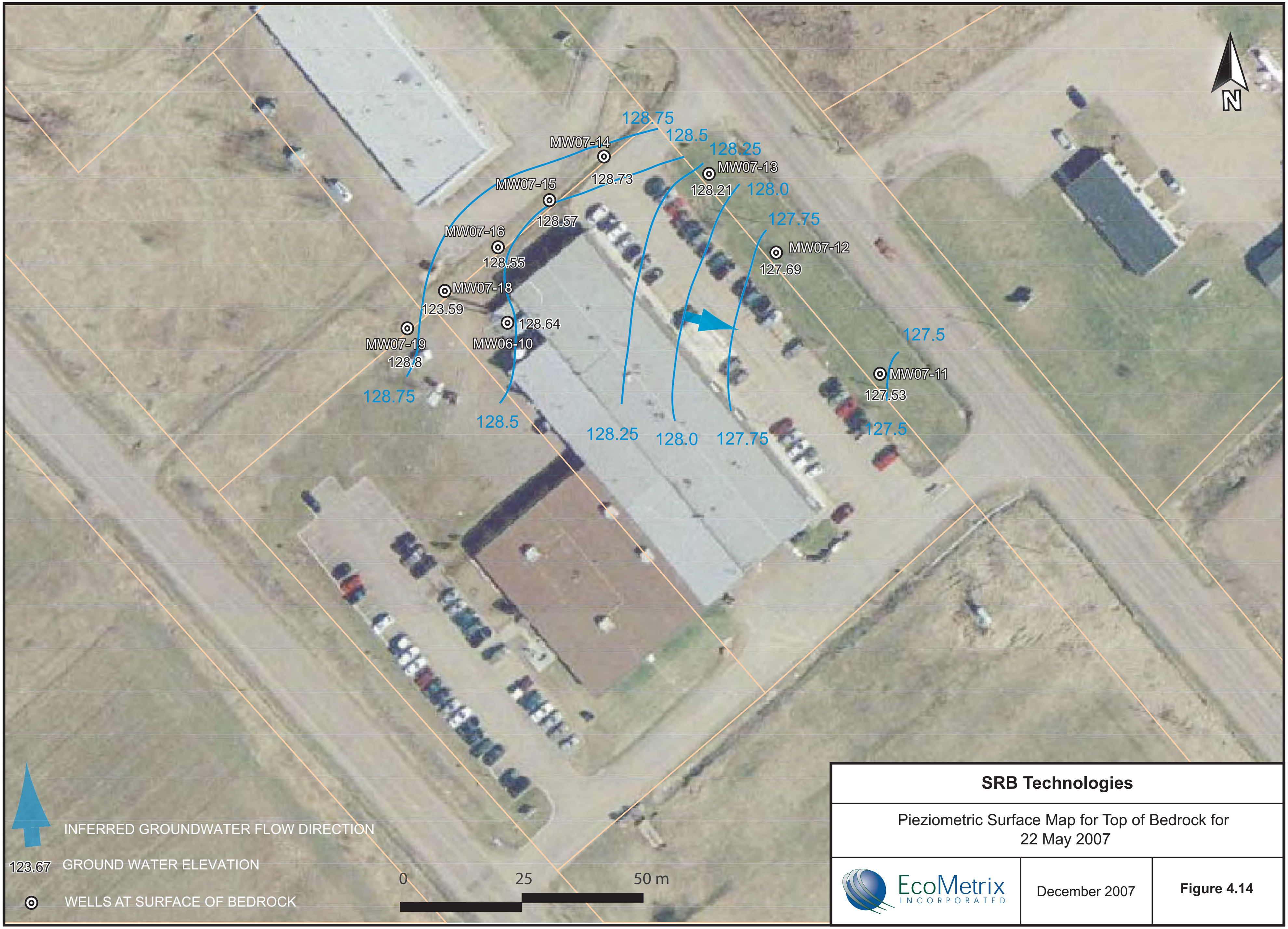
EcoMetrix INCORPORATED | December 2007 | **Figure 4.12**




**SRB Technologies**

Effect on Groundwater Elevation of Hydraulic Connectivity Between Top of Bedrock and Deeper Bedrock

EcoMetrix INCORPORATED | December 2007 | **Figure 4.13**




**SRB Technologies**

Pieziometric Surface Map for Top of Bedrock for 22 May 2007

EcoMetrix INCORPORATED

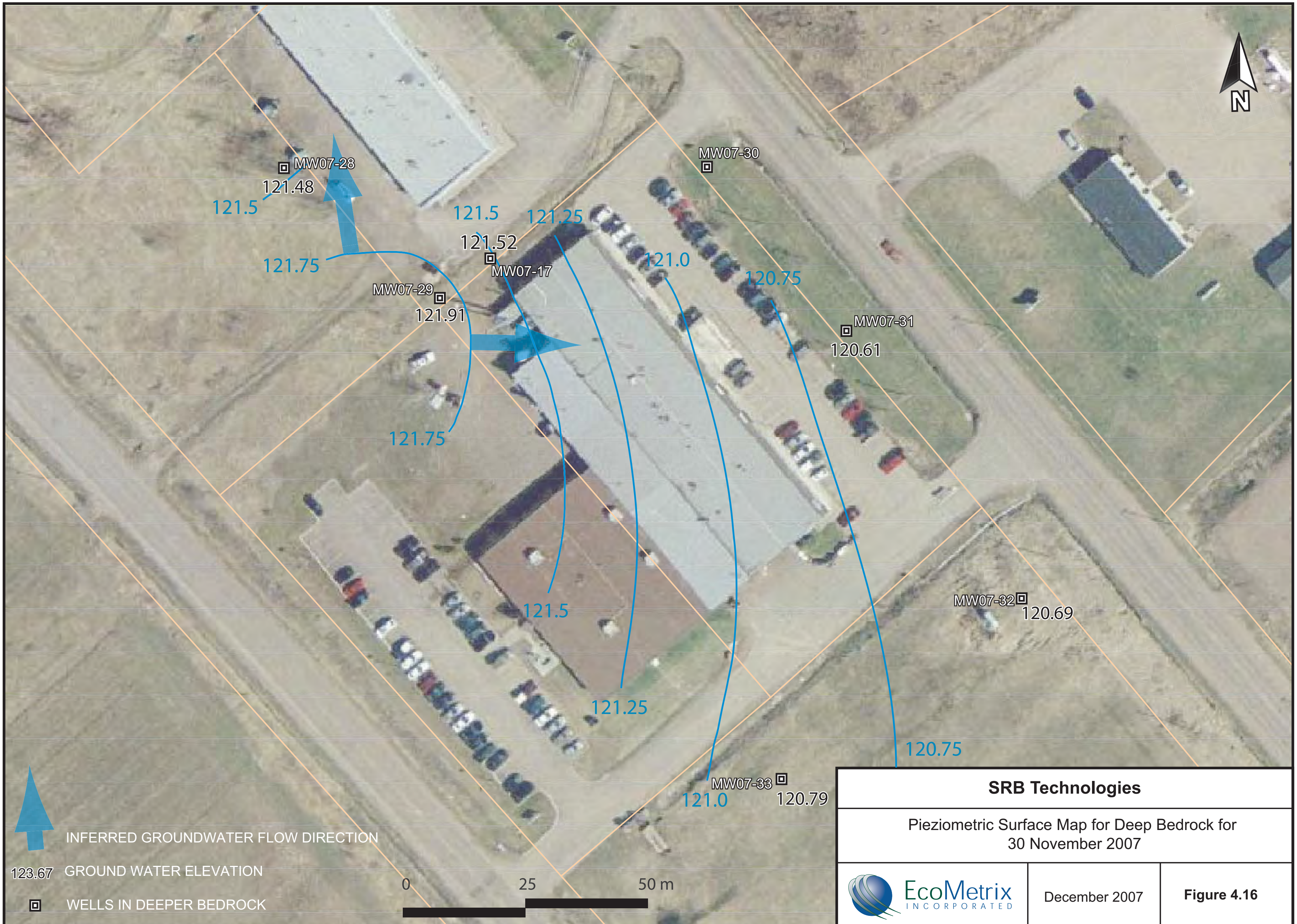
December 2007

**Figure 4.14**


**SRB Technologies**

Pieziometric Surface Map for Shallow Bedrock for
30 November 2007

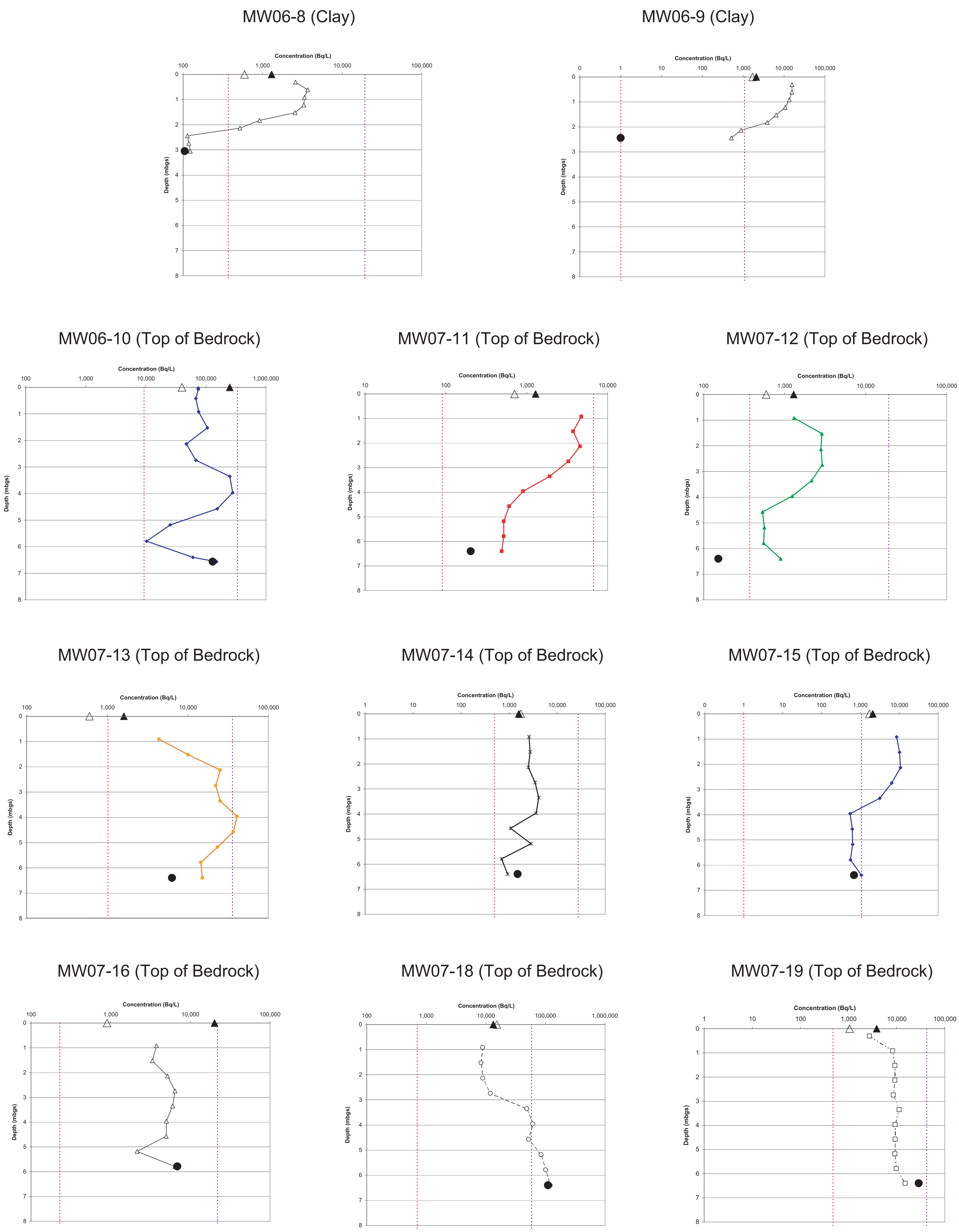
EcoMetrix INCORPORATED | December 2007 | **Figure 4.15**




**SRB Technologies**

Pieziometric Surface Map for Deep Bedrock for
30 November 2007

EcoMetrix INCORPORATED | December 2007 | **Figure 4.16**




● Groundwater (Sampled September 25, 2006 for MW06-8 through -10 and April 27, 2007 for MW07-11 through -19)

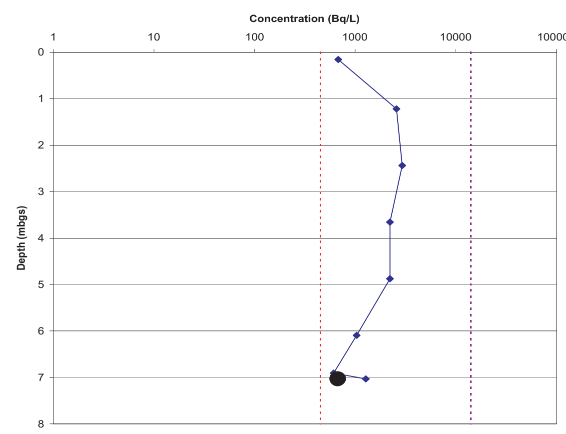
▲ Surface Sample at similar locations (Sampled by SRB in Sept 2006)

△ Surface Sample at similar locations (Sampled by SRB in Sept 2007)

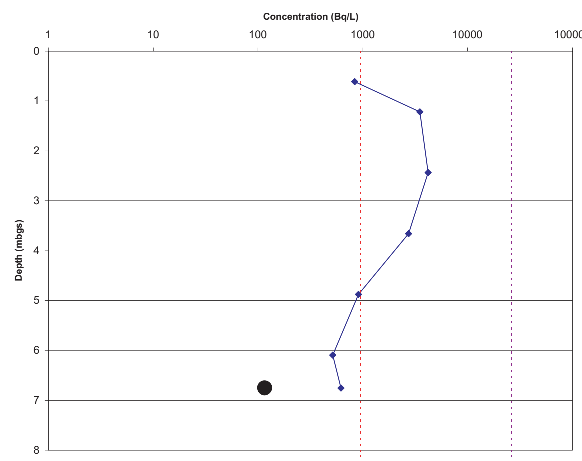
Range of Predicted Soil Water Concentrations - Values not corrected for decay

| SRB Technologies | | |
|---|---|---|
| Tritium Concentrations in Soil Water and Groundwater-MW06-8 to MW07-19 | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.17** |

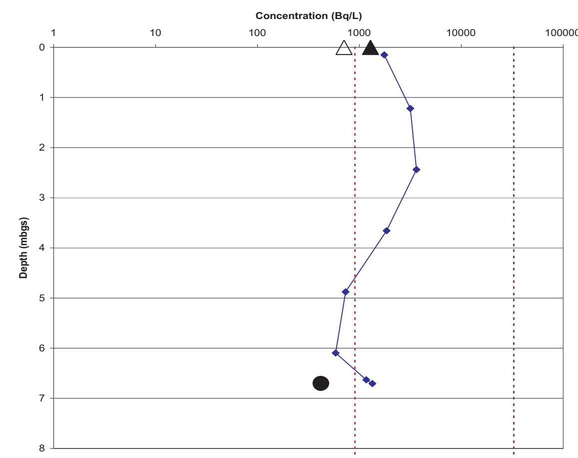
MW07-20 (Top of Bedrock)



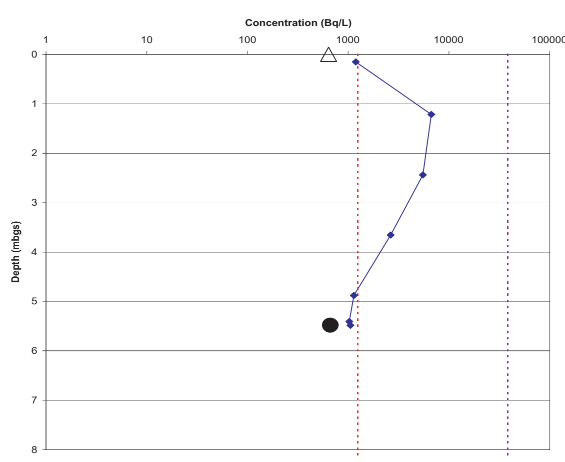

MW07-21 (Top of Bedrock)



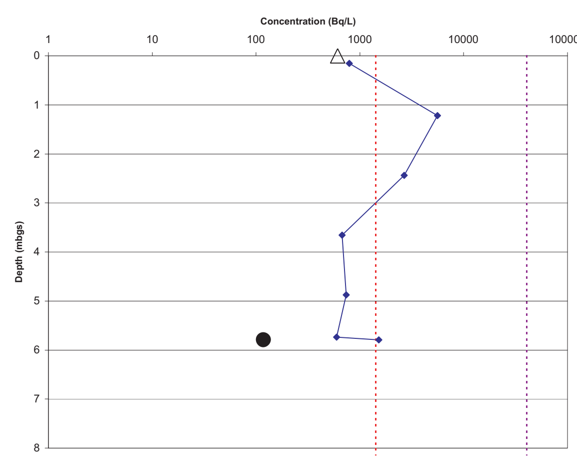

MW07-22 (Top of Bedrock)



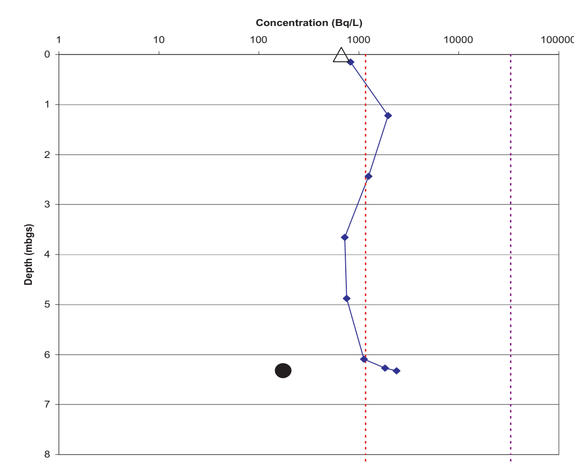

MW07-23 (Top of Bedrock)



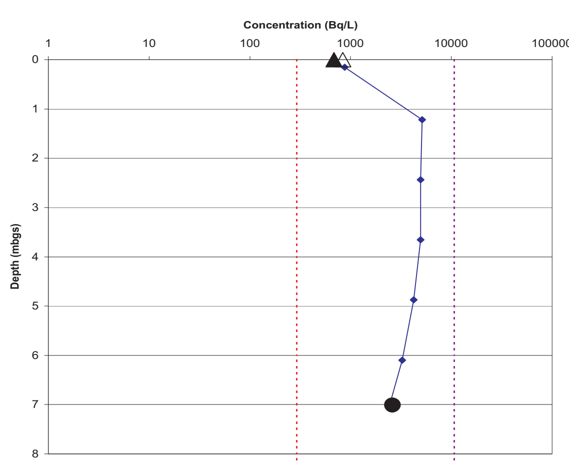

MW07-24 (Top of Bedrock)



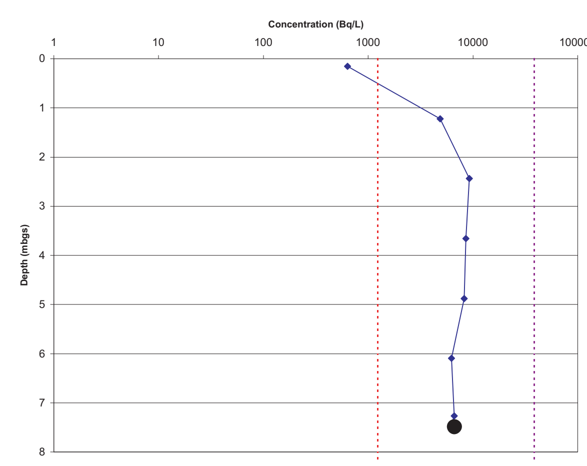

MW07-25 (Top of Bedrock)



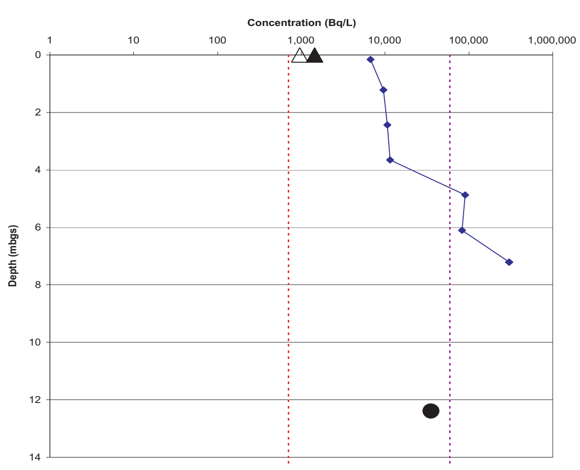

MW07-26 (Top of Bedrock)



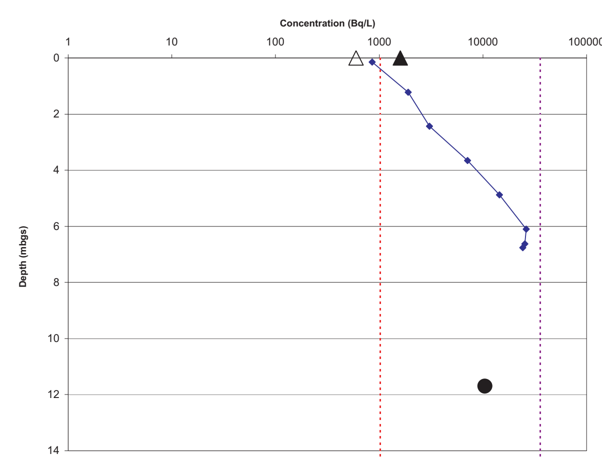

MW07-27 (Top of Bedrock)




MW07-29 (Bedrock)

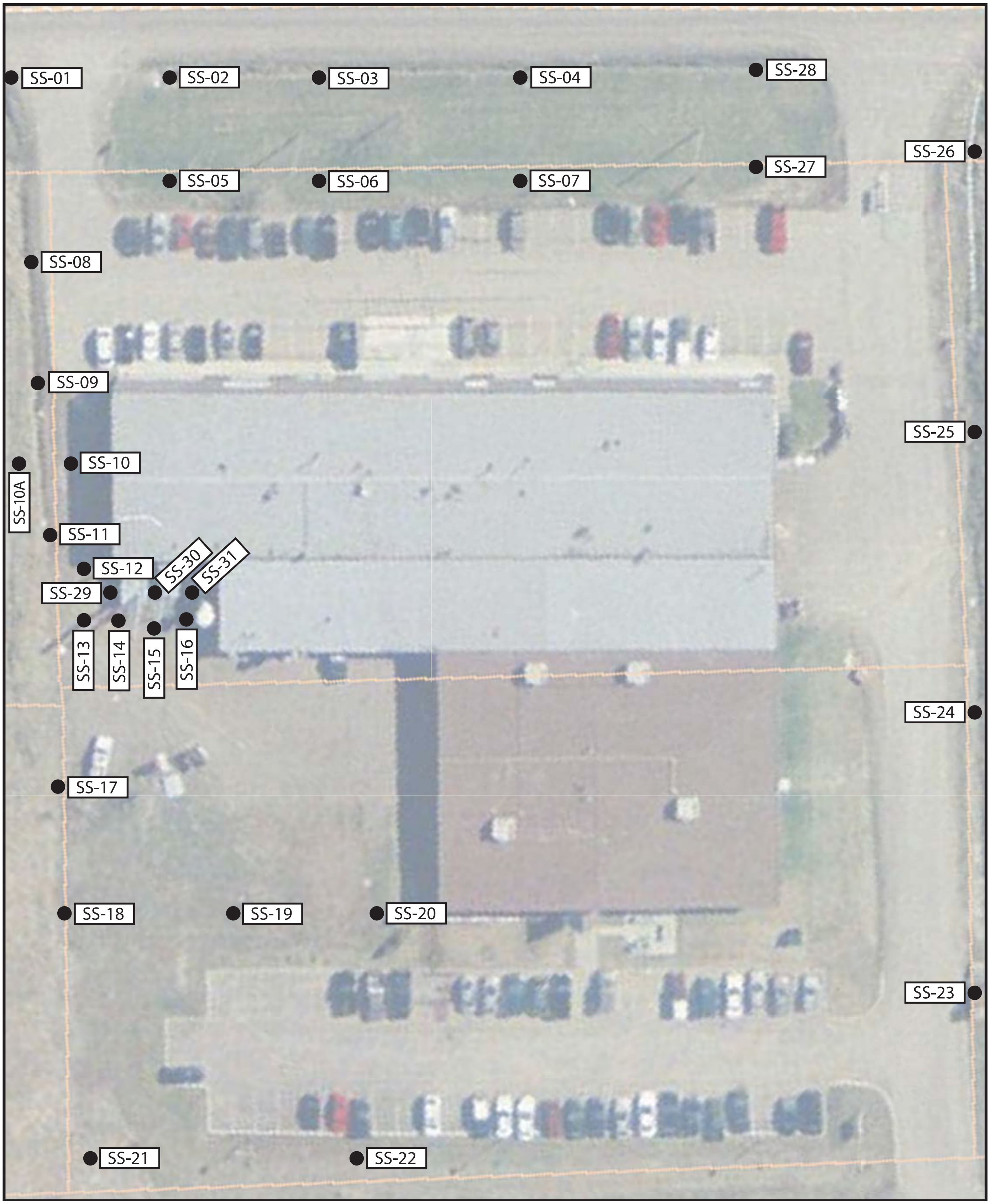



MW07-30 (Bedrock)




● Groundwater (Sampled October 19, 2007)
▲ Surface Sample at similar locations (Sampled by SRB in Sept 2006)
△ Surface Sample at similar locations (Sampled by SRB in Sept 2007)
Range of Predicted Soil Water Concentrations - Values not corrected for decay

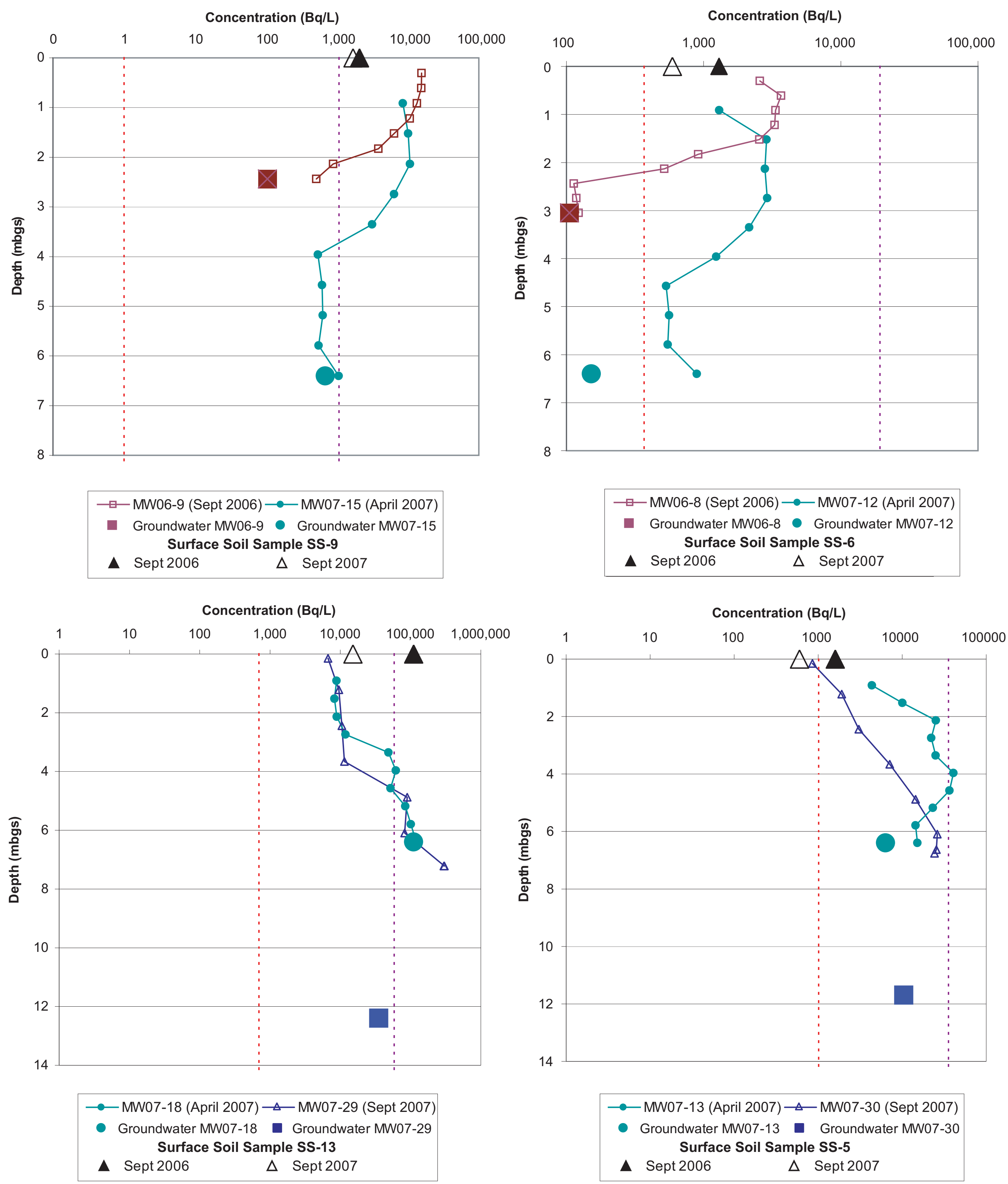
| SRB Technologies | | |
|---|---|---|
| Tritium Concentrations in Soil Water and Groundwater-MW07-20 to MW07-30 | | |
| EcoMetrix INCORPORATED | December 2007 | Figure 4.18 |




● Surface Soil Sample Location

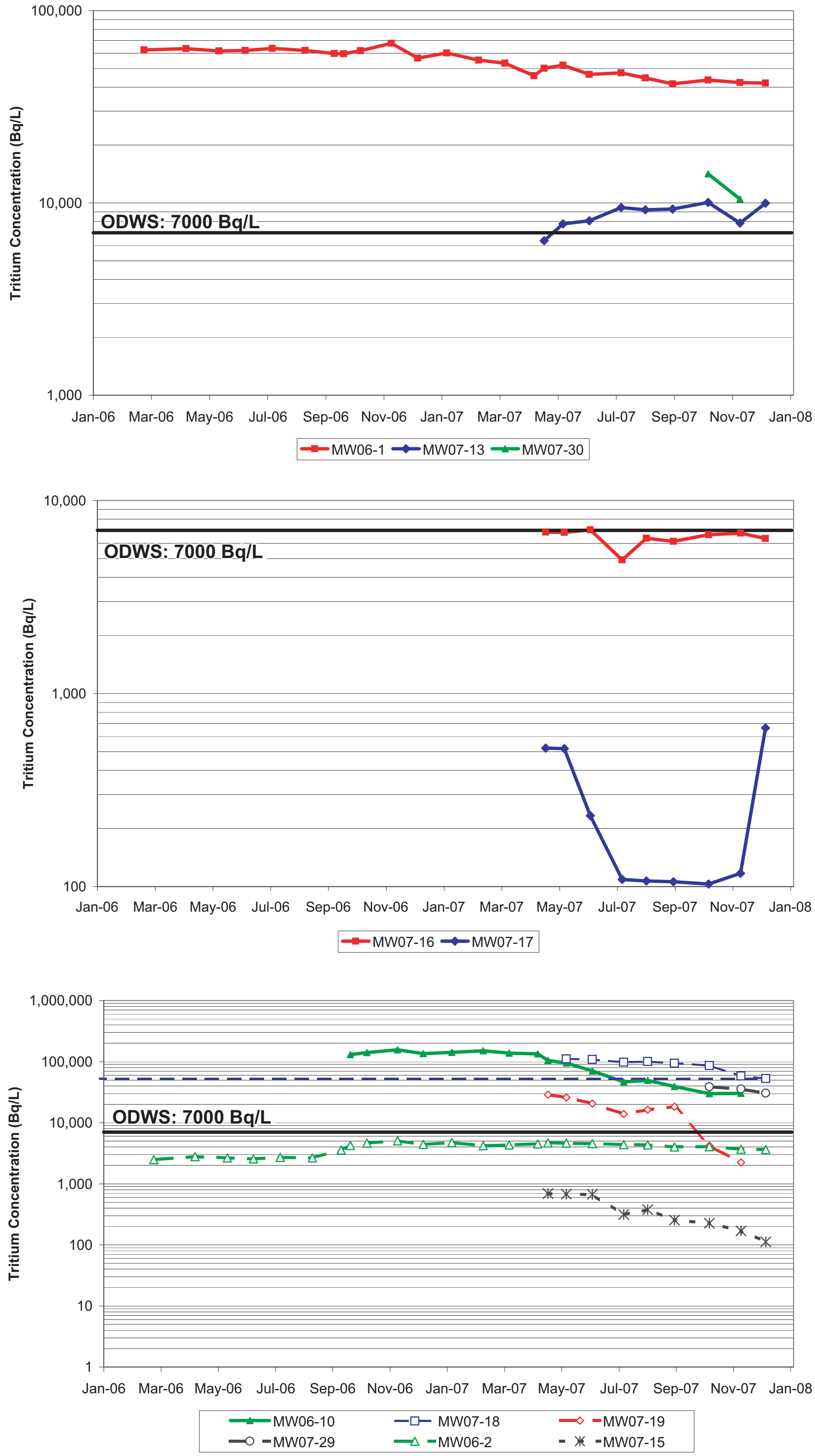
0 10 20 m

| SRB Technologies | | |
|---|---|---|
| Location of 2006 and 2007 Surface Soil Samples Collected by SRB | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.19** |




Range of Predicted Soil Water Concentrations - not corrected for decay

| SRB Technologies | | |
|---|---|---|
| Soil Concentration Profiles for Paired Wells | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.20** |




ODWS: Ontario Drinking Water Standards (MOE, 2003)

| SRB Technologies | | |
|---|---|---|
| Trends in Tritium Concentrations in Groundwater with Time for Selected Monitoring Wells | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.21** |

**Photographs Taken December 11, 2007**

**Note the vegetation growth extending inside the well casing (left hand side of lower photograph)**

| **SRB Technologies** | | |
|---|---|---|
| Photographs of Residential Water Supply Well R-1<br>Located at 413 Boundary Road | | |
| EcoMetrix INCORPORATED | December 2007 | **Figure 4.22** |


**SRB Technologies**

Photo of Superior Propane Truck Wash
Water Supply Well (B-2)

EcoMetrix INCORPORATED | December 2007 | **Figure 4.23**

PREDICTED SOIL WATER CONCENTRATIONS BASED ON 2000-2006 EMISSIONS


Rev. JAN/03/2008

PREDICTED SOIL WATER CONCENTRATIONS BASED ON PROPOSED FUTURE EMISSION LIMIT OF 67 200 GBq/a


Rev. JAN/03/2008

○ 100m - Distance From Stacks at SRB Facility

0 100 200 m

Note: Figures Prepared in Part by SRB Technologies (Canada) Inc.

| SRB Technologies | | |
|---|---|---|
| Comparison of Predicted Tritium Concentrations in Soil Water Based on Historical and Proposed Emmision Limits | | |
| EcoMetrix Incorporated | January 2008 | **Figure 5.1** |

**APPENDICIES**

EcoMetrix
INCORPORATED

# APPENDIX A

## Terms of Reference for Groundwater Study (EcoMetrix, 2005)

EcoMetrix INCORPORATED

14 Abacus Road, Brampton
Ontario, Canada. L6T 5B7
tel: (905) 794-2325; fax: (905) 794-2338

07 December 2005

Ms. Patsy Thompson
Director, Geosciences and Environmental Compliance Division
Canadian Nuclear Safety Commission (CNSC)
P.O. Box 1046, Station B
Ottawa, Ontario
K1P 5S9

Dear Ms. Thompson:

**Re: Terms of Reference for a Groundwater Study**

Please accept this formal submission of the attached Terms of Reference (TOR) for a groundwater study to be completed at the SRB Facility in Pembroke, Ontario.

A preliminary draft TOR was submitted for your consideration and comment on 24 November 2005. That preliminary version was prepared in response to the CNSC Order dated 16 November 2005 (File No. 42-1-3-0), which has since been rescinded. The current version of the TOR herein is a revision of that preliminary submission, and is still based on the rationale and terms of the original Order. It has been revised to reflect written comments received from CNSC staff, and related discussions held during the 25 November meeting of CNSC staff and representatives from SRB and EcoMetrix. Please note also that a schedule has been added to the TOR, reflecting the recent adjustment to the deadline for completion of the Groundwater Study (i.e., now 31 March 2006).

We trust that this satisfies your requirements and expectations at this time. If there are any questions or concerns, please do not hesitate to call (905-794-2325, Ext. 232).

Yours truly,

**ECOMETRIX INCORPORATED**

Neil Morris, Principal
EcoMetrix Inc.
14 Abacus Road
Brampton, Ontario
L6T 5B7

# 1.0 INTRODUCTION

## 1.1 Background

SRB Technologies (Canada) Inc. (hereafter referred to simply as "SRB") operates a tritium lamp factory (the "facility") at Pembroke, Ontario. Tritium is imported to the facility for the production of various instruments that rely on tritium in sealed glass for their function. During the routine handling of imported tritium and the manufacture of instruments, best practices are employed to prevent tritium loss. Some losses are unavoidable, and releases of tritium (primarily as HT, but also as HTO) do occur as a result of routine operational procedures.

The release of radionuclides necessitates efforts to assess their distribution in the surrounding environment, and to determine the radiological dose to members of the public arising from exposure to these radionuclides. To ensure an effective understanding of environmental implications of tritium releases and the associated human dose, as required by the Canadian Nuclear Safety Commission (CNSC), there are several distinct efforts regularly undertaken by SRB, as follow:

- continual monitoring of tritium emissions to atmosphere through direct measure of stack releases;
- regular implementation of an Environmental Monitoring Program (EMP). The primary purpose of the program is to measure levels of tritium in environmental media (e.g. air, plant products, and animal products) in the vicinity of the facility; and
- assessment of tritium-related radiation dose to members of the public and the determination of derived release limits (DRLs) for both HT and HTO.

These efforts are subject to ongoing review to ensure that there is an effective understanding of the potential impacts of tritium releases to the environment and to human health.

## 1.2 Current Concerns and Objectives

The SRB facility is not designed to collect, treat or discharge any liquid sources of tritium that could contribute to on-site contamination of groundwater, and thus the EMP has not focused on groundwater as an environmental media to be assessed. Equally, the DRL that is currently in effect (Canatom, 1996) and recent reviews thereof (Grey, 2004; EcoMetrix, 2005) have assumed that public exposure to tritium in groundwater is not significant. At present, there are no known instances of residential wells serving as a primary source of household water, and therefore dose through exposure to water (primarily drinking and bathing) has not been considered to contribute significantly to the total tritium dose. However, a complete site survey has not yet been completed, and the substantial use of local well-water could possibly occur in the vicinity of the facility. Further, the SRB facility is near the current outer extent of development of Pembroke, and adjacent lands (currently undeveloped) could be subject to future residential development. Although any such development would most likely be serviced with a centralized water supply, it is not out of the realm of possibility that new residential wells could be established on these lands and in relatively close proximity to the SRB facility.

Recent tests of groundwater samples taken from nearby residential wells have revealed groundwater concentrations of tritium as high as 2,750 Bq/L. While this maximum local concentration is well below the provincial standard of 7,000 Bq/L, it is indicative of a localized influence of SRB operations on tritium groundwater concentrations. Standing water has also been irregularly sampled on the SRB premises in recent years, and tritium concentrations as high as 279,000 Bq/L have been recorded. Also, concentrations of tritium in precipitation as high as 51,120 Bq/L have been reported at SRB. While these measures could be reflective solely of tritium releases to atmosphere, they could also be indicative of point source loadings of tritium in liquid form and subsequent infiltration of loadings to groundwater.

In light of the findings regarding potential tritium sources and the occurrence of acceptable but elevated levels of tritium in local wells, and the potential for the existence of wells not as of yet considered, SRB intends to undertake an assessment of the effects of tritium releases from the facility on local groundwater. The assessment is to be completed in the context of potential implications to the environment, land-use, and human health. In this context, the specific objectives of the assessment are as follow:

- to adequately identify and characterize all sources and pathways of tritium delivery to groundwater;
- to define probable maximum concentrations and probable distribution of tritium in groundwater in the area closely surrounding the SRB facility, and
- to quantify the potential impacts of elevated levels of tritium in groundwater.

# 2.0 SCOPE OF WORK

To meet the stated objectives, the following study components are recommended:

- an initial review of all potential sources and receptors;
- a field-level assessment (groundwater sampling and analysis, investigation of site characteristics); and,
- a quantitative assessment of the impacts of tritium in groundwater.

The specific work tasks to be completed in each of these study components are discussed in the following sections.

## 2.1 Initial Review

The first effort should be an initial review of SRB Facility operations (past and current) to identify and characterize all possible releases of tritium that could enter into groundwater. Relevant information from SRB, the CNSC, and other sources should be considered. In general, the initial review should serve to identify and characterize:

- sources of tritium to groundwater;
- locations of potential public exposure to groundwater in the vicinity of the SRB Facility; and
- existing points of access for direct assessment of the current distribution of tritium in groundwater (as discussed in the following section).

In the identification of sources, the review should account for all facility processes and releases (past and present), including any unmonitored fugitive emissions and one-time events that might contribute to the total loading of tritium to groundwater. The review should consider all available spill records or suspected spill events.

The potential magnitude and duration of each source should be defined to the best possible level, based on process characteristics, available monitoring data, tritium inventory balances, etc.. Points of entry and any factors affecting entry (e.g. mitigative measures, runoff collection and diversion) should be identified. This information should be used in defensible identification of those sources that are potentially significant contributors to tritium concentrations in local groundwater.

A review of information that would serve to identify public receptors (existing and potential) should also be conducted. The primary point of exposure to tritium in groundwater would be water wells. With respect to existing wells, the review should include information held by SRB regarding local residences that have served as receptor locations in dose assessments. Information could also be obtained from available well records. For all existing wells, key characteristics (screening depth, nature of overburden, dug vs. drilled, flow yield, etc.) should be recorded if available. To identify potential future wells, municipal zoning should be consulted to identify locations in close proximity to the Facility that could be developed in the near future. The extent and nature of the residential and zoning information collected should be sufficient to facilitate establishment of land registry records of identified contamination, or to serve in municipal land use planning purposes.

Regional and local hydrogeological conditions should also be ascertained in the initial review, primarily from existing documentation at this stage. This will serve in part to guide the design of the groundwater monitoring component of this study (discussed in Section 2.2). This hydrogeological information will be further developed during the field-level reconnaissance, and ultimately will serve in understanding and potential modelling of the groundwater transport of tritium loads from significant sources. Information of relevance would include water table elevations, local surface water elevations (e.g. Muskrat River), hydraulic gradients, and various characteristics of the pore-water and groundwater media (overburden and bedrock), such as porosity and hydraulic conductivity.

SRB has indicated that some characterization of groundwater in the area of the Facility has been undertaken in the past for reasons unrelated to SRB operations. Documentation related to these efforts should be reviewed to assist in the characterization of groundwater. Further, it has been indicated that boreholes were established in these past efforts and may still be accessible for this current purpose. Any such boreholes identified in the review should be subject to field reconnaissance to determine their potential for use in the current study and also the EMP.

## 2.2 Field-Level Assessment

A field-level assessment should be completed to determine, within the defined context, the distribution of tritium in groundwater in the area of the facility and also to ascertain site characteristics that would affect the migration of tritium in groundwater.

A program of direct measures should be undertaken to delineate the spatial extent and magnitude of the tritium signal in groundwater. This is initially a field exercise, collecting and analyzing groundwater samples. This effort should be coupled with a review of results for any groundwater samples collected to date as part of past site monitoring. The sampling would use key residential wells and any other previously installed sampling wells to the extent possible.

Depending on the findings of the initial review, additional well installations may be required to ensure that all identified locations of potentially significant sources and downgradient impact are effectively assessed. New wells would be placed in locations of existing development that do not have wells at present or in locations of potential future development if those locations were deemed to be subject to possible groundwater impacts. In general, target locations will be those that are downgradient and/or downwind of SRB, and exact citing will be guided by the findings of the initial review. Reference wells will be identified (or installed) for sampling in locations up-gradient of SRB, in terms of both hydraulic gradient and dominant wind sectors. Overall, the total compliment of existing and new wells should encompass key residential exposure locations (existing and potential), a linear transect(s) along the groundwater flow gradient, and the two or three wind sectors that are known to be most affected by atmospheric dispersion of stack emissions. It is anticipated that atmospheric dispersion of stack releases will be identified as the primary source of tritium to groundwater. In this case, a total of eight to 10 wells is likely to provide sufficient coverage and spatial resolution. If significant point sources (e.g. spills, sumps, etc.) are identified in the initial review, additional downgradient wells would be required for each such source to determine if contamination is localized or widespread. If the initial review suggests that there are point sources originating underneath the Facility, a well(s) beneath or immediately adjacent to the facility may be required.

If new wells are required to provide adequate coverage, installation methods and materials and information recording during installation should be suitable for the current purpose and also for likely future use of the wells as part of SRB's EMP. The depth of new wells should be reflective of the characteristics of existing wells and also local hydrogeological conditions. Well selection/installation should strive to achieve overall coverage of a range of depths within the local groundwater table.

Citing and installation of new wells may need to consider constraints such as private property access restrictions, the presence of infrastructure, etc.. Such potential impediments should not necessarily be considered absolutely limiting. Efforts should be made to obtain landowner consent and gain access to the most appropriate locations for wells. If landowner consent is not initially granted, the CNSC will be notified immediately to allow their staff to take necessary measures to obtain consent. The issue of access should be fully addressed and resolved in advance of the time of well installation and sampling.

Samples should be collected from identified target wells on two or more occasions over the duration of study (to be completed by 31March 2006). The results of analysis of the first set of samples should be received, verified, and reviewed to identify any changes that may be advisable in the second sampling round.

For sampling purposes, all wells should be sampled in a manner consistent with a pre-defined protocol suitable for the current purpose. Sampling protocol should include appropriate QA/QC procedures (field blanks, duplicates, clean storage and handling, etc.). Samples should be submitted to an independent accredited lab for analysis of tritium activity by accepted methods. Duplicate analysis of some samples at the SRB lab is recommended for additional QA/QC purposes. Appendix A contains a detailed protocol for sample collection and handling that is considered appropriate for this groundwater study.

For existing wells, consideration should be given for analysis of parameters (e.g. chloride, nitrate, iron) that can provide some indication of the age of well water or length of flow path based on redox characteristics and possibly identify any instances of surface water intrusion.

Sampling protocol must also consider the possible need to handle and properly dispose of purge water, drilling spoils, archival soil samples, and any other tritium-bearing material as radioactive waste. Identification of materials of this nature should be based on IAEA Clearance Levels (IAEA, 2004). It is anticipated that some materials handled in this study will exceed the clearance level specified for tritium (i.e., 100 Bq/g). No method for rapid *in situ* measure of tritium activity is available, so tritium levels in various materials will need to be conservatively quantified prior to the initiation of the field assessment, using information made available in the initial review.

## 2.3 Assessment of Impacts

Following the characterization of the current distribution of tritium in groundwater in the vicinity of the SRB facility, the associated impacts will be assessed in as quantitative a manner as permitted by the available information. The endpoints to be considered in this assessment include the environment, land-use, and human health.

With regard to environment and land-use, the impacts of tritium can be assessed in context of existing guidelines for tritium (or radionuclides in general) in water. Current and potential future uses should be considered and the assessment should follow established protocol (e.g. MOE Reasonable Use Criteria).

With respect to environmental impacts, the assessment should also consider the possible effects of contaminated groundwater on surface water resources (e.g. the Muskrat River).

Human health assessment will be based on radiological exposure and dose along all potentially relevant pathways associated with groundwater (drinking water ingestion, bathing/swimming, livestock watering, garden/crop irrigation). Human health impact assessment should consider both existing and potential receptors and all reasonably realistic expectations of life-styles and land-uses.

In the event that current levels of tritium in groundwater are potentially confounded by historical releases or may not reflect equilibrium conditions, a limited application of predictive modelling may be required to adequately assess future impacts.

All assessment efforts should follow a conservative approach and identify and adequately address all uncertainties and assumptions. Overall, the assessment of potential impacts should consider all available information in a weight-of-evidence manner so that conclusions are broadly supported.

# 3.0 SCHEDULE AND DELIVERABLES

To comply with the CNSC, the groundwater study is to be completed by 31 March 2006. Scheduling of all project tasks must allow for the fact that the major study components are more or less sequential (e.g. completion of the impact assessment requires the completion of groundwater monitoring, and initiation of the ground water monitoring requires completion of the initial review).

The schedule below has been developed to accommodate the submission deadline and to allow tracking and time management of the study in a task-by-task manner. This schedule assumes approval of the final TOR and subsequent initiation of Study on or shortly after 14 Dec. 2005. The schedule also assumes that tasks that ideally would be completely sequential are undertaken and completed at least partly in parallel. Underlying assumptions and additional comment are provided.

| Activity | Start Date | End Date | Assumptions/Comments |
|---|---|---|---|
| Initial Review | 19 December 2005 | 06 January 2006 | Assumes Approval of TOR shortly after 14 Dec. Review could be initiated prior to approval. |
| Well installation | 09 January 2006 | 13 January 2006 | Assumes that approximately 5 or 6 new wells will need to be installed. |
| Field Monitoring (incl. first well water sampling event) | 09 January 2006 | 20 January 2006 | Assumes that much of the field monitoring can be completed during the installation of new wells |
| Second sampling event | 06 February 2006 | 10 February 2006 | Assumes analytical results from first sampling event will be available for review in advance of the second sampling event. |
| Interpretation and Reporting | 06 January 2006 | 31 March 2006 | Assumes receipt of all analytical results within 1 week of submission. Assumes that the initial review will provide information that will allow initiation of the interpretive report. |

Upon completion of the study, a report is to be submitted to CNSC by no later than 31 March 2006. A draft report should be made available to SRB for review prior to that submission. The report should clearly and completely document the following:

- an inventory of all potential sources of tritium to groundwater, their relevant characteristics (magnitude, frequency, duration, point of release, etc.) and their potential significance relative to the total potential tritium load to groundwater;
- the distribution (extent and magnitude) of tritium in groundwater on and around the facility grounds; and,
- the impacts of tritium in groundwater to the environment, land-use, and human health.

The report should be clear, transparent, and self-contained. The basis for all conclusions should be clearly identified, and supporting information should be provided (as appendices if appropriate) to allow independent verification of assumptions and calculations. The report should also clearly identify critical gaps or uncertainties in the available information that forms the current basis for understanding the status and impacts of tritium in groundwater in the area surrounding the SRB facility.

# 4.0 REFERENCES

Canatom Inc., Radioactive Waste Services Division. 1996. A Revised DEL Calculation for the Pembroke Facility (CRWS Report 6523-03 Rev. 1), November 19, 1996

Grey, Michael G. 2004. Review of the DEL Calculation for the SRB Technologies (Canada) Inc. Facility in Pembroke, Ontario. 1004137 Ontario Inc., February 6, 2004.

EcoMetrix Incorporated (EcoMetrix). 2005. Review of DRLs for the SRB Pembroke Facility (EcoMetrix Reference 05-1248.01). Prepared for SRB Technologies (Canada) Inc. September, 2005.

International Atomic Energy Agency (IAEA). 2004. IAEA Safety Standards Series - Application of the concepts of exclusion, exemption, and clearance: safety guide No. RS-G-1.7. IAEA, Vienna.

# APPENDIX A – WELL INSTALLATION AND SAMPLING PROCEDURES

## Drilling Exploratory Soil Borings

The investigation borings will be drilled using a truck-mounted drill rig or truck-mounted, drill rig equipped with hollow stem augers of appropriate size (e.g. 4.25-inch inside diameter (ID)). All borings will be drilled by a Provincially-licensed drilling subcontractor under the supervision of a qualified geoscience technician.

During drilling, samples of geologic materials for geologic logging, field analyses and potential laboratory analysis will be collected using a split-spoon sampler that retrieves materials from depths immediately ahead of the augers. In general, soil samples will be collected every five feet, and archived for field and potential laboratory analysis (as required) from the split spoon samples. Descriptions of soil type, color, relative density, plasticity and structure (including weathering effects such as fracturing in rock) will be recorded on each borehole log by an experienced geoscientist. The geoscientist will also note: the split spoon sample depth interval, sample recovery, observations during the drilling procedure, and blow counts. Borehole logs will be prepared for each of the boreholes drilled during the investigation.

## Monitoring Wells

Permanent monitoring wells will be installed to provide water level information and allow collections of groundwater samples for tritium analysis on an on-going basis. All monitoring wells will be installed by the drilling subcontractor under supervision of a qualified geoscientist. The depth interval intersected by the well screen will be selected based on observations at the time of boring and/or the pre-determined requirements of the study.

Monitoring wells will be constructed from schedule 40, polyvinyl chloride (PVC), flush-threaded casing. Well screens will generally consist of 5-foot sections of PVC pipe with 0.010-inch factory-generated slots. All PVC casing and well screens will be certified clean by the manufacturer and delivered to the site sealed in individual protective wrappings. The bottoms of the screens will be plugged with appropriately sized screw-in end caps. During well installation, the tops of the wells will be covered with watertight slip-fit caps to prevent the entry of foreign materials. This is particularly important for the current study to prevent possible entry of tritium-bearing rainwater into the monitoring wells. No lubricants, PVC cements or other solvents or adhesives will be used in the construction of the wells.

A primary filter pack consisting of #5 Silica Sand will be placed around the well screen in the boring and extended to a minimum of 0.3m above the top of the well screen. Bentonite, a swelling clay that forms an effective barrier to the vertical movement of fluids when installed in a boring, will be used as a seal above the filter pack. The bentonite seal, consisting of either a bentonite gravel (e.g., HolePlug™) or bentonite slurry, will extend from the top of the sand pack to approximately 0.3m bgs in the monitoring wells. All materials will be set in the borehole through the drive casing or augers after removal of the drilling tools. The drive casing or augers will be slowly removed from the subsurface while the well materials are installed.

When the well installation is complete, expansion caps will be locked into the exposed end of the well casings. If required, traffic-rated flush mount protector completions (consisting of a steel cover bolted to a protective casing that extends to approximately 1.5 ft bgs), or steel 1m tall protective casings will be installed at the monitoring wells and will be secured by concrete.

**Monitoring Well Development**

All monitoring wells will be developed no sooner than 24 hours after the well is installed. The wells are developed to:

- remove fine soil particles adjacent to the well screen that may otherwise interfere with water quality analyses;
- restore the groundwater properties that may have been disturbed during the drilling process;
- improve the hydraulic communication between the well and the geologic materials; and
- remove water, if any, added during the drilling process.

Wells are generally developed by removing a minimum of five times the volume of water contained in the well casing (casing volume) using either a peristaltic pump or rigid high density polyethylene (HDPE) tubing fitted with Waterra™ inertial pumps.

The pH, temperature and specific conductance of groundwater removed during development will be measured following the removal of each casing volume. Samples of the successive casing volumes will also be collected and archived for possible later analysis. Development will be continued until a minimum of five casing volumes have been removed. Additional water may be removed to reduce the silt content or to ensure that the drilling water lost to the formation during drilling has been removed.

**Elevation Survey and Water Level Measurements**

Following well installation, the elevations of the tops of the well casings (reference elevation) and the ground surface adjacent to the well should be surveyed to within 1 cm relative to the site datum**.** The depth-to-water in wells will be measured using a battery-signal water level tape. Reference elevations, depth-to-water measurements, and calculated water elevations are referenced back to the site datum.

**Monitoring Well Sampling**

Prior to collecting groundwater samples for chemical analysis, the stagnant water in the well will be evacuated to allow groundwater representative of the aquifer to enter the well. A minimum of three casing volumes of water will be removed ("purged") from each well immediately prior to sampling. Monitoring wells are purged (not sampled) using either a peristaltic pump or rigid high density polyethylene (HDPE) tubing fitted with Waterra™ inertial pumps that are dedicated to each monitoring well. Water samples will be collected by direct transfer of groundwater from the Waterra™ pumping system to appropriate containers. Samples will be collected in pre-labelled containers. A 1-litre sample will be collected in a glass container for analysis of tritium. If deemed appropriate, an additional 250-ml sample will be collected for analysis of possible indicators of water age or surface water intrusion (e.g. nitrates, iron). The pH, temperature and specific conductance are measured after each casing volume had been removed.

Duplicate samples (tritium, and other measures if undertaken) will be collected once for every ten samples collected and identified with a blind code.

**Sample Handling**

Each sample container (or bottle set) will be sealed in a separate plastic bag after it is filled. Samples are then stored in an insulated cooler containing ice packs and/or a secured refrigerator. Samples for laboratory analysis will be transferred to insulated coolers for shipment via overnight courier to the laboratory. Upon receiving the samples, the laboratory personnel should inspect the condition of the samples, and note any damaged sample containers or discrepancies between the sample label and information on the chain-of-custody record.

**Equipment Cleaning**

Equipment is cleaned to minimize the potential for cross-contamination between borings or samples. All downhole sampling equipment and non-disposable soil sampling equipment is cleaned prior to and after each use with a cleaning procedure that uses phosphate-free soap and distilled water. Analytical probes (pH, specific conductance and temperature) are cleaned after each use according to the manufacturers' specifications. In between measurements, the probes are stored in distilled water.

Canadian Nuclear Safety Commission
Secretariat

Commission canadienne de sûreté nucléaire
Secrétariat

CANADA

**BY FAX**

November 17, 2005

42-1-3-0

Mr. Stephane Levesque
President
SRB Technologies (Canada) Incorporated
320 – 140 Boundary Road
Pembroke, Ontario K8A 6W5

**SUBJECT: Opportunity to be heard with respect to CNSC order concerning SRB Technologies (Canada) Incorporated**

Dear Mr. Levesque:

On November 16, 2005 the Director, Environmental Protection and Audit Division, in her capacity as Designated Officer and pursuant to her authority under paragraph 37(2)(f) of the *Nuclear Safety and Control Act* (NSCA), issued an order to SRB Technologies (Canada) Incorporated (SRBT) requiring SRBT to comply with specific actions and measures identified in said order (copy enclosed). Pursuant to subsection 37(6) of the NSCA and section 34 of the *Canadian Nuclear Safety Commission Rules of Procedure*, the order was submitted to the Commission for review to confirm, amend, revoke or replace it.

In accordance with the requirement of paragraph 40(1)(d) of the NSCA and pursuant to 34(2)(a) of the *Rules of Procedure*, the Commission is providing SRBT with an opportunity to be heard on the order before confirming, amending, revoking or replacing the order. If you wish to be heard on this matter, you are required, in accordance with paragraph 34(2)(b) of the *Rules of Procedure*, to notify the Commission within 10 days of receiving this notice. You may notify me in my capacity as Commission Secretary.

Following notice of your intent to be heard on this matter, the Commission would notify you of how and when you would be heard, including whether information and written submissions would be required to be filed with the Commission.

Please do not hesitate to communicate with me at (613) 995-6506 should you require additional information.

Yours sincerely,

Marc Leblanc
Commission Secretary

Encl. Order concerning SRB Technologies (Canada) Incorporated

Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

| Page | 1 | of | 2 |
|---|---|---|---|
| INDEX | File 42-1-3-0 | | |
| 1. CNSC Licence No. (if applicable) | NSPFOL-13.00/2005 | | |
| 2. Date of Order | Y 2005 | M 11 | D 16 |

**ORDER UNDER SUBSECTION 37(2)(f) OF THE *NUCLEAR SAFETY AND CONTROL ACT***

| 3. Company/Licensee (If applicable) and address | 4. Name (and title or position) of person(s) receiving the Order |
|---|---|
| SRB Technologies (Canada) Incorporated<br>320 - 140 Boundary Road<br>Pembroke, Ontario<br>K8A 6W5 | Stephane Levesque<br>President<br>SRB Technologies (Canada) Incorporated |

5a. Actions or measures required to be taken by licensee and/or other person(s) (specify) in respect of any facility, place, substance, vehicle, equipment or information (specify), including any time limits or restrictions

1. By December 14, 2005, SRB Technologies (Canada) Incorporated shall:
   - 1.1 Have an independent third party prepare the terms of reference for actions and measures to:
     - 1.1.1 Define the extent and magnitude of groundwater contamination on and around the property where the licensed activity is carried out.
     - 1.1.2 Characterize and confirm all sources and causes of groundwater contamination by tritium.
     - 1.1.3 Identify any continuing sources of contamination.
     - 1.1.4 Assess the potential adverse impacts of the contaminated groundwater on human health, the environment and land use.
   - 1.2 Submit to the Director, Environmental Protection and Audit Division for approval, a report describing the terms of reference for the actions and measures to be used to carry out items 1.1.1 to 1.1.4 above.

2. By March 2, 2006, SRB Technologies (Canada) Incorporated shall:
   - 2.1 Have an independent third party:
     - 2.1.1 Define the extent and magnitude of groundwater contamination on and around the property where the licensed activity is carried out.
     - 2.1.2 Characterize and confirm all sources and causes of groundwater contamination by tritium.
     - 2.1.3 Identify any continuing sources of contamination.
     - 2.1.4 Assess the potential adverse impacts of the contaminated groundwater on human health, the environment and land use.
   - 2.2 Submit to the Director, Environmental Protection and Audit Division a report documenting the results of actions and measures taken to fulfill items 2.1.1 to 2.1.4 above.

Addenda attached ☐

5b. This order is closed when all items listed in 5a.) have been fulfilled; and

1. the Director, Environmental Protection and Audit Division has accepted in writing the terms of reference documented in the report described in 5(a)(1) above; and
2. the Director, Environmental Protection and Audit Division has accepted in writing the results of the report described in 5(a)(2) above; and
3. the Director, Environmental Protection and Audit Division notifies SRB Technologies (Canada) Incorporated in writing that the order has been completed and is now closed.

Addenda attached ☐

Canadä

**6. Information on which Order is based**

- Measurement of tritium in groundwater taken by Canadian Nuclear Safety Commission staff from wells 1100 metres and 400 metres away from the licensee's premises indicate tritium concentrations above background (400 Bq/l and 2,750 Bq/l, respectively).
- Concentrations of tritium in air at various distances from SRB Technologies (Canada) Incorporated are increasing when standardized relative to annual releases reported by the licensee.
- Samples of standing water from the licensee's premises as high as 279,000 Bq/l (measured by Canadian Nuclear Safety Commission staff on July 3, 1996).
- Samples of water from the licensee's air conditioning system as high as 6,930 Bq/l (measured by Canadian Nuclear Safety Commission staff on September 1, 2000).
- Samples of precipitation taken on the property where the licensed activity is taking place with tritium concentrations as high as 51,120 Bq/l (measured by SRB Technologies (Canada) Incorporated on June 5, 2002).
- The licensed facility is not designed to collect and treat any tritium-contaminated water that may be contributing to the contamination of groundwater.
- The licensee failed on two occasions (January 29, 2004 and September 30, 2005) to adequately revise its Derived Release Limit (DRL) pathways analysis (document referenced in the licence) to characterize the impact of its licensed activities on groundwater as directed by CNSC staff in a request pursuant to Section 12(2) of the General Nuclear Safety and Control Regulations dated November 6, 2002 and in a letter dated April 18, 2005.
- The licensee failed on September 30, 2005 to adequately revise its environmental monitoring program to ensure that it measures levels of tritium in the groundwater and their potential impacts as directed by Canadian Nuclear Safety Commission staff in a request pursuant to Section 12(2) of the General Nuclear Safety and Control Regulations dated November 6, 2002 and in a letter dated April 18, 2005.

Addenda attached ☐

**7. CNSC Inspector or Designated Officer making the Order**

Name: Patsy Thompson
Director, Environmental Protection and Audit Division

Address: P.O. Box 1046, Station B
Ottawa, Ontario K1P 5S9

Tel: (613) 947-3352

Fax: (613) 995-5086

Signature: [signature]

**8. Method of transmitting the Order:**

Personal delivery ☐ Mail ☐ Fax ☒ Other (Courier) ☒

**SEE REVERSE SIDE FOR ADDITIONAL INFORMATION**

## A SUMMARY OF SOME RELEVANT SECTIONS OF THE ACT

**ORDERS OF AN INSPECTOR**

**35**(1) Refer to this subsection for Orders issued to licensees.
**35**(2) Refer to this subsection for Orders issued to any person.

**DESIGNATED OFFICERS**

**37**(2) (f) The Commission may authorize a designated officer to make any order that an inspector may make under subsection 35(1) or (2).

**PROCEDURES**

**38** Every order of an inspector and every order of a designated officer under paragraph 37(2)(f) shall be made, and every measure under paragraph 37(2)(c), (d) or (g) shall be taken, in accordance with prescribed CNSC Rules of Procedure.

**COMPLIANCE WITH ORDER**

**41** Every person named in, or subject to, an order of the Commission, an inspector or a designated officer shall, whether or not the person has had an opportunity to make representations with respect to the order, comply with the order within the time specified in it or, if no time is specified, immediately.

**OPPORTUNITY TO BE HEARD**

Refer to section **39 and 40** of the Act.

**LIABILITY FOR COSTS**

Refer to section **42** of the Act.

**OFFENSES AND PUNISHMENT**

Refer to sections **48 to 65** inclusive of the Act.

EcoMetrix INCORPORATED

# APPENDIX B

## Wind Direction Frequency

**Table B1: Summary of Wind Frequency Data - 1989 to 2004**

| Direction (relative to SRB) | | Wind Speed Categories (m/s) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| To | From | 0.5 | 1.58 | 2.5 | 4.07 | 7.09 | 10.95 | SUM |
| S | N | 0.40% | 0.96% | 0.32% | 1.90% | 0.57% | 0.01% | 4.2% |
| SSW | NNE | 0.34% | 0.78% | 0.27% | 0.95% | 0.11% | 0% | 2.5% |
| SW | NE | 0.36% | 1.15% | 0.29% | 0.69% | 0.03% | 0% | 2.5% |
| WSW | ENE | 0.32% | 1.33% | 0.33% | 0.39% | 0.01% | 0% | 2.4% |
| W | E | 0.49% | 1.81% | 0.57% | 0.89% | 0.02% | 0% | 3.8% |
| **WNW** | **ESE** | 0.94% | 3.83% | 1.71% | 3.95% | 0.15% | 0% | **10.6%** |
| **NW** | **SE** | 1.25% | 4.09% | 1.77% | 4.79% | 0.28% | 0.001% | **12.2%** |
| NNW | SSE | 0.77% | 1.88% | 0.54% | 1.35% | 0.10% | 0.002% | 4.6% |
| N | S | 0.75% | 1.44% | 0.31% | 0.89% | 0.10% | 0.002% | 3.5% |
| NNE | SSW | 0.95% | 1.38% | 0.29% | 0.91% | 0.17% | 0.003% | 3.7% |
| NE | SW | 1.44% | 1.95% | 0.26% | 0.98% | 0.21% | 0.01% | 4.9% |
| ENE | WSW | 1.38% | 2.49% | 0.42% | 1.50% | 0.44% | 0.02% | 6.3% |
| **E** | **W** | 1.46% | 3.74% | 0.86% | 2.62% | 0.70% | 0.03% | **9.4%** |
| **ESE** | **WNW** | 1.00% | 3.16% | 1.07% | 4.21% | 1.23% | 0.03% | **10.7%** |
| **SE** | **NW** | 0.74% | 2.14% | 0.96% | 5.24% | 2.16% | 0.11% | **11.3%** |
| SSE | NNW | 0.58% | 1.33% | 0.57% | 3.46% | 1.52% | 0.08% | 7.5% |
| sum | | 13.2% | 33.5% | 10.5% | 34.7% | 7.8% | 0.3% | |

Summary of data compiled by Levelton (2006)
Bold sectors designated as "very high" (i.e., combined frequencies of wind exceeding 9%).

# APPENDIX C

## Ministry of the Environment Water Well Records

UTM 18 Z 3361170 E

Cds R 5017360 N

Elev. 05 R 16400

Basin 25



55 № 1446

The Ontario Water Resources Commission Act

# WATER WELL RECORD

County or District: RENFREW — Township, Village, Town or City: Pembroke

Con. 1 — Lot 11 — Date completed: 28 (day) Oct (month) 1964 (year)

Owner: [redacted] (print in block letters) — Address: Pembroke Isabella

| Casing and Screen Record | | Pumping Test | |
|---|---|---|---|
| Inside diameter of casing | 6 in. | Static level | 15 |
| Total length of casing | 16' | Test-pumping rate | 5 G.P.M. |
| Type of screen | - | Pumping level | 20 |
| Length of screen | - | Duration of test pumping | 1 hr. |
| Depth to top of screen | - | Water clear or cloudy at end of test | clear |
| Diameter of finished hole | 5 1/2" | Recommended pumping rate | 5 G.P.M. |
| | | with pump setting of | 28 feet below ground surface |

**Well Log** / **Water Record**

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| hardpan & boulders | 0 | 9 | 28 | fresh |
| shaly limestone | 9 | 14 | | |
| limestone | 14 | 30 | | |

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm: Cecil Munro Well Drilling

Address: P.O Box 361 Pembroke

Licence Number: 1257

Name of Driller or Borer: Gerald Colbourne

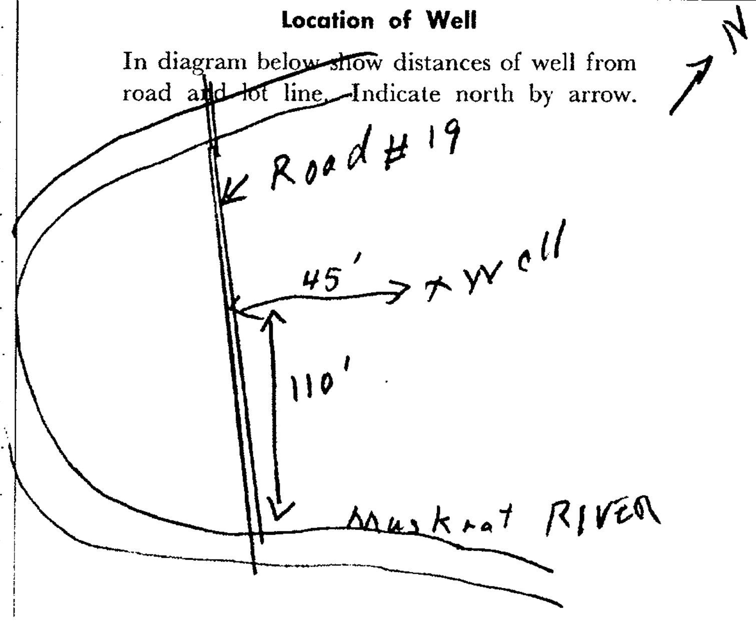
Address: Westmeath Ont.

Date: Nov 17/64

Cecil Munro
(Signature of Licensed Drilling or Boring Contractor)

**Location of Well**

In diagram below show distances of well from road and lot line. Indicate north by arrow.




Form 7 15M-60-4138

OWRC COPY

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5510142 | MUNICIP 55024 | CON.

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | PEMBROKE | P500 L8 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | 25 HASLEY BAY DR RR1 | DAY 3 MO 7 YR 90 |

21 | ZONE | EASTING | NORTHING | RC. | ELEVATION | RC. | BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|---|
| BROWN | SOIL | | PACKED | 0 | 3 |
| GREY | GRANITE | | HARD | 3 | 133 |

31

32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 95 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| 118 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|
| 6 1/4 | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | .188 | 0 | 20 |
| 6 1/8 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC | | 20 | 133 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

| MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET |
|---|---|
| | |

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 20 | CEMENT |
| | | |
| | | |

## 71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER
PUMPING RATE: 12 GPM
DURATION OF PUMPING: 1 HOURS MINS

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 1 FEET | 110 FEET | 67 FEET | 91 FEET | 110 FEET | 110 FEET |

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM
PUMP INTAKE SET AT: FEET
WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP
RECOMMENDED PUMP SETTING: 125 FEET
RECOMMENDED PUMPING RATE: 8 GPM

## FINAL STATUS OF WELL

1 ☒ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☐ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED
☐ DEWATERING

## WATER USE

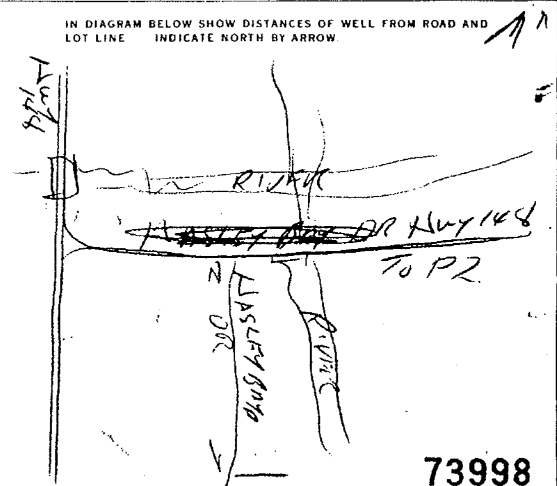
1 ☒ DOMESTIC
2 ☐ STOCK
3 ☐ IRRIGATION
4 ☐ INDUSTRIAL
☐ OTHER
5 ☐ COMMERCIAL
6 ☐ MUNICIPAL
7 ☐ PUBLIC SUPPLY
8 ☐ COOLING OR AIR CONDITIONING
9 ☐ NOT USED

## METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☐ ROTARY (AIR)
5 ☐ AIR PERCUSSION
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING
☐ DIGGING
☐ OTHER

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




73998

DRILLERS REMARKS

## CONTRACTOR

| NAME OF WELL CONTRACTOR | WELL CONTRACTOR'S LICENCE NUMBER |
|---|---|
| W F MacKinnon Ltd | 3564 |

ADDRESS: RR1 PEMBROKE

| NAME OF WELL TECHNICIAN | WELL TECHNICIAN'S LICENCE NUMBER |
|---|---|
| B. CARR | T0076 |

SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature] | SUBMISSION DATE: DAY 8 MO 8 YR 90

## OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3564 | DATE RECEIVED AUG 21 1990
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of Environment and Energy
Ontario

# The Ontario Water Resources Act
# WATER WELL RECORD

Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11 | 5513177 | Municipality 55024 | Con. CON 01

| County or District | Township/Borough/City/Town/Village | Con block tract survey, etc. | Lot |
|---|---|---|---|
| RENFREW | Pembroke | 1 Sub 617 | 14 |

| Owner's surname | First name | Address | Date completed |
|---|---|---|---|
| [redacted] | | 10 Heron Dr. | 7 day 11 month 97 year |

21 | Zone | Easting | Northing | RC | Elevation | RC | Basin Code

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

| General colour | Most common material | Other materials | General description | Depth – feet From | To |
|---|---|---|---|---|---|
| Grey | clay | | dense | 0 | 8 |
| Brown | hardpan | gravel | | 8 | 34 |
| Black | gravel | sand | Coarse | 34 | 45 |
| Black | granite | Red Layers | hard | 45 | 205 |

31
32

## WATER RECORD

| Water found at – feet | Kind of water |
|---|---|
| 75 | ☒ Fresh |
| 165 | ☒ Fresh |
| 194 | ☒ Fresh |

## CASING & OPEN HOLE RECORD

| Inside diam inches | Material | Wall thickness inches | Depth – feet From | To |
|---|---|---|---|---|
| 6 1/4 | ☒ Steel | .188 | 0 | 50 |
| 5 3/4 | ☒ Open hole | | 50 | 205 |

## SCREEN

Sizes of opening (Slot No.) | Diameter inches | Length feet
Material and type | Depth at top of screen feet

## PLUGGING & SEALING RECORD

☒ Annular space ☐ Abandonment

| Depth set at – feet From | To | Material and type (Cement grout, bentonite, etc.) |
|---|---|---|
| 7 | 20 | Benseal |

## PUMPING TEST

| | |
|---|---|
| Pumping test method | ☐ Pump ☐ Bailer — Air |
| Pumping rate | 3 GPM |
| Duration of pumping | 1 Hours 15 Mins |
| Static level | 10 feet |
| Water level end of pumping | 205 feet |
| Water levels during | ☒ Recovery |
| 15 minutes | 160 feet |
| 30 minutes | 120 feet |
| 45 minutes | 83 feet |
| 60 minutes | 61 feet |
| If flowing give rate | GPM |
| Pump intake set at | feet |
| Water at end of test | ☒ Clear ☐ Cloudy |
| Recommended pump type | ☐ Shallow ☒ Deep |
| Recommended pump setting | 195 feet |
| Recommended pump rate | 3 GPM |

## FINAL STATUS OF WELL

☒ Water supply ☐ Observation well ☐ Test hole ☐ Recharge well ☐ Abandoned, insufficient supply ☐ Abandoned, poor quality ☐ Abandoned (Other) ☐ Dewatering ☐ Unfinished ☐ Replacement well

## WATER USE

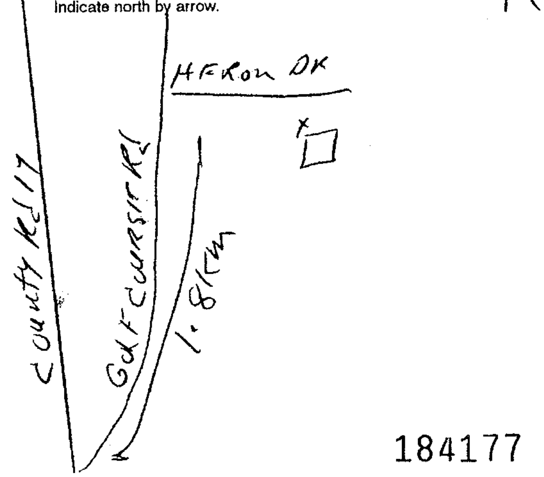
☒ Domestic ☐ Stock ☐ Irrigation ☐ Industrial ☐ Commercial ☐ Municipal ☐ Public supply ☐ Cooling & air conditioning ☐ Not used ☐ Other

## METHOD OF CONSTRUCTION

☐ Cable tool ☐ Rotary (conventional) ☐ Rotary (reverse) ☒ Rotary (air) ☐ Air percussion ☐ Boring ☐ Diamond ☐ Jetting ☐ Driving ☐ Digging ☐ Other

## LOCATION OF WELL

In diagram below show distances of well from road and lot line. Indicate north by arrow.




184177

| | |
|---|---|
| Name of Well Contractor | Mackinnon Well Drilling Ltd. |
| Well Contractor's Licence No. | 6923 |
| Address | RR#7 Pembroke |
| Name of Well Technician | S. Munro + R. Mackinnon |
| Well Technician's Licence No. | T2378 |
| Signature of Technician/Contractor | Robert Mackinnon |
| Submission date | day 19 mo 12 yr 97 |

## MINISTRY USE ONLY

Data source | Contractor 6923 | Date received DEC 24 1997
Date of inspection | Inspector
Remarks

CSS.SQ

0506 (07/94) Front Form 9

2 - MINISTER OF ENVIRONMENT & ENERGY COPY

Ministry of the Environment
Ontario

The Ontario Water Resources Act
# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5510901 | MUNICIP 55024 | CON. CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | Pembroke | 7 | 13 |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | [redacted] | DAY 23 MO 6 YR 92 |

21 | ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|---|
| GREY | CLAY | | DENSE | 0 | 10 |
| GREY | hardpan | Boulders | hard packed | 10 | 46 |
| GREY | GRANITE | | hard | 46 | 61 |
| RED | GRANITE | | hard | 61 | 125 |

31
32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 95 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|
| 6¼ | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | .188 | 0 | 49 |
| 6 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE 5 ☐ PLASTIC | | 49 | 125 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

| MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET |
|---|---|
| | |

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 0 | 6 | Benzenal |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| AIR 1 ☐ PUMP 2 ☐ BAILER | 10¼ GPM | 1 HOURS MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 20 FEET | 120 FEET | 120 FEET | 120 FEET | 120 FEET | 120 FEET |

1 ☒ PUMPING 2 ☐ RECOVERY

| IF FLOWING GIVE RATE | PUMP INTAKE SET AT | WATER AT END OF TEST |
|---|---|---|
| GPM | FEET | 1 ☒ CLEAR 2 ☐ CLOUDY |

| RECOMMENDED PUMP TYPE | RECOMMENDED PUMP SETTING | RECOMMENDED PUMPING RATE |
|---|---|---|
| ☐ SHALLOW ☒ DEEP | 118 FEET | 4 GPM |

## FINAL STATUS OF WELL

1 ☒ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☐ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED
☐ DEWATERING

## WATER USE

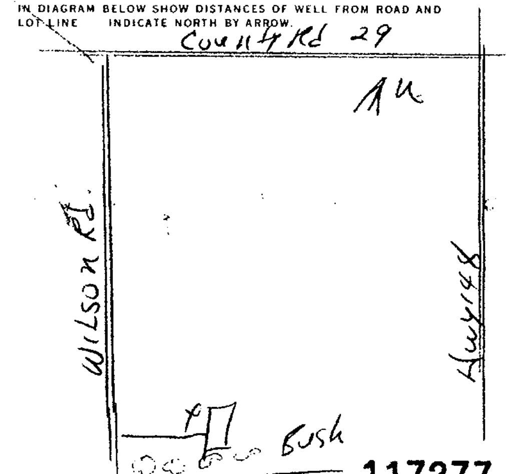
1 ☒ DOMESTIC
2 ☐ STOCK
3 ☐ IRRIGATION
4 ☐ INDUSTRIAL
☐ OTHER
5 ☐ COMMERCIAL
6 ☐ MUNICIPAL
7 ☐ PUBLIC SUPPLY
8 ☐ COOLING OR AIR CONDITIONING
9 ☐ NOT USED

## METHOD OF CONSTRUCTION

1 ☐ CABLE TOOL
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☒ ROTARY (AIR)
5 ☐ AIR PERCUSSION
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING
☐ DIGGING
☐ OTHER

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS

117277

## CONTRACTOR

| NAME OF WELL CONTRACTOR | WELL CONTRACTOR'S LICENCE NUMBER |
|---|---|
| W.E. McKinnon Ltd | 3564 |

ADDRESS: RR 7 Pembroke

| NAME OF WELL TECHNICIAN | WELL TECHNICIAN'S LICENCE NUMBER |
|---|---|
| Smunkod R McKinnon | T0074 |

| SIGNATURE OF TECHNICIAN/CONTRACTOR | SUBMISSION DATE |
|---|---|
| [signature] | DAY 10 MO 7 YR 92 |

## OFFICE USE ONLY

| DATA SOURCE | CONTRACTOR | DATE RECEIVED |
|---|---|---|
| | 3564 | JUL 16 1992 |

| DATE OF INSPECTION | INSPECTOR |
|---|---|
| | |

REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5510859 | MUNICIP 55024 | CON. CON 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| Renfrew | Pembroke L22 Plan 361 | 1 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | RR3 Pembroke | DAY 29 MO 5 YR 92 |

21 | ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|---|
| Grey | Clay | | Dense | 0 | 26 |
| Grey | hardpan | Boulders | | 26 | 34 |
| Red | Granite | Black layers | | 34 | 201 |

31

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## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 130 | 1 ☒ FRESH |
| 196 | 1 ☒ FRESH |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|
| 6 1/4 | 1 ☒ STEEL | .188 | 0 | 41 |
| 5 15/16 | | | 41 | 145 |
| 5 7/8 | 4 ☒ OPEN HOLE | | 145 | 201 |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 25 | Bentonite |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 2 ☒ BAILER | 10+ GPM | 1 HOURS |

WATER LEVELS DURING: 1 ☒ PUMPING

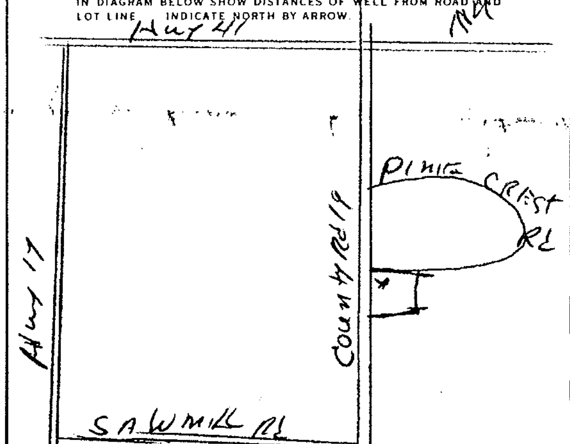
| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 17 FEET | 180 FEET | 87 FEET | 130 FEET | 165 FEET | 180 FEET |

IF FLOWING, GIVE RATE ___ GPM | PUMP INTAKE SET AT ___ FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING ___ FEET | RECOMMENDED PUMPING RATE ___ GPM

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




117251

DRILLERS REMARKS

**FINAL STATUS OF WELL**: 1 ☒ WATER SUPPLY

**WATER USE**: 1 ☒ DOMESTIC

**METHOD OF CONSTRUCTION**: 1 ☒ CABLE TOOL; 4 ☒ ROTARY (AIR)

## CONTRACTOR

NAME OF WELL CONTRACTOR: WF McKinnon Ltd | WELL CONTRACTOR'S LICENCE NUMBER: 3564
ADDRESS: RR1 Pembroke
NAME OF WELL TECHNICIAN: Sm Munro McKinnon | WELL TECHNICIAN'S LICENCE NUMBER: T0074
SIGNATURE OF TECHNICIAN/CONTRACTOR: [signature] | SUBMISSION DATE: DAY 17 MO 6 YR 92

## OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3564 | DATE RECEIVED JUN 23 1992
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5510427 | MUNICIP. 55024 | CON. CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | PEMBROKE | 1 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | RR3 PEMBROKE | DAY 25 MO 3 YR 91 |

21 | ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| GREY | CLAY | | DENSE | 0 | 15 |
| GREY | hardpan | | hard packed | 15 | 28 |
| BLACK | GRANITE | | hard | 28 | 81 |
| RED | GRANITE | | hard | 81 | 84 |
| BLACK | GRANITE | | hard | 84 | 91 |

31

32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 84 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 6 1/4 | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | .188 | 0 | 30 |
| 6 1/16 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | | 30 | 91 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | | | |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 30 | BENTONITE |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 1 ☐ PUMP 2 ☒ BAILER | 20 GPM | 1 HOURS 30 MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING: 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 15 FEET | 50 FEET | 43 FEET | 50 FEET | 50 FEET | 50 FEET |

1 ☒ PUMPING 2 ☐ RECOVERY

| IF FLOWING GIVE RATE | PUMP INTAKE SET AT | WATER AT END OF TEST |
|---|---|---|
| GPM | FEET | 1 ☒ CLEAR 2 ☐ CLOUDY |

| RECOMMENDED PUMP TYPE | RECOMMENDED PUMP SETTING | RECOMMENDED PUMPING RATE |
|---|---|---|
| ☐ SHALLOW ☒ DEEP | 85 FEET | 15 GPM |

## FINAL STATUS OF WELL

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED ☐ DEWATERING

## WATER USE

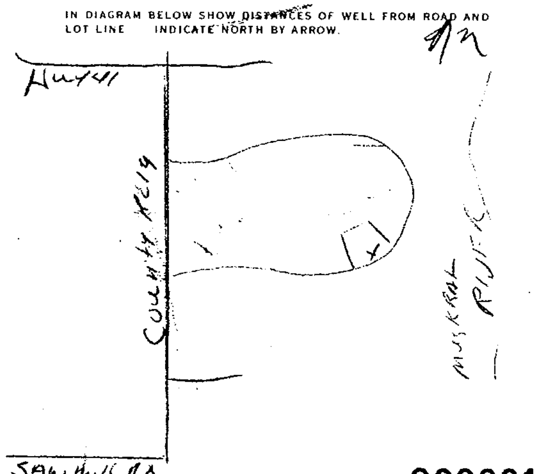
1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

## METHOD OF CONSTRUCTION

1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING ☐ DIGGING ☐ OTHER

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS

098661

## CONTRACTOR

| NAME OF WELL CONTRACTOR | WELL CONTRACTOR'S LICENCE NUMBER |
|---|---|
| W F MacKinnon Ltd | 3564 |

ADDRESS: RR 7 PEMBROKE

| NAME OF WELL TECHNICIAN | WELL TECHNICIAN'S LICENCE NUMBER |
|---|---|
| S. Munro & K MacKinnon | T0574 |

| SIGNATURE OF TECHNICIAN/CONTRACTOR | SUBMISSION DATE |
|---|---|
| (signature) | DAY 25 MO. 3 YR. 91 |

## OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3564 | DATE RECEIVED APR 02 1991
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

MA

UTM 18 Z 336205 E
Co 15 R 5017365 9 N

Elev 5 R 0415
Basin 25

The Ontario Water Resources Commission Act

# WATER WELL RECORD

55 No 1447

WATER RESOURCES DIVISION
DEC 23 1964
ONTARIO WATER RESOURCES COMMISSION

County or District RENFREW Township, Village, Town or City Pembroke

Con. 1 Lot 11 Date completed 30 (day) Oct (month) 1964 (year)

Owner [redacted] (print in block letters) Address Pembroke 384 Isaballa ST.

| Casing and Screen Record | | Pumping Test | |
|---|---|---|---|
| Inside diameter of casing | 6 in. | Static level | 12' |
| Total length of casing | 15 | Test-pumping rate | 5 G.P.M. |
| Type of screen | – | Pumping level | 20 |
| Length of screen | – | Duration of test pumping | 1 h |
| Depth to top of screen | – | Water clear or cloudy at end of test | cloudy |
| Diameter of finished hole | 5 1/2" | Recommended pumping rate | 5 G.P.M. |
| | | with pump setting of | 24 feet below ground surface |

| Well Log: Overburden and Bedrock Record | From ft. | To ft. | Water Record: Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| clay | 0 | 6 | 24 | fresh |
| hardpan | 6 | 10 | | |
| limestone | 10 | 25 | | |

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm cecil Munro Well Drilling

Address P. O Box 361 Pembroke Ont.

Licence Number 1257

Name of Driller or Borer Gerald Colbourne

Address Westmeath Ont.

Date Nov 17/64

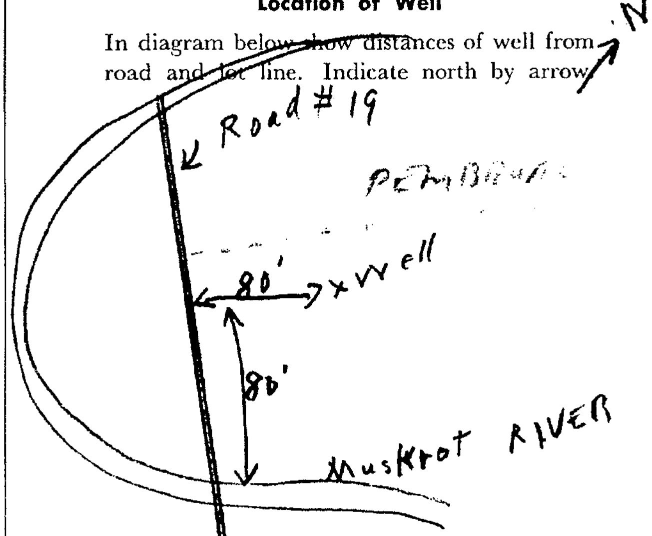
Cecil Munro
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

OWRC COPY

### Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 18 R 313210 70 E
19 R 5078210 N
Elev. 9 R 10385
Basin 25
lot 22

ONTARIO

The Water-well Drillers Act, 1954
Department of Mines

55 No 1457

GROUND WATER BRANCH
JUN 5 1957
ONTARIO WATER RESOURCES COMMISSION

# Water-Well Record

County or Territorial District Renfrew Township, Village, Town or City Pembroke
Con. 1 Lot Pt. 22 Street and Number (if in Village, Town or City) "
Owner [redacted] Address RR #6 Pembroke
Date completed 17 (day) April (month) 1957 (year)

## Pipe and Casing Record

Casing diameter(s) 5"
Length(s) 1'
Type of screen NONE
Length of screen

## Pumping Test

Static level 3'
Pumping rate 30 G.P.H.
Pumping level 10'
Duration of test 2 Hours

## Well Log / Water Record

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | No. of feet water rises | Kind of water (fresh, salty, or sulphur) |
|---|---|---|---|---|---|
| Gray Granite | 0' | 50' | 50' | 47' | Fresh |

For what purpose(s) is the water to be used? Domestic House
Is water clear or cloudy? Clear
Is well on upland, in valley, or on hillside? upland
Drilling firm W.H. Marquardt
Address Schutt
Name of Driller W.H. Marquardt
Address Schutt
Licence Number #446

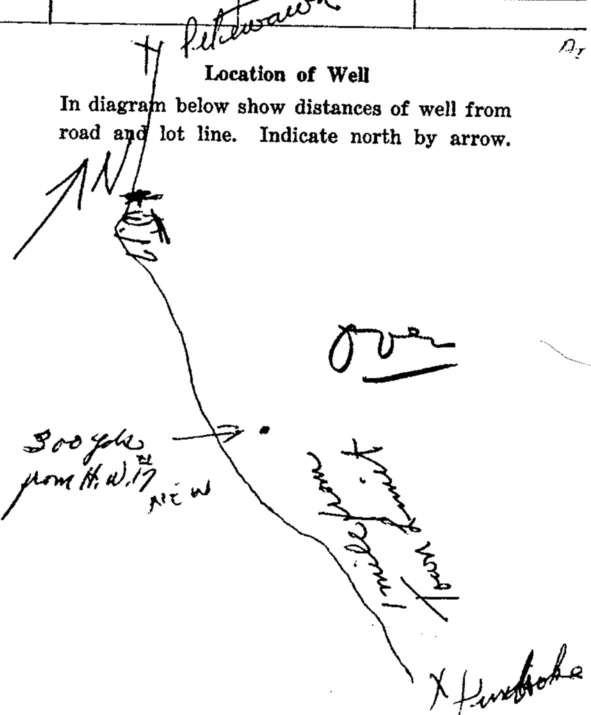
I certify that the foregoing statements of fact are true.

Date June 4/57 W.H. Marquardt
Signature of Licensee

Form 5

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 5510210 MUNICIP. 55024 CON. CON 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | PEMBROKE | 1 L29 PLAN 561 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | PINECREST DR | DAY 22 MO 8 YR 90 |

21 ZONE / EASTING / NORTHING / RC / ELEVATION / RC / BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|---|
| GREY | CLAY | | DENSE | 0 | 15 |
| GREY | LIMESTONE | | SHALE | 15 | 35 |
| BLACK | GRANITE | | HARD | 35 | 165 |

31

32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 135 | ☒ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS |
| 150 | ☒ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS |
| | ☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS |
| | ☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS |
| | ☐ FRESH ☐ SALTY ☐ SULPHUR ☐ MINERALS ☐ GAS |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|
| 6 1/4 | ☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC | .188 | 0 | 37 |
| 5 7/8 | ☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE ☐ PLASTIC | | 37 | 165 |
| | ☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE ☐ PLASTIC | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER | LENGTH |
|---|---|---|
| | INCHES | FEET |

| MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN |
|---|---|
| | FEET |

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 30 | BENZENIC |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| ☐ PUMP ☐ BAILER | 10+ GPM | 1 HOURS MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| FEET | 160 FEET | 160 FEET | 160 FEET | 160 FEET | 160 FEET |

WATER LEVELS DURING: ☒ PUMPING ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM

PUMP INTAKE SET AT: FEET

WATER AT END OF TEST: ☒ CLEAR ☐ CLOUDY

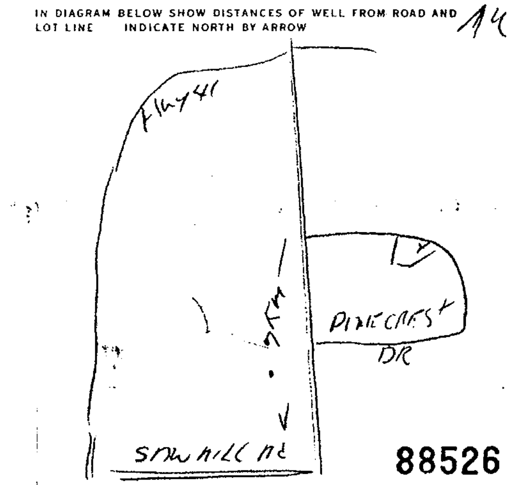
RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP

RECOMMENDED PUMP SETTING: 150 FEET

RECOMMENDED PUMPING RATE: 5 GPM

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW




88526

DRILLERS REMARKS:

## FINAL STATUS OF WELL

☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED ☐ DEWATERING

## WATER USE

☒ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

## METHOD OF CONSTRUCTION

☐ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☒ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING ☐ DIGGING ☐ OTHER

## CONTRACTOR

NAME OF WELL CONTRACTOR: W F MacKinnon Ltd — WELL CONTRACTOR'S LICENCE NUMBER: 3564

ADDRESS: RR 7 PEMBROKE

NAME OF WELL TECHNICIAN: S. Munro & R MacKinnon — WELL TECHNICIAN'S LICENCE NUMBER: T0074

SIGNATURE OF TECHNICIAN/CONTRACTOR — SUBMISSION DATE: DAY 3 MO 9 YR 90

## OFFICE USE ONLY

DATA SOURCE — CONTRACTOR 3564 — DATE RECEIVED SEP 12 1990

DATE OF INSPECTION — INSPECTOR

REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5510143 | MUNICIP 55024 | CON. CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT 25-27 |
|---|---|---|---|
| Renfrew | Pembroke | 1 Plan 564 L3 | |

| OWNER (SURNAME FIRST) 28-47 | ADDRESS | DATE COMPLETED 48-53 |
|---|---|---|
| [redacted] | (crossed out) | DAY 31 MO 7 YR 90 90 |

21 | ZONE | EASTING | NORTHING | RC | ELEVATION | RC | BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| Brown | Fill | | Packed | 0 | 10 |
| Grey | Clay | | Grey | 10 | 105 |
| Grey | Lime | | Shale | 105 | 118 |
| Grey | Limestone | | Hard | 118 | 135 |
| Red | Limestone | | Hard | 135 | 140 |
| Red | Granite | | Hard | 140 | 150 |

31
32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 140 | 1 ☑ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERALS 6 ☐ GAS |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 6 1/4 | 1 ☑ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | .188 | 0 | 118 |
| 6 1/8 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☑ OPEN HOLE 5 ☐ PLASTIC | | 118 | 150 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE 5 ☐ PLASTIC | | | |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET
MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 20 | Benseal |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 1 ☐ PUMP 2 ☑ BAILER | 20 GPM | 1 HOURS 30 MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 12 FEET | 50 FEET | 50 FEET | 50 FEET | 50 FEET | 50 FEET |

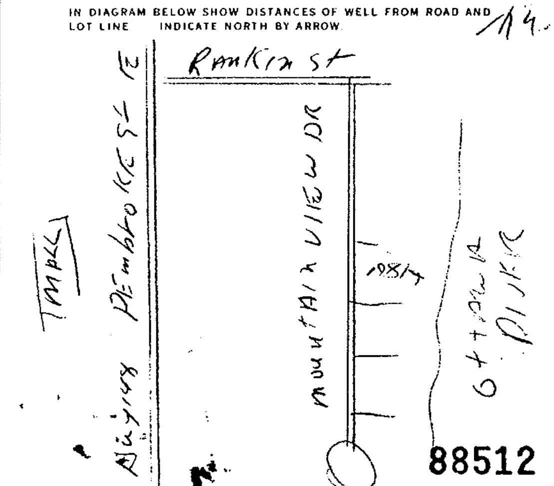
WATER LEVELS DURING: 1 ☐ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☑ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☑ DEEP | RECOMMENDED PUMP SETTING: 140 FEET | RECOMMENDED PUMPING RATE: 12 GPM

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




88512

DRILLERS REMARKS

## FINAL STATUS OF WELL

1 ☑ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☐ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED
☐ DEWATERING

## WATER USE

1 ☑ DOMESTIC
2 ☐ STOCK
3 ☐ IRRIGATION
4 ☐ INDUSTRIAL
☐ OTHER
5 ☐ COMMERCIAL
6 ☐ MUNICIPAL
7 ☐ PUBLIC SUPPLY
8 ☐ COOLING OR AIR CONDITIONING
9 ☐ NOT USED

## METHOD OF CONSTRUCTION

1 ☑ CABLE TOOL
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☐ ROTARY (AIR)
5 ☐ AIR PERCUSSION
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING
☐ DIGGING
☐ OTHER

## CONTRACTOR

| NAME OF WELL CONTRACTOR | WELL CONTRACTOR'S LICENCE NUMBER |
|---|---|
| W.F. MacKinnon Ltd | 3564 |

ADDRESS: RR 1 Pembroke

| NAME OF WELL TECHNICIAN | WELL TECHNICIAN'S LICENCE NUMBER |
|---|---|
| T. OConnell | 70600 |

SIGNATURE OF TECHNICIAN/CONTRACTOR: (signature) | SUBMISSION DATE: DAY 8 MO. 8 YR. 90

## OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3564 | DATE RECEIVED AUG 21 1990
DATE OF INSPECTION | INSPECTOR
REMARKS

MINISTRY OF THE ENVIRONMENT COPY

FORM NO. 0506 (11/86) FORM 9

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5509634 | MUNICIP 55024 | CON.

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | PEMBROKE | L9 Plan 521 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | Ridge Rd | DAY 4 MO 7 YR 89 |

21 ZONE / EASTING / NORTHING / RC / ELEVATION / RC / BASIN CODE

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| GREY | Clay | | DENSE | 0 | 31 |
| GREY | hardpan | LAYERS OF SAND | HARD PACKED | 31 | 117 |
| GREY | LIMESTONE | | hard | 117 | 133 |

31

32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 122 | 1 ☒ FRESH |
| 131 | 1 ☒ FRESH |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 6 1/4 | 1 ☒ STEEL | .188 | 0 | 118 |
| 5 7/8 | 4 ☒ OPEN HOLE | | 118 | 133 |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET | MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| 6 | 30 | BENZENE |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 2 ☒ BAILER | 12 GPM | 1 HOURS 30 MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|---|
| 12 | 120 | 1 ☒ PUMPING | 71 | 98 | 117 | 120 |

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 120 FEET | RECOMMENDED PUMPING RATE 7 GPM

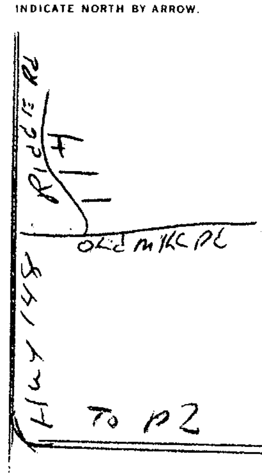
**FINAL STATUS OF WELL**: 1 ☒ WATER SUPPLY; 2 ☐ OBSERVATION WELL; 3 ☐ TEST HOLE; 4 ☐ RECHARGE WELL; 5 ☐ ABANDONED, INSUFFICIENT SUPPLY; 6 ☐ ABANDONED POOR QUALITY; 7 ☐ UNFINISHED; ☐ DEWATERING

**WATER USE**: 1 ☒ DOMESTIC; 2 ☐ STOCK; 3 ☐ IRRIGATION; 4 ☐ INDUSTRIAL; ☐ OTHER; 5 ☐ COMMERCIAL; 6 ☐ MUNICIPAL; 7 ☐ PUBLIC SUPPLY; 8 ☐ COOLING OR AIR CONDITIONING; 9 ☐ NOT USED

**METHOD OF CONSTRUCTION**: 1 ☒ CABLE TOOL; 2 ☐ ROTARY (CONVENTIONAL); 3 ☐ ROTARY (REVERSE); 4 ☐ ROTARY (AIR); 5 ☐ AIR PERCUSSION; 6 ☐ BORING; 7 ☐ DIAMOND; 8 ☐ JETTING; 9 ☐ DRIVING; ☐ DIGGING; ☐ OTHER

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




64827

DRILLERS REMARKS

## CONTRACTOR

NAME OF WELL CONTRACTOR: W F McKimmon Ltd | WELL CONTRACTOR'S LICENCE NUMBER: 3564

ADDRESS: RR 7 PEMBROKE

NAME OF WELL TECHNICIAN: JAN YPMA | WELL TECHNICIAN'S LICENCE NUMBER: T0075

SIGNATURE OF TECHNICIAN/CONTRACTOR | SUBMISSION DATE DAY 6 MO 9 YR 89

## OFFICE USE ONLY

DATA SOURCE | CONTRACTOR 3564 | DATE RECEIVED SEP 12 1989

DATE OF INSPECTION | INSPECTOR

REMARKS

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FORM NO. 0506 (11/86) FORM 9

31F14a

Ministry of the Environment
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11) 5506936 MUNICIP. 55034 CON. CON 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | STAFFORD | 1 | 029 |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | [redacted] | DAY 13 MO 09 YR 82 |

(21) ZONE 18 EASTING 335299 NORTHING 5074299 RC 4 ELEVATION 0440 RC 4 BASIN CODE 26

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|---|
| GREY | CLAY | | DENSE | 0 | 15 |
| GREY | hardpan | Boulders | hard | 15 | 53 |
| GREY | Limestone | | hard | 53 | 70 |

(31) 0015 20566 | 0053 21413 73 | 0070 21573

32

## (41) WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 0057 | 1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |

## (51) CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | DEPTH - FEET TO |
|---|---|---|---|---|
| 06 1/4 | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | .188 | 0 | 0054 |
| 06 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE | | 54 | 0070 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | | | |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## (61) PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| | | |
| | | |
| | | |

## (71) PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 1 ☐ PUMP 2 ☒ BAILER | 0010 GPM | 02 HOURS 30 MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 021 FEET | 055 FEET | 055 FEET | 055 FEET | 055 FEET | 055 FEET |

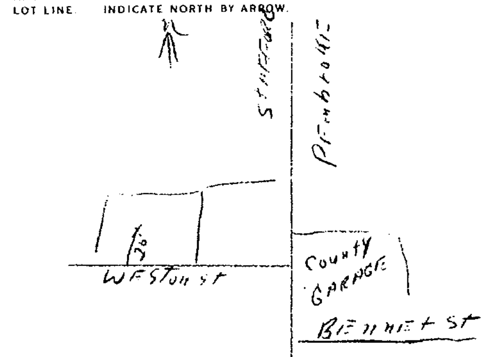
WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☐ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING 065 FEET | RECOMMENDED PUMPING RATE 0006 GPM

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS

**FINAL STATUS OF WELL** 1: 1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

**WATER USE** 01: 1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

**METHOD OF DRILLING** 1: 1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

## CONTRACTOR

NAME OF WELL CONTRACTOR: W.F McKinnon Ltd — LICENCE NUMBER 3564

ADDRESS: RR 7 pembroke

NAME OF DRILLER OR BORER: W. McKinnon — LICENCE NUMBER 3564

SIGNATURE OF CONTRACTOR: [signature] — SUBMISSION DATE DAY 18 MO 11 YR 82

## OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3564 | DATE RECEIVED 23 11 82

DATE OF INSPECTION | INSPECTOR

REMARKS

FORM NO. 0506—4—77 FORM 7

MINISTRY OF THE ENVIRONMENT COPY

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

# WATER WELL RECORD

Ontario

31 F/14 E

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5504004 | MUNICIP 55034 | CON. CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT 25-27 |
|---|---|---|---|
| RENFREW | STAFFORD | 1 | 027 |

OWNER (SURNAME FIRST) 28-47: [redacted] ADDRESS: [redacted] DATE COMPLETED 48-53: DAY 12 MO 01 YR 76

21 | UTM 18 | EASTING 335650 | NORTHING 5073950 | RC 5 | ELEVATION 0405 | 5 | BASIN CODE 26

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| | | | PREVIOUSLY DRILLED | | 68 |
| GREY | LIMESTONE | | SHALLY | 68 | 148 |
| GREY | GRANITE | | HARD | 148 | 212 |

31 | 0068 24 | 0148 15 82 | 0212 22 73
32 |

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 0175 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 06 | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | 188 | 0 | 0068 |
| 05 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE | | 68 | 0212 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | | | |

## SCREEN

| SIZE OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| | | |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 1 ☐ PUMP 2 ☒ BAILER | 0001 ½ GPM | 02 HOURS 00 MINS |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 050 FEET | 200 FEET | 070 | 135 | 135 | 212 FEET |

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING, GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☒ DEEP | RECOMMENDED PUMP SETTING: 120 FEET | RECOMMENDED PUMPING RATE: 0001 ½ GPM

GPM./FT. SPECIFIC CAPACITY

## FINAL STATUS OF WELL: 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

## WATER USE: 02

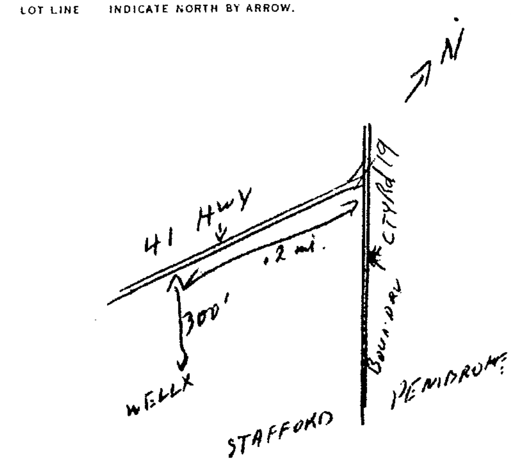
1 ☐ DOMESTIC 2 ☒ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

## METHOD OF DRILLING: 1

1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS

## CONTRACTOR

NAME OF WELL CONTRACTOR: CECIL MUNRO | LICENCE NUMBER: 3706
ADDRESS: PEMBROKE RR#7
NAME OF DRILLER OR BORER: SAME | LICENCE NUMBER:
SIGNATURE OF CONTRACTOR: Cecil Munro | SUBMISSION DATE: DAY 15 MO. 1 YR. 76

## OFFICE USE ONLY

DATA SOURCE: 1 | CONTRACTOR: 3706 | DATE RECEIVED: 300176
DATE OF INSPECTION: June 26/77 | INSPECTOR: TS
REMARKS:
P
WI

MINISTRY OF THE ENVIRONMENT COPY

FORM 7 MOE 07-091

The Ontario Water Resources Commission Act

# WATER WELL RECORD

31 F / 14 E

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5502461 | MUNICIP 55034 | CON CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON, BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | STAFFord | 7 | 029 |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | [redacted] | DAY 23 MO. 07 YR. 70 |

21 | ZONE 18 | EASTING 335090 | NORTHING 5074540 | RC 4 | ELEVATION 0430 | RC 5 | BASIN CODE 25

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH – FEET FROM | DEPTH – FEET TO |
|---|---|---|---|---|---|
| GREY | CLAY | BOULDERS | PACKED | 0 | 28 |
| GREY | hardPAN | BOULDERS | hard | 28 | 57 |
| GREY | LIMESTONE | | hard | 57 | 86 |
| RED | DOLOMITE | | hard | 86 | 92 |
| GREY | DOLOMITE | | hard | 92 | 96 |

31 | 0028205113 | 0057141413 | 0086215 | 0092716 | 0096214

32

## 41 WATER RECORD

| WATER FOUND AT – FEET | KIND OF WATER |
|---|---|
| 0063 | 1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| 0095 | 1 ☒ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |
| | 1 ☐ FRESH 2 ☐ SALTY 3 ☐ SULPHUR 4 ☐ MINERAL |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM. INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH – FEET FROM | DEPTH – FEET TO |
|---|---|---|---|---|
| 06" | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | .188 | 0 | 0060 |
| 06" | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE | | 60 | 0096 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

| MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET |
|---|---|
| | |

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT – FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| | | |
| | | |
| | | |

## 71 PUMPING TEST

| PUMPING TEST METHOD | PUMPING RATE | DURATION OF PUMPING |
|---|---|---|
| 1 ☐ PUMP 2 ☒ BAILER | 0010 GPM. | 01 HOURS 15 MINS. |

| STATIC LEVEL | WATER LEVEL END OF PUMPING | WATER LEVELS DURING (1 ☒ PUMPING 2 ☐ RECOVERY) 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 021 FEET | 060 FEET | 039 | 052 | 060 | 060 FEET |

| IF FLOWING, GIVE RATE | PUMP INTAKE SET AT | WATER AT END OF TEST |
|---|---|---|
| GPM. | 80 FEET | 1 ☐ CLEAR 2 ☒ CLOUDY |

| RECOMMENDED PUMP TYPE | RECOMMENDED PUMP SETTING | RECOMMENDED PUMPING RATE |
|---|---|---|
| ☐ SHALLOW ☒ DEEP | 080 FEET | 0005 GPM. |

000.2 GPM./FT. SPECIFIC CAPACITY

## FINAL STATUS OF WELL

1 ☒ WATER SUPPLY
2 ☐ OBSERVATION WELL
3 ☐ TEST HOLE
4 ☐ RECHARGE WELL
5 ☐ ABANDONED, INSUFFICIENT SUPPLY
6 ☐ ABANDONED, POOR QUALITY
7 ☐ UNFINISHED

## WATER USE 01

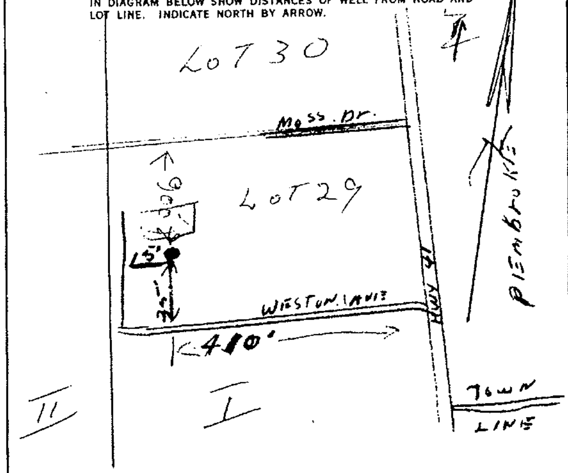
1 ☒ DOMESTIC
2 ☐ STOCK
3 ☐ IRRIGATION
4 ☐ INDUSTRIAL
☐ OTHER
5 ☐ COMMERCIAL
6 ☐ MUNICIPAL
7 ☐ PUBLIC SUPPLY
8 ☐ COOLING OR AIR CONDITIONING
9 ☐ NOT USED

## METHOD OF DRILLING

1 ☒ CABLE TOOL
2 ☐ ROTARY (CONVENTIONAL)
3 ☐ ROTARY (REVERSE)
4 ☐ ROTARY (AIR)
5 ☐ AIR PERCUSSION
6 ☐ BORING
7 ☐ DIAMOND
8 ☐ JETTING
9 ☐ DRIVING

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS:

## CONTRACTOR

| NAME OF WELL CONTRACTOR | LICENCE NUMBER |
|---|---|
| W.F. MACKINNON | 3564 |

ADDRESS: 349 Christie St. Pembroke

| NAME OF DRILLER OR BORER | LICENCE NUMBER |
|---|---|
| W.F. MacKINNON | 3564 |

| SIGNATURE OF CONTRACTOR | SUBMISSION DATE |
|---|---|
| W. F. McKinnon | DAY 28 MO. 8 YR. 70 |

## OFFICE USE ONLY

| DATA SOURCE | CONTRACTOR | DATE RECEIVED |
|---|---|---|
| 1 | 3564 | 280870 |

| DATE OF INSPECTION | INSPECTOR |
|---|---|
| MAY, 6/71 | P/J.B |

REMARKS: S.C./J.B.

OWRC COPY

UTM 18 Z 335170 E
[illegible] R 5073370 N
Elev 5 R 0840

GROUND WATER BRANCH
55 No. 1861
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act

# WATER WELL RECORD

Basin 251
County or District RENFREW Township, Village, Town or City STAFFORD
Con. 1 Lot 29 Date completed 26 (day) SEPT (month) 1962 (year)
Owner [redacted] (print in block letters) Address [redacted]

## Casing and Screen Record

Inside diameter of casing 6 in.
Total length of casing 57'
Type of screen no
Length of screen no
Depth to top of screen no.
Diameter of finished hole 5¾'

## Pumping Test

Static level 35'
Test-pumping rate 1½ G.P.M.
Pumping level 80'
Duration of test pumping 1 hr
Water clear or cloudy at end of test clear
Recommended pumping rate 1 G.P.M.
with pump setting of 80' feet below ground surface

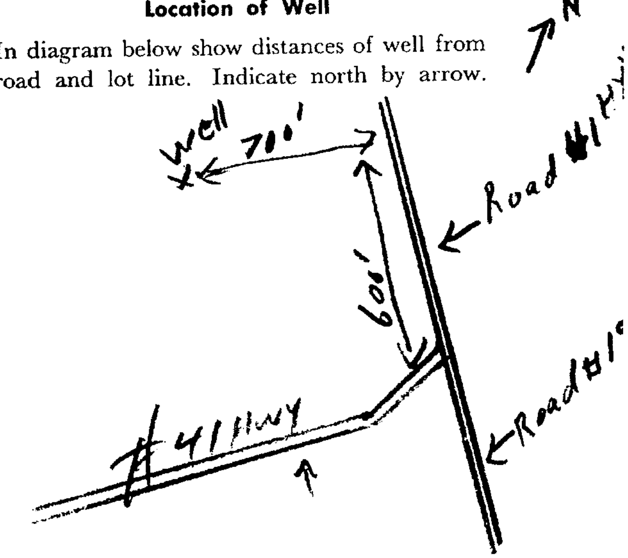
## Well Log / Water Record

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| clay | 0 | 22 | 65 | fresh |
| hardpan and boulders | 22 | 55 | 78 | |
| brown limestone | 55 | 82 | | |

For what purpose(s) is the water to be used? home
Is well on upland, in valley, or on hillside? upland
Drilling or Boring Firm Cecil Munro Well Drilling
Address P.O. Box 361 Pembroke Ont
Licence Number 278
Name of Driller or Borer Cecil Munro
Address P.O. Box 361 Pembroke Ont
Date Sept 26 - 1962
Cecil Munro
(Signature of Licensed Drilling or Boring Contractor)

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.




Form 7 5M-61-3852

OWRC COPY

UTM 18 Z 335140 E
5 R 5074600 N
Elev. 5 R 0465
Basin 25

55 No. 1820

GROUND WATER BRANCH
FEB 1 1960
RESOURCES COMMISSION

The Ontario Water Resources Commission Act, 1957

# WATER WELL RECORD

County or District Renfrew Township, Village, Town or City Stafford
Con. 1 Lot PT 29 Date completed 29 (day) Sept (month) 1959 (year)
Owner [redacted] (print in block letters) Address PEMBROKE

| Casing and Screen Record | |
|---|---|
| Inside diameter of casing | 4" |
| Total length of casing | 38' |
| Type of screen | |
| Length of screen | |
| Depth to top of screen | |
| Diameter of finished hole | 4" |

| Pumping Test | |
|---|---|
| Static level | 20' |
| Test-pumping rate | 6 gal G.P.M. |
| Pumping level | 90' |
| Duration of test pumping | 2 Hours |
| Water clear or cloudy at end of test | Clear |
| Recommended pumping rate | 5 gal G.P.M. |
| with pumping level of | 70' |

**Well Log** / **Water Record**

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | No. of feet water rises | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|---|
| Set over Old Well | 0 | 22' | | | |
| Hard Pan | 22' | 60' | | | |
| Granite | 60' | 128' | 127' | 107' | Fresh |

For what purpose(s) is the water to be used? Domestic House

Is well on upland, in valley, or on hillside? upland

Drilling Firm D. Marquardt & Sons

Address [illegible]

Licence Number #39

Name of Driller Earl Marquardt

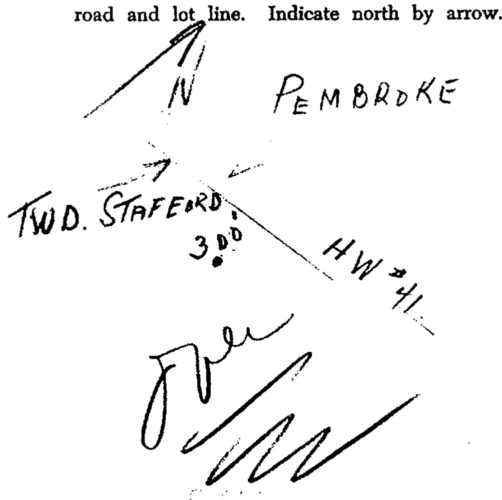
Address [illegible]

Date Sept 24/59

D. Marquardt
(Signature of Licensed Drilling Contractor)

**Location of Well**

In diagram below show distances of well from road and lot line. Indicate north by arrow.



MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

# WATER WELL RECORD

Ontario

31F/14E

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5503605 | MUNICIP 55 | CON.

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| Renfrew | Pembroke (city) | 1 | |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | 526 Herbert St Pembroke | DAY 13 MO. 12 YR. 74 |

| | ZONE | EASTING | NORTHING | RC. | ELEVATION | RC. | BASIN CODE | | |
|---|---|---|---|---|---|---|---|---|---|
| 21 5503605 | 18 | 335633 | 5074868 | 4 | 410 | 5 | 25 | AUG 16, 1976 | 20 |

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| Grey | Clay | | Dense | 0 | 31 |
| Grey | hardpan | Gravel + boulders | hard | 31 | 40 |
| Grey | Limestone | | Shale | 40 | 42 |
| Grey | Limestone | | hard | 42 | 50 |

MINISTRY OF THE ENVIRONMENT
AUG 5 1975
PEMBROKE

31 | 0031205 | 0040214113 | 0042215 17 | 0050215
32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 0047 | 1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |
| | 1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 06 6¼ | 1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | .188 | 0 | 0042 |
| 06 | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☒ OPEN HOLE | | | 0050 |
| | 1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

| MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET |
|---|---|
| | |

## 61 PLUGGING & SEALING RECORD

| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| | | |
| | | |
| | | |

## 71 PUMPING TEST

PUMPING TEST METHOD: 1 ☐ PUMP 2 ☒ BAILER | PUMPING RATE 0012 GPM | DURATION OF PUMPING 01 HOURS 00 MINS

| STATIC LEVEL | WATER LEVEL END OF PUMPING | 15 MINUTES | 30 MINUTES | 45 MINUTES | 60 MINUTES |
|---|---|---|---|---|---|
| 020 FEET | 036 FEET | 036 FEET | 036 FEET | 036 FEET | 036 FEET |

WATER LEVELS DURING: 1 ☒ PUMPING 2 ☐ RECOVERY

IF FLOWING GIVE RATE: GPM | PUMP INTAKE SET AT: FEET | WATER AT END OF TEST: 1 ☒ CLEAR 2 ☐ CLOUDY

RECOMMENDED PUMP TYPE: ☐ SHALLOW ☐ DEEP | RECOMMENDED PUMP SETTING: FEET | RECOMMENDED PUMPING RATE 0008 GPM

0008 GPM./FT. SPECIFIC CAPACITY

## FINAL STATUS OF WELL: 1

1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL 5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED

## WATER USE: 1 2

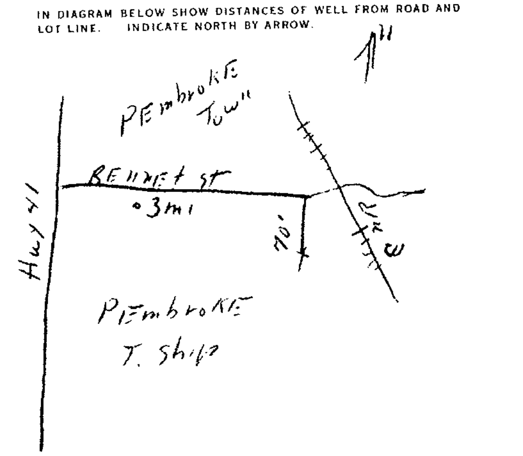
1 ☒ DOMESTIC 2 ☒ STOCK 3 ☒ IRRIGATION 4 ☐ INDUSTRIAL ☐ OTHER 5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED

## METHOD OF DRILLING: 1

1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION 6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

## LOCATION OF WELL 3574

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS:

## CONTRACTOR

| NAME OF WELL CONTRACTOR | LICENCE NUMBER |
|---|---|
| ... Kinnon Ltd | 3564 |
| ADDRESS: RR1 Pembroke | |
| NAME OF DRILLER OR BORER | LICENCE NUMBER |
| ... | 3564 |
| SIGNATURE OF CONTRACTOR | SUBMISSION DATE DAY 3 MO. 4 YR. 75 |

## OFFICE USE ONLY

| DATA SOURCE | CONTRACTOR | DATE RECEIVED |
|---|---|---|
| 1 | 3564 | 080475 |
| DATE OF INSPECTION | INSPECTOR | |
| REMARKS: | | P A.P. |
| | | WI |

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT COPY

MINISTRY OF THE ENVIRONMENT
The Ontario Water Resources Act

# WATER WELL RECORD

Ontario

31 F/14E

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5503491 | MUNICIP. 55034 | CON. CON | 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT |
|---|---|---|---|
| RENFREW | STAFFORD | 1 | 027 |

| OWNER (SURNAME FIRST) | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | RR3 PEMBROKE | DAY 12 MO. 07 YR. 74 |

| | ZONE | EASTING | NORTHING | RC. | ELEVATION | RC. | BASIN CODE | | |
|---|---|---|---|---|---|---|---|---|---|
| 2 1 5503491 | 18 | 335934 | 5073732 | 4 | 400 | 5 | 25 | AUG 16, 1976 | 20 |

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH - FEET FROM | TO |
|---|---|---|---|---|---|
| GREY | CLAY | | DENSE | 0 | 19 |
| BLUE | CLAY | Boulders | DENSE | 19 | 27 |
| GREY | LIMESTONE | | SHALE | 27 | 28 |
| GREY | LIMESTONE | | HARD | 28 | 42 |

31 | 0019205 | 0027305 13 | 0028 21517 | 00422 15
32

## 41 WATER RECORD

| WATER FOUND AT - FEET | KIND OF WATER |
|---|---|
| 0030 | ☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL |
| 0041 | ☒ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL |
| | ☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL |
| | ☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL |
| | ☐ FRESH ☐ SULPHUR ☐ SALTY ☐ MINERAL |

## 51 CASING & OPEN HOLE RECORD

| INSIDE DIAM INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH - FEET FROM | TO |
|---|---|---|---|---|
| 06 | ☒ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE | .188 | 0 | 0028 |
| 06 | ☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☒ OPEN HOLE | | 28 | 0042 |
| | ☐ STEEL ☐ GALVANIZED ☐ CONCRETE ☐ OPEN HOLE | | | |

## SCREEN

| SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET |
|---|---|---|
| | | |

MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## 61 PLUGGING & SEALING RECORD

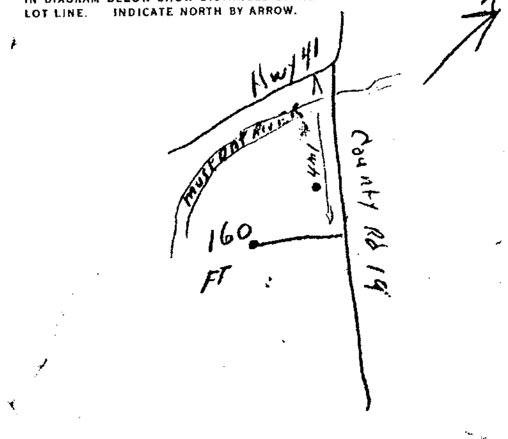
| DEPTH SET AT - FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER, ETC.) |
|---|---|---|
| | | |
| | | |
| | | |

## 71 PUMPING TEST

| | |
|---|---|
| PUMPING TEST METHOD | ☐ PUMP ☒ BAILER |
| PUMPING RATE | 0015 GPM |
| DURATION OF PUMPING | 01 HOURS 00 MINS |
| STATIC LEVEL | 020 FEET |
| WATER LEVEL END OF PUMPING | 022 FEET |
| WATER LEVELS DURING | ☒ PUMPING ☐ RECOVERY |
| 15 MINUTES | 022 FEET |
| 30 MINUTES | 022 FEET |
| 45 MINUTES | 022 FEET |
| 60 MINUTES | 022 FEET |
| IF FLOWING GIVE RATE | GPM |
| PUMP INTAKE SET AT | FEET |
| WATER AT END OF TEST | ☐ CLEAR ☒ CLOUDY |
| RECOMMENDED PUMP TYPE | ☐ SHALLOW ☒ DEEP |
| RECOMMENDED PUMP SETTING | 035 FEET |
| RECOMMENDED PUMPING RATE | 0006 GPM |
| GPM./FT. SPECIFIC CAPACITY | 0007.5 |

## LOCATION OF WELL 3573

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS:

**FINAL STATUS OF WELL** 1
☒ WATER SUPPLY ☐ OBSERVATION WELL ☐ TEST HOLE ☐ RECHARGE WELL ☐ ABANDONED, INSUFFICIENT SUPPLY ☐ ABANDONED, POOR QUALITY ☐ UNFINISHED

**WATER USE** 01
☒ DOMESTIC ☐ STOCK ☐ IRRIGATION ☐ INDUSTRIAL ☐ OTHER ☐ COMMERCIAL ☐ MUNICIPAL ☐ PUBLIC SUPPLY ☐ COOLING OR AIR CONDITIONING ☐ NOT USED

**METHOD OF DRILLING** 1
☒ CABLE TOOL ☐ ROTARY (CONVENTIONAL) ☐ ROTARY (REVERSE) ☐ ROTARY (AIR) ☐ AIR PERCUSSION ☐ BORING ☐ DIAMOND ☐ JETTING ☐ DRIVING

## CONTRACTOR

| | |
|---|---|
| NAME OF WELL CONTRACTOR | W.F. MacKinnon Ltd |
| LICENCE NUMBER | 3564 |
| ADDRESS | RR3 Pembroke |
| NAME OF DRILLER OR BORER | W.F. MacKinnon |
| LICENCE NUMBER | 3564 |
| SIGNATURE OF CONTRACTOR | W.F. MacKinnon |
| SUBMISSION DATE | DAY 11 MO. 9 YR. 74 |

## OFFICE USE ONLY

| | |
|---|---|
| DATA SOURCE | 1 |
| CONTRACTOR | 3564 |
| DATE RECEIVED | 160974 |
| DATE OF INSPECTION | |
| INSPECTOR | KM |
| REMARKS: | P ap WI |

FORM 7 07-091

MINISTRY OF THE ENVIRONMENT COPY

31F/14e

The Ontario Water Resources Commission Act

# WATER WELL RECORD

Water management in Ontario

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

11 | 5502335 | MUNICIP 603 55024 | CON. ~~Con~~ 01

| COUNTY OR DISTRICT | TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE | CON., BLOCK, TRACT, SURVEY, ETC. | LOT 25-27 |
|---|---|---|---|
| RENFREW | PEMBROKE | + | ~~013~~ |

| OWNER (SURNAME FIRST) 28-47 | ADDRESS | DATE COMPLETED |
|---|---|---|
| [redacted] | [redacted] | DAY 24 MO. ~~Oct~~ 10 YR. 69 |

21 | ZONE 18 | EASTING 335740 | NORTHING 5074200 | RC. 4 | ELEVATION 0425 | RC. 5 | BASIN CODE 25

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

| GENERAL COLOUR | MOST COMMON MATERIAL | OTHER MATERIALS | GENERAL DESCRIPTION | DEPTH – FEET FROM | DEPTH – FEET TO |
|---|---|---|---|---|---|
| Grey | Clay | | Packed | 0 | 26 |
| Grey | Limestone | | Hard | 26 | 45 |

31 | 0026005 | 0045215

32

## WATER RECORD (41)

| WATER FOUND AT – FEET | KIND OF WATER |
|---|---|
| 0043 | 1 ☒ FRESH |
| 0045 | 1 ☒ FRESH |

## CASING & OPEN HOLE RECORD (51)

| INSIDE DIAM. INCHES | MATERIAL | WALL THICKNESS INCHES | DEPTH – FEET FROM | DEPTH – FEET TO |
|---|---|---|---|---|
| 06 | 1 ☒ STEEL | .219 | 0 | ~~28~~ 0028 |
| | 4 ☒ OPEN HOLE | | | 0045 |

## SCREEN

SIZE(S) OF OPENING (SLOT NO.) | DIAMETER INCHES | LENGTH FEET | MATERIAL AND TYPE | DEPTH TO TOP OF SCREEN FEET

## PLUGGING & SEALING RECORD (61)

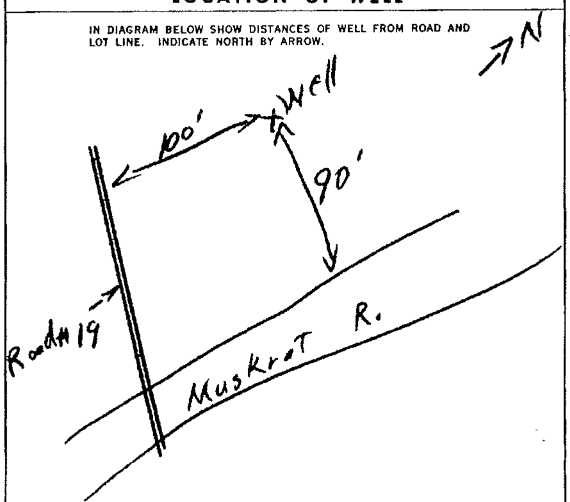
| DEPTH SET AT – FEET FROM | TO | MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.) |
|---|---|---|
| | | |

## PUMPING TEST (71)

| | |
|---|---|
| PUMPING TEST METHOD | 2 ☒ BAILER |
| PUMPING RATE | 0008 GPM. |
| DURATION OF PUMPING | 01 HOURS 00 MINS. |
| STATIC LEVEL | 021 FEET |
| WATER LEVEL END OF PUMPING | 033 FEET |
| WATER LEVELS DURING | 1 ☒ PUMPING |
| 15 MINUTES | 033 FEET |
| 30 MINUTES | 033 FEET |
| 45 MINUTES | 033 FEET |
| 60 MINUTES | 033 FEET |
| WATER AT END OF TEST | ☒ CLEAR |
| RECOMMENDED PUMP TYPE | ☒ DEEP |
| RECOMMENDED PUMP SETTING | 042 FEET |
| RECOMMENDED PUMPING RATE | 0005 GPM. |
| SPECIFIC CAPACITY | 000.7 GPM./FT. |

## LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.




DRILLERS REMARKS:

**FINAL STATUS OF WELL**: 1 ☒ WATER SUPPLY

**WATER USE** 01: 1 ☒ DOMESTIC

**METHOD OF DRILLING**: 1 ☒ CABLE TOOL

## CONTRACTOR

NAME OF WELL CONTRACTOR: CECIL MUNRO — LICENCE NUMBER: 3312

ADDRESS: PO Box 361 Pembroke

NAME OF DRILLER OR BORER: Cecil Munro

SIGNATURE OF CONTRACTOR: Cecil Munro — SUBMISSION DATE: DAY 24 MO. Oct. YR. 69

## OFFICE USE ONLY

DATA SOURCE 1 | CONTRACTOR 3706 | DATE RECEIVED 101269

DATE OF INSPECTION | INSPECTOR

REMARKS: J.B.

OWRC COPY

1 8 2 3 3 5 8 0 0 E
5 R 5 0 7 3 9 4 0 N
Elev. 5 R 60

The Ontario Water Resources Commission Act

# WATER WELL RECORD

GROUND WATER BRANCH
55 № 1818
SEP 4 1963
ONTARIO WATER RESOURCES COMMISSION

Basin 25
County or District ..........
Township, Village, Town or City ..........
Con. 1 .......... Lot 27 ..........
Date completed .......... (day month year)

Owner [redacted] (print in block letters)
Address [redacted]

## Casing and Screen Record

Inside diameter of casing ..........
Total length of casing ..........
Type of screen ..........
Length of screen ..........
Depth to top of screen ..........
Diameter of finished hole ..........

## Pumping Test

Static level 15
Test-pumping rate .......... G.P.M.
Pumping level ..........
Duration of test pumping ..........
Water clear or cloudy at end of test ..........
Recommended pumping rate .......... G.P.M.
with pump setting of .......... feet below ground surface

## Well Log

| Overburden and Bedrock Record | From ft. | To ft. | Water Record: Depth(s) at which water(s) found | Water Record: Kind of water (fresh, salty, sulphur) |
| --- | --- | --- | --- | --- |
| [illegible] | 0 | 15 | 45 | [illegible] |
| [illegible] | 15 | 22 | | |
| [illegible] | 22 | 52 | | |

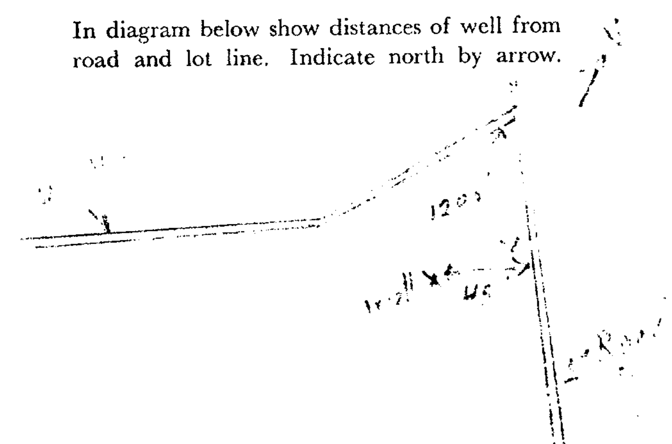
For what purpose(s) is the water to be used? ..........
Is well on upland, in valley, or on hillside? ..........
Drilling or Boring Firm ..........
Address ..........
Licence Number ..........
Name of Driller or Borer ..........
Address ..........
Date ..........
.......... (Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

**OWRC COPY**

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



DEED SHOWS LOT 28

UTM 18 | 3 3 5 6 2 5 E
15 | 5 0 7 4 5 2 5 N

Elev. 5 | R | 0 4 / 0

Basin 2 5 | 1

55 No 1537

GROUND WATER BRANCH
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act

# WATER WELL RECORD

County or District RENFREW ........ Township, Village, (Town) or City Pembroke

Con. Town Pembroke Lot — ........ Date completed 23 (day) April (month) 1963 (year)

Owner [redacted] (print in block letters) ........ Address [redacted] Pembroke

| Casing and Screen Record | |
|---|---|
| Inside diameter of casing | 6 in. |
| Total length of casing | 28' |
| Type of screen | - |
| Length of screen | - |
| Depth to top of screen | - |
| Diameter of finished hole | 6 in. |

| Pumping Test | |
|---|---|
| Static level | 20 |
| Test-pumping rate | 5 G.P.M. |
| Pumping level | 30' |
| Duration of test pumping | 1 hr. |
| Water clear or cloudy at end of test | clear |
| Recommended pumping rate | 5 G.P.M. |
| with pump setting of | 34 feet below ground surface |

| Well Log: Overburden and Bedrock Record | From ft. | To ft. | Water Record: Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| clay | 0 | 21 | 35 | fresh |
| hardpan boulders & | 21 | 26 | | |
| limestone | 26 | 37 | | |

For what purpose(s) is the water to be used? offici

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm Cecil Munro Well Drilling

Address P.O. Box 361 Pembroke

Licence Number 968

Name of Driller or Borer Gerald Colbourne

Address Westmeath Ont.

Date April 29-63

Cecil Munro
(Signature of Licensed Drilling or Boring Contractor)

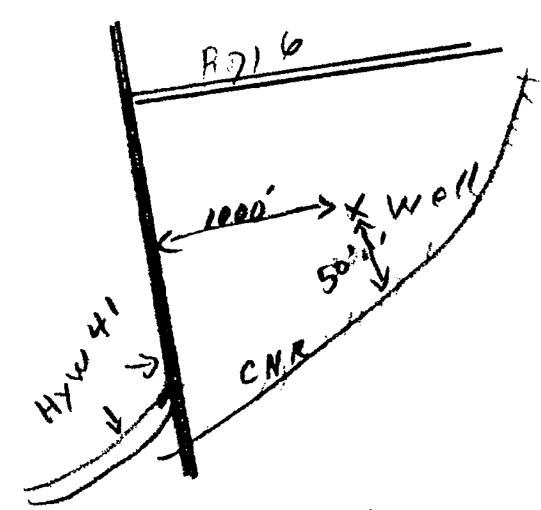
Form 7 15M-60-4138

**OWRC COPY**

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.

N



UTM 18 Z 3 3 5 8 2 0 E

5 R 5 0 1 7 3 8 6 0 N

Elev. 5 R 0 4 2 0

Basin 25

**Ontario Water Resources Commission Act**

# WATER WELL RECORD

55 No 1819

County or District Renfrew ........ Township, Village, Town or City Stafford Twp

Con. 1 ........ Lot 28 ........ Date completed 20 (day) April (month) 1966 (year)

Owner [redacted] (print in block letters) ........ Address 632 B Boundry Rd Pembroke

## Casing and Screen Record

Inside diameter of casing 5"

Total length of casing 24

Type of screen

Length of screen

Depth to top of screen

Diameter of finished hole 5"

## Pumping Test

Static level 15' feet

Test-pumping rate 3 G.P.M.

Pumping level 20 Feet

Duration of test pumping 2 hr

Water clear or cloudy at end of test Cloudy

Recommended pumping rate 3 G.P.M.

with pump setting of 30 feet below ground surface

## Well Log

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| CLAY | 0 | 21 | | |
| ~~21 feet Clay~~ limestone | 21 | 36' | 33 | fresh |

(Water Record)

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? hillside

Drilling or Boring Firm Carl Stein

Address 402 Boundry Rd Pembroke

Licence Number 2029

Name of Driller or Borer Bergfet Carr

Address Pembroke Ont

Date April 20/

Carl Stein

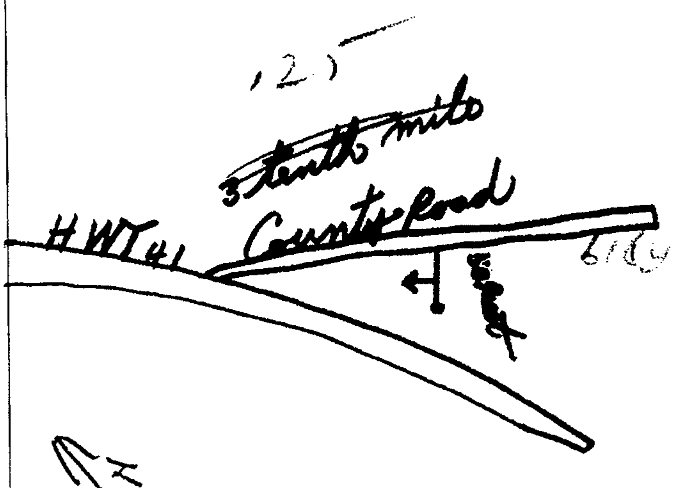
(Signature of Licensed Drilling or Boring Contractor)

Form 7 15M-60-4138

**OWRC COPY**

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 18 Z 313158 25 E
5 R 5011838 60 N
Elev 04 1044

The Ontario Water Resources Commission Act

# WATER WELL RECORD

55 No. 1817 — WATER RESOURCES NOV 6 1967 ONTARIO WATER RESOURCES COMMISSION

Basin 25
County or District RENFREW Township, Village, Town or City STAFFORD

Con. 1 Lot 27 Date completed 25 (day) OCT (month) 1967 (year)

Owner [redacted] (print in block letters) Address RR #3 Pembroke

## Casing and Screen Record

Inside diameter of casing 6 in.
Total length of casing 36'
Type of screen –
Length of screen –
Depth to top of screen –
Diameter of finished hole 6 in.

## Pumping Test

Static level 20'
Test-pumping rate 5 G.P.M.
Pumping level 25'
Duration of test pumping 1 hr.
Water clear or cloudy at end of test cloudy
Recommended pumping rate 5 G.P.M.
with pump setting of 30 feet below ground surface

## Well Log / Water Record

| Overburden and Bedrock Record | From ft. | To ft. | Depth(s) at which water(s) found | Kind of water (fresh, salty, sulphur) |
|---|---|---|---|---|
| dug well | 0 | 7 | 37 | fresh |
| clay | 7 | 34 | | |
| limestone | 34 | 41 | | |

For what purpose(s) is the water to be used? house

Is well on upland, in valley, or on hillside? upland

Drilling or Boring Firm Cecil Munro Well Drilling

Address P.O Box 361 Pembroke Ont

Licence Number 2419

Name of Driller or Borer Cecil Munro

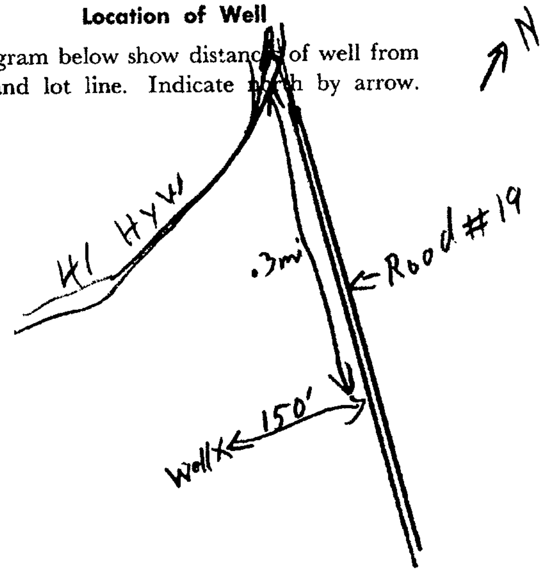
Address as above

Date Nov 1/67

Cecil Munro
(Signature of Licensed Drilling or Boring Contractor)

## Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.




Form 7 15M-60-4138

OWRC COPY

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5501535 | 425 | 337650 | 5076544 | | | PEMBROKE CITY | | | | 26-Apr-60 | 93 | 12 | 27 | 1440 | 10 STL 43; 10 O_H 50; | AC | SUP | Bedrock | r | 49 | 50 | 1 | 0 | 8 |
| 5501536 | 415 | 337525 | 5076540 | | | PEMBROKE CITY | | | | 11-Aug-60 | 5 | 25 | 25 | 60 | 5 STL 120; 5 O_H 154; | CO | SUP | Bedrock | r | 112 | 154 | 1 | 0 | 5 |
| 5501537 | 410 | 335625 | 5074525 | | | PEMBROKE CITY | | | | 23-Apr-63 | 5 | 20 | 30 | 60 | 6 STL 28; 6 O_H 37; | CO | SUP | Bedrock | r | 26 | 37 | 1 | 0 | 5 |
| 5501827 | 385 | 334307 | 5076310 | | | PEMBROKE CITY | | | | 17-Sep-64 | | | | | 6 STL 85; 6 O_H 86; | | ABS | Bedrock | r | 85 | 86 | 5 | | |
| 5502335 | 425 | 335740 | 5074200 | | | PEMBROKE CITY | | | | 24-Oct-69 | 8 | 21 | 33 | 60 | 6 STL 28; O_H 45; | DO | SUP | Bedrock | r | 26 | 45 | 1 | 0 | 1 |
| 5502364 | 370 | 334903 | 5076724 | | | PEMBROKE CITY | | | | 09-Dec-69 | 12 | 4 | 29 | 360 | | NU | ABS | Overburden | o | | 49 | 5 | 0 | 9 |
| 5502365 | 370 | 334960 | 5076656 | | | PEMBROKE CITY | | | | 09-Dec-69 | | | | | | | ABS | Bedrock | r | 48 | 66 | 5 | | |
| 5502366 | 371 | 334950 | 5076656 | | | PEMBROKE CITY | | | | 09-Dec-69 | | | | | | | ABS | Overburden | o | | 42 | 5 | | |
| 5502435 | 405 | 333000 | 5077390 | | | PEMBROKE CITY | | | | 08-May-70 | 24 | 32 | 45 | 300 | 5 STL 52; 5 STL 76; O_H 100; | AC | SUP | Bedrock | r | 74 | 100 | 1 | 0 | 8 |
| 5502446 | 390 | 332750 | 5077800 | | | PEMBROKE CITY | | | | 06-Jul-70 | 8 | 17 | 47 | 75 | 6 STL 46; O_H 71; | CO | SUP | Bedrock | r | 45 | 71 | 1 | 0 | 5 |
| 5503605 | 410 | 335633 | 5074868 | | | PEMBROKE CITY | | | | 13-Dec-74 | 12 | 20 | 36 | 60 | 6 STL 42; 6 O_H 50; | ST DO | SUP | Bedrock | r | 40 | 50 | 1 | 1 | 2 |
| 5504252 | 370 | 332750 | 5078050 | | | PEMBROKE CITY | | | | 15-Sep-76 | 20 | 8 | 90 | 60 | 6 STL 32; 6 101; | DO | SUP | Bedrock | r | 31 | 101 | 1 | 0 | 1 |
| 5504424 | 400 | 332750 | 5077750 | | | PEMBROKE CITY | | | | 11-Feb-77 | 5 | 22 | 155 | 60 | 6 GLV 38; 6 O_H 163; | DO | SUP | Bedrock | r | 37 | 163 | 1 | 0 | 1 |
| 5504492 | 455 | 336900 | 5076700 | | | PEMBROKE CITY | | | | 04-Apr-77 | 8 | 41 | 110 | 60 | 6 STL 76; 6 O_H 120; | DO | SUP | Bedrock | r | 69 | 120 | 1 | 0 | 1 |
| 5504976 | 445 | 333420 | 5075980 | | | PEMBROKE CITY | | | 33 | 12-Jan-78 | 12 | 18 | 22 | 80 | 6 STL 78; | DO | SUP | Overburden | o | | 78 | 1 | 0 | 1 |
| 5505421 | 455 | 333820 | 5074500 | | | PEMBROKE CITY | | | | 22-Nov-78 | 6 | 40 | 92 | 240 | 6 STL 93; 6 100; | DO | SUP | Bedrock | r | 93 | 100 | 1 | 0 | 1 |
| 5506999 | 370 | 338099 | 5076599 | | | PEMBROKE CITY | | | | 23-Nov-82 | 12 | 15 | 145 | 90 | 6 STL 128; 6 O_H 151; | DO | SUP | Bedrock | r | 97 | 151 | 1 | 0 | 1 |
| 5507315 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 19 | 27-Oct-83 | 20 | 5 | 50 | 60 | 6 STL 42; 6 O_H 70; | DO | SUP | Bedrock | r | 30 | 70 | 1 | | 1 |
| 5507316 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 19 | 09-Nov-83 | 12 | 6 | 105 | 90 | 6 STL 112; 6 114; | DO | SUP | Bedrock | r | 95 | 114 | 1 | | 1 |
| 5507317 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 19 | 15-Nov-83 | 12 | 10 | 80 | 60 | 6 STL 32; 6 O_H 95; | DO | SUP | Bedrock | r | 30 | 95 | 1 | | 1 |
| 5507734 | | 999999 | 9999999 | | | PEMBROKE CITY | | 1 | 3 | 09-Oct-84 | 10 | 20 | 198 | 60 | 6 STL 40; 6 O_H 203; | DO | SUP | Bedrock | r | 40 | 203 | 1 | | 1 |
| 5507735 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 11 | 01-Oct-84 | 12 | 13 | 30 | 60 | 6 STL 36; 6 O_H 72; | DO | SUP | Bedrock | r | 24 | 72 | 1 | | 1 |
| 5507736 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 18 | 24-Sep-84 | 12 | 30 | 80 | 60 | 6 STL 81; 6 123; | PS | SUP | Bedrock | r | 43 | 123 | 1 | | 7 |
| 5507737 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 11 | 06-Nov-84 | 10 | 20 | 138 | 60 | 6 STL 43; 6 146; | DO ST | SUP | Bedrock | r | 42 | 146 | 1 | 2 | 1 |
| 5507738 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 20 | 19-Nov-84 | 10 | 25 | 108 | 150 | 6 STL 73; 6 STL 114; | DO | SUP | Bedrock | r | 63 | 114 | 1 | | 1 |
| 5507739 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 21 | 27-Oct-84 | 10 | 32 | 140 | 90 | 6 STL 131; 6 154; | DO | SUP | Bedrock | r | 123 | 154 | 1 | | 1 |
| 5512922 | | 999999 | 9999999 | | | PEMBROKE CITY | | 2 | 24 | 13-Jun-97 | 8 | 20 | | 60 | 6 STL 120; 5 O_H 135; | DO | SUP | Bedrock | r | 68 | 135 | 1 | | 1 |
| 5513090 | | 999999 | 9999999 | | | PEMBROKE CITY | CON | 2 | 26 | 17-Oct-97 | | | | | 2 PLC 20; | CO | OBS | Overburden | o | | 20 | 2 | | 5 |
| 5513091 | | 999999 | 9999999 | | | PEMBROKE CITY | CON | 2 | 26 | 17-Oct-97 | | | | | 2 PLC 15; | CO | OBS | Overburden | o | | 15 | 2 | | 5 |
| 5514832 | | 999999 | 9999999 | | | PEMBROKE CITY | | | | 17-Jul-02 | 10 | 0 | 80 | 60 | 6 STL 53; 6 O_H 80; | NU | OBS | Bedrock | r | 44 | 80 | 2 | | 9 |
| 5501433 | 460 | 339400 | 5069775 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 23-Dec-61 | 3 | 5 | 25 | 60 | 5 STL 16; 5 O_H 28; | DO | SUP | Bedrock | r | 9 | 28 | 1 | 0 | 1 |
| 5501434 | 460 | 339360 | 5069840 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 17-Jan-63 | 1 | 16 | 170 | 60 | 6 STL 20; 6 O_H 180; | DO | SUP | Bedrock | r | 8 | 180 | 1 | 0 | 1 |
| 5501435 | 450 | 338760 | 5070500 | | | PEMBROKE TOWNSHIP | CON | 1 | 5 | 16-Sep-63 | 3 | 8 | 175 | 60 | 6 STL 32; 6 O_H 184; | ST DO | SUP | Bedrock | r | 13 | 184 | 1 | 1 | 2 |
| 5501436 | 427 | 338425 | 5071040 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 08-May-50 | 2 | 5 | 31 | 180 | 2 STL 11; 2 O_H 200; | DO | SUP | Bedrock | r | 11 | 200 | 1 | 0 | 1 |
| 5501437 | 430 | 338255 | 5071350 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 17-Sep-57 | 7 | 35 | 45 | 60 | 5 STL 16; 5 O_H 108; | ST DO | SUP | Bedrock | r | 10 | 108 | 1 | 1 | 2 |
| 5501438 | 430 | 338260 | 5071100 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 19-Aug-64 | 5 | 11 | 60 | 60 | 6 STL 20; 6 O_H 77; | DO | SUP | Bedrock | r | 14 | 77 | 1 | 0 | 1 |
| 5501439 | 434 | 338240 | 5071300 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 11-Mar-65 | 5 | 22 | 100 | 60 | 6 STL 8; 6 O_H 135; | ST | SUP | Bedrock | r | 7 | 135 | 1 | 0 | 2 |
| 5501440 | 430 | 338790 | 5072520 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 28-Jan-64 | 5 | 20 | 70 | 120 | 5 STL 79; 5 O_H 126; | DO | SUP | Bedrock | r | 74 | 126 | 1 | 0 | 1 |
| 5501441 | 430 | 338745 | 5072510 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 14-Sep-64 | 1 | 32 | 120 | 60 | 6 STL 78; 6 O_H 120; | DO | SUP | Bedrock | r | 77 | 120 | 1 | 0 | 1 |
| 5501442 | 435 | 338300 | 5072730 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 09-Feb-60 | 3 | 27 | 100 | 120 | 6 STL 46; 6 O_H 220; | ST DO | SUP | Bedrock | r | 41 | 220 | 1 | 1 | 2 |
| 5501443 | 425 | 336999 | 5072648 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 29-Aug-62 | 3 | 34 | 110 | 60 | 6 STL 48; 6 O_H 120; | DO | SUP | Bedrock | r | 47 | 120 | 1 | 0 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5501444 | 420 | 336692 | 5073050 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 09-Oct-63 | 5 | 21 | 75 | 60 | 6 STL 38; 6 O_H 103; | DO | SUP | Bedrock | r | 36 | 103 | 1 | 0 | 1 |
| 5501445 | 415 | 336150 | 5073650 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 01-Nov-62 | 3 | 10 | 16 | 60 | 6 STL 12; 5 STL 24; | DO | SUP | Overburden | o | | 26 | 1 | 0 | 1 |
| 5501446 | 400 | 336170 | 5073600 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 28-Oct-64 | 5 | 15 | 20 | 60 | 6 STL 16; 6 O_H 30; | DO | SUP | Bedrock | r | 9 | 30 | 1 | 0 | 1 |
| 5501447 | 415 | 336205 | 5073650 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 30-Oct-64 | 5 | 12 | 20 | 60 | 6 STL 15; 6 O_H 25; | DO | SUP | Bedrock | r | 10 | 25 | 1 | 0 | 1 |
| 5501448 | 385 | 332450 | 5078025 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 03-Oct-63 | 10 | 14 | 25 | 60 | 6 STL 38; 6 O_H 50; | CO | SUP | Bedrock | r | 36 | 50 | 1 | 0 | 5 |
| 5501449 | 365 | 332760 | 5078270 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 28-Jun-66 | 5 | 3 | 15 | 60 | 6 STL 41; | DO | SUP | Overburden | o | | 41 | 1 | 0 | 1 |
| 5501450 | 445 | 332565 | 5078010 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 07-Dec-67 | 5 | 8 | 25 | 60 | 6 STL 46; 6 O_H 50; | DO | SUP | Bedrock | r | 44 | 50 | 1 | 0 | 1 |
| 5501451 | 385 | 332446 | 5078110 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 21-Sep-64 | 7 | 20 | 110 | 60 | 5 STL 29; 5 O_H 131; | DO | SUP | Bedrock | r | 27 | 131 | 1 | 0 | 1 |
| 5501452 | 385 | 332160 | 5078370 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 27-Mar-57 | 5 | 5 | 6 | 180 | 4 STL 5; 4 O_H 23; | DO | SUP | Bedrock | r | 5 | 23 | 1 | 0 | 1 |
| 5501453 | 385 | 332180 | 5078305 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 03-Apr-57 | 2 | 6 | 45 | 120 | 4 STL 6; 4 O_H 78; | DO | SUP | Bedrock | r | 6 | 78 | 1 | 0 | 1 |
| 5501454 | 485 | 332125 | 5078400 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 04-Apr-57 | 2 | 5 | 10 | 180 | 4 STL 5; 4 O_H 44; | DO | SUP | Bedrock | r | 5 | 44 | 1 | 0 | 1 |
| 5501455 | 385 | 332070 | 5078210 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 17-Apr-57 | 1 | 3 | 10 | 120 | 5 STL 1; 5 O_H 50; | DO | SUP | Bedrock | r | 0 | 50 | 1 | 0 | 1 |
| 5501457 | 385 | 332280 | 5078375 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 25-May-59 | 6 | 10 | 120 | 30 | 5 STL 16; 5 O_H 126; | DO | SUP | Bedrock | r | 11 | 126 | 1 | 0 | 1 |
| 5501458 | 385 | 332219 | 5078375 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 23-Nov-62 | 1 | 9 | 50 | 60 | 6 STL 10; 6 O_H 57; | DO | SUP | Bedrock | r | 7 | 57 | 1 | 0 | 1 |
| 5501459 | 365 | 331403 | 5079480 | | | PEMBROKE TOWNSHIP | CON | 1 | 24 | 15-Dec-67 | 10 | 6 | 75 | 60 | 5 STL 35; 5 O_H 87; | CO | SUP | Bedrock | r | 11 | 87 | 1 | 0 | 5 |
| 5501465 | 425 | 339900 | 5072675 | | | PEMBROKE TOWNSHIP | CON | 2 | 6 | 20-Apr-61 | 10 | 0 | 4 | 180 | 5 STL 58; 5 O_H 90; | DO | SUP | Bedrock | r | 50 | 90 | 1 | 0 | 1 |
| 5501466 | 390 | 339995 | 5073998 | | | PEMBROKE TOWNSHIP | CON | 2 | 7 | 11-Sep-62 | 2 | 16 | 20 | 60 | 30 CNC 32; 30 O_H 52; | DO | SUP | Bedrock | v | 32 | 52 | 1 | 0 | 1 |
| 5501467 | 365 | 339660 | 5074450 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 14-Jun-65 | 2 | 6 | 80 | 60 | 6 STL 71; 6 O_H 90; | DO | SUP | Bedrock | r | 70 | 90 | 1 | 0 | 1 |
| 5501468 | 425 | 339370 | 5074004 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 07-Oct-57 | 6 | 9 | 10 | 120 | 5 STL 17; 5 O_H 50; | CO | SUP | Bedrock | r | 12 | 50 | 1 | 0 | 5 |
| 5501469 | 400 | 339360 | 5073990 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 13-Feb-62 | 2 | 5 | 24 | 180 | 6 STL 28; 6 O_H 120; | CO | SUP | Bedrock | r | 10 | 120 | 1 | 0 | 5 |
| 5501470 | 400 | 339410 | 5073900 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 08-Mar-62 | | | | | 6 ; | | ABS | Bedrock | r | 7 | 100 | 5 | | |
| 5501471 | 415 | 339490 | 5073950 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 04-May-62 | 8 | 7 | 8 | 60 | 5 STL 38; 5 O_H 147; | CO | SUP | Bedrock | r | 30 | 147 | 1 | 0 | 5 |
| 5501472 | 400 | 339500 | 5073875 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 22-Feb-65 | 1 | 12 | 110 | 60 | 20; 5 STL 30; 5 O_H 110; | DO | SUP | Bedrock | r | 30 | 110 | 1 | 0 | 1 |
| 5501473 | 423 | 339548 | 5074286 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 15-Oct-64 | 5 | 18 | 60 | 60 | 6 STL 68; 6 O_H 78; | DO | SUP | Bedrock | r | 60 | 78 | 1 | 0 | 1 |
| 5501474 | 422 | 339334 | 5075150 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 19-Jan-67 | 15 | 8 | 25 | 60 | 6 STL 18; 6 O_H 50; | CO | SUP | Bedrock | r | 16 | 50 | 1 | 0 | 5 |
| 5501475 | 427 | 339225 | 5074250 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 07-Mar-63 | 5 | 30 | 50 | 120 | 6 STL 118; 6 O_H 126; | DO | SUP | Bedrock | r | 114 | 126 | 1 | 0 | 1 |
| 5501476 | 414 | 339103 | 5075044 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 21-Apr-65 | 5 | 45 | 60 | 60 | 6 STL 154; | DO | SUP | Overburden | o | | 154 | 1 | 0 | 1 |
| 5501477 | 415 | 338950 | 5075020 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 23-Nov-53 | 3 | 37 | 57 | 120 | 3 STL 150; | DO | SUP | Bedrock | r | 150 | 180 | 1 | 0 | 1 |
| 5501478 | 414 | 338879 | 5075065 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-Apr-57 | 12 | 39 | 39 | 360 | 39; 5 STL 72; 5 121; | PS | SUP | Overburden | o | | 121 | 1 | 0 | 7 |
| 5501479 | 420 | 338805 | 5075052 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 09-Sep-57 | 8 | 32 | 43 | 360 | 5 STL 104; 5 112; 5 O_H 119; | CO | SUP | Bedrock | h | 87 | 119 | 1 | 0 | 5 |
| 5501480 | 412 | 338923 | 5075115 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 04-Aug-59 | 17 | 32 | 180 | 60 | 8 STL 166; 8 O_H 200; | CO | SUP | Bedrock | r | 155 | 200 | 1 | 0 | 5 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | Date_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5501481 | 412 | 339797 | 5075060 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 25-Nov-59 | 17 | 40 | 50 | 60 | 5 STL 141; 5 O_H 190; | DO | SUP | Bedrock | r | 135 | 190 | 1 | 0 | 1 |
| 5501482 | 412 | 338890 | 5075113 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 19-May-64 | 8 | 35 | 200 | 60 | 6 STL 165; 6 O_H 205; | DO | SUP | Bedrock | r | 158 | 205 | 1 | 0 | 1 |
| 5501483 | 412 | 338910 | 5075165 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 28-Apr-65 | 5 | 32 | 100 | 60 | 6 STL 169; 6 O_H 188; | DO | SUP | Bedrock | v | 98 | 188 | 1 | 0 | 1 |
| 5501484 | 425 | 338640 | 5075025 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 27-Feb-59 | 5 | 36 | 50 | 180 | 2 STL 123; 2 O_H 194; | PS | SUP | Bedrock | r | 120 | 194 | 1 | 0 | 7 |
| 5501485 | 412 | 338790 | 5075215 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 05-Feb-63 | 5 | 42 | 125 | 60 | 6 STL 145; 6 O_H 165; | DO | SUP | Bedrock | r | 135 | 165 | 1 | 0 | 1 |
| 5501486 | 410 | 338835 | 5075293 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 10-Aug-63 | 5 | 33 | 125 | 60 | 6 STL 151; 6 O_H 160; | DO | SUP | Bedrock | r | 127 | 160 | 1 | 0 | 1 |
| 5501487 | 435 | 338370 | 5074820 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 05-Oct-64 | 5 | 18 | 50 | 60 | 5 STL 33; 5 O_H 79; | DO | SUP | Bedrock | r | 18 | 79 | 1 | 0 | 1 |
| 5501488 | 440 | 338264 | 5074695 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 23-Jun-65 | 5 | 12 | 25 | 60 | 6 STL 32; 6 O_H 68; | DO | SUP | Bedrock | r | 17 | 68 | 1 | 0 | 1 |
| 5501489 | 425 | 338530 | 5074935 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 15-Jun-67 | 2 | 5 | 83 | 60 | 6 STL 62; 6 PLC 83; | DO | SUP | Bedrock | r | 30 | 83 | 1 | 0 | 1 |
| 5501490 | 415 | 338760 | 5075540 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 19-Oct-59 | 10 | 60 | 75 | 60 | 5 STL 142; 5 O_H 172; | DO | SUP | Bedrock | r | 125 | 172 | 1 | 0 | 1 |
| 5501491 | 410 | 338620 | 5075395 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 30-May-60 | 4 | 30 | 50 | 60 | 5 STL 150; 5 O_H 155; | DO | SUP | Bedrock | r | 147 | 155 | 1 | 0 | 1 |
| 5501492 | 415 | 338800 | 5075560 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 25-Sep-63 | 8 | 28 | 150 | 60 | 6 STL 150; 6 O_H 172; | DO | SUP | Bedrock | r | 130 | 172 | 1 | 0 | 1 |
| 5501493 | 415 | 338747 | 5075520 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 26-Feb-64 | 30 | 32 | 120 | 120 | 6 STL 150; 6 O_H 179; | CO | SUP | Bedrock | r | 135 | 179 | 1 | 0 | 5 |
| 5501494 | 420 | 338703 | 5075465 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 14-Mar-58 | 5 | 38 | 100 | 240 | 44; 4 STL 82; 4 138; 4 O_H 144; | DO | SUP | Bedrock | r | 138 | 144 | 1 | 0 | 1 |
| 5501495 | 418 | 338635 | 5075560 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 06-Aug-59 | 6 | 30 | 120 | 180 | 5 STL 140; | DO | SUP | Bedrock | r | 128 | 140 | 1 | 0 | 1 |
| 5501496 | 420 | 338520 | 5075505 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 17-Nov-59 | 8 | 40 | 130 | 60 | 5 STL 141; 5 O_H 172; | DO | SUP | Bedrock | r | 124 | 172 | 1 | 0 | 1 |
| 5501497 | 421 | 338527 | 5075530 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 19-Apr-61 | 7 | 25 | 130 | 60 | 6 STL 123; 6 O_H 145; | ST DO | SUP | Bedrock | r | 118 | 145 | 1 | 1 | 2 |
| 5501499 | 421 | 338542 | 5075552 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 07-Sep-63 | 3 | 42 | 135 | 60 | 6 STL 120; 5 STL 133; | DO | SUP | Bedrock | r | 118 | 133 | 1 | 0 | 1 |
| 5501500 | 415 | 338215 | 5075303 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 01-Feb-64 | 30 | 23 | 50 | 120 | 8 STL 34; 8 O_H 104; | ST DO | SUP | Bedrock | r | 28 | 104 | 1 | 1 | 2 |
| 5501501 | 390 | 338863 | 5075665 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 18-Aug-66 | 4 | 7 | 135 | 60 | 6 STL 124; 6 O_H 144; | DO | SUP | Bedrock | r | 118 | 144 | 1 | 0 | 1 |
| 5501502 | 417 | 338604 | 5075500 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 15-May-67 | 5 | 35 | 80 | 60 | 6 STL 133; 6 O_H 166; | DO | SUP | Bedrock | r | 117 | 166 | 1 | 0 | 1 |
| 5501503 | 415 | 338610 | 5075720 | | | PEMBROKE TOWNSHIP | CON | 2 | 22 | 02-Sep-58 | 7 | 36 | 100 | 300 | 3; 4 STL 158; 4 STL 174; | CO | SUP | Bedrock | r | 158 | 174 | 1 | 0 | 5 |
| 5501504 | 419 | 338405 | 5075845 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 04-Aug-61 | 1 | 18 | 22 | 60 | 20; 8 STL 42; | DO | SUP | Overburden | o | | 42 | 1 | 0 | 1 |
| 5501505 | 416 | 338380 | 5075825 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 14-Aug-61 | 7 | 30 | 100 | 600 | 5 STL 125; 5 O_H 170; | DO | SUP | Bedrock | r | 125 | 170 | 1 | 0 | 1 |
| 5501506 | 420 | 338395 | 5075854 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 25-Jul-63 | 5 | 22 | 55 | 60 | 6 STL 111; 6 O_H 130; | DO | SUP | Bedrock | r | 105 | 130 | 1 | 0 | 1 |
| 5501515 | 375 | 340325 | 5074250 | | | PEMBROKE TOWNSHIP | P | B | | 31-Oct-62 | 0 | 8 | 101 | 60 | 8; 6 STL 10; 6 O_H 101; | DO | SUP | Bedrock | r | 10 | 101 | 1 | 0 | 1 |
| 5501516 | 375 | 340345 | 5074200 | | | PEMBROKE TOWNSHIP | P | B | | 01-Nov-62 | 2 | 4 | 6 | 60 | 30 CNC 8; 30 CNC 19; | DO | SUP | Bedrock | r | 8 | 19 | 1 | 0 | 1 |
| 5501539 | 412 | 338860 | 5075220 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 19-Mar-66 | 10 | 45 | 125 | 60 | 6 STL 170; 6 O_H 175; | DO | SUP | Bedrock | r | 159 | 175 | 1 | 0 | 1 |
| 5501540 | 410 | 339160 | 5074998 | | | PEMBROKE TOWNSHIP | CON | 2 | 16 | 26-Oct-67 | 25 | 35 | 70 | 300 | 6 STL 155; 6 O_H 161; | CO | SUP | Bedrock | r | 150 | 161 | 1 | 0 | 5 |
| 5502114 | 455 | 338380 | 5074850 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 25-Jun-68 | 5 | 8 | 20 | 60 | 6 STL 16; 6 STL 40; | DO | SUP | Bedrock | r | 10 | 40 | 1 | 0 | 1 |
| 5502115 | 450 | 339750 | 5072950 | | | PEMBROKE TOWNSHIP | CON | 2 | 7 | 07-Aug-68 | 5 | 12 | 40 | 60 | 6 STL 51; 6 O_H 61; | DO | SUP | Bedrock | r | 46 | 61 | 1 | 0 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5502116 | 400 | 339820 | 5073120 | | | PEMBROKE TOWNSHIP | CON | 2 | 7 | 04-Jul-68 | 2 | 20 | 95 | 60 | 6 STL 44; 6 O_H 100; | DO | SUP | Bedrock | r | 37 | 100 | 1 | 0 | 1 |
| 5502178 | 430 | 338600 | 5075650 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 04-Oct-68 | 4 | 15 | 100 | 120 | 5 STL 8; 5 O_H 124; | DO | SUP | Bedrock | r | 4 | 124 | 1 | 0 | 1 |
| 5502182 | 430 | 338460 | 5075430 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 12-Dec-68 | 6 | 30 | 100 | 60 | 5 STL 118; 5 O_H 121; | DO | SUP | Bedrock | r | 84 | 121 | 1 | 0 | 1 |
| 5502184 | 455 | 338170 | 5074640 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 22-Dec-68 | 5 | 16 | 20 | 60 | 6 STL 23; 6 O_H 55; | DO | SUP | Bedrock | r | 12 | 55 | 1 | 0 | 1 |
| 5502264 | 455 | 338240 | 5074630 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 28-Jun-69 | 12 | 4 | 10 | 60 | 6 STL 21; O_H 40; | DO | SUP | Bedrock | r | 17 | 40 | 1 | 0 | 1 |
| 5502271 | 360 | 340150 | 5073890 | | | PEMBROKE TOWNSHIP | P | B | | 06-May-69 | 3 | 10 | 60 | 60 | 6 STL 20; 6 O_H 68; | DO | SUP | Bedrock | r | 0 | 68 | 1 | 0 | 1 |
| 5502326 | 425 | 337520 | 5072090 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 15-Oct-69 | 5 | 8 | 25 | 60 | 6 STL 34; O_H 65; | DO | SUP | Bedrock | r | 33 | 65 | 1 | 0 | 1 |
| 5502340 | 425 | 338610 | 5075100 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Dec-69 | 8 | 0 | 18 | 60 | 6 STL 25; O_H 70; | DO | SUP | Bedrock | r | 18 | 70 | 1 | 0 | 1 |
| 5502363 | 450 | 339710 | 5073000 | | | PEMBROKE TOWNSHIP | CON | 2 | 7 | 09-Dec-69 | 5 | 4 | 30 | 60 | 6 STL 36; O_H 41; | DO | SUP | Bedrock | r | 34 | 41 | 1 | 0 | 1 |
| 5502407 | 425 | 338510 | 5075060 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 04-Apr-70 | 5 | 3 | 50 | 60 | 6 STL 39; O_H 100; | DO | SUP | Bedrock | r | 28 | 100 | 1 | 0 | 1 |
| 5502438 | 437 | 338300 | 5073300 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 08-Jun-70 | 6 | 16 | 150 | 75 | 6 STL 48; O_H 178; | DO | SUP | Bedrock | r | 47 | 178 | 1 | 0 | 1 |
| 5502441 | 415 | 337610 | 5071960 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 25-May-70 | 5 | 7 | 36 | 75 | 6 STL 10; O_H 51; | DO | SUP | Bedrock | r | 9 | 51 | 1 | 0 | 1 |
| 5502447 | 455 | 338150 | 5074630 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 08-Jul-70 | 8 | 8 | 21 | 75 | 6 STL 21; 6 O_H 35; | DO | SUP | Bedrock | r | 7 | 35 | 1 | 0 | 1 |
| 5502487 | 415 | 338650 | 5075500 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 22-Sep-70 | 10 | 25 | 75 | 120 | 6 STL 116; | DO | SUP | Bedrock | r | 108 | 116 | 1 | 0 | 1 |
| 5502550 | 425 | 337990 | 5071460 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 21-Jan-71 | 8 | 13 | 55 | 60 | 6 STL 10; 5 O_H 73; | DO | SUP | Bedrock | r | 9 | 73 | 1 | 0 | 1 |
| 5502615 | 425 | 338480 | 5075030 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 30-Jun-71 | 10 | 0 | 36 | 120 | 6 STL 34; 6 O_H 90; | DO | SUP | Bedrock | r | 35 | 90 | 1 | 0 | 1 |
| 5502621 | 420 | 338750 | 5075170 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 16-Jul-71 | 10 | 22 | 73 | 150 | 6 STL 65; 6 O_H 108; | DO | SUP | Bedrock | r | 38 | 108 | 1 | 0 | 1 |
| 5502624 | 425 | 336550 | 5073140 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 06-Jul-71 | 10 | 25 | 40 | 90 | 6 STL 33; 6 O_H 56; | DO | SUP | Bedrock | r | 30 | 56 | 1 | 0 | 1 |
| 5502639 | 425 | 338550 | 5075000 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 08-Jun-71 | 24 | 0 | 6 | 60 | 6 STL 45; 6 O_H 91; | DO | SUP | Bedrock | r | 38 | 91 | 1 | 0 | 1 |
| 5502643 | 420 | 338950 | 5075165 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 15-Jun-71 | 16 | 49 | 70 | 60 | 6 STL 164; 6 O_H 231; | DO | SUP | Bedrock | r | 158 | 231 | 1 | 0 | 1 |
| 5502647 | 475 | 339440 | 5069950 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 04-Aug-71 | 4 | 23 | 138 | 120 | 6 STL 36; 6 O_H 149; | DO | SUP | Bedrock | r | 35 | 149 | 1 | 0 | 1 |
| 5502678 | 425 | 336630 | 5073040 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 21-Sep-71 | 10 | 25 | 80 | 80 | 6 STL 30; 6 O_H 88; | DO | SUP | Bedrock | r | 29 | 88 | 1 | 0 | 1 |
| 5502701 | 370 | 339000 | 5075430 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 22-Nov-71 | 20 | 9 | 35 | 180 | 6 STL 81; | CO DO | SUP | Bedrock | r | 69 | 81 | 1 | 1 | 5 |
| 5502810 | 415 | 338830 | 5075080 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 25-May-72 | 10 | 38 | 62 | 120 | 6 STL 141; 6 O_H 142; | DO | SUP | Bedrock | r | 136 | 142 | 1 | 0 | 1 |
| 5502862 | 425 | 338260 | 5071110 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 18-Jul-72 | 2 | 7 | 94 | 75 | 6 STL 11; 6 O_H 99; | DO | SUP | Bedrock | r | 10 | 99 | 1 | 0 | 1 |
| 5502876 | 410 | 338900 | 5075050 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 31-Jul-72 | 8 | 32 | 106 | 105 | 6 STL 152; 6 O_H 154; | DO | SUP | Bedrock | r | 148 | 154 | 1 | 0 | 1 |
| 5502877 | 425 | 338550 | 5075050 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Aug-72 | 15 | 1 | 22 | 60 | 6 STL 58; 6 O_H 80; | DO | SUP | Bedrock | r | 33 | 80 | 1 | 0 | 1 |
| 5502957 | 400 | 338950 | 5075520 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 21-Oct-72 | 10 | 8 | 80 | 90 | 6 STL 72; 6 O_H 91; | DO | SUP | Bedrock | r | 71 | 91 | 1 | 0 | 1 |
| 5502958 | 425 | 338620 | 5075010 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 13-Sep-72 | 10 | 20 | 118 | 75 | 6 STL 84; 6 O_H 131; | DO | SUP | Bedrock | r | 80 | 131 | 1 | 0 | 1 |
| 5502968 | 370 | 340470 | 5073980 | | | PEMBROKE TOWNSHIP | CI | | 6 | 06-Oct-72 | 12 | 8 | 35 | 75 | 5 STL 23; 6 O_H 80; | DO | SUP | Bedrock | r | 0 | 80 | 1 | 0 | 1 |
| 5503024 | 420 | 338738 | 5074990 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-Mar-73 | | 33 | 130 | 90 | 6 STL 137; 6 O_H 141; | DO | SUP | Bedrock | v | 20 | 141 | 1 | 0 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5503036 | 385 | 339394 | 5074427 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 27-Apr-73 | 10 | 12 | 70 | 180 | 6 STL 73; 6 O_H 78; | DO | SUP | Bedrock | r | 45 | 78 | 1 | 0 | 1 |
| 5503037 | 370 | 331650 | 5079000 | | | PEMBROKE TOWNSHIP | CON | 1 | 23 | 30-Apr-73 | 15 | 5 | 5 | 60 | 6 STL 17; 6 STL 62; | DO | SUP | Bedrock | r | 15 | 62 | 1 | 0 | 1 |
| 5503085 | 375 | 338929 | 5075488 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 09-May-73 | 10 | 3 | 90 | 140 | 6 STL 104; 6 O_H 112; | DO | SUP | Bedrock | r | 79 | 112 | 1 | 0 | 1 |
| 5503144 | 430 | 336545 | 5073149 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 20-Jul-73 | 6 | 17 | 74 | 75 | 6 STL 42; 6 O_H 83; | DO | SUP | Bedrock | r | 40 | 83 | 1 | 0 | 1 |
| 5503151 | 425 | 338464 | 5074989 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 18-Aug-73 | 7 | 14 | 98 | 80 | 6 STL 36; 6 O_H 105; | DO | SUP | Bedrock | r | 34 | 105 | 1 | 0 | 1 |
| 5503188 | 465 | 337176 | 5073658 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 26-Sep-73 | 8 | 62 | 86 | 60 | 6 STL 85; 6 O_H 96; | ST DO | SUP | Bedrock | r | 64 | 96 | 1 | 1 | 2 |
| 5503191 | 430 | 336379 | 5073318 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 28-Sep-73 | 10 | 35 | 37 | 60 | 6 STL 38; 6 O_H 52; | DO | SUP | Bedrock | r | 34 | 52 | 1 | 0 | 1 |
| 5503192 | 470 | 338370 | 5072765 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 21-Sep-73 | 4 | 35 | 250 | 60 | 6 STL 45; 6 O_H 260; | ST | SUP | Bedrock | r | 44 | 260 | 1 | 0 | 2 |
| 5503194 | 435 | 338393 | 5074832 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 17-Sep-73 | 10 | | 50 | 60 | 6 STL 28; 6 O_H 72; | DO | SUP | Bedrock | r | 23 | 72 | 1 | 0 | 1 |
| 5503200 | 410 | 338422 | 5076010 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 30-Aug-73 | | 15 | 79 | 120 | 6 STL 95; 6 O_H 100; | DO | SUP | Bedrock | r | 94 | 100 | 1 | 0 | 1 |
| 5503263 | 425 | 338527 | 5075052 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 12-Dec-73 | 10 | 0 | 65 | 80 | 6 STL 59; 6 O_H 100; | DO | SUP | Bedrock | r | 34 | 100 | 1 | 0 | 1 |
| 5503264 | 420 | 338787 | 5074914 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 21-Dec-73 | 10 | 38 | 105 | 150 | 6 STL 128; 6 O_H 144; | DO | SUP | Bedrock | r | 127 | 144 | 1 | 0 | 1 |
| 5503472 | 465 | 339335 | 5069788 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 17-Jul-74 | 40 | 35 | 80 | 120 | 6 STL 30; 6 O_H 215; | DO | SUP | Bedrock | r | 25 | 215 | 1 | 0 | 1 |
| 5503484 | 475 | 339813 | 5070360 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 16-Jul-74 | 4 | 6 | 89 | 80 | 6 STL 49; 6 O_H 96; | DO | SUP | Bedrock | r | 49 | 96 | 1 | 0 | 1 |
| 5503505 | 420 | 338820 | 5075035 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Aug-74 | 5 | 37 | 145 | 60 | 6 STL 151; 6 O_H 152; | DO | SUP | Bedrock | r | 146 | 152 | 1 | 0 | 1 |
| 5503558 | 430 | 338400 | 5074917 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 09-Aug-74 | 40 | 12 | 12 | 60 | 6 STL 28; 6 O_H 102; | DO | SUP | Bedrock | r | 24 | 102 | 1 | 0 | 1 |
| 5503587 | 400 | 338290 | 5076151 | | | PEMBROKE TOWNSHIP | CON | 2 | 24 | 25-Sep-74 | 11 | 30 | 142 | 90 | 6 STL 103; 6 O_H 167; | CO | SUP | Bedrock | r | 81 | 167 | 1 | 0 | 5 |
| 5503603 | 420 | 338770 | 5074883 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 06-Mar-75 | 9 | 15 | 46 | 90 | 6 STL 52; 6 O_H 58; | DO | SUP | Bedrock | r | 52 | 58 | 1 | 0 | 1 |
| 5503604 | 420 | 338723 | 5074914 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 17-Jun-74 | 9 | 36 | 119 | 150 | 6 STL 140; 6 O_H 142; | DO | SUP | Bedrock | r | 125 | 142 | 1 | 0 | 1 |
| 5503610 | 420 | 338816 | 5074872 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 06-Mar-75 | 9 | 38 | 148 | 90 | 6 STL 154; 6 O_H 168; | DO | SUP | Bedrock | r | 141 | 168 | 1 | 0 | 1 |
| 5503756 | 375 | 339065 | 5075276 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Jun-75 | 20 | 9 | 14 | 90 | 6 STL 88; | DO | SUP | Bedrock | r | 81 | 88 | 1 | 0 | 1 |
| 5503761 | 370 | 340335 | 5074178 | | | PEMBROKE TOWNSHIP | P | B | | 23-Jul-75 | 10 | 18 | 46 | 60 | 6 STL 17; 6 O_H 155; | DO | SUP | Bedrock | r | 0 | 155 | 1 | 0 | 1 |
| 5503805 | 420 | 338783 | 5075178 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 21-Aug-75 | 10 | 32 | 100 | 90 | 6 STL 147; | DO | SUP | Overburden | o | | 147 | 1 | 0 | 1 |
| 5503908 | 370 | 340274 | 5074125 | | | PEMBROKE TOWNSHIP | P | B | | 03-Oct-75 | 2 | 10 | 100 | 90 | 6 STL 12; | DO | SUP | Bedrock | r | 5 | 102 | 1 | 0 | 1 |
| 5503957 | 425 | 338613 | 5074908 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-Oct-75 | 10 | 40 | 140 | 80 | 6 STL 126; 5 O_H 146; | DO | SUP | Bedrock | r | 121 | 146 | 1 | 0 | 1 |
| 5503983 | 465 | 340015 | 5070644 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 18-Oct-75 | 1 | 60 | 225 | 55 | 6 STL 48; 6 O_H 225; | DO | SUP | Bedrock | r | 46 | 225 | 1 | 0 | 1 |
| 5504052 | 425 | 336600 | 5073200 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 09-Jan-76 | 20 | 25 | 26 | 75 | 6 STL 35; 6 O_H 56; | DO | SUP | Bedrock | r | 22 | 56 | 1 | 0 | 1 |
| 5504053 | 400 | 339200 | 5074900 | | | PEMBROKE TOWNSHIP | FAL | 2 | 16 | 30-Jan-76 | 10 | 40 | 130 | 120 | 6 STL 156; 6 O_H 170; | MN | SUP | Bedrock | r | 149 | 170 | 1 | 0 | 6 |
| 5504115 | 425 | 338600 | 5074975 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 17-May-76 | 14 | 6 | 24 | 60 | 6 STL 34; 6 O_H 47; | DO | SUP | Bedrock | r | 23 | 47 | 1 | 0 | 1 |
| 5504208 | 370 | 340300 | 5074050 | | | PEMBROKE TOWNSHIP | P | B | | 30-Aug-76 | 14 | 4 | 30 | 60 | 6 STL 10; 6 O_H 55; | DO | SUP | Bedrock | r | 0 | 55 | 1 | 0 | 1 |
| 5504241 | 375 | 339150 | 5075150 | | | PEMBROKE TOWNSHIP | FAL | 2 | 17 | 30-Jul-76 | 10 | 10 | 55 | 120 | 6 77; 6 O_H 82; | DO | SUP | Bedrock | r | 72 | 83 | 1 | 0 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5504248 | 375 | 339200 | 5075100 | | | PEMBROKE TOWNSHIP | FAL | 2 | 17 | 19-Jul-76 | 10 | 8 | 87 | 90 | 6 STL 91; 6 O_H 96; | DO | SUP | Bedrock | r | 88 | 96 | 1 | 0 | 1 |
| 5504251 | 380 | 331750 | 5078850 | | | PEMBROKE TOWNSHIP | CON | 2 | 22 | 04-Jul-76 | 15 | 6 | 18 | 60 | 6 STL 26; 6 O_H 33; | DO | SUP | Bedrock | r | 25 | 33 | 1 | 0 | 1 |
| 5504274 | 410 | 338850 | 5075250 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 27-Jul-76 | 8 | 39 | 155 | 60 | 6 STL 162; 6 O_H 172; | DO | SUP | Bedrock | r | 144 | 172 | 1 | 0 | 1 |
| 5504296 | 465 | 340200 | 5070700 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 19-Sep-76 | 50 | 9 | 165 | 60 | 6 STL 38; 6 O_H 166; | DO | SUP | Bedrock | r | 32 | 166 | 1 | 0 | 1 |
| 5504343 | 425 | 339850 | 5072750 | | | PEMBROKE TOWNSHIP | FAL | 2 | 6 | 16-Dec-76 | 10 | | 50 | 60 | 6 STL 46; 6 O_H 78; | ST DO | SUP | Bedrock | r | 45 | 78 | 1 | 1 | 2 |
| 5504346 | 460 | 340450 | 5070650 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 21-Sep-76 | 10 | 36 | 96 | 60 | 6 STL 47; 6 103; | ST DO | SUP | Bedrock | r | 46 | 103 | 1 | 1 | 2 |
| 5504349 | 420 | 336700 | 5073100 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 06-Nov-76 | 10 | 26 | 60 | 60 | 6 STL 37; 6 O_H 68; | DO | SUP | Bedrock | r | 27 | 68 | 1 | 0 | 1 |
| 5504355 | 445 | 338300 | 5074750 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 28-Oct-76 | 8 | 20 | 62 | 60 | 6 STL 28; 6 O_H 73; | DO | SUP | Bedrock | r | 16 | 73 | 1 | 0 | 1 |
| 5504358 | 400 | 339450 | 5073900 | | | PEMBROKE TOWNSHIP | FAL | 2 | 12 | 02-Nov-76 | 10 | 36 | 41 | 120 | 6 STL 43; 6 O_H 50; | DO | SUP | Bedrock | r | 33 | 50 | 1 | 0 | 1 |
| 5504362 | 425 | 338750 | 5074800 | | | PEMBROKE TOWNSHIP | FAL | 2 | 18 | 22-Nov-76 | 10 | 25 | 25 | 60 | 6 STL 63; | DO | SUP | Bedrock | r | 56 | 63 | 1 | 0 | 1 |
| 5504365 | 425 | 338500 | 5074975 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 07-Dec-76 | 30 | 11 | 40 | 60 | 6 STL 32; 6 O_H 61; | DO | SUP | Bedrock | r | 21 | 61 | 1 | 0 | 1 |
| 5504367 | 425 | 336800 | 5073050 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 23-Dec-76 | 14 | 22 | 75 | 60 | 6 STL 42; 6 O_H 85; | DO | SUP | Bedrock | r | 34 | 85 | 1 | 0 | 1 |
| 5504425 | 420 | 338750 | 5074850 | | | PEMBROKE TOWNSHIP | FAL | 2 | 18 | 18-Feb-77 | 10 | 40 | 70 | 120 | 6 STL 114; 6 O_H 134; | DO | SUP | Bedrock | v | 56 | 134 | 1 | 0 | 1 |
| 5504430 | 425 | 338500 | 5074975 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 15-Mar-77 | 15 | 8 | 40 | 60 | 6 STL 35; 6 O_H 60; | DO | SUP | Bedrock | r | 29 | 60 | 1 | 0 | 1 |
| 5504502 | 430 | 336740 | 5072960 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 11-May-77 | 10 | 30 | 30 | 60 | 6 STL 37; 6 O_H 55; | DO | SUP | Bedrock | r | 35 | 56 | 1 | 0 | 1 |
| 5504552 | 415 | 338880 | 5075180 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 21-Jul-77 | 8 | 48 | 160 | 60 | 6 STL 160; 6 O_H 173; | DO | SUP | Bedrock | r | 145 | 173 | 1 | 0 | 1 |
| 5504553 | 465 | 338000 | 5073420 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 18-Jul-77 | 4 | 8 | 195 | 60 | 6 STL 43; 6 O_H 275; | DO | SUP | Bedrock | r | 39 | 275 | 1 | 0 | 1 |
| 5504584 | 425 | 337399 | 5073099 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 03-Jun-77 | 10 | 10 | 34 | 60 | 6 STL 40; 6 O_H 72; | DO | SUP | Bedrock | r | 39 | 72 | 1 | 0 | 1 |
| 5504589 | 370 | 340000 | 5074140 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 23-Jun-77 | 10 | 7 | 55 | 120 | 6 STL 53; 6 O_H 73; | DO | SUP | Bedrock | r | 46 | 73 | 1 | 0 | 1 |
| 5504592 | 480 | 339540 | 5070000 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 01-Jul-77 | 20 | 21 | 31 | 60 | 6 STL 42; 6 125; | ST | SUP | Bedrock | r | 41 | 125 | 1 | 0 | 2 |
| 5504611 | 440 | 338400 | 5074800 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Sep-77 | 15 | 13 | 35 | 60 | 6 STL 30; 6 O_H 55; | DO | SUP | Bedrock | r | 20 | 55 | 1 | 0 | 1 |
| 5504707 | 380 | 339240 | 5074820 | | | PEMBROKE TOWNSHIP | CON | 2 | 16 | 14-Sep-77 | 10 | 37 | 167 | 60 | 6 STL 126; 6 O_H 168; | DO | SUP | Bedrock | h | 136 | 168 | 1 | 0 | 1 |
| 5504712 | 415 | 338820 | 5075260 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 21-Sep-77 | 6 | 57 | 227 | 60 | 6 STL 150; O_H 228; | DO | SUP | Bedrock | h | 148 | 228 | 1 | 0 | 1 |
| 5504730 | 430 | 336940 | 5072840 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 27-Aug-77 | 5 | 21 | 127 | 60 | 6 STL 37; 6 O_H 136; | DO | SUP | Bedrock | r | 36 | 136 | 1 | 0 | 1 |
| 5504734 | 430 | 337840 | 5071740 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 15-Sep-77 | 5 | 8 | 86 | 60 | 6 STL 10; 6 O_H 94; | DO | SUP | Bedrock | r | 5 | 94 | 1 | 0 | 1 |
| 5504735 | 395 | 332800 | 5077800 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 20-Sep-77 | 10 | 22 | 28 | 80 | 6 STL 49; 6 O_H 89; | DO | SUP | Bedrock | r | 48 | 89 | 1 | 0 | 1 |
| 5504738 | 370 | 339000 | 5075460 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 01-Oct-77 | 10 | 8 | 62 | 60 | 6 STL 128; 6 O_H 140; | DO | SUP | Bedrock | v | 71 | 140 | 1 | 0 | 1 |
| 5504754 | 370 | 339100 | 5075280 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 18-Nov-77 | 10 | 6 | 110 | 120 | 6 STL 117; 6 O_H 118; | DO | SUP | Bedrock | r | 112 | 118 | 1 | 0 | 1 |
| 5504769 | 470 | 339340 | 5069820 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 24-Aug-77 | 15 | 37 | 246 | 120 | 6 STL 20; 6 O_H 246; | DO | SUP | Bedrock | r | 8 | 246 | 1 | 0 | 1 |
| 5504809 | 455 | 339000 | 5070280 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 25-Nov-77 | 14 | 11 | 415 | 60 | 6 STL 17; 6 O_H 425; | ST DO | SUP | Bedrock | r | 14 | 425 | 1 | 1 | 2 |
| 5504810 | 420 | 338780 | 5075140 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 20-Dec-77 | 14 | 38 | 105 | 60 | 6 STL 136; 6 O_H 143; | DO | SUP | Bedrock | r | 118 | 143 | 1 | 0 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5504811 | 420 | 337260 | 5072320 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 08-Dec-77 | 4 | 5 | 145 | 60 | 6 STL 30; 6 O_H 156; | DO | SUP | Bedrock | r | 29 | 156 | 1 | 0 | 1 |
| 5504812 | 420 | 338780 | 5074860 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 25-Nov-77 | 10 | 33 | 80 | 120 | 6 STL 106; 6 112; | DO | SUP | Bedrock | r | 105 | 112 | 1 | 0 | 1 |
| 5504816 | 425 | 336820 | 5072960 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 19-Dec-77 | 10 | 22 | 27 | | 6 STL 40; 6 O_H 77; | DO | SUP | Bedrock | r | 30 | 77 | 1 | 0 | 1 |
| 5504819 | 420 | 338860 | 5074940 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 21-Dec-77 | 10 | 35 | 130 | 120 | 6 STL 157; 6 O_H 165; | DO | SUP | Bedrock | y | 149 | 165 | 1 | 0 | 1 |
| 5504960 | 460 | 338320 | 5072880 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 11-Oct-77 | 3 | 100 | 380 | 120 | 6 33; 6 O_H 385; | DO | SUP | Bedrock | r | 32 | 385 | 1 | 0 | 1 |
| 5505078 | 440 | 338420 | 5074920 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 31-May-78 | 10 | 11 | 48 | 60 | 6 STL 28; 6 62; | DO | SUP | Bedrock | r | 27 | 62 | 1 | 0 | 1 |
| 5505152 | 465 | 338020 | 5073580 | | | PEMBROKE TOWNSHIP | CON | 2 | 15 | 18-Jul-78 | 10 | 9 | 26 | 80 | 6 STL 25; 6 55; | DO | SUP | Bedrock | r | 23 | 55 | 1 | 0 | 1 |
| 5505240 | 430 | 336920 | 5072860 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 20-Sep-78 | 4 | 22 | 80 | 60 | 6 STL 40; 6 O_H 90; | DO | SUP | Bedrock | r | 30 | 90 | 1 | 0 | 1 |
| 5505250 | 430 | 337960 | 5071500 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 05-Oct-78 | 5 | 20 | 80 | 60 | 6 STL 25; | DO | SUP | Bedrock | r | 18 | 100 | 1 | 0 | 1 |
| 5505268 | 375 | 338200 | 5076450 | | | PEMBROKE TOWNSHIP | FAL | 2 | 24 | 29-Sep-78 | 10 | 40 | 120 | 60 | 6 STL 125; | DO | SUP | Bedrock | r | 125 | 190 | 1 | 0 | 1 |
| 5505284 | 430 | 338480 | 5074940 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 14-Sep-78 | 10 | 5 | 55 | 60 | 6 29; 6 O_H 65; | DO | SUP | Bedrock | r | 29 | 65 | 1 | 0 | 1 |
| 5505306 | 415 | 338860 | 5075360 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Nov-78 | 25 | 30 | 80 | 60 | 6 STL 150; | CO | SUP | Overburden | o | | 150 | 1 | 0 | 5 |
| 5505415 | 465 | 338040 | 5073560 | | | PEMBROKE TOWNSHIP | CON | 2 | 15 | 08-Nov-78 | 10 | 16 | 50 | 60 | 6 STL 26; 6 O_H 65; | DO | SUP | Bedrock | r | 23 | 65 | 1 | 0 | 1 |
| 5505422 | 405 | 332040 | 5078480 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 28-Nov-78 | 10 | 28 | 80 | 60 | 6 STL 14; 6 O_H 88; | DO | SUP | Bedrock | r | 7 | 88 | 1 | 0 | 1 |
| 5505434 | 420 | 338880 | 5074960 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 18-Aug-78 | 6 | 18 | 170 | 75 | 6 STL 171; | DO | SUP | Overburden | o | | 171 | 1 | 0 | 1 |
| 5505543 | 430 | 336920 | 5072860 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 02-Mar-79 | 4 | 15 | 160 | 60 | 6 O_H 178; | DO | SUP | Bedrock | r | 90 | 178 | 1 | 0 | 1 |
| 5505544 | 430 | 336920 | 5072860 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 26-Mar-79 | 5 | 25 | 110 | 60 | 6 STL 43; 6 O_H 121; | DO | SUP | Bedrock | r | 42 | 121 | 1 | 0 | 1 |
| 5505585 | 425 | 338500 | 5075200 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 17-Apr-79 | 9 | 17 | 110 | 120 | 6 STL 61; 6 O_H 117; | DO | SUP | Bedrock | r | 51 | 117 | 1 | 0 | 1 |
| 5505586 | 425 | 338500 | 5075000 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 24-Jan-79 | 10 | 12 | 30 | 60 | 6 STL 32; 6 O_H 58; | DO | SUP | Bedrock | r | 15 | 58 | 1 | 0 | 1 |
| 5505587 | 425 | 338600 | 5075100 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 09-Feb-79 | 9 | 30 | 150 | 60 | 6 STL 127; 5 STL 137; 4 O_H 162; | DO | SUP | Bedrock | v | 36 | 162 | 1 | 0 | 1 |
| 5505639 | 425 | 336800 | 5072800 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 14-Jun-79 | 10 | 25 | 36 | 60 | 6 STL 35; 6 O_H 48; | DO | SUP | Bedrock | r | 34 | 48 | 1 | 0 | 1 |
| 5505682 | 475 | 339800 | 5070350 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 29-May-79 | 3 | 7 | 110 | 60 | 6 STL 31; 6 O_H 118; | DO | SUP | Bedrock | r | 29 | 118 | 1 | 0 | 1 |
| 5505797 | 450 | 338500 | 5073200 | | | PEMBROKE TOWNSHIP | FAL | 2 | 12 | 12-Jul-79 | 8 | 5 | 60 | 120 | 6 STL 34; 6 O_H 70; | DO | SUP | Bedrock | r | 31 | 70 | 1 | 0 | 1 |
| 5505798 | 475 | 338000 | 5073600 | | | PEMBROKE TOWNSHIP | FAL | 2 | 15 | 11-Jul-79 | 10 | 7 | 28 | 80 | 6 STL 26; 6 O_H 50; | DO | SUP | Bedrock | r | 22 | 50 | 1 | 0 | 1 |
| 5505799 | 425 | 336900 | 5072950 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 08-Aug-79 | 10 | 19 | 30 | 80 | 6 STL 32; 6 O_H 65; | DO | SUP | Bedrock | r | 31 | 65 | 1 | 0 | 1 |
| 5505800 | 375 | 332999 | 5077799 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 13-Aug-79 | 10 | 10 | 63 | 60 | 5 STL 39; 5 O_H 83; | DO | SUP | Bedrock | r | 38 | 83 | 1 | 0 | 1 |
| 5505908 | 400 | 332120 | 5078400 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 12-Oct-79 | 5 | 12 | 100 | 120 | 6 STL 31; 6 O_H 115; | DO | SUP | Bedrock | r | 29 | 115 | 1 | 0 | 1 |
| 5505962 | 400 | 339400 | 5074100 | | | PEMBROKE TOWNSHIP | FAL | 2 | 13 | 13-Jul-79 | 3 | 12 | 90 | 120 | 6 STL 33; 6 O_H 100; | DO | SUP | Bedrock | r | 28 | 100 | 1 | 0 | 1 |
| 5505963 | 450 | 338900 | 5072300 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 11-Oct-79 | 4 | 19 | 116 | 90 | 6 STL 78; 6 O_H 125; | DO | SUP | Bedrock | r | 74 | 125 | 1 | 0 | 1 |
| 5506120 | 425 | 338499 | 5075599 | | | PEMBROKE TOWNSHIP | FAL | 2 | 21 | 22-Jan-80 | 10 | 26 | 130 | 120 | 6 STL 129; 6 O_H 141; | DO | SUP | Bedrock | r | 117 | 141 | 1 | 0 | 1 |
| 5506121 | 435 | 338399 | 5074999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 29-Jan-80 | 10 | 30 | 95 | 60 | 6 STL 90; 6 O_H 115; | DO | SUP | Bedrock | r | 58 | 115 | 1 | 0 | 1 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | Date_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5506146 | 425 | 336700 | 5073000 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 12-May-80 | 6 | 25 | 50 | 60 | 6 STL 38; 6 O_H 60; | DO | SUP | Bedrock | r | 24 | 60 | 1 | 0 | 1 |
| 5506150 | 425 | 336650 | 5073100 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 13-May-80 | 1 | 25 | 90 | 60 | 6 STL 36; 6 O_H 100; | DO | SUP | Bedrock | r | 16 | 100 | 1 | 0 | 1 |
| 5506307 | 400 | 338299 | 5073499 | | | PEMBROKE TOWNSHIP | FAL | 2 | 14 | 03-Aug-80 | 4 | 8 | 169 | 90 | 6 STL 59; 6 O_H 170; | DO | SUP | Bedrock | r | 58 | 170 | 1 | 0 | 1 |
| 5506336 | 450 | 338499 | 5072899 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 30-Sep-80 | 6 | | 126 | 120 | 6 STL 55; 6 O_H 126; | DO | SUP | Bedrock | r | 53 | 126 | 1 | 0 | 1 |
| 5506337 | 450 | 338199 | 5073199 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 29-Sep-80 | | | | | 6 STL 49; 6 O_H 301; | DO | SUP | Bedrock | r | 46 | 301 | 1 | 0 | 1 |
| 5506339 | 450 | 338799 | 5074199 | | | PEMBROKE TOWNSHIP | FAL | 2 | 15 | 14-Nov-80 | 10 | 12 | 205 | | 6 STL 27; 6 O_H 213; | DO | SUP | Bedrock | r | 24 | 213 | 1 | 0 | 1 |
| 5506340 | 400 | 332199 | 5078499 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 08-Oct-80 | 10 | 30 | 60 | 60 | 6 STL 21; 6 O_H 97; | DO | SUP | Bedrock | r | 9 | 95 | 1 | 0 | 1 |
| 5506432 | 440 | 338599 | 5074299 | | | PEMBROKE TOWNSHIP | FAL | 2 | 16 | 17-Feb-81 | 15 | 18 | 85 | 80 | 6 STL 35; 6 O_H 125; | DO | SUP | Bedrock | r | 31 | 125 | 1 | 0 | 1 |
| 5506657 | 380 | 339099 | 5075299 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 17-Sep-81 | 12 | 12 | 129 | 60 | 6 STL 127; 6 O_H 145; | DO | SUP | Bedrock | v | 82 | 145 | 1 | 0 | 1 |
| 5506704 | 370 | 338199 | 5076399 | | | PEMBROKE TOWNSHIP | FAL | 2 | 24 | 04-Nov-81 | 12 | 16 | 26 | 90 | 6 STL 103; 6 O_H 105; | DO | SUP | Bedrock | r | 81 | 105 | 1 | 0 | 1 |
| 5506705 | 380 | 339299 | 5074799 | | | PEMBROKE TOWNSHIP | FAL | 2 | 16 | 28-Oct-81 | 12 | 38 | 98 | 90 | 6 STL 146; 6 O_H 150; | DO | SUP | Bedrock | r | 145 | 150 | 1 | 0 | 1 |
| 5506756 | 380 | 340399 | 5073399 | | | PEMBROKE TOWNSHIP | PAL | 2 | 7 | 14-Aug-81 | 15 | 15 | 80 | 60 | 6 STL 25; 6 O_H 150; 6 O_H 304; | DO | SUP | Bedrock | y | 20 | 304 | 1 | 0 | 1 |
| 5506776 | 440 | 338299 | 5075199 | | | PEMBROKE TOWNSHIP | FAL | 2 | 21 | 11-Feb-82 | 12 | 35 | 150 | 90 | 6 STL 142; 6 O_H 162; | DO | SUP | Bedrock | r | 118 | 162 | 1 | 0 | 1 |
| 5506777 | 445 | 338599 | 5073999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 12 | 17-May-82 | | 0 | 100 | 60 | 6 STL 93; 6 O_H 105; | DO | SUP | Bedrock | r | 81 | 105 | 1 | 0 | 1 |
| 5506891 | 380 | 339599 | 5073099 | | | PEMBROKE TOWNSHIP | FAL | 2 | 8 | 13-Aug-82 | 5 | 20 | 285 | 60 | 6 STL 65; 6 O_H 285; | ST | SUP | Bedrock | h | 271 | 285 | 1 | 0 | 2 |
| 5506928 | 380 | 339199 | 5075099 | | | PEMBROKE TOWNSHIP | FAL | 2 | 17 | 28-Aug-82 | 12 | 4 | 80 | 240 | 6 STL 100; 6 O_H 102; | DO | SUP | Bedrock | r | 86 | 102 | 1 | 0 | 1 |
| 5506929 | 400 | 339799 | 5073699 | | | PEMBROKE TOWNSHIP | FAL | 2 | 10 | 28-Jul-82 | 10 | 8 | 20 | 120 | 6 STL 23; 6 O_H 42; | DO | SUP | Bedrock | r | 23 | 42 | 1 | 0 | 1 |
| 5506969 | 425 | 338599 | 5075099 | | | PEMBROKE TOWNSHIP | FAL | 2 | 19 | 19-Nov-82 | 6 | 30 | 144 | 60 | 6 STL 118; 6 O_H 145; | DO | SUP | Bedrock | r | 112 | 145 | 1 | 0 | 1 |
| 5507000 | 420 | 337199 | 5072799 | | | PEMBROKE TOWNSHIP | | | | 26-Nov-82 | 8 | 17 | 50 | 60 | 6 STL 22; 6 O_H 90; | DO | SUP | Bedrock | r | 22 | 90 | 1 | 0 | 1 |
| 5507069 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 20-Jan-83 | 50 | 15 | 70 | 60 | 6 STL 50; | DO | SUP | Bedrock | h | 8 | 175 | 1 | | 1 |
| 5507215 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 19-Aug-83 | 12 | 4 | 20 | 60 | 6 STL 24; 6 75; | DO | SUP | Bedrock | r | 13 | 75 | 1 | | 1 |
| 5507216 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 19-Aug-83 | 12 | 7 | 30 | 60 | 6 STL 24; 6 80; | DO | SUP | Bedrock | r | 23 | 80 | 1 | | 1 |
| 5507319 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 03-Oct-83 | 20 | 20 | 25 | 60 | 6 STL 28; 6 45; | DO | SUP | Bedrock | r | 22 | 45 | 1 | | 1 |
| 5507547 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 11-Apr-84 | 15 | 2 | 25 | 90 | 6 STL 15; 6 50; | DO | SUP | Bedrock | r | 8 | 50 | 1 | | 1 |
| 5507548 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 24 | 15-May-84 | 10 | 16 | 80 | 90 | 6 STL 102; 6 O_H 105; | DO | SUP | Bedrock | r | 81 | 105 | 1 | | 1 |
| 5507549 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 03-Apr-84 | 12 | 19 | 55 | 60 | 6 STL 32; 6 65; | DO | SUP | Bedrock | r | 32 | 65 | 1 | | 1 |
| 5507550 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 27-Apr-84 | 12 | 8 | 140 | 90 | 6 STL 73; 6 O_H 150; | DO | SUP | Bedrock | r | 72 | 150 | 1 | | 1 |
| 5507551 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 10 | 27-Apr-84 | 12 | | 110 | 60 | 6 STL 39; 6 O_H 121; | DO | SUP | Bedrock | r | 39 | 121 | 1 | | 1 |
| 5507552 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 01-May-84 | 15 | 8 | 45 | | 6 STL 30; 6 68; | DO | SUP | Bedrock | r | 26 | 68 | 1 | | 1 |
| 5507553 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 22-Jun-84 | 10 | 10 | 195 | 60 | 6 STL 28; 6 O_H 202; | DO | SUP | Bedrock | r | 28 | 202 | 1 | | 1 |
| 5507598 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 28-Aug-84 | 10 | 32 | 165 | 60 | 6 STL 49; 6 O_H 168; | DO | SUP | Bedrock | r | 49 | 168 | 1 | | 1 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | Date_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5507599 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 06-Sep-84 | 10 | 40 | 155 | 90 | 6 STL 152; 6 O_H 166; | DO | SUP | Bedrock | r | 145 | 166 | 1 | | 1 |
| 5507600 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 20 | 15-Aug-84 | 10 | 5 | 100 | 90 | 6 STL 73; 6 O_H 110; | DO | SUP | Bedrock | r | 56 | 110 | 1 | | 1 |
| 5507601 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 11-Sep-84 | | 20 | 215 | | 6 STL 30; | DO | SUP | Overburden | o | | 226 | 1 | | 1 |
| 5507634 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 08-Sep-84 | 8 | 45 | | 90 | 6 STL 170; 6 O_H 245; | DO ST | SUP | Bedrock | r | 169 | 245 | 1 | 2 | 1 |
| 5507635 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | | 3 | 20 | 224 | 60 | STL 22; O_H 225; | DO | SUP | Bedrock | r | 8 | 225 | 1 | | 1 |
| 5507713 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 15-Oct-84 | 6 | 14 | 205 | 60 | 6 STL 38; 6 O_H 205; | DO | SUP | Bedrock | r | 34 | 205 | 1 | | 1 |
| 5507787 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-May-85 | 20 | 8 | 30 | | 6 STL 31; 6 O_H 72; | DO | SUP | Bedrock | r | 19 | 72 | 1 | | 1 |
| 5507788 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-May-85 | 15 | 8 | 25 | 60 | 6 STL 28; 6 O_H 70; | DO | SUP | Bedrock | r | 27 | 70 | 1 | | 1 |
| 5507839 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-Jun-85 | 10 | 12 | 35 | 60 | 6 STL 27; 6 O_H 70; | DO | SUP | Bedrock | r | 18 | 70 | 1 | | 1 |
| 5507840 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 24 | 17-Jun-85 | 10 | 12 | 75 | 60 | 6 STL 91; 5 O_H 92; | DO | SUP | Bedrock | r | 78 | 92 | 1 | | 1 |
| 5507841 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 08-Jul-85 | 1 | 18 | 47 | 60 | 6 STL 30; 6 O_H 80; | DO | SUP | Bedrock | r | 22 | 80 | 1 | | 1 |
| 5507843 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 16-Jul-85 | 15 | 24 | 112 | 60 | 6 STL 117; 5 O_H 126; | DO | SUP | Bedrock | r | 98 | 126 | 1 | | 1 |
| 5507948 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 10-Oct-85 | | 12 | 45 | 90 | 6 STL 40; 6 O_H 70; | DO | SUP | Bedrock | r | 40 | 70 | 1 | | 1 |
| 5507949 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 23-Aug-85 | 15 | 12 | 30 | 90 | 6 STL 36; 5 O_H 81; | DO | SUP | Bedrock | r | 29 | 81 | 1 | | 1 |
| 5507950 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 18-Sep-85 | 12 | 30 | 105 | 90 | 6 STL 87; 5 O_H 121; | DO | SUP | Bedrock | r | 64 | 121 | 1 | | 1 |
| 5507951 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 24 | 29-Aug-85 | 10 | 16 | 80 | 60 | 6 STL 100; 5 O_H 102; | DO | SUP | Bedrock | r | 90 | 102 | 1 | | 1 |
| 5507953 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 01-Oct-85 | 10 | 15 | 90 | 120 | 6 STL 121; | DO | SUP | Bedrock | r | 98 | 121 | 1 | | 1 |
| 5508202 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 10-Jul-86 | 12 | 20 | 110 | 90 | 6 STL 122; | DO | SUP | Bedrock | r | 103 | 122 | 1 | | 1 |
| 5508203 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 18-Jul-86 | 20 | 10 | 20 | 90 | 6 STL 26; 6 85; | DO | SUP | Bedrock | r | 25 | 85 | 1 | | 1 |
| 5508204 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 08-Jul-86 | 12 | 5 | 41 | 90 | 6 STL 26; 6 105; | DO | SUP | Bedrock | r | 25 | 165 | 1 | | 1 |
| 5508253 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 12-Jul-86 | | 12 | 30 | 60 | 6 STL 30; 6 O_H 75; | DO | SUP | Bedrock | r | 26 | 75 | 1 | | 1 |
| 5508254 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 10 | 19-Aug-86 | 10 | 20 | 245 | 60 | 6 STL 36; 6 255; | DO | SUP | Bedrock | r | 35 | 255 | 1 | | 1 |
| 5508255 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 14-Aug-86 | 12 | 16 | 60 | | 6 29; 6 94; | DO | SUP | Bedrock | r | 28 | 94 | 1 | | 1 |
| 5508327 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 10 | 14-Oct-86 | 10 | 6 | 75 | 60 | 6 STL 20; 6 O_H 118; | DO | SUP | Bedrock | r | 17 | 118 | 1 | | 1 |
| 5508328 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 19 | 15-Oct-86 | 10 | 0 | 76 | 60 | 6 STL 45; 6 94; | DO | SUP | Bedrock | r | 44 | 94 | 1 | | 1 |
| 5508329 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 23-Oct-86 | 14 | 18 | 110 | 60 | 6 STL 119; 6 129; | DO | SUP | Bedrock | r | 119 | 129 | 1 | | 1 |
| 5508330 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 29-Sep-86 | 10 | 10 | 25 | 120 | 6 STL 30; 6 O_H 72; | DO | SUP | Bedrock | r | 22 | 72 | 1 | | 1 |
| 5508363 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 19 | 05-Sep-86 | 12 | 3 | 75 | 120 | 6 STL 75; 6 O_H 105; | DO | SUP | Bedrock | r | 62 | 105 | 1 | | 1 |
| 5508365 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 23-Sep-86 | 10 | 8 | 118 | 90 | 6 STL 119; 6 O_H 126; | DO | SUP | Bedrock | r | 107 | 126 | 1 | | 1 |
| 5508444 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 05-Nov-86 | 12 | 30 | 120 | 120 | 6 STL 143; 6 O_H 155; | DO | SUP | Bedrock | r | 126 | 155 | 1 | | 1 |
| 5508445 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 3 | 30-Oct-86 | 10 | 12 | 50 | 60 | 6 STL 23; 6 109; | DO ST | SUP | Bedrock | r | 20 | 109 | 1 | 2 | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5508446 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 30-Oct-86 | 15 | 39 | 112 | 90 | 6 124; 7 137; | DO | SUP | Bedrock | r | 115 | 137 | 1 | | 1 |
| 5508447 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 21-Nov-86 | 15 | 20 | 80 | 60 | 6 STL 122; 6 126; | DO | SUP | Bedrock | r | 115 | 126 | 1 | | 1 |
| 5508513 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 20 | 19-Sep-86 | 50 | 5 | 195 | 60 | 6 STL 120; 6 O_H 195; | DO | SUP | Bedrock | v | 117 | 195 | 1 | | 1 |
| 5508535 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 04-Feb-87 | 10 | 15 | 28 | 1260 | 6 STL 99; 6 O_H 168; | DO | SUP | Bedrock | h | 85 | 168 | 1 | | 1 |
| 5508551 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 22 | 25-Apr-87 | 10 | 40 | 140 | 180 | 6 STL 131; 6 168; | DO | SUP | Bedrock | r | 118 | 168 | 1 | | 1 |
| 5508552 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 9 | 27-Apr-87 | 3 | 14 | 118 | 60 | 6 STL 21; 7 O_H 210; | DO | SUP | Bedrock | r | 8 | 210 | 1 | | 1 |
| 5508638 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-May-87 | 20 | 45 | 90 | 60 | 6 STL 46; 6 O_H 125; | DO | TST | Bedrock | r | 40 | 125 | 3 | | 1 |
| 5508639 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-May-87 | 50 | 51 | 65 | 60 | 6 STL 29; 6 O_H 145; | DO | TST | Bedrock | r | 21 | 145 | 3 | | 1 |
| 5508640 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 21-May-87 | 15 | 41 | 50 | 60 | 6 STL 31; 6 O_H 125; | DO | TST | Bedrock | r | 21 | 125 | 3 | | 1 |
| 5508641 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 22 | 21-May-87 | 20 | 8 | 40 | 60 | 6 STL 123; 6 O_H 165; | DO | TST | Bedrock | r | 121 | 165 | 3 | | 1 |
| 5508642 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 19 | 01-Aug-87 | 8 | 40 | 206 | 120 | 6 STL 162; 6 O_H 206; | DO CO | SUP | Bedrock | h | 135 | 206 | 1 | 5 | 1 |
| 5508643 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 30-Jun-87 | 40 | 8 | 190 | 60 | 1 STL 40; 1 O_H 190; | DO AC | SUP | Bedrock | y | 34 | 190 | 1 | 8 | 1 |
| 5508644 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 01-Jul-87 | 5 | 20 | 145 | 60 | 1 STL 37; O_H 145; | DO AC | SUP | Bedrock | r | 28 | 145 | 1 | 8 | 1 |
| 5508645 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 10 | 03-May-87 | | 24 | | | 6 STL 57; 6 O_H 107; | IR | ABS | Bedrock | r | 57 | 107 | 5 | | 3 |
| 5508646 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 16-May-87 | 20 | 8 | 35 | 60 | 6 STL 40; 6 75; | DO | SUP | Bedrock | r | 30 | 75 | 1 | | 1 |
| 5508647 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 19 | 19-May-87 | 12 | 40 | 150 | 90 | 6 STL 130; 6 O_H 170; | DO | SUP | Bedrock | r | 116 | 170 | 1 | | 1 |
| 5508648 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 06-May-87 | 10 | 10 | 38 | 60 | 6 STL 29; 6 O_H 86; | DO | SUP | Overburden | x | | 86 | 1 | | 1 |
| 5508649 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 15-Jun-87 | 10 | 20 | 100 | 60 | 6 STL 28; 6 115; | DO | SUP | Bedrock | r | 27 | 115 | 1 | | 1 |
| 5508651 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 4 | 29-Jul-87 | 10 | 10 | 52 | 60 | 6 STL 21; 6 O_H 60; | DO | SUP | Bedrock | y | 8 | 60 | 1 | | 1 |
| 5508707 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 14 | 23-Jul-87 | 8 | 15 | 115 | | 6 STL 41; O_H 105; | DO | SUP | Bedrock | r | 32 | 115 | 1 | | 1 |
| 5508802 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 16-Nov-87 | 12 | 30 | 135 | 120 | 6 STL 123; 6 O_H 151; | DO | SUP | Bedrock | r | 115 | 151 | 1 | | 1 |
| 5508803 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 09-Nov-87 | 10 | 34 | 78 | 60 | 6 STL 25; 6 O_H 113; | DO | SUP | Bedrock | r | 18 | 113 | 1 | | 1 |
| 5508805 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 2 | 10-Dec-87 | 10 | 4 | 30 | 120 | 6 STL 30; 6 O_H 48; | DO | SUP | Bedrock | r | 28 | 48 | 1 | | 1 |
| 5508806 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 9 | 01-Oct-87 | | 15 | 100 | 60 | 6 STL 20; 6 O_H 148; | DO | SUP | Bedrock | r | 2 | 148 | 1 | | 1 |
| 5508808 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 15 | 08-Sep-87 | 3 | 15 | 171 | 60 | 6 STL 44; 6 246; | DO | SUP | Bedrock | v | 44 | 246 | 1 | | 1 |
| 5508940 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 3 | 04-Apr-88 | 15 | 27 | 55 | 180 | 6 STL 57; 6 114; | DO | SUP | Bedrock | r | 54 | 114 | 1 | | 1 |
| 5508942 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 27-Apr-88 | 15 | 40 | 50 | 60 | 6 STL 28; 6 O_H 115; | DO | SUP | Bedrock | r | 20 | 115 | 1 | | 1 |
| 5508974 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 7 | 31-May-88 | 12 | 10 | 60 | 60 | 6 STL 38; 6 O_H 67; | DO | SUP | Bedrock | r | 37 | 67 | 1 | | 1 |
| 5508975 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 26-May-88 | 15 | 8 | 22 | 120 | 5 STL 40; 6 103; | DO | SUP | Bedrock | r | 23 | 103 | 1 | | 1 |
| 5508976 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 16 | 08-May-88 | | 15 | 110 | 120 | 6 STL 116; 6 O_H 130; | DO | SUP | Bedrock | r | 112 | 130 | 1 | | 1 |
| 5509020 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 17-Jun-88 | 10 | | 149 | 60 | 6 STL 31; 6 O_H 150; | DO | SUP | Bedrock | r | 24 | 150 | 1 | | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5509021 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 24 | 21-Jun-88 | 15 | 12 | 72 | 90 | 6 STL 75; 6 O_H 85; | DO | SUP | Bedrock | r | 68 | 85 | 1 | | 1 |
| 5509022 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 27-Jun-88 | 10 | 10 | 66 | 60 | 6 STL 20; 6 O_H 85; | DO | SUP | Bedrock | r | 17 | 85 | 1 | | 1 |
| 5509023 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 23-Jun-88 | 12 | 30 | 60 | 60 | 6 STL 27; 6 O_H 106; | DO | SUP | Bedrock | r | 21 | 106 | 1 | | 1 |
| 5509069 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 28-Jul-88 | 15 | 18 | 55 | 60 | 6 STL 24; 6 O_H 95; | DO | SUP | Bedrock | r | 19 | 95 | 1 | | 1 |
| 5509119 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 2 | 08-Aug-88 | 10 | 32 | 270 | 60 | 6 STL 54; O_H 275; | DO ST | SUP | Bedrock | r | 54 | 275 | 1 | 2 | 1 |
| 5509120 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 12 | 15-Aug-88 | 12 | 10 | 123 | 60 | 6 STL 36; 6 O_H 130; | DO | SUP | Bedrock | r | 35 | 130 | 1 | | 1 |
| 5509121 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 22 | 16-Aug-88 | 12 | 32 | 160 | 90 | 6 STL 130; 6 O_H 165; | DO | SUP | Bedrock | r | 108 | 165 | 1 | | 1 |
| 5509183 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 09-Sep-87 | 10 | 35 | 55 | 60 | 6 STL 22; 6 112; | DO | SUP | Bedrock | r | 18 | 112 | 1 | | 1 |
| 5509184 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 21 | 15-Sep-88 | 5 | 20 | 165 | 240 | 6 STL 125; 6 O_H 165; | DO | SUP | Bedrock | r | 114 | 165 | 1 | | 1 |
| 5509185 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 3 | 08-Sep-88 | 10 | 11 | 125 | 60 | 6 21; 6 130; | CO | SUP | Bedrock | r | 14 | 130 | 1 | | 5 |
| 5509186 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 06-Sep-88 | 10 | 42 | 120 | 90 | 6 STL 158; 6 O_H 160; | DO | SUP | Bedrock | r | 157 | 160 | 1 | | 1 |
| 5509187 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 9 | 14-Sep-88 | 15 | 16 | 72 | 60 | 6 STL 26; 6 O_H 90; | DO | SUP | Bedrock | r | 24 | 90 | 1 | | 1 |
| 5509188 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 2 | 19-Sep-88 | 15 | 12 | 95 | 60 | 6 STL 30; 6 O_H 107; | DO | SUP | Bedrock | r | 29 | 107 | 1 | | 1 |
| 5509189 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 7 | 26-Sep-88 | 25 | 18 | 199 | 60 | 6 STL 74; 6 O_H 200; | DO | SUP | Bedrock | r | 72 | 200 | 1 | | 1 |
| 5509191 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 04-Oct-88 | 15 | 40 | 80 | 60 | 6 STL 31; 6 O_H 143; | DO | TST | Bedrock | r | 19 | 143 | 3 | | 1 |
| 5509192 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 04-Oct-88 | 8 | 40 | 100 | 60 | 6 STL 52; 6 O_H 143; | DO | TST | Bedrock | r | 42 | 143 | 3 | | 1 |
| 5509193 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 04-Oct-88 | 20 | 40 | 80 | 60 | 6 STL 45; 6 O_H 143; | DO | TST | Bedrock | r | 18 | 143 | 3 | | 1 |
| 5509250 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 10 | 14-Nov-88 | 3 | 60 | 345 | 60 | 6 STL 50; 6 O_H 345; | DO | SUP | Bedrock | r | 44 | 345 | 1 | | 1 |
| 5509252 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 25-Oct-88 | 15 | 38 | 82 | | 6 STL 26; 6 O_H 110; | DO | SUP | Bedrock | r | 21 | 110 | 1 | | 1 |
| 5509253 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 21 | 19-Oct-88 | 15 | 14 | 92 | 90 | 6 STL 92; 6 O_H 102; | DO | SUP | Bedrock | h | 15 | 102 | 1 | | 1 |
| 5509304 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 1 | 4 | 22-Nov-88 | 200 | 20 | 180 | 60 | 6 STL 38; 6 O_H 280; | DO | SUP | Bedrock | r | 33 | 280 | 1 | | 1 |
| 5509305 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 02-Nov-88 | 15 | 24 | 90 | 90 | 6 STL 29; 6 O_H 118; | DO | SUP | Bedrock | r | 22 | 118 | 1 | | 1 |
| 5509361 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 23-Jan-89 | 15 | 10 | 135 | 60 | 6 STL 36; 6 O_H 148; | DO | SUP | Bedrock | r | 35 | 148 | 1 | | 1 |
| 5509362 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 28-Jan-89 | 12 | 8 | 50 | 60 | 6 STL 21; 6 O_H 130; | DO | SUP | Bedrock | r | 4 | 130 | 1 | | 1 |
| 5509373 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-Feb-89 | 20 | 40 | 85 | 60 | 6 STL 22; 6 O_H 118; | DO | SUP | Bedrock | r | 17 | 118 | 1 | | 1 |
| 5509403 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 6 | 06-Mar-89 | 20 | 15 | 35 | 60 | 6 STL 59; 6 109; | DO ST | SUP | Bedrock | r | 56 | 109 | 1 | 2 | 1 |
| 5509431 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 12-Apr-89 | 12 | 12 | 85 | 60 | 6 STL 20; 6 O_H 135; | DO | SUP | Bedrock | r | 4 | 135 | 1 | | 1 |
| 5509432 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 2 | 21-Apr-89 | 12 | 8 | 160 | 90 | 6 STL 20; 6 O_H 165; | DO | SUP | Bedrock | r | 3 | 165 | 1 | | 1 |
| 5509491 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 12-May-89 | 15 | 41 | 155 | 60 | 6 STL 131; 6 O_H 136; | DO | SUP | Bedrock | r | 124 | 164 | 1 | | 1 |
| 5509561 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 14-Jun-89 | 15 | 34 | 55 | 90 | 6 25; 7 O_H 115; | DO | SUP | Bedrock | r | 20 | 115 | 1 | | 1 |
| 5509562 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 21-Jun-89 | 15 | 35 | 50 | | 6 STL 24; 6 O_H 115; | DO | SUP | Bedrock | r | 21 | 115 | 1 | | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5509563 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 16-Jun-89 | 12 | 35 | 50 | 60 | 6 STL 26; 6 O_H 115; | DO | SUP | Bedrock | r | 19 | 115 | 1 | | 1 |
| 5509584 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 11-Jul-89 | 15 | 10 | 55 | 60 | 6 STL 21; 6 70; | DO | SUP | Bedrock | r | 19 | 70 | 1 | | 1 |
| 5509632 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 14-Aug-89 | 8 | 35 | 120 | 120 | 6 STL 33; 6 O_H 142; | DO | SUP | Bedrock | r | 22 | 144 | 1 | | 1 |
| 5509633 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 14-Aug-84 | 12 | 26 | 140 | 60 | 6 STL 20; 6 173; | DO | SUP | Bedrock | r | 13 | 173 | 1 | | 1 |
| 5509634 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | | | 04-Jul-89 | 12 | 12 | 120 | 90 | 6 STL 118; 6 O_H 133; | DO | SUP | Bedrock | r | 117 | 133 | 1 | | 1 |
| 5509635 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 01-Jun-89 | 10 | 20 | 210 | 60 | 6 47; 6 O_H 211; | DO | SUP | Bedrock | r | 46 | 211 | 1 | | 1 |
| 5509636 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Aug-89 | 20 | 25 | 60 | 60 | 6 O_H 115; | DO | SUP | Bedrock | r | 70 | 115 | 1 | | 1 |
| 5509692 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 18-Sep-89 | 12 | 40 | 40 | 60 | 6 STL 38; 6 145; | DO | SUP | Bedrock | r | 17 | 145 | 1 | | 1 |
| 5509693 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-Sep-89 | 30 | 40 | 130 | 60 | 6 STL 37; 6 O_H 145; | DO | SUP | Bedrock | r | 22 | 145 | 1 | | 1 |
| 5509694 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 22-Sep-89 | | 7 | 70 | 60 | 6 STL 62; 6 102; | DO | SUP | Bedrock | r | 52 | 102 | 1 | | 1 |
| 5509750 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 10-Oct-89 | 10 | 2 | 70 | 60 | 6 STL 21; 6 130; | DO | SUP | Bedrock | r | 11 | 130 | 1 | | 1 |
| 5509751 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 31-Oct-89 | 30 | 40 | 114 | 60 | 6 STL 40; 6 125; | DO | SUP | Bedrock | r | 24 | 125 | 1 | | 1 |
| 5509752 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 05-Oct-89 | 12 | 5 | 115 | 120 | 6 STL 100; 6 O_H 126; | DO | SUP | Bedrock | r | 71 | 126 | 1 | | 1 |
| 5509753 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 16 | 16-Oct-89 | | 35 | 260 | 60 | 6 STL 91; 6 265; | DO | SUP | Bedrock | r | 66 | 265 | 1 | | 1 |
| 5509771 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 4 | 10-Oct-89 | 5 | 22 | 180 | 60 | 6 STL 36; 6 180; | DO | SUP | Overburden | x | | 180 | 1 | | 1 |
| 5509801 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 12-Oct-89 | 12 | 20 | 30 | 120 | 6 STL 33; 6 O_H 118; | DO | SUP | Bedrock | r | 28 | 118 | 1 | | 1 |
| 5509822 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 08-Nov-89 | 10 | 44 | 245 | 60 | 6 STL 122; 6 O_H 245; | DO | SUP | Bedrock | r | 117 | 245 | 1 | | 1 |
| 5509823 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Nov-89 | 10 | 47 | 145 | 60 | 6 STL 32; 6 O_H 145; | DO | SUP | Bedrock | r | 18 | 145 | 1 | | 1 |
| 5509825 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 15 | 06-Nov-89 | 50 | 75 | 185 | 60 | 6 STL 70; 6 O_H 195; | DO | SUP | Bedrock | r | 65 | 195 | 1 | | 1 |
| 5509826 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 07-Nov-89 | 30 | 30 | 110 | 60 | 6 31; 6 O_H 115; | DO | SUP | Bedrock | y | 22 | 115 | 1 | | 1 |
| 5509827 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 01-Nov-89 | 50 | 20 | 150 | 60 | 6 32; 6 O_H 170; | DO | SUP | Bedrock | r | 28 | 170 | 1 | | 1 |
| 5509841 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 21-Nov-89 | 10 | 30 | 205 | 60 | 6 STL 20; 6 205; | DO | SUP | Bedrock | r | 7 | 205 | 1 | | 1 |
| 5509842 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 16-Dec-89 | 10 | 44 | 165 | 120 | 6 STL 163; 6 175; | DO | | Bedrock | y | 150 | 175 | | | 1 |
| 5509892 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 03-Jan-90 | 25 | 47 | 145 | 60 | 6 STL 40; 6 150; | DO | SUP | Bedrock | r | 26 | 150 | 1 | | 1 |
| 5509902 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 15-Feb-90 | | 10 | | | 6 O_H 408; | DO | SUP | Overburden | o | | 408 | 1 | | 1 |
| 5509909 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 05-Mar-90 | 15 | 34 | 110 | 120 | 6 STL 144; 6 O_H 167; | DO | SUP | Bedrock | r | 131 | 167 | 1 | | 1 |
| 5509920 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Feb-90 | 6 | 20 | 30 | 60 | 6 STL 27; 6 O_H 100; | DO | SUP | Bedrock | r | 17 | 100 | 1 | | 1 |
| 5509921 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 02-Feb-90 | 8 | 20 | 30 | 60 | 6 STL 21; 6 O_H 100; | DO | SUP | Bedrock | r | 12 | 100 | 1 | | 1 |
| 5509922 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 31-Jan-90 | 15 | 25 | 50 | 60 | 6 STL 65; 6 O_H 150; | DO | SUP | Bedrock | r | 55 | 150 | 1 | | 1 |
| 5509923 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 31-Jan-90 | 15 | 20 | 50 | 60 | 6 STL 60; 6 O_H 150; | DO | SUP | Bedrock | r | 55 | 150 | 1 | | 1 |
| 5509924 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 31-Jan-90 | 4 | 50 | 150 | 60 | 6 STL 142; 6 O_H 200; | DO | SUP | Bedrock | r | 139 | 200 | 1 | | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5509956 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 27-Apr-90 | 10 | 25 | 125 | 60 | 6 STL 28; 6 O_H 125; | DO | SUP | Bedrock | r | 18 | 125 | 1 | | 1 |
| 5510037 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 9 | 22-May-90 | 30 | 5 | 70 | 60 | 6 STL 20; 6 O_H 90; | DO | SUP | Bedrock | h | 0 | 90 | 1 | | 1 |
| 5510038 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 02-May-90 | 20 | 25 | 110 | 60 | 6 STL 34; 5 O_H 120; | DO | SUP | Bedrock | r | 18 | 120 | 1 | | 1 |
| 5510080 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 27-Jun-90 | 10 | 37 | 122 | 60 | 6 STL 34; 5 125; | DO | SUP | Bedrock | r | 14 | 125 | 1 | | 1 |
| 5510081 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 05-Jun-90 | 12 | 20 | 118 | 60 | 6 STL 43; 5 O_H 125; | DO | SUP | Bedrock | r | 40 | 125 | 1 | | 1 |
| 5510082 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 04-Jun-90 | 10 | 33 | 124 | 60 | 6 STL 34; 6 O_H 125; | DO | SUP | Bedrock | r | 24 | 125 | 1 | | 1 |
| 5510141 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 31-Jul-90 | 20 | 10 | 30 | 60 | 6 STL 28; 5 O_H 45; | DO | SUP | Bedrock | r | 10 | 45 | 1 | | 1 |
| 5510142 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | | | 03-Jul-90 | 12 | 1 | 110 | 60 | 6 STL 20; 6 O_H 133; | DO | SUP | Bedrock | r | 3 | 133 | 1 | | 1 |
| 5510143 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | | 31-Jul-90 | 20 | 12 | 50 | 90 | 6 STL 118; 6 O_H 150; | DO | SUP | Bedrock | r | 105 | 150 | 1 | | 1 |
| 5510208 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-Aug-90 | 20 | 25 | 110 | 60 | 6 34; 5 O_H 120; | DO | SUP | Bedrock | r | 16 | 120 | 1 | | 1 |
| 5510209 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 03-Aug-90 | 10 | 25 | 120 | 60 | 6 STL 33; 5 O_H 125; | DO | SUP | Bedrock | r | 14 | 125 | 1 | | 1 |
| 5510210 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | | 22-Aug-90 | 10 | | 160 | 60 | 6 STL 37; 6 165; | DO | SUP | Bedrock | r | 15 | 165 | 1 | | 1 |
| 5510253 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 07-Sep-90 | 10 | 38 | 120 | 60 | 6 STL 33; 5 O_H 125; | DO | SUP | Bedrock | r | 19 | 125 | 1 | | 1 |
| 5510254 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 05-Sep-90 | 20 | 15 | 140 | 60 | 6 STL 31; 6 155; | DO | SUP | Bedrock | r | 29 | 155 | 1 | | 1 |
| 5510255 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 04-Sep-90 | 10 | 25 | 240 | 60 | 6 STL 25; 6 O_H 245; | DO | SUP | Bedrock | r | 23 | 245 | 1 | | 1 |
| 5510256 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 17-Sep-90 | 15 | 40 | 120 | 120 | 6 158; 6 O_H 162; | DO | SUP | Bedrock | r | 153 | 162 | 1 | | 1 |
| 5510257 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 13-Sep-90 | 12 | 15 | 130 | 120 | 6 STL 123; 6 O_H 140; | DO | SUP | Bedrock | r | 121 | 140 | 1 | | 1 |
| 5510304 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 30-Oct-90 | 8 | 10 | 70 | 120 | 6 STL 34; 6 O_H 257; | DO | SUP | Bedrock | r | 32 | 257 | 1 | | 1 |
| 5510323 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 02-Oct-90 | 10 | 25 | 200 | 60 | 6 STL 49; 6 O_H 205; | DO | SUP | Bedrock | r | 44 | 205 | 1 | | 1 |
| 5510324 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 26-Oct-90 | 10 | 2 | 78 | 60 | 6 STL 20; 6 90; | DO | SUP | Bedrock | r | 2 | 90 | 1 | | 1 |
| 5510325 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 12 | 11-Oct-90 | 10 | 6 | 240 | 60 | 6 45; 5 O_H 245; | DO | SUP | Bedrock | r | 36 | 245 | 1 | | 1 |
| 5510367 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 16-Nov-90 | 7 | 35 | 80 | 180 | 5 STL 160; 5 O_H 170; | DO | SUP | Bedrock | v | 118 | 170 | 1 | | 1 |
| 5510427 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | | 25-Mar-91 | 20 | 15 | 50 | 90 | 6 STL 30; 6 91; | DO | SUP | Bedrock | r | 28 | 91 | 1 | | 1 |
| 5510494 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 21-May-91 | 15 | 37 | 105 | | 6 STL 34; 6 O_H 110; | DO | SUP | Bedrock | r | 18 | 110 | 1 | | 1 |
| 5510495 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-May-91 | 25 | 40 | 130 | 60 | 6 STL 34; 6 O_H 150; | DO | SUP | Bedrock | r | 14 | 150 | 1 | | 1 |
| 5510496 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 06-May-91 | 30 | | 125 | 60 | 6 33; 6 145; | DO | SUP | Bedrock | r | 16 | 145 | 1 | | 1 |
| 5510497 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 28-May-91 | 10 | 28 | 320 | 60 | 6 STL 40; 6 O_H 325; | DO | SUP | Bedrock | r | 37 | 325 | 1 | | 1 |
| 5510499 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 24-May-91 | 15 | | 260 | 60 | 6 STL 40; 5 O_H 265; | DO | SUP | Bedrock | r | 29 | 265 | 1 | | 1 |
| 5510533 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 24-Jun-91 | 10 | 50 | 180 | 60 | 6 STL 167; 5 O_H 185; | DO | SUP | Bedrock | r | 140 | 185 | 1 | | 1 |
| 5510534 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 05-Jun-91 | 10 | 46 | 140 | 60 | 6 STL 34; 5 145; | DO | SUP | Bedrock | r | 14 | 145 | 1 | | 1 |
| 5510535 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 20-Jun-91 | 10 | 35 | 300 | 60 | 6 STL 63; 6 O_H 305; | DO | SUP | Bedrock | r | 43 | 305 | 1 | | 1 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5510536 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 05-Jun-91 | 20 | 36 | 120 | 60 | 6 STL 34; 5 O_H 128; | DO | SUP | Bedrock | r | 26 | 125 | 1 | | 1 |
| 5510537 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 12-Jun-91 | 15 | 5 | 90 | 60 | 6 STL 97; 6 285; 5 CNC 288; | DO | SUP | Bedrock | r | 94 | 288 | 1 | | 1 |
| 5510577 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 24-Jul-91 | 20 | 40 | 120 | 60 | 6 34; 5 125; | DO | SUP | Bedrock | r | 14 | 125 | 1 | | 1 |
| 5510578 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 15-Jul-91 | 40 | 40 | 140 | 60 | 6 STL 54; 5 O_H 145; | DO | SUP | Bedrock | y | 16 | 145 | 1 | | 1 |
| 5510745 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 15-Nov-91 | 20 | 49 | 140 | 60 | 6 54; 5 O_H 145; | DO | SUP | Bedrock | r | 31 | 145 | 1 | | 1 |
| 5510746 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 20-Nov-91 | 10 | 39 | 260 | 60 | 6 STL 74; 5 268; | DO | SUP | Bedrock | y | 54 | 265 | 1 | | 1 |
| 5510747 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 18-Nov-91 | 10 | 49 | 180 | 60 | 6 STL 146; 5 O_H 185; | DO | SUP | Bedrock | r | 141 | 185 | 1 | | 1 |
| 5510822 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 23-Apr-92 | 15 | 20 | 100 | 60 | 6 STL 45; 6 O_H 105; | DO | SUP | Bedrock | r | 34 | 105 | 1 | | 1 |
| 5510823 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 05-May-92 | 20 | 42 | 140 | 60 | 6 STL 54; 5 O_H 145; | DO | SUP | Bedrock | r | 36 | 145 | 1 | | 1 |
| 5510824 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 08-May-92 | 20 | 138 | 140 | 60 | 6 STL 54; 6 O_H 145; | DO | SUP | Bedrock | r | 34 | 145 | 1 | | 1 |
| 5510825 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 24-Apr-92 | 20 | | 120 | 60 | 6 STL 40; 6 125; | DO | SUP | Bedrock | r | 18 | 125 | 1 | | 1 |
| 5510826 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 10-May-92 | 20 | 38 | 120 | 60 | 6 STL 53; 6 125; | DO | SUP | Bedrock | r | 17 | 125 | 1 | | 1 |
| 5510859 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | | 29-May-92 | 10 | 17 | 180 | 60 | 6 STL 41; 6 145; 6 O_H 201; | DO | SUP | Bedrock | r | 34 | 201 | 1 | | 1 |
| 5510901 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 13 | 23-Jun-92 | 10 | 20 | 120 | 60 | 6 STL 44; 6 O_H 125; | DO | SUP | Bedrock | r | 46 | 125 | 1 | | 1 |
| 5510902 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 24-Jun-92 | 14 | 8 | 60 | 90 | 6 STL 33; 6 O_H 165; 6 O_H 170; | DO | SUP | Bedrock | r | 30 | 170 | 1 | | 1 |
| 5510903 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 08-Jun-92 | 10 | 15 | 180 | 60 | 6 STL 39; 6 O_H 183; | DO IN | SUP | Bedrock | r | 35 | 183 | 1 | 4 | 1 |
| 5510958 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 21-Jul-92 | 10 | 39 | 140 | 90 | 6 STL 130; 5 O_H 145; | DO | SUP | Bedrock | r | 125 | 145 | 1 | | 1 |
| 5510959 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 23-Jul-92 | 25 | | 40 | 60 | 6 STL 25; 5 O_H 45; | DO | SUP | Bedrock | r | 22 | 45 | 1 | | 1 |
| 5510960 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 02-Aug-92 | 10 | 20 | 140 | 60 | 6 STL 40; 6 145; | DO | SUP | Bedrock | r | 36 | 145 | 1 | | 1 |
| 5510961 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 22-Jul-92 | 10 | 8 | 350 | 90 | 6 STL 24; 6 O_H 356; | DO | SUP | Bedrock | r | 22 | 356 | 1 | | 1 |
| 5511012 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 17-Sep-92 | 25 | 44 | 135 | 60 | 6 STL 60; 5 O_H 145; | DO | SUP | Bedrock | r | 55 | 145 | 1 | | 1 |
| 5511013 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 01-Sep-92 | 20 | 41 | 140 | 60 | 6 STL 60; 5 O_H 145; | DO | SUP | Bedrock | r | 44 | 145 | 1 | | 1 |
| 5511014 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 16-Sep-92 | 25 | 6 | 105 | 60 | 6 STL 49; 6 O_H 110; | DO | SUP | Bedrock | r | 46 | 110 | 1 | | 1 |
| 5511015 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 26-Aug-92 | 20 | 41 | 125 | 60 | 6 STL 40; 5 O_H 145; | DO | SUP | Bedrock | r | 25 | 145 | 1 | | 1 |
| 5511017 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 16 | 24-Aug-92 | 16 | 36 | 272 | 90 | 6 STL 70; 5 O_H 285; 5 O_H 287; | DO | SUP | Bedrock | r | 56 | 287 | 1 | | 1 |
| 5511052 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 23-Oct-92 | 10 | 20 | 125 | 60 | 6 STL 33; 6 O_H 188; | DO | SUP | Bedrock | r | 28 | 188 | 1 | | 1 |
| 5511118 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 27-Oct-92 | 15 | | 115 | 60 | 6 STL 50; 5 O_H 125; | DO | SUP | Bedrock | r | 25 | 125 | 1 | | 1 |
| 5511119 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 27-Oct-92 | 20 | 42 | 115 | 60 | 6 STL 50; 6 O_H 125; | DO | SUP | Bedrock | r | 27 | 125 | 1 | | 1 |
| 5511120 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 28-Oct-92 | 25 | 41 | 135 | 60 | 6 STL 50; 5 O_H 145; | DO | SUP | Bedrock | r | 31 | 145 | 1 | | 1 |
| 5511121 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 10-Nov-92 | 10 | 12 | 142 | 90 | 6 STL 125; 5 O_H 152; | DO | SUP | Bedrock | r | 102 | 145 | 1 | | 1 |
| 5511383 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 12 | 01-Apr-93 | 2 | 5 | 320 | 60 | 5 O_H 325; | CO | SUP | Bedrock | r | 224 | 325 | 1 | | 5 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5511384 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 08-Apr-93 | 20 | 28 | 180 | 60 | 6 STL 34; 7 190; | DO | SUP | Bedrock | r | 31 | 190 | 1 | | 1 |
| 5511478 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 3 | 27-Apr-93 | 10 | 25 | 140 | 60 | 6 STL 34; 6 O_H 145; | DO | SUP | Bedrock | r | 30 | 145 | 1 | | 1 |
| 5511479 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 11-May-92 | 12 | 55 | 137 | 60 | 6 STL 164; 5 O_H 175; | DO | SUP | Bedrock | r | 158 | 175 | 1 | | 1 |
| 5511480 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 4 | 16-Apr-93 | 10 | | 160 | | 6 STL 28; 6 O_H 168; | DO | SUP | Bedrock | r | 27 | 165 | 1 | | 1 |
| 5511510 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 14-May-93 | 10 | 40 | 170 | 90 | 6 STL 162; 1 O_H 175; | DO | SUP | Bedrock | r | 148 | 175 | 1 | | 1 |
| 5511511 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 4 | 07-Jun-93 | 10 | 0 | 64 | 90 | 6 STL 20; 6 O_H 146; | DO | SUP | Bedrock | r | 10 | 146 | 1 | | 1 |
| 5511513 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 10-May-93 | 10 | | 200 | | 6 STL 120; 5 O_H 205; | DO | SUP | Bedrock | r | 106 | 205 | 1 | | 1 |
| 5511564 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 18-Jun-93 | 10 | 25 | 180 | 60 | 6 STL 90; 5 185; | DO | SUP | Bedrock | r | 75 | 185 | 1 | | 1 |
| 5511614 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 4 | 21-Jul-83 | 10 | 1 | 70 | 60 | 6 STL 20; 6 O_H 132; | DO | TST | Bedrock | r | 9 | 132 | 3 | | 1 |
| 5511616 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Jul-93 | 10 | 38 | 180 | 120 | 6 STL 170; 6 O_H 185; 5 203; | DO | SUP | Bedrock | r | 160 | 203 | 1 | | 1 |
| 5511617 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 20-Aug-93 | 25 | | 140 | 60 | 6 STL 50; 6 O_H 145; | DO | SUP | Bedrock | r | 33 | 145 | 1 | | 1 |
| 5511676 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 08-Sep-93 | 8 | 46 | 210 | 60 | 6 STL 167; 5 215; | DO | SUP | Bedrock | r | 118 | 215 | 1 | | 1 |
| 5511678 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 4 | 01-Sep-93 | 10 | 0 | 75 | 60 | 6 STL 22; 6 156; | DO | SUP | Bedrock | r | 18 | 156 | 1 | | 1 |
| 5511713 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 08-Oct-93 | 15 | 45 | 120 | 60 | 6 STL 49; 6 O_H 128; | DO | SUP | Bedrock | r | 25 | 125 | 1 | | 1 |
| 5511716 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 24-Sep-93 | 8 | 27 | 180 | 60 | 6 STL 110; 5 O_H 185; | DO | SUP | Bedrock | r | 98 | 185 | 1 | | 1 |
| 5511772 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 16-Nov-93 | 10 | 37 | 100 | 90 | 6 STL 162; 5 O_H 185; | DO | SUP | Bedrock | r | 145 | 186 | 1 | | 1 |
| 5511773 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 03-Nov-93 | 15 | 25 | 145 | 60 | 6 STL 24; 6 150; | DO | SUP | Bedrock | r | 19 | 150 | 1 | | 1 |
| 5511809 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 10-Nov-93 | | 75 | 320 | 90 | 6 STL 40; 6 325; | DO | SUP | Bedrock | r | 38 | 325 | 1 | | 1 |
| 5511859 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 13-Apr-94 | 35 | 11 | 90 | 60 | 6 STL 30; 6 105; | DO | SUP | Bedrock | r | 29 | 105 | 1 | | 1 |
| 5511860 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 04-May-94 | 10 | 5 | 135 | 60 | 6 STL 20; 6 O_H 145; | DO | SUP | Bedrock | r | 16 | 145 | 1 | | 1 |
| 5511861 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 24 | 25-Apr-94 | 15 | 29 | 65 | 360 | 6 STL 90; 6 O_H 105; | DO | SUP | Bedrock | r | 68 | 105 | 1 | | 1 |
| 5511862 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 03-May-94 | 8 | 25 | 80 | 60 | 6 STL 30; 6 O_H 85; | DO | SUP | Bedrock | r | 20 | 85 | 1 | | 1 |
| 5511892 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 07-Jun-94 | 8 | 34 | 120 | 60 | 6 STL 40; 5 125; | DO | SUP | Bedrock | r | 20 | 125 | 1 | | 1 |
| 5511934 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-Jun-94 | 25 | 35 | 150 | 60 | 6 STL 30; 5 O_H 155; | DO | SUP | Bedrock | r | 17 | 155 | 1 | | 1 |
| 5512003 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | 2 | 18 | 13-Jul-94 | 15 | 38 | 100 | 60 | 6 STL 30; 6 O_H 125; | DO | SUP | Bedrock | r | 16 | 125 | 1 | | 1 |
| 5512077 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 08-Apr-94 | 15 | 20 | 140 | 60 | 5 56; 6 O_H 195; | DO | SUP | Bedrock | v | 36 | 195 | 1 | | 1 |
| 5512078 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 13-Sep-94 | 10 | 38 | 180 | 60 | 6 STL 90; 6 185; | DO | SUP | Bedrock | r | 43 | 185 | 1 | | 1 |
| 5512079 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 13-Sep-94 | 10 | 6 | 155 | 60 | 6 STL 40; 6 O_H 165; | DO | SUP | Bedrock | r | 26 | 165 | 1 | | 1 |
| 5512144 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 12-Oct-94 | 10 | 45 | 267 | 90 | 6 STL 43; 6 O_H 285; | DO | SUP | Bedrock | r | 41 | 285 | 1 | | 1 |
| 5512145 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 17-Nov-94 | 10 | 38 | 97 | 60 | 6 STL 50; 6 O_H 115; | DO | SUP | Bedrock | r | 35 | 115 | 1 | | 1 |
| 5512147 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 13 | 09-Nov-94 | 11 | 12 | 57 | 60 | 6 STL 42; 6 125; | CO | SUP | Bedrock | r | 31 | 125 | 1 | | 5 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5512148 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 07-Nov-94 | 10 | 6 | 200 | 60 | 6 STL 41; 6 205; | DO | SUP | Bedrock | r | 38 | 205 | 1 | | 1 |
| 5512211 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 14-Dec-94 | 10 | 8 | 67 | 60 | 6 STL 36; 6 165; | DO | SUP | Bedrock | r | 32 | 165 | 1 | | 1 |
| 5512212 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 15-Dec-94 | 7 | 3 | 200 | 60 | 6 STL 29; 5 STL 35; 6 O_H 205; | DO | SUP | Bedrock | r | 24 | 205 | 1 | | 1 |
| 5512213 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 15-Dec-94 | 10 | 10 | 158 | 60 | 6 STL 36; 6 O_H 305; | DO | SUP | Bedrock | r | 34 | 305 | 1 | | 1 |
| 5512214 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 4 | 28-Nov-94 | 10 | 40 | 208 | 90 | 6 STL 42; 6 227; | DO CO | SUP | Bedrock | r | 40 | 227 | 1 | 5 | 1 |
| 5512240 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 10-Mar-95 | 10 | 20 | 31 | 60 | 6 STL 40; 6 O_H 205; | IN | SUP | Bedrock | r | 37 | 205 | 1 | | 4 |
| 5512241 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 07-Apr-95 | 7 | 4 | 82 | 60 | 6 STL 54; 6 O_H 215; | IN CO | SUP | Bedrock | r | 51 | 215 | 1 | 5 | 4 |
| 5512242 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 11-Mar-95 | | 22 | 204 | 60 | 6 STL 50; 6 O_H 205; | IN | SUP | Bedrock | r | 46 | 205 | 1 | | 4 |
| 5512243 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 05-Apr-95 | 10 | 12 | 320 | 60 | 6 STL 56; 6 O_H 328; | IN | SUP | Bedrock | r | 54 | 328 | 1 | | 4 |
| 5512267 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 16-May-95 | 10 | 20 | 23 | 60 | 6 STL 60; 6 O_H 105; | DO | SUP | Bedrock | r | 53 | 105 | 1 | | 1 |
| 5512314 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 12-Jun-95 | 10 | 40 | 115 | 180 | 6 STL 27; 6 117; | DO | SUP | Bedrock | h | 8 | 125 | 1 | | 1 |
| 5512384 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 9 | 10-Jul-95 | 10 | 6 | 180 | 60 | 6 STL 20; 6 O_H 185; | DO | SUP | Bedrock | r | 10 | 185 | 1 | | 1 |
| 5512429 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 15-Aug-95 | 9 | 9 | 132 | 60 | 6 STL 40; 6 O_H 145; | DO | SUP | Bedrock | r | 33 | 145 | 1 | | 1 |
| 5512430 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 09-Aug-95 | 10 | 23 | 82 | 60 | 6 STL 100; 6 O_H 165; | DO | SUP | Bedrock | r | 76 | 165 | 1 | | 1 |
| 5512431 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 10-Aug-95 | 10 | 23 | 76 | 60 | 6 STL 80; 6 O_H 145; | DO | SUP | Bedrock | r | 64 | 144 | 1 | | 1 |
| 5512459 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-Sep-95 | 10 | 43 | 62 | 60 | 6 STL 40; 6 O_H 135; | DO | SUP | Bedrock | r | 22 | 135 | 1 | | 1 |
| 5512460 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 31 | 05-Sep-95 | 8 | 12 | 160 | 360 | 6 STL 13; 6 O_H 165; | DO | SUP | Bedrock | r | 120 | 165 | 1 | | 1 |
| 5512519 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 29-Sep-95 | 10 | 32 | 91 | 60 | 6 STL 50; 6 O_H 125; | DO | SUP | Bedrock | r | 26 | 125 | 1 | | 1 |
| 5512520 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 23-Oct-95 | 6 | 6 | 127 | 90 | 6 STL 140; 6 O_H 165; | DO | SUP | Bedrock | h | 65 | 165 | 1 | | 1 |
| 5512539 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 28-Nov-95 | 10 | 73 | 300 | 60 | 6 STL 43; 6 O_H 305; | DO | SUP | Bedrock | r | 39 | 305 | 1 | | 1 |
| 5512583 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 29-Apr-96 | 15 | 13 | 65 | 60 | 6 STL 21; 6 O_H 145; | DO | SUP | Bedrock | r | 5 | 145 | 1 | | 1 |
| 5512587 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 15-May-96 | 12 | 28 | 54 | 60 | 6 STL 70; 6 O_H 166; | DO | SUP | Bedrock | r | 35 | 165 | 1 | | 1 |
| 5512588 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 15-May-96 | 12 | 25 | 42 | 60 | 6 STL 70; 6 O_H 145; | DO | SUP | Bedrock | r | 37 | 145 | 1 | | 1 |
| 5512604 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 19-Jun-96 | 8 | 26 | 60 | 60 | 6 STL 150; 6 O_H 165; | DO | SUP | Bedrock | r | 139 | 165 | 1 | | 1 |
| 5512606 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-May-96 | 14 | 30 | 70 | 300 | 6 STL 50; 6 O_H 128; | DO | SUP | Bedrock | r | 42 | 125 | 1 | | 1 |
| 5512674 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 26-Jul-96 | 9 | 39 | 160 | | 6 STL 90; 5 O_H 165; | CO | OBS | Bedrock | r | 47 | 165 | 2 | | 5 |
| 5512675 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 23 | 26-Jul-96 | 9 | 14 | 24 | | 6 STL 130; 6 O_H 165; | CO | OBS | Bedrock | r | 75 | 165 | 2 | | 5 |
| 5512676 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-Jul-96 | 7 | 32 | 112 | 60 | 6 STL 30; 6 O_H 135; | DO | SUP | Bedrock | r | 35 | 135 | 1 | | 1 |
| 5512677 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 17 | 18-Jun-96 | 10 | 25 | 110 | 180 | 6 STL 130; 6 165; | DO | SUP | Bedrock | r | 114 | 165 | 1 | | 1 |
| 5512715 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 2 | 22-Aug-96 | 10 | 13 | 145 | 60 | 6 STL 20; 6 O_H 145; | DO | SUP | Bedrock | r | 8 | 145 | 1 | | 1 |
| 5512716 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 8 | 30-Aug-96 | 8 | 13 | 55 | 60 | 6 STL 78; 6 O_H 85; | DO | SUP | Bedrock | r | 70 | 85 | 1 | | 1 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5512717 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 7 | 10-Sep-96 | 11 | 23 | 55 | 60 | 6 STL 20; 6 O_H 115; | DO | SUP | Bedrock | r | 6 | 115 | 1 | | 1 |
| 5512807 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 15-Oct-96 | 9 | 45 | 60 | 60 | 6 STL 30; 6 O_H 125; | DO | SUP | Bedrock | r | 18 | 125 | 1 | | 1 |
| 5512855 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 8 | 30-Dec-96 | 11 | 40 | 45 | 60 | 6 STL 170; | DO | SUP | Bedrock | r | 148 | 170 | 1 | | 1 |
| 5512864 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 3 | 16-Dec-96 | | 26 | 123 | 60 | 6 STL 65; | DO | SUP | Bedrock | r | 61 | 300 | 1 | | 1 |
| 5512865 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 4 | 18-Dec-96 | 3 | 20 | 71 | 60 | 6 STL 65; | DO | SUP | Bedrock | r | 60 | 260 | 1 | | 1 |
| 5512867 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 14 | 15-Jan-97 | 1 | 5 | 78 | 60 | 6 STL 75; | DO | SUP | Bedrock | r | 70 | 400 | 1 | | 1 |
| 5512920 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 07-May-97 | 10 | 23 | 320 | 60 | 6 STL 20; 5 O_H 325; | DO | SUP | Bedrock | r | 10 | 325 | 1 | | 1 |
| 5512921 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 12-Jun-97 | 10 | 45 | 209 | 90 | 6 STL 170; 5 O_H 225; | DO | SUP | Bedrock | r | 160 | 225 | 1 | | 1 |
| 5513015 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 22-Jul-97 | 9 | 35 | 55 | 60 | 6 STL 170; | DO | SUP | Bedrock | h | 65 | 170 | 1 | | 1 |
| 5513058 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 05-Sep-97 | 11 | 50 | 110 | 60 | 6 STL 50; 5 O_H 125; | DO | SUP | Bedrock | r | 36 | 125 | 1 | | 1 |
| 5513059 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 19-Aug-97 | 8 | 28 | 325 | 60 | 6 STL 40; 5 O_H 330; | ST | SUP | Bedrock | r | 37 | 330 | 1 | | 2 |
| 5513060 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 14-Aug-97 | 8 | 33 | 300 | 60 | 5 O_H 305; | DO ST | SUP | Bedrock | r | 146 | 305 | 1 | 2 | 1 |
| 5513119 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 6 | 17-Sep-97 | 9 | 20 | 118 | 90 | 6 STL 40; 5 O_H 125; | DO | SUP | Bedrock | r | 35 | 125 | 1 | | 1 |
| 5513177 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 14 | 07-Nov-97 | 3 | 10 | 205 | 75 | 6 STL 50; 5 O_H 205; | DO | SUP | Bedrock | r | 45 | 205 | 1 | | 1 |
| 5513194 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 11 | 12-Dec-97 | 2 | 12 | 194 | 120 | 6 STL 71; 6 O_H 195; | DO | SUP | Bedrock | r | 67 | 195 | 1 | | 1 |
| 5513242 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 28-Apr-98 | 9 | 3 | 45 | 60 | 6 STL 40; 6 O_H 175; | DO | SUP | Bedrock | r | 36 | 175 | 1 | | 1 |
| 5513315 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 23-Jun-98 | 10 | 45 | 80 | 60 | 6 STL 20; 6 O_H 105; | DO | SUP | Bedrock | r | 8 | 105 | 1 | | 1 |
| 5513316 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 10-Jun-98 | 4 | 8 | 29 | 60 | 6 STL 21; 5 O_H 105; | DO | SUP | Bedrock | r | 13 | 105 | 1 | | 1 |
| 5513317 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 24-Jun-98 | 9 | 50 | 90 | 60 | 6 STL 31; 6 O_H 145; | DO | SUP | Bedrock | h | 16 | 145 | 1 | | 1 |
| 5513428 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 06-Oct-98 | 9 | 60 | 70 | 60 | 6 STL 20; 6 STL 125; | DO | SUP | Bedrock | r | 16 | 125 | 1 | | 1 |
| 5513429 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 35 | 11-Sep-98 | 9 | 12 | 12 | 60 | 6 STL 50; 5 O_H 51; | DO | SUP | Bedrock | r | 41 | 50 | 1 | | 1 |
| 5513755 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 19-Aug-99 | 9 | 52 | 54 | 60 | 6 STL 20; 5 O_H 125; | DO | SUP | Bedrock | r | 17 | 125 | 1 | | 1 |
| 5513756 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 21 | 30-Jul-99 | 10 | 52 | 53 | 60 | 6 STL 121; 5 O_H 178; | DO | SUP | Bedrock | r | 113 | 178 | 1 | | 1 |
| 5513800 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 11 | 15-Sep-99 | 9 | 20 | 78 | 60 | 6 STL 40; 6 O_H 145; | DO | SUP | Bedrock | r | 37 | 145 | 1 | | 1 |
| 5513801 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 23 | 23-Sep-99 | | 23 | | | | | ABO | | u | | 23 | A | | |
| 5513802 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | FAL | 2 | 23 | 23-Sep-99 | | | | | | | ABO | | u | | 165 | A | | |
| 5514072 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 19-Jul-00 | 4 | 32 | 214 | | 5 CNC 214; | DO | SUP | Bedrock | p | | 214 | 1 | | 1 |
| 5514122 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 22-Aug-00 | 10 | 17 | 45 | 60 | O_H 447; | IN | SUP | Bedrock | r | 205 | 447 | 1 | | 4 |
| 5514123 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 22 | 31-Aug-00 | 10 | 25 | 239 | 60 | 6 STL 20; 5 O_H 247; 5 O_H 248; | DO | SUP | Bedrock | r | 7 | 248 | 1 | | 1 |
| 5514165 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 25-Sep-00 | 9 | 29 | 42 | | 6 STL 30; 5 O_H 150; | DO | SUP | Bedrock | r | 25 | 150 | 1 | | 1 |
| 5514423 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 10-Aug-01 | 11 | 71 | 80 | 60 | 6 STL 40; 6 O_H 145; | DO | SUP | Bedrock | r | 26 | 145 | 1 | | 1 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5514754 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 26-Jun-02 | 11 | 32 | 48 | 60 | 6 STL 165; 5 O_H 166; | DO | SUP | Bedrock | r | 154 | 165 | 1 | | 1 |
| 5514796 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 18-Jul-02 | 12 | 40 | 118 | 60 | 6 STL 112; 5 O_H 185; | DO | SUP | Bedrock | r | 98 | 185 | 1 | | 1 |
| 5514797 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | | | 10 | 06-Jul-02 | 12 | 12 | 30 | 60 | 6 STL 50; 5 O_H 225; | DO | SUP | Bedrock | r | 33 | 225 | 1 | | 1 |
| 5514882 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 20-Sep-02 | 12 | 12 | 32 | 60 | 6 STL 36; 5 O_H 145; | DO | SUP | Bedrock | r | 32 | 145 | 1 | | 1 |
| 5514957 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 26-Oct-02 | 10 | 60 | 180 | 60 | 6 STL 45; 6 O_H 185; 5 O_H 187; | DO | SUP | Bedrock | r | 41 | 187 | 1 | | 1 |
| 5514958 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 16-Sep-02 | 10 | 45 | 190 | 60 | 6 STL 170; 5 O_H 225; 5 O_H 227; | DO | SUP | Bedrock | r | 145 | 227 | 1 | | 1 |
| 5514963 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 19 | 22-Oct-02 | 12 | 60 | 61 | 60 | 6 STL 20; 5 STL 30; 5 O_H 145; | DO | SUP | Bedrock | r | 14 | 145 | 1 | | 1 |
| 5514964 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 18 | 30-Oct-02 | 10 | 48 | 80 | 60 | 6 STL 130; 5 O_H 225; | DO | SUP | Bedrock | r | 120 | 225 | 1 | | 1 |
| 5514974 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 30-Oct-02 | | | | | | NU | ABS | | _ | | | 5 | | 9 |
| 5514975 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 25-Oct-02 | 4 | 35 | 165 | | 6 STL 48; 6 0 O_H 245; | DO | SUP | Bedrock | r | 48 | 245 | 1 | | 1 |
| 5515002 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 2 | 14 | 04-Oct-02 | 10 | 8 | 280 | | 6 STL 130; 5 O_H 285; 5 O_H 287; | DO | SUP | Bedrock | r | 120 | 287 | 1 | | 1 |
| 5515122 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 21 | 28-Mar-03 | 10 | 23 | 180 | 60 | 6 O_H 365; | DO | SUP | Bedrock | r | 233 | 365 | 1 | | 1 |
| 5515230 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 23-May-03 | 10 | 7 | 170 | 60 | 6 STL 35; 5 O_H 205; 5 O_H 206; | DO | SUP | Bedrock | r | 31 | 206 | 1 | | 1 |
| 5515231 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 22-May-03 | 10 | 8 | 166 | 60 | 6 STL 40; 5 O_H 225; | DO | SUP | Bedrock | r | 36 | 225 | 1 | | 1 |
| 5515232 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 20 | 23-May-03 | 10 | 3 | 47 | 60 | 6 STL 40; 6 O_H 205; | DO | SUP | Bedrock | r | 36 | 205 | 1 | | 1 |
| 5515345 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 28-Aug-03 | | | | | | NU | ABO | | _ | | | A | | 9 |
| 5515346 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 3 | 28-Aug-03 | | | | | | NU | ABO | | _ | | | A | | 9 |
| 5515368 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 9 | 28-Aug-03 | 4 | 30 | 73 | 60 | 6 STL 40; 6 O_H 245; | DO | SUP | Bedrock | r | 33 | 245 | 1 | | 1 |
| 5515421 | | 999999 | 9999999 | | | PEMBROKE TOWNSHIP | CON | 1 | 10 | 22-Sep-03 | 10 | 13 | 166 | 60 | 6 STL 50; 5 O_H 225; | DO | SUP | Bedrock | r | 28 | 225 | 1 | | 1 |
| 5501810 | 400 | 332560 | 5077675 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 20-Jun-62 | 5 | 18 | 30 | 120 | 6 STL 42; | DO | SUP | Overburden | o | | 45 | 1 | 0 | 1 |
| 5501814 | 415 | 337360 | 5071995 | | | STAFFORD TOWNSHIP | CON | 1 | 24 | 25-Jan-61 | 2 | 8 | 55 | 60 | 6 STL 12; 6 O_H 62; | DO | SUP | Bedrock | r | 8 | 62 | 1 | 0 | 1 |
| 5501815 | 415 | 336200 | 5073400 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 25-Jul-64 | 0 | 23 | 231 | 60 | 6 STL 34; 6 O_H 231; | DO | SUP | Bedrock | r | 33 | 231 | 1 | 0 | 1 |
| 5501816 | 460 | 335450 | 5073350 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 19-Nov-63 | 5 | 24 | 50 | 60 | 6 STL 24; 6 O_H 67; | ST | SUP | Bedrock | r | 23 | 67 | 1 | 0 | 2 |
| 5501817 | 444 | 335825 | 5073860 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 25-Oct-67 | 5 | 20 | 25 | 60 | 6 STL 36; 6 O_H 41; | DO | SUP | Bedrock | r | 34 | 41 | 1 | 0 | 1 |
| 5501818 | 460 | 335800 | 5073940 | | | STAFFORD TOWNSHIP | CON | 1 | 28 | 17-Jul-63 | 3 | 15 | 45 | 60 | 6 STL 31; 6 O_H 50; | DO | SUP | Bedrock | r | 28 | 50 | 1 | 0 | 1 |
| 5501819 | 400 | 335820 | 5073860 | | | STAFFORD TOWNSHIP | CON | 1 | 28 | 20-Apr-66 | 3 | 15 | 20 | 120 | 5 STL 24; 5 O_H 35; | DO | SUP | Bedrock | r | 21 | 35 | 1 | 0 | 1 |
| 5501820 | 465 | 335140 | 5074600 | | | STAFFORD TOWNSHIP | CON | 1 | 29 | 29-Sep-59 | 6 | 20 | 90 | 120 | 22; 4 STL 60; 4 O_H 128; | DO | SUP | Bedrock | r | 60 | 128 | 1 | 0 | 1 |
| 5501821 | 440 | 335170 | 5074370 | | | STAFFORD TOWNSHIP | CON | 1 | 29 | 26-Sep-62 | 2 | 35 | 80 | 60 | 6 STL 57; 6 O_H 82; | DO | SUP | Bedrock | r | 55 | 82 | 1 | 0 | 1 |
| 5501822 | 400 | 333304 | 5074540 | | | STAFFORD TOWNSHIP | CON | 1 | 31 | 13-Sep-54 | 4 | 32 | 42 | 120 | 2 STL 85; 2 O_H 232; | DO | SUP | Bedrock | r | 85 | 232 | 1 | 0 | 1 |
| 5501823 | 430 | 333460 | 5076120 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 28-Mar-61 | 6 | 20 | 250 | 300 | 6 STL 93; 6 O_H 350; | IN | SUP | Bedrock | r | 90 | 350 | 1 | 0 | 4 |
| 5501824 | 400 | 334025 | 5075550 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 12-May-62 | | | | | 7 ; | NU | TST | Overburden | o | | 75 | 3 | 0 | 9 |
| 5501825 | 400 | 333870 | 5075500 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 21-Apr-62 | 60 | | 55 | 480 | 6 STL 50; 6 O_H 64; | IN | SUP | Bedrock | r | 55 | 64 | 1 | 0 | 4 |
| 5501826 | 400 | 333930 | 5075590 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 28-Apr-62 | 15 | 32 | 90 | 60 | 7 ; | NU | TST | Bedrock | r | 108 | 112 | 3 | 0 | 9 |
| 5501828 | 470 | 332960 | 5075420 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 04-Apr-62 | 10 | 30 | 50 | 60 | 5 STL 66; | DO | SUP | Overburden | o | | 66 | 1 | 0 | 1 |
| 5501829 | 500 | 332820 | 5075830 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 15-Oct-65 | 8 | 65 | 115 | 60 | 1; 6 STL 113; 6 O_H 121; | DO | SUP | Bedrock | r | 115 | 121 | 1 | 0 | 1 |
| 5501830 | 410 | 332350 | 5077900 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 02-Aug-61 | 25 | 8 | 20 | 120 | 6 STL 25; 6 O_H 30; | CO | SUP | Bedrock | r | 23 | 30 | 1 | 0 | 5 |
| 5501831 | 410 | 332475 | 5077750 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 05-Jul-63 | 5 | 20 | 22 | 60 | 2; 6 STL 43; | CO | SUP | Overburden | o | | 43 | 1 | 0 | 5 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5501832 | 410 | 332470 | 5077850 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 06-Aug-64 | 5 | 25 | 30 | 60 | 6 STL 42; 6 O_H 50; | DO | SUP | Bedrock | r | 40 | 50 | 1 | 0 | 1 |
| 5501833 | 410 | 332400 | 5077860 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 26-Aug-63 | 4 | 10 | 60 | 60 | 6 STL 31; 6 O_H 75; | DO | SUP | Bedrock | r | 29 | 75 | 1 | 0 | 1 |
| 5501834 | 400 | 332600 | 5077680 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 03-Sep-64 | 5 | 20 | 25 | 60 | 8 STL 47; | DO | SUP | Overburden | o | | 47 | 1 | 0 | 1 |
| 5501835 | 410 | 332475 | 5077650 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 24-Feb-65 | 5 | 23 | 28 | 60 | 6 STL 52; 6 O_H 55; | DO | SUP | Bedrock | r | 47 | 55 | 1 | 0 | 1 |
| 5501836 | 385 | 331840 | 5078350 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 28-May-52 | 2 | 6 | 40 | 60 | 2 STL 5; 2 O_H 110; | DO | SUP | Bedrock | r | 2 | 110 | 1 | 0 | 1 |
| 5501837 | 400 | 331925 | 5078150 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 28-May-52 | 2 | 10 | 50 | 60 | 4 STL 6; 4 O_H 80; | DO | SUP | Bedrock | r | 6 | 80 | 1 | 0 | 1 |
| 5501838 | 385 | 332150 | 5078225 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 25-Mar-61 | 5 | 22 | 75 | 60 | 6 STL 21; 6 O_H 80; | DO | SUP | Bedrock | r | 18 | 80 | 1 | 0 | 1 |
| 5501839 | 400 | 331890 | 5078250 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 12-Jul-61 | 5 | 9 | 25 | 60 | 6 STL 18; 6 O_H 30; | CO | SUP | Bedrock | r | 12 | 30 | 1 | 0 | 5 |
| 5501840 | 385 | 332110 | 5078275 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 30-Jul-62 | 2 | 6 | 145 | 60 | 6 STL 9; 6 O_H 145; | CO | SUP | Bedrock | r | 7 | 145 | 1 | 0 | 5 |
| 5501841 | 385 | 332190 | 5078225 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 28-Dec-63 | 2 | 8 | 75 | 60 | 6 STL 11; 6 O_H 86; | CO | SUP | Bedrock | r | 7 | 86 | 1 | 0 | 5 |
| 5501842 | 385 | 331850 | 5078600 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 26-Oct-64 | 5 | 10 | 20 | 60 | 6 STL 33; 6 O_H 36; | DO | SUP | Bedrock | r | 31 | 36 | 1 | 0 | 1 |
| 5501843 | 385 | 331950 | 5078500 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 19-Jul-65 | | | | | 1; 6 STL 43; 6 O_H 287; | | ABS | Bedrock | r | 43 | 287 | 5 | | |
| 5501844 | 375 | 331725 | 5078790 | | | STAFFORD TOWNSHIP | CON | 1 | 38 | 17-Sep-64 | 2 | 15 | 80 | 60 | 6 STL 29; 6 O_H 92; | DO | SUP | Bedrock | r | 28 | 92 | 1 | 0 | 1 |
| 5501845 | 425 | 331925 | 5078240 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 08-Sep-64 | 0 | 28 | 232 | 60 | 7 STL 8; 7 O_H 232; | DO | SUP | Bedrock | r | 7 | 232 | 1 | 0 | 1 |
| 5501854 | 460 | 335150 | 5070550 | | | STAFFORD TOWNSHIP | CON | 2 | 24 | 11-Nov-64 | 4 | 10 | 75 | 60 | 6 STL 6; 6 O_H 80; | DO | SUP | Bedrock | r | 4 | 80 | 1 | 0 | 1 |
| 5501855 | 466 | 336120 | 5071250 | | | STAFFORD TOWNSHIP | CON | 2 | 24 | 13-May-65 | 5 | 12 | 20 | 60 | 6 STL 19; 6 O_H 72; | ST | SUP | Bedrock | r | 17 | 72 | 1 | 0 | 2 |
| 5501856 | 475 | 334300 | 5072325 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 10-Jan-64 | 1 | 27 | 75 | 60 | 6 STL 30; 6 O_H 78; | DO | SUP | Bedrock | r | 29 | 78 | 1 | 0 | 1 |
| 5501857 | 475 | 334350 | 5072400 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 16-Jan-64 | 2 | 42 | 80 | 60 | 6 STL 54; 6 O_H 84; | DO | SUP | Bedrock | r | 17 | 84 | 1 | 0 | 1 |
| 5501858 | 465 | 334654 | 5072850 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 25-Sep-64 | 5 | 18 | 60 | 60 | 6 STL 76; 6 O_H 88; | DO | SUP | Bedrock | r | 75 | 88 | 1 | 0 | 1 |
| 5502107 | 430 | 336450 | 5073120 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 10-Aug-68 | 5 | 23 | 30 | 60 | 6 STL 25; 6 O_H 40; | DO | SUP | Bedrock | r | 23 | 40 | 1 | 0 | 1 |
| 5502212 | 480 | 335230 | 5069770 | | | STAFFORD TOWNSHIP | CON | 2 | 24 | 21-Feb-69 | 5 | 8 | 25 | 60 | 6 STL 26; 6 O_H 47; | DO | SUP | Bedrock | r | 24 | 47 | 1 | 0 | 1 |
| 5502275 | 430 | 335570 | 5073590 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 16-Jul-69 | 5 | 40 | 160 | 60 | 6 STL 101; O_H 175; | DO | SUP | Bedrock | r | 99 | 175 | 1 | 0 | 1 |
| 5502369 | 425 | 337420 | 5071920 | | | STAFFORD TOWNSHIP | CON | 1 | 23 | 16-Dec-69 | 3 | 6 | 85 | 60 | 6 STL 48; O_H 97; | DO | SUP | Bedrock | r | 47 | 97 | 1 | 0 | 1 |
| 5502461 | 430 | 335090 | 5074540 | | | STAFFORD TOWNSHIP | CON | 1 | 29 | 23-Jul-70 | 10 | 21 | 60 | 75 | 6 STL 60; 6 O_H 96; | DO | SUP | Bedrock | r | 57 | 96 | 1 | 0 | 1 |
| 5502609 | 450 | 334980 | 5073030 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 25-Apr-71 | 4 | 10 | 150 | 240 | 5 STL 100; 5 O_H 178; | DO | SUP | Bedrock | r | 42 | 178 | 1 | 0 | 1 |
| 5502646 | 425 | 334150 | 5075800 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 18-Aug-71 | 12 | 39 | 47 | 120 | 6 STL 107; | DO | SUP | Overburden | o | | 107 | 1 | 0 | 1 |
| 5502795 | 385 | 331900 | 5078540 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 08-May-72 | 20 | 6 | 25 | 60 | 6 STL 30; 6 O_H 48; | DO | SUP | Bedrock | r | 30 | 48 | 1 | 0 | 1 |
| 5502802 | 425 | 332390 | 5077920 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 23-May-72 | 15 | 7 | 12 | 100 | 6 STL 21; 6 O_H 24; | DO | SUP | Bedrock | r | 20 | 24 | 1 | 0 | 1 |
| 5502805 | 495 | 334700 | 5071050 | | | STAFFORD TOWNSHIP | CON | 2 | 25 | 16-May-72 | 5 | 5 | 102 | 85 | 6 STL 10; 6 O_H 111; | DO | SUP | Bedrock | r | 6 | 111 | 1 | 0 | 1 |
| 5502808 | 425 | 337500 | 5071890 | | | STAFFORD TOWNSHIP | CON | 1 | 23 | 30-May-72 | 10 | 8 | 70 | 90 | 6 STL 14; 6 96; | DO | SUP | Bedrock | r | 14 | 96 | 1 | 0 | 1 |
| 5502892 | 425 | 336850 | 5072630 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 21-Aug-72 | 5 | 4 | 102 | 75 | 6 STL 39; 6 O_H 110; | DO | SUP | Bedrock | r | 39 | 110 | 1 | 0 | 1 |
| 5503033 | 500 | 334896 | 5070682 | | | STAFFORD TOWNSHIP | CON | 3 | 25 | 05-Apr-73 | 6 | 10 | 105 | 80 | 5 STL 10; 6 O_H 116; | DO | SUP | Bedrock | h | 0 | 116 | 1 | 0 | 1 |
| 5503082 | 450 | 338683 | 5070414 | | | STAFFORD TOWNSHIP | CON | 1 | 20 | 01-Jun-73 | 6 | 11 | 95 | 60 | 6 STL 10; 6 O_H 100; | ST DO | SUP | Bedrock | r | 4 | 100 | 1 | 1 | 2 |
| 5503093 | 425 | 337305 | 5072091 | | | STAFFORD TOWNSHIP | CON | 1 | 24 | 30-May-73 | 8 | 11 | 85 | 60 | 6 STL 26; 6 O_H 90; | DO | SUP | Bedrock | r | 26 | 90 | 1 | 0 | 1 |
| 5503205 | 420 | 336198 | 5073427 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 30-Oct-73 | 5 | 13 | 38 | 60 | 6 STL 23; 6 O_H 47; | DO | SUP | Bedrock | r | 21 | 47 | 1 | 0 | 1 |
| 5503491 | 400 | 335934 | 5073732 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 12-Jul-74 | 15 | 20 | 22 | 60 | 6 STL 28; 6 O_H 42; | DO | SUP | Bedrock | r | 27 | 42 | 1 | 0 | 1 |
| 5503758 | 450 | 338561 | 5070531 | | | STAFFORD TOWNSHIP | CON | 1 | 21 | 10-Jul-75 | 10 | 10 | 46 | 60 | 6 STL 20; 6 O_H 85; | DO | SUP | Bedrock | r | 16 | 85 | 1 | 0 | 1 |
| 5503808 | 500 | 332764 | 5075935 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 13-Aug-75 | 8 | 56 | 110 | 120 | 6 STL 118; | DO | SUP | Overburden | o | | 118 | 1 | 0 | 1 |
| 5503864 | 425 | 336540 | 5072939 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 01-Sep-75 | 10 | 19 | 135 | 60 | 6 STL 30; | DO | SUP | Bedrock | r | 28 | 155 | 1 | 0 | 1 |
| 5504001 | 430 | 333445 | 5075520 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 30-Dec-75 | 5 | 5 | 58 | 60 | 6 STL 69; | DO | SUP | Bedrock | r | 68 | 78 | 1 | 0 | 1 |
| 5504004 | 405 | 335650 | 5073950 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 12-Jan-76 | 1 | 50 | 200 | 120 | 6 STL 68; 5 O_H 212; | ST | SUP | Bedrock | r | 68 | 212 | 1 | 0 | 2 |
| 5504041 | 480 | 334401 | 5072673 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 06-Feb-75 | 10 | 44 | 115 | 90 | 6 STL 110; 5 STL 130; 5 O_H 175; | IN | SUP | Bedrock | r | 110 | 175 | 1 | 0 | 4 |
| 5504210 | 430 | 336300 | 5073200 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 10-Sep-76 | 10 | 35 | 35 | 60 | 6 STL 35; 6 O_H 55; | DO | SUP | Bedrock | r | 35 | 55 | 1 | 0 | 1 |
| 5504411 | 455 | 338700 | 5070350 | | | STAFFORD TOWNSHIP | CON | 1 | 20 | 03-Mar-77 | 5 | 30 | 95 | 60 | 6 STL 10; 6 O_H 105; | ST DO | SUP | Bedrock | r | 3 | 105 | 1 | 1 | 2 |
| 5504484 | 450 | 334400 | 5072600 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 30-May-77 | 5 | 35 | 90 | 60 | 6 STL 72; 6 O_H 100; | DO | SUP | Bedrock | r | 72 | 100 | 1 | 0 | 1 |
| 5504732 | 450 | 333560 | 5076400 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 06-Sep-77 | 15 | 11 | 30 | 60 | 6 STL 43; | IN DO | SUP | Overburden | o | | 43 | 1 | 1 | 4 |

**MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township**

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5505015 | 440 | 336640 | 5072940 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 18-Apr-78 | 15 | 25 | 45 | 60 | 6 STL 36; 6 O_H 59; | DO | SUP | Bedrock | r | 36 | 59 | 1 | 0 | 1 |
| 5505089 | 500 | 335800 | 5069900 | | | STAFFORD TOWNSHIP | CON | 2 | 23 | 30-Jun-78 | 5 | 7 | 124 | 60 | 6 STL 20; 6 O_H 131; | DO | SUP | Bedrock | r | 6 | 131 | 1 | 0 | 1 |
| 5505217 | 500 | 334700 | 5070900 | | | STAFFORD TOWNSHIP | CON | 3 | 25 | 16-Aug-78 | 2 | 11 | 185 | 60 | 6 STL 40; 6 O_H 195; | MN | SUP | Bedrock | r | 3 | 195 | 1 | 0 | 6 |
| 5505247 | 430 | 337660 | 5071600 | | | STAFFORD TOWNSHIP | CON | 1 | 23 | 27-Sep-78 | 1 | 40 | 225 | 60 | 6 STL 24; | DO | SUP | Bedrock | r | 5 | 225 | 1 | 0 | 1 |
| 5505426 | 420 | 336040 | 5073360 | | | STAFFORD TOWNSHIP | CON | 1 | 27 | 05-Dec-78 | 8 | 18 | 50 | 60 | 6 STL 22; 6 O_H 55; | DO | SUP | Bedrock | r | 20 | 55 | 1 | 0 | 1 |
| 5505492 | 425 | 336600 | 5072600 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 23-Mar-79 | 15 | 10 | 140 | 60 | 6 STL 43; 6 O_H 150; | ST DO | SUP | Bedrock | r | 40 | 150 | 1 | 1 | 2 |
| 5505651 | 430 | 336500 | 5071850 | | | STAFFORD TOWNSHIP | CON | 1 | 24 | 23-May-79 | 5 | 6 | 90 | 60 | 6 STL 16; 6 O_H 100; | ST DO | SUP | Bedrock | r | 7 | 100 | 1 | 1 | 2 |
| 5505704 | 475 | 335400 | 5070900 | | | STAFFORD TOWNSHIP | CON | 2 | 24 | 25-Jun-79 | 10 | 8 | 112 | 60 | 6 STL 12; 6 119; | DO | SUP | Bedrock | r | 5 | 119 | 1 | 0 | 1 |
| 5505768 | 400 | 331940 | 5078300 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 28-Aug-79 | 8 | 8 | 110 | | 6 STL 16; 6 O_H 122; | | SUP | Bedrock | r | 6 | 122 | 1 | | |
| 5505959 | 400 | 332299 | 5077999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 07-Dec-79 | 15 | 16 | 30 | 120 | 6 STL 44; 6 O_H 52; | DO | SUP | Bedrock | r | 44 | 52 | 1 | 0 | 1 |
| 5505960 | 450 | 334200 | 5072600 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 29-Dec-79 | 10 | 45 | 150 | 120 | 5 STL 144; 4 O_H 172; | DO | SUP | Bedrock | r | 144 | 172 | 1 | 0 | 1 |
| 5505961 | 490 | 334500 | 5071700 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 08-Nov-79 | 10 | 3 | 76 | 60 | 6 STL 22; 6 O_H 85; | DO | SUP | Bedrock | r | 21 | 85 | 1 | 0 | 1 |
| 5506093 | 475 | 334500 | 5072400 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 14-Mar-80 | 5 | 12 | 35 | 60 | 6 STL 50; | DO | SUP | Overburden | o | | 50 | 1 | 0 | 1 |
| 5506247 | 400 | 333699 | 5075399 | | | STAFFORD TOWNSHIP | CON | 1 | 31 | 11-Sep-80 | 9 | 25 | 160 | 90 | 6 STL 78; 6 O_H 202; | DO | SUP | Bedrock | r | 70 | 202 | 1 | 0 | 1 |
| 5506248 | 485 | 334599 | 5071699 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 05-Sep-80 | 12 | 6 | 65 | 60 | 6 STL 25; 6 O_H 85; | MN | SUP | Bedrock | r | 24 | 85 | 1 | 0 | 6 |
| 5506355 | 430 | 333199 | 5075299 | | | STAFFORD TOWNSHIP | CON | 1 | 31 | 09-Dec-80 | 12 | 61 | 92 | 120 | 6 STL 112; 6 115; | IN | SUP | Bedrock | r | 112 | 115 | 1 | 0 | 4 |
| 5506629 | 455 | 333799 | 5074399 | | | STAFFORD TOWNSHIP | CON | 1 | 30 | 19-Aug-81 | 1 | 25 | | 90 | 6 STL 123; 6 O_H 537; | DO | SUP | Bedrock | r | 115 | 537 | 1 | 0 | 1 |
| 5506630 | 455 | 333899 | 5074499 | | | STAFFORD TOWNSHIP | CON | 1 | 30 | 20-Aug-81 | 6 | 22 | 302 | 120 | 6 STL 85; 6 O_H 305; | DO | SUP | Bedrock | r | 78 | 305 | 1 | 0 | 1 |
| 5506673 | 410 | 332699 | 5077599 | | | STAFFORD TOWNSHIP | CON | 1 | 35 | 25-Sep-81 | 6 | 12 | 30 | 240 | 6 STL 37; | DO | SUP | Overburden | o | | 37 | 1 | 0 | 1 |
| 5506692 | 400 | 332699 | 5078599 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 05-Aug-81 | 20 | 40 | 166 | 120 | 6 STL 21; 6 O_H 166; | CO | SUP | Bedrock | r | 16 | 166 | 1 | 0 | 5 |
| 5506694 | 480 | 335699 | 5069899 | | | STAFFORD TOWNSHIP | CON | 2 | 23 | 15-Aug-81 | 8 | 35 | 315 | 60 | 6 STL 20; 6 O_H 330; | DO | SUP | Bedrock | r | 0 | 330 | 1 | 0 | 1 |
| 5506701 | 390 | 331099 | 5078399 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 17-Dec-81 | 9 | 26 | 225 | 80 | 6 STL 20; 6 O_H 230; | CO DO | SUP | Bedrock | r | 5 | 230 | 1 | 1 | 5 |
| 5506703 | 490 | 334399 | 5071599 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 19-Nov-81 | 12 | 6 | 68 | 60 | 6 STL 43; 6 O_H 76; | DO | SUP | Bedrock | r | 43 | 76 | 1 | 0 | 1 |
| 5506829 | 460 | 334099 | 5075699 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 17-May-82 | 10 | 8 | 130 | 60 | 6 STL 20; 6 O_H 135; | CO | SUP | Bedrock | r | 15 | 135 | 1 | 0 | 5 |
| 5506830 | 420 | 334199 | 5075399 | | | STAFFORD TOWNSHIP | CON | 1 | 31 | 28-May-82 | 12 | 12 | 60 | 90 | 6 STL 75; 6 O_H 80; | DO | SUP | Bedrock | r | 75 | 80 | 1 | 0 | 1 |
| 5506831 | 460 | 334099 | 5075799 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 22-Jun-82 | 15 | 30 | 90 | 90 | 6 STL 112; | DO | SUP | Overburden | o | | 112 | 1 | 0 | 1 |
| 5506908 | 500 | 334899 | 5070999 | | | STAFFORD TOWNSHIP | CON | 2 | 25 | 30-Mar-82 | 5 | 11 | 146 | 120 | 6 STL 22; 6 O_H 146; | ST | SUP | Bedrock | r | 5 | 146 | 1 | 0 | 2 |
| 5506936 | 440 | 335299 | 5074299 | | | STAFFORD TOWNSHIP | CON | 1 | 29 | 13-Sep-82 | 10 | 21 | 55 | 150 | 6 STL 54; 6 O_H 70; | DO | SUP | Bedrock | r | 53 | 70 | 1 | 0 | 1 |
| 5506937 | 430 | 336899 | 5072599 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 03-Sep-82 | | 10 | | | 6 STL 22; 6 O_H 102; | DO | SUP | Bedrock | r | 20 | 102 | 1 | 0 | 1 |
| 5507007 | 480 | 334899 | 5070499 | | | STAFFORD TOWNSHIP | CON | 3 | 24 | 07-Mar-82 | 8 | 12 | 96 | 180 | 5 STL 22; 6 O_H 96; | DO | SUP | Bedrock | r | 4 | 96 | 1 | 0 | 1 |
| 5507357 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 26-Sep-83 | 12 | 25 | 60 | 300 | 6 STL 75; 6 87; | DO | SUP | Bedrock | r | 75 | 87 | 1 | | 1 |
| 5507359 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 02-Nov-83 | 10 | 5 | 102 | 60 | 6 STL 32; 6 108; | DO | SUP | Bedrock | r | 32 | 108 | 1 | | 1 |
| 5507562 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 09-May-84 | 15 | 16 | 35 | 90 | 6 STL 44; 5 O_H 55; | DO | SUP | Bedrock | r | 44 | 55 | 1 | | 1 |
| 5507612 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 14-Sep-84 | 10 | 10 | 97 | 60 | 6 STL 27; 6 103; | DO | SUP | Bedrock | r | 25 | 103 | 1 | | 1 |
| 5507792 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 08-May-85 | 10 | 25 | | 60 | 6 STL 20; 5 O_H 111; | DO | SUP | Bedrock | r | 14 | 111 | 1 | | 1 |
| 5507966 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 31 | 14-Sep-85 | 15 | 22 | 30 | 120 | 6 STL 81; 5 O_H 96; | DO | SUP | Bedrock | r | 81 | 96 | 1 | | 1 |
| 5507967 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 16-Oct-85 | 10 | 23 | 40 | 60 | 6 STL 38; 6 60; | DO | SUP | Bedrock | r | 38 | 60 | 1 | | 1 |
| 5507968 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 32 | 18-Oct-85 | 10 | 10 | 90 | 120 | 6 STL 74; 6 100; | CO | SUP | Bedrock | r | 94 | 100 | 1 | | 5 |
| 5508161 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 14-Feb-86 | 10 | 60 | 110 | 60 | 6 STL 114; 5 130; | DO | SUP | Bedrock | r | 114 | 130 | 1 | | 1 |
| 5508162 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 25 | 25-Apr-86 | 9 | 6 | 150 | 60 | 6 STL 16; 5 O_H 160; | DO | SUP | Bedrock | r | 111 | 160 | 1 | | 1 |
| 5508346 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 16-Apr-86 | 3 | 8 | 200 | | 6 STL 55; O_H 236; | DO | SUP | Bedrock | r | 50 | 236 | 1 | | 1 |
| 5508475 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 28 | 22-Aug-86 | 10 | 20 | 25 | | 6 STL 29; 6 O_H 45; | DO | SUP | Bedrock | r | 28 | 45 | 1 | | 1 |
| 5508671 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 19-Jun-87 | 10 | 10 | 90 | 60 | 6 STL 53; 6 O_H 105; | DO | SUP | Bedrock | r | 53 | 105 | 1 | | 1 |
| 5508672 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 19-Jun-87 | 10 | 45 | 195 | 60 | 6 STL 100; 6 O_H 200; | DO | SUP | Bedrock | r | 100 | 200 | 1 | | 1 |
| 5508719 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 3 | 25 | 18-Aug-87 | 10 | 15 | 135 | 60 | 6 STL 21; 6 O_H 145; | DO | SUP | Bedrock | r | 14 | 145 | 1 | | 1 |
| 5508734 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 21 | 15-Sep-87 | 1 | 20 | 149 | 120 | 6 STL 21; 6 O_H 249; | DO | SUP | Bedrock | r | 15 | 249 | 1 | | 1 |
| 5508833 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 04-Nov-87 | 10 | 7 | 78 | 240 | 6 STL 29; 6 O_H 93; | DO | SUP | Bedrock | r | 25 | 93 | 1 | | 1 |

## MOE Well Records - City of Pembroke, Pembroke Township and Stafford Township

| ID | Elevation | Easting | Northing | east83 | north83 | Township | CONREG | CONN | LOT | ate_Construct | PUMPRATE | STATICLEV | PUMPLEV | Dur_min | cas | use | Final | type | codeOb | dp2br | dpWell | FINAL_STA | USE_2ND | USE_1ST |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5509047 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 22 | 22-Jun-88 | 12 | 26 | 110 | 60 | 6 STL 35; 6 O_H 125; | DO | SUP | Bedrock | r | 34 | 125 | 1 | | 1 |
| 5509366 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 28 | 16-Feb-89 | 7 | 15 | 274 | 60 | 6 STL 46; 6 O_H 275; | DO PS | SUP | Bedrock | r | 41 | 275 | 1 | 7 | 1 |
| 5509367 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 24 | 06-Feb-89 | 5 | 20 | 249 | 60 | 6 STL 16; 6 O_H 250; | DO ST | SUP | Bedrock | r | 7 | 250 | 1 | 2 | 1 |
| 5509434 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 23 | 21-Apr-89 | 10 | 12 | 128 | 60 | 6 STL 20; 6 O_H 135; | DO | SUP | Bedrock | r | 2 | 135 | 1 | | 1 |
| 5509497 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 08-May-89 | 15 | 20 | 46 | 90 | 6 STL 54; 6 O_H 64; | DO | SUP | Bedrock | r | 54 | 64 | 1 | | 1 |
| 5509524 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 24-May-89 | 12 | 45 | 224 | 60 | 6 STL 80; 6 O_H 225; | DO | SUP | Bedrock | r | 76 | 225 | 1 | | 1 |
| 5509893 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 23 | 08-Jan-90 | 12 | 16 | 75 | 120 | 6 STL 61; 6 O_H 86; | DO | SUP | Bedrock | r | 60 | 86 | 1 | | 1 |
| 5510147 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 03-Jul-90 | 10 | | 225 | 60 | 6 STL 32; 6 230; | DO | SUP | Bedrock | r | 30 | 230 | 1 | | 1 |
| 5510260 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 13-Sep-90 | | | | | 6 STL 52; 5 420; | DO | | Bedrock | r | 45 | 420 | | | 1 |
| 5510312 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 23 | 09-Oct-90 | 3 | 15 | 120 | 60 | 6 STL 22; 6 O_H 185; | DO | SUP | Bedrock | r | 6 | 185 | 1 | | 1 |
| 5510333 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 24 | 04-Oct-90 | 10 | 25 | 260 | 60 | 6 STL 22; 6 O_H 265; | DO | SUP | Bedrock | r | 15 | 265 | 1 | | 1 |
| 5510470 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 12-Apr-90 | 20 | | 100 | 60 | 6 STL 74; 6 105; | DO | SUP | Bedrock | r | 67 | 105 | 1 | | 1 |
| 5510651 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 29-Aug-91 | 5 | 39 | 225 | 60 | 6 STL 20; 6 O_H 236; | DO | SUP | Bedrock | r | 0 | 236 | 1 | | 1 |
| 5510661 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 24-Sep-91 | 1 | 80 | 360 | 60 | 6 STL 99; 6 O_H 365; | DO | SUP | Bedrock | r | 98 | 365 | 1 | | 1 |
| 5510672 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 04-Sep-91 | 50 | 52 | 200 | | 6 STL 142; 5 O_H 257; | DO | SUP | Bedrock | r | 136 | 257 | 1 | | 1 |
| 5510714 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 21-Oct-91 | 10 | 37 | 300 | 90 | 6 STL 48; 5 O_H 345; | DO | SUP | Bedrock | r | 40 | 345 | 1 | | 1 |
| 5511127 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 33 | 29-Oct-92 | 10 | 65 | 120 | | 6 STL 118; 6 O_H 125; | DO | SUP | Bedrock | r | 114 | 125 | 1 | | 1 |
| 5511518 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 02-Jun-93 | | 25 | 240 | | 6 STL 20; 6 O_H 245; | DO CO | SUP | Bedrock | v | 0 | 245 | 1 | 5 | 1 |
| 5511569 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 13-Jul-93 | 10 | 35 | | 90 | 6 STL 50; 6 O_H 245; | DO | SUP | Bedrock | r | 40 | 245 | 1 | | 1 |
| 5511778 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 3 | 25 | 09-Nov-93 | 104 | 6 | 45 | 60 | 6 STL 20; 6 O_H 205; | DO | SUP | Bedrock | r | 10 | 205 | 1 | | 1 |
| 5511865 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 04-May-94 | 10 | 29 | 32 | | 6 STL 90; | DO | SUP | Bedrock | r | 79 | 90 | 1 | | 1 |
| 5512088 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 25 | 29-Aug-94 | 10 | 8 | 280 | 90 | 6 STL 40; 6 290; | DO | SUP | Bedrock | r | 37 | 290 | 1 | | 1 |
| 5512161 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 37 | 16-Nov-94 | 11 | | 36 | 90 | 6 STL 22; 5 STL 45; 6 O_H 245; | CO | SUP | Bedrock | r | 12 | 245 | 1 | | 5 |
| 5512273 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 27 | 26-Apr-95 | 10 | 32 | 110 | 90 | 6 STL 29; 6 O_H 226; | DO | SUP | Bedrock | r | 24 | 226 | 1 | | 1 |
| 5512540 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 27-Nov-95 | | | | | 6 STL 130; 6 O_H 415; | | ABS | Bedrock | r | 95 | 415 | 5 | | |
| 5512684 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 25 | 24-Jul-96 | 10 | 5 | 80 | 60 | 6 STL 60; 6 O_H 328; | DO | SUP | Bedrock | r | 2 | 328 | 1 | | 1 |
| 5513202 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 30 | 20-Feb-98 | | 10 | 10 | 60 | | | OBS | Overburden | o | | 23 | 2 | | |
| 5513388 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 19-Aug-98 | 9 | 28 | 58 | 60 | 6 STL 86; 5 O_H 322; | DO | SUP | Bedrock | r | 75 | 322 | 1 | | 1 |
| 5513453 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 25 | 04-Nov-98 | 9 | 6 | 60 | 60 | 6 STL 40; 5 O_H 265; | ST | SUP | Bedrock | r | 38 | 265 | 1 | | 2 |
| 5513588 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 26 | 14-Apr-99 | 10 | 3 | 12 | 60 | 6 STL 30; 5 O_H 165; | NU | SUP | Bedrock | r | 23 | 165 | 1 | | 9 |
| 5514169 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 27-Sep-00 | 11 | 18 | 20 | | 6 STL 48; 6 O_H 85; | DO | SUP | Bedrock | r | 44 | 85 | 1 | | 1 |
| 5514629 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 2 | 28 | 03-Dec-01 | 5 | 29 | 190 | 140 | 6 STL 90; | DO | SUP | Bedrock | r | 64 | 205 | 1 | | 1 |
| 5514970 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 28-Sep-02 | 10 | 15 | 227 | 60 | 6 STL 25; 6 O_H 225; 5 O_H 227; | CO | SUP | Bedrock | r | 21 | 227 | 1 | | 5 |
| 5515083 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 36 | 31-Dec-02 | | 18 | 212 | 60 | 6 STL 41; 6 225; 5 O_H 227; | DO | SUP | Bedrock | r | 35 | 227 | 1 | | 1 |
| 5515246 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 14-May-03 | 12 | 34 | 34 | 60 | 6 STL 34; 5 O_H 60; | DO | SUP | Bedrock | r | 32 | 60 | 1 | | 1 |
| 5515247 | | 999999 | 9999999 | | | STAFFORD TOWNSHIP | CON | 1 | 26 | 15-May-03 | 12 | 27 | 33 | 90 | 6 STL 37; 5 O_H 55; | DO | SUP | Bedrock | r | 37 | 55 | 1 | | 1 |

# APPENDIX D

## Borehole Logs for Monitoring Wells Installed at SRB

2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-1 (A038588) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 11, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335449m E/5074615m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 0 | 2 1/2' | Snow and Topsoil | | | | | |
| 2 1/2' | 4 1/2' | Brown / Grey Silt Sand FILL | SS-1 | 2 | 5 | 6 | 9 |
| 5' | 7' | Grey Silt Clay Till, Moist, Compact | SS-2 | 2 | 6 | 10 | 11 |
| 7 1/2' | 9 1/2' | Grey Silt Clay Till, Moist, Loose. Water @ 8 1/2' beg | SS-3 | 3 | 3 | 3 | 5 |
| 10' | 12' | Grey Silt Clay Till, Moist, Loose. | SS-4 | 3 | 3 | 5 | 5 |
| 12' | 15' | Grey Silt Clay Till | | | | | |
| | 15' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 13' Riser | | | | | |
| | | Sand to 9' 10" beg. | | | | | |
| | | Plug to 7' 9" beg. | | | | | |
| | | Native to 1' 6" beg. | | | | | |
| | | Plug to surface. | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

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|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-2 (A038588) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 11, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335478m E/5074578m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 0 | 2 1/2' | Snow and Topsoil | | | | | |
| 2 1/2' | 4 1/2' | FILL to 3 1/2', then Native Silt Clay Till, Moist, Compact | SS-1 | 3 | 5 | 7 | 10 |
| 5' | 7' | Grey Silt Clay Till, Moist, Compact | SS-2 | 2 | 7 | 8 | 8 |
| 7 1/2' | 9 1/2' | Grey Silt Clay Till, Moist, Loose to Compact | SS-3 | 2 | 4 | 6 | 6 |
| 10' | 12' | Grey Silt Clay Till, Moist, Loose. | SS-4 | 1 | 2 | 3 | 3 |
| 12' | 15' | Grey Silt Clay Till, Moist, Loose | | | | | |
| | 15' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 13' Riser | | | | | |
| | | Sand to 8' 11" beg. | | | | | |
| | | Plug to 6' 11" beg. | | | | | |
| | | Native to Grade | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

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|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-3 (A038586) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 12, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335363m E/5074535m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 0 | 5' | Brown / Grey Sand Silt Clay FILL (Berm, No Spoon) | | | | | |
| 5' | 7' | Native Grey Silt Clay Till, Moist, Compact | SS-1 | 1 | 4 | 6 | 6 |
| 7 1/2' | 9 1/2' | Grey Silt Clay Till (with Sand Seams), Moist, Loose - Compact | SS-2 | 2 | 4 | 5 | 5 |
| 10' | 12' | Grey Silt Clay Till, Moist, Loose | SS-3 | 2 | 4 | 4 | 5 |
| 12 1/2' | 14 1/2' | Grey Sand Silt Clay Till, Moist, Loose. | SS-4 | 2 | 4 | 4 | 4 |
| 15' | 17' | Grey Sand Silt Clay Till, Moist, Loose. | | | | | |
| 17' | 17' 6" | Grey Sand Silt Clay Till, Moist, Loose. | | | | | |
| | 17' 6" | Borehole Terminated (Bedrock?) | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 15' Riser | | | | | |
| | | Sand to 11' 2" beg. | | | | | |
| | | Plug to 10' beg. | | | | | |
| | | Native to Grade | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-4 (Shallow) (A038585) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 12, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (334996m E/5074545m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR |
|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE |
| 0 | 7 1/2' | Topsoil and Sand FILL | AS-1 @ 5' | |
| 7 1/2' | 10' | Native Grey Silt Sand Till w Clay, Moist to Wet, Loose | AS-2 @ 10' | |
| 10' | 15' | Grey Silt Sand Till (w Sand Seams), Wet, Loose | AS-3 @ 15' | |
| | 15' | Borehole Terminated | | |
| | | | | |
| | | Well Installed | | |
| | | 5' Screen | | |
| | | 12' Riser | | |
| | | Sand to 8' 9" beg. | | |
| | | Plug to 7' 6" beg. | | |
| | | Native to Grade | | |
| | | Locked Protective Cover Installed Over Well. | | |

2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-4 (Deep) (A038585) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 12, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (334997m E/5074545m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| 0 | 6" | Black Organic Topsoil | | | | | |
| 6" | 5' | Brown Silt Sand FILL, Wet, Loose | AS-1 @ 4' | | | | |
| 5' | 7' | Brown / Grey Silt Sand FILL, Moist to Wet, Loose | SS-1 | 1 | 3 | 3 | 3 |
| 7 1/2' | 9 1/2' | Brown / Grey Silt Sand Till w Clay, Moist to Wet, Loose | SS-2 | 1 | 2 | 2 | 2 |
| 10' | 12' | Grey Sand Silt Clay Till, Wet, Compact | SS-3 | 2 | 5 | 7 | 6 |
| 12 1/2' | 14 1/2' | Grey Silt Clay Till (w Sand Seams), Wet, Loose | SS-4 | 1 | 2 | 3 | 4 |
| 15' | 17' | Grey Silt Clay Till (w Sand Seams), Wet, Loose | SS-5 | 2 | 3 | 4 | 4 |
| 20' | 22' | Grey Silt Clay Till (w Sand Seams), Wet to Sat'd, Loose to Compact | SS-6 | 4 | 6 | 5 | 4 |
| 25' | 27' | Grey Silt Clay Till, Saturated, Very Loose | SS-7 | 2 Blows = 24" | | | |
| 30' | 32' | Grey Silt Clay Till, Saturated, Very Loose | SS-8 | 3 Blows = 24" | | | |
| 35' | 37' | Grey Silt Clay Till, Saturated, Very Loose | SS-9 | 2 Blows = 24" | | | |
| 37' | 40' | Grey Silt Clay Till, Saturated, Very Loose | | | | | |
| | 40' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 37' Riser | | | | | |
| | | Sand to 34' beg. | | | | | |
| | | Plug to 33' beg. | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |

GEO-LOGIC INC.
2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-5 (A038587) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 12, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335359m E/5074056m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 0 | 6" | Brown Organic Topsoil | | | | | |
| 6' | 2 1/2' | Brown Silty Sand | | | | | |
| 2 1/2' | 4 1/2' | Brown / Red Silt Sand Till w Pebbles (Native) | SS-1 | 2 | 2 | 4 | 5 |
| 5' | 7' | Brown / Red Silt Sand Till w Pebbles (Native), Moist, Compact | SS-2 | 2 | 10 | 15 | 23 |
| 7 1/2' | 9 1/2' | Grey Silt Sand Till w Pebbles, Moist, Compact to Dense | SS-3 | 2 | 24 | 25 | 27 |
| 10' | 12' | Grey Silt Sand Till w Pebbles, Moist, Compact to Dense | SS-4 | 8 | 17 | 22 | 27 |
| 12' | 15' | Grey Silt Sand Till w Pebbles, Moist, Compact to Dense | | | | | |
| 15' | 20' | Grey Silt Sand Till w Pebbles, Moist to Wet, Compact to Dense | | | | | |
| | 20' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 17 1/2' Riser | | | | | |
| | | Sand to 12' beg | | | | | |
| | | Plug to 10' beg | | | | | |
| | | Native to 3' beg, Plug to surface. | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |
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GEO-LOGIC INC.

2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

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|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | BH-7 (A029538) |
| PROJECT NO. | 06-G-403 | DATE DRILLED | January 13, 2005 |
| DRILLING CO. | George Downing Estate Drilling Limited | DATUM ELEV. | |
| TECHNICIAN | E.Reid | GROUND ELEV. | Existing |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335933m E/5074585m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| 0 | 6" | Brown Organic Topsoil | | | | | |
| 6" | 2 1/2' | Brown Silt Clay FILL | | | | | |
| 2 1/2' | 4 1/2' | Brown Silt Clay FILL | SS-1 | 2 | 3 | 2 | 3 |
| 5' | 7' | Brown / Grey Silt Clay FILL (w wood fibres) | SS-2 | 2 | 3 | 4 | 9 |
| 7 1/2' | 9 1/2' | Brown / Grey Silt Clay FILL to 8 1/2', then Native Silt Clay Till | SS-3 | 1 | 3 | 5 | 7 |
| 10' | 12' | Grey Silt Clay Till, Moist, Loose to Compact | SS-4 | 1 | 4 | 5 | 6 |
| 12' | 15' | Grey Silt Clay Till, Moist, Loose to Compact | | | | | |
| | 15' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | Well Installed | | | | | |
| | | 5' Screen | | | | | |
| | | 12 1/2' Riser | | | | | |
| | | Sand to 8' beg | | | | | |
| | | Plug to 7' beg | | | | | |
| | | Native to 3' beg, Plug to grade | | | | | |
| | | Locked Protective Cover Installed Over Well. | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-06-8 |
| PROJECT NO. | 06-G-403-2 | DATE DRILLED | September 21, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.300 |
| TECHNICIAN | E. Reid, C. Tech., Geo-Logic Inc. | GROUND ELEV. | 129.580 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335464m E/5074590m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| 0 | 100mm | Brown Organic Topsoil | | | | | |
| 100mm | 2' | Brown Gr Silt Clay FILL | S-1 | | | | |
| 2' | 4' | Brown Silt Clay Till - Moist | S-2 | | | | |
| 4' | 6' | Brown Silt Clay Till - Moist | S-3 | | | | |
| 6' | 8' | Brown Silt Clay Till - Moist | S-4 | | | | |
| 8' | 10' | Brown / Grey Silt Clay Till - Moist | S-5 | | | | |
| 10' | 12' | Grey Silt Clay Till - Moist | S-6 | | | | |
| 12' | 14' | Grey Silt Clay Till - Moist | S-7 | | | | |
| 14' | 16' | Grey Silt Clay Till - Moist to Wet | S-8 | | | | |
| 16' | 18' | Grey Silt Clay Till - Wet | S-9 | | | | |
| 18' | 20' | Grey Silt Clay Till - Wet | S-10 | | | | |
| | 20' | Borehole Terminated | | | | | |
| | | Monitoring Well Inserted - 5' Screen | | | | | |
| | | 17' Riser | | | | | |
| | | Sand to 8" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-06-9 |
| PROJECT NO. | 06-G-403-2 | DATE DRILLED | September 21, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 131.150 |
| TECHNICIAN | E. Reid, C. Tech., Geo-Logic Inc. | GROUND ELEV. | 129.860 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335401m E/5074605m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 0 | 150mm | Brown Sandy Gravel FILL - Wet to Saturated | S-1 | | | | |
| 150mm | 2' | Brown / Grey Silt Clay Till - Moist | S-1A | | | | |
| 2' | 4' | Brown / Grey Silt Clay Till - Moist | S-2 | | | | |
| 4' | 6' | Brown / Grey Silt Clay Till - Moist | S-3 | | | | |
| 6' | 8' | Brown / Grey Silt Clay Till - Moist | S-4 | | | | |
| 8' | 10' | Grey Silt Clay Till - Moist | S-5 | | | | |
| 10' | 12' | Grey Silt Clay Till - Moist | S-6 | | | | |
| 12' | 14' | Grey Silt Clay Till - Moist to Wet | S-7 | | | | |
| 14' | 16' | Grey Silt Clay Till - Wet to Saturated | S-8 | | | | |
| | 16' | Borehole Terminated | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen | | | | | |
| | | 13' Riser | | | | | |
| | | Sand to 12" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-06-10 |
| PROJECT NO. | 06-G-403-2 | DATE DRILLED | September 21, 2006 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 131.317 |
| TECHNICIAN | E. Reid, C. Tech., Geo-Logic Inc. | GROUND ELEV. | 130.240 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335408m E/5074506m N) | | |

| DEPTH | | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | | | | | | |
| 0 | 50mm | Crushed Stone (13.2 mm) | S-1 | | | | |
| 50mm | 150mm | Brown Gravelly Sand ('A') | S-2 | | | | |
| 150mm | 2' | Brown Gravelly Sand ('B') | S-3 | | | | |
| 2' | 4' | Brown / Grey Silt Clay Till - Moist | S-4 | | | | |
| 4' | 6' | Brown / Grey Silt Clay Till - Moist | S-5 | | | | |
| 6' | 8' | Grey Silt Clay Till - Moist | S-6 | | | | |
| 8' | 10' | Grey Silt Clay Till - Moist | S-7 | | | | |
| 10' | 12' | Grey Silt Clay Till - Moist to Wet | S-8 | | | | |
| 12' | 14' | Grey Silt Clay Till - Moist to Wet | S-9 | | | | |
| 14' | 16' | Grey Silt Clay Till - Wet | S-10 | | | | |
| 16' | 18' | Grey Silt Clay Till - Wet | S-11 | | | | |
| 18' | 20' | Grey Silt Clay Till (with Sand Seams) - Wet to Saturated | S-12 | | | | |
| 20' | 22' | Grey Silt Clay Till (with Sand Seams) - Wet to Saturated | S-13 | | | | |
| 22' | 22'1" | Grey Coarse Grained Sand - Saturated | S-14 | | | | |
| | 22'1" | Borehole Terminated due to Auger Refusal | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen | | | | | |
| | | 19' Riser | | | | | |
| | | Sand to 15' 11" below grade | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-11 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 19, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.055 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 129.150 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335478m E/5074576m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE |
|---|---|---|---|---|
| | | | | |
| | | | | |
| 2' | 4' | Grey Silty Clay, Dense-Moist | Composite | |
| 4' | 6' | Grey Silty Clay, Dense-Moist | Composite | |
| 6' | 8' | Grey Silty Clay, Dense-Moist | Composite | |
| 8' | 10' | Grey Silty Clay, Dense-Moist | Composite | |
| 10' | 12' | Grey Silty Clay, Dense-Moist | Composite | |
| 12' | 14' | Grey Silty Clay, Dense-Moist | Composite | |
| 14' | 16' | Grey Silty Clay, Dense-Moist | Composite | |
| 16' | 18' | Grey Silty Clay, Dense-Moist | Composite | |
| 18' | 20' | Grey Silty Clay, Dense-Moist | Composite | |
| 20' | 21'3" | Grey Silty Clay, Dense-Moist | Composite | |
| | 21'3" | Borehole Terminated, Bedrock Inferred | | |
| | | | | |
| | | Monitoring Well Inserted - 2' Screen | | |
| | | 23' Riser | | |
| | | Sand to 6" Above Screen | | |
| | | Bentonite Plug to Surface | | |
| | | Locked Protective Cover Installed Over Well | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-12 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 19, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.410 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 129.575 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335465m E/5074588m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | | | | | | |
| 2' | 4' | Brown silty sand with pebbles-moist and dense | Composite | | | | |
| 4' | 6' | Grey Silty Clay, Dense-Moist | Composite | | | | |
| 6' | 8' | Grey Silty Clay, Dense-Moist | Composite | | | | |
| 8' | 10' | Grey Silty Clay, Dense-Moist | Composite | | | | |
| 10' | 12' | Grey Silty Clay, Dense-Moist | Composite | | | | |
| 12' | 14' | Grey fine silt with striations of red sand- dense | Composite | | | | |
| 14' | 16' | Grey fine silt with striations of red sand- dense | Composite | | | | |
| 16' | 18' | Grey fine silt with striations of red sand- dense | Composite | | | | |
| 18' | 20' | Grey fine silt with striations of red sand- dense | Composite | | | | |
| 20' | 22'2" | Grey fine silt with striations of red sand- dense | Composite | | | | |
| | 22'2" | Borehole Terminated at 22'2", Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 1' Screen | | | | | |
| | | 25' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-13 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 19, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.918 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 130.025 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335448m E/5074616m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| 2' | 4' | Topsoil to 1'-brown sand with pebbles | Composite | | | | |
| 4' | 6' | Brown Silty Clay moist to wet condition | Composite | | | | |
| 6' | 8' | Brown Silty Clay moist to wet condition | Composite | | | | |
| 8' | 10' | Fine grey silty clay-dense and moist | Composite | | | | |
| 10' | 12' | Fine grey silty clay-dense and moist | Composite | | | | |
| 12' | 14' | Fine grey silty clay-dense and moist | Composite | | | | |
| 14' | 16' | Fine grey silty clay-dense and moist | Composite | | | | |
| 16' | 18' | Fine grey silty clay-dense and moist | Composite | | | | |
| 18' | 20' | Fine grey silty clay-moist to wet condition | Composite | | | | |
| 20' | 22'7" | Fine grey silty clay -- moist to wet condtion | Composite | | | | |
| | 22'7" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 3' Screen | | | | | |
| | | 25' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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2065 PETATAWAWA BLVD.
P.O BOX 64
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-14 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 20, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.855 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 129.975 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335415m E/5074617m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | Topsoil to 6" | | | | | |
| | | Granular "A" to 1.5' | | | | | |
| 2' | 4' | Grey medium silty sand saturated | Composite | | | | |
| 4' | 6' | Fine silty clay with pebbles-Dry | Composite | | | | |
| 6' | 8' | Brown Silty Clay moist to wet condition | Composite | | | | |
| 8' | 10' | Grey clay fine and dense-dry | Composite | | | | |
| 10' | 12' | Grey clay fine compact and moist | Composite | | | | |
| 12' | 14' | Fine grey silty clay-moist | Composite | | | | |
| 14' | 16' | Fine grey silty clay-moist and loose | Composite | | | | |
| 16' | 18' | Fine grey clay-moist | Composite | | | | |
| 18' | 20' | Fine grey clay-moist to wet condition | Composite | | | | |
| 20' | 21'3" | Fine grey clay with red iron seams-wet | Composite | | | | |
| | 21'3" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 1.5' Screen | | | | | |
| | | 23' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-15 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 20, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.835 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 129.925 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335403m E/5074605m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | Granular "A" to 1' | | | | | |
| 2' | 4' | Grey brown fill moist and loose | Composite | | | | |
| 4' | 6' | Grey silty clay, moist and dense | Composite | | | | |
| 6' | 8' | Grey silty clay, moist and dense | Composite | | | | |
| 8' | 10' | Grey silty clay, dry | Composite | | | | |
| 10' | 12' | Grey clay with vains of red sand-dry | Composite | | | | |
| 12' | 14' | Grey clay, very moist and loose | Composite | | | | |
| 14' | 16' | Grey clay, with iron oxide pebbles, dry | Composite | | | | |
| 16' | 18' | Grey sandy clay- moist and compact | Composite | | | | |
| 18' | 20' | Grey sandy clay with pebbles loose | Composite | | | | |
| 20' | 20'10" | Grey clay till with pebbles | Composite | | | | |
| | 20'10" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 1.5' Screen | | | | | |
| | | 23' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-16 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 20, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.977 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 130.155 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335393m E/5074599m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| | | Topsoil organics with sand to 6" | | | | | |
| 2' | 4' | Grey fine sand with fill dense and dry | Composite | | | | |
| 4' | 6' | Grey sandy fill with clay dense | Composite | | | | |
| 6' | 8' | Sandy clay with vains of red sand-dry | Composite | | | | |
| 8' | 10' | Fine grey sandy clay with loose till-dry | Composite | | | | |
| 10' | 12' | Fine grey sandy clay with red till-moist | Composite | | | | |
| 12' | 14' | Fine grey clay moist to saturated condition | Composite | | | | |
| 14' | 16' | Fine grey clay with pebbles at 15', dense and moist | Composite | | | | |
| 16' | 18' | Fine grey clay loose and saturated | Composite | | | | |
| 18' | 20'8" | Sandy clay mixed in color with pebbles-till, saturated and loose | Composite | | | | |
| | 20'8" | Borehole Terminated, Bedrock Inferred | Composite | | | | |
| | | | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 2' Screen | | | | | |
| | | 23' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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EcoMetrix Incorporated
14 Abacus Road
Brampton, ON L6T 5B7
(905) 794-2325

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-17 |
| PROJECT NO. | 07-1436 | DATE DRILLED | April 19, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 131.075 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 130.160 |
| HOLE LOCATION | Immediately Adjacent to MW07-15 on side of driveway along west side of property | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335392m E/5074599m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 0' | 25' | Approx 6" of aggregate on surface with grey silty clay to | Grab | | | | |
| | | bedrock surface | | | | | |
| | | Boulder @ 21'6" to 22' | | | | | |
| | | Refer to Boring Log for MW07-15 for detailed overburden stratigraphy | | | | | |
| 25' | 45'6" | Grey limestone | Grab | | | | |
| | 45'6" | Borehole Terminated | | | | | |
| | | | | | | | |
| | | MOE Well ID #A022950 | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen | | | | | |
| | | Sand to 39'2" bgs | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
| | | | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | | | |
| | | detailed borehole logging could be completed | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-18 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 20, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 131.233 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 130.365 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335387m E/5074595m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | 6" of saturated topsoil | | | | | |
| 2' | 4' | Grey fine sand with pebbles, saturated | Composite | | | | |
| 4' | 6' | Grey fine silt, compact and moist | Composite | | | | |
| 6' | 8' | Grey fine silt, compact and moist | Composite | | | | |
| 8' | 10' | Grey silty clay compact and most | Composite | | | | |
| 10' | 12' | Grey silty clay compact and most | Composite | | | | |
| 12' | 14' | Grey silt clay with vains of red sand | Composite | | | | |
| 14' | 16' | Grey silt clay with red sand and pebbles, moist | Composite | | | | |
| 16' | 18' | Grey clay till with large pebbles, moist | Composite | | | | |
| 18' | 20' | Grey gravel clay till-wet | Composite | | | | |
| 20' | 21'9" | Grey clay till with pebbles, saturated | Composite | | | | |
| | 21'9" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 3' Screen | | | | | |
| | | 25' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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GEO-LOGIC INC.

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-19 |
| PROJECT NO. | G021070 (E1) | DATE DRILLED | April 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 131.607 |
| TECHNICIAN | S.Thoms, Geo-Logic Inc. | GROUND ELEV. | 130.792 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-120 Boundary Road, Pembroke, Ontario (335378m E/5074587m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 0' | 2' | 6" of topsoil, Brown sandy fill-dry and compact | Composite | | | | |
| 2' | 4' | Brown grey sandy silt, dry and compact | Composite | | | | |
| 4' | 6' | Red-Brown sandy silt-dry | Composite | | | | |
| 6' | 8' | Grey sandy silt-dry | Composite | | | | |
| 8' | 10' | Grey fine silty clay, dry | Composite | | | | |
| 10' | 12' | Grey fine silty clay, moist | Composite | | | | |
| 12' | 14' | Brown silty sandy clay, moist | Composite | | | | |
| 14' | 16' | Red Brown silty clay, moist | Composite | | | | |
| 16' | 18' | Red Brown silty clay, moist | Composite | | | | |
| 18' | 20' | Red Brown silty clay, moist | Composite | | | | |
| 20' | 21'10" | Red Brown silty clay, moist | Composite | | | | |
| | 21'10" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | | | | | | |
| | | Monitoring Well Inserted - 3' Screen | | | | | |
| | | 25' Riser | | | | | |
| | | Sand to 6" Above Screen | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-20 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.70 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 129.85 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335296m E/5074616m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| 0' | 2' | 6" of topsoil, Brown sandy fill-dry and compact | Composite | | | | |
| 2' | 4' | Brown grey sandy silt FILL, moist and compact | Composite | | | | |
| 4' | 8' | FILL to 5', then brown silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown silty clay till, wet | Composite | | | | |
| 16' | 20' | Brown silty clay till, wet | Composite | | | | |
| 20' | 23'1" | Brown silty clay till, wet | Composite | | | | |
| | 23'1" | Borehole Terminated, Bedrock Inferred | | | | | |
| | | Monitoring Well Inserted - 5' Screen (1.25" Dia. Slot 40 PVC) | | | | | |
| | | Sand to 16'8" | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-21 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 24, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 129.51 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 128.78 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335522m E/5074584m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE |
|---|---|---|---|---|
| 0' | 2' | 12" of topsoil, Brown sandy fill-dry and compact | Composite | |
| 2' | 4' | Brown grey sandy silt FILL, moist and compact | Composite | |
| 4' | 8' | Brown silty clay till, moist | Composite | |
| 8' | 12' | Brown silty clay till, moist | Composite | |
| 12' | 16' | Brown / Grey silty clay till, moist | Composite | |
| 16' | 20' | Brown / Grey silty clay till, moist to wet | Composite | |
| 20' | 22'10" | Brown / Grey silty clay till, wet | Composite | |
| | 22'10" | Borehole Terminated, Bedrock Inferred | | |
| | | Monitoring Well Inserted - 5' Screen (1.25" Dia. Slot 40 PVC) | | |
| | | Sand to 16'8" | | |
| | | Bentonite Plug to Surface | | |
| | | Locked Protective Cover Installed Over Well | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-22 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.25 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 129.05 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335472m E/5074584m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 0' | 2'6" | 8" of topsoil, Brown sandy fill-dry and compact | Composite | | | | |
| 2'6" | 4' | Brown / Grey silty clay till, moist | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 16' | 20' | Brown / Grey silty clay till, wet | Composite | | | | |
| 20' | 22'0" | Brown / Grey silty clay till, wet | Composite | | | | |
| | 22'0" | Borehole Terminated, Bedrock Inferred | | | | | |
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| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen (1.25" Dia. Slot 40 PVC) | | | | | |
| | | Sand to 16' 0" | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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GEO-LOGIC INC.

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-23 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 24, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.04 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 129.29 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335492m E/5074560m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE |
|---|---|---|---|---|
| 0' | 2'6" | 6" of topsoil, Brown sandy fill-dry and compact | Composite | |
| 2'6" | 4' | Brown / Grey silty clay till, moist | Composite | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | |
| 16' | 18' | Brown / Grey silty clay till, wet to saturated | Composite | |
| | 18' | Borehole Terminated, Bedrock Inferred | Composite | |
| | | Monitoring Well Inserted - 2' Screen (1.25" Dia. Slot 40 PVC) | | |
| | | Sand to 15' 0" | | |
| | | Bentonite Plug to Surface | | |
| | | Locked Protective Cover Installed Over Well | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-24 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 24, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 129.03 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 128.22 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335519m E/5074530m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| 0' | 10" | Brown Organic Topsoil | Composite | | | | |
| 10" | 4' | Brown / Grey silty clay till, moist | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 16' | 19' | Brown / Grey silty clay till, wet to saturated | Composite | | | | |
| | 19' | Borehole Terminated, Bedrock Inferred | Composite | | | | |
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| | | | | | | | |
| | | Monitoring Well Inserted - 2' Screen (1.25" Dia. Slot 40 PVC) | | | | | |
| | | Sand to 16' 0" | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-25 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 24, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 129.85 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 129.03 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335466m E/5074498m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE |
|---|---|---|---|---|
| 0' | 6" | Brown Organic Topsoil | Composite | |
| 6" | 4' | Brown / Grey silty clay till, moist | Composite | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | |
| 16' | 20' | Brown / Grey silty clay till, wet to saturated | Composite | |
| 20' | 20'9" | Brown / Grey silty clay till, saturated. Pebbles and Bedrock | Composite | |
| | | fragments 20'7"-20'9" | | |
| | 20'9" | Borehole Terminated, Bedrock Inferred. | | |
| | | Monitoring Well Inserted - 2' 6" Screen (1.25" Dia. Slot 40 PVC) | | |
| | | Sand to 17'3" | | |
| | | Bentonite Plug to Surface | | |
| | | Locked Protective Cover Installed Over Well | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-26 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 132.42 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 131.85 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335357m E/5074567m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 0' | 8" | Brown Organic Topsoil | Composite | | | | |
| 8" | 4' | Brown Sand FILL to 3', then Brown / Grey silty clay till, dry | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 16' | 20' | Brown / Grey silty clay till, wet to saturated | Composite | | | | |
| 20' | 23' | Brown / Grey silty clay till, saturated. Pebbles and Bedrock | Composite | | | | |
| | | fragments 21' 0" - 23' 0" | | | | | |
| | 23' | Borehole Terminated, Bedrock Inferred. | | | | | |
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| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen (1.25" Dia. Slot 40 PVC) | | | | | |
| | | Sand to 17' 0" | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-27 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 132.89 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 132.02 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335354m E/5074611m N) | | |

| DEPTH FROM | DEPTH TO | DESCRIPTION SOIL TYPES, COLOUR, DENSITY | SAMPLE TYPE | METHOD OR & BLOW DISTANCE | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 0' | 8" | Brown Organic Topsoil | Composite | | | | |
| 8" | 4' | Brown / Grey Sand FILL, dry | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, dry | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, dry | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist | Composite | | | | |
| 16' | 20' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 20' | 24' 7" | Brown / Grey silty clay till, saturated. Pebbles and Bedrock | Composite | | | | |
| | | fragments 22' 0" - 24' 7" | | | | | |
| | 24' 7" | Borehole Terminated, Bedrock Inferred. | | | | | |
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| | | | | | | | |
| | | Monitoring Well Inserted - 5' Screen (1.25" Dia. Slot 40 PVC) | | | | | |
| | | Sand to 19' 0" | | | | | |
| | | Bentonite Plug to Surface | | | | | |
| | | | | | | | |
| | | Locked Protective Cover Installed Over Well | | | | | |
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EcoMetrix INCORPORATED

6800 Campobello Road
Mississauga, ON, L5N 2L8
(905) 794-2325

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-28 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 132.71 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 132.04 |
| HOLE LOCATION | Behind Neighbouring Bldg to West; Adjacent to MW07-27 and MW07-35 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335352m E/5074612m N) | | |

| DEPTH | | DESCRIPTION | | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | | TYPE | TCR (%) | RQD (%) |
| | | | | | | |
| 0' | 22'5" | Topsoil at surface with Brown / Grey silty clay till to bedrock surface | | | | |
| | | 8" Hole Over-drill of original installation | | | | |
| | | Refer to Boring Log for MW07-27 for detailed overburden stratigraphy (completed 25/09/07) | | | | |
| 22'5" | 45' | Shaley Limestone Bedrock | | | | |
| | | 8" Hole Over-drill of original installation | | | | |
| | 45' | Borehole Terminated | | | | |
| | | | | | | |
| | | Monitoring Well Inserted - | 1' Sand placed at bottom of hole | | | |
| | | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | | Sand to 38' bgs | | | |
| | | | Bentonite Plug to Surface | | | |
| | | | Locked Protective Cover Installed Over Well | | | |
| | | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | | |
| | | detailed borehole logging could be completed | | | | |
| | | | | | | |
| | | Original Borehole completed on Sept 26/07 using CME Hollow Stem Auger/NQ Core | | | | |
| | | Air Rotary used to Over-drill original hole | | | | |
| | | Bedrock NQ core samples collected during original installation: | | | | |
| | | | SA 1 | 20' to 22'5" | 42.9 | 42.9 |
| | | | SA 2 | 22'5" to 26'2" | 39.7 | 13.9 |
| | | | SA 3 | 26'2" to 27'5" | 98.4 | 53.0 |
| | | | SA 4 | 27'5" to 28'10" | 47.2 | 0.0 |
| | | | SA 5 | 28'10" to 33'9" | 80.3 | 34.0 |
| | | | SA 6 | 33'9" to 38'9" | 90.8 | 68.6 |
| | | | | | | |
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330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-29 pg.1 of 2 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 131.09 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 130.57 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335384m E/5074592m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| 0' | 7" | Brown Organic Topsoil | Composite | | | | |
| 7" | 1' | Brown / Grey Sand FILL, dry | | | | | |
| 1' | 4' | Brown / Grey silty clay till, moist | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 16' | 20' | Brown / Grey silty clay till, saturated (Pebbles and Gravel at 18') | Composite | | | | |
| 20' | 23'8" | Brown / Grey silty clay till, saturated. Pebbles and Bedrock | Composite | | | | |
| | 23'8" | Borehole Terminated, Bedrock Inferred. | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | continued on pg. 2 | | | | | |

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Mississauga, ON, L5N 2L8
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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-29 pg.2 of 2 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 131.09 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 130.57 |
| HOLE LOCATION | Along West Property Boundary; Adjacent to MW07-18 and MW07-34 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335384m E/5074592m N) | | |

| DEPTH | | DESCRIPTION | | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | | TYPE | TCR (%) | RQD (%) |
| | | continued from pg. 1 | | | | |
| 0' | 23'6" | Topsoil at surface with Grey silty clay till to bedrock surface | | | | |
| | | 6" Hole Over-drill of original installation | | | | |
| | | | | | | |
| 23'6" | 47' | Shaley Limestone Bedrock | | | | |
| | | 6" Hole Over-drill of original installation | | | | |
| | 47' | Borehole Terminated | | | | |
| | | | | | | |
| | | Monitoring Well Inserted - | Natural Cave to 43' | | | |
| | | | 1' Sand placed at bottom of hole | | | |
| | | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | | Sand to 37' bgs | | | |
| | | | Bentonite Plug to Surface | | | |
| | | | Locked Protective Cover Installed Over Well | | | |
| | | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | | |
| | | detailed borehole logging could be completed | | | | |
| | | detailed borehole logging could be completed | | | | |
| | | | | | | |
| | | Original Borehole completed and sampled to bedrock surface using Geoprobe (refer to pg 1 of Boehole Log) | | | | |
| | | Original Borehole completed in bedrock on Sept 26/07 using CME with NQ Core | | | | |
| | | Air Rotary used to Over-drill original hole | | | | |
| | | Bedrock NQ core samples collected during original installation: | | | | |
| | | | SA 1 | 22'5" to 27'6" | 66.0 | 42.9 |
| | | | SA 2 | 27'6" to 28'7" | 62.4 | 13.9 |
| | | | SA 3 | 28'7" to 33'7" | 83.4 | 53.0 |
| | | | SA 4 | 33'7" to 38'7" | 90.6 | 0.0 |
| | | | | | | |

330-1 Boundary Road
PEMBROKE, ONTARIO
K8A 7G8

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW-07-30 pg.1 of 2 |
| PROJECT NO. | G021 072 (E2) | DATE DRILLED | September 25, 2007 |
| DRILLING CO. | George Downing Estate Drilling Limited | STANDPIPE ELEV. | 130.80 |
| TECHNICIAN | E. Reid Geo-Logic Inc. | GROUND ELEV. | 130.10 |
| HOLE LOCATION | As Per Site Plan by EcoMetrix | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335447m E/5074620m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | METHOD OR | | | |
|---|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | & BLOW DISTANCE | | | |
| | | | | | | | |
| 0' | 8" | Brown Organic Topsoil | Composite | | | | |
| 8" | 3' | Brown / Grey Sand FILL, dry | | | | | |
| 3' | 4' | Brown / Grey silty clay till, moist | Composite | | | | |
| 4' | 8' | Brown / Grey silty clay till, moist | Composite | | | | |
| 8' | 12' | Brown / Grey silty clay till, moist | Composite | | | | |
| 12' | 16' | Brown / Grey silty clay till, moist | Composite | | | | |
| 16' | 20' | Brown / Grey silty clay till, moist to wet | Composite | | | | |
| 20' | 22'2" | Brown / Grey silty clay till, saturated. (Pebbles and Bedrock at 21') | Composite (2) | | | | |
| | 22'2" | Borehole Terminated, Bedrock Inferred. | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | continued on pg. 2 | | | | | |
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EcoMetrix Incorporated
6800 Campobello Road
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(905) 794-2325

# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-30 pg. 2 of 2 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 130.80 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 130.10 |
| HOLE LOCATION | Northwest Corner of Property; Adjacent to MW06-1 and MW07-13 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335447m E/5074620m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | continued from pg. 1 | | | |
| 0' | 21'2" | Topsoil at surface with Grey silty clay till to bedrock surface | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | | | | | |
| 21'2" | 45' | Shaley Limestone Bedrock | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | 45' | Borehole Terminated | | | |
| | | | | | |
| | | Monitoring Well Inserted - 1' Sand placed at bottom of hole | | | |
| | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 36'7" bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
| | | | | | |
| | | | | | |
| | | Original Borehole completed and sampled to bedrock surface using Geoprobe (refer to pg 1 of Boehole Log) | | | |
| | | Original Borehole completed in bedrock on Sept 26/07 using CME with NQ Core | | | |
| | | Air Rotary used to Over-drill original hole | | | |
| | | Bedrock NQ core samples collected during original installation: | | | |
| | | SA 1 | 22'4" to 23'7" | 98.4 | 29.8 |
| | | SA 2 | 23'7" to 27'3" | 31.6 | 9.3 |
| | | SA 3 | 27'3" to 28'7" | 53.1 | 0.0 |
| | | SA 4 | 28'7" to 33'7" | 94.2 | 74.9 |
| | | SA 5 | 33'7" to 38'7" | 88.9 | 65.9 |
| | | | | | |

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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-31 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 5, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 130.16 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 129.38 |
| HOLE LOCATION | Front (north) Property Boundary; Adjacent to MW07-22 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335471m E/5074583m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 22'5" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | | Refer to Boring Log for MW07-22 for detailed overburden stratigraphy (completed 25/09/07) | | | |
| 22'5" | 23'1" | Granite (boulder) | | | |
| 23'1" | 45' | Shaley Limestone Bedrock | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | 45' | Borehole Terminated | | | |
| | | Monitoring Well Inserted - 9" Sand placed at bottom of hole | | | |
| | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 38'3" bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | Original Borehole completed on Sept 25/07 using CME Hollow Stem Auger/NQ Core | | | |
| | | Air Rotary used to Over-drill original hole | | | |
| | | Bedrock NQ core samples collected during original installation: | | | |
| | | SA 1 | 23'9" to 28'1" | 39.4 | 18.9 |
| | | SA 2 | 28'1" to 28'9" | 93.5 | 0.0 |
| | | SA 3 | 28'9" to 33'9" | 98.4 | 65.4 |
| | | SA 4 | 33'9" to 38'9" | 85.2 | 54.0 |
| | | | | | |
| | | | | | |

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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-32 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 5, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 128.86 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 128.23 |
| HOLE LOCATION | Northeast Corner of Property; Adjacent to MW07-24 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335517m E/5074530m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 20' | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 8" Hole to 30' bgs - Over-drill of original installation | | | |
| | | 6" Hole 30' to 49' bgs - Over-drill of original installation | | | |
| | | 8" Casing installed during drilling to 31' bgs due to caving - pulled after monitoring well installed | | | |
| | | Refer to Boring Log for MW07-24 for detailed overburden stratigraphy (completed 24/09/07) | | | |
| 20' | 49' | Shaley Limestone Bedrock | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | 49' | Borehole Terminated | | | |
| | | | | | |
| | | Monitoring Well Inserted - Natural cave to 47' | | | |
| | | 9" Sand placed at bottom of hole | | | |
| | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 40' bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
| | | | | | |
| | | Original Borehole completed on Sept 25/07 using CME Hollow Stem Auger/NQ Core | | | |
| | | Air Rotary used to Over-drill original hole | | | |
| | | Bedrock NQ core samples collected during original installation: | | | |
| | | SA 1 | 23'11" to 26'5" | 97.8 | 40.6 |
| | | SA 2 | 26'5" to 28'11" | 91.9 | 41.9 |
| | | SA 3 | 28'11" to 33'11" | 97.1 | 74.7 |
| | | SA 4 | 33'11" to 38'11" | 93.2 | 61.7 |
| | | Clay Seam | 28'9" to 28'11" | | |

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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-33 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 5, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 129.88 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 129.26 |
| HOLE LOCATION | Southeast Corner of Property; Adjacent to MW07-25 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335465m E/5074497m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 21'9" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 8" Hole to 30' bgs - Over-drill of original installation | | | |
| | | 6" Hole 30' to 46' bgs - Over-drill of original installation | | | |
| | | 8" Casing installed during drilling to 30' bgs due to caving - pulled after monitoring well installed | | | |
| | | Refer to Boring Log for MW07-25 for detailed overburden stratigraphy (completed 24/09/07) | | | |
| | | | | | |
| 21'9" | 46' | Shaley Limestone Bedrock | | | |
| | | 6" Hole Over-drill of original installation | | | |
| | 46' | Borehole Terminated | | | |
| | | Monitoring Well Inserted - Natural cave to 45'5" | | | |
| | | 10" Sand placed at bottom of hole | | | |
| | | 5' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 38'2" bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
| | | | | | |
| | | Original Borehole completed on Sept 24/07 using CME Hollow Stem Auger/NQ Core | | | |
| | | Air Rotary used to Over-drill original hole | | | |
| | | Bedrock NQ core samples collected during original installation: | | | |
| | | SA 1 | 21'1 to 23'7" | 95.80 | 43.18 |
| | | SA 2 | 23'7" to 28'7" | 77.43 | 50.39 |
| | | SA 3 | 28'7" to 33'7" | 89.90 | 63.58 |
| | | SA 4 | 33'7" to 38'7" | 89.24 | 60.76 |
| | | | | | |

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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-34 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 131.12 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 130.71 |
| HOLE LOCATION | Along West Property Boundary; Adjacent to MW07-18 and MW07-29 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335393m E/5074591m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 23'6" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 6" Hole | | | |
| | | Refer to Boring Log for MW07-18 for detailed overburden stratigraphy | | | |
| | | | | | |
| 23'6" | 32'6" | Highly Fractured Shaley Limestone Bedrock | | | |
| | | 6" Hole | | | |
| | 32'6" | Borehole Terminated | | | |
| | | | | | |
| | | | | | |
| | | Monitoring Well Inserted - Natural cave to 28' | | | |
| | | 6" Sand placed at bottom of hole | | | |
| | | 1'6" Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 25' bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-35 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 132.89 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 132.16 |
| HOLE LOCATION | Behind Neighbouring Bldg to West; Adjacent to MW07-27 and MW07-28 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335354m E/5074613m N) | | |

| DEPTH | | DESCRIPTION | | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | | TYPE | TCR (%) | RQD (%) |
| | | | | | | |
| 0' | 22'6" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | | |
| | | 6" Hole | | | | |
| | | Refer to Boring Log for MW07-27 for detailed overburden stratigraphy | | | | |
| | | | | | | |
| 22'6" | 30'7" | Highly Fractured Shaley Limestone Bedrock | | | | |
| | | 6" Hole | | | | |
| | 30'7" | Borehole Terminated | | | | |
| | | | | | | |
| | | | | | | |
| | | Monitoring Well Inserted - | 6" Sand placed at bottom of hole | | | |
| | | | 2' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | | Sand to 27'6" bgs | | | |
| | | | Bentonite Plug to Surface | | | |
| | | | Locked Protective Cover Installed Over Well | | | |
| | | | | | | |
| | | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | | |
| | | detailed borehole logging could be completed | | | | |
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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-36 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 4, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 133.10 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 132.31 |
| HOLE LOCATION | Behind Neighbouring Bldg to West; west of MW07-28 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335338m E/5074629m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 22'5" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 6" Hole | | | |
| | | Refer to Boring Log for MW07-27 for detailed overburden stratigraphy | | | |
| | | | | | |
| 22'5" | 30' | Highly Fractured Shaley Limestone Bedrock | | | |
| | | 6" Hole | | | |
| | 30' | Borehole Terminated | | | |
| | | | | | |
| | | | | | |
| | | Monitoring Well Inserted - 1' Sand placed at bottom of hole | | | |
| | | 2' Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 26'6" bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
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# FIELD BORING LOG

| | | | |
|---|---|---|---|
| PROJECT | SRB Technologies (Canada) Inc. | BOREHOLE NO. | MW07-37 |
| PROJECT NO. | 07-1471 | DATE DRILLED | October 5, 2007 |
| DRILLING CO. | Air Rock Drilling (Versa-Drill) | STANDPIPE ELEV. | 130.06 |
| TECHNICIAN | M. Venhuis, EcoMetrix Incorporated | GROUND ELEV. | 129.47 |
| HOLE LOCATION | Front (north) Property Boundary; West of MW07-31 | | |
| SITE LOCATION | 320-140 Boundary Road, Pembroke, Ontario (335468m E/5074589m N) | | |

| DEPTH | | DESCRIPTION | SAMPLE | Bedrock Core Recovery | |
|---|---|---|---|---|---|
| FROM | TO | SOIL TYPES, COLOUR, DENSITY | TYPE | TCR (%) | RQD (%) |
| | | | | | |
| 0' | 21'5" | Topsoil at surface with Grey Silty Clay Till to bedrock surface | | | |
| | | 6" Hole | | | |
| | | | | | |
| | | | | | |
| 21'5" | 27' | Highly Fractured Shaley Limestone Bedrock | | | |
| | | 6" Hole | | | |
| | 27' | Borehole Terminated | | | |
| | | | | | |
| | | | | | |
| | | Monitoring Well Inserted - Natural cave to 26'2" | | | |
| | | 8" Sand placed at bottom of hole | | | |
| | | 1'6" Screen (1.25" Dia. Slot 40 PVC) | | | |
| | | Sand to 23'6" bgs | | | |
| | | Bentonite Plug to Surface | | | |
| | | Locked Protective Cover Installed Over Well | | | |
| | | | | | |
| | | Note: Borehole completed using Air Rotary Methods therefore no | | | |
| | | detailed borehole logging could be completed | | | |
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# APPENDIX E

## Photographs of Selected Sections of Drill Core


NQ Drill Core - 47.6 mm diameter core

| SRB Technologies | | |
|---|---|---|
| Photos of Core Samples<br>MW07-28 | | |
| EcoMetrix INCORPORATED | January 2008 | **Figure E-1** |


NQ Drill Core - 47.6 mm diameter core

**SRB Technologies**

Photos of Core Samples
MW07-29

| EcoMetrix INCORPORATED | January 2008 | **Figure E-2** |
|---|---|---|


NQ Drill Core - 47.6 mm diameter core

**SRB Technologies**

Photos of Core Samples
MW07-30

EcoMetrix INCORPORATED | January 2008 | **Figure E-3**


NQ Drill Core - 47.6 mm diameter core

| | | |
|---|---|---|
| **SRB Technologies** | | |
| Photos of Core Samples<br>MW07-31 | | |
| EcoMetrix INCORPORATED | January 2008 | **Figure E-4** |



NQ Drill Core - 47.6 mm diameter core

**SRB Technologies**

Photos of Core Samples
MW07-32

EcoMetrix INCORPORATED | January 2008 | **Figure E-5**


NQ Drill Core - 47.6 mm diameter core

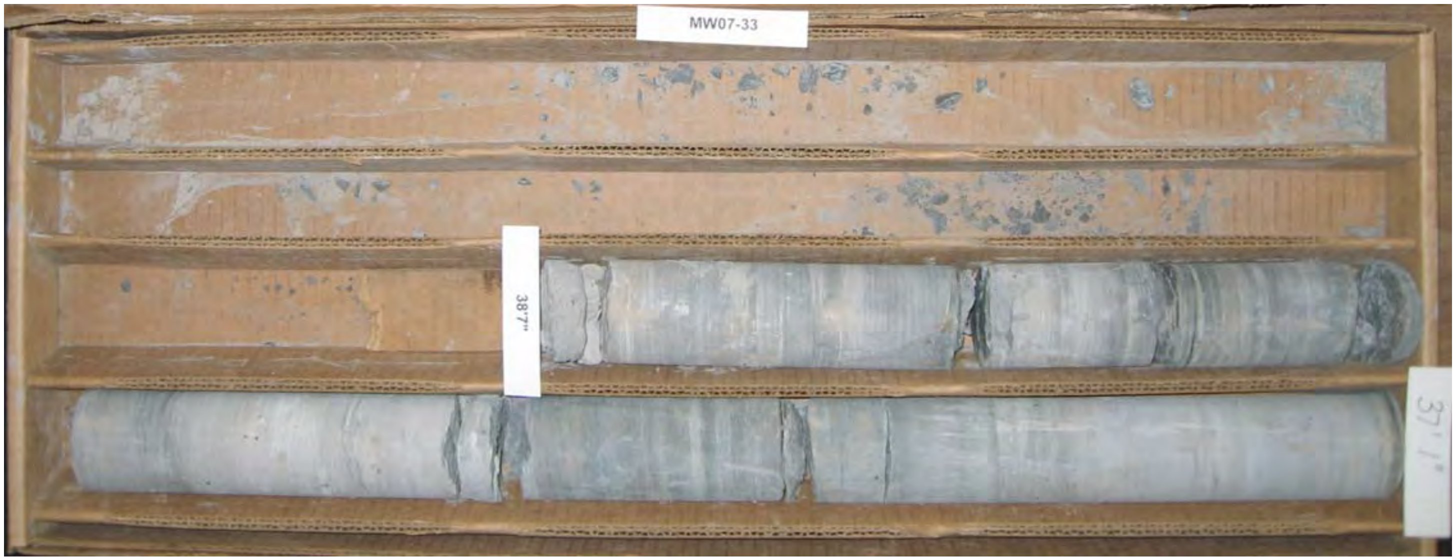
**SRB Technologies**

Photos of Core Samples
MW07-33

EcoMetrix INCORPORATED

January 2008

**Figure E-6**




NQ Drill Core - 47.6 mm diameter core

| **SRB Technologies** | | |
|---|---|---|
| Photos of Core Samples<br>MW07-33 | | |
| EcoMetrix INCORPORATED | January 2008 | **Figure E-7** |

# APPENDIX F

## Hydraulic Conductivity Testing - Recovery and Slug Test Evaluation

**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

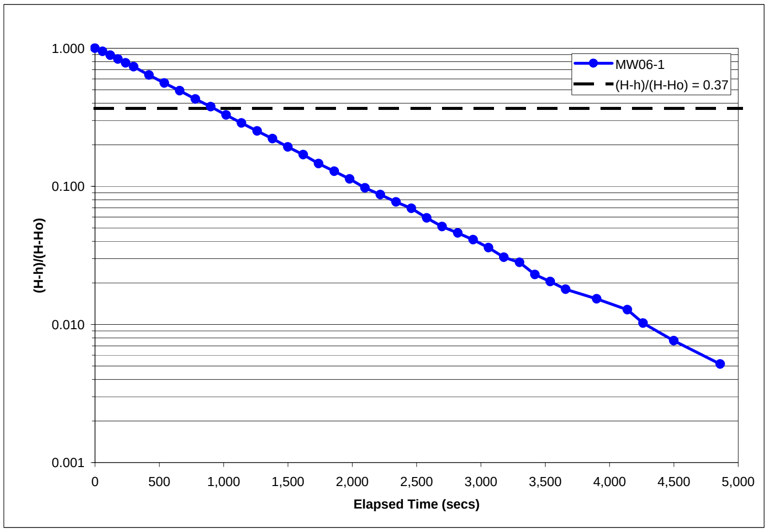
| | | | MW06-1 | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *126.648* | | |
| | 0.00 | 0 | 114.436 | 12.212 | 1.000 |
| | 1.00 | 60 | 115.095 | 11.553 | 0.946 |
| | 2.00 | 120 | 115.786 | 10.862 | 0.889 |
| | 3.00 | 180 | 116.477 | 10.171 | 0.833 |
| | 4.00 | 240 | 117.106 | 9.542 | 0.781 |
| | 5.00 | 300 | 117.702 | 8.946 | 0.733 |
| | 7.00 | 420 | 118.832 | 7.816 | 0.640 |
| | 9.00 | 540 | 119.806 | 6.842 | 0.560 |
| | 11.00 | 660 | 120.623 | 6.025 | 0.493 |
| | 13.00 | 780 | 121.408 | 5.240 | 0.429 |
| | 15.00 | 900 | 122.036 | 4.612 | 0.378 |
| | 17.00 | 1,020 | 122.633 | 4.015 | 0.329 |
| | 19.00 | 1,140 | 123.136 | 3.512 | 0.288 |
| | 21.00 | 1,260 | 123.575 | 3.073 | 0.252 |
| | 23.00 | 1,380 | 123.952 | 2.696 | 0.221 |
| | 25.00 | 1,500 | 124.297 | 2.351 | 0.193 |
| | 27.00 | 1,620 | 124.580 | 2.068 | 0.169 |
| | 29.00 | 1,740 | 124.862 | 1.786 | 0.146 |
| | 31.00 | 1,860 | 125.082 | 1.566 | 0.128 |
| | 33.00 | 1,980 | 125.269 | 1.379 | 0.113 |
| | 35.00 | 2,100 | 125.458 | 1.190 | 0.097 |
| | 37.00 | 2,220 | 125.584 | 1.064 | 0.087 |
| | 39.00 | 2,340 | 125.708 | 0.940 | 0.077 |
| | 41.00 | 2,460 | 125.803 | 0.845 | 0.069 |
| | 43.00 | 2,580 | 125.929 | 0.719 | 0.059 |
| | 45.00 | 2,700 | 126.023 | 0.625 | 0.051 |
| | 47.00 | 2,820 | 126.086 | 0.562 | 0.046 |
| | 49.00 | 2,940 | 126.147 | 0.501 | 0.041 |
| | 51.00 | 3,060 | 126.210 | 0.438 | 0.036 |
| | 53.00 | 3,180 | 126.273 | 0.375 | 0.031 |
| | 55.00 | 3,300 | 126.305 | 0.343 | 0.028 |
| | 57.00 | 3,420 | 126.367 | 0.281 | 0.023 |
| | 59.00 | 3,540 | 126.399 | 0.249 | 0.020 |
| | 61.00 | 3,660 | 126.429 | 0.219 | 0.018 |
| | 65.00 | 3,900 | 126.461 | 0.187 | 0.015 |
| | 69.00 | 4,140 | 126.492 | 0.156 | 0.013 |
| | 71.00 | 4,260 | 126.523 | 0.125 | 0.010 |
| | 75.00 | 4,500 | 126.555 | 0.093 | 0.008 |
| | 81.00 | 4,860 | 126.585 | 0.063 | 0.005 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.0254
L (m) = 1.5748
R (m) = 0.1016
$T_o$ (sec) = 900

K (m/s) = 6.24E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

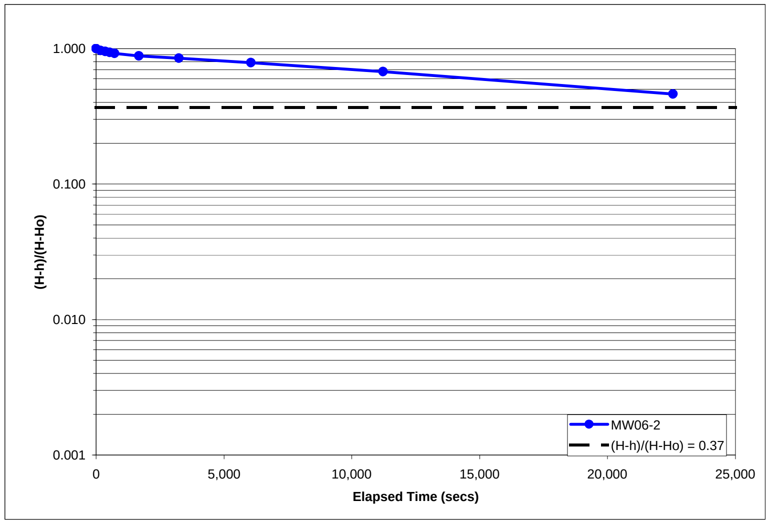
| | | | | | |
|---|---|---|---|---|---|
| | | MW06-2 | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *9:00* | *Start* | | *4.135* | | |
| 10:34 | 0 | 0 | 5.150 | -1.015 | 1.000 |
| 10:37 | 3 | 180 | 5.120 | -0.985 | 0.970 |
| 10:40 | 6 | 360 | 5.100 | -0.965 | 0.951 |
| 10:43 | 9 | 540 | 5.085 | -0.950 | 0.936 |
| 10:46 | 12 | 720 | 5.073 | -0.938 | 0.924 |
| 11:02 | 28 | 1,680 | 5.030 | -0.895 | 0.882 |
| 11:28 | 54 | 3,240 | 4.995 | -0.860 | 0.847 |
| 12:15 | 101 | 6,060 | 4.935 | -0.800 | 0.788 |
| 13:41 | 187 | 11,220 | 4.820 | -0.685 | 0.675 |
| 16:50 | 376 | 22,560 | 4.605 | -0.470 | 0.463 |
| 8:05 | 1,288 | 77,280 | 3.155 | 0.980 | -0.966 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.0254
L (m) = 1.8542
R (m) = 0.1016
$T_o$ (sec) = 30000

K (m/s) = 1.68E-08

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



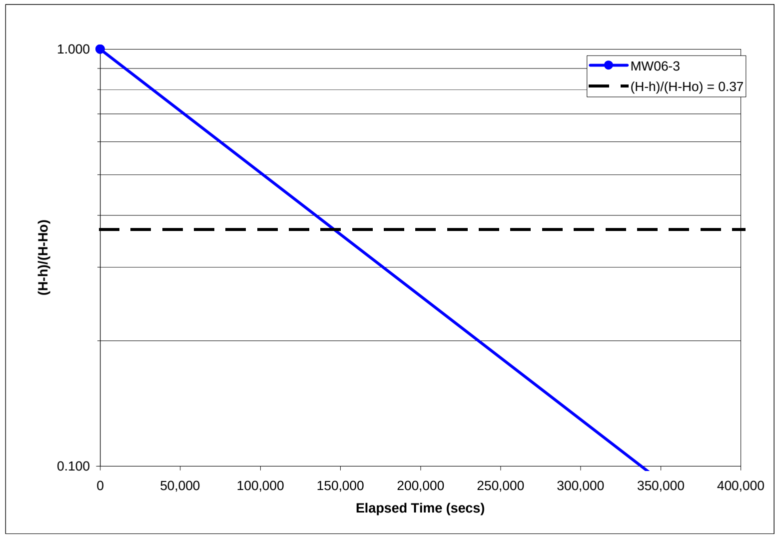
**Recovery Testing - Hvorslev Method (1951)**

| MW06-3 | | | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *19-Jan* | *Start* | | *4.69* | | |
| 12-Jan | 0 | 0 | 5.260 | -0.608 | 1.000 |
| 17-Jan | 7,200 | 432,000 | 4.720 | -0.030 | 0.053 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.0254 |
| L (m) = | 1.9304 |
| R (m) = | 0.1016 |
| $T_o$ (sec) = | 151278 |
| K (m/s) = | 3.25E-09 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

| | | | | | |
|---|---|---|---|---|---|
| | | MW06-4D | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *01-Feb* | *Start* | | *6.87* | | |
| 23/01/2006 14:31 | 0 | 0 | 11.16 | -4.290 | 1.000 |
| 24/01/2006 13:42 | 1,391 | 83,460 | 9.40 | -2.530 | 0.590 |
| 25/01/2006 13:20 | 2,809 | 168,540 | 8.98 | -2.110 | 0.492 |
| 26/01/2006 12:18 | 4,187 | 251,220 | 8.66 | -1.785 | 0.416 |
| 27/01/2006 13:54 | 5,723 | 343,380 | 8.41 | -1.535 | 0.358 |
| 01/02/2006 13:28 | 12,897 | 773,820 | 8.13 | -1.260 | 0.294 |
| 14/02/2006 11:22 | 31,491 | 1,889,460 | 7.37 | -0.495 | 0.115 |
| 23/02/2006 12:00 | 44,489 | 2,669,340 | 6.90 | -0.025 | 0.006 |

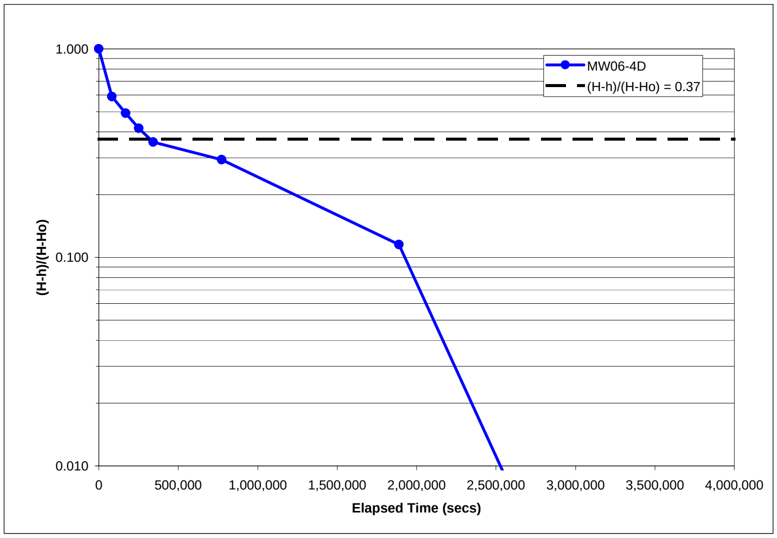
All Waterlevels are in m from top of pipe (top)

r (m) = 0.0254
L (m) = 1.8288
R (m) = 0.1016
$T_o$ (sec) = 479,879

K (m/s) = 1.06E-09

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

Note - recovery from long term water levels assuming steady values were at static equilibrium



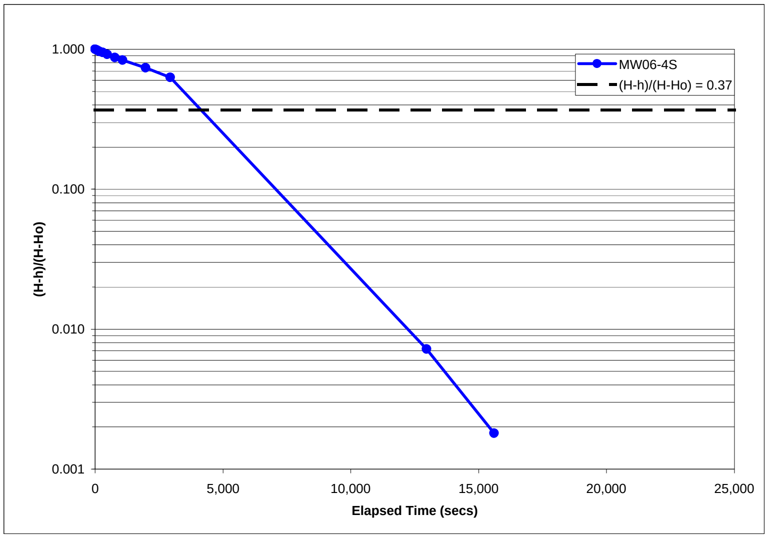
**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW06-4S | | | |
| *8:42* | *Start* | | *2.28* | | |
| 9:22 | 0 | 0 | 5.050 | -2.770 | 1.000 |
| 9:23 | 1 | 60 | 5.015 | -2.735 | 0.987 |
| 9:24 | 2 | 120 | 4.985 | -2.705 | 0.977 |
| 9:25 | 3 | 180 | 4.950 | -2.670 | 0.964 |
| 9:27 | 5 | 300 | 4.905 | -2.625 | 0.948 |
| 9:30 | 8 | 480 | 4.820 | -2.540 | 0.917 |
| 9:35 | 13 | 780 | 4.700 | -2.420 | 0.874 |
| 9:40 | 18 | 1,080 | 4.590 | -2.310 | 0.834 |
| 9:55 | 33 | 1,980 | 4.320 | -2.040 | 0.736 |
| 10:11 | 49 | 2,940 | 4.025 | -1.745 | 0.630 |
| 12:58 | 216 | 12,960 | 2.300 | -0.020 | 0.007 |
| 13:42 | 260 | 15,600 | 2.285 | -0.005 | 0.002 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.0254 |
| L (m) = | 1.905 |
| R (m) = | 0.1016 |
| $T_o$ (sec) = | 4100 |
| K (m/s) = | 1.21E-07 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW06-5 | | | |
| *19-Jan* | *Start* | | *2.600* | | |
| 17/01/2006 14:58 | 0 | 0 | 3.780 | -1.180 | 1.000 |
| 18/01/2006 14:22 | 1,404 | 84,240 | 3.150 | -0.550 | 0.466 |
| 19/01/2006 15:47 | 2,929 | 175,740 | 2.930 | -0.330 | 0.280 |
| 20/01/2006 14:46 | 4,308 | 258,480 | 2.770 | -0.170 | 0.144 |
| 23/01/2006 14:37 | 8,619 | 517,140 | 2.645 | -0.045 | 0.038 |
| 24/01/2006 13:52 | 10,014 | 600,840 | 2.610 | -0.010 | 0.008 |

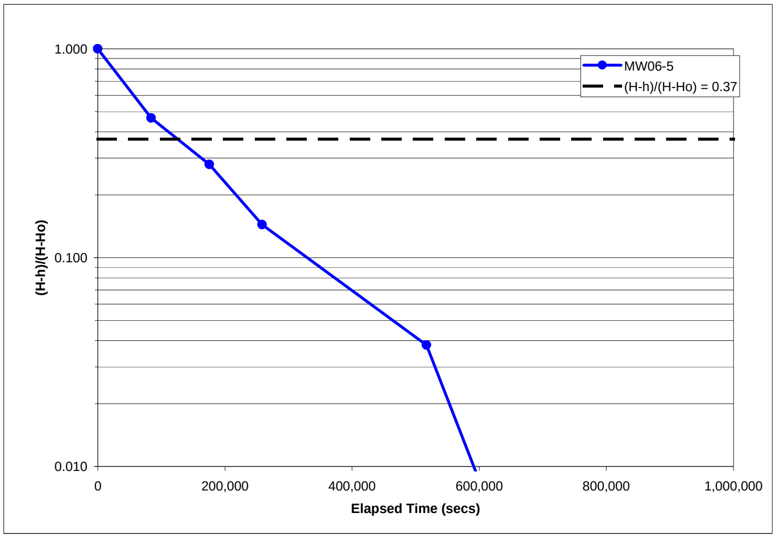
All Waterlevels are in m from top of pipe (top)

r (m) = 0.0254
L (m) = 2.4384
R (m) = 0.1016
$T_o$ (sec) = 270000

K (m/s) = 1.56E-09

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

Note - recovery from long term water levels assuming steady values were at static equil



**Recovery Testing - Hvorslev Method (1951)**

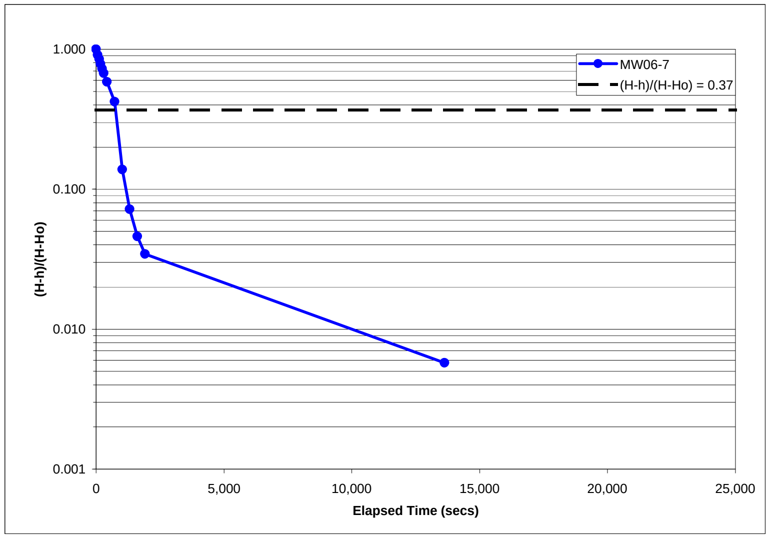
| | | | MW06-7 | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *13:20* | *Start* | | *3.04* | | |
| 13:43 | 0 | 0 | 4.780 | -1.740 | 1.000 |
| 13:44 | 1 | 60 | 4.625 | -1.585 | 0.911 |
| 13:45 | 2 | 120 | 4.515 | -1.475 | 0.848 |
| 13:46 | 3 | 180 | 4.405 | -1.365 | 0.784 |
| 13:47 | 4 | 240 | 4.300 | -1.260 | 0.724 |
| 13:48 | 5 | 300 | 4.215 | -1.175 | 0.675 |
| 13:50 | 7 | 420 | 4.055 | -1.015 | 0.583 |
| 13:55 | 12 | 720 | 3.775 | -0.735 | 0.422 |
| 14:00 | 17 | 1,020 | 3.280 | -0.240 | 0.138 |
| 14:05 | 22 | 1,320 | 3.165 | -0.125 | 0.072 |
| 14:10 | 27 | 1,620 | 3.120 | -0.080 | 0.046 |
| 14:15 | 32 | 1,920 | 3.100 | -0.060 | 0.034 |
| 17:30 | 227 | 13,620 | 3.050 | -0.010 | 0.006 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.0254
L (m) = 2.1336
R (m) = 0.1016
$T_o$ (sec) = 730

K (m/s) = 6.31E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



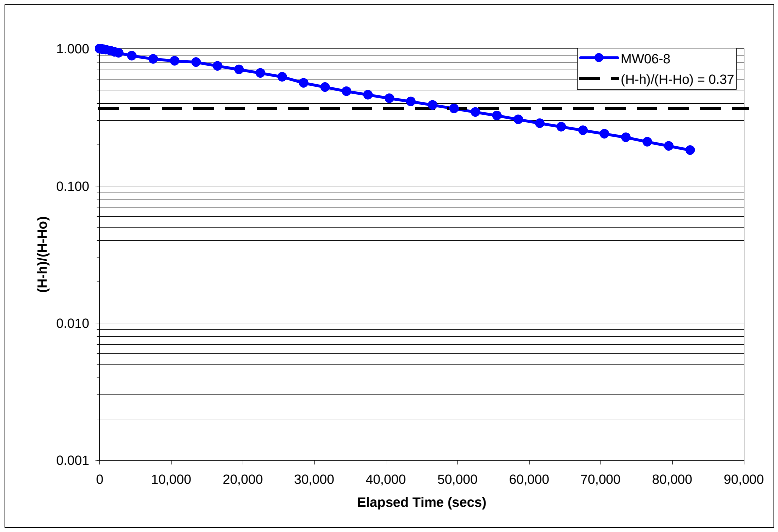
## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

| | | | | | |
|---|---|---|---|---|---|
| | | MW06-8 | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *128.527* | | |
| | 0.00 | 0 | 109.849 | 18.678 | 1.000 |
| | 5.00 | 300 | 109.986 | 18.541 | 0.993 |
| | 10.00 | 600 | 110.062 | 18.465 | 0.989 |
| | 15.00 | 900 | 110.122 | 18.405 | 0.985 |
| | 25.00 | 1,500 | 110.488 | 18.039 | 0.966 |
| | 35.00 | 2,100 | 110.823 | 17.704 | 0.948 |
| | 45.00 | 2,700 | 111.127 | 17.400 | 0.932 |
| | 75.00 | 4,500 | 111.905 | 16.622 | 0.890 |
| | 125.00 | 7,500 | 112.788 | 15.739 | 0.843 |
| | 175.00 | 10,500 | 113.276 | 15.251 | 0.817 |
| | 225.00 | 13,500 | 113.657 | 14.870 | 0.796 |
| | 275.00 | 16,500 | 114.526 | 14.001 | 0.750 |
| | 325.00 | 19,500 | 115.364 | 13.163 | 0.705 |
| | 375.00 | 22,500 | 116.126 | 12.401 | 0.664 |
| | 425.00 | 25,500 | 116.873 | 11.654 | 0.624 |
| | 475.00 | 28,500 | 118.031 | 10.496 | 0.562 |
| | 525.00 | 31,500 | 118.747 | 9.780 | 0.524 |
| | 575.00 | 34,500 | 119.387 | 9.140 | 0.489 |
| | 625.00 | 37,500 | 119.921 | 8.606 | 0.461 |
| | 675.00 | 40,500 | 120.408 | 8.119 | 0.435 |
| | 725.00 | 43,500 | 120.819 | 7.708 | 0.413 |
| | 775.00 | 46,500 | 121.261 | 7.266 | 0.389 |
| | 825.00 | 49,500 | 121.688 | 6.839 | 0.366 |
| | 875.00 | 52,500 | 122.084 | 6.443 | 0.345 |
| | 925.00 | 55,500 | 122.465 | 6.062 | 0.325 |
| | 975.00 | 58,500 | 122.831 | 5.696 | 0.305 |
| | 1,025.00 | 61,500 | 123.196 | 5.331 | 0.285 |
| | 1,075.00 | 64,500 | 123.486 | 5.041 | 0.270 |
| | 1,125.00 | 67,500 | 123.790 | 4.737 | 0.254 |
| | 1,175.00 | 70,500 | 124.049 | 4.478 | 0.240 |
| | 1,225.00 | 73,500 | 124.308 | 4.219 | 0.226 |
| | 1,275.00 | 76,500 | 124.613 | 3.914 | 0.210 |
| | 1,325.00 | 79,500 | 124.872 | 3.655 | 0.196 |
| | 1,375.00 | 82,500 | 125.131 | 3.396 | 0.182 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.015875 |
| L (m) = | 1.7272 |
| R (m) = | 0.041275 |
| $T_o$ (sec) = | 49500 |
| K (m/s) = | 5.50E-09 |




Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

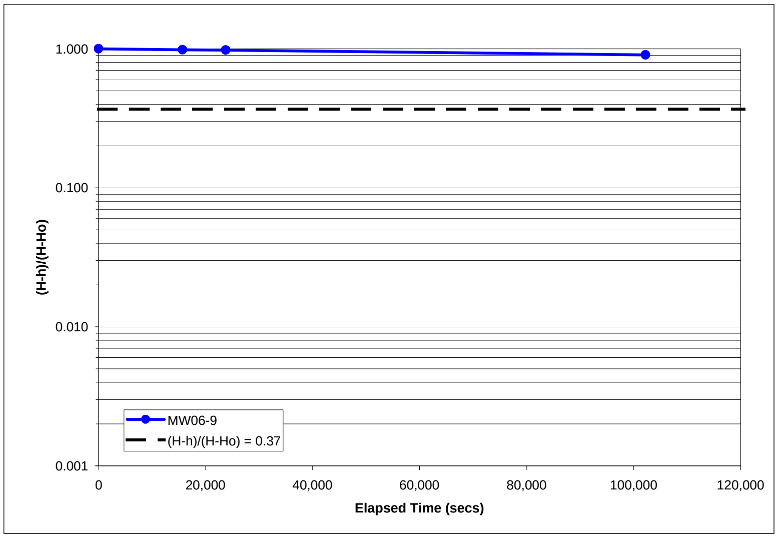
| | | | | | |
|---|---|---|---|---|---|
| | | | MW06-9 | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *26/09/2006 8:34* | *Start* | | | | |
| 26/09/2006 8:30 | 0 | 0 | 5.600 | -5.600 | 1.000 |
| 26/09/2006 12:51 | 261 | 15,660 | 5.520 | -5.520 | 0.986 |
| 26/09/2006 15:06 | 396 | 23,760 | 5.480 | -5.480 | 0.979 |
| 27/09/2006 12:54 | 1,704 | 102,240 | 5.070 | -5.070 | 0.905 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.015875
L (m) = 1.8288
R (m) = 0.041275
$T_o$ (sec) = 921200

K (m/s) = 2.84E-10

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



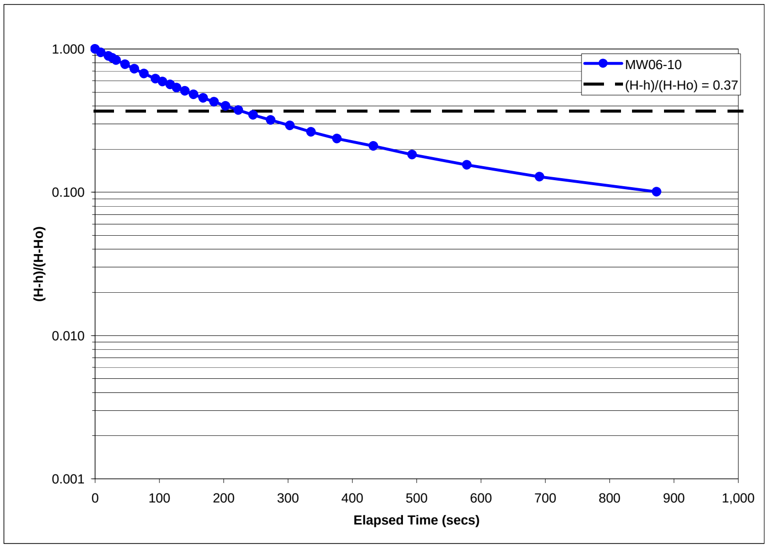
**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW06-10 | | | |
| *13:20* | *Start* | | *2.13* | | |
| | 0.00 | 0 | 5.800 | -3.670 | 1.000 |
| | 0.15 | 9 | 5.600 | -3.470 | 0.946 |
| | 0.35 | 21 | 5.400 | -3.270 | 0.891 |
| | 0.45 | 27 | 5.300 | -3.170 | 0.864 |
| | 0.55 | 33 | 5.200 | -3.070 | 0.837 |
| | 0.78 | 47 | 5.000 | -2.870 | 0.782 |
| | 1.02 | 61 | 4.800 | -2.670 | 0.728 |
| | 1.27 | 76 | 4.600 | -2.470 | 0.673 |
| | 1.57 | 94 | 4.400 | -2.270 | 0.619 |
| | 1.75 | 105 | 4.300 | -2.170 | 0.591 |
| | 1.95 | 117 | 4.200 | -2.070 | 0.564 |
| | 2.12 | 127 | 4.100 | -1.970 | 0.537 |
| | 2.33 | 140 | 4.000 | -1.870 | 0.510 |
| | 2.55 | 153 | 3.900 | -1.770 | 0.482 |
| | 2.80 | 168 | 3.800 | -1.670 | 0.455 |
| | 3.08 | 185 | 3.700 | -1.570 | 0.428 |
| | 3.38 | 203 | 3.600 | -1.470 | 0.401 |
| | 3.72 | 223 | 3.500 | -1.370 | 0.373 |
| | 4.10 | 246 | 3.400 | -1.270 | 0.346 |
| | 4.55 | 273 | 3.300 | -1.170 | 0.319 |
| | 5.05 | 303 | 3.200 | -1.070 | 0.292 |
| | 5.60 | 336 | 3.100 | -0.970 | 0.264 |
| | 6.27 | 376 | 3.000 | -0.870 | 0.237 |
| | 7.22 | 433 | 2.900 | -0.770 | 0.210 |
| | 8.22 | 493 | 2.800 | -0.670 | 0.183 |
| | 9.63 | 578 | 2.700 | -0.570 | 0.155 |
| | 11.52 | 691 | 2.600 | -0.470 | 0.128 |
| | 14.55 | 873 | 2.500 | -0.370 | 0.101 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 1.880 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 225 |
| K (m/s) = | 1.14E-06 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



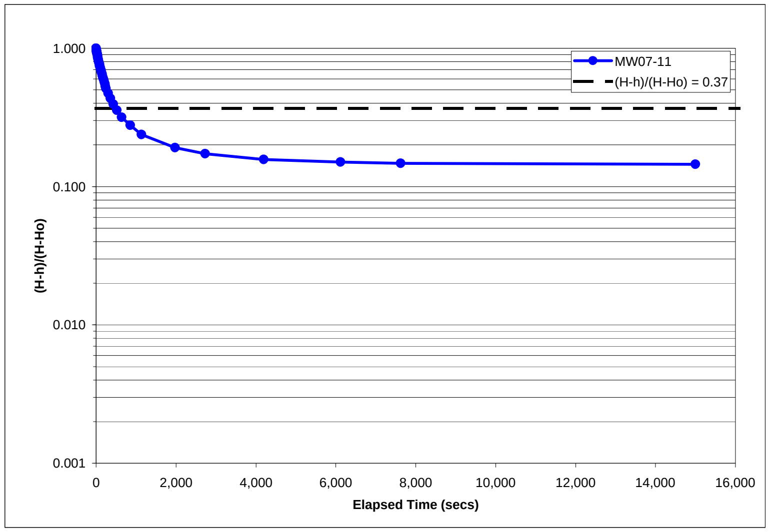
**Recovery Testing - Hvorslev Method (1951)**

| | | MW07-11 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| *14:50* | *Start* | | *1.38* | | |
| | 0.00 | 0 | 6.500 | -5.120 | 1.000 |
| | 0.05 | 3 | 6.450 | -5.070 | 0.990 |
| | 0.08 | 5 | 6.400 | -5.020 | 0.980 |
| | 0.13 | 8 | 6.350 | -4.970 | 0.971 |
| | 0.18 | 11 | 6.300 | -4.920 | 0.961 |
| | 0.23 | 14 | 6.250 | -4.870 | 0.951 |
| | 0.28 | 17 | 6.200 | -4.820 | 0.941 |
| | 0.33 | 20 | 6.150 | -4.770 | 0.932 |
| | 0.38 | 23 | 6.100 | -4.720 | 0.922 |
| | 0.43 | 26 | 6.050 | -4.670 | 0.912 |
| | 0.50 | 30 | 6.000 | -4.620 | 0.902 |
| | 0.62 | 37 | 5.900 | -4.520 | 0.883 |
| | 0.72 | 43 | 5.800 | -4.420 | 0.863 |
| | 0.85 | 51 | 5.700 | -4.320 | 0.844 |
| | 0.97 | 58 | 5.600 | -4.220 | 0.824 |
| | 1.12 | 67 | 5.500 | -4.120 | 0.805 |
| | 1.22 | 73 | 5.400 | -4.020 | 0.785 |
| | 1.43 | 86 | 5.300 | -3.920 | 0.766 |
| | 1.53 | 92 | 5.200 | -3.820 | 0.746 |
| | 1.77 | 106 | 5.100 | -3.720 | 0.727 |
| | 1.93 | 116 | 5.000 | -3.620 | 0.707 |
| | 2.10 | 126 | 4.900 | -3.520 | 0.688 |
| | 2.28 | 137 | 4.800 | -3.420 | 0.668 |
| | 2.48 | 149 | 4.700 | -3.320 | 0.648 |
| | 2.70 | 162 | 4.600 | -3.220 | 0.629 |
| | 2.93 | 176 | 4.500 | -3.120 | 0.609 |
| | 3.17 | 190 | 4.400 | -3.020 | 0.590 |
| | 3.43 | 206 | 4.300 | -2.920 | 0.570 |
| | 3.73 | 224 | 4.200 | -2.820 | 0.551 |
| | 3.85 | 231 | 4.100 | -2.720 | 0.531 |
| | 4.15 | 249 | 4.000 | -2.620 | 0.512 |
| | 5.10 | 306 | 3.800 | -2.420 | 0.473 |
| | 6.02 | 361 | 3.600 | -2.220 | 0.434 |
| | 7.17 | 430 | 3.400 | -2.020 | 0.395 |
| | 8.67 | 520 | 3.200 | -1.820 | 0.355 |
| | 10.72 | 643 | 3.000 | -1.620 | 0.316 |
| | 14.25 | 855 | 2.800 | -1.420 | 0.277 |
| | 18.98 | 1,139 | 2.600 | -1.220 | 0.238 |
| | 33.00 | 1,980 | 2.360 | -0.980 | 0.191 |
| | 45.50 | 2,730 | 2.265 | -0.885 | 0.173 |
| | 70.00 | 4,200 | 2.185 | -0.805 | 0.157 |
| | 102.00 | 6,120 | 2.150 | -0.770 | 0.150 |
| | 127.00 | 7,620 | 2.135 | -0.755 | 0.147 |
| | 250.00 | 15,000 | 2.120 | -0.740 | 0.145 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 0.762 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 293 |
| K (m/s) = | 1.65E-06 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

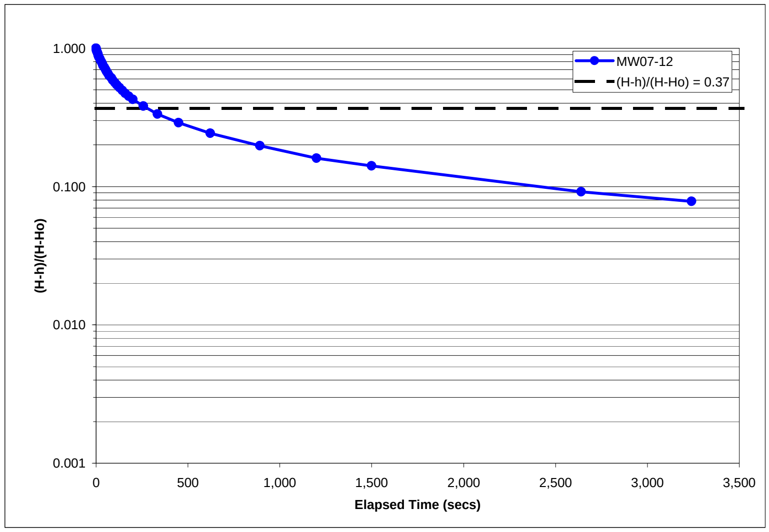
| | | | | | |
|---|---|---|---|---|---|
| | | **MW07-12** | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *2.14* | | |
| | 0.00 | 0 | 6.500 | -4.360 | 1.000 |
| | 0.03 | 2 | 6.400 | -4.260 | 0.977 |
| | 0.07 | 4 | 6.300 | -4.160 | 0.954 |
| | 0.12 | 7 | 6.200 | -4.060 | 0.931 |
| | 0.17 | 10 | 6.100 | -3.960 | 0.908 |
| | 0.22 | 13 | 6.000 | -3.860 | 0.885 |
| | 0.25 | 15 | 5.900 | -3.760 | 0.862 |
| | 0.35 | 21 | 5.800 | -3.660 | 0.839 |
| | 0.42 | 25 | 5.700 | -3.560 | 0.817 |
| | 0.48 | 29 | 5.600 | -3.460 | 0.794 |
| | 0.57 | 34 | 5.500 | -3.360 | 0.771 |
| | 0.65 | 39 | 5.400 | -3.260 | 0.748 |
| | 0.75 | 45 | 5.300 | -3.160 | 0.725 |
| | 0.87 | 52 | 5.200 | -3.060 | 0.702 |
| | 0.95 | 57 | 5.100 | -2.960 | 0.679 |
| | 1.07 | 64 | 5.000 | -2.860 | 0.656 |
| | 1.20 | 72 | 4.900 | -2.760 | 0.633 |
| | 1.38 | 83 | 4.800 | -2.660 | 0.610 |
| | 1.50 | 90 | 4.700 | -2.560 | 0.587 |
| | 1.70 | 102 | 4.600 | -2.460 | 0.564 |
| | 1.88 | 113 | 4.500 | -2.360 | 0.541 |
| | 2.12 | 127 | 4.400 | -2.260 | 0.518 |
| | 2.37 | 142 | 4.300 | -2.160 | 0.495 |
| | 2.63 | 158 | 4.200 | -2.060 | 0.472 |
| | 2.97 | 178 | 4.100 | -1.960 | 0.450 |
| | 3.33 | 200 | 4.000 | -1.860 | 0.427 |
| | 4.30 | 258 | 3.800 | -1.660 | 0.381 |
| | 5.58 | 335 | 3.600 | -1.460 | 0.335 |
| | 7.50 | 450 | 3.400 | -1.260 | 0.289 |
| | 10.37 | 622 | 3.200 | -1.060 | 0.243 |
| | 14.87 | 892 | 3.000 | -0.860 | 0.197 |
| | 20.00 | 1,200 | 2.840 | -0.700 | 0.161 |
| | 25.00 | 1,500 | 2.755 | -0.615 | 0.141 |
| | 44.00 | 2,640 | 2.540 | -0.400 | 0.092 |
| | 54.00 | 3,240 | 2.480 | -0.340 | 0.078 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 0.457
R (m) = 0.041
$T_o$ (sec) = 95

K (m/s) = 6.98E-06

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

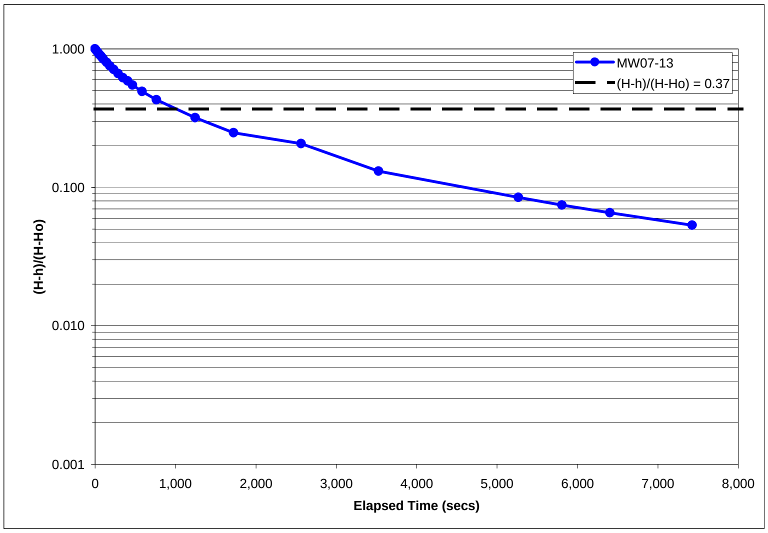


**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-13 | | | |
| *9:48* | *Start* | | *2.221* | | |
| | 0.00 | 0 | 6.700 | -4.479 | 1.000 |
| | 0.22 | 13 | 6.600 | -4.379 | 0.978 |
| | 0.43 | 26 | 6.500 | -4.279 | 0.955 |
| | 0.67 | 40 | 6.400 | -4.179 | 0.933 |
| | 0.92 | 55 | 6.300 | -4.079 | 0.911 |
| | 1.18 | 71 | 6.200 | -3.979 | 0.888 |
| | 1.47 | 88 | 6.100 | -3.879 | 0.866 |
| | 1.72 | 103 | 6.000 | -3.779 | 0.844 |
| | 2.37 | 142 | 5.800 | -3.579 | 0.799 |
| | 3.07 | 184 | 5.600 | -3.379 | 0.754 |
| | 3.83 | 230 | 5.400 | -3.179 | 0.710 |
| | 4.77 | 286 | 5.200 | -2.979 | 0.665 |
| | 5.77 | 346 | 5.000 | -2.779 | 0.620 |
| | 6.75 | 405 | 4.850 | -2.629 | 0.587 |
| | 7.75 | 465 | 4.670 | -2.449 | 0.547 |
| | 9.75 | 585 | 4.430 | -2.209 | 0.493 |
| | 12.75 | 765 | 4.140 | -1.919 | 0.428 |
| | 20.75 | 1,245 | 3.645 | -1.424 | 0.318 |
| | 28.75 | 1,725 | 3.330 | -1.109 | 0.248 |
| | 42.75 | 2,565 | 3.150 | -0.929 | 0.207 |
| | 58.75 | 3,525 | 2.806 | -0.585 | 0.131 |
| | 87.75 | 5,265 | 2.600 | -0.379 | 0.085 |
| | 96.75 | 5,805 | 2.555 | -0.334 | 0.075 |
| | 106.75 | 6,405 | 2.515 | -0.294 | 0.066 |
| | 123.75 | 7,425 | 2.460 | -0.239 | 0.053 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 1.067 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 600 |
| K (m/s) = | 6.40E-07 |



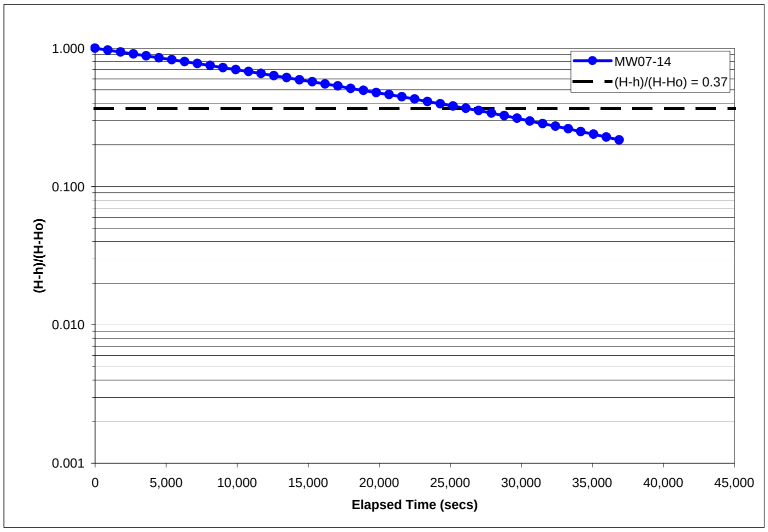

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

| | | | MW07-14 | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *3.055* | | |
| | 0.00 | 0 | 6.569 | -3.514 | 1.000 |
| | 15.00 | 900 | 6.459 | -3.404 | 0.969 |
| | 30.00 | 1,800 | 6.349 | -3.294 | 0.938 |
| | 45.00 | 2,700 | 6.249 | -3.194 | 0.909 |
| | 60.00 | 3,600 | 6.148 | -3.093 | 0.880 |
| | 75.00 | 4,500 | 6.045 | -2.990 | 0.851 |
| | 90.00 | 5,400 | 5.953 | -2.898 | 0.825 |
| | 105.00 | 6,300 | 5.859 | -2.804 | 0.798 |
| | 120.00 | 7,200 | 5.776 | -2.721 | 0.774 |
| | 135.00 | 8,100 | 5.685 | -2.630 | 0.748 |
| | 150.00 | 9,000 | 5.600 | -2.545 | 0.724 |
| | 165.00 | 9,900 | 5.514 | -2.459 | 0.700 |
| | 180.00 | 10,800 | 5.435 | -2.380 | 0.677 |
| | 195.00 | 11,700 | 5.359 | -2.304 | 0.656 |
| | 210.00 | 12,600 | 5.279 | -2.224 | 0.633 |
| | 225.00 | 13,500 | 5.203 | -2.148 | 0.611 |
| | 240.00 | 14,400 | 5.130 | -2.075 | 0.591 |
| | 255.00 | 15,300 | 5.060 | -2.005 | 0.571 |
| | 270.00 | 16,200 | 4.990 | -1.935 | 0.551 |
| | 285.00 | 17,100 | 4.926 | -1.871 | 0.532 |
| | 300.00 | 18,000 | 4.856 | -1.801 | 0.512 |
| | 315.00 | 18,900 | 4.798 | -1.743 | 0.496 |
| | 330.00 | 19,800 | 4.731 | -1.676 | 0.477 |
| | 345.00 | 20,700 | 4.676 | -1.621 | 0.461 |
| | 360.00 | 21,600 | 4.618 | -1.563 | 0.445 |
| | 375.00 | 22,500 | 4.560 | -1.505 | 0.428 |
| | 390.00 | 23,400 | 4.502 | -1.447 | 0.412 |
| | 405.00 | 24,300 | 4.447 | -1.392 | 0.396 |
| | 420.00 | 25,200 | 4.396 | -1.341 | 0.382 |
| | 435.00 | 26,100 | 4.344 | -1.289 | 0.367 |
| | 450.00 | 27,000 | 4.298 | -1.243 | 0.354 |
| | 465.00 | 27,900 | 4.246 | -1.191 | 0.339 |
| | 480.00 | 28,800 | 4.200 | -1.145 | 0.326 |
| | 495.00 | 29,700 | 4.149 | -1.094 | 0.311 |
| | 510.00 | 30,600 | 4.100 | -1.045 | 0.297 |
| | 525.00 | 31,500 | 4.054 | -0.999 | 0.284 |
| | 540.00 | 32,400 | 4.015 | -0.960 | 0.273 |
| | 555.00 | 33,300 | 3.972 | -0.917 | 0.261 |
| | 570.00 | 34,200 | 3.929 | -0.874 | 0.249 |
| | 585.00 | 35,100 | 3.896 | -0.841 | 0.239 |
| | 600.00 | 36,000 | 3.856 | -0.801 | 0.228 |
| | 615.00 | 36,900 | 3.816 | -0.761 | 0.217 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.025 |
| L (m) = | 0.610 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 28,000 |
| K (m/s) = | 5.09E-08 |




Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

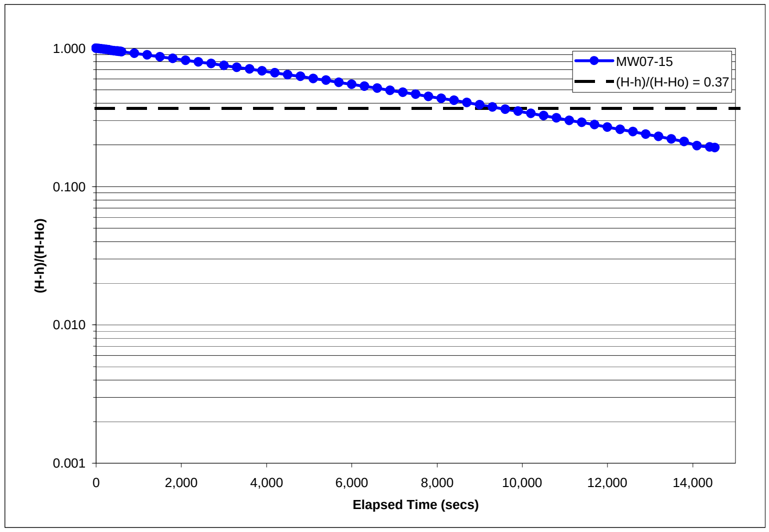
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-15 | | | |
| *9:48* | *Start* | | *1.73* | | |
| | 0.00 | 0 | 6.300 | -4.570 | 1.000 |
| | 1.00 | 60 | 6.276 | -4.546 | 0.995 |
| | 2.00 | 120 | 6.245 | -4.515 | 0.988 |
| | 3.00 | 180 | 6.221 | -4.491 | 0.983 |
| | 4.00 | 240 | 6.196 | -4.466 | 0.977 |
| | 5.00 | 300 | 6.169 | -4.439 | 0.971 |
| | 6.00 | 360 | 6.145 | -4.415 | 0.966 |
| | 7.00 | 420 | 6.120 | -4.390 | 0.961 |
| | 8.00 | 480 | 6.093 | -4.363 | 0.955 |
| | 8.50 | 510 | 6.084 | -4.354 | 0.953 |
| | 9.00 | 540 | 6.071 | -4.341 | 0.950 |
| | 9.50 | 570 | 6.059 | -4.329 | 0.947 |
| | 10.00 | 600 | 6.050 | -4.320 | 0.945 |
| | 15.00 | 900 | 5.928 | -4.198 | 0.919 |
| | 20.00 | 1,200 | 5.809 | -4.079 | 0.893 |
| | 25.00 | 1,500 | 5.693 | -3.963 | 0.867 |
| | 30.00 | 1,800 | 5.578 | -3.848 | 0.842 |
| | 35.00 | 2,100 | 5.471 | -3.741 | 0.819 |
| | 40.00 | 2,400 | 5.367 | -3.637 | 0.796 |
| | 45.00 | 2,700 | 5.261 | -3.531 | 0.773 |
| | 50.00 | 3,000 | 5.157 | -3.427 | 0.750 |
| | 55.00 | 3,300 | 5.056 | -3.326 | 0.728 |
| | 60.00 | 3600 | 4.956 | -3.226 | 0.706 |
| | 65.00 | 3900 | 4.864 | -3.134 | 0.686 |
| | 70.00 | 4,200 | 4.770 | -3.040 | 0.665 |
| | 75.00 | 4,500 | 4.675 | -2.945 | 0.645 |
| | 80.00 | 4,800 | 4.584 | -2.854 | 0.625 |
| | 85.00 | 5,100 | 4.493 | -2.763 | 0.604 |
| | 90.00 | 5,400 | 4.407 | -2.677 | 0.586 |
| | 95.00 | 5,700 | 4.322 | -2.592 | 0.567 |
| | 100.00 | 6,000 | 4.237 | -2.507 | 0.548 |
| | 105.00 | 6,300 | 4.154 | -2.424 | 0.530 |
| | 110.00 | 6,600 | 4.075 | -2.345 | 0.513 |
| | 115.00 | 6,900 | 3.999 | -2.269 | 0.496 |
| | 120.00 | 7,200 | 3.923 | -2.193 | 0.480 |
| | 125.00 | 7,500 | 3.849 | -2.119 | 0.464 |
| | 130.00 | 7,800 | 3.776 | -2.046 | 0.448 |
| | 135.00 | 8,100 | 3.709 | -1.979 | 0.433 |
| | 140.00 | 8,400 | 3.645 | -1.915 | 0.419 |
| | 145.00 | 8,700 | 3.578 | -1.848 | 0.404 |
| | 150.00 | 9,000 | 3.511 | -1.781 | 0.390 |
| | 155.00 | 9,300 | 3.447 | -1.717 | 0.376 |
| | 160.00 | 9,600 | 3.386 | -1.656 | 0.362 |
| | 165.00 | 9,900 | 3.331 | -1.601 | 0.350 |
| | 170.00 | 10,200 | 3.270 | -1.540 | 0.337 |
| | 175.00 | 10,500 | 3.215 | -1.485 | 0.325 |
| | 180.00 | 10,800 | 3.161 | -1.431 | 0.313 |
| | 185.00 | 11,100 | 3.106 | -1.376 | 0.301 |
| | 190.00 | 11,400 | 3.060 | -1.330 | 0.291 |
| | 195.00 | 11,700 | 3.008 | -1.278 | 0.280 |
| | 200.00 | 12,000 | 2.959 | -1.229 | 0.269 |
| | 205.00 | 12,300 | 2.914 | -1.184 | 0.259 |
| | 210.00 | 12,600 | 2.868 | -1.138 | 0.249 |
| | 215.00 | 12,900 | 2.819 | -1.089 | 0.238 |
| | 220.00 | 13,200 | 2.780 | -1.050 | 0.230 |
| | 225.00 | 13,500 | 2.737 | -1.007 | 0.220 |
| | 230.00 | 13,800 | 2.694 | -0.964 | 0.211 |
| | 235.00 | 14,100 | 2.633 | -0.903 | 0.198 |
| | 240.00 | 14,400 | 2.612 | -0.882 | 0.193 |
| | 242.00 | 14,520 | 2.603 | -0.873 | 0.191 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.025
L (m) = 0.610
R (m) = 0.041
$T_o$ (sec) = 10,400

K (m/s) = 1.37E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



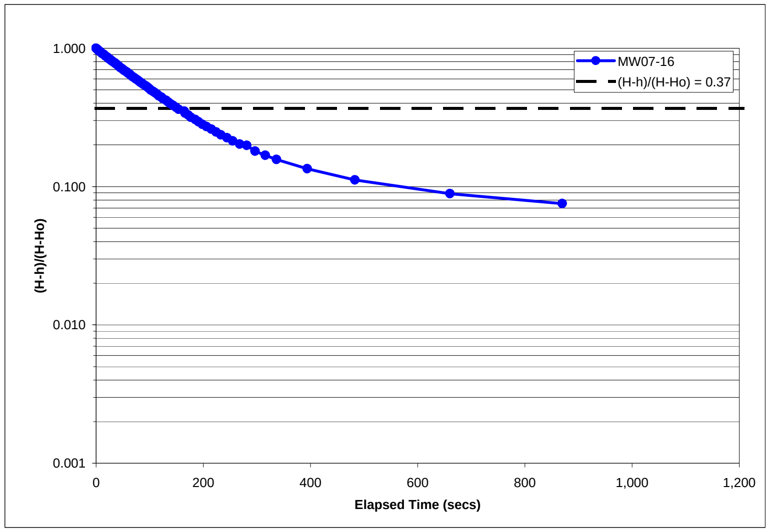
**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | **MW07-16** | | | |
| | *Start* | | *1.61* | | |
| | 0.00 | 0 | 6.000 | -4.390 | 1.000 |
| | 0.02 | 1 | 5.950 | -4.340 | 0.989 |
| | 0.05 | 3 | 5.900 | -4.290 | 0.977 |
| | 0.07 | 4 | 5.850 | -4.240 | 0.966 |
| | 0.10 | 6 | 5.800 | -4.190 | 0.954 |
| | 0.13 | 8 | 5.750 | -4.140 | 0.943 |
| | 0.15 | 9 | 5.700 | -4.090 | 0.932 |
| | 0.18 | 11 | 5.650 | -4.040 | 0.920 |
| | 0.22 | 13 | 5.600 | -3.990 | 0.909 |
| | 0.25 | 15 | 5.550 | -3.940 | 0.897 |
| | 0.28 | 17 | 5.500 | -3.890 | 0.886 |
| | 0.30 | 18 | 5.450 | -3.840 | 0.875 |
| | 0.35 | 21 | 5.400 | -3.790 | 0.863 |
| | 0.37 | 22 | 5.350 | -3.740 | 0.852 |
| | 0.40 | 24 | 5.300 | -3.690 | 0.841 |
| | 0.43 | 26 | 5.250 | -3.640 | 0.829 |
| | 0.47 | 28 | 5.200 | -3.590 | 0.818 |
| | 0.50 | 30 | 5.150 | -3.540 | 0.806 |
| | 0.53 | 32 | 5.100 | -3.490 | 0.795 |
| | 0.58 | 35 | 5.050 | -3.440 | 0.784 |
| | 0.62 | 37 | 5.000 | -3.390 | 0.772 |
| | 0.65 | 39 | 4.950 | -3.340 | 0.761 |
| | 0.68 | 41 | 4.900 | -3.290 | 0.749 |
| | 0.72 | 43 | 4.850 | -3.240 | 0.738 |
| | 0.75 | 45 | 4.800 | -3.190 | 0.727 |
| | 0.80 | 48 | 4.750 | -3.140 | 0.715 |
| | 0.83 | 50 | 4.700 | -3.090 | 0.704 |
| | 0.87 | 52 | 4.650 | -3.040 | 0.692 |
| | 0.92 | 55 | 4.600 | -2.990 | 0.681 |
| | 0.97 | 58 | 4.550 | -2.940 | 0.670 |
| | 1.00 | 60 | 4.500 | -2.890 | 0.658 |
| | 1.05 | 63 | 4.450 | -2.840 | 0.647 |
| | 1.08 | 65 | 4.400 | -2.790 | 0.636 |
| | 1.13 | 68 | 4.350 | -2.740 | 0.624 |
| | 1.18 | 71 | 4.300 | -2.690 | 0.613 |
| | 1.23 | 74 | 4.250 | -2.640 | 0.601 |
| | 1.28 | 77 | 4.200 | -2.590 | 0.590 |
| | 1.33 | 80 | 4.150 | -2.540 | 0.579 |
| | 1.38 | 83 | 4.100 | -2.490 | 0.567 |
| | 1.43 | 86 | 4.050 | -2.440 | 0.556 |
| | 1.48 | 89 | 4.000 | -2.390 | 0.544 |
| | 1.55 | 93 | 3.950 | -2.340 | 0.533 |
| | 1.60 | 96 | 3.900 | -2.290 | 0.522 |
| | 1.65 | 99 | 3.850 | -2.240 | 0.510 |
| | 1.70 | 102 | 3.800 | -2.190 | 0.499 |
| | 1.77 | 106 | 3.750 | -2.140 | 0.487 |
| | 1.83 | 110 | 3.700 | -2.090 | 0.476 |
| | 1.90 | 114 | 3.650 | -2.040 | 0.465 |
| | 1.95 | 117 | 3.600 | -1.990 | 0.453 |
| | 2.03 | 122 | 3.550 | -1.940 | 0.442 |
| | 2.08 | 125 | 3.500 | -1.890 | 0.431 |
| | 2.18 | 131 | 3.450 | -1.840 | 0.419 |
| | 2.25 | 135 | 3.400 | -1.790 | 0.408 |
| | 2.32 | 139 | 3.350 | -1.740 | 0.396 |
| | 2.40 | 144 | 3.300 | -1.690 | 0.385 |
| | 2.48 | 149 | 3.250 | -1.640 | 0.374 |
| | 2.57 | 154 | 3.200 | -1.590 | 0.362 |
| | 2.75 | 165 | 3.150 | -1.540 | 0.351 |
| | 2.77 | 166 | 3.100 | -1.490 | 0.339 |
| | 2.87 | 172 | 3.050 | -1.440 | 0.328 |
| | 2.95 | 177 | 3.000 | -1.390 | 0.317 |
| | 3.08 | 185 | 2.950 | -1.340 | 0.305 |
| | 3.18 | 191 | 2.900 | -1.290 | 0.294 |
| | 3.30 | 198 | 2.850 | -1.240 | 0.282 |
| | 3.43 | 206 | 2.800 | -1.190 | 0.271 |
| | 3.58 | 215 | 2.750 | -1.140 | 0.260 |
| | 3.73 | 224 | 2.700 | -1.090 | 0.248 |
| | 3.88 | 233 | 2.650 | -1.040 | 0.237 |
| | 4.07 | 244 | 2.600 | -0.990 | 0.226 |
| | 4.25 | 255 | 2.550 | -0.940 | 0.214 |
| | 4.47 | 268 | 2.500 | -0.890 | 0.203 |
| | 4.68 | 281 | 2.480 | -0.870 | 0.198 |
| | 4.95 | 297 | 2.400 | -0.790 | 0.180 |
| | 5.27 | 316 | 2.350 | -0.740 | 0.169 |
| | 5.62 | 337 | 2.300 | -0.690 | 0.157 |
| | 6.57 | 394 | 2.200 | -0.590 | 0.134 |
| | 8.05 | 483 | 2.100 | -0.490 | 0.112 |
| | 11.00 | 660 | 2.000 | -0.390 | 0.089 |
| | 14.50 | 870 | 1.940 | -0.330 | 0.075 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 0.762
R (m) = 0.041
$T_o$ (sec) = 140

K (m/s) = 3.44E-06




Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

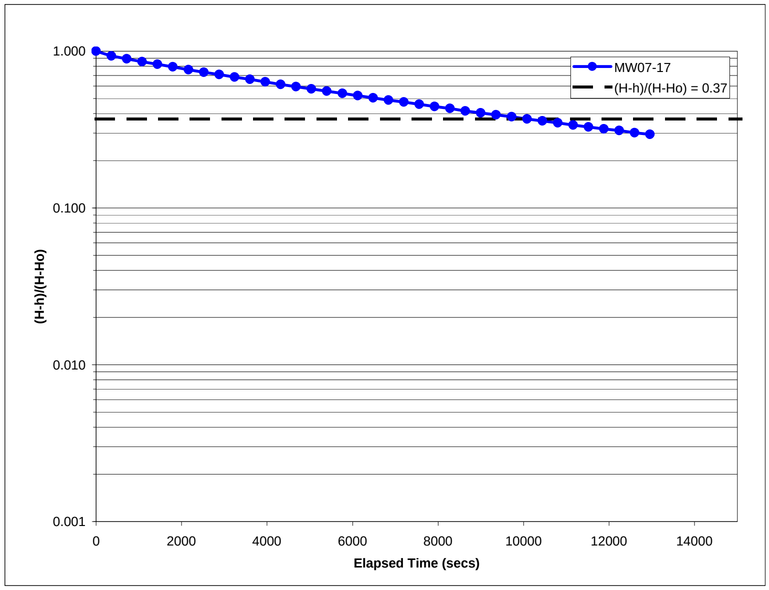
| | | MW07-17 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *9.47* | | |
| | 0 | 0 | 13.081 | -3.611 | 1.000 |
| | 6 | 360 | 12.835 | -3.365 | 0.932 |
| | 12 | 720 | 12.694 | -3.224 | 0.893 |
| | 18 | 1080 | 12.562 | -3.092 | 0.856 |
| | 24 | 1440 | 12.442 | -2.972 | 0.823 |
| | 30 | 1800 | 12.334 | -2.864 | 0.793 |
| | 36 | 2160 | 12.226 | -2.756 | 0.763 |
| | 42 | 2520 | 12.124 | -2.654 | 0.735 |
| | 48 | 2880 | 12.028 | -2.558 | 0.708 |
| | 54 | 3240 | 11.941 | -2.471 | 0.684 |
| | 60 | 3600 | 11.853 | -2.383 | 0.660 |
| | 66 | 3960 | 11.769 | -2.299 | 0.637 |
| | 72 | 4320 | 11.688 | -2.218 | 0.614 |
| | 78 | 4680 | 11.613 | -2.143 | 0.593 |
| | 84 | 5040 | 11.544 | -2.074 | 0.574 |
| | 90 | 5400 | 11.475 | -2.005 | 0.555 |
| | 96 | 5760 | 11.409 | -1.939 | 0.537 |
| | 102 | 6120 | 11.346 | -1.876 | 0.519 |
| | 108 | 6480 | 11.285 | -1.815 | 0.503 |
| | 114 | 6840 | 11.231 | -1.761 | 0.488 |
| | 120 | 7200 | 11.177 | -1.707 | 0.473 |
| | 126 | 7560 | 11.123 | -1.653 | 0.458 |
| | 132 | 7920 | 11.069 | -1.599 | 0.443 |
| | 138 | 8280 | 11.024 | -1.554 | 0.430 |
| | 144 | 8640 | 10.973 | -1.503 | 0.416 |
| | 150 | 9000 | 10.931 | -1.461 | 0.404 |
| | 156 | 9360 | 10.888 | -1.418 | 0.393 |
| | 162 | 9720 | 10.846 | -1.376 | 0.381 |
| | 168 | 10080 | 10.804 | -1.334 | 0.369 |
| | 174 | 10440 | 10.765 | -1.295 | 0.359 |
| | 180 | 10800 | 10.729 | -1.259 | 0.349 |
| | 186 | 11160 | 10.690 | -1.220 | 0.338 |
| | 192 | 11520 | 10.657 | -1.187 | 0.329 |
| | 198 | 11880 | 10.624 | -1.154 | 0.319 |
| | 204 | 12240 | 10.594 | -1.124 | 0.311 |
| | 210 | 12600 | 10.560 | -1.090 | 0.302 |
| | 216 | 12960 | 10.533 | -1.063 | 0.294 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.025
L (m) = 2.134
R (m) = 0.102
$T_o$ (sec) = 10,080

K (m/s) = 4.57E-08

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



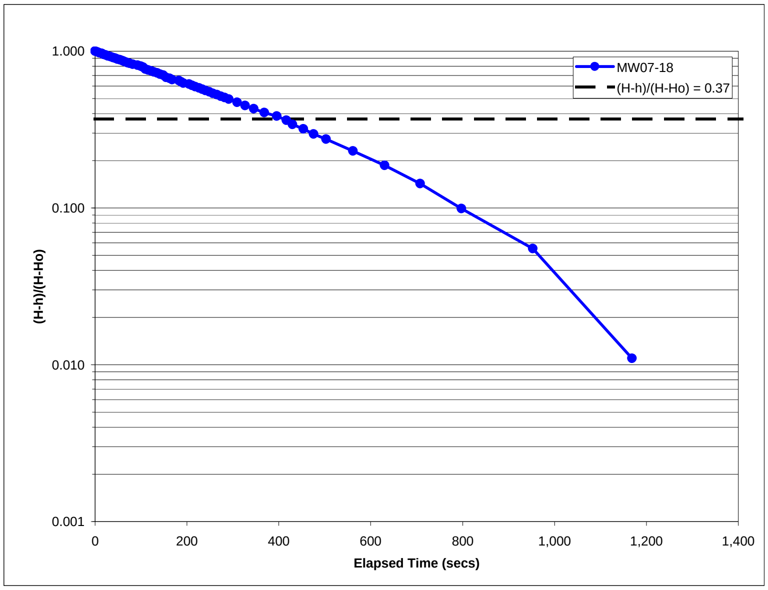
**Recovery Testing - Hvorslev Method (1951)**

| | | | | | |
|---|---|---|---|---|---|
| | | MW07-18 | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *1.75* | | |
| | 0.00 | 0 | 6.300 | -4.550 | 1.000 |
| | 0.08 | 5 | 6.250 | -4.500 | 0.989 |
| | 0.16 | 9 | 6.200 | -4.450 | 0.978 |
| | 0.24 | 14 | 6.150 | -4.400 | 0.967 |
| | 0.31 | 18 | 6.100 | -4.350 | 0.956 |
| | 0.38 | 23 | 6.050 | -4.300 | 0.945 |
| | 0.47 | 28 | 6.000 | -4.250 | 0.934 |
| | 0.56 | 33 | 5.950 | -4.200 | 0.923 |
| | 0.65 | 39 | 5.900 | -4.150 | 0.912 |
| | 0.73 | 44 | 5.850 | -4.100 | 0.901 |
| | 0.82 | 49 | 5.800 | -4.050 | 0.890 |
| | 0.90 | 54 | 5.750 | -4.000 | 0.879 |
| | 1.00 | 60 | 5.700 | -3.950 | 0.868 |
| | 1.08 | 65 | 5.650 | -3.900 | 0.857 |
| | 1.17 | 70 | 5.600 | -3.850 | 0.846 |
| | 1.26 | 75 | 5.550 | -3.800 | 0.835 |
| | 1.37 | 82 | 5.500 | -3.750 | 0.824 |
| | 1.54 | 93 | 5.450 | -3.700 | 0.813 |
| | 1.66 | 100 | 5.400 | -3.650 | 0.802 |
| | 1.74 | 104 | 5.350 | -3.600 | 0.791 |
| | 1.82 | 109 | 5.250 | -3.500 | 0.769 |
| | 1.93 | 116 | 5.200 | -3.450 | 0.758 |
| | 2.04 | 122 | 5.150 | -3.400 | 0.747 |
| | 2.14 | 128 | 5.100 | -3.350 | 0.736 |
| | 2.25 | 135 | 5.050 | -3.300 | 0.725 |
| | 2.36 | 142 | 5.000 | -3.250 | 0.714 |
| | 2.48 | 149 | 4.950 | -3.200 | 0.703 |
| | 2.58 | 155 | 4.850 | -3.100 | 0.681 |
| | 2.70 | 162 | 4.800 | -3.050 | 0.670 |
| | 2.80 | 168 | 4.750 | -3.000 | 0.659 |
| | 3.04 | 183 | 4.700 | -2.950 | 0.648 |
| | 3.13 | 188 | 4.650 | -2.900 | 0.637 |
| | 3.21 | 192 | 4.600 | -2.850 | 0.626 |
| | 3.41 | 205 | 4.550 | -2.800 | 0.615 |
| | 3.52 | 211 | 4.500 | -2.750 | 0.604 |
| | 3.64 | 218 | 4.450 | -2.700 | 0.593 |
| | 3.77 | 226 | 4.400 | -2.650 | 0.582 |
| | 3.89 | 233 | 4.350 | -2.600 | 0.571 |
| | 4.01 | 241 | 4.300 | -2.550 | 0.560 |
| | 4.14 | 249 | 4.250 | -2.500 | 0.549 |
| | 4.28 | 257 | 4.200 | -2.450 | 0.538 |
| | 4.42 | 265 | 4.150 | -2.400 | 0.527 |
| | 4.56 | 274 | 4.100 | -2.350 | 0.516 |
| | 4.70 | 282 | 4.050 | -2.300 | 0.505 |
| | 4.85 | 291 | 4.000 | -2.250 | 0.495 |
| | 5.15 | 309 | 3.900 | -2.150 | 0.473 |
| | 5.44 | 327 | 3.800 | -2.050 | 0.451 |
| | 5.76 | 346 | 3.700 | -1.950 | 0.429 |
| | 6.14 | 369 | 3.600 | -1.850 | 0.407 |
| | 6.59 | 396 | 3.500 | -1.750 | 0.385 |
| | 6.94 | 417 | 3.400 | -1.650 | 0.363 |
| | 7.16 | 430 | 3.300 | -1.550 | 0.341 |
| | 7.56 | 454 | 3.200 | -1.450 | 0.319 |
| | 7.93 | 476 | 3.100 | -1.350 | 0.297 |
| | 8.38 | 503 | 3.000 | -1.250 | 0.275 |
| | 9.36 | 562 | 2.800 | -1.050 | 0.231 |
| | 10.51 | 631 | 2.600 | -0.850 | 0.187 |
| | 11.79 | 708 | 2.400 | -0.650 | 0.143 |
| | 13.29 | 798 | 2.200 | -0.450 | 0.099 |
| | 15.88 | 953 | 2.000 | -0.250 | 0.055 |
| | 19.48 | 1,169 | 1.800 | -0.050 | 0.011 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 1.067 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 435 |
| K (m/s) = | 8.83E-07 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



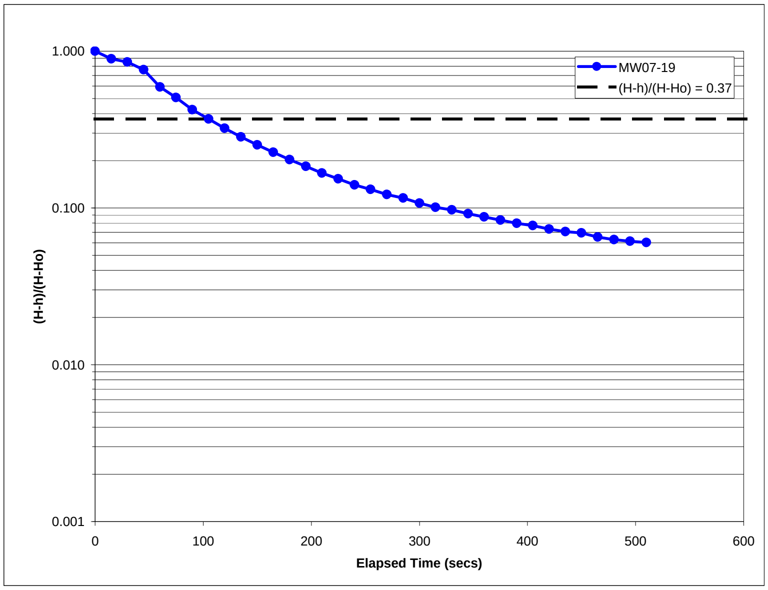
**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

| | | | | | |
|---|---|---|---|---|---|
| | | MW07-19 | | | |
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
| | *Start* | | *4.51* | | |
| | 0.00 | 0 | 6.942 | -2.432 | 1.000 |
| | 0.25 | 15 | 6.679 | -2.169 | 0.892 |
| | 0.50 | 30 | 6.583 | -2.073 | 0.852 |
| | 0.75 | 45 | 6.358 | -1.848 | 0.760 |
| | 1.00 | 60 | 5.945 | -1.435 | 0.590 |
| | 1.25 | 75 | 5.739 | -1.229 | 0.506 |
| | 1.50 | 90 | 5.538 | -1.028 | 0.423 |
| | 1.75 | 105 | 5.409 | -0.899 | 0.370 |
| | 2.00 | 120 | 5.294 | -0.784 | 0.322 |
| | 2.25 | 135 | 5.201 | -0.691 | 0.284 |
| | 2.50 | 150 | 5.124 | -0.614 | 0.253 |
| | 2.75 | 165 | 5.060 | -0.550 | 0.226 |
| | 3.00 | 180 | 5.006 | -0.496 | 0.204 |
| | 3.25 | 195 | 4.957 | -0.447 | 0.184 |
| | 3.50 | 210 | 4.916 | -0.406 | 0.167 |
| | 3.75 | 225 | 4.884 | -0.374 | 0.154 |
| | 4.00 | 240 | 4.852 | -0.342 | 0.140 |
| | 4.25 | 255 | 4.829 | -0.319 | 0.131 |
| | 4.50 | 270 | 4.807 | -0.297 | 0.122 |
| | 4.75 | 285 | 4.791 | -0.281 | 0.115 |
| | 5.00 | 300 | 4.772 | -0.262 | 0.108 |
| | 5.25 | 315 | 4.756 | -0.246 | 0.101 |
| | 5.50 | 330 | 4.746 | -0.236 | 0.097 |
| | 5.75 | 345 | 4.733 | -0.223 | 0.092 |
| | 6.00 | 360 | 4.723 | -0.213 | 0.088 |
| | 6.25 | 375 | 4.714 | -0.204 | 0.084 |
| | 6.50 | 390 | 4.704 | -0.194 | 0.080 |
| | 6.75 | 405 | 4.698 | -0.188 | 0.077 |
| | 7.00 | 420 | 4.688 | -0.178 | 0.073 |
| | 7.25 | 435 | 4.682 | -0.172 | 0.071 |
| | 7.50 | 450 | 4.679 | -0.169 | 0.069 |
| | 7.75 | 465 | 4.669 | -0.159 | 0.065 |
| | 8.00 | 480 | 4.663 | -0.153 | 0.063 |
| | 8.25 | 495 | 4.659 | -0.149 | 0.061 |
| | 8.50 | 510 | 4.656 | -0.146 | 0.060 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 1.067 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 105 |
| | |
| K (m/s) = | 3.66E-06 |




Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

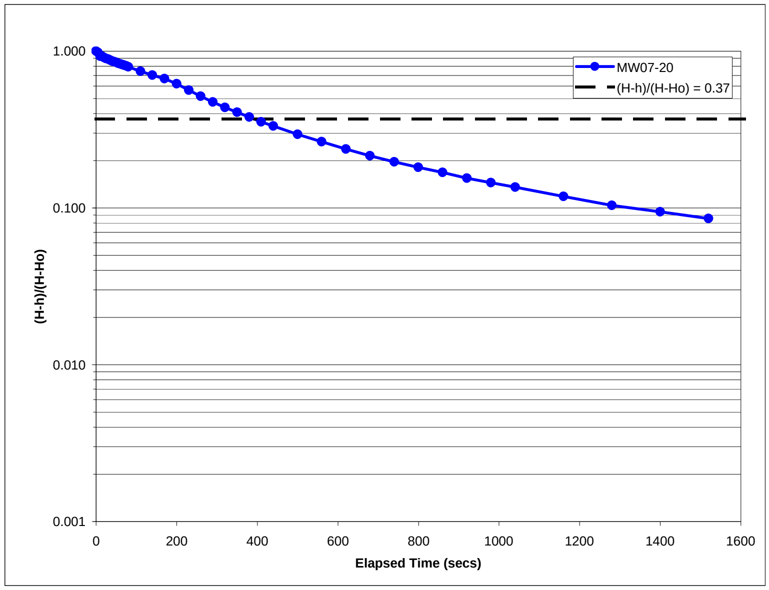
| Time | Elapsed Time (mins) | Elapsed Time (sec) | MW07-20 Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 128.615 | | |
| | 0.00 | 0 | 104.712 | 23.903 | 1.000 |
| | 0.08 | 5 | 105.183 | 23.432 | 0.980 |
| | 0.17 | 10 | 106.409 | 22.206 | 0.929 |
| | 0.25 | 15 | 106.472 | 22.143 | 0.926 |
| | 0.33 | 20 | 106.818 | 21.797 | 0.912 |
| | 0.42 | 25 | 107.132 | 21.483 | 0.899 |
| | 0.50 | 30 | 107.352 | 21.263 | 0.890 |
| | 0.58 | 35 | 107.666 | 20.949 | 0.876 |
| | 0.67 | 40 | 107.917 | 20.698 | 0.866 |
| | 0.75 | 45 | 108.137 | 20.478 | 0.857 |
| | 0.83 | 50 | 108.357 | 20.258 | 0.848 |
| | 0.92 | 55 | 108.577 | 20.038 | 0.838 |
| | 1.00 | 60 | 108.828 | 19.787 | 0.828 |
| | 1.08 | 65 | 109.016 | 19.599 | 0.820 |
| | 1.17 | 70 | 109.205 | 19.410 | 0.812 |
| | 1.25 | 75 | 109.393 | 19.222 | 0.804 |
| | 1.33 | 80 | 109.613 | 19.002 | 0.795 |
| | 1.83 | 110 | 110.87 | 17.745 | 0.742 |
| | 2.33 | 140 | 111.78 | 16.835 | 0.704 |
| | 2.83 | 170 | 112.659 | 15.956 | 0.668 |
| | 3.33 | 200 | 113.79 | 14.825 | 0.620 |
| | 3.83 | 230 | 115.173 | 13.442 | 0.562 |
| | 4.33 | 260 | 116.303 | 12.312 | 0.515 |
| | 4.83 | 290 | 117.308 | 11.307 | 0.473 |
| | 5.33 | 320 | 118.156 | 10.459 | 0.438 |
| | 5.83 | 350 | 118.879 | 9.736 | 0.407 |
| | 6.33 | 380 | 119.539 | 9.076 | 0.380 |
| | 6.83 | 410 | 120.135 | 8.480 | 0.355 |
| | 7.33 | 440 | 120.669 | 7.946 | 0.332 |
| | 8.33 | 500 | 121.579 | 7.036 | 0.294 |
| | 9.33 | 560 | 122.302 | 6.313 | 0.264 |
| | 10.33 | 620 | 122.93 | 5.685 | 0.238 |
| | 11.33 | 680 | 123.463 | 5.152 | 0.216 |
| | 12.33 | 740 | 123.903 | 4.712 | 0.197 |
| | 13.33 | 800 | 124.279 | 4.336 | 0.181 |
| | 14.33 | 860 | 124.594 | 4.021 | 0.168 |
| | 15.33 | 920 | 124.908 | 3.707 | 0.155 |
| | 16.33 | 980 | 125.158 | 3.457 | 0.145 |
| | 17.33 | 1,040 | 125.378 | 3.237 | 0.135 |
| | 19.33 | 1,160 | 125.787 | 2.828 | 0.118 |
| | 21.33 | 1,280 | 126.133 | 2.482 | 0.104 |
| | 23.33 | 1,400 | 126.351 | 2.264 | 0.095 |
| | 25.33 | 1,520 | 126.572 | 2.043 | 0.085 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.956
R (m) = 0.041
$T_o$ (sec) = 320

K (m/s) = 7.78E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

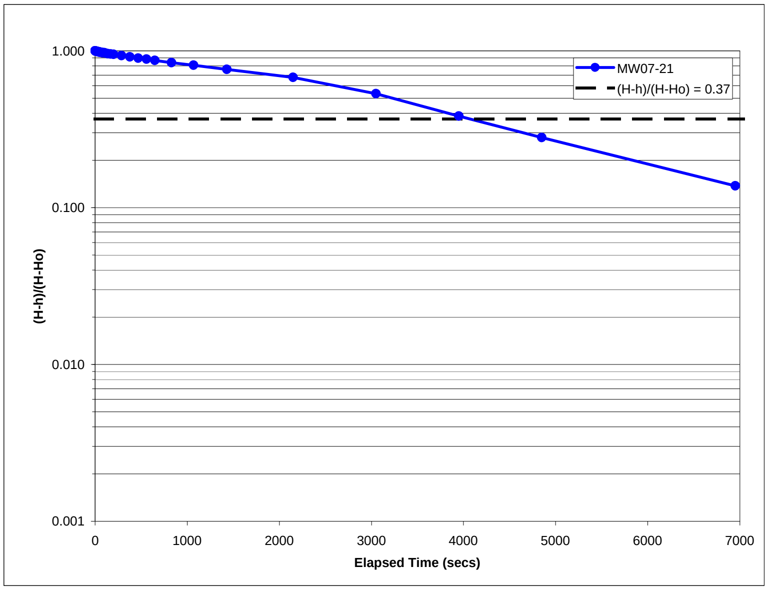
| Time | Elapsed Time (mins) | Elapsed Time (sec) MW07-21 | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 127.706 | | |
| | 0.00 | 0 | 105.485 | 22.221 | 1.000 |
| | 0.08 | 5 | 105.56 | 22.146 | 0.997 |
| | 0.17 | 10 | 105.619 | 22.087 | 0.994 |
| | 0.25 | 15 | 105.634 | 22.072 | 0.993 |
| | 0.33 | 20 | 105.678 | 22.028 | 0.991 |
| | 0.42 | 25 | 105.723 | 21.983 | 0.989 |
| | 0.50 | 30 | 105.768 | 21.938 | 0.987 |
| | 0.58 | 35 | 105.782 | 21.924 | 0.987 |
| | 0.67 | 40 | 105.826 | 21.880 | 0.985 |
| | 0.75 | 45 | 105.856 | 21.850 | 0.983 |
| | 0.83 | 50 | 105.901 | 21.805 | 0.981 |
| | 0.92 | 55 | 105.915 | 21.791 | 0.981 |
| | 1.00 | 60 | 105.96 | 21.746 | 0.979 |
| | 1.17 | 70 | 106.004 | 21.702 | 0.977 |
| | 1.33 | 80 | 106.079 | 21.627 | 0.973 |
| | 1.50 | 90 | 106.123 | 21.583 | 0.971 |
| | 1.67 | 100 | 106.091 | 21.615 | 0.973 |
| | 1.83 | 110 | 106.242 | 21.464 | 0.966 |
| | 2.33 | 140 | 106.406 | 21.300 | 0.959 |
| | 2.83 | 170 | 106.524 | 21.182 | 0.953 |
| | 3.33 | 200 | 106.643 | 21.063 | 0.948 |
| | 4.83 | 290 | 107.032 | 20.674 | 0.930 |
| | 6.33 | 380 | 107.406 | 20.300 | 0.914 |
| | 7.83 | 470 | 107.752 | 19.954 | 0.898 |
| | 9.33 | 560 | 108.069 | 19.637 | 0.884 |
| | 10.83 | 650 | 108.415 | 19.291 | 0.868 |
| | 13.83 | 830 | 109.005 | 18.701 | 0.842 |
| | 17.83 | 1070 | 109.73 | 17.976 | 0.809 |
| | 23.83 | 1430 | 110.773 | 16.933 | 0.762 |
| | 35.83 | 2150 | 112.634 | 15.072 | 0.678 |
| | 50.83 | 3050 | 115.89 | 11.816 | 0.532 |
| | 65.83 | 3950 | 119.176 | 8.530 | 0.384 |
| | 80.83 | 4850 | 121.479 | 6.227 | 0.280 |
| | 115.83 | 6950 | 124.645 | 3.061 | 0.138 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.880
R (m) = 0.041
$T_o$ (sec) = 3,950

K (m/s) = 6.49E-08

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

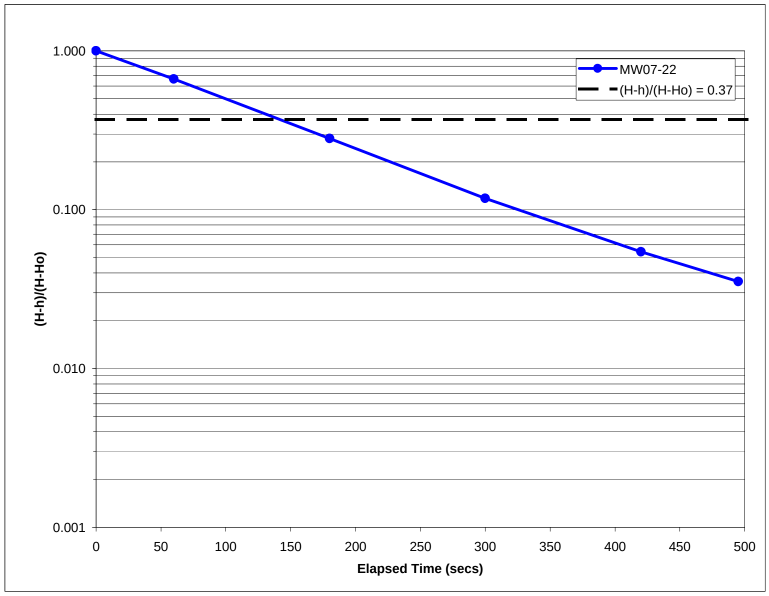
| | | MW07-22 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | 118.794 | | |
| | 0.00 | 0 | 114.026 | 4.768 | 1.000 |
| | 1.00 | 60 | 115.626 | 3.168 | 0.664 |
| | 3.00 | 180 | 117.454 | 1.340 | 0.281 |
| | 5.00 | 300 | 118.231 | 0.563 | 0.118 |
| | 7.00 | 420 | 118.535 | 0.259 | 0.054 |
| | 8.25 | 495 | 118.626 | 0.168 | 0.035 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.829
R (m) = 0.041
$T_o$ (sec) = 141

K (m/s) = 1.86E-06

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

**MW07-23**

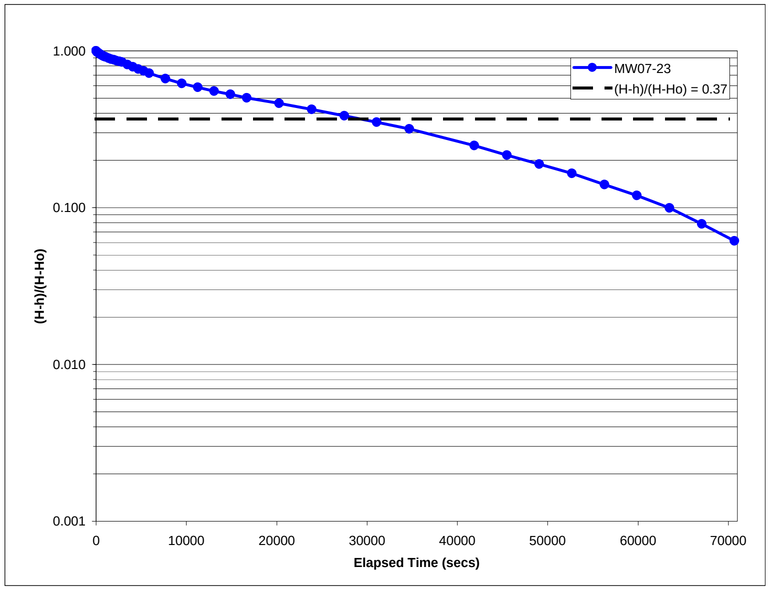
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 121.192 | | |
| | 0.00 | 0 | 102.521 | 18.671 | 1.000 |
| | 2.00 | 120 | 102.875 | 18.317 | 0.981 |
| | 4.00 | 240 | 103.081 | 18.111 | 0.970 |
| | 6.00 | 360 | 103.316 | 17.876 | 0.957 |
| | 8.00 | 480 | 103.493 | 17.699 | 0.948 |
| | 10.00 | 600 | 103.64 | 17.552 | 0.940 |
| | 12.00 | 720 | 103.787 | 17.405 | 0.932 |
| | 14.00 | 840 | 103.934 | 17.258 | 0.924 |
| | 16.00 | 960 | 104.051 | 17.141 | 0.918 |
| | 18.00 | 1,080 | 104.139 | 17.053 | 0.913 |
| | 23.00 | 1,380 | 104.433 | 16.759 | 0.898 |
| | 28.00 | 1,680 | 104.668 | 16.524 | 0.885 |
| | 33.00 | 1,980 | 104.844 | 16.348 | 0.876 |
| | 38.00 | 2,280 | 105.05 | 16.142 | 0.865 |
| | 43.00 | 2,580 | 105.226 | 15.966 | 0.855 |
| | 48.00 | 2,880 | 105.373 | 15.819 | 0.847 |
| | 58.00 | 3,480 | 105.902 | 15.290 | 0.819 |
| | 68.00 | 4,080 | 106.431 | 14.761 | 0.791 |
| | 78.00 | 4,680 | 106.901 | 14.291 | 0.765 |
| | 88.00 | 5,280 | 107.312 | 13.880 | 0.743 |
| | 98.00 | 5,880 | 107.753 | 13.439 | 0.720 |
| | 128.00 | 7,680 | 108.781 | 12.411 | 0.665 |
| | 158.00 | 9,480 | 109.633 | 11.559 | 0.619 |
| | 188.00 | 11,280 | 110.28 | 10.912 | 0.584 |
| | | 13,080 | 110.868 | 10.324 | 0.553 |
| | | 14,880 | 111.338 | 9.854 | 0.528 |
| | | 16,680 | 111.838 | 9.354 | 0.501 |
| | | 20,280 | 112.543 | 8.649 | 0.463 |
| | | 23,880 | 113.308 | 7.884 | 0.422 |
| | | 27,480 | 113.984 | 7.208 | 0.386 |
| | | 31,080 | 114.631 | 6.561 | 0.351 |
| | | 34,680 | 115.249 | 5.943 | 0.318 |
| | | 41,880 | 116.543 | 4.649 | 0.249 |
| | | 45,480 | 117.161 | 4.031 | 0.216 |
| | | 49,080 | 117.661 | 3.531 | 0.189 |
| | | 52,680 | 118.102 | 3.090 | 0.165 |
| | | 56,280 | 118.573 | 2.619 | 0.140 |
| | | 59,880 | 118.955 | 2.237 | 0.120 |
| | | 63,480 | 119.338 | 1.854 | 0.099 |
| | | 67,080 | 119.721 | 1.471 | 0.079 |
| | | 70,680 | 120.044 | 1.148 | 0.061 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 0.914
R (m) = 0.041
$T_o$ (sec) = 26,470

K (m/s) = 1.62E-08

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

MW07-24

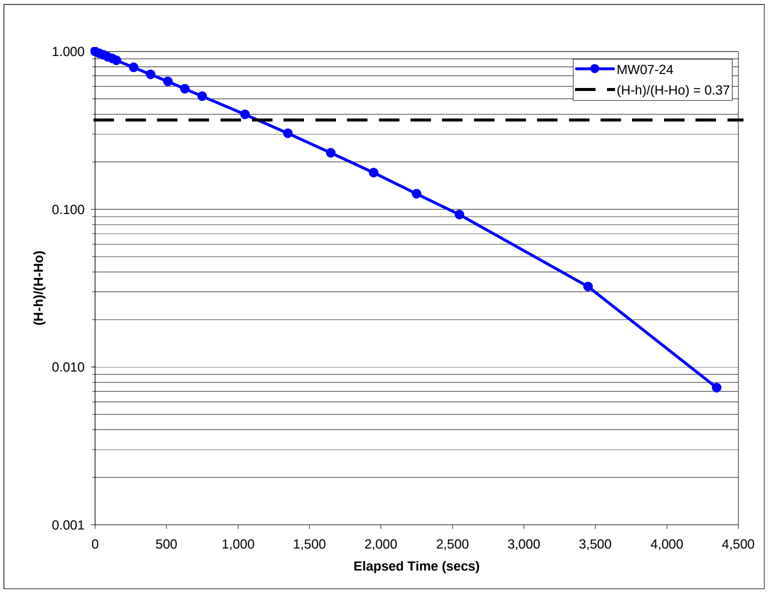
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 129.423 | | |
| | 0.00 | 0 | 114.411 | 15.012 | 1.000 |
| | 0.50 | 30 | 114.814 | 14.609 | 0.973 |
| | 1.00 | 60 | 115.175 | 14.248 | 0.949 |
| | 1.50 | 90 | 115.551 | 13.872 | 0.924 |
| | 2.00 | 120 | 115.884 | 13.539 | 0.902 |
| | 2.50 | 150 | 116.232 | 13.191 | 0.879 |
| | 4.50 | 270 | 117.553 | 11.870 | 0.791 |
| | 6.50 | 390 | 118.721 | 10.702 | 0.713 |
| | 8.50 | 510 | 119.763 | 9.660 | 0.643 |
| | 10.50 | 630 | 120.736 | 8.687 | 0.579 |
| | 12.50 | 750 | 121.627 | 7.796 | 0.519 |
| | | 1,050 | 123.434 | 5.989 | 0.399 |
| | | 1,350 | 124.88 | 4.543 | 0.303 |
| | | 1,650 | 126.005 | 3.418 | 0.228 |
| | | 1,950 | 126.867 | 2.556 | 0.170 |
| | | 2,250 | 127.548 | 1.875 | 0.125 |
| | | 2,550 | 128.034 | 1.389 | 0.093 |
| | | 3,450 | 128.938 | 0.485 | 0.032 |
| | | 4,350 | 129.312 | 0.111 | 0.007 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 0.914
R (m) = 0.041
$T_o$ (sec) = 1,150

K (m/s) = 3.72E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

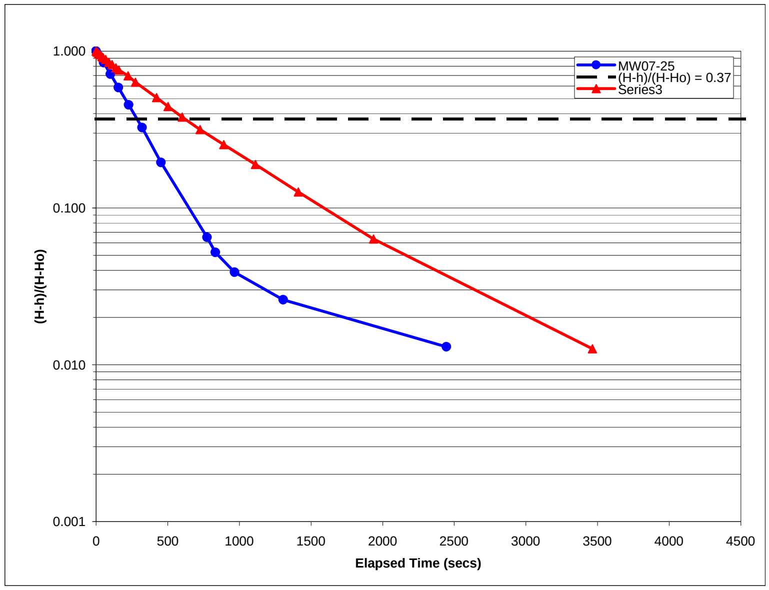
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-25 | | | |
| *08-Nov-07* | *Start* | | *4.65* | | |
| 08:26:30 AM | 0.00 | 0 | 3.880 | 0.770 | 1.000 |
| 08:26:37 AM | 0.12 | 7 | 3.900 | 0.750 | 0.974 |
| 08:27:23 AM | 0.88 | 53 | 4.000 | 0.650 | 0.844 |
| 08:28:10 AM | 1.67 | 100 | 4.100 | 0.550 | 0.714 |
| 08:29:07 AM | 2.62 | 157 | 4.200 | 0.450 | 0.584 |
| 08:30:17 AM | 3.78 | 227 | 4.300 | 0.350 | 0.455 |
| 08:31:51 AM | 5.35 | 321 | 4.400 | 0.250 | 0.325 |
| 08:34:04 AM | 7.57 | 454 | 4.500 | 0.150 | 0.195 |
| 08:39:24 AM | 12.90 | 774 | 4.600 | 0.050 | 0.065 |
| 08:40:22 AM | 13.87 | 832 | 4.610 | 0.040 | 0.052 |
| 08:42:38 AM | 16.13 | 968 | 4.620 | 0.030 | 0.039 |
| 08:48:16 AM | 21.77 | 1,306 | 4.630 | 0.020 | 0.026 |
| 09:07:15 AM | 40.75 | 2,445 | 4.640 | 0.010 | 0.013 |
| *09-Nov-07* | *Start* | | *4.7* | | |
| 09:07:49 AM | 0.00 | 0 | 3.910 | 0.790 | 1.000 |
| 09:07:56 AM | 0.12 | 7 | 3.920 | 0.780 | 0.987 |
| 09:08:07 AM | 0.30 | 18 | 3.940 | 0.760 | 0.962 |
| 09:08:16 AM | 0.45 | 27 | 3.950 | 0.750 | 0.949 |
| 09:08:30 AM | 0.68 | 41 | 3.970 | 0.730 | 0.924 |
| 09:08:39 AM | 0.83 | 50 | 3.980 | 0.720 | 0.911 |
| 09:08:57 AM | 1.13 | 68 | 4.000 | 0.700 | 0.886 |
| 09:09:19 AM | 1.50 | 90 | 4.030 | 0.670 | 0.848 |
| 09:09:40 AM | 1.85 | 111 | 4.050 | 0.650 | 0.823 |
| 09:10:07 AM | 2.30 | 138 | 4.080 | 0.620 | 0.785 |
| 09:10:28 AM | 2.65 | 159 | 4.100 | 0.600 | 0.759 |
| 09:11:32 AM | 3.72 | 223 | 4.150 | 0.550 | 0.696 |
| 09:12:23 AM | 4.57 | 274 | 4.200 | 0.500 | 0.633 |
| 09:14:50 AM | 7.02 | 421 | 4.300 | 0.400 | 0.506 |
| 09:16:11 AM | 8.37 | 502 | 4.350 | 0.350 | 0.443 |
| 09:17:50 AM | 10.02 | 601 | 4.400 | 0.300 | 0.380 |
| 09:19:55 AM | 12.10 | 726 | 4.450 | 0.250 | 0.316 |
| 09:22:40 AM | 14.85 | 891 | 4.500 | 0.200 | 0.253 |
| 09:26:22 AM | 18.55 | 1,113 | 4.550 | 0.150 | 0.190 |
| 09:31:20 AM | 23.52 | 1,411 | 4.600 | 0.100 | 0.127 |
| 09:40:06 AM | 32.28 | 1,937 | 4.650 | 0.050 | 0.063 |
| 10:05:32 AM | 57.72 | 3,463 | 4.690 | 0.010 | 0.013 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.067
R (m) = 0.041
$T_o$ (sec) = 600

K (m/s) = 6.42E-07

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



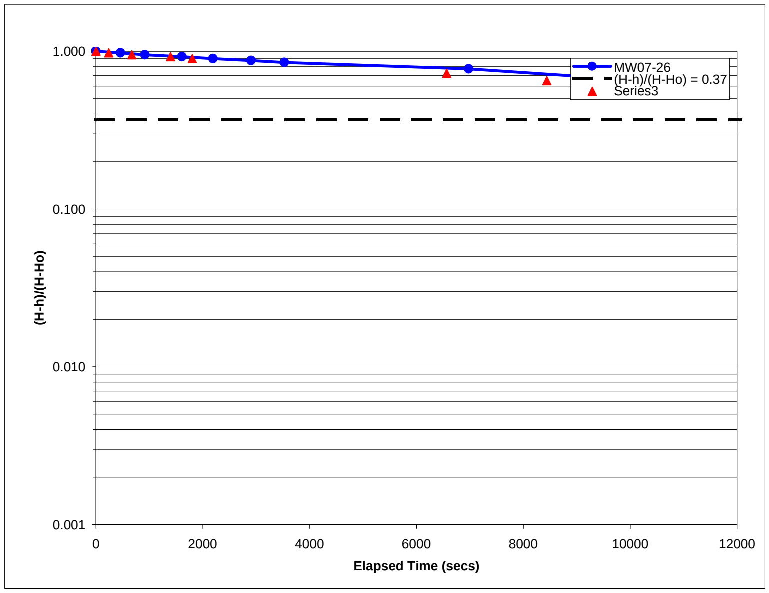
**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-26 | | | |
| *08-Nov-07* | *Start* | | *6.68* | | |
| 08:26:30 AM | 0.00 | 0 | 6.480 | 0.200 | 1.000 |
| 08:26:37 AM | 7.68 | 461 | 6.485 | 0.195 | 0.975 |
| 08:27:23 AM | 15.30 | 918 | 6.490 | 0.190 | 0.950 |
| 08:28:10 AM | 26.88 | 1613 | 6.495 | 0.185 | 0.925 |
| 08:29:07 AM | 36.57 | 2194 | 6.500 | 0.180 | 0.900 |
| 08:30:17 AM | 48.38 | 2903 | 6.505 | 0.175 | 0.875 |
| 08:31:51 AM | 58.80 | 3528 | 6.510 | 0.170 | 0.850 |
| 08:34:04 AM | 116.27 | 6976 | 6.525 | 0.155 | 0.775 |
| 08:39:24 AM | 171.10 | 10266 | 6.550 | 0.130 | 0.650 |
| 08:40:22 AM | 193.22 | 11593 | 6.555 | 0.125 | 0.625 |
| *09-Nov-07* | *Start* | | *6.695* | | |
| 09:07:49 AM | 0.00 | 0 | 6.495 | 0.200 | 1.000 |
| 09:07:56 AM | 4.03 | 242 | 6.500 | 0.195 | 0.975 |
| 09:08:07 AM | 11.22 | 673 | 6.505 | 0.190 | 0.950 |
| 09:08:16 AM | 23.25 | 1,395 | 6.510 | 0.185 | 0.925 |
| 09:08:30 AM | 30.00 | 1,800 | 6.515 | 0.180 | 0.900 |
| 09:08:39 AM | 109.40 | 6,564 | 6.550 | 0.145 | 0.725 |
| 09:08:57 AM | 140.65 | 8,439 | 6.565 | 0.130 | 0.650 |
| 10:08:57 AM | 170.00 | 10,200 | 6.570 | 0.125 | 0.625 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 1.829 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 18,415 |
| K (m/s) = | 1.42E-08 |

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



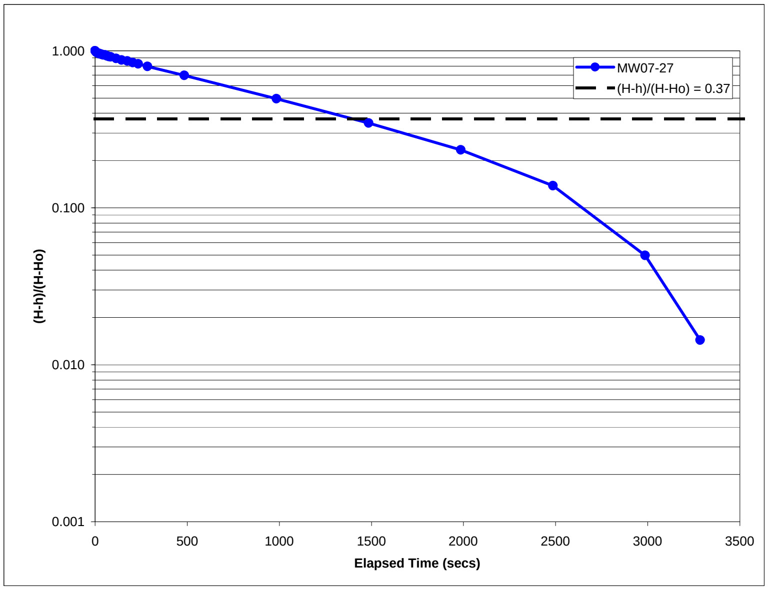
**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

| | | MW07-27 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | 104.331 | | |
| | 0.00 | 0 | 100.22 | 4.111 | 1.000 |
| | 0.08 | 5 | 100.293 | 4.038 | 0.982 |
| | 0.17 | 10 | 100.338 | 3.993 | 0.971 |
| | 0.25 | 15 | 100.352 | 3.979 | 0.968 |
| | 0.33 | 20 | 100.397 | 3.934 | 0.957 |
| | 0.42 | 25 | 100.397 | 3.934 | 0.957 |
| | 0.50 | 30 | 100.411 | 3.920 | 0.954 |
| | 0.58 | 35 | 100.427 | 3.904 | 0.950 |
| | 0.67 | 40 | 100.442 | 3.889 | 0.946 |
| | 0.75 | 45 | 100.472 | 3.859 | 0.939 |
| | 0.92 | 55 | 100.472 | 3.859 | 0.939 |
| | 1.08 | 65 | 100.516 | 3.815 | 0.928 |
| | 1.25 | 75 | 100.546 | 3.785 | 0.921 |
| | 1.42 | 85 | 100.575 | 3.756 | 0.914 |
| | 1.92 | 115 | 100.665 | 3.666 | 0.892 |
| | 2.42 | 145 | 100.739 | 3.592 | 0.874 |
| | 2.92 | 175 | 100.798 | 3.533 | 0.859 |
| | 3.42 | 205 | 100.871 | 3.460 | 0.842 |
| | 3.92 | 235 | 100.945 | 3.386 | 0.824 |
| | 4.75 | 285 | 101.064 | 3.267 | 0.795 |
| | 8.08 | 485 | 101.46 | 2.871 | 0.698 |
| | 16.42 | 985 | 102.293 | 2.038 | 0.496 |
| | 24.75 | 1,485 | 102.905 | 1.426 | 0.347 |
| | 33.08 | 1,985 | 103.371 | 0.960 | 0.234 |
| | 41.42 | 2,485 | 103.764 | 0.567 | 0.138 |
| | 49.75 | 2,985 | 104.127 | 0.204 | 0.050 |
| | 54.75 | 3,285 | 104.272 | 0.059 | 0.014 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 2.311 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 1,405 |
| K (m/s) = | 1.56E-07 |




Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

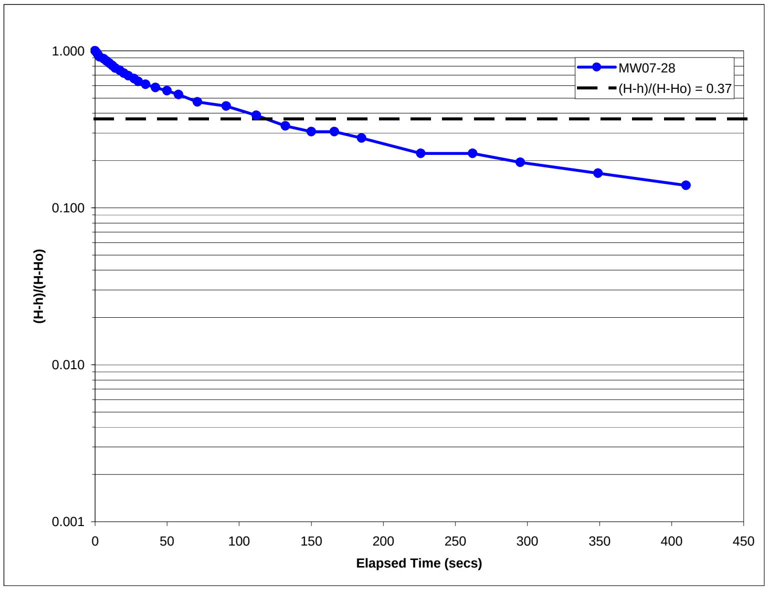
| Time | Elapsed Time (mins) | MW07-28<br>Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 128.081 | | |
| | 0.00 | 0 | 127.022 | 1.059 | 1.000 |
| | 0.02 | 1 | 127.052 | 1.029 | 0.972 |
| | 0.03 | 2 | 127.081 | 1.000 | 0.944 |
| | 0.05 | 3 | 127.111 | 0.970 | 0.916 |
| | 0.10 | 6 | 127.14 | 0.941 | 0.889 |
| | 0.13 | 8 | 127.17 | 0.911 | 0.860 |
| | 0.17 | 10 | 127.199 | 0.882 | 0.833 |
| | 0.20 | 12 | 127.229 | 0.852 | 0.805 |
| | 0.23 | 14 | 127.258 | 0.823 | 0.777 |
| | 0.28 | 17 | 127.287 | 0.794 | 0.750 |
| | 0.33 | 20 | 127.317 | 0.764 | 0.721 |
| | 0.38 | 23 | 127.346 | 0.735 | 0.694 |
| | 0.45 | 27 | 127.376 | 0.705 | 0.666 |
| | 0.50 | 30 | 127.405 | 0.676 | 0.638 |
| | 0.58 | 35 | 127.434 | 0.647 | 0.611 |
| | 0.70 | 42 | 127.464 | 0.617 | 0.583 |
| | 0.83 | 50 | 127.493 | 0.588 | 0.555 |
| | 0.97 | 58 | 127.523 | 0.558 | 0.527 |
| | 1.18 | 71 | 127.581 | 0.500 | 0.472 |
| | 1.52 | 91 | 127.611 | 0.470 | 0.444 |
| | 1.87 | 112 | 127.67 | 0.411 | 0.388 |
| | 2.20 | 132 | 127.729 | 0.352 | 0.332 |
| | 2.50 | 150 | 127.758 | 0.323 | 0.305 |
| | 2.77 | 166 | 127.758 | 0.323 | 0.305 |
| | 3.08 | 185 | 127.787 | 0.294 | 0.278 |
| | | 226 | 127.846 | 0.235 | 0.222 |
| | | 262 | 127.846 | 0.235 | 0.222 |
| | | 295 | 127.875 | 0.206 | 0.195 |
| | | 349 | 127.905 | 0.176 | 0.166 |
| | | 410 | 127.934 | 0.147 | 0.139 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 2.134
R (m) = 0.102
$T_0$ (sec) = 67

K (m/s) = 2.68E-06

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_0$ is determined from plots where (H-h)/(H-Ho) = 0.37



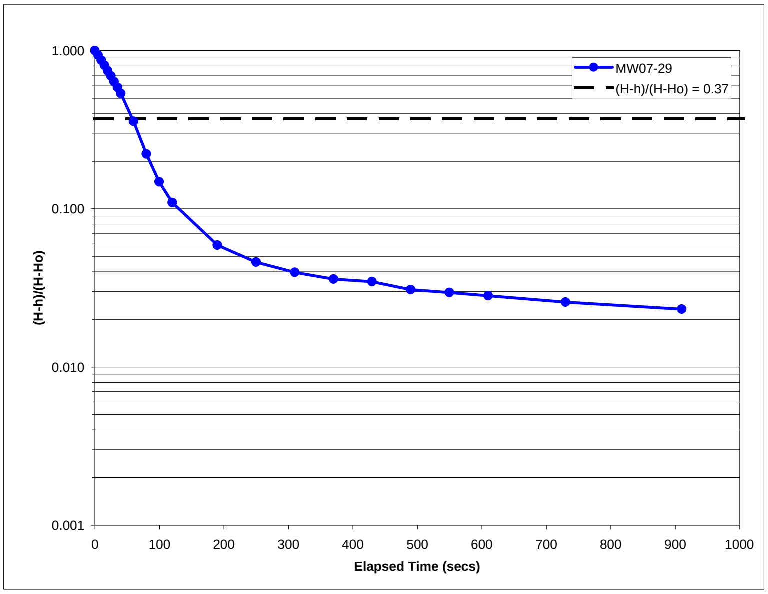
**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

| | | MW07-29 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | 137.008 | | |
| | 0.00 | 0 | 112.793 | 24.215 | 1.000 |
| | 0.08 | 5 | 114.366 | 22.642 | 0.935 |
| | 0.17 | 10 | 115.969 | 21.039 | 0.869 |
| | 0.25 | 15 | 117.479 | 19.529 | 0.806 |
| | 0.33 | 20 | 118.925 | 18.083 | 0.747 |
| | 0.42 | 25 | 120.277 | 16.731 | 0.691 |
| | 0.50 | 30 | 121.598 | 15.410 | 0.636 |
| | 0.58 | 35 | 122.855 | 14.153 | 0.584 |
| | 0.67 | 40 | 124.05 | 12.958 | 0.535 |
| | 1.00 | 60 | 128.357 | 8.651 | 0.357 |
| | 1.33 | 80 | 131.626 | 5.382 | 0.222 |
| | 1.67 | 100 | 133.417 | 3.591 | 0.148 |
| | 2.00 | 120 | 134.359 | 2.649 | 0.109 |
| | | 190 | 135.581 | 1.427 | 0.059 |
| | | 250 | 135.892 | 1.116 | 0.046 |
| | | 310 | 136.047 | 0.961 | 0.040 |
| | | 370 | 136.139 | 0.869 | 0.036 |
| | | 430 | 136.169 | 0.839 | 0.035 |
| | | 490 | 136.262 | 0.746 | 0.031 |
| | | 550 | 136.292 | 0.716 | 0.030 |
| | | 610 | 136.324 | 0.684 | 0.028 |
| | | 730 | 136.385 | 0.623 | 0.026 |
| | | 910 | 136.447 | 0.561 | 0.023 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 3.050 |
| R (m) = | 0.076 |
| $T_o$ (sec) = | 56 |
| K (m/s) = | 2.72E-06 |



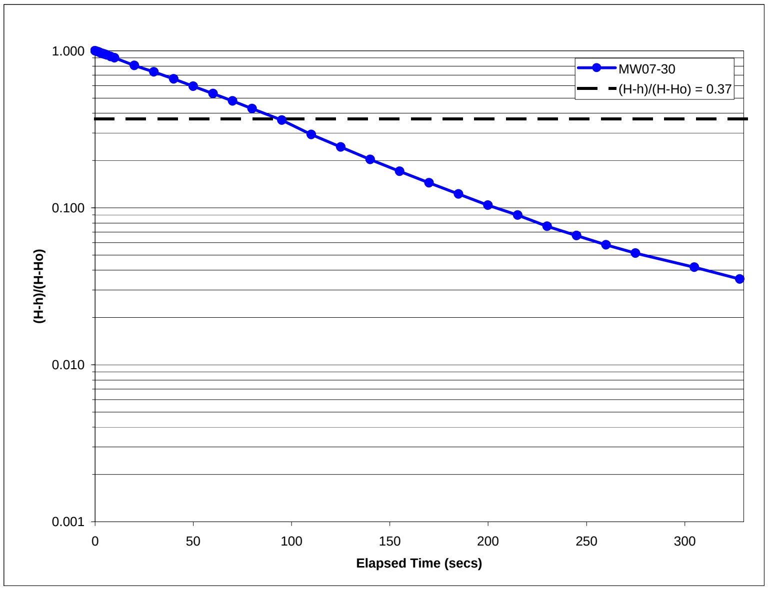

Note:
1 - Because of clay overburden, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

| Time | Elapsed Time (mins) | MW07-30<br>Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 163.121 | | |
| | 0.00 | 0 | 132.192 | 30.929 | 1.000 |
| | 0.02 | 1 | 132.457 | 30.664 | 0.991 |
| | 0.03 | 2 | 132.782 | 30.339 | 0.981 |
| | 0.05 | 3 | 133.136 | 29.985 | 0.969 |
| | 0.07 | 4 | 133.431 | 29.690 | 0.960 |
| | 0.08 | 5 | 133.815 | 29.306 | 0.948 |
| | 0.10 | 6 | 134.08 | 29.041 | 0.939 |
| | 0.13 | 8 | 134.7 | 28.421 | 0.919 |
| | 0.17 | 10 | 135.26 | 27.861 | 0.901 |
| | 0.33 | 20 | 138.241 | 24.880 | 0.804 |
| | 0.50 | 30 | 140.396 | 22.725 | 0.735 |
| | 0.67 | 40 | 142.67 | 20.451 | 0.661 |
| | 0.83 | 50 | 144.738 | 18.383 | 0.594 |
| | 1.00 | 60 | 146.629 | 16.492 | 0.533 |
| | 1.17 | 70 | 148.342 | 14.779 | 0.478 |
| | 1.33 | 80 | 149.88 | 13.241 | 0.428 |
| | 1.58 | 95 | 151.949 | 11.172 | 0.361 |
| | 1.83 | 110 | 154.079 | 9.042 | 0.292 |
| | 2.08 | 125 | 155.587 | 7.534 | 0.244 |
| | 2.33 | 140 | 156.83 | 6.291 | 0.203 |
| | 2.58 | 155 | 157.835 | 5.286 | 0.171 |
| | 2.83 | 170 | 158.663 | 4.458 | 0.144 |
| | 3.08 | 185 | 159.344 | 3.777 | 0.122 |
| | 3.33 | 200 | 159.906 | 3.215 | 0.104 |
| | 3.58 | 215 | 160.35 | 2.771 | 0.090 |
| | | 230 | 160.763 | 2.358 | 0.076 |
| | | 245 | 161.06 | 2.061 | 0.067 |
| | | 260 | 161.325 | 1.796 | 0.058 |
| | | 275 | 161.532 | 1.589 | 0.051 |
| | | 305 | 161.828 | 1.293 | 0.042 |
| | | 328 | 162.034 | 1.087 | 0.035 |

All Waterlevels are in m from top of pipe (top)




r (m) = 0.016
L (m) = 2.565
R (m) = 0.076
$T_o$ (sec) = 93

K (m/s) = 1.86E-06

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Slug Testing - Hvorslev Method (1951)**

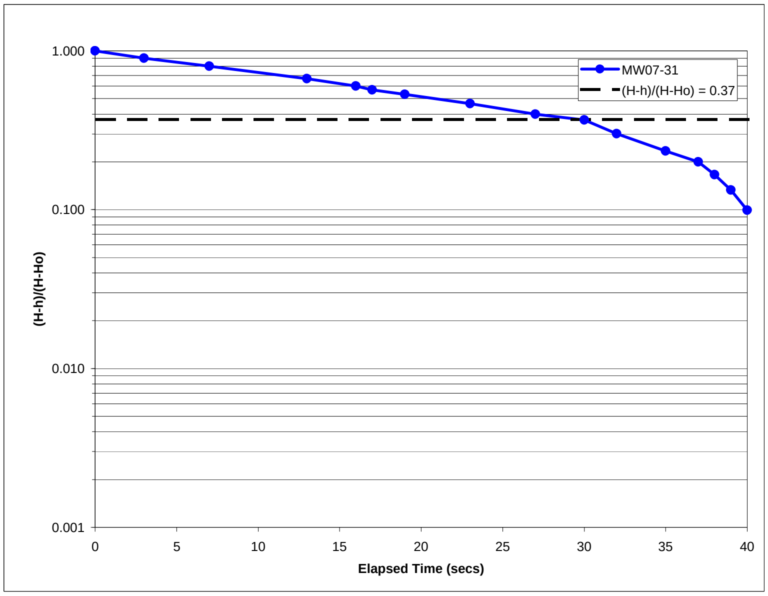
**Datalogger Measurements**

| | | MW07-31 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | 145.019 | | |
| | 0.00 | 0 | 145.905 | -0.886 | 1.000 |
| | 0.05 | 3 | 145.816 | -0.797 | 0.900 |
| | 0.12 | 7 | 145.728 | -0.709 | 0.800 |
| | 0.22 | 13 | 145.61 | -0.591 | 0.667 |
| | 0.27 | 16 | 145.55 | -0.531 | 0.599 |
| | 0.28 | 17 | 145.521 | -0.502 | 0.567 |
| | 0.32 | 19 | 145.491 | -0.472 | 0.533 |
| | 0.38 | 23 | 145.432 | -0.413 | 0.466 |
| | 0.45 | 27 | 145.373 | -0.354 | 0.400 |
| | 0.50 | 30 | 145.344 | -0.325 | 0.367 |
| | 0.53 | 32 | 145.285 | -0.266 | 0.300 |
| | 0.58 | 35 | 145.226 | -0.207 | 0.234 |
| | 0.62 | 37 | 145.196 | -0.177 | 0.200 |
| | 0.63 | 38 | 145.166 | -0.147 | 0.166 |
| | 0.65 | 39 | 145.137 | -0.118 | 0.133 |
| | 0.67 | 40 | 145.107 | -0.088 | 0.099 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 2.057 |
| R (m) = | 0.076 |
| $T_o$ (sec) = | 30 |
| K (m/s) = | 6.73E-06 |

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



## Recovery Testing - Hvorslev Method (1951)

**Datalogger Measurements**

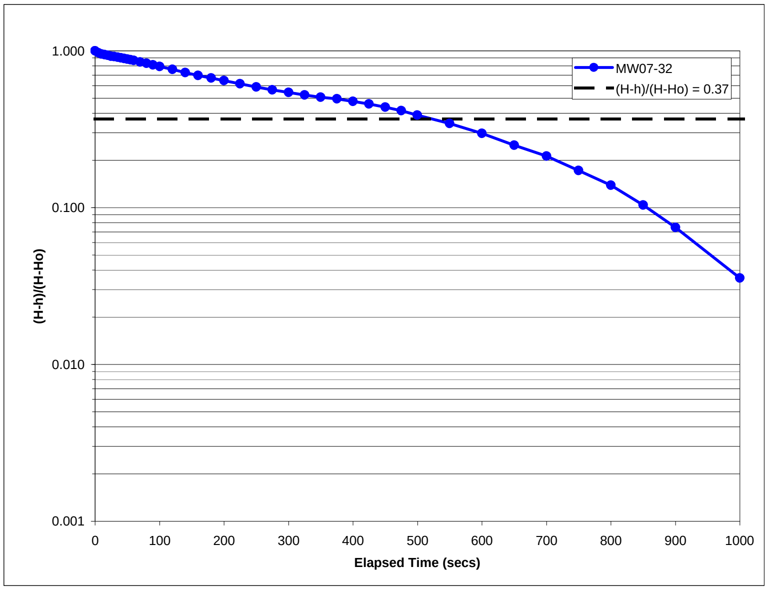
| Time | Elapsed Time (mins) | MW07-32 Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | *Start* | | 386.236 | | |
| | 0.00 | 0 | 196.546 | 189.690 | 1.000 |
| | 0.08 | 5 | 202.227 | 184.009 | 0.970 |
| | 0.17 | 10 | 205.177 | 181.059 | 0.954 |
| | 0.25 | 15 | 207.248 | 178.988 | 0.944 |
| | 0.33 | 20 | 209.005 | 177.231 | 0.934 |
| | 0.42 | 25 | 210.731 | 175.505 | 0.925 |
| | 0.50 | 30 | 212.332 | 173.904 | 0.917 |
| | 0.58 | 35 | 213.775 | 172.461 | 0.909 |
| | 0.67 | 40 | 215.344 | 170.892 | 0.901 |
| | 0.75 | 45 | 216.913 | 169.323 | 0.893 |
| | 0.83 | 50 | 218.45 | 167.786 | 0.885 |
| | 0.92 | 55 | 220.081 | 166.155 | 0.876 |
| | 1.00 | 60 | 221.713 | 164.523 | 0.867 |
| | 1.17 | 70 | 225.195 | 161.041 | 0.849 |
| | 1.33 | 80 | 228.645 | 157.591 | 0.831 |
| | 1.50 | 90 | 232.19 | 154.046 | 0.812 |
| | 1.67 | 100 | 235.703 | 150.533 | 0.794 |
| | 2.00 | 120 | 242.069 | 144.167 | 0.760 |
| | 2.33 | 140 | 248.337 | 137.899 | 0.727 |
| | 2.67 | 160 | 254.012 | 132.224 | 0.697 |
| | 3.00 | 180 | 259.216 | 127.020 | 0.670 |
| | 3.33 | 200 | 263.918 | 122.318 | 0.645 |
| | 3.75 | 225 | 269.403 | 116.833 | 0.616 |
| | 4.17 | 250 | 274.481 | 111.755 | 0.589 |
| | 4.58 | 275 | 279.087 | 107.149 | 0.565 |
| | 5.00 | 300 | 283.349 | 102.887 | 0.542 |
| | 5.42 | 325 | 287.014 | 99.222 | 0.523 |
| | 5.83 | 350 | 290.367 | 95.869 | 0.505 |
| | 6.25 | 375 | 292.56 | 93.676 | 0.494 |
| | 6.67 | 400 | 295.849 | 90.387 | 0.476 |
| | 7.08 | 425 | 299.389 | 86.847 | 0.458 |
| | 7.50 | 450 | 303.304 | 82.932 | 0.437 |
| | 7.92 | 475 | 307.532 | 78.704 | 0.415 |
| | 8.33 | 500 | 312.574 | 73.662 | 0.388 |
| | 9.17 | 550 | 320.872 | 65.364 | 0.345 |
| | 10.00 | 600 | 329.794 | 56.442 | 0.298 |
| | 10.83 | 650 | 338.903 | 47.333 | 0.250 |
| | 11.67 | 700 | 345.788 | 40.448 | 0.213 |
| | 12.50 | 750 | 353.58 | 32.656 | 0.172 |
| | 13.33 | 800 | 359.9 | 26.336 | 0.139 |
| | 14.17 | 850 | 366.501 | 19.735 | 0.104 |
| | 15.00 | 900 | 372.038 | 14.198 | 0.075 |
| | 16.67 | 1,000 | 379 | 6.755 | 0.036 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 2.750
R (m) = 0.041
$T_o$ (sec) = 510

K (m/s) = 3.78E-07

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Slug Testing - Hvorslev Method (1951)**

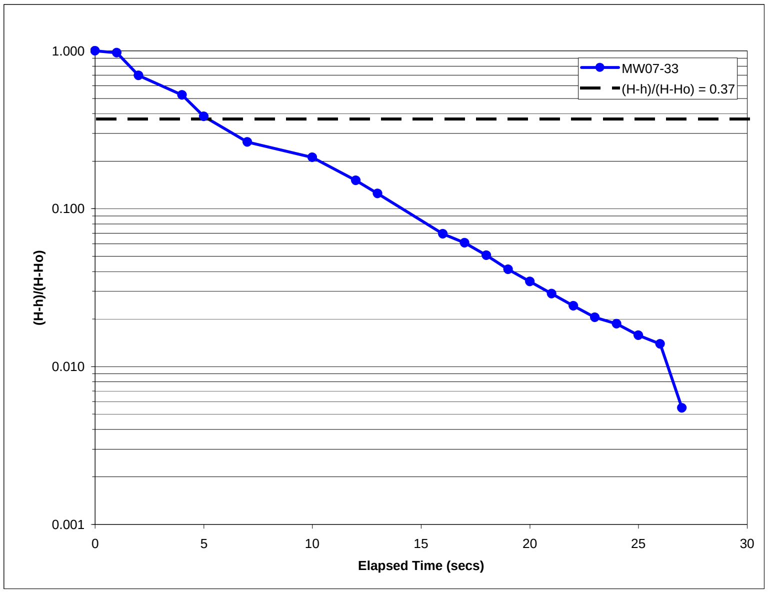
**Datalogger Measurements**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-33 | | | |
| | *Start* | | 146.796 | | |
| | 0.00 | 0 | 178.24 | -31.444 | 1.000 |
| | 0.02 | 1 | 177.438 | -30.642 | 0.974 |
| | 0.03 | 2 | 168.748 | -21.952 | 0.698 |
| | 0.07 | 4 | 163.327 | -16.531 | 0.526 |
| | 0.08 | 5 | 158.885 | -12.089 | 0.384 |
| | 0.12 | 7 | 155.128 | -8.332 | 0.265 |
| | 0.17 | 10 | 153.442 | -6.646 | 0.211 |
| | 0.20 | 12 | 151.549 | -4.753 | 0.151 |
| | 0.22 | 13 | 150.721 | -3.925 | 0.125 |
| | 0.27 | 16 | 148.977 | -2.181 | 0.069 |
| | 0.28 | 17 | 148.711 | -1.915 | 0.061 |
| | 0.30 | 18 | 148.386 | -1.590 | 0.051 |
| | 0.32 | 19 | 148.091 | -1.295 | 0.041 |
| | 0.33 | 20 | 147.884 | -1.088 | 0.035 |
| | 0.35 | 21 | 147.707 | -0.911 | 0.029 |
| | 0.37 | 22 | 147.559 | -0.763 | 0.024 |
| | 0.38 | 23 | 147.441 | -0.645 | 0.021 |
| | 0.40 | 24 | 147.382 | -0.586 | 0.019 |
| | 0.42 | 25 | 147.293 | -0.497 | 0.016 |
| | 0.43 | 26 | 147.234 | -0.438 | 0.014 |
| | 0.45 | 27 | 146.968 | -0.172 | 0.005 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 2.390 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 6 |
| | |
| K (m/s) = | 3.57E-05 |

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

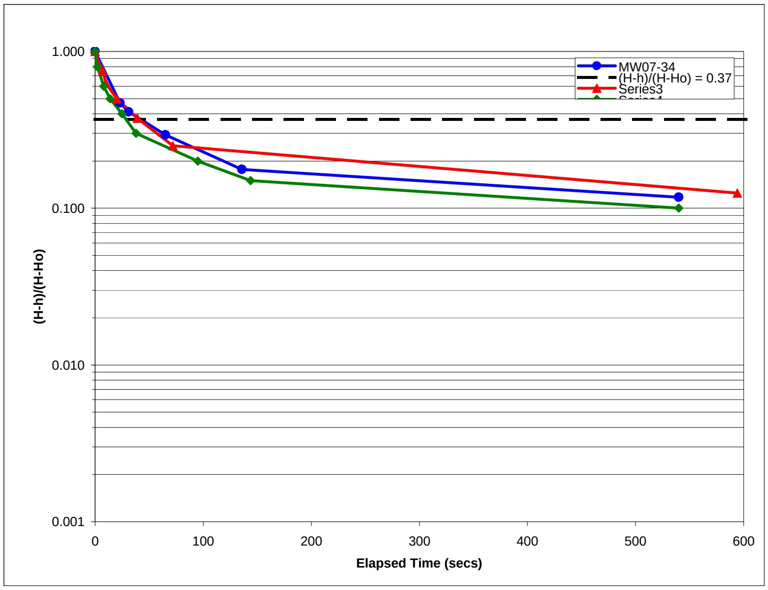


**Recovery Testing - Hvorslev Method (1951)**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Water Level (m) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-34 | | | |
| *09-Nov-07* | *Start* | | *6.815* | | |
| 10:49:00 AM | 0.00 | 0 | 6.730 | 0.085 | 1.000 |
| 10:49:23 AM | 0.38 | 23 | 6.775 | 0.040 | 0.471 |
| 10:49:31 AM | 0.52 | 31 | 6.780 | 0.035 | 0.412 |
| 10:50:05 AM | 1.08 | 65 | 6.790 | 0.025 | 0.294 |
| 10:51:16 AM | 2.27 | 136 | 6.800 | 0.015 | 0.176 |
| 10:58:00 AM | 9.00 | 540 | 6.805 | 0.010 | 0.118 |
| *10-Nov-07* | *Start* | | *6.86* | | |
| 09:07:21 AM | 0.00 | 0 | 6.780 | 0.080 | 1.000 |
| 09:07:25 AM | 0.07 | 4 | 6.795 | 0.065 | 0.813 |
| 09:07:28 AM | 0.12 | 7 | 6.800 | 0.060 | 0.750 |
| 09:07:31 AM | 0.17 | 10 | 6.810 | 0.050 | 0.625 |
| 09:07:41 AM | 0.33 | 20 | 6.820 | 0.040 | 0.500 |
| 09:08:00 AM | 0.65 | 39 | 6.830 | 0.030 | 0.375 |
| 09:08:33 AM | 1.20 | 72 | 6.840 | 0.020 | 0.250 |
| 09:17:15 AM | 9.90 | 594 | 6.850 | 0.010 | 0.125 |
| *10-Nov-07* | *Start* | | *6.86* | | |
| 10:44:22 AM | 0.00 | 0 | 6.760 | 0.100 | 1.000 |
| 10:44:24 AM | 0.03 | 2 | 6.780 | 0.080 | 0.800 |
| 10:44:30 AM | 0.13 | 8 | 6.800 | 0.060 | 0.600 |
| 10:44:36 AM | 0.23 | 14 | 6.810 | 0.050 | 0.500 |
| 10:44:47 AM | 0.42 | 25 | 6.820 | 0.040 | 0.400 |
| 10:45:00 AM | 0.63 | 38 | 6.830 | 0.030 | 0.300 |
| 10:45:57 AM | 1.58 | 95 | 6.840 | 0.020 | 0.200 |
| 10:46:46 AM | 2.40 | 144 | 6.845 | 0.015 | 0.150 |
| 10:53:22 AM | 9.00 | 540 | 6.850 | 0.010 | 0.100 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 2.286 |
| R (m) = | 0.041 |
| $T_o$ (sec) = | 28 |
| K (m/s) = | 7.92E-06 |




Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37

**Recovery Testing - Hvorslev Method (1951)**

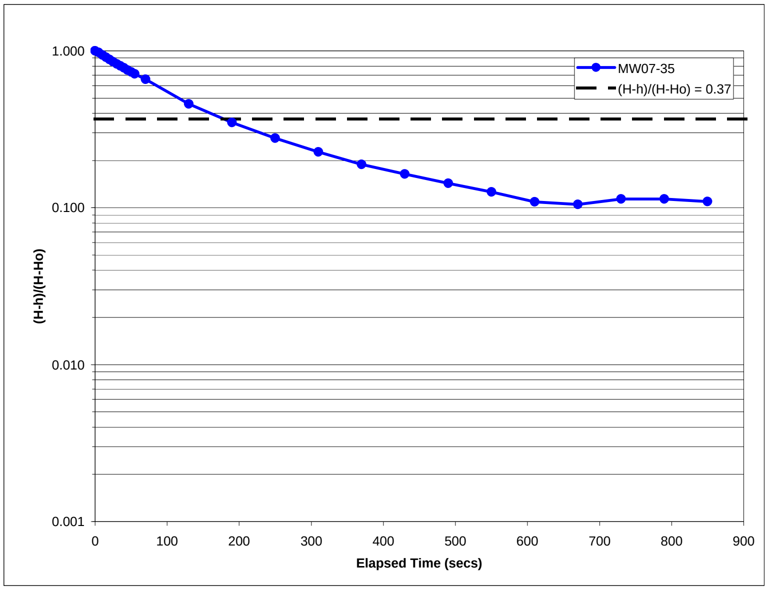
**Datalogger Measurements**

| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | | MW07-35 | | | |
| | *Start* | | 113.263 | | |
| | 0.00 | 0 | 105.846 | 7.417 | 1.000 |
| | 0.08 | 5 | 106.034 | 7.229 | 0.975 |
| | 0.17 | 10 | 106.285 | 6.978 | 0.941 |
| | 0.25 | 15 | 106.505 | 6.758 | 0.911 |
| | 0.33 | 20 | 106.724 | 6.539 | 0.882 |
| | 0.42 | 25 | 106.944 | 6.319 | 0.852 |
| | 0.50 | 30 | 107.132 | 6.131 | 0.827 |
| | 0.58 | 35 | 107.32 | 5.943 | 0.801 |
| | 0.67 | 40 | 107.477 | 5.786 | 0.780 |
| | 0.75 | 45 | 107.665 | 5.598 | 0.755 |
| | 0.83 | 50 | 107.822 | 5.441 | 0.734 |
| | 0.92 | 55 | 107.978 | 5.285 | 0.713 |
| | 1.17 | 70 | 108.386 | 4.877 | 0.658 |
| | 2.17 | 130 | 109.86 | 3.403 | 0.459 |
| | 3.17 | 190 | 110.674 | 2.589 | 0.349 |
| | 4.17 | 250 | 111.206 | 2.057 | 0.277 |
| | 5.17 | 310 | 111.58 | 1.683 | 0.227 |
| | 6.17 | 370 | 111.861 | 1.402 | 0.189 |
| | 7.17 | 430 | 112.048 | 1.215 | 0.164 |
| | 8.17 | 490 | 112.204 | 1.059 | 0.143 |
| | 9.17 | 550 | 112.328 | 0.935 | 0.126 |
| | 10.17 | 610 | 112.453 | 0.810 | 0.109 |
| | 11.17 | 670 | 112.483 | 0.780 | 0.105 |
| | 12.17 | 730 | 112.419 | 0.844 | 0.114 |
| | 13.17 | 790 | 112.418 | 0.845 | 0.114 |
| | 14.17 | 850 | 112.45 | 0.813 | 0.110 |

All Waterlevels are in m from top of pipe (top)

| | |
|---|---|
| r (m) = | 0.016 |
| L (m) = | 0.940 |
| R (m) = | 0.076 |
| $T_o$ (sec) = | 178 |
| K (m/s) = | 1.89E-06 |

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

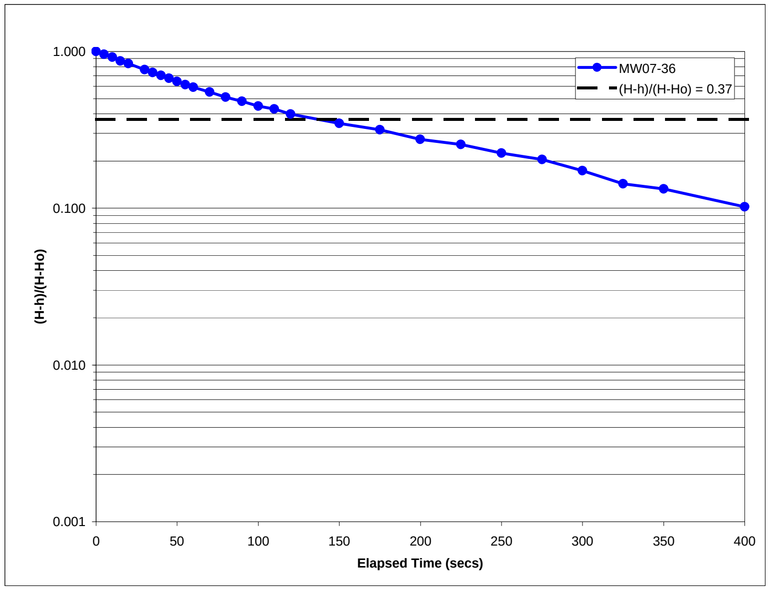
| | | MW07-36 | | | |
|---|---|---|---|---|---|
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Pressure (kPa) | H-h | (H-h)/(H-Ho) |
| | *Start* | | 8.217 | | |
| | 0.00 | 0 | 8.119 | 0.098 | 1.000 |
| | 0.08 | 5 | 8.123 | 0.094 | 0.959 |
| | 0.17 | 10 | 8.127 | 0.090 | 0.918 |
| | 0.25 | 15 | 8.132 | 0.085 | 0.867 |
| | 0.33 | 20 | 8.135 | 0.082 | 0.837 |
| | 0.50 | 30 | 8.142 | 0.075 | 0.765 |
| | 0.58 | 35 | 8.145 | 0.072 | 0.735 |
| | 0.67 | 40 | 8.148 | 0.069 | 0.704 |
| | 0.75 | 45 | 8.151 | 0.066 | 0.673 |
| | 0.83 | 50 | 8.154 | 0.063 | 0.643 |
| | 0.92 | 55 | 8.157 | 0.060 | 0.612 |
| | 1.00 | 60 | 8.159 | 0.058 | 0.592 |
| | 1.17 | 70 | 8.163 | 0.054 | 0.551 |
| | 1.33 | 80 | 8.167 | 0.050 | 0.510 |
| | 1.50 | 90 | 8.17 | 0.047 | 0.480 |
| | 1.67 | 100 | 8.173 | 0.044 | 0.449 |
| | 1.83 | 110 | 8.175 | 0.042 | 0.429 |
| | 2.00 | 120 | 8.178 | 0.039 | 0.398 |
| | 2.50 | 150 | 8.183 | 0.034 | 0.347 |
| | 2.92 | 175 | 8.186 | 0.031 | 0.316 |
| | 3.33 | 200 | 8.19 | 0.027 | 0.276 |
| | 3.75 | 225 | 8.192 | 0.025 | 0.255 |
| | 4.17 | 250 | 8.195 | 0.022 | 0.224 |
| | 4.58 | 275 | 8.197 | 0.020 | 0.204 |
| | 5.00 | 300 | 8.2 | 0.017 | 0.173 |
| | 5.42 | 325 | 8.203 | 0.014 | 0.143 |
| | 5.83 | 350 | 8.204 | 0.013 | 0.133 |
| | 6.67 | 400 | 8.207 | 0.010 | 0.102 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.067
R (m) = 0.076
$T_o$ (sec) = 115

K (m/s) = 2.71E-06

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



**Recovery Testing - Hvorslev Method (1951)**

**Datalogger Measurements**

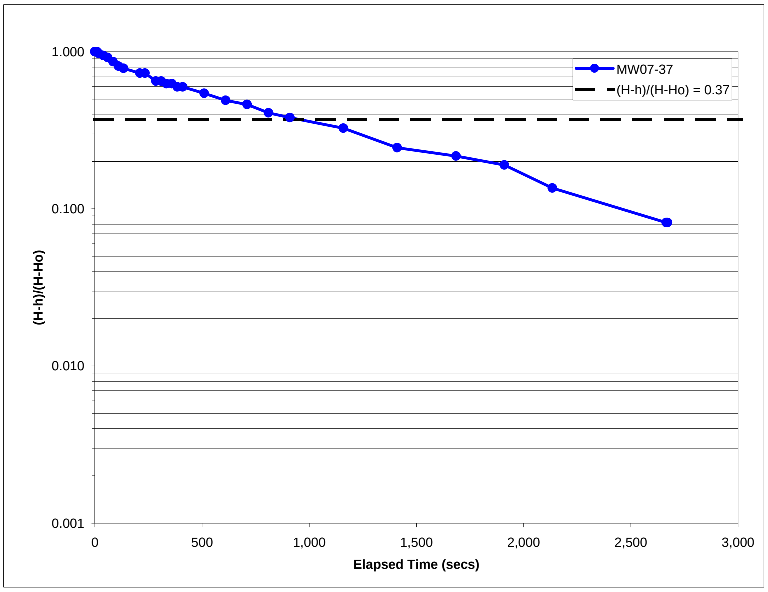
| Time | Elapsed Time (mins) | Elapsed Time (sec) | Absolute Pressure (kPa) | H-h | (H-h)/(H-Ho) |
|---|---|---|---|---|---|
| | MW07-37 | | | | |
| | *Start* | | 123.179 | | |
| | 0.00 | 0 | 122.028 | 1.151 | 1.000 |
| | 0.17 | 10 | 122.028 | 1.151 | 1.000 |
| | 0.33 | 20 | 122.059 | 1.120 | 0.973 |
| | 0.67 | 40 | 122.090 | 1.089 | 0.946 |
| | 1.00 | 60 | 122.120 | 1.059 | 0.920 |
| | 1.42 | 85 | 122.183 | 0.996 | 0.865 |
| | 1.83 | 110 | 122.245 | 0.934 | 0.811 |
| | 2.25 | 135 | 122.275 | 0.904 | 0.785 |
| | 3.50 | 210 | 122.337 | 0.842 | 0.732 |
| | 3.92 | 235 | 122.337 | 0.842 | 0.732 |
| | 4.75 | 285 | 122.430 | 0.749 | 0.651 |
| | 5.17 | 310 | 122.430 | 0.749 | 0.651 |
| | 5.58 | 335 | 122.460 | 0.719 | 0.625 |
| | 6.00 | 360 | 122.460 | 0.719 | 0.625 |
| | 6.42 | 385 | 122.492 | 0.687 | 0.597 |
| | 6.83 | 410 | 122.492 | 0.687 | 0.597 |
| | 8.50 | 510 | 122.554 | 0.625 | 0.543 |
| | 10.17 | 610 | 122.615 | 0.564 | 0.490 |
| | 11.83 | 710 | 122.647 | 0.532 | 0.462 |
| | 13.50 | 810 | 122.708 | 0.471 | 0.409 |
| | 15.17 | 910 | 122.740 | 0.439 | 0.381 |
| | 19.33 | 1,160 | 122.803 | 0.376 | 0.327 |
| | 23.50 | 1,410 | 122.897 | 0.282 | 0.245 |
| | 28.08 | 1,685 | 122.929 | 0.250 | 0.217 |
| | 31.83 | 1,910 | 122.960 | 0.219 | 0.190 |
| | 35.58 | 2,135 | 123.023 | 0.156 | 0.136 |
| | 44.43 | 2,666 | 123.085 | 0.094 | 0.082 |
| | 44.52 | 2,671 | 123.085 | 0.094 | 0.082 |

All Waterlevels are in m from top of pipe (top)

r (m) = 0.016
L (m) = 1.070
R (m) = 0.076
$T_o$ (sec) = 950

K (m/s) = 3.28E-07

Note:
1 - Because of rock drilling, R is radius of sand pack
2 - $T_o$ is determined from plots where (H-h)/(H-Ho) = 0.37



EcoMetrix INCORPORATED

# APPENDIX G

## Geophysics Survey (Dillon Consulting, 2006)

***Report on the Geophysical Surveys Conducted at 140 Boundary Road Pembroke, Ontario***

***November, 2006***

***Submitted to:***

***SRB Technologies (Canada) Inc.***

***Submitted by:***

***Dillon Consulting Limited***
***5 Cherry Blossom Road, Unit 1***
***Cambridge, Ontario***
***N3H 4R7***

***Project No.: 06-6951***

DILLON CONSULTING

5 Cherry Blossom Rd.
Cambridge
Ontario, Canada
N3H 4R7
Telephone
(519) 650-9833
Fax
(519) 650-7424

November 7, 2006

SRB Technologies (Canada) Inc.
140 Boundary Road, Unit 320
Pembroke, Ontario
K8A 6W5

Tel. 613-732-0055
Fax. 613-732-0056

Attention: Mr. Stephane Levesque:

**Report on the Geophysical Surveys Conducted at 140 Boundary Road, Pembroke, Ontario**

Please find enclosed the above referenced report.

Yours Sincerely,

**DILLON CONSULTING LIMITED**

Darren Mortimer, P.Eng., P.Geoph.
Project Manager / Geophysicist

cc: EcoMetrix Inc. Brampton, Ontario

DM/kp

**Our File: 06-6951**

## TABLE OF CONTENTS



## FIGURES

## 1 Introduction

Dillon Consulting Limited (Dillon) was retained by SRB Technologies (Canada) Inc. (SRB) of Pembroke, Ontario under the direction of EcoMetrix Inc. to conduct a geophysical survey at 140 Boundary Road, Pembroke, Ontario.

## 2 Scope of Work

The survey was undertaken to geophysically map the bedrock surface at the site and on the adjoining property to the north. A galvanic resistivity survey was used for this assessment. An EcoMetrix representative on site identified the location of the survey lines. The data were collected from October 23 to 25, 2006.

## 3 Equipment and Theory

The ease with which electrical currents can be passed through a material, its "resistivity", can often be used to identify variations in earth materials. The electrical properties of the ground can be assessed using galvanic resistivity measurements. In general, sand and gravel overburden have resistivity values ranging from 100 to 1000 ohm·metres while silts and clays will be in the order of 10 to 100 ohm·metres. Compact till units will have a low interconnected porosity and, therefore, high resistivity levels. Bedrock resistivities are typically greater than 1000 ohm·metres for granite and limestone/dolostone. The resistivity of shale depends largely on the degree of weathering and the chemistry of the groundwater; as a general rule, the shallow weathered portion of shale will have very low resistivity values, similar to those observed for clays. Factors such as varying degrees of saturation, compaction, anomalous porosity, and mineralogy can cause bulk material resistivity values to vary widely. Notably, resistivity values will tend to decrease with increasing porosity and porewater conductivity.

An electrical resistivity survey involves the creation of current (I) flow between two electrodes in the ground (Figure 1). The formula to calculate penetration depth of the current is complex, but it is mainly a function of electrode spacing and the resistivity of the ground. As the current electrodes are moved farther apart from a fixed point, the sampled volume/depth increases. Two other electrodes are used to measure the potential difference (V) created by the current flow, and the two values are used to calculate an apparent resistivity ($\rho = K\Delta V/I$) for the volume being sampled. The factor, "K", is used in the equation to account for the geometry. There are several electrode configurations possible. In a Wenner configuration, the distance between successive electrodes is the same for any given reading.

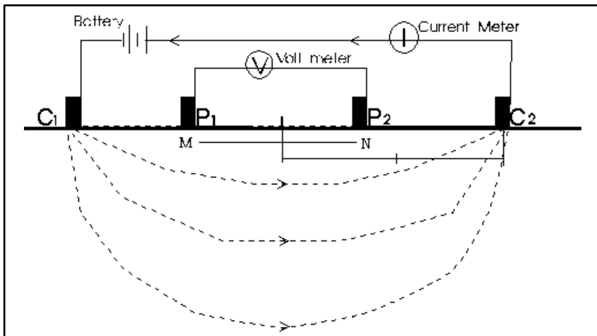



**Figure 1:** Schematic of electrical

## 4 Field Procedures

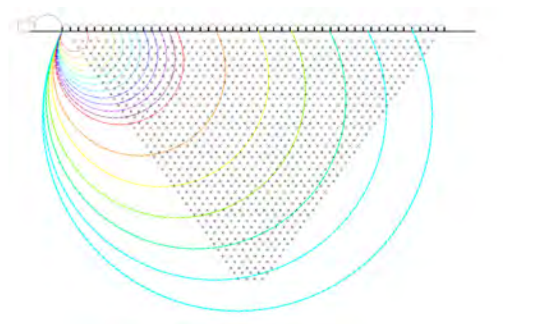


**Figure 2:** Example of multi-electrode sampling

The field data were collected using a multi-electrode resistivity meter manufactured by Iris Instruments Limited of Orleans, France. Forty-eight electrodes were placed in the ground at any one time. Due to site access restrictions, a 3-metre electrode spacing was used in the vicinity of the buildings at 140 Boundary Road (Lines 1 and 2). A 4-metre electrode spacing was used for the remainder of the survey area allowing for a deeper penetration. At each setup the instrument sequenced through 360 combinations of electrodes (Wenner arrays) with progressively deeper penetration (shown schematically in Figure 2). The data is stored internally and later transferred to a portable computer for processing. The survey lines were located using a differential global positioning system (DGPS) and are shown on Figure 3.

## 5 Data Processing And Presentation

Upon completion of the survey, the data were transferred to a portable computer. The resistivity data was then used to calculate a two-dimensional model of the subsurface. The modelling was completed using the "Res2DInv" software developed by Dr. M.H. Loke[1].

The software uses an iterative process combining a non-linear least-squares optimization technique with a finite difference forward modelling. The subsurface is approximated as a series of blocks of varying size ranging from ½A (1.5-2 metres) at the ground surface and increasing by 25 percent with depth. The resistivity of each block is iteratively adjusted to minimize the difference between the theoretical model response and the actual field observations. The program can also be instructed to account for variations in surface topography. The fit between the model results and the survey data was good to excellent (Root Mean Squared "RMS" Errors 5.4 to 1.7%). The final results of the modelling process were plotted using *Oasis Montaj*® and *AutoCAD*®. The model results are presented as sections on Figure 4.

## 6 Interpretation of the Results

The results of the resistivity modelling are presented in Figure 4. The interpreted bedrock surface (dark line) is overlain on the sections on Figure 4. In the resistivity data, a silty clay to silty sand overburden will manifest as zones of relatively low resistivity while the granitic bedrock will have a relatively high resistivity.

---

[1] Loke D.H. Res2dinv – Rapid 2D Resistivity and IP inversion v3.55.

The quality of the data was generally good to excellent and exhibited little noise. The only exception to this was the line (Line 2) running east-west along the rear (south) of the building where some noise was noted in the data.

Below are brief descriptions of the results from each line.

**Line 1**: The bedrock is interpreted to exist at a depth of approximately 6 metres for most of line. At the northern end of the line [95- 144 metres] the surface is interpreted to rapidly dip down below the extent of the section (16 metres). The resistivity variations correlate well with the drill log of MW06-9 (provided by EcoMetrix) in that the upper 3 metres have relatively lower resistivity indicating a higher clay/silt content when compared the material from 3-5 metres deep.

**Line 2**: The data quality from Line 2 suffers from cultural noise; at the near western end of the line a hydro transformer was existed approximately 20 metres south of the line. However, through the central portion of the line, similar to Line 1, the bedrock is interpreted to exist at approximately 6 metres depth.

**Line 3 / 4**: This line extends along the ditch north of Boundary Road. For a majority of the line the bedrock is interpreted to exist at 4 to 6 metres depth. At 340 metres along the line the bedrock surface is interpreted to descend downward and is beyond the limit of the section (30 metres) at 380 metres along the line.

The data from Lines 1, and 3 / 4 indicate that a depression or valley may extend beyond the western extent of survey area along Boundary Road.

**Line 5**: The bedrock surface is interpreted to be at a depth of approximately 5 metres for the length of the line.

**Line 6**: A large depression (valley) is interpreted to exist along Line 6. The depression extends below the limit of the section (30 metres) from 90 to 177 metres along the line. East of the depression the bedrock is interpreted to be at a depth of approximately 10 metres; west of the large valley the depth is interpreted to be approximately 4 metres. A small depression or potentially, an open fracture may exist west of the valley from 210 to 232 metres along the line. Within the large depression, from 127 to 166 metres along the line, a shallow zone of high resistivity exists from a depth of 4 to 13 metres. This zone is interpreted to be a bedrock block (for example a glacial erratic), potentially coarse-grained material or a series of large boulders.

**Line 7**: The bedrock is interpreted to exist at a depth of approximately 6 to 8 metres for most of the line. At the western end there is a weak indication that the surface dips downward.

**Line 8**: As is the case for most of the lines, the bedrock surface is interpreted at a depth of approximately 6 metres along most of Line 8. However, along Line 8 there are two local depressions, a slight one (of approximately 3 metres) between 100 and 140 metres along the line and another (of approximate 8 metres) from 210 to 258 metres.

The large valley observed along Line 6 may be connected to the smaller depressions noted on Lines 7 and 8. However, based on the current data set there does not appear to be a strong indication that it is connected with the depression noted along Boundary Road in Lines 1 and 3 / 4.

## 7 Conclusion

The resistivity survey has successfully mapped bedrock the surface near 140 Boundary Road. The quality of most of the resistivity data is considered good to excellent. Along the majority of the survey lines the bedrock is interpreted to exist at a depth of 4 to 8 metres. Along Boundary Road at the western extent of the survey, a bedrock valley/depression may potentially exist. In addition, a large valley or depression is interpreted to exist beneath the property south of Boundary Road.

## 8 Limitations of Report

Dillon Consulting Limited prepared this report for SRB Technologies (Canada) Inc. The material in this report reflects Dillon's judgement in context of the information available at the time of preparation. This report is based on data and information collected during the investigation conducted by Dillon personnel and is based solely on the conditions of the property at the time of the site reconnaissance, as described in this report. No intrusive or direct sampling was conducted as part of this survey.

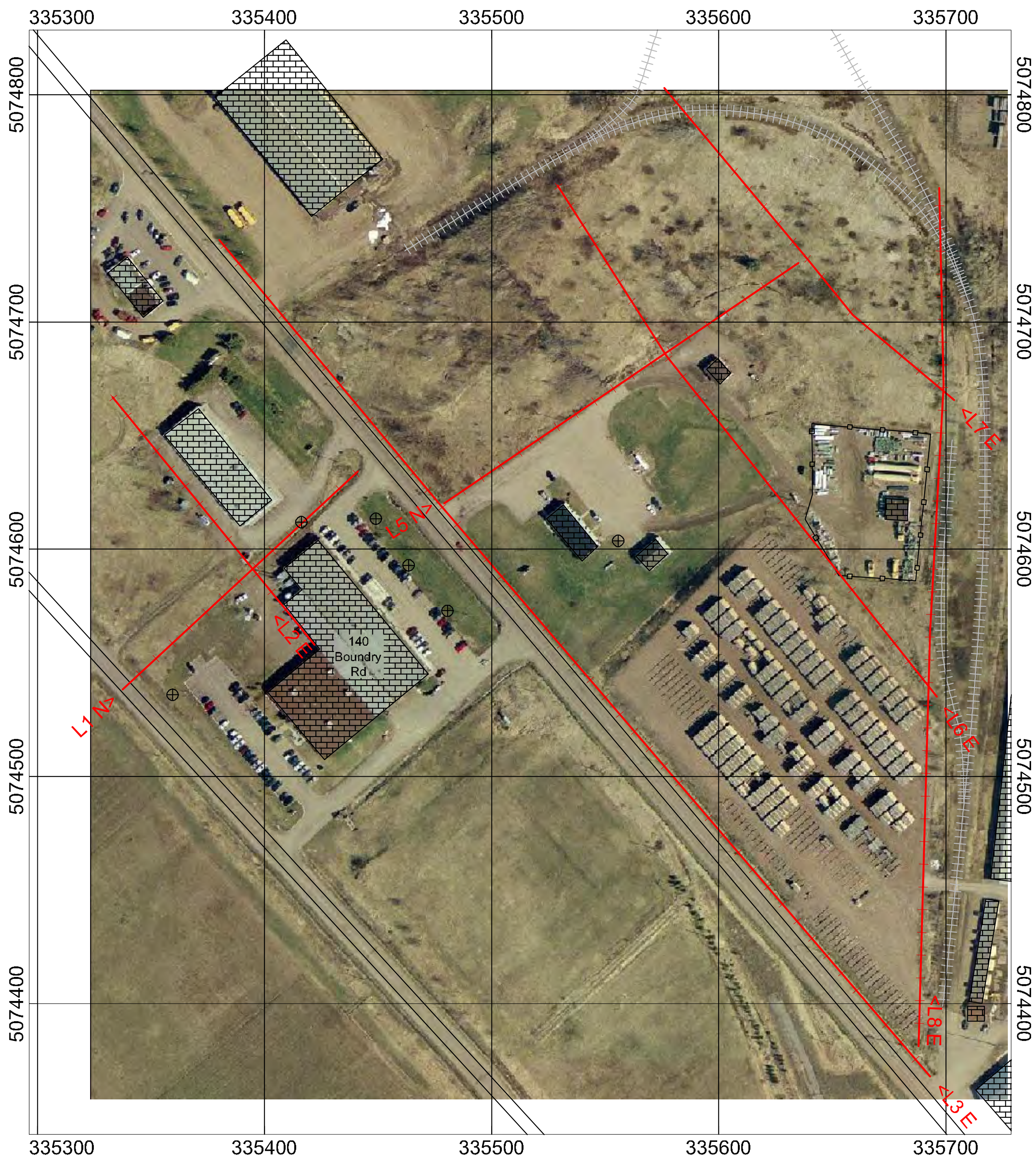
Any use that a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibilities of such third parties. Dillon accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report.

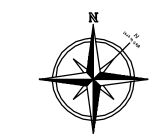
Dillon makes no warranty, expressed or implied, and assumes no liability with respect to the use of information contained within this report. No changes to the report form or content may be made without Dillon's written approval.

**DILLON CONSULTING LIMITED**

Darren Mortimer, P.Eng., P.Geoph.
Geophysicist

# FIGURES




## Legend

- survey line
- fence
- building
- road
- abandoned rail line
- borehole

Scale 1:2500

25 0 25 50 75 100 125 150

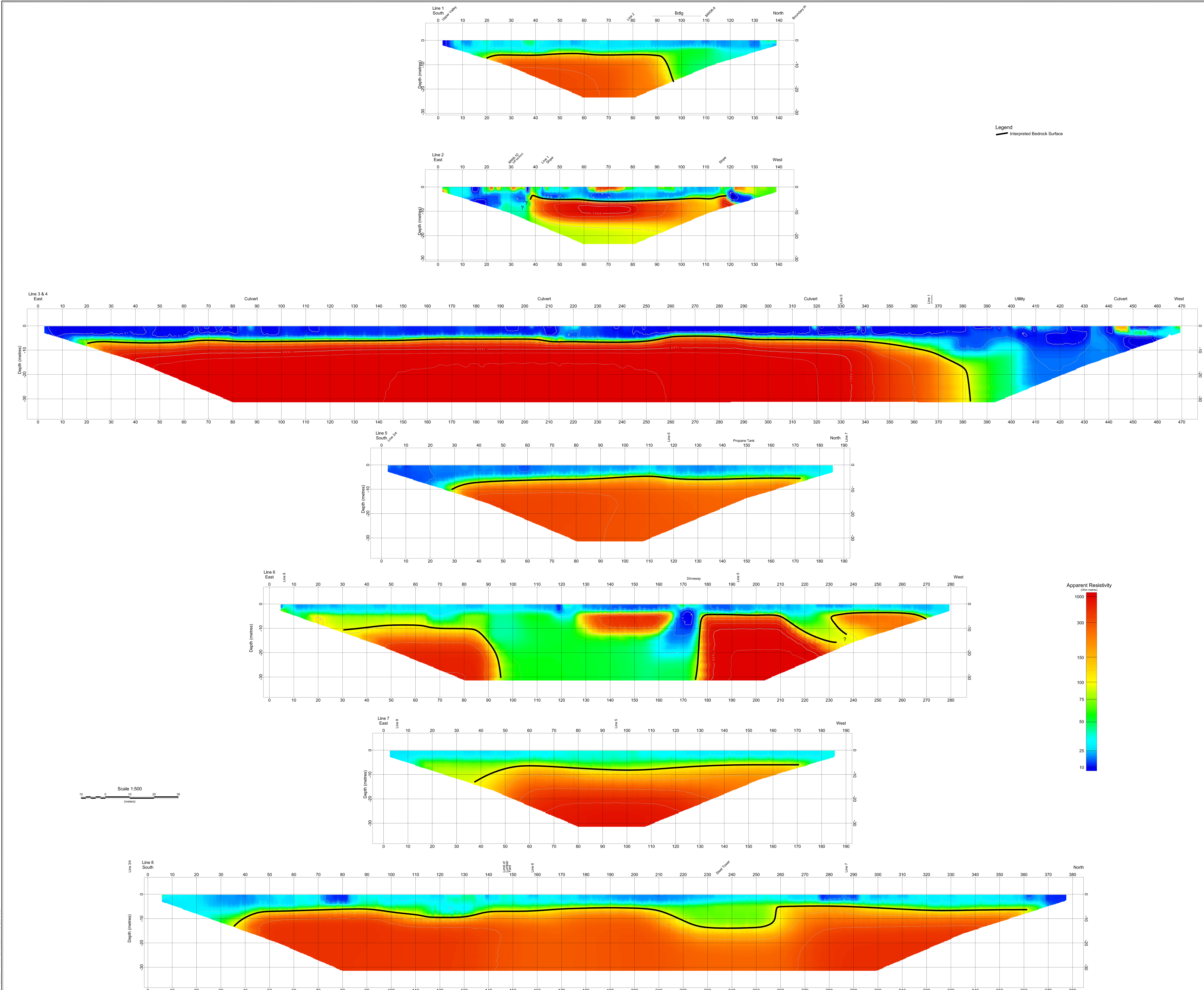
(meters)

UTM 18N NAD83

| | | |
|---|---|---|
| DILLON CONSULTING | TITLE: Resistivity Survey Lines | PROJECT NO. 06-6951 |
| | SITE: 140 Boundary Road<br>Pembroke, Ontario | SCALE: 1:2500<br>SURVEY DATE: 23-25 October 2006<br>INSTRUMENT: Syscal |
| | CLIENT: SRB Technologies (Canada) Inc. | FIGURE NO. 3 |

Note: This diagram must be used with and in the context of the accompanying geophysical report. Air photo copyright City of Pembroke.

Plotted: Nov 06, 2006 – 11:09am File: G:\GEO\066951 Pembroke Resistivity\Dwg\SRB-PlanMap.dwg Layout: B-sheet




| TITLE: | Resistivity Model Sections and Interpretation | PROJECT NO. | 06-6951 |
|---|---|---|---|
| SITE: | 140 Boundary Road, Pembroke, Ontario | SCALE: | 1:500 |
| | | SURVEY DATE: | 23 - 25 October 2006 |
| | | INSTRUMENT: | Syscal |
| CLIENT: | SRB Technologies (Canada) Inc. | FIGURE NO. | 4 |

DILLON CONSULTING

Note: This diagram must be used with and in the context of the accompanying geophysical report. Base drawing provided by XX

Plotted: Nov 06, 2006 – 11:24am File: G:\GEO\066951 Pembr

EcoMetrix INCORPORATED

# APPENDIX H

## Compilation of Water Level Measurements

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW06-1** | **MW06-2** | **MW06-3** | **MW06-4S** | **MW06-4D** | **MW06-5** | **MW06-7** | **MW06-8** | **MW06-9** | **MW06-10** | **MW07-11** |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 10-Jan-06 | | | | | | | | | | | |
| 11-Jan-06 | | | | | | | | | | | |
| 12-Jan-06 | 128.60 | | 127.82 | | | | | | | | |
| 13-Jan-06 | | | | 131.35 | 120.91 | 131.08 | 125.47 | | | | |
| 16-Jan-06 | 128.77 | 127.98 | 128.36 | 131.64 | 121.58 | 132.53 | 125.78 | | | | |
| 17-Jan-06 | 128.72 | 127.92 | 128.37 | 131.62 | 121.77 | 133.68 | 125.81 | | | | |
| 18-Jan-06 | 128.79 | 127.93 | 128.40 | 131.62 | 121.94 | 134.31 | 125.85 | | | | |
| 19-Jan-06 | 128.77 | 127.88 | 128.29 | 131.56 | 122.11 | 134.53 | 125.80 | | | | |
| 20-Jan-06 | 128.74 | 127.84 | 128.26 | 131.58 | 122.57 | 134.69 | 125.79 | | | | |
| 23-Jan-06 | 128.68 | 127.76 | 128.15 | 131.59 | 124.33 | 134.81 | 125.73 | | | | |
| 24-Jan-06 | 128.66 | 127.77 | 128.14 | 131.60 | 124.75 | 134.85 | 125.72 | | | | |
| 25-Jan-06 | 128.61 | 127.70 | 128.11 | 131.54 | 125.07 | 134.80 | 125.66 | | | | |
| 26-Jan-06 | 128.56 | 127.62 | 128.01 | 131.50 | 125.32 | 134.72 | 125.59 | | | | |
| 27-Jan-06 | 128.55 | 127.67 | 127.95 | 131.50 | 125.60 | 134.74 | 125.57 | | | | |
| 01-Feb-06 | 128.55 | 127.59 | 127.84 | 131.40 | 126.36 | 134.67 | 124.43 | | | | |
| 14-Feb-06 | 128.58 | 127.71 | 128.10 | 131.45 | 126.83 | 134.73 | 125.54 | | | | |
| 23-Feb-06 | 128.36 | 127.55 | 127.77 | 131.25 | 126.89 | 134.54 | 125.30 | | | | |
| 20-Jul-06 | 128.95 | 127.99 | 127.84 | | | | | | | | |
| 21-Jul-06 | 128.98 | 127.99 | 127.84 | | | | | | | | |
| 24-Jul-06 | 128.86 | 127.86 | 127.75 | | | | | | | | |
| 25-Jul-06 | 128.98 | 127.99 | 127.72 | | | | | | | | |
| 26-Jul-06 | 128.92 | 127.99 | 127.69 | | | | | | | | |
| 27-Jul-06 | 129.04 | 128.02 | 127.69 | | | | | | | | |
| 28-Jul-06 | 128.98 | 128.02 | 127.69 | | | | | | | | |
| 31-Jul-06 | 128.86 | 127.99 | 127.69 | | | | | | | | |
| 01-Aug-06 | 129.01 | 128.00 | 127.68 | | | | | | | | |
| 02-Aug-06 | 128.95 | 127.99 | 127.66 | | | | | | | | |
| 04-Aug-06 | 129.56 | 128.26 | 130.16 | | | | | | | | |
| 08-Aug-06 | 129.01 | 128.29 | 129.19 | | | | | | | | |
| 09-Aug-06 | 129.01 | 128.26 | 129.00 | | | | | | | | |
| 10-Aug-06 | 128.98 | 128.23 | 128.82 | | | | | | | | |
| 14-Aug-06 | 128.92 | 128.11 | 128.33 | | | | | | | | |
| 16-Aug-06 | 128.83 | 128.02 | 128.09 | | | | | | | | |
| 18-Aug-06 | 128.80 | 128.02 | 127.97 | | | | | | | | |
| 21-Aug-06 | 129.10 | 128.05 | 128.30 | | | | | | | | |
| 22-Aug-06 | 129.01 | 128.08 | 128.30 | | | | | | | | |
| 23-Aug-06 | 128.98 | 128.05 | 128.21 | | | | | | | | |
| 24-Aug-06 | 128.95 | 128.05 | 128.15 | | | | | | | | |
| 25-Aug-06 | 128.92 | 128.02 | 128.06 | | | | | | | | |
| 29-Aug-06 | 129.07 | 127.99 | 128.30 | | | | | | | | |
| 30-Aug-06 | 129.01 | 127.96 | 128.24 | | | | | | | | |
| 31-Aug-06 | 128.95 | 127.96 | 128.12 | | | | | | | | |
| 01-Sep-06 | 128.95 | 127.92 | 128.06 | | | | | | | | |
| 05-Sep-06 | 129.13 | 128.23 | 128.61 | | | | | | | | |
| 06-Sep-06 | 129.07 | 128.23 | 128.55 | | | | | | | | |
| 07-Sep-06 | 129.04 | 128.14 | 128.42 | | | | | | | | |
| 08-Sep-06 | 129.01 | 128.26 | 128.36 | | | | | | | | |
| 11-Sep-06 | 128.95 | 128.02 | 128.06 | | | | | | | | |
| 12-Sep-06 | 128.95 | 128.05 | 128.03 | | | | | | | | |
| 13-Sep-06 | 128.92 | 128.05 | 128.00 | | | | | | | | |
| 13-Sep-06 | 128.95 | 128.05 | 128.00 | | | | | | | | |
| 13-Sep-06 | 129.01 | 128.05 | 127.97 | | | | | | | | |
| 13-Sep-06 | 129.10 | 127.77 | 127.97 | | | | | | | | |
| 14-Sep-06 | 129.13 | 127.89 | 127.54 | | | | | | | | |
| 14-Sep-06 | 129.16 | 127.89 | 127.60 | | | | | | | | |
| 14-Sep-06 | 129.13 | 127.92 | 127.66 | | | | | | | | |
| 14-Sep-06 | 129.13 | 127.89 | 127.69 | | | | | | | | |
| 14-Sep-06 | 129.10 | 127.92 | 127.75 | | | | | | | | |
| 15-Sep-06 | 129.07 | 128.02 | 127.87 | | | | | | | | |
| 18-Sep-06 | 128.98 | 128.05 | 128.06 | | | | | | | | |
| 18-Sep-06 | 128.98 | 128.08 | 128.06 | | | | | | | | |
| 19-Sep-06 | 129.47 | 128.53 | 129.67 | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW06-1 | MW06-2 | MW06-3 | MW06-4S | MW06-4D | MW06-5 | MW06-7 | MW06-8 | MW06-9 | MW06-10 | MW07-11 |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 19-Sep-06 | 129.47 | 128.56 | 129.95 | | | | | | | | |
| 19-Sep-06 | 129.44 | 128.60 | 130.04 | | | | | | | | |
| 19-Sep-06 | 129.44 | 128.66 | 130.07 | | | | | | | | |
| 19-Sep-06 | 129.41 | 128.75 | 130.07 | | | | | | | | |
| 20-Sep-06 | 129.28 | 128.66 | 129.95 | | | | | | | | |
| 21-Sep-06 | 129.16 | 128.56 | 129.70 | | | | | | | | |
| 22-Sep-06 | 129.13 | | 129.52 | | | | | 124.12 | 125.43 | 129.19 | |
| 25-Sep-06 | | | | | | | | | | | |
| 26-Sep-06 | 129.21 | 128.66 | 130.08 | | | | | 126.75 | 126.40 | 129.48 | |
| 27-Sep-06 | 129.17 | 128.61 | 129.90 | | | | | 126.18 | 126.08 | 129.45 | |
| 28-Sep-06 | 129.32 | 128.81 | 130.00 | | | | | 127.30 | 126.50 | 129.53 | |
| 29-Sep-06 | 129.26 | 128.70 | 130.03 | | | | | 127.825 | 126.925 | 129.52 | |
| 02-Oct-06 | 129.21 | 128.61 | 129.78 | | | | | 128.305 | 128.42 | 129.44 | |
| 03-Oct-06 | 129.17 | 128.55 | 129.74 | | | | | 128.35 | 128.7 | 129.41 | |
| 04-Oct-06 | 129.23 | 128.53 | 129.65 | | | | | 128.345 | 128.91 | 129.40 | |
| 05-Oct-06 | 129.25 | 128.63 | 129.80 | | | | | 128.355 | 129.07 | 129.44 | |
| 06-Oct-06 | 129.18 | 128.56 | 129.78 | | | | | 128.365 | 129.195 | 129.42 | |
| 10-Oct-06 | 129.07 | 128.37 | 129.35 | | | | | 128.29 | 129.405 | 129.25 | |
| 11-Oct-06 | 129.19 | 128.36 | 129.28 | | | | | 128.275 | 129.425 | 129.25 | |
| 12-Oct-06 | 129.25 | 128.41 | 129.29 | | | | | 128.295 | 129.445 | 129.31 | |
| 13-Oct-06 | 129.18 | 128.36 | 129.34 | | | | | 125.2 | 125.74 | 129.31 | |
| 13-Oct-06 | 126.00 | 124.91 | 127.29 | | | | | 123.85 | 125.51 | 124.17 | |
| 16-Oct-06 | 129.06 | 128.32 | 129.18 | | | | | 128.03 | 127.63 | 129.15 | |
| 17-Oct-06 | 129.07 | 128.31 | 129.12 | | | | | 128.01 | 127.78 | 129.12 | |
| 17-Oct-06 | 129.16 | 128.30 | 129.13 | | | | | 128.06 | 127.78 | 129.11 | |
| 18-Oct-06 | 129.39 | 128.80 | 130.23 | | | | | 128.23 | 128.23 | 129.51 | |
| 18-Oct-06 | 129.37 | 128.80 | 130.26 | | | | | 128.26 | 128.38 | 129.53 | |
| 19-Oct-06 | 129.28 | 128.69 | 130.22 | | | | | 128.38 | 128.74 | 129.58 | |
| 20-Oct-06 | 129.24 | 128.638 | 130.112 | | | | | 128.41 | 128.99 | 129.557 | |
| 23-Oct-06 | 129.42 | 128.97 | 130.51 | | | | | 128.40 | 128.30 | 129.71 | |
| 24-Oct-06 | 129.33 | 128.80 | 130.45 | | | | | 128.49 | 129.44 | 129.76 | |
| 25-Oct-06 | 129.29 | 128.78 | 130.44 | | | | | 128.50 | 129.43 | 129.74 | |
| 26-Oct-06 | 129.24 | 128.59 | 130.45 | | | | | 128.47 | 129.56 | 129.67 | |
| 27-Oct-06 | 129.23 | 128.53 | 130.17 | | | | | 128.43 | 129.60 | 129.63 | |
| 30-Oct-06 | 129.32 | 128.70 | 130.56 | | | | | 128.59 | 129.74 | 129.89 | |
| 31-Oct-06 | 129.29 | 128.68 | 130.44 | | | | | 128.60 | 129.75 | 129.87 | |
| 01-Nov-06 | 129.27 | 128.53 | 130.43 | | | | | 128.70 | 129.78 | 129.79 | |
| 02-Nov-06 | 129.24 | 128.47 | 130.33 | | | | | 128.45 | 129.77 | 129.75 | |
| 03-Nov-06 | 129.19 | 128.41 | 130.23 | | | | | 128.43 | 129.75 | 129.68 | |
| 06-Nov-06 | 129.14 | 128.29 | 129.99 | | | | | 128.33 | 129.72 | 129.57 | |
| 07-Nov-06 | 129.13 | 128.28 | 129.93 | | | | | 128.33 | 129.71 | 129.55 | |
| 08-Nov-06 | 129.21 | 128.29 | 129.88 | | | | | 128.33 | 129.70 | 129.56 | |
| 08-Nov-06 | 129.23 | 128.29 | 129.89 | | | | | 128.33 | 129.70 | 129.57 | |
| 08-Nov-06 | 129.23 | 128.30 | 129.89 | | | | | 128.33 | 129.70 | 129.57 | |
| 09-Nov-06 | 129.21 | 128.34 | 129.89 | | | | | 128.37 | 129.71 | 129.57 | |
| 09-Nov-06 | 129.20 | 128.33 | 129.88 | | | | | 128.37 | 129.70 | 129.57 | |
| 10-Nov-06 | 129.35 | 128.34 | 129.89 | | | | | 128.37 | 129.70 | 129.57 | |
| 13-Nov-06 | 129.19 | 128.49 | 130.04 | | | | | 128.38 | 129.67 | 129.56 | |
| 14-Nov-06 | 129.19 | 128.49 | 130.04 | | | | | 128.38 | 129.67 | 129.56 | |
| 15-Nov-06 | 129.29 | 128.72 | 130.47 | | | | | 127.91 | 126.80 | 129.78 | |
| 16-Nov-06 | 129.53 | 129.11 | 130.99 | | | | | 128.02 | 127.06 | 129.91 | |
| 17-Nov-06 | 129.44 | 129.08 | 130.74 | | | | | 128.50 | 127.99 | 130.09 | |
| 20-Nov-06 | 129.26 | 128.58 | 130.55 | | | | | 128.57 | 129.32 | 129.93 | |
| 21-Nov-06 | 129.23 | 128.50 | 130.44 | | | | | 128.52 | 129.50 | 129.85 | |
| 22-Nov-06 | 129.22 | 128.48 | 130.41 | | | | | 128.51 | 129.50 | 129.82 | |
| 23-Nov-06 | 129.37 | 128.37 | 130.21 | | | | | 128.63 | 129.69 | 129.78 | |
| 24-Nov-06 | 129.14 | 128.32 | 130.19 | | | | | 128.40 | 129.73 | 129.73 | |
| 27-Nov-06 | 129.15 | 128.31 | 130.07 | | | | | 128.39 | 129.73 | 129.70 | |
| 28-Nov-06 | 129.19 | 128.28 | 130.01 | | | | | 128.34 | 129.72 | 129.64 | |
| 29-Nov-06 | 129.19 | 128.31 | 130.02 | | | | | 128.37 | 129.73 | 129.64 | |
| 30-Nov-06 | 129.21 | 128.40 | 130.95 | | | | | 128.40 | 129.73 | 129.66 | |
| 01-Dec-06 | 129.21 | 128.40 | 130.95 | | | | | 128.40 | 129.73 | 129.66 | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW06-1 | MW06-2 | MW06-3 | MW06-4S | MW06-4D | MW06-5 | MW06-7 | MW06-8 | MW06-9 | MW06-10 | MW07-11 |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 04-Dec-06 | 129.18 | 128.45 | 130.24 | | | | | 128.45 | 129.78 | 129.70 | |
| 05-Dec-06 | 129.16 | 128.45 | 130.14 | | | | | 128.44 | 129.79 | 129.72 | |
| 06-Dec-06 | 129.14 | 128.37 | 130.12 | | | | | 128.39 | 129.76 | 129.64 | |
| 07-Dec-06 | 129.09 | 128.37 | 130.12 | | | | | 128.39 | 129.76 | 129.64 | |
| 08-Dec-06 | 129.07 | 128.25 | 130.12 | | | | | 128.30 | 129.76 | 129.64 | |
| 11-Dec-06 | 129.07 | 128.25 | 130.12 | | | | | 128.30 | 129.76 | 129.64 | |
| 12-Dec-06 | 129.07 | 128.25 | 130.12 | | | | | 128.30 | 129.76 | 129.64 | |
| 13-Dec-06 | 129.25 | 128.47 | 129.94 | | | | | 126.97 | 126.42 | 129.52 | |
| 14-Dec-06 | 129.37 | 128.96 | 130.61 | | | | | 127.82 | 126.63 | 129.82 | |
| 15-Dec-06 | 129.36 | 128.89 | 130.74 | | | | | 128.40 | 127.81 | 129.95 | |
| 18-Dec-06 | 129.39 | 128.73 | 130.79 | | | | | 128.44 | 128.65 | 129.96 | |
| 19-Dec-06 | 129.22 | 128.43 | 130.39 | | | | | 128.49 | 129.40 | 129.98 | |
| 20-Dec-06 | 129.22 | 128.37 | 130.37 | | | | | 128.45 | 129.55 | 129.80 | |
| 21-Dec-06 | 129.24 | 128.36 | 130.35 | | | | | 128.42 | 129.56 | 129.77 | |
| 22-Dec-06 | 129.14 | 128.26 | 130.29 | | | | | 128.37 | 129.54 | 129.76 | |
| 02-Jan-07 | 129.14 | 128.21 | 129.67 | | | | | 128.17 | 129.55 | 129.75 | |
| 03-Jan-07 | 129.11 | 128.22 | 129.64 | | | | | 128.16 | 129.52 | 129.32 | |
| 04-Jan-07 | 129.08 | 128.14 | 129.63 | | | | | 128.18 | 129.52 | 129.28 | |
| 05-Jan-07 | 129.22 | 128.29 | 130.03 | | | | | 128.19 | 129.54 | 129.41 | |
| 08-Jan-07 | 129.24 | 128.34 | 130.10 | | | | | 128.30 | 129.73 | 129.45 | |
| 09-Jan-07 | 129.27 | 128.53 | 130.47 | | | | | 128.52 | 129.89 | 129.85 | |
| 10-Jan-07 | 129.30 | 128.50 | 130.55 | | | | | 128.50 | 129.93 | 129.93 | |
| 11-Jan-07 | 129.39 | 128.35 | | | | | | 128.41 | 131.15 | | |
| 12-Jan-07 | 129.18 | 128.28 | 130.11 | | | | | 128.37 | 129.75 | 129.64 | |
| 15-Jan-07 | 129.11 | 128.20 | 129.89 | | | | | 128.25 | 129.68 | 129.69 | |
| 17-Jan-07 | 128.94 | 128.07 | | | | | | 127.32 | 131.15 | | |
| 18-Jan-07 | 128.80 | 128.03 | 129.55 | | | | | 127.84 | 131.15 | | |
| 19-Jan-07 | 128.80 | 127.94 | 129.49 | | | | | 127.90 | 131.15 | | |
| 22-Jan-07 | 128.81 | 127.86 | 129.18 | | | | | 127.95 | 128.75 | 129.03 | |
| 23-Jan-07 | 128.82 | 127.83 | 129.19 | | | | | 127.98 | 128.80 | 129.04 | |
| 24-Jan-07 | 128.76 | 127.77 | 129.14 | | | | | 127.83 | | | |
| 25-Jan-07 | 128.74 | 127.74 | 128.89 | | | | | 127.80 | | | |
| 26-Jan-07 | 128.70 | 127.70 | 128.88 | | | | | 127.78 | | | |
| 29-Jan-07 | 128.65 | 127.63 | 128.57 | | | | | 127.65 | | | |
| 30-Jan-07 | 128.62 | 127.58 | 128.54 | | | | | 127.62 | | | |
| 31-Jan-07 | 128.61 | 127.61 | 128.53 | | | | | 127.57 | | | |
| 01-Feb-07 | 128.61 | 127.58 | 128.50 | | | | | 127.55 | 128.48 | 128.51 | |
| 02-Feb-07 | 128.59 | 127.56 | 128.49 | | | | | 127.53 | 128.50 | 128.52 | |
| 05-Feb-07 | 128.49 | 127.52 | 128.11 | | | | | | | | |
| 06-Feb-07 | 128.48 | 127.49 | 128.10 | | | | | 127.50 | | | |
| 07-Feb-07 | 128.46 | 127.51 | 128.09 | | | | | 127.35 | | | |
| 08-Feb-07 | 128.45 | 127.52 | 128.11 | | | | | 127.30 | | | |
| 09-Feb-07 | 128.39 | 127.54 | 128.14 | | | | | 127.23 | 128.40 | 128.17 | |
| 12-Feb-07 | 128.29 | 127.44 | 127.79 | | | | | 127.15 | 128.18 | 128.02 | |
| 13-Feb-07 | 128.24 | 127.40 | 127.72 | | | | | 125.39 | 125.41 | 127.97 | |
| 14-Feb-07 | 128.21 | 127.44 | 127.74 | | | | | 126.47 | 126.28 | 127.95 | |
| 15-Feb-07 | 128.22 | 127.46 | 127.77 | | | | | 126.55 | 126.74 | 127.93 | |
| 16-Feb-07 | 128.15 | 127.42 | 127.73 | | | | | 126.97 | 126.77 | 127.89 | |
| 19-Feb-07 | 128.04 | 127.39 | 127.59 | | | | | 126.88 | 127.10 | 127.92 | |
| 20-Feb-07 | 128.01 | 127.33 | 127.54 | | | | | 126.85 | 127.08 | 127.87 | |
| 21-Feb-07 | 127.98 | 127.36 | 127.56 | | | | | 126.85 | 127.14 | 127.82 | |
| 22-Feb-07 | 127.93 | 127.35 | 127.54 | | | | | 126.84 | 127.57 | 127.67 | |
| 23-Feb-07 | 127.89 | 127.32 | 127.49 | | | | | 126.73 | 127.59 | 127.61 | |
| 26-Feb-07 | 127.76 | 127.30 | 127.43 | | | | | 126.71 | 127.53 | 127.51 | |
| 27-Feb-07 | 127.73 | 127.29 | 127.47 | | | | | 126.66 | 127.53 | 127.47 | |
| 28-Feb-07 | 127.72 | 127.27 | 127.39 | | | | | 126.66 | 127.51 | 127.48 | |
| 01-Mar-07 | 127.70 | 127.26 | 127.36 | | | | | 126.61 | 127.52 | 127.41 | |
| 02-Mar-07 | 127.68 | 127.23 | 127.34 | | | | | 126.58 | 127.53 | 127.37 | |
| 05-Mar-07 | 127.88 | 127.25 | 127.49 | | | | | 126.53 | 127.48 | 127.31 | |
| 06-Mar-07 | 127.80 | 127.26 | 127.26 | | | | | 126.60 | 127.43 | 127.26 | |
| 07-Mar-07 | 127.75 | 127.26 | 127.25 | | | | | 126.53 | 127.44 | 127.25 | |
| 08-Mar-07 | 127.70 | 127.23 | 127.23 | | | | | 126.48 | 127.40 | 127.20 | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW06-1 | MW06-2 | MW06-3 | MW06-4S | MW06-4D | MW06-5 | MW06-7 | MW06-8 | MW06-9 | MW06-10 | MW07-11 |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 09-Mar-07 | 127.66 | 127.23 | 127.22 | | | | | 126.47 | 127.43 | 127.18 | |
| 12-Mar-07 | 127.91 | 127.23 | 127.17 | | | | | 126.43 | 127.28 | 127.15 | |
| 13-Mar-07 | 128.29 | 127.39 | 127.17 | | | | | 126.44 | 127.35 | 127.26 | |
| 14-Mar-07 | 128.70 | 127.46 | 127.27 | | | | | 126.53 | 127.41 | 127.52 | |
| 15-Mar-07 | 128.72 | 127.40 | 127.54 | | | | | 125.29 | 125.89 | 127.84 | |
| 16-Mar-07 | 128.58 | 127.43 | 127.71 | | | | | 126.05 | 125.96 | 127.92 | |
| 19-Mar-07 | 128.49 | 127.38 | 127.69 | | | | | 126.32 | 126.40 | 127.87 | |
| 20-Mar-07 | 128.35 | 127.37 | 127.61 | | | | | 126.82 | 127.15 | | |
| 21-Mar-07 | 128.29 | 127.37 | 127.54 | | | | | 126.81 | 127.38 | 127.62 | |
| 22-Mar-07 | 128.78 | 127.43 | 127.59 | | | | | 126.81 | 127.57 | 127.83 | |
| 23-Mar-07 | 128.69 | 127.44 | 127.73 | | | | | 126.87 | 127.77 | 128.02 | |
| 26-Mar-07 | 128.89 | 127.59 | 128.23 | | | | | 127.02 | 128.13 | 128.45 | |
| 27-Mar-07 | 128.81 | 127.56 | 129.14 | | | | | 127.13 | 128.28 | 128.73 | |
| 28-Mar-07 | 128.79 | 127.52 | 129.17 | | | | | 127.22 | 128.31 | 128.83 | |
| 29-Mar-07 | 128.77 | 127.49 | 129.07 | | | | | 127.26 | 128.49 | 128.82 | |
| 30-Mar-07 | 128.77 | 127.55 | 128.98 | | | | | 127.33 | 128.62 | 128.82 | |
| 02-Apr-07 | 128.95 | 127.66 | 128.89 | | | | | 127.39 | 128.88 | 128.97 | |
| 03-Apr-07 | 128.99 | 127.82 | 129.54 | | | | | 127.50 | 128.96 | 129.18 | |
| 04-Apr-07 | 129.01 | 127.95 | 129.91 | | | | | 127.56 | 129.07 | 129.29 | |
| 05-Apr-07 | 129.08 | 128.00 | 130.14 | | | | | 127.72 | 129.23 | 129.35 | |
| 09-Apr-07 | 128.97 | 127.80 | 129.67 | | | | | 127.86 | 129.43 | 129.26 | |
| 10-Apr-07 | 128.98 | 127.81 | 129.55 | | | | | 127.83 | 129.42 | 129.18 | |
| 11-Apr-07 | 128.97 | 127.82 | 129.45 | | | | | 127.78 | 129.41 | 129.10 | |
| 12-Apr-07 | 128.97 | 127.80 | 129.44 | | | | | 127.75 | 129.42 | 129.12 | |
| 13-Apr-07 | 129.09 | 127.95 | 130.50 | | | | | 127.90 | 129.38 | 129.20 | |
| 16-Apr-07 | 129.28 | 128.32 | 130.57 | | | | | 128.13 | 129.64 | 129.83 | |
| 17-Apr-07 | 129.33 | 128.43 | 130.88 | | | | | 126.61 | 126.20 | 129.89 | |
| 18-Apr-07 | 129.25 | 128.43 | 130.69 | | | | | 127.75 | 126.81 | 130.00 | |
| 19-Apr-07 | | 128.45 | 130.57 | | | | | 128.47 | 127.15 | 129.06 | |
| 20-Apr-07 | 129.22 | 128.41 | 130.48 | | | | | 128.32 | 128.32 | 129.38 | |
| 20-Apr-07 | 129.22 | 128.41 | 130.48 | | | | | 128.32 | 128.32 | 129.38 | |
| 23-Apr-07 | 129.22 | 128.45 | 130.30 | | | | | 128.32 | 128.99 | 129.36 | |
| 24-Apr-07 | 129.25 | 128.45 | 130.12 | | | | | 128.33 | 129.15 | 129.35 | 128.01 |
| 25-Apr-07 | 129.26 | 128.47 | 130.19 | | | | | 128.34 | 129.24 | 129.31 | 128.00 |
| 26-Apr-07 | 129.24 | 128.45 | 130.13 | | | | | 128.37 | 129.19 | 129.31 | 127.96 |
| 27-Apr-07 | 129.28 | 128.45 | 130.10 | | | | | 125.70 | 126.18 | 129.34 | 127.99 |
| 30-Apr-07 | 129.26 | 128.53 | 130.22 | | | | | 128.25 | 127.65 | 129.65 | 128.07 |
| 01-May-07 | 129.24 | 128.45 | 130.18 | | | | | 128.41 | 128.15 | 129.43 | 128.00 |
| 02-May-07 | 129.20 | 128.36 | 130.13 | | | | | 127.35 | 128.52 | 129.38 | 127.97 |
| 03-May-07 | 129.18 | 128.30 | 130.06 | | | | | 128.30 | 128.74 | 129.33 | 127.91 |
| 04-May-07 | 129.17 | 128.26 | 130.01 | | | | | 128.27 | 128.94 | 129.31 | 127.89 |
| 07-May-07 | 129.14 | 128.13 | 129.82 | | | | | 128.18 | 129.26 | 129.21 | 127.82 |
| 08-May-07 | 129.11 | 128.17 | 129.77 | | | | | 128.16 | 129.30 | 129.20 | 127.82 |
| 09-May-07 | 129.09 | 128.13 | 129.69 | | | | | 128.10 | 129.31 | 129.15 | 127.78 |
| 10-May-07 | 129.08 | 128.10 | 129.61 | | | | | 128.10 | 129.30 | 129.11 | 127.75 |
| 11-May-07 | 129.05 | 128.08 | 129.53 | | | | | 128.08 | 129.27 | 129.06 | 127.71 |
| 14-May-07 | 129.00 | 128.04 | 129.28 | | | | | 127.94 | 129.19 | 128.89 | 127.62 |
| 15-May-07 | 129.07 | 128.05 | 129.19 | | | | | 125.37 | 126.12 | 128.89 | 127.65 |
| 16-May-07 | 129.17 | 128.13 | 129.15 | | | | | 126.77 | 126.52 | 128.91 | 127.65 |
| 17-May-07 | 129.09 | 127.75 | 129.11 | | | | | 126.75 | 127.02 | 128.86 | 127.54 |
| 18-May-07 | 129.06 | 128.07 | 129.29 | | | | | 127.49 | 126.83 | 128.82 | 127.64 |
| 22-May-07 | 128.98 | 128.01 | 129.79 | | | | | 127.71 | 128.37 | 128.64 | 127.53 |
| 23-May-07 | 128.95 | 128.01 | 128.73 | | | | | 127.70 | 128.49 | 128.60 | 127.49 |
| 24-May-07 | 128.93 | 128.00 | 128.75 | | | | | 127.62 | 128.58 | 128.55 | 127.46 |
| 25-May-07 | 128.91 | 128.00 | 128.62 | | | | | 127.63 | 128.63 | 128.51 | 127.45 |
| 28-May-07 | 128.92 | 127.99 | 128.43 | | | | | 127.51 | 128.71 | 128.37 | 127.39 |
| 29-May-07 | 128.88 | 127.98 | 128.34 | | | | | 127.39 | 128.81 | 128.30 | 127.34 |
| 30-May-07 | 128.86 | 127.99 | 128.31 | | | | | 127.46 | 128.77 | 128.26 | 127.28 |
| 31-May-07 | 129.05 | 128.09 | 128.59 | | | | | 127.48 | 128.77 | 128.35 | 127.39 |
| 01-Jun-07 | 129.14 | 128.18 | 129.46 | | | | | 127.56 | 128.79 | 128.67 | 127.56 |
| 04-Jun-07 | 129.39 | 128.58 | 130.08 | | | | | 127.79 | 129.03 | 129.17 | 127.89 |
| 05-Jun-07 | 129.48 | 128.70 | 130.75 | | | | | 127.95 | 129.17 | 129.50 | 127.98 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW06-1 | MW06-2 | MW06-3 | MW06-4S | MW06-4D | MW06-5 | MW06-7 | MW06-8 | MW06-9 | MW06-10 | MW07-11 |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 06-Jun-07 | 129.33 | 128.71 | 130.77 | | | | | 128.26 | 129.35 | 129.52 | 128.05 |
| 07-Jun-07 | 129.27 | 128.62 | 130.59 | | | | | 128.28 | 129.41 | 129.57 | 128.03 |
| 08-Jun-07 | 129.26 | 128.60 | 130.52 | | | | | 128.25 | 129.48 | 129.57 | 128.03 |
| 11-Jun-07 | 129.19 | 128.54 | 130.46 | | | | | 128.23 | 129.56 | 129.53 | 128.02 |
| 12-Jun-07 | 129.14 | 128.49 | 130.36 | | | | | 128.17 | 129.55 | 129.47 | 127.94 |
| 13-Jun-07 | 129.11 | 128.41 | 130.26 | | | | | 125.64 | 126.18 | 129.41 | 127.94 |
| 14-Jun-07 | 129.08 | 128.36 | 130.18 | | | | | 127.06 | 126.58 | 129.34 | 127.90 |
| 15-Jun-07 | 129.07 | 128.30 | 130.10 | | | | | 127.36 | 126.51 | 129.29 | 127.86 |
| 18-Jun-07 | 129.01 | 128.17 | 129.81 | | | | | 127.97 | 128.21 | 129.11 | 127.73 |
| 19-Jun-07 | 129.01 | 128.16 | 129.73 | | | | | 128.02 | 128.44 | 129.08 | 127.71 |
| 20-Jun-07 | 129.01 | 128.13 | 129.62 | | | | | 127.97 | 128.62 | 129.01 | 127.68 |
| 21-Jun-07 | 129.00 | 128.12 | 129.53 | | | | | 127.94 | 128.75 | 128.98 | 127.65 |
| 22-Jun-07 | 128.99 | 128.10 | 129.41 | | | | | 127.80 | 128.83 | 128.91 | 127.61 |
| 25-Jun-07 | 128.97 | 128.05 | 129.21 | | | | | 127.78 | 128.93 | 128.83 | 127.50 |
| 26-Jun-07 | 128.93 | 128.02 | 128.99 | | | | | 127.77 | 128.92 | 128.66 | 127.46 |
| 27-Jun-07 | 128.93 | 128.03 | 128.93 | | | | | 127.74 | 128.90 | 128.61 | 127.44 |
| 28-Jun-07 | 128.88 | 127.99 | 128.79 | | | | | 127.70 | 128.83 | 128.54 | 127.39 |
| 29-Jun-07 | 128.87 | 127.98 | 128.70 | | | | | 127.65 | 128.81 | 128.47 | 127.32 |
| 03-Jul-07 | 128.80 | 127.94 | 130.08 | | | | | 127.46 | 128.62 | 128.23 | 127.18 |
| 04-Jul-07 | 128.79 | 127.93 | 128.97 | | | | | 127.30 | 128.58 | 128.20 | 127.17 |
| 05-Jul-07 | 128.77 | 127.93 | 128.51 | | | | | 127.44 | 128.52 | 128.12 | 127.14 |
| 06-Jul-07 | 128.73 | 127.89 | 128.41 | | | | | 127.38 | 128.47 | 128.07 | 127.09 |
| 09-Jul-07 | 129.05 | 127.98 | 129.35 | | | | | 127.32 | 128.41 | 128.13 | 127.15 |
| 10-Jul-07 | 128.98 | 127.98 | 129.29 | | | | | 127.35 | 128.44 | 128.13 | 127.16 |
| 11-Jul-07 | 128.93 | 128.00 | 128.55 | | | | | 127.38 | 128.46 | 128.12 | 127.22 |
| 12-Jul-07 | 128.87 | 127.94 | 128.34 | | | | | 125.50 | 126.07 | 128.05 | 127.41 |
| 13-Jul-07 | 128.84 | 127.93 | 128.23 | | | | | 126.55 | 126.37 | 128.01 | 127.16 |
| 16-Jul-07 | 128.76 | 127.90 | 127.98 | | | | | 127.03 | 127.27 | 127.87 | 127.05 |
| 17-Jul-07 | 128.73 | 127.88 | 127.93 | | | | | 127.19 | 127.41 | 127.83 | 127.04 |
| 18-Jul-07 | 128.72 | 127.88 | 127.88 | | | | | 127.16 | 127.56 | 127.77 | 127.02 |
| 19-Jul-07 | 128.96 | 127.89 | 127.94 | | | | | 126.63 | 127.74 | 127.76 | 126.96 |
| 20-Jul-07 | 128.94 | 127.92 | 128.10 | | | | | 127.29 | 127.85 | 127.85 | 127.08 |
| 23-Jul-07 | 128.87 | 127.93 | 128.57 | | | | | 127.75 | 127.92 | 128.00 | 127.23 |
| 24-Jul-07 | 128.84 | 127.92 | 128.39 | | | | | 127.60 | 128.04 | 127.98 | 127.22 |
| 25-Jul-07 | 128.80 | 127.91 | 128.21 | | | | | 126.88 | 128.11 | 127.92 | 127.17 |
| 26-Jul-07 | 128.79 | 127.89 | 128.18 | | | | | 126.38 | 128.14 | 127.87 | 127.15 |
| 27-Jul-07 | 128.77 | 127.90 | 128.03 | | | | | 127.19 | 128.16 | 127.85 | 127.14 |
| 30-Jul-07 | 128.67 | 127.85 | 127.78 | | | | | 127.07 | 128.08 | 127.68 | 127.00 |
| 31-Jul-07 | 128.63 | 127.83 | 127.73 | | | | | 127.17 | 128.04 | 127.62 | 126.96 |
| 01-Aug-07 | 128.64 | 127.81 | 127.74 | | | | | 127.00 | 127.90 | 127.67 | 126.95 |
| 02-Aug-07 | 128.59 | 127.80 | 127.74 | | | | | 126.94 | 127.90 | 127.60 | 126.88 |
| 03-Aug-07 | 128.53 | 127.78 | 127.74 | | | | | 127.08 | 127.89 | 127.49 | 126.86 |
| 07-Aug-07 | 128.40 | 127.70 | 127.45 | | | | | 126.83 | 127.66 | 127.29 | 126.70 |
| 08-Aug-07 | 128.64 | 127.72 | 127.43 | | | | | 126.93 | 127.63 | 127.27 | 126.69 |
| 09-Aug-07 | 128.54 | 127.70 | 127.41 | | | | | 127.29 | 127.74 | 127.15 | 126.66 |
| 10-Aug-07 | 128.44 | 127.64 | 127.34 | | | | | 125.20 | 125.94 | 127.18 | 126.65 |
| 13-Aug-07 | 128.26 | 127.65 | 127.29 | | | | | 127.68 | 126.38 | 127.03 | 126.52 |
| 14-Aug-07 | 128.20 | 127.62 | 127.26 | | | | | 126.31 | 126.13 | 126.92 | 126.50 |
| 15-Aug-07 | 128.59 | 127.65 | 127.25 | | | | | 126.64 | 126.33 | 127.02 | 126.54 |
| 16-Aug-07 | 128.42 | 127.68 | 127.25 | | | | | 126.74 | 126.69 | 127.02 | 126.56 |
| 17-Aug-07 | 128.32 | 127.67 | 127.24 | | | | | 126.82 | 126.82 | 126.97 | 126.51 |
| 20-Aug-07 | 128.37 | 127.66 | 127.21 | | | | | 126.75 | 127.14 | 126.97 | 126.52 |
| 21-Aug-07 | 128.31 | 127.65 | 127.21 | | | | | 126.74 | 127.16 | 126.94 | 126.50 |
| 22-Aug-07 | 128.24 | 127.64 | 127.19 | | | | | 126.71 | 127.16 | 126.90 | 126.48 |
| 23-Aug-07 | 128.18 | 127.64 | 127.18 | | | | | 126.69 | 127.15 | 126.87 | 126.46 |
| 24-Aug-07 | 128.71 | 127.68 | 127.20 | | | | | 126.69 | 127.16 | 126.96 | 126.50 |
| 27-Aug-07 | 128.82 | 127.77 | 127.82 | | | | | 127.01 | 127.56 | 127.45 | 126.84 |
| 28-Aug-07 | 128.76 | 127.77 | 127.81 | | | | | 127.07 | 127.67 | 127.47 | 126.87 |
| 29-Aug-07 | 128.73 | 127.78 | 127.79 | | | | | 127.09 | 127.65 | 127.46 | 126.88 |
| 30-Aug-07 | 128.92 | 127.78 | 127.71 | | | | | 127.11 | 127.81 | 127.50 | 126.91 |
| 31-Aug-07 | 128.82 | 127.78 | 127.72 | | | | | 127.14 | 127.88 | 127.51 | 126.92 |
| 04-Sep-07 | 128.64 | 127.71 | 127.53 | | | | | 127.07 | 127.90 | 127.37 | 126.82 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW06-1** | **MW06-2** | **MW06-3** | **MW06-4S** | **MW06-4D** | **MW06-5** | **MW06-7** | **MW06-8** | **MW06-9** | **MW06-10** | **MW07-11** |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 05-Sep-07 | 128.60 | 127.68 | 127.46 | | | | | 127.03 | 127.85 | 127.32 | 126.78 |
| 06-Sep-07 | 128.57 | 127.68 | 127.44 | | | | | 127.00 | 127.81 | 127.31 | 126.76 |
| 07-Sep-07 | 128.54 | 127.67 | 127.39 | | | | | 126.97 | 127.77 | 127.26 | 126.75 |
| 10-Sep-07 | 128.39 | 127.61 | 127.26 | | | | | 126.57 | 126.30 | 127.09 | 126.61 |
| 11-Sep-07 | 128.94 | 127.68 | 127.29 | | | | | 126.73 | 126.43 | 127.21 | 126.71 |
| 12-Sep-07 | 128.98 | 127.71 | 127.34 | | | | | 126.78 | 126.23 | 127.51 | 126.75 |
| 13-Sep-07 | 128.87 | 127.73 | 127.97 | | | | | 126.95 | 126.51 | 127.57 | 126.95 |
| 14-Sep-07 | 128.82 | 127.78 | 128.02 | | | | | 127.18 | 126.78 | 127.59 | 126.98 |
| 17-Sep-07 | 128.77 | 127.77 | 127.85 | | | | | 127.20 | 127.60 | 127.56 | 126.95 |
| 18-Sep-07 | 128.73 | 127.72 | 127.77 | | | | | 127.17 | 127.71 | 127.48 | 126.94 |
| 19-Sep-07 | 128.70 | 127.72 | 127.72 | | | | | 127.16 | 127.75 | 127.48 | 126.94 |
| 20-Sep-07 | 128.68 | 127.71 | 127.63 | | | | | 127.14 | 127.82 | 127.46 | 126.94 |
| 21-Sep-07 | 128.67 | 127.71 | 127.56 | | | | | 127.14 | 127.83 | 127.43 | 126.91 |
| 24-Sep-07 | 128.56 | 127.68 | 127.39 | | | | | | | 127.25 | 126.82 |
| 25-Sep-07 | | | | | | | | | | 127.26 | 126.96 |
| 26-Sep-07 | 128.68 | 127.61 | | | | | | | | 127.10 | 126.08 |
| 27-Sep-07 | 128.43 | 127.56 | 127.26 | | | | | 126.24 | | 125.73 | |
| 28-Sep-07 | 128.33 | 127.51 | 127.19 | | | | | 126.08 | 126.19 | 125.64 | 125.79 |
| 29-Sep-07 | 128.21 | 127.44 | 127.14 | | | | | 125.98 | 126.19 | 125.53 | 125.70 |
| 30-Sep-07 | 128.11 | 127.42 | 127.10 | | | | | 125.89 | 126.16 | 125.46 | 125.65 |
| 01-Oct-07 | 128.04 | 127.42 | 127.08 | | | | | 125.85 | 126.12 | 125.41 | 125.64 |
| 02-Oct-07 | 127.96 | 127.39 | 127.05 | | | | | 125.84 | 126.07 | 125.35 | 125.61 |
| 03-Oct-07 | 127.88 | 127.49 | 127.03 | | | | | 125.82 | 126.02 | 125.32 | 125.60 |
| 04-Oct-07 | 127.79 | 127.32 | 127.02 | | | | | 125.75 | 125.96 | 125.27 | 125.58 |
| 05-Oct-07 | | | | | | | | | 125.94 | | |
| 05-Oct-07 | | | | | | | | | 125.94 | | |
| 05-Oct-07 | | | | | | | | | 125.93 | | |
| 05-Oct-07 | | | | | | | | | 125.93 | | |
| 05-Oct-07 | 127.78 | 127.21 | 127.01 | | | | | 125.80 | 125.90 | 125.17 | 124.24 |
| 06-Oct-07 | 127.70 | 127.17 | 127.01 | | | | | 125.56 | 125.89 | 125.16 | 124.28 |
| 06-Oct-07 | 127.66 | 127.14 | 127.01 | | | | | 125.43 | 125.89 | 125.14 | 124.27 |
| 06-Oct-07 | 128.32 | 127.16 | 127.02 | | | | | 125.31 | 125.87 | 125.23 | 124.30 |
| 06-Oct-07 | 128.34 | 127.17 | 127.01 | | | | | 125.24 | 125.87 | 125.24 | 124.32 |
| 07-Oct-07 | 128.34 | 127.16 | 127.01 | | | | | 125.19 | 125.85 | 125.24 | 124.32 |
| 07-Oct-07 | 128.29 | 127.16 | 127.02 | | | | | 125.16 | 125.85 | 125.22 | 124.31 |
| 07-Oct-07 | 128.23 | 127.16 | 127.03 | | | | | 125.13 | 125.86 | 125.22 | 124.33 |
| 07-Oct-07 | 128.15 | 127.16 | 127.01 | | | | | 125.10 | 125.86 | 125.21 | 124.32 |
| 08-Oct-07 | 128.07 | 127.36 | 127.02 | | | | | 125.08 | 125.86 | 125.21 | 124.33 |
| 08-Oct-07 | 128.00 | 127.16 | 127.02 | | | | | 125.08 | 125.87 | 125.17 | 124.33 |
| 08-Oct-07 | 127.94 | 127.15 | 127.02 | | | | | 125.07 | 125.88 | 125.18 | 124.32 |
| 08-Oct-07 | 127.85 | 127.14 | 127.01 | | | | | 125.05 | 125.87 | 125.15 | 124.30 |
| 09-Oct-07 | 127.75 | 127.12 | 127.01 | | | | | 125.16 | 125.88 | 125.11 | 124.28 |
| 09-Oct-07 | 127.80 | 127.12 | 127.02 | | | | | 125.12 | 125.88 | 125.12 | 124.28 |
| 10-Oct-07 | 127.95 | 127.11 | 127.02 | | | | | 125.05 | 125.87 | 125.11 | 124.28 |
| 12-Oct-07 | 128.12 | 127.08 | 127.01 | | | | | 124.97 | 125.88 | 125.14 | 124.26 |
| 15-Oct-07 | 127.84 | 127.00 | 127.01 | | | | | 124.93 | 125.88 | 125.01 | 124.15 |
| 18-Oct-07 | 127.40 | 126.77 | 126.98 | | | | | 124.37 | 125.57 | 124.88 | 124.05 |
| 22-Oct-07 | 127.45 | 126.63 | 126.97 | | | | | 124.48 | 125.39 | 124.73 | 123.87 |
| 23-Oct-07 | 127.80 | 126.60 | 126.99 | | | | | 124.49 | 125.40 | 124.74 | 123.88 |
| 24-Oct-07 | 128.06 | 126.67 | 126.97 | | | | | 124.53 | 125.37 | 124.84 | 123.94 |
| 25-Oct-07 | | | 126.97 | | | | | | | 124.89 | |
| 26-Oct-07 | 128.02 | | 126.95 | | | | | | | | |
| 29-Oct-07 | 128.26 | 126.91 | 127.04 | | | | | 124.97 | 125.61 | 125.26 | 124.23 |
| 30-Oct-07 | 128.06 | 126.89 | 127.10 | | | | | 125.03 | 125.70 | 125.27 | 124.22 |
| 31-Oct-07 | 127.88 | 126.93 | 127.14 | | | | | 125.04 | 125.76 | 125.29 | 124.27 |
| 01-Nov-07 | 127.89 | 126.91 | 127.13 | | | | | 125.02 | 125.73 | 125.21 | 124.23 |
| 02-Nov-07 | 127.53 | 126.79 | 127.09 | | | | | 124.94 | 125.84 | 125.12 | 124.10 |
| 05-Nov-07 | 127.33 | 126.68 | 127.01 | | | | | 124.83 | 125.80 | 124.96 | 124.03 |
| 06-Nov-07 | 127.92 | 126.68 | 127.03 | | | | | 124.79 | 125.77 | 125.01 | 124.06 |
| 07-Nov-07 | 127.86 | 126.70 | 127.03 | | | | | 124.78 | 125.79 | 124.99 | 124.03 |
| 08-Nov-07 | 127.71 | 126.70 | 127.03 | | | | | 124.76 | 125.79 | 124.99 | 124.00 |
| 09-Nov-07 | 127.80 | 126.70 | 127.04 | | | | | 124.77 | 125.76 | 124.91 | 123.98 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW06-1** | **MW06-2** | **MW06-3** | **MW06-4S** | **MW06-4D** | **MW06-5** | **MW06-7** | **MW06-8** | **MW06-9** | **MW06-10** | **MW07-11** |
| Easting | 335449 | 335478 | 335363 | 334996 | 334997 | 335359 | 335933 | 335464 | 335401 | 335408 | 335478 |
| Northing | 5074615 | 5074578 | 5074535 | 5074545 | 5074545 | 5074056 | 5074585 | 5074590 | 5074605 | 5074506 | 5074576 |
| TOP Elevation (m) | 130.99 | 130.03 | 133.09 | 133.63 | 133.73 | 137.46 | 128.34 | 130.30 | 131.15 | 131.32 | 130.06 |
| GS Elevation (m) | 130.17 | 129.24 | 132.32 | 132.88 | 132.92 | 136.67 | 127.57 | 129.58 | 129.86 | 130.24 | 129.15 |
| Well Diameter (m) | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.165 | 5.330 | 6.130 | 5.195 | 12.870 | 6.640 | 5.115 | 6.700 | 5.930 | 7.770 | 7.215 |
| Stick-up (m) | 0.820 | 0.788 | 0.767 | 0.754 | 0.806 | 0.787 | 0.769 | 0.720 | 1.290 | 1.077 | 0.905 |
| 12-Nov-07 | 127.98 | 126.69 | 127.05 | | | | | 124.75 | 125.73 | 124.80 | 123.96 |
| 13-Nov-07 | 128.09 | 126.68 | 127.06 | | | | | 124.60 | 125.75 | 124.81 | 123.96 |
| 14-Nov-07 | 127.98 | 126.73 | 127.05 | | | | | 124.62 | 125.74 | 124.86 | 124.00 |
| 15-Nov-07 | 127.81 | 126.77 | 127.04 | | | | | 124.64 | 125.70 | 125.01 | 124.02 |
| 16-Nov-07 | 127.49 | 126.71 | 127.04 | | | | | 124.59 | 125.69 | 124.98 | 123.88 |
| 19-Nov-07 | 127.38 | 126.66 | 127.03 | | | | | 124.55 | 125.69 | 124.83 | 123.84 |
| 21-Nov-07 | 127.73 | 126.31 | | | | | | 124.06 | 125.51 | 124.89 | 123.88 |
| 26-Nov-07 | 127.81 | 126.78 | 127.08 | | | | | 124.31 | 125.52 | 125.00 | 123.97 |
| 27-Nov-07 | 127.78 | 126.97 | 127.10 | | | | | 124.67 | 125.52 | 125.10 | 123.99 |
| 28-Nov-07 | 127.80 | 127.11 | 127.26 | | | | | 124.68 | 125.56 | 125.25 | 124.02 |
| 29-Nov-07 | 127.76 | 127.26 | 127.40 | | | | | 124.77 | 125.63 | 125.43 | 124.21 |
| 30-Nov-07 | 127.67 | 127.20 | 127.44 | | | | | 124.82 | 125.70 | 125.38 | 124.15 |
| 04-Dec-07 | 127.42 | 126.98 | | | | | | 124.81 | | | |
| 05-Dec-07 | 127.36 | 126.86 | 127.21 | | | | | 124.74 | 125.79 | 124.99 | 123.95 |
| 06-Dec-07 | 127.33 | 126.75 | 127.11 | | | | | 124.64 | 125.74 | 124.87 | 123.86 |
| 07-Dec-07 | 127.31 | 126.67 | 127.04 | | | | | 124.55 | 125.70 | 124.82 | 123.82 |
| 10-Dec-07 | 127.23 | 126.40 | 127.04 | | | | | 124.19 | 125.53 | 124.66 | 123.66 |
| 11-Dec-07 | 127.21 | 126.34 | 127.04 | | | | | 124.09 | 125.48 | 124.64 | 123.64 |
| 12-Dec-07 | 127.19 | 126.25 | 127.04 | | | | | 124.01 | 125.45 | 124.60 | 123.58 |
| 13-Dec-07 | 127.15 | 126.16 | 127.04 | | | | | 123.91 | 125.39 | 124.57 | 123.54 |
| 14-Dec-07 | | 126.07 | 127.03 | | | | | 123.86 | 125.39 | 124.52 | 123.52 |
| 17-Dec-07 | 127.10 | | | | | | | | | | |
| 18-Dec-07 | 126.34 | 125.10 | 127.03 | | | | | | | 124.39 | 123.31 |
| 19-Dec-07 | 126.40 | | | | | | | | | | |
| 20-Dec-07 | 126.38 | 125.09 | 127.04 | | | | | | | 124.32 | 123.24 |
| 21-Dec-07 | 126.41 | 125.06 | 127.03 | | | | | | | 124.30 | 123.19 |
| 27-Dec-07 | 127.74 | 127.12 | 128.15 | | | | | 125.24 | 125.48 | 125.93 | 124.27 |
| 02-Jan-08 | | 127.10 | | | | | | 124.90 | | | |
| 03-Jan-08 | 127.31 | | | | | | | | | | |
| 04-Jan-08 | 127.31 | 127.13 | 127.62 | | | | | 124.66 | 126.28 | 125.61 | 124.24 |
| 07-Jan-08 | 127.09 | 127.87 | 127.63 | | | | | 124.80 | 126.31 | 125.90 | 124.38 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 10-Jan-06 | | | | | | | | | | | |
| 11-Jan-06 | | | | | | | | | | | |
| 12-Jan-06 | | | | | | | | | | | |
| 13-Jan-06 | | | | | | | | | | | |
| 16-Jan-06 | | | | | | | | | | | |
| 17-Jan-06 | | | | | | | | | | | |
| 18-Jan-06 | | | | | | | | | | | |
| 19-Jan-06 | | | | | | | | | | | |
| 20-Jan-06 | | | | | | | | | | | |
| 23-Jan-06 | | | | | | | | | | | |
| 24-Jan-06 | | | | | | | | | | | |
| 25-Jan-06 | | | | | | | | | | | |
| 26-Jan-06 | | | | | | | | | | | |
| 27-Jan-06 | | | | | | | | | | | |
| 01-Feb-06 | | | | | | | | | | | |
| 14-Feb-06 | | | | | | | | | | | |
| 23-Feb-06 | | | | | | | | | | | |
| 20-Jul-06 | | | | | | | | | | | |
| 21-Jul-06 | | | | | | | | | | | |
| 24-Jul-06 | | | | | | | | | | | |
| 25-Jul-06 | | | | | | | | | | | |
| 26-Jul-06 | | | | | | | | | | | |
| 27-Jul-06 | | | | | | | | | | | |
| 28-Jul-06 | | | | | | | | | | | |
| 31-Jul-06 | | | | | | | | | | | |
| 01-Aug-06 | | | | | | | | | | | |
| 02-Aug-06 | | | | | | | | | | | |
| 04-Aug-06 | | | | | | | | | | | |
| 08-Aug-06 | | | | | | | | | | | |
| 09-Aug-06 | | | | | | | | | | | |
| 10-Aug-06 | | | | | | | | | | | |
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| 16-Aug-06 | | | | | | | | | | | |
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| 21-Aug-06 | | | | | | | | | | | |
| 22-Aug-06 | | | | | | | | | | | |
| 23-Aug-06 | | | | | | | | | | | |
| 24-Aug-06 | | | | | | | | | | | |
| 25-Aug-06 | | | | | | | | | | | |
| 29-Aug-06 | | | | | | | | | | | |
| 30-Aug-06 | | | | | | | | | | | |
| 31-Aug-06 | | | | | | | | | | | |
| 01-Sep-06 | | | | | | | | | | | |
| 05-Sep-06 | | | | | | | | | | | |
| 06-Sep-06 | | | | | | | | | | | |
| 07-Sep-06 | | | | | | | | | | | |
| 08-Sep-06 | | | | | | | | | | | |
| 11-Sep-06 | | | | | | | | | | | |
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| 14-Sep-06 | | | | | | | | | | | |
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| 14-Sep-06 | | | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | | | |
| 15-Sep-06 | | | | | | | | | | | |
| 18-Sep-06 | | | | | | | | | | | |
| 18-Sep-06 | | | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 19-Sep-06 | | | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | | | |
| 20-Sep-06 | | | | | | | | | | | |
| 21-Sep-06 | | | | | | | | | | | |
| 22-Sep-06 | | | | | | | | | | | |
| 25-Sep-06 | | | | | | | | | | | |
| 26-Sep-06 | | | | | | | | | | | |
| 27-Sep-06 | | | | | | | | | | | |
| 28-Sep-06 | | | | | | | | | | | |
| 29-Sep-06 | | | | | | | | | | | |
| 02-Oct-06 | | | | | | | | | | | |
| 03-Oct-06 | | | | | | | | | | | |
| 04-Oct-06 | | | | | | | | | | | |
| 05-Oct-06 | | | | | | | | | | | |
| 06-Oct-06 | | | | | | | | | | | |
| 10-Oct-06 | | | | | | | | | | | |
| 11-Oct-06 | | | | | | | | | | | |
| 12-Oct-06 | | | | | | | | | | | |
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| 16-Oct-06 | | | | | | | | | | | |
| 17-Oct-06 | | | | | | | | | | | |
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| 18-Oct-06 | | | | | | | | | | | |
| 18-Oct-06 | | | | | | | | | | | |
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| 20-Oct-06 | | | | | | | | | | | |
| 23-Oct-06 | | | | | | | | | | | |
| 24-Oct-06 | | | | | | | | | | | |
| 25-Oct-06 | | | | | | | | | | | |
| 26-Oct-06 | | | | | | | | | | | |
| 27-Oct-06 | | | | | | | | | | | |
| 30-Oct-06 | | | | | | | | | | | |
| 31-Oct-06 | | | | | | | | | | | |
| 01-Nov-06 | | | | | | | | | | | |
| 02-Nov-06 | | | | | | | | | | | |
| 03-Nov-06 | | | | | | | | | | | |
| 06-Nov-06 | | | | | | | | | | | |
| 07-Nov-06 | | | | | | | | | | | |
| 08-Nov-06 | | | | | | | | | | | |
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| 08-Nov-06 | | | | | | | | | | | |
| 09-Nov-06 | | | | | | | | | | | |
| 09-Nov-06 | | | | | | | | | | | |
| 10-Nov-06 | | | | | | | | | | | |
| 13-Nov-06 | | | | | | | | | | | |
| 14-Nov-06 | | | | | | | | | | | |
| 15-Nov-06 | | | | | | | | | | | |
| 16-Nov-06 | | | | | | | | | | | |
| 17-Nov-06 | | | | | | | | | | | |
| 20-Nov-06 | | | | | | | | | | | |
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| 22-Nov-06 | | | | | | | | | | | |
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| 24-Nov-06 | | | | | | | | | | | |
| 27-Nov-06 | | | | | | | | | | | |
| 28-Nov-06 | | | | | | | | | | | |
| 29-Nov-06 | | | | | | | | | | | |
| 30-Nov-06 | | | | | | | | | | | |
| 01-Dec-06 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 04-Dec-06 | | | | | | | | | | | |
| 05-Dec-06 | | | | | | | | | | | |
| 06-Dec-06 | | | | | | | | | | | |
| 07-Dec-06 | | | | | | | | | | | |
| 08-Dec-06 | | | | | | | | | | | |
| 11-Dec-06 | | | | | | | | | | | |
| 12-Dec-06 | | | | | | | | | | | |
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| 14-Dec-06 | | | | | | | | | | | |
| 15-Dec-06 | | | | | | | | | | | |
| 18-Dec-06 | | | | | | | | | | | |
| 19-Dec-06 | | | | | | | | | | | |
| 20-Dec-06 | | | | | | | | | | | |
| 21-Dec-06 | | | | | | | | | | | |
| 22-Dec-06 | | | | | | | | | | | |
| 02-Jan-07 | | | | | | | | | | | |
| 03-Jan-07 | | | | | | | | | | | |
| 04-Jan-07 | | | | | | | | | | | |
| 05-Jan-07 | | | | | | | | | | | |
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| 09-Jan-07 | | | | | | | | | | | |
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| 11-Jan-07 | | | | | | | | | | | |
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| 26-Jan-07 | | | | | | | | | | | |
| 29-Jan-07 | | | | | | | | | | | |
| 30-Jan-07 | | | | | | | | | | | |
| 31-Jan-07 | | | | | | | | | | | |
| 01-Feb-07 | | | | | | | | | | | |
| 02-Feb-07 | | | | | | | | | | | |
| 05-Feb-07 | | | | | | | | | | | |
| 06-Feb-07 | | | | | | | | | | | |
| 07-Feb-07 | | | | | | | | | | | |
| 08-Feb-07 | | | | | | | | | | | |
| 09-Feb-07 | | | | | | | | | | | |
| 12-Feb-07 | | | | | | | | | | | |
| 13-Feb-07 | | | | | | | | | | | |
| 14-Feb-07 | | | | | | | | | | | |
| 15-Feb-07 | | | | | | | | | | | |
| 16-Feb-07 | | | | | | | | | | | |
| 19-Feb-07 | | | | | | | | | | | |
| 20-Feb-07 | | | | | | | | | | | |
| 21-Feb-07 | | | | | | | | | | | |
| 22-Feb-07 | | | | | | | | | | | |
| 23-Feb-07 | | | | | | | | | | | |
| 26-Feb-07 | | | | | | | | | | | |
| 27-Feb-07 | | | | | | | | | | | |
| 28-Feb-07 | | | | | | | | | | | |
| 01-Mar-07 | | | | | | | | | | | |
| 02-Mar-07 | | | | | | | | | | | |
| 05-Mar-07 | | | | | | | | | | | |
| 06-Mar-07 | | | | | | | | | | | |
| 07-Mar-07 | | | | | | | | | | | |
| 08-Mar-07 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 09-Mar-07 | | | | | | | | | | | |
| 12-Mar-07 | | | | | | | | | | | |
| 13-Mar-07 | | | | | | | | | | | |
| 14-Mar-07 | | | | | | | | | | | |
| 15-Mar-07 | | | | | | | | | | | |
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| 28-Mar-07 | | | | | | | | | | | |
| 29-Mar-07 | | | | | | | | | | | |
| 30-Mar-07 | | | | | | | | | | | |
| 02-Apr-07 | | | | | | | | | | | |
| 03-Apr-07 | | | | | | | | | | | |
| 04-Apr-07 | | | | | | | | | | | |
| 05-Apr-07 | | | | | | | | | | | |
| 09-Apr-07 | | | | | | | | | | | |
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| 11-Apr-07 | | | | | | | | | | | |
| 12-Apr-07 | | | | | | | | | | | |
| 13-Apr-07 | | | | | | | | | | | |
| 16-Apr-07 | | | | | | | | | | | |
| 17-Apr-07 | | | | | | | | | | | |
| 18-Apr-07 | | | | | | | | | | | |
| 19-Apr-07 | | | | | | | | | | | |
| 20-Apr-07 | | | | | | | | | | | |
| 20-Apr-07 | | | | | | | | | | | |
| 23-Apr-07 | | | | | | | | | | | |
| 24-Apr-07 | 128.26 | 128.75 | 129.31 | 129.17 | 129.17 | 124.74 | 129.55 | | | | |
| 25-Apr-07 | 128.25 | 128.74 | 129.30 | 129.17 | 129.16 | 124.71 | 129.49 | | | | |
| 26-Apr-07 | 128.22 | 128.71 | 129.21 | 128.84 | 128.98 | 124.70 | 129.16 | 129.28 | | | |
| 27-Apr-07 | 128.20 | 128.70 | 129.33 | 129.19 | 129.18 | 124.62 | 129.52 | 129.58 | | | |
| 30-Apr-07 | 128.32 | 128.79 | 129.37 | 129.30 | 129.31 | 124.82 | 129.64 | 129.71 | | | |
| 01-May-07 | 128.23 | 128.74 | 129.36 | 129.30 | 129.31 | 124.78 | 129.62 | 129.65 | | | |
| 02-May-07 | 128.22 | 128.71 | 129.32 | 129.25 | 129.26 | 124.78 | 129.56 | 129.62 | | | |
| 03-May-07 | 128.16 | 128.66 | 129.27 | 129.20 | 129.20 | 124.73 | 129.51 | 129.55 | | | |
| 04-May-07 | 128.15 | 128.64 | 129.27 | 129.22 | 129.21 | 124.70 | 129.48 | 129.53 | | | |
| 07-May-07 | 128.05 | 128.57 | 129.20 | 129.14 | 129.13 | 124.57 | 129.38 | 129.41 | | | |
| 08-May-07 | 128.05 | 128.56 | 129.19 | 129.14 | 129.14 | 124.59 | 129.37 | 129.39 | | | |
| 09-May-07 | 128.00 | 128.52 | 129.15 | 129.09 | 129.08 | 124.54 | 129.31 | 129.33 | | | |
| 10-May-07 | 127.97 | 128.49 | 129.11 | 129.05 | 129.05 | 124.48 | 129.27 | 129.29 | | | |
| 11-May-07 | 127.94 | 128.45 | 129.07 | 129.00 | 129.00 | 124.42 | 129.22 | 129.23 | | | |
| 14-May-07 | 127.81 | 128.35 | 128.92 | 128.82 | 128.81 | 124.14 | 129.04 | 129.06 | | | |
| 15-May-07 | 127.70 | 128.37 | 128.97 | 128.84 | 128.82 | 124.00 | 129.04 | 128.91 | | | |
| 16-May-07 | 127.80 | 128.38 | 129.04 | 128.87 | 128.86 | 124.05 | 129.05 | 129.03 | | | |
| 17-May-07 | 127.53 | 128.37 | 128.96 | 128.79 | 128.78 | 123.93 | 128.92 | 129.02 | | | |
| 18-May-07 | 127.80 | 128.52 | 128.92 | 128.76 | 128.75 | 123.82 | 128.98 | 128.99 | | | |
| 22-May-07 | 127.69 | 128.21 | 128.73 | 128.57 | 128.55 | 123.59 | 128.77 | 128.80 | | | |
| 23-May-07 | 127.63 | 128.18 | 128.69 | 128.53 | 128.52 | 123.54 | 128.74 | 128.75 | | | |
| 24-May-07 | 127.80 | 128.16 | 128.14 | 128.47 | 128.46 | 123.50 | 128.73 | 128.70 | | | |
| 25-May-07 | 127.55 | 128.14 | 128.61 | 128.43 | 128.41 | 123.47 | 128.64 | 128.65 | | | |
| 28-May-07 | 127.48 | 128.05 | 128.49 | 128.30 | 128.27 | 123.28 | 128.50 | 128.50 | | | |
| 29-May-07 | 127.43 | 128.00 | 128.42 | 128.22 | 128.20 | 123.15 | 128.40 | 128.43 | | | |
| 30-May-07 | 127.41 | 127.97 | 128.38 | 128.17 | 128.15 | 123.11 | 128.39 | 128.39 | | | |
| 31-May-07 | 127.47 | 128.10 | 128.56 | 128.28 | 128.26 | 123.11 | 128.49 | 128.48 | | | |
| 01-Jun-07 | 127.66 | 128.27 | 128.79 | 128.54 | 128.53 | 123.23 | 128.82 | 128.61 | | | |
| 04-Jun-07 | 127.95 | 128.59 | 128.90 | 128.83 | 128.99 | 123.93 | 129.24 | 129.11 | | | |
| 05-Jun-07 | 128.24 | 128.84 | 129.41 | 128.95 | 129.34 | 124.43 | 129.72 | 129.80 | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 06-Jun-07 | 128.31 | 128.81 | 129.44 | 129.41 | 129.44 | 124.58 | 129.80 | 129.88 | | | |
| 07-Jun-07 | 128.27 | 128.78 | 129.43 | 129.40 | 129.42 | 124.70 | 129.77 | 129.84 | | | |
| 08-Jun-07 | 128.30 | 128.79 | 129.44 | 129.42 | 129.44 | 124.82 | 129.76 | 129.83 | | | |
| 11-Jun-07 | 128.19 | 128.67 | 129.40 | 129.40 | 129.41 | 125.03 | 129.71 | 129.78 | | | |
| 12-Jun-07 | 128.19 | 128.71 | 129.36 | 129.35 | 129.37 | 125.06 | 129.66 | 129.71 | | | |
| 13-Jun-07 | 128.13 | 128.65 | 129.31 | 129.30 | 129.31 | 124.86 | 129.58 | 129.63 | | | |
| 14-Jun-07 | 128.08 | 128.60 | 129.26 | 129.24 | 129.25 | 124.85 | 129.52 | 129.56 | | | |
| 15-Jun-07 | 128.04 | 128.57 | 129.23 | 129.19 | 129.20 | 124.77 | 129.43 | 129.50 | | | |
| 18-Jun-07 | 127.89 | 128.43 | 129.07 | 129.02 | 129.02 | 124.52 | 129.26 | 129.30 | | | |
| 19-Jun-07 | 127.87 | 128.42 | 129.06 | 128.99 | 128.99 | 124.45 | 129.19 | 129.26 | | | |
| 20-Jun-07 | 127.82 | 128.38 | 129.01 | 128.93 | 128.92 | 124.34 | 129.17 | 129.20 | | | |
| 21-Jun-07 | 127.79 | 128.35 | 128.97 | 128.89 | 128.88 | 124.23 | 129.13 | 129.15 | | | |
| 22-Jun-07 | 127.74 | 128.30 | 128.91 | 128.82 | 128.80 | 124.13 | 128.96 | 129.07 | | | |
| 25-Jun-07 | 127.66 | 128.26 | 128.86 | 128.74 | 128.64 | 123.98 | 128.96 | 129.01 | | | |
| 26-Jun-07 | 127.56 | 128.16 | 128.71 | 128.58 | 128.57 | 123.73 | 128.81 | 128.80 | | | |
| 27-Jun-07 | 127.54 | 128.14 | 128.68 | 128.54 | 128.53 | 123.64 | 128.76 | 128.77 | | | |
| 28-Jun-07 | 127.47 | 128.07 | 128.59 | 128.44 | 128.43 | 123.52 | 128.68 | 128.67 | | | |
| 29-Jun-07 | 127.42 | 128.04 | 128.54 | 128.39 | 128.37 | 123.37 | 128.61 | 128.62 | | | |
| 03-Jul-07 | 127.22 | 127.87 | 128.31 | 128.12 | 128.31 | 122.98 | 128.36 | 128.36 | | | |
| 04-Jul-07 | 127.21 | 127.84 | 128.27 | 128.08 | 128.06 | 122.95 | 128.32 | 128.31 | | | |
| 05-Jul-07 | 127.17 | 127.80 | 128.21 | 128.03 | 128.01 | 122.90 | 128.26 | 128.27 | | | |
| 06-Jul-07 | 128.11 | 127.74 | 128.14 | 127.95 | 127.93 | 122.82 | 128.18 | 128.19 | | | |
| 09-Jul-07 | 127.16 | 127.91 | 128.40 | 128.07 | 128.04 | 122.64 | 128.28 | 128.23 | | | |
| 10-Jul-07 | 127.21 | 127.90 | 128.51 | 128.05 | 128.04 | 122.63 | 128.27 | 128.24 | | | |
| 11-Jul-07 | 127.23 | 127.89 | 128.32 | 128.03 | 128.00 | 122.59 | 128.26 | 128.24 | | | |
| 12-Jul-07 | 127.19 | 127.81 | 128.24 | 127.95 | 127.93 | 122.44 | 128.18 | 128.17 | | | |
| 13-Jul-07 | 127.14 | 127.77 | 128.18 | 127.91 | 127.87 | 122.49 | 128.14 | 128.11 | | | |
| 16-Jul-07 | 126.99 | 127.69 | 128.04 | 127.76 | 127.73 | 122.37 | 127.98 | 127.98 | | | |
| 17-Jul-07 | 127.00 | 127.64 | 127.98 | 127.70 | 127.68 | 122.30 | 127.96 | 127.93 | | | |
| 18-Jul-07 | 126.96 | 127.60 | 127.93 | 127.66 | 127.63 | 122.27 | 127.89 | 127.88 | | | |
| 19-Jul-07 | 127.88 | 127.47 | 127.87 | 127.63 | 128.60 | 122.26 | 127.82 | 127.84 | | | |
| 20-Jul-07 | 127.52 | 127.70 | 127.99 | 127.73 | 128.11 | 122.26 | 127.93 | 127.99 | | | |
| 23-Jul-07 | 127.17 | 127.81 | 128.21 | 127.90 | 127.86 | 122.32 | 128.11 | 128.10 | | | |
| 24-Jul-07 | 127.12 | 127.79 | 128.16 | 127.86 | 127.83 | 122.36 | 128.08 | 128.07 | | | |
| 25-Jul-07 | 127.11 | 127.74 | 128.10 | 127.80 | 127.77 | 122.33 | 128.00 | 128.02 | | | |
| 26-Jul-07 | 127.11 | 127.72 | 128.06 | 127.77 | 127.73 | 122.32 | 128.00 | 127.98 | | | |
| 27-Jul-07 | 127.06 | 127.64 | 128.03 | 127.73 | 127.71 | 122.34 | 127.97 | 127.89 | | | |
| 30-Jul-07 | 126.92 | 127.57 | 127.83 | 127.55 | 127.52 | 122.26 | 127.79 | 127.77 | | | |
| 31-Jul-07 | 126.93 | 127.51 | 127.78 | 127.50 | 127.47 | 122.24 | 127.74 | 127.72 | | | |
| 01-Aug-07 | 126.91 | 127.50 | 127.76 | 127.44 | 127.42 | 122.26 | 127.71 | 127.70 | | | |
| 02-Aug-07 | 126.79 | 127.43 | 127.65 | 127.39 | 127.38 | 122.20 | 127.64 | 127.61 | | | |
| 03-Aug-07 | 126.78 | 127.39 | 127.62 | 127.34 | 127.33 | 122.05 | 127.59 | 127.41 | | | |
| 07-Aug-07 | 126.66 | 127.25 | 127.40 | 127.12 | 127.11 | 122.01 | 127.39 | 127.28 | | | |
| 08-Aug-07 | 126.61 | 127.22 | 127.44 | 127.12 | 127.09 | 121.99 | 127.37 | 127.28 | | | |
| 09-Aug-07 | 126.60 | 127.26 | 127.33 | 127.00 | 126.97 | 121.91 | 127.16 | 127.25 | | | |
| 10-Aug-07 | 126.56 | 127.20 | 127.32 | 127.02 | 126.99 | 119.08 | 127.26 | 127.22 | | | |
| 13-Aug-07 | 126.43 | 126.99 | 127.14 | 126.85 | 126.84 | 121.74 | 127.10 | 127.16 | | | |
| 14-Aug-07 | 126.39 | 126.98 | 127.08 | 126.78 | 126.75 | | 126.97 | | | | |
| 15-Aug-07 | 126.41 | 127.14 | 127.25 | 126.86 | 126.83 | 121.67 | 127.10 | 127.06 | | | |
| 16-Aug-07 | 126.45 | 127.13 | 127.17 | 126.84 | 126.83 | 121.67 | 127.10 | 127.04 | | | |
| 17-Aug-07 | 126.43 | 127.03 | 127.09 | 126.77 | 126.76 | 121.61 | 127.04 | 126.96 | | | |
| 20-Aug-07 | 126.41 | 127.03 | 127.13 | 126.80 | 126.77 | 121.47 | 127.05 | 126.98 | | | |
| 21-Aug-07 | 126.38 | 127.00 | 127.08 | 126.75 | 126.73 | 121.46 | 127.02 | 126.96 | | | |
| 22-Aug-07 | 126.35 | 126.95 | 127.03 | 126.71 | 126.69 | 121.46 | 126.97 | 126.92 | | | |
| 23-Aug-07 | 126.32 | 126.91 | 126.98 | 126.67 | 126.65 | 121.47 | 126.94 | 126.88 | | | |
| 24-Aug-07 | 126.36 | 127.13 | 126.98 | 126.68 | 126.79 | 121.49 | 126.96 | 126.93 | | | |
| 27-Aug-07 | 126.76 | 127.51 | 127.84 | 127.39 | 127.34 | 121.49 | 127.57 | 127.47 | | | |
| 28-Aug-07 | 126.79 | 127.49 | 127.81 | 127.39 | 127.35 | 121.53 | 127.57 | 127.46 | | | |
| 29-Aug-07 | 126.79 | 127.48 | 127.77 | 127.38 | 127.34 | 121.60 | 127.56 | 127.45 | | | |
| 30-Aug-07 | 126.82 | 127.59 | 127.94 | 127.46 | 127.41 | 121.60 | 127.61 | 127.50 | | | |
| 31-Aug-07 | 126.85 | 127.56 | 127.87 | 127.45 | 127.41 | 121.61 | 127.62 | 127.51 | | | |
| 04-Sep-07 | 126.72 | 127.40 | 127.64 | 127.28 | 127.25 | 121.65 | 127.47 | 127.36 | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-12 | MW07-13 | MW07-14 | MW07-15 | MW07-16 | MW07-17 | MW07-18 | MW07-19 | MW07-20 | MW07-21 | MW07-22 |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 05-Sep-07 | 126.68 | 127.36 | 127.58 | 127.22 | 127.19 | 121.61 | 127.42 | 127.33 | | | |
| 06-Sep-07 | 126.66 | 127.31 | 127.54 | 127.19 | 127.16 | 121.59 | 127.38 | 127.31 | | | |
| 07-Sep-07 | 126.63 | 127.29 | 127.49 | 127.14 | 127.11 | 121.61 | 127.35 | 127.24 | | | |
| 10-Sep-07 | 126.47 | 127.13 | 127.28 | 126.95 | 126.92 | 121.52 | 127.18 | 127.08 | | | |
| 11-Sep-07 | 126.55 | 127.34 | 127.68 | 127.12 | 127.08 | 121.52 | 127.34 | 127.24 | | | |
| 12-Sep-07 | 126.59 | 127.60 | 127.76 | 127.43 | 127.09 | 121.55 | 127.62 | 127.34 | | | |
| 13-Sep-07 | 126.88 | 127.58 | 127.92 | 127.48 | 127.41 | 121.50 | 127.67 | 127.62 | | | |
| 14-Sep-07 | 126.90 | 127.60 | 127.92 | 127.52 | 127.47 | 121.57 | 127.69 | 127.63 | | | |
| 17-Sep-07 | 126.88 | 127.56 | 127.87 | 127.49 | 127.44 | 121.51 | 127.66 | 127.59 | | | |
| 18-Sep-07 | 126.87 | 127.53 | 127.83 | 127.46 | 127.41 | 121.52 | 127.33 | 127.51 | | | |
| 19-Sep-07 | 126.84 | 127.50 | 127.80 | 127.42 | 127.39 | 121.53 | 127.38 | 127.50 | | | |
| 20-Sep-07 | 126.81 | 127.47 | 127.73 | 127.37 | 127.33 | 121.56 | 127.57 | 127.47 | | | |
| 21-Sep-07 | 126.79 | 127.45 | 127.69 | 127.34 | 127.31 | 121.54 | 127.52 | 127.45 | | | |
| 24-Sep-07 | 126.67 | 127.32 | 127.52 | 127.18 | 127.14 | 121.47 | 127.38 | 127.29 | | | |
| 25-Sep-07 | 126.70 | 127.30 | 127.49 | 127.15 | 127.12 | 121.51 | 127.36 | 127.29 | | | |
| 26-Sep-07 | 125.95 | 127.73 | 127.45 | 127.07 | 127.00 | 121.70 | 127.22 | 127.15 | | | |
| 27-Sep-07 | 125.52 | | 126.46 | 125.54 | 125.38 | 121.96 | | 125.69 | | | |
| 28-Sep-07 | 125.49 | 126.14 | 126.37 | 125.46 | 125.31 | 122.32 | 124.77 | 125.61 | 125.57 | 124.58 | 124.61 |
| 29-Sep-07 | 125.40 | 126.23 | 126.24 | 125.32 | 125.16 | 122.30 | 124.66 | 125.49 | | 124.46 | 124.52 |
| 30-Sep-07 | 125.32 | 125.95 | 126.14 | 125.22 | 125.06 | 121.27 | 124.59 | 125.41 | 125.43 | 124.42 | 124.50 |
| 01-Oct-07 | 125.34 | | 126.06 | 125.15 | 125.01 | 122.28 | 124.56 | 125.34 | 125.40 | 124.38 | 124.49 |
| 02-Oct-07 | 125.28 | 125.85 | 125.98 | 125.08 | 124.93 | 122.26 | 124.51 | 125.28 | 125.34 | 124.32 | 124.46 |
| 03-Oct-07 | 125.27 | 125.81 | 125.91 | 125.03 | 124.88 | 122.27 | 124.53 | 125.26 | 125.30 | 124.31 | 124.47 |
| 04-Oct-07 | 125.24 | 125.81 | 126.00 | 125.30 | 125.15 | 122.15 | 124.96 | 125.71 | 125.24 | 124.23 | |
| 05-Oct-07 | | | 125.71 | 125.15 | 125.05 | 121.78 | 125.02 | 125.11 | | | |
| 05-Oct-07 | | | 125.76 | 125.24 | 125.16 | 121.75 | 125.11 | 125.23 | | | |
| 05-Oct-07 | | | 125.72 | 125.15 | 125.05 | 121.73 | 125.00 | 125.15 | | | |
| 05-Oct-07 | | | 125.64 | 125.07 | 124.97 | 121.71 | 124.92 | 125.08 | 124.64 | | |
| 05-Oct-07 | 124.02 | 124.61 | 125.54 | 124.98 | 124.87 | 121.63 | 124.87 | 125.01 | | | |
| 06-Oct-07 | 124.04 | 124.58 | 125.51 | 124.96 | 124.87 | 121.59 | 124.85 | 124.99 | 124.62 | | 123.96 |
| 06-Oct-07 | 124.07 | 124.55 | 125.50 | 124.94 | 124.86 | 121.58 | 124.83 | 124.96 | 124.61 | | 123.95 |
| 06-Oct-07 | 124.05 | 124.69 | 125.94 | 125.08 | 124.97 | 121.57 | 124.94 | 125.05 | 124.63 | | 123.97 |
| 06-Oct-07 | 124.06 | 124.75 | 125.98 | 125.11 | 125.00 | 121.56 | 124.93 | 125.06 | 124.65 | | 123.98 |
| 07-Oct-07 | 124.07 | 124.77 | 125.93 | 125.12 | 125.01 | 121.55 | 124.94 | 125.05 | 124.77 | 124.12 | 123.99 |
| 07-Oct-07 | 124.05 | 124.75 | 125.87 | 125.10 | 124.98 | 121.55 | 124.92 | 125.04 | 124.66 | 124.14 | 123.97 |
| 07-Oct-07 | 124.08 | 124.77 | 125.82 | 125.09 | 124.98 | 121.53 | 124.92 | 125.04 | 124.67 | 124.11 | 123.98 |
| 07-Oct-07 | 124.09 | 124.75 | 125.78 | 125.08 | 124.96 | 121.54 | 124.91 | 125.03 | 124.68 | 124.15 | 123.99 |
| 08-Oct-07 | 124.17 | 124.73 | 125.75 | 125.06 | 124.96 | 121.54 | 124.90 | 125.02 | 124.68 | 124.16 | 123.99 |
| 08-Oct-07 | 124.06 | 124.69 | 125.70 | 125.05 | 124.94 | 121.55 | 124.88 | 125.00 | 124.67 | 124.16 | 123.99 |
| 08-Oct-07 | 124.08 | 124.67 | 125.66 | 125.03 | 124.92 | 121.56 | 124.87 | 125.00 | 124.66 | 124.16 | 123.98 |
| 08-Oct-07 | 124.04 | 124.62 | 125.60 | 124.99 | 124.89 | 121.56 | 124.84 | 124.95 | 124.64 | 124.15 | 123.95 |
| 09-Oct-07 | 124.01 | 124.57 | 125.53 | 124.96 | 124.85 | 121.54 | 124.81 | 124.94 | 124.61 | 124.11 | 123.94 |
| 09-Oct-07 | 124.02 | 124.55 | 125.54 | 124.96 | 124.87 | 121.53 | 124.82 | 124.95 | 124.60 | 124.13 | 123.94 |
| 10-Oct-07 | 124.02 | 124.55 | 125.50 | 124.95 | 124.86 | 121.52 | 124.82 | 124.94 | 124.58 | 124.13 | 123.93 |
| 12-Oct-07 | 123.99 | 124.65 | 125.75 | 125.02 | 124.91 | 121.48 | 124.83 | 124.96 | 124.56 | 124.15 | 123.90 |
| 15-Oct-07 | 123.88 | 124.43 | 125.40 | 124.85 | 124.75 | 121.36 | 124.72 | 124.83 | 124.49 | 124.11 | 123.77 |
| 18-Oct-07 | 123.76 | 124.18 | 125.07 | 124.68 | 124.61 | 121.36 | 124.61 | 124.70 | 124.37 | 123.98 | 123.67 |
| 22-Oct-07 | 123.58 | 123.91 | 124.69 | 124.47 | 124.42 | 121.29 | 124.42 | 124.56 | 124.12 | 123.63 | 123.49 |
| 23-Oct-07 | 123.59 | 123.94 | 125.04 | 124.53 | 124.46 | 121.31 | 124.42 | 124.61 | 124.10 | 123.60 | 123.50 |
| 24-Oct-07 | 123.65 | 124.25 | 125.36 | 124.69 | 124.61 | 121.29 | 124.54 | 124.64 | 124.15 | 123.63 | 123.56 |
| 25-Oct-07 | | | | | | 121.24 | 124.59 | 124.69 | 124.17 | 123.70 | |
| 26-Oct-07 | | | | 124.75 | | 121.25 | 124.61 | 124.71 | | | |
| 29-Oct-07 | 123.94 | 124.64 | 126.02 | 125.25 | 125.13 | 121.40 | 124.99 | 125.09 | 124.54 | 124.24 | 123.83 |
| 30-Oct-07 | 124.12 | 124.58 | 125.92 | 125.23 | 125.11 | 121.43 | 124.99 | 125.08 | 124.56 | 124.25 | 123.82 |
| 31-Oct-07 | 123.96 | 124.57 | 125.88 | 125.25 | 125.13 | 121.50 | 125.01 | 125.09 | 124.64 | 124.28 | 123.87 |
| 01-Nov-07 | 123.92 | 124.54 | 125.86 | 125.23 | 125.13 | 121.47 | 124.91 | 125.00 | 124.60 | 124.26 | 123.88 |
| 02-Nov-07 | 123.81 | 124.32 | 125.60 | 125.03 | 124.92 | 121.44 | 124.83 | 124.98 | 124.53 | 124.25 | 123.70 |
| 05-Nov-07 | 123.71 | 124.23 | 125.25 | 124.81 | 124.72 | 121.47 | 124.67 | 124.77 | 124.45 | 124.23 | 123.62 |
| 06-Nov-07 | 123.75 | 124.27 | 125.47 | 124.89 | 124.79 | 121.51 | 124.73 | 124.81 | 124.47 | 124.24 | 123.64 |
| 07-Nov-07 | 123.72 | 124.21 | 125.39 | 124.84 | 124.79 | 121.45 | 124.69 | 124.80 | 124.43 | 124.21 | 123.62 |
| 08-Nov-07 | 123.69 | 124.18 | 125.31 | 124.82 | 124.74 | 121.42 | 124.68 | 124.79 | 124.42 | 124.17 | 123.58 |
| 09-Nov-07 | 123.66 | 124.22 | 125.35 | 124.70 | 124.63 | 121.40 | 124.55 | 124.71 | 124.40 | 124.17 | 123.56 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW07-12** | **MW07-13** | **MW07-14** | **MW07-15** | **MW07-16** | **MW07-17** | **MW07-18** | **MW07-19** | **MW07-20** | **MW07-21** | **MW07-22** |
| Easting | 335465 | 335448 | 335415 | 335403 | 335393 | 335392 | 335387 | 335378 | 335296 | 335522 | 335472 |
| Northing | 5074588 | 5074616 | 5074617 | 5074605 | 5074599 | 5074599 | 5074595 | 5074587 | 5074616 | 5074584 | 5074584 |
| TOP Elevation (m) | 130.41 | 130.92 | 130.86 | 130.84 | 130.98 | 131.08 | 131.23 | 131.61 | 130.70 | 129.51 | 130.25 |
| GS Elevation (m) | 129.58 | 130.03 | 129.98 | 129.93 | 130.16 | 130.16 | 130.37 | 130.79 | 129.85 | 128.78 | 129.05 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 7.450 | 6.615 | 7.280 | 7.230 | 7.050 | 14.610 | 7.250 | 7.400 | 7.820 | 7.580 | 7.465 |
| Stick-up (m) | 0.835 | 0.893 | 0.880 | 0.910 | 0.822 | 0.915 | 0.868 | 0.815 | 0.850 | 0.730 | 1.200 |
| 12-Nov-07 | 123.65 | 124.23 | 125.36 | 124.61 | 124.54 | 121.41 | 124.50 | 124.62 | 124.41 | 124.16 | 123.55 |
| 13-Nov-07 | 123.65 | 124.24 | 125.50 | 124.65 | 124.69 | 121.43 | 124.64 | 124.73 | 124.40 | 124.17 | 123.54 |
| 14-Nov-07 | 123.67 | 124.25 | 125.47 | 124.68 | 124.76 | 121.47 | 124.67 | 124.81 | 124.39 | 124.18 | 123.56 |
| 15-Nov-07 | 123.69 | 124.25 | 125.41 | 124.80 | 124.77 | 121.49 | 124.70 | 124.82 | 124.39 | 124.19 | 123.58 |
| 16-Nov-07 | 123.59 | 123.91 | 125.23 | 124.69 | 124.76 | 121.46 | 124.54 | 124.80 | 124.40 | 124.20 | 123.45 |
| 19-Nov-07 | 123.52 | 123.85 | 125.01 | 124.60 | 124.78 | 121.33 | 124.50 | 124.62 | 124.41 | 124.18 | 123.40 |
| 21-Nov-07 | 123.55 | 124.02 | 125.20 | 124.68 | 124.65 | 121.36 | 124.58 | 124.71 | 124.20 | 124.16 | 123.45 |
| 26-Nov-07 | 123.59 | 123.98 | 125.25 | 124.82 | 124.77 | 121.39 | 124.64 | 124.79 | 124.35 | 124.39 | 123.51 |
| 27-Nov-07 | 123.63 | 123.98 | 125.29 | 124.89 | 124.83 | 121.47 | 124.80 | 124.91 | 124.38 | 124.48 | 123.53 |
| 28-Nov-07 | 123.65 | 124.05 | 125.51 | 125.04 | 124.99 | 121.39 | 124.95 | 125.09 | 124.44 | 124.54 | 123.55 |
| 29-Nov-07 | 123.85 | 124.25 | 125.68 | 125.24 | 125.17 | 121.54 | 125.12 | 124.69 | 124.67 | 124.75 | 123.74 |
| 30-Nov-07 | 123.80 | 124.19 | 125.63 | 125.19 | 125.11 | 121.52 | 125.09 | 125.24 | 124.71 | 124.78 | 123.69 |
| 04-Dec-07 | 123.71 | | 124.94 | | | | | | 124.58 | 124.71 | 123.60 |
| 05-Dec-07 | 123.60 | 123.84 | 125.04 | 124.73 | 124.68 | 121.56 | 124.68 | 124.82 | 124.68 | 124.73 | 123.50 |
| 06-Dec-07 | 123.50 | 123.71 | 124.87 | 124.60 | 124.55 | 121.48 | 124.62 | 124.71 | 124.38 | 124.54 | 123.40 |
| 07-Dec-07 | 123.48 | 123.66 | 124.78 | 124.54 | 124.47 | 121.44 | 124.52 | 124.67 | 124.34 | 124.53 | 123.38 |
| 10-Dec-07 | 123.31 | 123.44 | 124.48 | 124.35 | 124.32 | 121.38 | 124.34 | 124.52 | 124.13 | 124.42 | 123.22 |
| 11-Dec-07 | 123.29 | 123.41 | 124.45 | 124.33 | 124.30 | 121.38 | 124.32 | 124.49 | 124.10 | 124.41 | 123.20 |
| 12-Dec-07 | 123.23 | 123.35 | 124.37 | 124.27 | 124.25 | 121.38 | 124.27 | 124.44 | 124.01 | 124.31 | 123.14 |
| 13-Dec-07 | 123.21 | 123.33 | 124.34 | 124.24 | 124.22 | 121.33 | 124.25 | 124.42 | 123.99 | 124.29 | 123.12 |
| 14-Dec-07 | 123.15 | | 124.26 | 124.19 | 124.16 | 121.34 | 124.17 | 124.39 | 123.84 | 124.08 | 123.05 |
| 17-Dec-07 | | 123.50 | | | | | | | | | |
| 18-Dec-07 | | 123.42 | 124.10 | 124.05 | 124.04 | 121.12 | 124.04 | | | | 122.89 |
| 19-Dec-07 | | 123.41 | | | | | | | | | |
| 20-Dec-07 | | 123.34 | 124.03 | 124.02 | 123.97 | 121.10 | 123.95 | | 123.75 | 123.51 | |
| 21-Dec-07 | | 123.27 | 123.99 | 123.97 | 123.94 | 120.06 | 123.93 | | 123.72 | 123.50 | |
| 27-Dec-07 | 123.97 | 125.15 | 126.06 | 125.69 | 125.64 | 121.43 | 125.62 | 125.93 | 124.52 | 125.00 | 123.84 |
| 02-Jan-08 | 123.93 | 124.75 | | | | | | | | | |
| 03-Jan-08 | | 124.67 | | | | | 125.26 | | | | |
| 04-Jan-08 | 123.94 | 124.67 | 125.57 | 125.30 | 125.22 | 121.65 | 125.21 | 125.39 | 124.55 | 124.92 | 123.80 |
| 07-Jan-08 | 124.06 | 124.96 | 125.97 | 125.56 | 125.61 | 121.72 | 125.65 | 125.90 | 124.58 | 125.05 | 123.93 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-23 | MW07-24 | MW07-25 | MW07-26 | MW07-27 | MW07-28 | MW07-29 | MW07-30 | MW07-31 | MW07-32 | MW07-33 |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 10-Jan-06 | | | | | | | | | | | |
| 11-Jan-06 | | | | | | | | | | | |
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| 19-Sep-06 | | | | | | | | | | | |

SRB Technologies
Compilation of Groundwater Elevations

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-23 | MW07-24 | MW07-25 | MW07-26 | MW07-27 | MW07-28 | MW07-29 | MW07-30 | MW07-31 | MW07-32 | MW07-33 |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 19-Sep-06 | | | | | | | | | | | |
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| 30-Nov-06 | | | | | | | | | | | |
| 01-Dec-06 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-23 | MW07-24 | MW07-25 | MW07-26 | MW07-27 | MW07-28 | MW07-29 | MW07-30 | MW07-31 | MW07-32 | MW07-33 |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 04-Dec-06 | | | | | | | | | | | |
| 05-Dec-06 | | | | | | | | | | | |
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| 27-Feb-07 | | | | | | | | | | | |
| 28-Feb-07 | | | | | | | | | | | |
| 01-Mar-07 | | | | | | | | | | | |
| 02-Mar-07 | | | | | | | | | | | |
| 05-Mar-07 | | | | | | | | | | | |
| 06-Mar-07 | | | | | | | | | | | |
| 07-Mar-07 | | | | | | | | | | | |
| 08-Mar-07 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW07-23** | **MW07-24** | **MW07-25** | **MW07-26** | **MW07-27** | **MW07-28** | **MW07-29** | **MW07-30** | **MW07-31** | **MW07-32** | **MW07-33** |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 09-Mar-07 | | | | | | | | | | | |
| 12-Mar-07 | | | | | | | | | | | |
| 13-Mar-07 | | | | | | | | | | | |
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| 01-May-07 | | | | | | | | | | | |
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| 30-May-07 | | | | | | | | | | | |
| 31-May-07 | | | | | | | | | | | |
| 01-Jun-07 | | | | | | | | | | | |
| 04-Jun-07 | | | | | | | | | | | |
| 05-Jun-07 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-23 | MW07-24 | MW07-25 | MW07-26 | MW07-27 | MW07-28 | MW07-29 | MW07-30 | MW07-31 | MW07-32 | MW07-33 |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 06-Jun-07 | | | | | | | | | | | |
| 07-Jun-07 | | | | | | | | | | | |
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| 03-Aug-07 | | | | | | | | | | | |
| 07-Aug-07 | | | | | | | | | | | |
| 08-Aug-07 | | | | | | | | | | | |
| 09-Aug-07 | | | | | | | | | | | |
| 10-Aug-07 | | | | | | | | | | | |
| 13-Aug-07 | | | | | | | | | | | |
| 14-Aug-07 | | | | | | | | | | | |
| 15-Aug-07 | | | | | | | | | | | |
| 16-Aug-07 | | | | | | | | | | | |
| 17-Aug-07 | | | | | | | | | | | |
| 20-Aug-07 | | | | | | | | | | | |
| 21-Aug-07 | | | | | | | | | | | |
| 22-Aug-07 | | | | | | | | | | | |
| 23-Aug-07 | | | | | | | | | | | |
| 24-Aug-07 | | | | | | | | | | | |
| 27-Aug-07 | | | | | | | | | | | |
| 28-Aug-07 | | | | | | | | | | | |
| 29-Aug-07 | | | | | | | | | | | |
| 30-Aug-07 | | | | | | | | | | | |
| 31-Aug-07 | | | | | | | | | | | |
| 04-Sep-07 | | | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | MW07-23 | MW07-24 | MW07-25 | MW07-26 | MW07-27 | MW07-28 | MW07-29 | MW07-30 | MW07-31 | MW07-32 | MW07-33 |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 05-Sep-07 | | | | | | | | | | | |
| 06-Sep-07 | | | | | | | | | | | |
| 07-Sep-07 | | | | | | | | | | | |
| 10-Sep-07 | | | | | | | | | | | |
| 11-Sep-07 | | | | | | | | | | | |
| 12-Sep-07 | | | | | | | | | | | |
| 13-Sep-07 | | | | | | | | | | | |
| 14-Sep-07 | | | | | | | | | | | |
| 17-Sep-07 | | | | | | | | | | | |
| 18-Sep-07 | | | | | | | | | | | |
| 19-Sep-07 | | | | | | | | | | | |
| 20-Sep-07 | | | | | | | | | | | |
| 21-Sep-07 | | | | | | | | | | | |
| 24-Sep-07 | | | | | | | | | | | |
| 25-Sep-07 | | | | | | | | | | | |
| 26-Sep-07 | | | | | | | | | | | |
| 27-Sep-07 | | | | | | | | | | | |
| 28-Sep-07 | | 125.37 | 126.70 | 126.41 | 125.75 | 124.91 | 123.82 | 125.33 | 124.38 | 125.00 | 126.50 |
| 29-Sep-07 | 126.59 | 125.33 | 126.65 | 126.36 | 125.62 | 124.78 | 123.69 | 125.23 | 124.30 | 124.93 | 126.45 |
| 30-Sep-07 | 126.53 | 125.29 | 126.60 | 126.28 | 125.53 | 124.71 | 123.64 | 125.31 | 124.26 | 124.88 | 126.41 |
| 01-Oct-07 | 126.50 | 125.26 | 126.58 | 126.21 | 125.46 | 124.64 | 123.61 | 125.13 | 124.25 | 124.86 | 126.40 |
| 02-Oct-07 | 126.45 | 125.23 | 126.56 | 126.16 | 125.37 | 124.57 | 123.56 | 125.07 | 124.21 | 124.82 | 126.37 |
| 03-Oct-07 | 126.41 | 125.22 | 126.56 | 126.12 | 125.31 | 124.53 | 123.54 | 125.04 | 124.20 | 124.82 | 126.36 |
| 04-Oct-07 | 126.36 | 125.17 | 126.50 | 126.07 | 125.34 | 124.68 | 124.59 | 125.11 | 124.40 | 124.76 | 126.32 |
| 05-Oct-07 | | | | | | | 122.85 | | | | |
| 05-Oct-07 | | | | | | | 122.99 | | | | |
| 05-Oct-07 | | | | | | | | | | | |
| 05-Oct-07 | 125.66 | | | 126.03 | 125.25 | 121.57 | 122.39 | 123.82 | 120.37 | 120.37 | 121.06 |
| 05-Oct-07 | | | | | | | | | | | |
| 06-Oct-07 | 125.71 | | | 126.02 | | 121.56 | 122.37 | 123.81 | 120.38 | 120.36 | 120.88 |
| 06-Oct-07 | 125.74 | | | 126.00 | 125.19 | 121.56 | 122.34 | 123.80 | 120.38 | 120.38 | 120.88 |
| 06-Oct-07 | 125.79 | | | 126.01 | 125.22 | 121.57 | 122.36 | 123.91 | 120.40 | 120.38 | 120.88 |
| 06-Oct-07 | 125.82 | | | 125.99 | 125.24 | 121.54 | 122.34 | 123.96 | 120.39 | 120.38 | 120.89 |
| 07-Oct-07 | 125.86 | 124.95 | 125.64 | 125.99 | 125.25 | 121.54 | 122.33 | 123.96 | 120.39 | 120.37 | 120.84 |
| 07-Oct-07 | 125.87 | 124.95 | 125.65 | 125.98 | 125.24 | 121.52 | 122.31 | 123.93 | 120.36 | 120.35 | 120.72 |
| 07-Oct-07 | 125.87 | 124.95 | 125.67 | 125.98 | 125.25 | 121.55 | 122.33 | 123.93 | 120.37 | 120.36 | 120.71 |
| 07-Oct-07 | 125.88 | 124.96 | 125.68 | 125.97 | 125.25 | 121.56 | 122.33 | 123.90 | 120.38 | 120.37 | 120.70 |
| 08-Oct-07 | 125.88 | 124.97 | 125.68 | 125.97 | | 121.59 | 122.35 | 123.90 | 120.38 | 120.49 | 120.72 |
| 08-Oct-07 | | 124.97 | 125.68 | 125.94 | 125.24 | 121.57 | 122.34 | 123.88 | 120.40 | 120.38 | 120.71 |
| 08-Oct-07 | 125.66 | 124.97 | 125.69 | 125.95 | 125.22 | 121.58 | 122.34 | 123.85 | 120.39 | 120.39 | 120.72 |
| 08-Oct-07 | 125.78 | 124.96 | 125.67 | 125.94 | 125.19 | 121.54 | 122.31 | 123.80 | 120.38 | 120.37 | 120.70 |
| 09-Oct-07 | 125.83 | 124.93 | 125.66 | 125.92 | 125.17 | 121.53 | 122.28 | 123.74 | 120.36 | 120.29 | 120.61 |
| 09-Oct-07 | 125.84 | 124.94 | 125.68 | 125.92 | 125.18 | 121.54 | 122.30 | 123.86 | 120.35 | 120.35 | 120.57 |
| 10-Oct-07 | 125.84 | 124.95 | 125.69 | 125.90 | 125.18 | 121.53 | 122.29 | 123.81 | 120.32 | 120.31 | 120.55 |
| 12-Oct-07 | 125.85 | 124.97 | 125.69 | 125.86 | 125.20 | 121.47 | 122.04 | 123.85 | 120.26 | 120.25 | 120.50 |
| 15-Oct-07 | 125.79 | 124.93 | 125.64 | 125.81 | | | 121.69 | 123.62 | 120.18 | 120.16 | 120.41 |
| 18-Oct-07 | 125.64 | 124.76 | 125.09 | 125.71 | | | | | | 120.37 | 120.47 |
| 22-Oct-07 | 125.43 | 124.62 | 124.95 | | 124.85 | 121.28 | 121.64 | 123.15 | 120.29 | 120.28 | 120.38 |
| 23-Oct-07 | 125.43 | 124.65 | 124.97 | 125.65 | 124.83 | 121.28 | 121.62 | 123.26 | 120.31 | 120.32 | 120.40 |
| 24-Oct-07 | 125.51 | 124.70 | 124.98 | 125.69 | 124.89 | 121.24 | 121.64 | 123.51 | 120.28 | 120.19 | 120.36 |
| 25-Oct-07 | | 124.73 | 124.99 | 125.64 | | 121.21 | 121.63 | | | 120.22 | 120.31 |
| 26-Oct-07 | | | | 125.81 | 124.97 | 121.22 | | | | | |
| 29-Oct-07 | 125.92 | 125.03 | 125.28 | 125.93 | 125.04 | 121.39 | 121.82 | 123.77 | 120.41 | 120.40 | 120.49 |
| 30-Oct-07 | 125.94 | 125.06 | 125.30 | 125.95 | | 121.40 | 121.82 | 123.70 | 120.41 | 120.42 | 120.50 |
| 31-Oct-07 | 125.91 | 125.05 | 125.32 | 125.96 | 125.50 | 121.50 | 121.94 | 123.73 | 120.48 | 120.47 | 120.56 |
| 01-Nov-07 | 125.94 | 125.02 | 125.28 | 125.92 | 125.41 | 121.45 | 121.96 | 123.75 | 120.47 | 120.46 | 120.52 |
| 02-Nov-07 | 125.81 | 124.92 | 125.24 | 125.86 | 125.32 | 121.38 | 121.83 | 123.51 | 120.39 | 120.38 | 120.47 |
| 05-Nov-07 | 125.77 | 124.87 | 125.21 | 125.77 | 125.12 | 121.44 | 121.82 | 123.40 | 120.45 | 120.44 | 120.53 |
| 06-Nov-07 | 125.79 | 124.86 | 125.22 | 125.83 | 125.15 | 121.46 | 121.85 | 123.48 | 120.47 | 120.40 | 120.57 |
| 07-Nov-07 | 125.74 | 124.87 | | | | 121.43 | 121.83 | 123.43 | | | |
| 08-Nov-07 | 125.69 | 124.87 | | | | 121.38 | 121.82 | 123.40 | | | |
| 09-Nov-07 | 125.68 | 124.85 | | | | 121.38 | 121.82 | 123.42 | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **MW07-23** | **MW07-24** | **MW07-25** | **MW07-26** | **MW07-27** | **MW07-28** | **MW07-29** | **MW07-30** | **MW07-31** | **MW07-32** | **MW07-33** |
| Easting | 335492 | 335519 | 335466 | 335357 | 335354 | 335352 | 335384 | 335447 | 335471 | 335517 | 335465 |
| Northing | 5074560 | 5074530 | 5074498 | 5074567 | 5074611 | 5074612 | 5074592 | 5074620 | 5074583 | 5074530 | 5074497 |
| TOP Elevation (m) | 130.04 | 129.03 | 129.85 | 132.42 | 132.89 | 132.71 | 131.09 | 130.80 | 130.16 | 128.86 | 129.88 |
| GS Elevation (m) | 129.29 | 128.22 | 129.03 | 131.85 | 132.02 | 132.04 | 130.57 | 130.10 | 129.38 | 128.23 | 129.26 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 | 0.032 |
| Well Depth (m) | 5.905 | 6.525 | 6.750 | 7.310 | 8.330 | 14.400 | 13.000 | 13.915 | 13.240 | 13.090 | 14.230 |
| Stick-up (m) | 0.750 | 0.810 | 0.820 | 0.570 | 0.870 | 0.670 | 0.520 | 0.700 | 0.780 | 0.630 | 0.620 |
| 12-Nov-07 | 125.67 | 124.77 | 125.10 | 125.67 | 124.96 | 121.40 | 121.80 | 123.44 | 120.53 | 120.44 | 120.53 |
| 13-Nov-07 | 125.66 | 124.75 | 125.07 | 125.63 | 124.98 | 121.39 | 121.81 | 123.50 | 120.47 | 120.42 | 120.51 |
| 14-Nov-07 | 125.72 | 124.84 | 125.15 | 125.71 | 125.04 | 121.42 | 121.84 | 123.47 | 120.48 | 120.45 | 120.53 |
| 15-Nov-07 | 125.75 | 124.94 | 125.24 | 125.82 | 125.09 | 121.44 | 121.85 | 123.43 | 120.50 | 120.50 | 120.58 |
| 16-Nov-07 | 125.77 | 124.86 | 125.17 | 125.82 | 125.05 | 121.40 | 121.80 | 123.31 | 120.45 | 120.45 | 120.53 |
| 19-Nov-07 | 125.79 | 124.78 | 125.14 | 125.71 | 124.98 | 121.32 | 121.72 | 123.12 | 120.39 | 120.38 | 120.46 |
| 21-Nov-07 | 125.84 | 124.67 | 125.19 | 125.67 | 125.00 | 121.45 | 121.76 | 123.07 | 120.44 | 120.44 | 120.52 |
| 26-Nov-07 | 125.97 | 124.84 | 125.24 | 125.78 | 125.08 | 121.43 | 121.78 | 123.11 | 120.47 | 120.47 | 120.54 |
| 27-Nov-07 | 126.05 | 125.04 | 125.33 | 126.01 | 125.13 | 121.40 | 121.81 | 123.14 | 120.56 | 120.55 | 120.56 |
| 28-Nov-07 | 125.92 | 125.07 | 125.38 | 126.24 | 125.24 | 121.32 | 121.76 | 123.18 | 120.48 | 120.47 | 120.58 |
| 29-Nov-07 | 126.06 | 125.20 | 125.50 | 126.53 | 125.46 | 121.52 | 121.95 | 123.58 | 120.65 | 120.64 | 120.75 |
| 30-Nov-07 | 126.00 | 125.25 | 125.54 | 126.48 | 125.42 | 121.48 | 121.91 | 123.39 | 120.61 | 120.69 | 120.79 |
| 04-Dec-07 | 125.92 | 129.03 | 129.85 | | | | 121.93 | 123.25 | 120.72 | | |
| 05-Dec-07 | 125.75 | 124.99 | 125.56 | 126.01 | 125.04 | 121.49 | 121.85 | 123.06 | 120.66 | 120.65 | 120.77 |
| 06-Dec-07 | 125.66 | 124.92 | 125.31 | 125.92 | 124.93 | 121.40 | 121.76 | 122.92 | 120.62 | 120.60 | 120.70 |
| 07-Dec-07 | 125.59 | 124.89 | 125.29 | 125.87 | 124.89 | 121.40 | 121.74 | 122.94 | 120.61 | 120.59 | 120.68 |
| 10-Dec-07 | 125.38 | 124.77 | 125.20 | 125.74 | 124.78 | 121.33 | 121.77 | 122.79 | 120.58 | 120.56 | 120.66 |
| 11-Dec-07 | 125.34 | 124.76 | 125.20 | 125.71 | 124.77 | 121.33 | 121.67 | 122.69 | 120.58 | 120.66 | 120.66 |
| 12-Dec-07 | 125.29 | 124.72 | 125.16 | 125.67 | 124.73 | 121.28 | 121.64 | 122.71 | 120.58 | 120.56 | 120.66 |
| 13-Dec-07 | 125.27 | 124.68 | 125.14 | 125.65 | 124.73 | 121.28 | 121.62 | 122.66 | 120.54 | 120.52 | 120.64 |
| 14-Dec-07 | 125.19 | 124.66 | 125.12 | 125.63 | 124.68 | 121.23 | 121.45 | | 120.56 | 120.54 | 120.65 |
| 17-Dec-07 | | | | | | | | | | | |
| 18-Dec-07 | 124.95 | | | 125.53 | | 121.11 | 121.40 | | 120.47 | | |
| 19-Dec-07 | | | | | | | | | | | |
| 20-Dec-07 | 124.90 | 124.41 | 124.91 | 125.54 | | 121.05 | 121.32 | | 120.47 | 120.45 | 120.56 |
| 21-Dec-07 | 124.83 | 124.37 | 124.86 | 125.51 | | 121.03 | 121.27 | | 120.44 | 120.42 | 120.52 |
| 27-Dec-07 | 126.22 | 125.28 | 126.03 | 128.12 | 126.36 | 121.44 | 121.77 | | 120.79 | 120.77 | 120.89 |
| 02-Jan-08 | | | 125.94 | | | | 121.83 | | 120.91 | | |
| 03-Jan-08 | | | | | | | | | | | |
| 04-Jan-08 | 126.24 | 125.31 | 125.95 | 126.92 | 125.78 | 121.65 | 121.89 | | 120.97 | 120.96 | 121.05 |
| 07-Jan-08 | 126.47 | 125.45 | 126.20 | 127.75 | 126.15 | 121.72 | 121.97 | | 121.05 | 121.04 | 121.15 |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MW07-34 | MW07-35 | MW07-36 | MW07-37 | CN-1S | CN-1D | CN-2 | CN-3S | CN-3D |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 10-Jan-06 | | | | | 126.47 | 124.10 | 128.64 | 128.01 | 124.40 |
| 11-Jan-06 | | | | | 126.42 | 124.02 | | 128.02 | 124.50 |
| 12-Jan-06 | | | | | | | | | |
| 13-Jan-06 | | | | | 126.66 | 124.37 | 128.82 | 128.13 | 124.55 |
| 16-Jan-06 | | | | | 127.62 | 127.02 | 128.99 | 128.30 | 124.73 |
| 17-Jan-06 | | | | | 127.54 | 127.10 | 128.95 | 128.29 | 124.91 |
| 18-Jan-06 | | | | | 127.85 | 127.29 | 129.05 | 128.36 | 125.19 |
| 19-Jan-06 | | | | | 127.64 | 127.24 | 128.98 | 128.33 | 125.06 |
| 20-Jan-06 | | | | | 127.54 | 127.11 | 128.94 | 128.30 | 125.12 |
| 23-Jan-06 | | | | | 127.18 | 126.64 | 128.95 | 128.27 | 125.23 |
| 24-Jan-06 | | | | | 127.17 | 126.60 | 128.96 | 128.27 | 125.31 |
| 25-Jan-06 | | | | | 127.11 | 126.51 | 128.90 | 128.25 | 125.18 |
| 26-Jan-06 | | | | | 126.94 | 126.19 | 128.82 | 128.21 | 124.93 |
| 27-Jan-06 | | | | | 126.84 | 125.80 | 128.84 | 128.19 | 124.99 |
| 01-Feb-06 | | | | | 126.65 | 125.01 | 128.72 | 128.13 | 124.80 |
| 14-Feb-06 | | | | | 127.04 | 126.51 | 128.81 | 128.18 | 125.28 |
| 23-Feb-06 | | | | | 126.33 | 124.54 | 128.58 | 128.00 | 124.66 |
| 20-Jul-06 | | | | | | | | | |
| 21-Jul-06 | | | | | | | | | |
| 24-Jul-06 | | | | | | | | | |
| 25-Jul-06 | | | | | | | | | |
| 26-Jul-06 | | | | | | | | | |
| 27-Jul-06 | | | | | | | | | |
| 28-Jul-06 | | | | | | | | | |
| 31-Jul-06 | | | | | | | | | |
| 01-Aug-06 | | | | | | | | | |
| 02-Aug-06 | | | | | | | | | |
| 04-Aug-06 | | | | | | | | | |
| 08-Aug-06 | | | | | | | | | |
| 09-Aug-06 | | | | | | | | | |
| 10-Aug-06 | | | | | | | | | |
| 14-Aug-06 | | | | | | | | | |
| 16-Aug-06 | | | | | | | | | |
| 18-Aug-06 | | | | | | | | | |
| 21-Aug-06 | | | | | | | | | |
| 22-Aug-06 | | | | | | | | | |
| 23-Aug-06 | | | | | | | | | |
| 24-Aug-06 | | | | | | | | | |
| 25-Aug-06 | | | | | | | | | |
| 29-Aug-06 | | | | | | | | | |
| 30-Aug-06 | | | | | | | | | |
| 31-Aug-06 | | | | | | | | | |
| 01-Sep-06 | | | | | | | | | |
| 05-Sep-06 | | | | | | | | | |
| 06-Sep-06 | | | | | | | | | |
| 07-Sep-06 | | | | | | | | | |
| 08-Sep-06 | | | | | | | | | |
| 11-Sep-06 | | | | | | | | | |
| 12-Sep-06 | | | | | | | | | |
| 13-Sep-06 | | | | | | | | | |
| 13-Sep-06 | | | | | | | | | |
| 13-Sep-06 | | | | | | | | | |
| 13-Sep-06 | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | |
| 14-Sep-06 | | | | | | | | | |
| 15-Sep-06 | | | | | | | | | |
| 18-Sep-06 | | | | | | | | | |
| 18-Sep-06 | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MW07-34 | MW07-35 | MW07-36 | MW07-37 | CN-1S | CN-1D | CN-2 | CN-3S | CN-3D |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 19-Sep-06 | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | |
| 19-Sep-06 | | | | | | | | | |
| 20-Sep-06 | | | | | | | | | |
| 21-Sep-06 | | | | | | | | | |
| 22-Sep-06 | | | | | | | | | |
| 25-Sep-06 | | | | | | | | | |
| 26-Sep-06 | | | | | | | | | |
| 27-Sep-06 | | | | | | | | | |
| 28-Sep-06 | | | | | | | | | |
| 29-Sep-06 | | | | | | | | | |
| 02-Oct-06 | | | | | | | | | |
| 03-Oct-06 | | | | | | | | | |
| 04-Oct-06 | | | | | | | | | |
| 05-Oct-06 | | | | | | | | | |
| 06-Oct-06 | | | | | | | | | |
| 10-Oct-06 | | | | | | | | | |
| 11-Oct-06 | | | | | | | | | |
| 12-Oct-06 | | | | | | | | | |
| 13-Oct-06 | | | | | | | | | |
| 13-Oct-06 | | | | | | | | | |
| 16-Oct-06 | | | | | | | | | |
| 17-Oct-06 | | | | | | | | | |
| 17-Oct-06 | | | | | | | | | |
| 18-Oct-06 | | | | | | | | | |
| 18-Oct-06 | | | | | | | | | |
| 19-Oct-06 | | | | | | | | | |
| 20-Oct-06 | | | | | | | | | |
| 23-Oct-06 | | | | | | | | | |
| 24-Oct-06 | | | | | | | | | |
| 25-Oct-06 | | | | | | | | | |
| 26-Oct-06 | | | | | | | | | |
| 27-Oct-06 | | | | | | | | | |
| 30-Oct-06 | | | | | | | | | |
| 31-Oct-06 | | | | | | | | | |
| 01-Nov-06 | | | | | | | | | |
| 02-Nov-06 | | | | | | | | | |
| 03-Nov-06 | | | | | | | | | |
| 06-Nov-06 | | | | | | | | | |
| 07-Nov-06 | | | | | | | | | |
| 08-Nov-06 | | | | | | | | | |
| 08-Nov-06 | | | | | | | | | |
| 08-Nov-06 | | | | | | | | | |
| 09-Nov-06 | | | | | | | | | |
| 09-Nov-06 | | | | | | | | | |
| 10-Nov-06 | | | | | | | | | |
| 13-Nov-06 | | | | | | | | | |
| 14-Nov-06 | | | | | | | | | |
| 15-Nov-06 | | | | | | | | | |
| 16-Nov-06 | | | | | | | | | |
| 17-Nov-06 | | | | | | | | | |
| 20-Nov-06 | | | | | | | | | |
| 21-Nov-06 | | | | | | | | | |
| 22-Nov-06 | | | | | | | | | |
| 23-Nov-06 | | | | | | | | | |
| 24-Nov-06 | | | | | | | | | |
| 27-Nov-06 | | | | | | | | | |
| 28-Nov-06 | | | | | | | | | |
| 29-Nov-06 | | | | | | | | | |
| 30-Nov-06 | | | | | | | | | |
| 01-Dec-06 | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MW07-34 | MW07-35 | MW07-36 | MW07-37 | CN-1S | CN-1D | CN-2 | CN-3S | CN-3D |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 04-Dec-06 | | | | | | | | | |
| 05-Dec-06 | | | | | | | | | |
| 06-Dec-06 | | | | | | | | | |
| 07-Dec-06 | | | | | | | | | |
| 08-Dec-06 | | | | | | | | | |
| 11-Dec-06 | | | | | | | | | |
| 12-Dec-06 | | | | | | | | | |
| 13-Dec-06 | | | | | | | | | |
| 14-Dec-06 | | | | | | | | | |
| 15-Dec-06 | | | | | | | | | |
| 18-Dec-06 | | | | | | | | | |
| 19-Dec-06 | | | | | | | | | |
| 20-Dec-06 | | | | | | | | | |
| 21-Dec-06 | | | | | | | | | |
| 22-Dec-06 | | | | | | | | | |
| 02-Jan-07 | | | | | | | | | |
| 03-Jan-07 | | | | | | | | | |
| 04-Jan-07 | | | | | | | | | |
| 05-Jan-07 | | | | | | | | | |
| 08-Jan-07 | | | | | | | | | |
| 09-Jan-07 | | | | | | | | | |
| 10-Jan-07 | | | | | | | | | |
| 11-Jan-07 | | | | | | | | | |
| 12-Jan-07 | | | | | | | | | |
| 15-Jan-07 | | | | | | | | | |
| 17-Jan-07 | | | | | | | | | |
| 18-Jan-07 | | | | | | | | | |
| 19-Jan-07 | | | | | | | | | |
| 22-Jan-07 | | | | | | | | | |
| 23-Jan-07 | | | | | | | | | |
| 24-Jan-07 | | | | | | | | | |
| 25-Jan-07 | | | | | | | | | |
| 26-Jan-07 | | | | | | | | | |
| 29-Jan-07 | | | | | | | | | |
| 30-Jan-07 | | | | | | | | | |
| 31-Jan-07 | | | | | | | | | |
| 01-Feb-07 | | | | | | | | | |
| 02-Feb-07 | | | | | | | | | |
| 05-Feb-07 | | | | | | | | | |
| 06-Feb-07 | | | | | | | | | |
| 07-Feb-07 | | | | | | | | | |
| 08-Feb-07 | | | | | | | | | |
| 09-Feb-07 | | | | | | | | | |
| 12-Feb-07 | | | | | | | | | |
| 13-Feb-07 | | | | | | | | | |
| 14-Feb-07 | | | | | | | | | |
| 15-Feb-07 | | | | | | | | | |
| 16-Feb-07 | | | | | | | | | |
| 19-Feb-07 | | | | | | | | | |
| 20-Feb-07 | | | | | | | | | |
| 21-Feb-07 | | | | | | | | | |
| 22-Feb-07 | | | | | | | | | |
| 23-Feb-07 | | | | | | | | | |
| 26-Feb-07 | | | | | | | | | |
| 27-Feb-07 | | | | | | | | | |
| 28-Feb-07 | | | | | | | | | |
| 01-Mar-07 | | | | | | | | | |
| 02-Mar-07 | | | | | | | | | |
| 05-Mar-07 | | | | | | | | | |
| 06-Mar-07 | | | | | | | | | |
| 07-Mar-07 | | | | | | | | | |
| 08-Mar-07 | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MW07-34 | MW07-35 | MW07-36 | MW07-37 | CN-1S | CN-1D | CN-2 | CN-3S | CN-3D |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 09-Mar-07 | | | | | | | | | |
| 12-Mar-07 | | | | | | | | | |
| 13-Mar-07 | | | | | | | | | |
| 14-Mar-07 | | | | | | | | | |
| 15-Mar-07 | | | | | | | | | |
| 16-Mar-07 | | | | | | | | | |
| 19-Mar-07 | | | | | | | | | |
| 20-Mar-07 | | | | | | | | | |
| 21-Mar-07 | | | | | | | | | |
| 22-Mar-07 | | | | | | | | | |
| 23-Mar-07 | | | | | | | | | |
| 26-Mar-07 | | | | | | | | | |
| 27-Mar-07 | | | | | | | | | |
| 28-Mar-07 | | | | | | | | | |
| 29-Mar-07 | | | | | | | | | |
| 30-Mar-07 | | | | | | | | | |
| 02-Apr-07 | | | | | | | | | |
| 03-Apr-07 | | | | | | | | | |
| 04-Apr-07 | | | | | | | | | |
| 05-Apr-07 | | | | | | | | | |
| 09-Apr-07 | | | | | | | | | |
| 10-Apr-07 | | | | | | | | | |
| 11-Apr-07 | | | | | | | | | |
| 12-Apr-07 | | | | | | | | | |
| 13-Apr-07 | | | | | | | | | |
| 16-Apr-07 | | | | | | | | | |
| 17-Apr-07 | | | | | | | | | |
| 18-Apr-07 | | | | | | | | | |
| 19-Apr-07 | | | | | | | | | |
| 20-Apr-07 | | | | | | | | | |
| 20-Apr-07 | | | | | | | | | |
| 23-Apr-07 | | | | | | | | | |
| 24-Apr-07 | | | | | | | | | |
| 25-Apr-07 | | | | | | | | | |
| 26-Apr-07 | | | | | | | | | |
| 27-Apr-07 | | | | | | | | | |
| 30-Apr-07 | | | | | | | | | |
| 01-May-07 | | | | | | | | | |
| 02-May-07 | | | | | | | | | |
| 03-May-07 | | | | | | | | | |
| 04-May-07 | | | | | | | | | |
| 07-May-07 | | | | | | | | | |
| 08-May-07 | | | | | | | | | |
| 09-May-07 | | | | | | | | | |
| 10-May-07 | | | | | | | | | |
| 11-May-07 | | | | | | | | | |
| 14-May-07 | | | | | | | | | |
| 15-May-07 | | | | | | | | | |
| 16-May-07 | | | | | | | | | |
| 17-May-07 | | | | | | | | | |
| 18-May-07 | | | | | | | | | |
| 22-May-07 | | | | | | | | | |
| 23-May-07 | | | | | | | | | |
| 24-May-07 | | | | | | | | | |
| 25-May-07 | | | | | | | | | |
| 28-May-07 | | | | | | | | | |
| 29-May-07 | | | | | | | | | |
| 30-May-07 | | | | | | | | | |
| 31-May-07 | | | | | | | | | |
| 01-Jun-07 | | | | | | | | | |
| 04-Jun-07 | | | | | | | | | |
| 05-Jun-07 | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **MW07-34** | **MW07-35** | **MW07-36** | **MW07-37** | **CN-1S** | **CN-1D** | **CN-2** | **CN-3S** | **CN-3D** |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 06-Jun-07 | | | | | | | | | |
| 07-Jun-07 | | | | | | | | | |
| 08-Jun-07 | | | | | | | | | |
| 11-Jun-07 | | | | | | | | | |
| 12-Jun-07 | | | | | | | | | |
| 13-Jun-07 | | | | | | | | | |
| 14-Jun-07 | | | | | | | | | |
| 15-Jun-07 | | | | | | | | | |
| 18-Jun-07 | | | | | | | | | |
| 19-Jun-07 | | | | | | | | | |
| 20-Jun-07 | | | | | | | | | |
| 21-Jun-07 | | | | | | | | | |
| 22-Jun-07 | | | | | | | | | |
| 25-Jun-07 | | | | | | | | | |
| 26-Jun-07 | | | | | | | | | |
| 27-Jun-07 | | | | | | | | | |
| 28-Jun-07 | | | | | | | | | |
| 29-Jun-07 | | | | | | | | | |
| 03-Jul-07 | | | | | | | | | |
| 04-Jul-07 | | | | | | | | | |
| 05-Jul-07 | | | | | | | | | |
| 06-Jul-07 | | | | | | | | | |
| 09-Jul-07 | | | | | | | | | |
| 10-Jul-07 | | | | | | | | | |
| 11-Jul-07 | | | | | | | | | |
| 12-Jul-07 | | | | | | | | | |
| 13-Jul-07 | | | | | | | | | |
| 16-Jul-07 | | | | | | | | | |
| 17-Jul-07 | | | | | | | | | |
| 18-Jul-07 | | | | | | | | | |
| 19-Jul-07 | | | | | | | | | |
| 20-Jul-07 | | | | | | | | | |
| 23-Jul-07 | | | | | | | | | |
| 24-Jul-07 | | | | | | | | | |
| 25-Jul-07 | | | | | | | | | |
| 26-Jul-07 | | | | | | | | | |
| 27-Jul-07 | | | | | | | | | |
| 30-Jul-07 | | | | | | | | | |
| 31-Jul-07 | | | | | | | | | |
| 01-Aug-07 | | | | | | | | | |
| 02-Aug-07 | | | | | | | | | |
| 03-Aug-07 | | | | | | | | | |
| 07-Aug-07 | | | | | | | | | |
| 08-Aug-07 | | | | | | | | | |
| 09-Aug-07 | | | | | | | | | |
| 10-Aug-07 | | | | | | | | | |
| 13-Aug-07 | | | | | | | | | |
| 14-Aug-07 | | | | | | | | | |
| 15-Aug-07 | | | | | | | | | |
| 16-Aug-07 | | | | | | | | | |
| 17-Aug-07 | | | | | | | | | |
| 20-Aug-07 | | | | | | | | | |
| 21-Aug-07 | | | | | | | | | |
| 22-Aug-07 | | | | | | | | | |
| 23-Aug-07 | | | | | | | | | |
| 24-Aug-07 | | | | | | | | | |
| 27-Aug-07 | | | | | | | | | |
| 28-Aug-07 | | | | | | | | | |
| 29-Aug-07 | | | | | | | | | |
| 30-Aug-07 | | | | | | | | | |
| 31-Aug-07 | | | | | | | | | |
| 04-Sep-07 | | | | | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MW07-34 | MW07-35 | MW07-36 | MW07-37 | CN-1S | CN-1D | CN-2 | CN-3S | CN-3D |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 05-Sep-07 | | | | | | | | | |
| 06-Sep-07 | | | | | | | | | |
| 07-Sep-07 | | | | | | | | | |
| 10-Sep-07 | | | | | | | | | |
| 11-Sep-07 | | | | | | | | | |
| 12-Sep-07 | | | | | | | | | |
| 13-Sep-07 | | | | | | | | | |
| 14-Sep-07 | | | | | | | | | |
| 17-Sep-07 | | | | | | | | | |
| 18-Sep-07 | | | | | | | | | |
| 19-Sep-07 | | | | | | | | | |
| 20-Sep-07 | | | | | | | | | |
| 21-Sep-07 | | | | | | | | | |
| 24-Sep-07 | | | | | | | | | |
| 25-Sep-07 | | | | | | | | | |
| 26-Sep-07 | | | | | | | | | |
| 27-Sep-07 | | | | | | | | | |
| 28-Sep-07 | | | | | | | | | |
| 29-Sep-07 | | | | | | | | | |
| 30-Sep-07 | | | | | | | | | |
| 01-Oct-07 | | | | | | | | | |
| 02-Oct-07 | | | | | | | | | |
| 03-Oct-07 | | | | | | | | | |
| 04-Oct-07 | | | | | | | | | |
| 05-Oct-07 | 124.48 | | | | | | | | |
| 05-Oct-07 | 124.82 | | | | | | | | |
| 05-Oct-07 | 124.65 | | | | | | | | |
| 05-Oct-07 | 124.51 | 124.71 | 124.20 | 123.90 | | | | | |
| 05-Oct-07 | | | | | | | | | |
| 06-Oct-07 | 124.48 | 124.71 | 124.18 | 123.95 | | | | | |
| 06-Oct-07 | 124.47 | 124.71 | 124.16 | 123.93 | | | | | |
| 06-Oct-07 | 124.57 | 124.76 | 124.17 | 123.96 | | | | | |
| 06-Oct-07 | 124.55 | 124.76 | 124.17 | 123.96 | | | | | |
| 07-Oct-07 | 124.55 | 124.77 | 124.17 | 123.98 | | | | | |
| 07-Oct-07 | 124.55 | 124.76 | 124.17 | 123.96 | | | | | |
| 07-Oct-07 | 124.54 | 124.78 | 124.18 | 123.98 | | | | | |
| 07-Oct-07 | 124.53 | 124.77 | 124.17 | 123.98 | | | | | |
| 08-Oct-07 | 124.53 | 124.77 | 124.16 | | | | | | |
| 08-Oct-07 | 124.51 | 124.75 | 124.15 | 123.98 | | | | | |
| 08-Oct-07 | 124.50 | 124.75 | 124.15 | 123.98 | | | | | |
| 08-Oct-07 | 124.47 | 124.71 | 124.14 | 123.94 | | | | | |
| 09-Oct-07 | 124.44 | 124.70 | 124.13 | 123.92 | | | | | |
| 09-Oct-07 | 124.45 | 124.71 | 124.13 | 123.93 | | | | | |
| 10-Oct-07 | 124.44 | 124.70 | 124.12 | 123.92 | | | | | |
| 12-Oct-07 | 124.46 | 124.72 | 124.12 | 123.88 | | | | | |
| 15-Oct-07 | 124.32 | | | 123.77 | | | | | |
| 18-Oct-07 | | | | 123.65 | | | | | |
| 22-Oct-07 | 124.09 | 124.35 | 124.22 | 123.48 | | | | | |
| 23-Oct-07 | 124.13 | 124.34 | 124.30 | 123.50 | | | | | |
| 24-Oct-07 | 124.20 | 124.41 | 124.25 | 123.55 | | | | | |
| 25-Oct-07 | 124.24 | 124.46 | | | | | | | |
| 26-Oct-07 | | | | | | | | | |
| 29-Oct-07 | 124.61 | 124.81 | 124.32 | 123.83 | | | | | |
| 30-Oct-07 | 124.61 | 124.85 | 124.33 | 123.81 | | | | | |
| 31-Oct-07 | 124.63 | 124.85 | 124.39 | 123.86 | | | | | |
| 01-Nov-07 | 124.56 | 124.78 | 124.37 | 123.88 | | | | | |
| 02-Nov-07 | 124.49 | 124.72 | 124.33 | 123.69 | | | | | |
| 05-Nov-07 | 124.36 | 124.58 | 124.25 | 123.61 | | | | | |
| 06-Nov-07 | 124.37 | 124.60 | 124.30 | 123.62 | | | | | |
| 07-Nov-07 | | 124.61 | 124.25 | 123.59 | | | | | |
| 08-Nov-07 | | 124.61 | 124.24 | 123.56 | | | | | |
| 09-Nov-07 | | 124.57 | 124.20 | 123.54 | | | | | |

**SRB Technologies**
**Compilation of Groundwater Elevations**

| Date | Monitoring Wells (Values in m) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **MW07-34** | **MW07-35** | **MW07-36** | **MW07-37** | **CN-1S** | **CN-1D** | **CN-2** | **CN-3S** | **CN-3D** |
| Easting | 335393 | 335354 | 335338 | 335468 | 335509 | 335508 | 335459 | 335510 | 335509 |
| Northing | 5074591 | 5074613 | 5074629 | 5074589 | 5074674 | 5074661 | 5074687 | 5074719 | 5074717 |
| TOP Elevation (m) | 131.12 | 132.89 | 133.10 | 130.06 | 129.14 | 129.54 | 130.40 | 129.76 | 129.62 |
| GS Elevation (m) | 130.71 | 132.16 | 132.31 | 129.47 | 128.32 | 128.58 | 129.74 | 128.85 | 128.96 |
| Well Diameter (m) | 0.032 | 0.032 | 0.032 | 0.032 | 0.051 | 0.051 | 0.051 | 0.051 | 0.051 |
| Well Depth (m) | 9.110 | 9.390 | 9.330 | 8.590 | 4.425 | 6.665 | 4.435 | 4.575 | 7.380 |
| Stick-up (m) | 0.410 | 0.730 | 0.790 | 0.590 | 0.817 | 0.962 | 0.663 | 0.912 | 0.660 |
| 12-Nov-07 | 124.19 | 124.45 | 124.15 | 123.52 | | | | | |
| 13-Nov-07 | 124.30 | 124.43 | 124.17 | 123.52 | | | | | |
| 14-Nov-07 | 124.33 | 124.49 | 124.20 | 123.54 | | | | | |
| 15-Nov-07 | 124.37 | 124.58 | 124.24 | 123.56 | | | | | |
| 16-Nov-07 | 124.24 | 124.59 | 124.18 | 123.55 | | | | | |
| 19-Nov-07 | 124.18 | 124.46 | 124.13 | 123.54 | | | | | |
| 21-Nov-07 | 124.27 | 124.50 | 124.17 | 123.44 | | | | | |
| 26-Nov-07 | 124.32 | 124.58 | 124.20 | 123.56 | | | | | |
| 27-Nov-07 | 124.40 | 124.62 | 124.23 | 123.52 | | | | | |
| 28-Nov-07 | 124.49 | 124.71 | 124.28 | 123.54 | | | | | |
| 29-Nov-07 | 124.67 | 124.86 | 124.39 | 123.73 | | | | | |
| 30-Nov-07 | 124.64 | 124.84 | 124.39 | 123.67 | | | | | |
| 04-Dec-07 | | | | 123.58 | | | | | |
| 05-Dec-07 | 124.33 | 124.56 | 124.23 | 123.49 | | | | | |
| 06-Dec-07 | 124.23 | 124.46 | 124.15 | 123.39 | | | | | |
| 07-Dec-07 | 124.19 | 124.43 | 124.11 | 123.36 | | | | | |
| 10-Dec-07 | 124.04 | 124.30 | 124.00 | 123.20 | | | | | |
| 11-Dec-07 | 124.02 | 124.28 | 123.98 | 123.19 | | | | | |
| 12-Dec-07 | 123.99 | 124.23 | 123.95 | 123.13 | | | | | |
| 13-Dec-07 | 123.96 | 124.22 | 123.94 | 123.10 | | | | | |
| 14-Dec-07 | 123.89 | 124.16 | 123.89 | 123.03 | | | | | |
| 17-Dec-07 | | | | | | | | | |
| 18-Dec-07 | 123.76 | 124.01 | | 122.87 | | | | | |
| 19-Dec-07 | | | | | | | | | |
| 20-Dec-07 | 123.71 | 123.97 | | 122.81 | | | | | |
| 21-Dec-07 | 123.69 | 123.93 | | 122.78 | | | | | |
| 27-Dec-07 | 125.11 | 125.41 | 124.65 | 123.84 | | | | | |
| 02-Jan-08 | | | | 123.78 | | | | | |
| 03-Jan-08 | | | | | | | | | |
| 04-Jan-08 | 124.85 | 125.09 | 124.59 | 123.80 | | | | | |
| 07-Jan-08 | 125.17 | 125.40 | 124.75 | 123.92 | | | | | |

**Precipitation Monitoring Data**

| DATE D/M/Y | RAIN GAUGE 1 RAIN (INCHES) | RAIN GAUGE 2 RAIN (INCHES) | RAIN GAUGE 3 RAIN (INCHES) | AVG RAIN GAUGES RAIN (INCHES) | AVG RAIN GAUGES RAIN (mm) | COMMENTS |
|---|---|---|---|---|---|---|
| 27-Jul-06 | 0.3 | 0.4 | N/A | 0.35 | 8.89 | RAINED OVER NIGHT |
| 28-Jul-06 | 0 | 0 | N/A | 0 | 0 | 1 DAY NO RAIN |
| 31-Jul-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 01-Aug-06 | 0.3 | 0.27 | N/A | 0.285 | 7.239 | RAIN OVER NIGHT |
| 02-Aug-06 | 0.14 | 0.14 | N/A | 0.14 | 3.556 | RAINING |
| 04-Aug-06 | 2.66 | 2.66 | N/A | 2.66 | 67.564 | RAINED 2 NIGHTS AGO |
| 08-Aug-06 | 0 | 0 | N/A | 0 | 0 | RAINED A BIT LAST NIGHT |
| 09-Aug-06 | 0 | 0 | N/A | 0 | 0 | 2 DAYS NO RAIN |
| 10-Aug-06 | 0.08 | 0.08 | N/A | 0.08 | 2.032 | RAINED OVER NIGHT INTO THE MORNING |
| 14-Aug-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 16-Aug-06 | 0 | 0 | N/A | 0 | 0 | 6 DAYS NO RAIN |
| 18-Aug-06 | 0 | 0 | N/A | 0 | 0 | 8 DAYS NO RAIN |
| 21-Aug-06 | 1.8 | 1.7 | N/A | 1.75 | 44.45 | TAKEN 1 DAY AFTER RAINFALL |
| 22-Aug-06 | 0 | 0 | N/A | 0 | 0 | 2 DAYS NO RAIN |
| 23-Aug-06 | 0 | 0 | N/A | 0 | 0 | 3 DAYS NO RAIN |
| 24-Aug-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 25-Aug-06 | 0 | 0 | N/A | 0 | 0 | BIT OF RAIN OVERNIGHT |
| 29-Aug-06 | 1.2 | 0.9 | N/A | 1.05 | 26.67 | RAIN 2 DAYS AGO |
| 30-Aug-06 | 0 | 0 | N/A | 0 | 0 | 3 DAYS NO RAIN |
| 31-Aug-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 01-Sep-06 | 0 | 0 | N/A | 0 | 0 | 5 DAYS NO RAIN |
| 05-Sep-06 | 1.3 | 1 | N/A | 1.15 | 29.21 | RAINED FOR 1 1/2 DAYS,BUT NOT TODAY |
| 06-Sep-06 | 0 | 0 | N/A | 0 | 0 | 2 DAYS NO RAIN |
| 07-Sep-06 | 0 | 0 | N/A | 0 | 0 | 3 DAYS NO RAIN |
| 08-Sep-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 11-Sep-06 | 1 | 1 | N/A | 1 | 25.4 | RAIN FRIDAY NIGHT, NO RAIN 3 DAYS |
| 12-Sep-06 | 0 | 0 | N/A | 0 | 0 | 4 DAYS NO RAIN |
| 13-Sep-06 | 0 | 0 | N/A | 0 | 0 | JUST STARTED TO RAIN, DRIZZLE |
| 13-Sep-06 | 0.2 | 0.1 | N/A | 0.15 | 3.81 | BEEN RAINING 4 HOURS, LIGHT RAIN |
| 13-Sep-06 | 0.2 | 0.1 | N/A | 0.15 | 3.81 | BEEN RAINING FOR 6 HOURS, MEDIUM RAIN |
| 13-Sep-06 | 0.3 | 0.2 | N/A | 0.25 | 6.35 | RAINING 10 HOURS, LIGHT RAIN |
| 14-Sep-06 | 0.3 | 0.2 | N/A | 0.25 | 6.35 | DRIZZLE MOST OF THE NIGHT & THIS MORNING |
| 14-Sep-06 | 0 | 0 | N/A | 0 | 0 | VERY LIGHT DRIZZLE |
| 14-Sep-06 | 0 | 0 | N/A | 0 | 0 | STILL VERY LIGHT DRIZZLE |
| 14-Sep-06 | 0 | 0 | N/A | 0 | 0 | STILL VERY LIGHT DRIZZLE |
| 14-Sep-06 | 0 | 0 | N/A | 0 | 0 | STILL VERY LIGHT DRIZZLE |
| 15-Sep-06 | 0 | 0 | N/A | 0 | 0 | NO RAIN TODAY |
| 18-Sep-06 | 0 | 0 | N/A | 0 | 0 | NO RAIN ALL WEEKEND AND SO FAR TODAY |
| 18-Sep-06 | 0.2 | 0.2 | N/A | 0.2 | 5.08 | RAINING FOR ABOUT 3 HOURS |
| 19-Sep-06 | 1.2 | 1.2 | N/A | 1.2 | 30.48 | HEAVY RAIN MOST OF THE NIGHT, NOT THIS MORNING |
| 19-Sep-06 | 0 | 0 | N/A | 0 | 0 | NO RAIN YET TODAY |
| 19-Sep-06 | 0 | 0 | N/A | 0 | 0 | SUNNY |
| 19-Sep-06 | 0 | 0 | N/A | 0 | 0 | SUNNY |
| 19-Sep-06 | 0 | 0 | N/A | 0 | 0 | NO RAIN ALL DAY |
| 20-Sep-06 | 0 | 0 | N/A | 0 | 0 | DRIZZLED A BIT EARLIER |
| 21-Sep-06 | 0 | 0 | N/A | 0 | 0 | NO RAIN ALL DAY |
| 25-Sep-06 | 1.200 | 1.000 | N/A | 1.1 | 27.94 | |
| 26-Sep-06 | 0.100 | 0.000 | N/A | 0.05 | 1.27 | NO RAIN 2 DAYS |
| 27-Sep-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN 3 DAYS |
| 28-Sep-06 | 0.500 | 0.400 | N/A | 0.45 | 11.43 | RAIN OVERNINGHT AND A BIT TONIGHT |
| 29-Sep-06 | 0.300 | 0.000 | N/A | 0.15 | 3.81 | A BIT OF DRIZZLE IN THE MORNING |
| 02-Oct-06 | 0.400 | 0.300 | N/A | 0.35 | 8.89 | RAINED SUNDAY NOT TODAY |
| 03-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN 2 DAYS |
| 04-Oct-06 | 0.600 | 0.300 | N/A | 0.45 | 11.43 | STEADY RAIN MOST OF THE DAY |
| 05-Oct-06 | 0.100 | 0.100 | N/A | 0.1 | 2.54 | NO RAIN ALL DAY |
| 06-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | 2 DAYS NO RAIN |
| 10-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN ALL WEEKEND AND TODAY |
| 11-Oct-06 | 0.300 | 0.200 | N/A | 0.25 | 6.35 | STEADY RAIN MOST OF THE DAY |
| 12-Oct-06 | 0.400 | 0.300 | N/A | 0.35 | 8.89 | RAIN MOST OF THE DAY |
| 13-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | VERY LIGHT FLURRIES AT ONE POINT IN THE DAY |
| 16-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN ALL DAY |
| 17-Oct-06 | 0.200 | 0.100 | N/A | 0.15 | 3.81 | HEAVY RAIN MOST OF THE DAY |
| 17-Oct-06 | 0.300 | 0.100 | N/A | 0.2 | 5.08 | HEAVY RAIN MOST OF THE DAY |
| 18-Oct-06 | 0.600 | 0.600 | N/A | 0.6 | 15.24 | RAIN OVER NIGHT BUT NOT TODAY |
| 18-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | RAIN OVER NIGHT BUT NOT TODAY |
| 19-Oct-06 | 0.100 | 0.000 | N/A | 0.05 | 1.27 | DRIZZLING MOST OF THE MORNING |
| 20-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN |
| 23-Oct-06 | 0.800 | 0.500 | N/A | 0.65 | 16.51 | WET SNOW ON SUNDAY, RAIN TODAY |
| 24-Oct-06 | 0.200 | 0.100 | N/A | 0.15 | 3.81 | RAIN IN THE MORNING |
| 25-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | NO RAIN TODAY |
| 26-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | A BIT OF LIGHT SNOW |
| 27-Oct-06 | 0.000 | 0.000 | N/A | 0 | 0 | VERY LIGHT SNOW IN THE MORNING |
| 30-Oct-06 | 1.000 | 0.900 | N/A | 0.95 | 24.13 | HEAVY RAIN ALL DAY SATURDAY, NO RAIN TODAY |
| 31-Oct-06 | 0.000 | 0.000 | 0.000 | 0 | 0 | NO RAIN |
| 01-Nov-06 | 0.000 | 0.000 | 0.000 | 0 | 0 | NO RAIN |
| 02-Nov-06 | 0.000 | 0.000 | 0.000 | 0 | 0 | LIGHT SNOW IN THE AFTERNOON |
| 03-Nov-06 | 0.000 | 0.000 | 0.000 | 0 | 0 | NO PRECIPITATION |
| 06-Nov-06 | 0.100 | 0.100 | 0.100 | 0.1 | 2.54 | SOME SNOW ON THE WEEKEND, BUT NO PREC. TODAY |
| 07-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0 | NO PRECIPITATION |
| 08-Nov-06 | 0.200 | 0.400 | 0.100 | 0.23 | 5.93 | RAIN OVERNIGHT AND DRIZZLE TODAY |
| 08-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY LIGHT DRIZZLE |
| 08-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0 | VERY LIGHT DRIZZLE |
| 09-Nov-06 | 0.000 | 0.100 | 0.000 | 0.03 | 0.85 | LIGHT RAIN ON AND OFF ALL DAY |
| 09-Nov-06 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | LIGHT RAIN ON AND OFF ALL DAY |
| 10-Nov-06 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | VERY LITTLE RAIN TODAY |
| 13-Nov-06 | 0.600 | 0.400 | 0.400 | 0.47 | 11.85 | RAIN ON SATURDAY, AND TODAY |
| 14-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NOT DONE TODAY… OFF |
| 15-Nov-06 | 0.900 | 1.200 | 0.600 | 0.90 | 22.86 | RAIN YESTERDAY AND THIS MORNING |
| 16-Nov-06 | 0.500 | 0.700 | 0.500 | 0.57 | 14.39 | STEADY RAIN ALL NIGHT AND ALL DAY TODAY |
| 17-Nov-06 | 0.500 | 0.500 | 0.300 | 0.43 | 11.01 | STEADY RAIN IN THE MORNING AND DRIZZLE THIS AFTERNOON |
| 20-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SNOW FLURRIES OVER NIGHT |
| 21-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NO PRECIPITATION |
| 22-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NO PRECIPITATION |
| 23-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NO PRECIPITATION |
| 24-Nov-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NO PRECIPITATION |
| 27-Nov-06 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | RAIN MOST OF THE AFTERNOON |
| 28-Nov-06 | 0.300 | 0.300 | 0.300 | 0.30 | 7.62 | RAIN ALL NIGHT AND DRIZZLE TODAY |
| 29-Nov-06 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | DRIZZLE ON AND OFF ALL DAY |
| 30-Nov-06 | 0.250 | 0.400 | 0.250 | 0.30 | 7.62 | RAIN |
| 01-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | LOCKS WERE FROZEN TODAY |

**Precipitation Monitoring Data**

| DATE D/M/Y | RAIN GAUGE 1 RAIN (INCHES) | RAIN GAUGE 2 RAIN (INCHES) | RAIN GAUGE 3 RAIN (INCHES) | AVG RAIN GAUGES RAIN (INCHES) | AVG RAIN GAUGES RAIN (mm) | COMMENTS |
|---|---|---|---|---|---|---|
| 04-Dec-06 | 6.000 | 6.000 | 6.000 | 6.00 | 152.40 | THIS MEASUREMENT IS OF FALLEN SNOW |
| 05-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NO SNOW |
| 06-Dec-06 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | LIGHT SNOW ON AND OFF TODAY |
| 07-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | LIGHT SNOW, ALL BUT ONE LOCK OPENED |
| 08-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SOME LOCKS WERE AGAIN FROZEN |
| 11-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | DIDN'T GET DONE TODAY |
| 12-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | PURGED WELLS TODAY, DIDN'T MEASURE WELLS |
| 13-Dec-06 | 0.400 | 0.800 | 0.600 | 0.60 | 15.24 | MILD DAY, VERY LIGHT PRECIPITATION IN THE MORNING |
| 14-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD DAY, NO PRECIPITATION |
| 15-Dec-06 | 0.000 | 0.100 | 0.000 | 0.03 | 0.85 | VERY LIGHT DRIZZLE |
| 18-Dec-06 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | LIGHT FLURRIES IN THE AFTERNOON |
| 19-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR, WITH LIGHT FLURRIES IN THE MORNING |
| 20-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR, MILD DAY |
| 21-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 22-Dec-06 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 02-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 03-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 04-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 05-Jan-07 | 0.100 | 0.200 | 0.000 | 0.10 | 2.54 | RAIN IN THE MORNING |
| 08-Jan-07 | 1.500 | 1.200 | 1.000 | 1.23 | 31.33 | MIXTURE OF RAIN AND SNOW ALL DAY |
| 09-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, BUT CLEAR |
| 10-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | |
| 11-Jan-07 | 1.000 | 1.000 | 1.000 | 1.00 | 25.40 | COLD WITH FLURRIES, 3 LOCKS WERE FROZEN SHUT |
| 12-Jan-07 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | MILD WITH RAIN |
| 15-Jan-07 | 1.700 | 1.200 | 2.000 | 1.63 | 41.49 | COLD AND SNOWING, PURGED WELLS AFTER MEASUREMENTS |
| 16-Jan-07 | | | | 0.00 | 0.00 | NO MEASUREMENTS, AECL SAMPLING WELLS |
| 17-Jan-07 | 0.600 | 0.500 | 0.800 | 0.63 | 16.09 | COLD, 3 LOCKS FROZEN |
| 18-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 LOCKS FROZEN |
| 19-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, FLURRIES, 2 LOCKS FROZEN |
| 22-Jan-07 | 0.700 | 0.500 | 0.700 | 0.63 | 16.09 | COLD, NO FLURRIES |
| 23-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY LIGHT FLURRIES IN THE MORNING |
| 24-Jan-07 | 0.200 | 0.100 | 0.200 | 0.17 | 4.23 | FLURRIES OVER NIGHT, COLD, 2 LOCKS FROZEN |
| 25-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 LOCKS FROZEN |
| 26-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND CLEAR, 2 LOCKS FROZEN |
| 29-Jan-07 | 0.300 | 0.300 | 0.300 | 0.30 | 7.62 | COLD, 2 LOCKS FROZEN |
| 30-Jan-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 LOCKS FROZEN |
| 31-Jan-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | SNOWED A BIT IN THE MORNING, COLD, 2 LOCKS FROZEN |
| 01-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | BIT MILDER TODAY |
| 02-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 05-Feb-07 | 0.000 | 0.100 | 0.100 | 0.07 | 1.69 | VERY COLD, 3 WELLS FROZEN, GAUGE 1 FELL OVER |
| 06-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 WELLS FROZEN |
| 07-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 WELLS FROZEN |
| 08-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, 2 WELLS FROZEN |
| 09-Feb-07 | 0.300 | 0.100 | 0.100 | 0.17 | 4.23 | COLD, WITH FLURRIES |
| 12-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, PURGING WELLS TODAY |
| 13-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 14-Feb-07 | 0.500 | 0.000 | 0.500 | 0.33 | 8.47 | GAUGE 2 FELL OVER, COLD |
| 15-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 16-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | A BIT MILDER TODAY |
| 19-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILDER DAY |
| 20-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILDER DAY |
| 21-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLDER |
| 22-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 23-Feb-07 | 0.400 | 0.400 | 0.400 | 0.40 | 10.16 | COLD AND WINDY |
| 26-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD AND SUNNY DAY |
| 27-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD DAY |
| 28-Feb-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLEAR DAY |
| 01-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | BIT COLDER TODAY |
| 02-Mar-07 | 8.000 | 8.000 | 8.000 | 8.00 | 203.20 | LOTS OF SNOW AND WINDY |
| 05-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WINDY, 1 GAUGE FELL OVER, 2 WERE COVERED WITH SNOW |
| 06-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY COLD DAY |
| 07-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 08-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 09-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 12-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 13-Mar-07 | 0.100 | 0.000 | 0.200 | 0.10 | 2.54 | MILD OVERCAST DAY. GAUGE 2 FELL OVER |
| 14-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD, PURGED THE WELLS TODAY |
| 15-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLDER TODAY |
| 16-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | A BIT MILDER |
| 19-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD |
| 20-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND WINDY |
| 21-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND WINDY |
| 22-Mar-07 | 0.200 | 0.600 | 0.200 | 0.33 | 8.47 | RAIN AND MILD |
| 23-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 26-Mar-07 | 0.700 | 0.300 | 0.400 | 0.47 | 11.85 | SNOWED ON THE WEEKEND, RAIN TODAY |
| 27-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WINDY AND MILD |
| 28-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 29-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 30-Mar-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD, BIT OF DRIZZLE |
| 02-Apr-07 | 0.200 | 0.400 | 0.000 | 0.20 | 5.08 | RAIN |
| 03-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | RAIN |
| 04-Apr-07 | 0.400 | 0.600 | 0.100 | 0.37 | 9.31 | RAIN |
| 05-Apr-07 | 0.100 | 0.200 | 0.000 | 0.10 | 2.54 | RAIN |
| 09-Apr-07 | 0.100 | 0.100 | 0.200 | 0.13 | 3.39 | RAIN OVER THE WEEKEND, MILDER TODAY |
| 10-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, BUT CLEAR |
| 11-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | BIT OF WIND, STILL CHILLY |
| 12-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SNOWING |
| 13-Apr-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | RAIN |
| 16-Apr-07 | 0.400 | 0.100 | 0.300 | 0.27 | 6.77 | HEAVY RAIN, PURGED WELLS TODAY |
| 17-Apr-07 | 0.700 | 0.700 | 0.500 | 0.63 | 16.09 | NO RAIN TODAY, CHILLY |
| 18-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 19-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | DRILLING MORE WELLS TODAY, COULDN'T MEASURE MWO6-1 |
| 20-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | DRILLING CONTINUED… SUNNY, WARM DAY |
| 23-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM, SUNNY, WINDY |
| 24-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLLER, WINDY |
| 25-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 26-Apr-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 27-Apr-07 | 0.200 | 0.300 | 0.100 | 0.20 | 5.08 | RAIN |
| 30-Apr-07 | 0.300 | 0.400 | 0.300 | 0.33 | 8.47 | RAIN |
| 01-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |

**Precipitation Monitoring Data**

| DATE D/M/Y | RAIN GAUGE 1 RAIN (INCHES) | RAIN GAUGE 2 RAIN (INCHES) | RAIN GAUGE 3 RAIN (INCHES) | AVG RAIN GAUGES RAIN (INCHES) | AVG RAIN GAUGES RAIN (mm) | COMMENTS |
|---|---|---|---|---|---|---|
| 02-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 03-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 04-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 07-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY DAY |
| 08-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM, SUNNY DAY |
| 09-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT, SUNNY DAY |
| 10-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | BIT OF LIGHT DRIZZLE |
| 11-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WINDY AND SUNNY DAY |
| 14-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY, PURGED WELLS |
| 15-May-07 | 0.200 | 0.200 | 0.100 | 0.17 | 4.23 | CLOUDY WITH RAIN |
| 16-May-07 | 0.500 | 0.500 | 0.400 | 0.47 | 11.85 | RAINING |
| 17-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY, MILD |
| 18-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 22-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND HOT |
| 23-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND HOT |
| 24-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND HOT |
| 25-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND HOT |
| 28-May-07 | 0.100 | 0.400 | 0.000 | 0.17 | 4.23 | RAIN OVER NIGHT |
| 29-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT |
| 30-May-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 31-May-07 | 1.100 | 1.000 | 0.900 | 1.00 | 25.40 | RAINY DAY |
| 01-Jun-07 | 1.000 | 1.000 | 1.000 | 1.00 | 25.40 | RAINY DAY |
| 04-Jun-07 | 1.000 | 0.500 | 0.750 | 0.75 | 19.05 | RAIN AND COLD |
| 05-Jun-07 | 1.000 | 0.500 | 0.750 | 0.75 | 19.05 | RAIN AND COLD |
| 06-Jun-07 | 0.200 | 0.200 | 0.200 | 0.20 | 5.08 | COLD |
| 07-Jun-07 | 0.100 | 0.200 | 0.100 | 0.13 | 3.39 | RAIN |
| 08-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT |
| 11-Jun-07 | 0.300 | 0.300 | 0.200 | 0.27 | 6.77 | RAIN OVER THE WEEKEND, HOT |
| 12-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY HOT AND HUMID, PURGED WELLS TODAY |
| 13-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY HOT AND HUMID |
| 14-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT AND HUMID |
| 15-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT AND HUMID |
| 18-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | LIGHT DRIZZLE, WARM |
| 19-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID AND WINDY |
| 20-Jun-07 | 0.100 | 0.000 | 0.200 | 0.10 | 2.54 | WINDY, CLOUDY |
| 21-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | RAIN OVER NIGHT, DRIZZLE |
| 22-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 25-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 26-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY HOT AND MUGGY |
| 27-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY HOT AND MUGGY, BIT OF WIND |
| 28-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NICE DAY, MILD AND BREEZY |
| 29-Jun-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD DAY |
| 03-Jul-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | BIT OF RAIN ON THE WEEKEND, NICE TODAY |
| 04-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY WITH LIGHT SHOWERS IN THE MORNING |
| 05-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM, RAIN IN THE EVENING |
| 06-Jul-07 | 0.100 | 0.100 | 0.000 | 0.07 | 1.69 | WARM, CLOUDY AND WINDY |
| 09-Jul-07 | 1.100 | 1.500 | 0.700 | 1.10 | 27.94 | RAIN OVER THE WEEKEND, CLOUDY TODAY |
| 10-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD DAY |
| 11-Jul-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | RAIN OVER NIGHT, PURGED WELLS TODAY |
| 12-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 13-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 16-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 17-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 18-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 19-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 20-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 23-Jul-07 | 1.700 | 1.500 | 1.900 | 1.70 | 43.18 | RAIN OVER THE WEEKEND |
| 24-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 25-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM, CLOUDY |
| 26-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD DAY |
| 27-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 30-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM HUMID DAY |
| 31-Jul-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID DAY |
| 01-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID DAY |
| 02-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY HUMID DAY, PURGED WELLS 17 & 19 (RECOVERY TEST) |
| 03-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | NOT SO HUMID BUT HOT |
| 07-Aug-07 | 0.100 | 0.000 | 0.100 | 0.07 | 1.69 | VERY LIGHT RAIN EARLY MONDAY MORNING, CLOUDY TODAY |
| 08-Aug-07 | 0.200 | 0.100 | 0.200 | 0.17 | 4.23 | RAIN OVER NIGHT AND LATE MORNING, WINDY |
| 09-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID DAY, PURGED WELLS |
| 10-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM DAY, MW07-17 purged again today for recovery test |
| 13-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM DAY |
| 14-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM DAY, RECOVERY TESTS DONE ON MW07-17 & 19 |
| 15-Aug-07 | 0.300 | 0.300 | 0.100 | 0.23 | 5.93 | BIT OF RAIN OVERNIGHT, WINDY |
| 16-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 17-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 20-Aug-07 | 1.500 | 2.000 | 1.000 | 1.50 | 38.10 | RAIN, CLOUDY |
| 21-Aug-07 | 0.200 | 0.400 | 0.200 | 0.27 | 6.77 | BREEZY, SUNNY AND MILD |
| 22-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WINDY, OVERCAST |
| 23-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID, OVERCAST |
| 24-Aug-07 | 0.700 | 0.800 | 0.500 | 0.67 | 16.93 | HUMID, OVERCAST, BREEZY |
| 27-Aug-07 | 1.300 | 1.200 | 1.400 | 1.30 | 33.02 | RAIN OVER THE WEEKEND, SUNNY AND MILD TODAY |
| 28-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND WARM |
| 29-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID, BREEZY, OVERCAST |
| 30-Aug-07 | 0.400 | 0.500 | 0.500 | 0.47 | 11.85 | RAIN OVERNIGHT, MILD AND SUNNY TODAY |
| 31-Aug-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND WARM |
| 04-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | BREEZY, SUNNY AND MILD |
| 05-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD AND SUNNY |
| 06-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID AND SUNNY |
| 07-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | OVERCAST, HUMID, PURGED WELLS |
| 10-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | OVERCAST |
| 11-Sep-07 | 1.200 | 1.200 | 1.000 | 1.13 | 28.79 | OVERCAST, RAIN |
| 12-Sep-07 | 0.700 | 0.700 | 0.700 | 0.70 | 17.78 | COOL, CLOUDY & WINDY |
| 13-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | PARTLY CLOUDY |
| 14-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY BUT PARTLY CLOUDY |
| 17-Sep-07 | 0.300 | 0.300 | 0.300 | 0.30 | 7.62 | RAIN OVER THE WEEKEND, WINDY, MILD, SUNNY TODAY |
| 18-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 19-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HUMID AND SUNNY |
| 20-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND MILD |
| 21-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY, HOT |
| 24-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | HOT AND SUNNY, RECOVERY TESTS ON 8 & 9 |

**Precipitation Monitoring Data**

| DATE D/M/Y | RAIN GAUGE 1 RAIN (INCHES) | RAIN GAUGE 2 RAIN (INCHES) | RAIN GAUGE 3 RAIN (INCHES) | AVG RAIN GAUGES RAIN (INCHES) | AVG RAIN GAUGES RAIN (mm) | COMMENTS |
|---|---|---|---|---|---|---|
| 25-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | RECOVERY TESTS ON 1,2,3,8 & 9 |
| 26-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | RAIN OVER NIGHT, SUNNY, HUMID, Rec. Tests on 3,8, & 9 |
| 27-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | RECOVERY TEST ON WELL 9 |
| 28-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD |
| 29-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | OVERCAST, COOL |
| 30-Sep-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY, WARM |
| 01-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM |
| 02-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY |
| 03-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY, SUNNY PERIODS, VERY LIGHT SHOWERS |
| 04-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 05-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 09-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 10-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY |
| 12-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY AND COLD |
| 15-Oct-07 | 0.600 | 0.600 | 0.600 | 0.60 | 15.24 | CLOUDY AND COLD |
| 18-Oct-07 | 0.400 | 0.000 | 0.400 | 0.27 | 6.77 | CHILLY, OVERCAST |
| 22-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM AND CLEAR |
| 23-Oct-07 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | RAINING |
| 24-Oct-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | CLOUDY AND COLD |
| 25-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND COOL, BROKEN TAPE |
| 26-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL AND SUNNY, BROKEN TAPE |
| 29-Oct-07 | 0.400 | 0.400 | 0.400 | 0.40 | 10.16 | COLD AND WINDY |
| 30-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | MILD AND SUNNY |
| 31-Oct-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY AND COLD |
| 01-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | CLOUDY AND WINDY |
| 02-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND WARM |
| 05-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SUNNY AND BREEZY |
| 06-Nov-07 | 0.200 | 0.400 | 0.000 | 0.20 | 5.08 | BIT OF RAIN OVER NIGHT, CLOUDY AND COOL |
| 07-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND WINDY, REC. TEST ON WELLS 25, 26, 27, 31, 32, 33, 34 |
| 08-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND WINDY, REC. TEST ON WELLS 25, 26, 27, 31, 32, 33, 34 |
| 09-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL AND CLOUDY, REC. TEST ON WELLS 25, 26, 27, 31, 32, 33, 34 |
| 12-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL AND BREEZY |
| 13-Nov-07 | 0.300 | 0.400 | 0.200 | 0.30 | 7.62 | WARM |
| 14-Nov-07 | 0.200 | 0.200 | 0.200 | 0.20 | 5.08 | RAINING |
| 15-Nov-07 | 0.100 | 0.200 | 0.100 | 0.13 | 3.39 | COOL AND BREEZY |
| 16-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY COLD |
| 19-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND CLOUDY |
| 21-Nov-07 | 0.100 | 0.100 | 0.100 | 0.10 | 2.54 | COOL, OVERCAST, PURGED WELLS YESTERDAY, SAMPLED NOV 22, WELL 3 DRY |
| 26-Nov-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | SNOW AT END OF DAY, COOL |
| 27-Nov-07 | 0.600 | 0.600 | 1.000 | 0.73 | 18.63 | COOL, BREEZY, LIGHT SNOW |
| 28-Nov-07 | 1.000 | 1.000 | 1.500 | 1.17 | 29.63 | COOL, SUNNY, SNOW IN GUAGES |
| 29-Nov-07 | 0.200 | 0.200 | 0.200 | 0.20 | 5.08 | SNOWING (AFTERNOON), WARM, SNOW IN GUAGES |
| 30-Nov-07 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | COLD, CLOUDY |
| 04-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD AND WINDY, FROZEN LOCK |
| 05-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD SUNNY |
| 06-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD SUNNY |
| 07-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COLD, LIGHT SNOW |
| 10-Dec-07 | 0.500 | 0.500 | 0.600 | 0.53 | 13.55 | SUNNY |
| 11-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL, OVERCAST |
| 12-Dec-07 | 1.500 | 1.000 | 1.500 | 1.33 | 33.87 | COLD, SUNNY WINDY |
| 13-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY COLD, CLOUDY |
| 14-Dec-07 | 1.000 | 1.000 | 1.000 | 1.00 | 25.40 | VERY COLD AND WINDY, WELL 30 GOT FILLED IN TODAY |
| 17-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | GAUGES COVERED IN SNOW(PLOW) PURGED WELLS, COLD, WINDY |
| 18-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL, BREEZY - FINISHED PURGING |
| 19-Dec-07 | 0.500 | 0.500 | 0.500 | 0.50 | 12.70 | SNOWING, COLD. SAMPLES TAKEN BY AECL |
| 20-Dec-07 | 2.000 | 2.000 | 2.000 | 2.00 | 50.80 | COOL, SOME WELLS HAVE LITTLE TO NO WATER |
| 21-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | COOL AND CLOUDY |
| 27-Dec-07 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM, LIGHT SNOW |
| 02-Jan-08 | 5.000 | 5.000 | 5.000 | 5.00 | 127.00 | VERY COLD, MOST LOCKS WERE FROZEN, USED LOCK DE-ICER |
| 03-Jan-08 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | VERY COLD………ONLY MEASURED 3 WELLS, SL |
| 04-Jan-08 | 1.000 | 1.000 | 1.000 | 1.00 | 25.40 | WARM, OVERCAST |
| 07-Jan-08 | 0.000 | 0.000 | 0.000 | 0.00 | 0.00 | WARM AND FOGGY |

**APPENDIX I**

**Compilation of Tritium Concentrations in Soil and Water**

**Appendix I :**
**Compilation of Groundwater Chemistry - Tritium**

| WELL I.D. | DESCRIPTION | Distance From Stacks (m) | 22-Nov-05 | 29-Dec-05 | 5-Jan-06 | 12-Jan-06 | 19-Jan-06 | 26-Jan-06 | 2-Feb-06 | 15-Feb-06 | 24-Feb-06 | 10-Apr-06 | 15-May-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW06-1 | SRB SITE | 50 | | | | | | | | | 62,434 | 63,518 | 61,774 |
| MW06-2 | SRB SITE | 75 | | | | | | | | | 2,484 | 2,786 | 2,665 |
| MW06-3 | SRB SITE | 50 | | | | | | | | | 2,722 | 3,068 | 3,133 |
| MW06-4S | JOHNSTON MEADOWS | 300 | | | | | | | | | 211 | | |
| MW06-4D | JOHNSTON MEADOWS | 300 | | | | | | | | | 3 | | |
| MW06-5 | RENFREW COUNTY HEALTH UNIT | 500 | | | | | | | | | 14 | | |
| MW06-6 | KI, 600 m | 600 | | | | | | | | | 376 | | |
| MW06-8 | SRB SITE | 55 | | | | | | | | | | | |
| MW06-9 | SRB SITE | 25 | | | | | | | | | | | |
| MW06-10 | SRB SITE | 0 | | | | | | | | | | | |
| MW07-11 | SRB SITE | 75 | | | | | | | | | | | |
| MW07-12 | SRB SITE | 55 | | | | | | | | | | | |
| MW07-13 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-14 | SRB SITE | 40 | | | | | | | | | | | |
| MW07-15 | SRB SITE | 25 | | | | | | | | | | | |
| MW07-16 | SRB SITE | 15 | | | | | | | | | | | |
| MW07-17 | SRB SITE | 15 | | | | | | | | | | | |
| MW07-18 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-19 | SRB SITE | 20 | | | | | | | | | | | |
| MW07-20 | SUPERIOR PROPANE PROPERTY | 90 | | | | | | | | | | | |
| MW07-21 | SUPERIOR PROPANE PROPERTY | 110 | | | | | | | | | | | |
| MW07-22 | SRB SITE | 70 | | | | | | | | | | | |
| MW07-23 | SRB SITE | 90 | | | | | | | | | | | |
| MW07-24 | HARRINGTON PROPERTY | 115 | | | | | | | | | | | |
| MW07-25 | HARRINGTON PROPERTY | 105 | | | | | | | | | | | |
| MW07-26 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-27 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-28 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-29 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-30 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-31 | SRB SITE | 70 | | | | | | | | | | | |
| MW07-32 | HARRINGTON PROPERTY | 115 | | | | | | | | | | | |
| MW07-33 | HARRINGTON PROPERTY | 105 | | | | | | | | | | | |
| MW07-34 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-35 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-36 | CITY PROPERTY | 80 | | | | | | | | | | | |
| MW07-37 | SRB SITE | 60 | | | | | | | | | | | |
| CN-1S | CN PROPERTY | 125 | | | | | | | | | 3,928 | | |
| CN-1D | CN PROPERTY | 130 | | | | | | | | | 3,838 | | |
| CN-2 | CN PROPERTY | 150 | | | | | | | | | 5,037 | | |
| CN-3S | CN PROPERTY | 165 | | | | | | | | | 3,581 | | |
| CN-3D | CN PROPERTY | 160 | | | | | | | | | 3,283 | | |
| RW-1 | 413 BOUNDARY ROAD | 465 | 1,811 | 1,884 | 1,872 | 1,915 | 1,895 | 1,902 | 1,900 | 1,826 | 2,061 | | |
| RW-2 | 185 MUD LAKE ROAD | 1,100 | | 354 | 388 | | | 362 | | | | | |
| RW-3 | 183 MUD LAKE ROAD | 1,100 | 430 | 395 | 331 | 397 | 411 | 437 | 423 | | 481 | | |
| RW-4 | 711 BRUHAM AVENUE | 2,200 | | | | 3 | 2 | 4 | 2 | 3 | 2 | | |
| RW-5 | 171 SAWMILL ROAD | 2,300 | | | | 13 | | 18 | | | 15 | | |
| RW-6 | 40987 HWY 41 | 1,400 | | | | | | | | | 77 | | |
| RW-7 | 40925 HWY 41 | 1,600 | | 123 | | | | | | | | | |
| RW-8 | 204 BOUNDARY ROAD | 700 | | | | | | | | | | | |
| RW-9 | 206 BOUNDARY ROAD | 650 | | | | | | | | | | | |
| RW-10 | 208 BOUNDARY ROAD | 625 | | | | | | | | | | | |
| B-1 | SUPERIOR PROPANE OFFICE | 160 | | | | | | | | | | | |
| B-2 | SUPERIOR PROPANE TRUCK WASH | 250 | | | | | | | | | | | |
| B-3 | INTERNATIONAL LUMBER OFFICE | 385 | | | | | | | | | | | |

**Appendix I :**
**Compilation of Groundwater Chemistry - Tritium**

| WELL I.D. | DESCRIPTION | Distance From Stacks (m) | 12-Jun-06 | 11-Jul-06 | 15-Aug-06 | 15-Sep-06 | 25-Sep-06 | 13-Oct-06 | 26-Oct-06 | 15-Nov-06 | 13-Dec-06 | 13-Jan-07 | 16-Feb-07 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW06-1 | SRB SITE | 50 | 62,025 | 63,631 | 62,155 | 59,902 | 59,734 | 61,947 | | 67,606 | 56,595 | 60,166 | 55,310 |
| MW06-2 | SRB SITE | 75 | 2,550 | 2,698 | 2,652 | 3,560 | 4,264 | 4,612 | | 5,060 | 4,414 | 4,730 | 4,207 |
| MW06-3 | SRB SITE | 50 | 3,045 | 2,982 | 3,205 | 2,990 | 2,999 | 3,209 | | 3,564 | 3,103 | 3,324 | 3,282 |
| MW06-4S | JOHNSTON MEADOWS | 300 | | | | | | | | | | | |
| MW06-4D | JOHNSTON MEADOWS | 300 | | | | | | | | | | | |
| MW06-5 | RENFREW COUNTY HEALTH UNIT | 500 | | | | | | | | | | | |
| MW06-6 | KI, 600 m | 600 | | | | | | | | | | | |
| MW06-8 | SRB SITE | 55 | | | | | 105 | 141 | | 120 | 175 | 178 | 270 |
| MW06-9 | SRB SITE | 25 | | | | | 439 | 1,772 | | 2,003 | 1,640 | 1,611 | 1,487 |
| MW06-10 | SRB SITE | 0 | | | | | 130,060 | 141,111 | | 156,643 | 135,612 | 142,308 | 149,928 |
| MW07-11 | SRB SITE | 75 | | | | | | | | | | | |
| MW07-12 | SRB SITE | 55 | | | | | | | | | | | |
| MW07-13 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-14 | SRB SITE | 40 | | | | | | | | | | | |
| MW07-15 | SRB SITE | 25 | | | | | | | | | | | |
| MW07-16 | SRB SITE | 15 | | | | | | | | | | | |
| MW07-17 | SRB SITE | 15 | | | | | | | | | | | |
| MW07-18 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-19 | SRB SITE | 20 | | | | | | | | | | | |
| MW07-20 | SUPERIOR PROPANE PROPERTY | 90 | | | | | | | | | | | |
| MW07-21 | SUPERIOR PROPANE PROPERTY | 110 | | | | | | | | | | | |
| MW07-22 | SRB SITE | 70 | | | | | | | | | | | |
| MW07-23 | SRB SITE | 90 | | | | | | | | | | | |
| MW07-24 | HARRINGTON PROPERTY | 115 | | | | | | | | | | | |
| MW07-25 | HARRINGTON PROPERTY | 105 | | | | | | | | | | | |
| MW07-26 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-27 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-28 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-29 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-30 | SRB SITE | 50 | | | | | | | | | | | |
| MW07-31 | SRB SITE | 70 | | | | | | | | | | | |
| MW07-32 | HARRINGTON PROPERTY | 115 | | | | | | | | | | | |
| MW07-33 | HARRINGTON PROPERTY | 105 | | | | | | | | | | | |
| MW07-34 | SRB SITE | 10 | | | | | | | | | | | |
| MW07-35 | CITY PROPERTY | 55 | | | | | | | | | | | |
| MW07-36 | CITY PROPERTY | 80 | | | | | | | | | | | |
| MW07-37 | SRB SITE | 60 | | | | | | | | | | | |
| CN-1S | CN PROPERTY | 125 | | | | | | | | 3,511 | | | |
| CN-1D | CN PROPERTY | 130 | | | | | | | | 3,279 | | | |
| CN-2 | CN PROPERTY | 150 | | | | | | | | 2,123 | | | |
| CN-3S | CN PROPERTY | 165 | | | | | | | | 2,984 | | | |
| CN-3D | CN PROPERTY | 160 | | | | | | | | 1,427 | | | |
| RW-1 | 413 BOUNDARY ROAD | 465 | | | | | | 1,626 | | | | | |
| RW-2 | 185 MUD LAKE ROAD | 1,100 | | | | | | 313 | | | | | |
| RW-3 | 183 MUD LAKE ROAD | 1,100 | | | | | | 366 | | | | | |
| RW-4 | 711 BRUHAM AVENUE | 2,200 | | | | | | 4 | | | | | |
| RW-5 | 171 SAWMILL ROAD | 2,300 | | | | | | 14 | | | | | |
| RW-6 | 40987 HWY 41 | 1,400 | | | | | | 67 | | | | | |
| RW-7 | 40925 HWY 41 | 1,600 | | | | | | 90 | | | | | |
| RW-8 | 204 BOUNDARY ROAD | 700 | | | | | | | 260 | | | | |
| RW-9 | 206 BOUNDARY ROAD | 650 | | | | | | | | 455 | | | |
| RW-10 | 208 BOUNDARY ROAD | 625 | | | | | | | | 7 | | | |
| B-1 | SUPERIOR PROPANE OFFICE | 160 | | | | | | | 1,264 | | | | |
| B-2 | SUPERIOR PROPANE TRUCK WASH | 250 | | | | | | | 2,145 | | | | |
| B-3 | INTERNATIONAL LUMBER OFFICE | 385 | | | | | | | | 15 | | | |

**Appendix I :**
**Compilation of Groundwater Chemistry - Tritium**

| WELL I.D. | DESCRIPTION | Distance From Stacks (m) | 16-Mar-07 | 16-Apr-07 | 27-Apr-07 | 17-May-07 | 14-Jun-07 | 18-Jul-07 | 13-Aug-07 | 11-Sep-07 | 19-Oct-07 | 22-Nov-07 | 19-Dec-07 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW06-1 | SRB SITE | 50 | 53,306 | 45,932 | 50,170 | 51,972 | 46,565 | 47,489 | 44,653 | 41,651 | 43,586 | 42,299 | 41,947 |
| MW06-2 | SRB SITE | 75 | 4,347 | 4,516 | 4,657 | 4,646 | 4,538 | 4,365 | 4,329 | 3,997 | 4,050 | 3,695 | 3,641 |
| MW06-3 | SRB SITE | 50 | 3,243 | 3,236 | 3,273 | 3,267 | 3,288 | 3,187 | 3,247 | 3,139 | DRY | DRY | DRY |
| MW06-4S | JOHNSTON MEADOWS | 300 | | | | | | | | | | | |
| MW06-4D | JOHNSTON MEADOWS | 300 | | | | | | | | | | | |
| MW06-5 | RENFREW COUNTY HEALTH UNIT | 500 | | | | | | | | | | | |
| MW06-6 | KI, 600 m | 600 | | | | | | | | | | | |
| MW06-8 | SRB SITE | 55 | 296 | 258 | 209 | 207 | 172 | 202 | 236 | 247 | 311 | 225 | DRY |
| MW06-9 | SRB SITE | 25 | 1,444 | 1,642 | 1,450 | 1,609 | 1,526 | 1,866 | 1,704 | 1,723 | 1,489 | 1,402 | DRY |
| MW06-10 | SRB SITE | 0 | 138,509 | 133,622 | 104,350 | 94,956 | 70,225 | 46,379 | 49,347 | 39,228 | 29,795 | 30,326 | 25,712 |
| MW07-11 | SRB SITE | 75 | | | 203 | 638 | 936 | 866 | 898 | 955 | 400 | 485 | 727 |
| MW07-12 | SRB SITE | 55 | | | 152 | 154 | 114 | 106 | 117 | 151 | 194 | 177 | DRY |
| MW07-13 | SRB SITE | 50 | | | 6,358 | 7,781 | 8,070 | 9,463 | 9,221 | 9,287 | 10,057 | 7,859 | 9,968 |
| MW07-14 | SRB SITE | 40 | | | 1,504 | 1,662 | 1,895 | 2,526 | 3,494 | 3,610 | 2,357 | 3,692 | 2,048 |
| MW07-15 | SRB SITE | 25 | | | 690 | 675 | 672 | 314 | 376 | 255 | 227 | 170 | 112 |
| MW07-16 | SRB SITE | 15 | | | 6,855 | 6,845 | 7,059 | 4,927 | 6,381 | 6,148 | 6,646 | 6,776 | 6,358 |
| MW07-17 | SRB SITE | 15 | | | 521 | 519 | 233 | 109 | 107 | 106 | 103 | 117 | 663 |
| MW07-18 | SRB SITE | 10 | | | 110,422 | 108,879 | 97,441 | 100,612 | 93,704 | 85,781 | 58,139 | 52,516 | 52,009 |
| MW07-19 | SRB SITE | 20 | | | 28,788 | 25,806 | 20,475 | 13,852 | 16,329 | 18,318 | 4,229 | 2,230 | |
| MW07-20 | SUPERIOR PROPANE PROPERTY | 90 | | | | | | | | | 628 | 674 | 667 |
| MW07-21 | SUPERIOR PROPANE PROPERTY | 110 | | | | | | | | | 102 | 116 | 111 |
| MW07-22 | SRB SITE | 70 | | | | | | | | | 557 | 421 | 184 |
| MW07-23 | SRB SITE | 90 | | | | | | | | | 595 | 668 | 610 |
| MW07-24 | HARRINGTON PROPERTY | 115 | | | | | | | | | 102 | 118 | 111 |
| MW07-25 | HARRINGTON PROPERTY | 105 | | | | | | | | | 1,230 | 176 | 111 |
| MW07-26 | SRB SITE | 50 | | | | | | | | | 2,731 | 2,609 | 2,533 |
| MW07-27 | CITY PROPERTY | 55 | | | | | | | | | 6,959 | 6,652 | DRY |
| MW07-28 | CITY PROPERTY | 55 | | | | | | | | | 8,088 | 6,569 | 4,957 |
| MW07-29 | SRB SITE | 10 | | | | | | | | | 38,797 | 35,421 | 30,468 |
| MW07-30 | SRB SITE | 50 | | | | | | | | | 14,185 | 10,457 | |
| MW07-31 | SRB SITE | 70 | | | | | | | | | 801 | 1,394 | 1,436 |
| MW07-32 | HARRINGTON PROPERTY | 115 | | | | | | | | | 143 | 117 | 111 |
| MW07-33 | HARRINGTON PROPERTY | 105 | | | | | | | | | 678 | 428 | 458 |
| MW07-34 | SRB SITE | 10 | | | | | | | | | 45,544 | 23,711 | 15,094 |
| MW07-35 | CITY PROPERTY | 55 | | | | | | | | | 14,824 | 13,641 | 12,948 |
| MW07-36 | CITY PROPERTY | 80 | | | | | | | | | 9,100 | 7,504 | DRY |
| MW07-37 | SRB SITE | 60 | | | | | | | | | 3,297 | 2,490 | 2,466 |
| CN-1S | CN PROPERTY | 125 | | 3,780 | | | | 2,326 | | | | 2,458 | |
| CN-1D | CN PROPERTY | 130 | 3,277 | 1,660 | | | | 2,806 | | | | DRY | DRY |
| CN-2 | CN PROPERTY | 150 | 1,363 | 523 | | | | 2,801 | | | | 2,184 | |
| CN-3S | CN PROPERTY | 165 | 1,437 | 1,783 | | | | 1,917 | | | | DRY | DRY |
| CN-3D | CN PROPERTY | 160 | 1,890 | 891 | | | | 1,239 | | | | 1,354 | |
| RW-1 | 413 BOUNDARY ROAD | 465 | 1,506 | | | 1,366 | | 1,370 | | | | 1,399 | |
| RW-2 | 185 MUD LAKE ROAD | 1,100 | 336 | | | | | 311 | | | | 287 | |
| RW-3 | 183 MUD LAKE ROAD | 1,100 | 186 | | | | | 358 | | | | 323 | |
| RW-4 | 711 BRUHAM AVENUE | 2,200 | 3.8 | | | | | 3.0 | | | | 4.2 | |
| RW-5 | 171 SAWMILL ROAD | 2,300 | 14 | | | | | 18 | | | | 17 | |
| RW-6 | 40987 HWY 41 | 1,400 | 69 | | | | | 70 | | | | 82 | |
| RW-7 | 40925 HWY 41 | 1,600 | 67 | | | | | 38 | | | | 25 | |
| RW-8 | 204 BOUNDARY ROAD | 700 | 254 | | | | | 294 | | | | 236 | |
| RW-9 | 206 BOUNDARY ROAD | 650 | 268 | | | | | 269 | | | | 583 | 442 |
| RW-10 | 208 BOUNDARY ROAD | 625 | 3.9 | | | | | 2.0 | | | | 4.3 | |
| B-1 | SUPERIOR PROPANE OFFICE | 160 | 979 | | | 1,289 | 1,515 | 1,022 | 1,126 | 848 | 865 | 1,075 | 1,006 |
| B-2 | SUPERIOR PROPANE TRUCK WASH | 250 | 1,849 | | | | | 2,222 | | | | 3,087 | 4,073 |
| B-3 | INTERNATIONAL LUMBER OFFICE | 385 | 6 | | | | | 6 | | | | 4 | |

**Appendix I :**
**Compilation of Groundwater Chemistry - Non-Radiological Parameters**

| Parameter<br>Date Sampled | Units | MW06-4S<br>13-Jan-06 | RW-1<br>12-Jan-06 | RW-3<br>12-Jan-06 | RW-4<br>12-Jan-06 | RW-5<br>12-Jan-06 |
|---|---|---|---|---|---|---|
| Chloride (Cl) | mg/L | <2 | 32 | 331 | 46 | 183 |
| Nitrate (NO3) | mg/L | 0.60 | 3.90 | 0.70 | <0.1 | <0.1 |
| Nitrite (NO2) | mg/L | <0.1 | <0.1 | <0.3 | <0.1 | <0.3 |
| Sulphate (SO4) | mg/L | 22 | 13 | 45 | 16 | 166 |
| | | | | | | |
| Total Aluminum (Al) | mg/L | 0.02 | 0.01 | 0.01 | <0.01 | 0.03 |
| Total Antimony (Sb) | mg/L | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total Arsenic (As) | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Barium (Ba) | mg/L | 0.01 | 0.01 | 0.32 | 0.05 | <0.01 |
| Total Beryllium (Be) | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Bismuth (Bi) | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Boron (B) | mg/L | <0.05 | <0.05 | 0.34 | <0.05 | 0.24 |
| Total Cadmium (Cd) | mg/L | 0.0002 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Total Calcium (Ca) | mg/L | 18 | 40 | 149 | 57 | 11 |
| Total Chromium (Cr) | mg/L | 0.002 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Cobalt (Co) | mg/L | 0.004 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| Total Copper (Cu) | mg/L | 0.001 | 0.004 | 0.013 | 0.010 | 0.008 |
| Total Iron (Fe) | mg/L | <0.05 | 0.11 | 0.07 | <0.05 | <0.05 |
| Total Lead (Pb) | mg/L | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Total Magnesium (Mg) | mg/L | 9.40 | 17 | 83 | 21 | 0.60 |
| Total Manganese (Mn) | mg/L | 0.05 | 0.03 | 0.003 | 0.02 | 0.01 |
| Total Molybdenum (Mo) | mg/L | 0.014 | <0.001 | 0.001 | 0.001 | 0.002 |
| Total Nickel (Ni) | mg/L | 0.01 | <0.002 | 0.003 | <0.002 | <0.002 |
| Total Phosphorus (P) | mg/L | 0.11 | <0.05 | <0.05 | <0.05 | 0.13 |
| Total Potassium (K) | mg/L | 4.00 | 3.00 | 5.00 | 4.00 | 1.00 |
| Total Selenium (Se) | mg/L | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total Silicon (Si) | mg/L | 18.8 | 13.3 | 8.1 | 14.0 | 10.2 |
| Total Silver (Ag) | mg/L | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Total Sodium (Na) | mg/L | 9.80 | 32.7 | 116 | 11.8 | 380 |
| Total Strontium (Sr) | mg/L | 0.06 | 0.19 | 1.23 | 0.14 | 0.06 |
| Total Thallium (Tl) | mg/L | <0.0003 | <0.0003 | <0.0003 | <0.0003 | <0.0003 |
| Total Tin (Sn) | mg/L | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 |
| Total Titanium (Ti) | mg/L | <0.002 | <0.002 | 0.002 | <0.002 | <0.002 |
| Total Tungsten (W) | mg/L | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Total Uranium (U) | mg/L | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| Total Vanadium (V) | mg/L | 0.003 | 0.002 | <0.001 | <0.001 | <0.001 |
| Total Zinc (Zn) | mg/L | 0.15 | 0.06 | 0.07 | 0.008 | 0.07 |
| Total Zirconium (Zr) | mg/L | <0.004 | <0.004 | <0.004 | <0.004 | <0.004 |

**Appendix I :**
**Compilation of Soil Water Chemistry**

**MW06-8**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.61 | 2,572 |
| 0.61 to 1.22 | 3,673 |
| 1.22 to 1.83 | 3,351 |
| 1.83 to 2.44 | 3,293 |
| 2.44 to 3.05 | 2,549 |
| 3.05 to 3.66 | 913 |
| 3.66 to 4.27 | 516 |
| 4.27 to 4.88 | 113 |
| 4.88 to 5.49 | 118 |
| 5.49 to 6.10 | 123 |

**MW06-9**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.61 | 15,562 |
| 0.61 to 1.22 | 15,530 |
| 1.22 to 1.83 | 13,417 |
| 1.83 to 2.44 | 10,661 |
| 2.44 to 3.05 | 6,402 |
| 3.05 to 3.66 | 3,851 |
| 3.66 to 4.27 | 886 |
| 4.27 to 4.88 | 512 |

**MW06-10**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.005 | 74,333 |
| 0.05 to 0.15 | 74,250 |
| 0.00 to 0.61 | 67,840 |
| 0.61 to 1.22 | 75,435 |
| 1.22 to 1.83 | 105,712 |
| 1.83 to 2.44 | 47,130 |
| 2.44 to 3.05 | 67,949 |
| 3.05 to 3.66 | 248,455 |
| 3.66 to 4.27 | 277,844 |
| 4.27 to 4.88 | 154,518 |
| 4.88 to 5.49 | 25,395 |
| 5.49 to 6.10 | 10,281 |
| 6.09 to 6.70 | 60,562 |
| 6.70 to 6.73 | 150,541 |

**MW07-11**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 4,734 |
| 1.22 to 1.83 | 3,751 |
| 1.83 to 2.44 | 4,577 |
| 2.44 to 3.05 | 3,280 |
| 3.05 to 3.66 | 1,928 |
| 3.66 to 4.27 | 901 |
| 4.27 to 4.88 | 606 |
| 4.88 to 5.49 | 518 |
| 5.49 to 6.10 | 520 |
| 6.09 to 6.70 | 490 |

**MW07-12**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 1,301 |
| 1.22 to 1.83 | 2,880 |
| 1.83 to 2.44 | 2,798 |
| 2.44 to 3.05 | 2,907 |
| 3.05 to 3.66 | 2,153 |
| 3.66 to 4.27 | 1,235 |
| 4.27 to 4.88 | 533 |
| 4.88 to 5.49 | 560 |
| 5.49 to 6.10 | 548 |
| 6.09 to 6.70 | 892 |

**MW07-13**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 4,378 |
| 1.22 to 1.83 | 10,064 |
| 1.83 to 2.44 | 25,111 |
| 2.44 to 3.05 | 22,205 |
| 3.05 to 3.66 | 25,070 |
| 3.66 to 4.27 | 40,686 |
| 4.27 to 4.88 | 36,610 |
| 4.88 to 5.49 | 23,244 |
| 5.49 to 6.10 | 14,433 |
| 6.09 to 6.70 | 15,134 |

**MW07-14**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 2,587 |
| 1.22 to 1.83 | 2,738 |
| 1.83 to 2.44 | 2,503 |
| 2.44 to 3.05 | 3,464 |
| 3.05 to 3.66 | 4,123 |
| 3.66 to 4.27 | 3,644 |
| 4.27 to 4.88 | 1,071 |
| 4.88 to 5.49 | 2,858 |
| 5.49 to 6.10 | 697 |
| 6.09 to 6.70 | 928 |

**MW07-15**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 8,525 |
| 1.22 to 1.83 | 10,121 |
| 1.83 to 2.44 | 10,724 |
| 2.44 to 3.05 | 6,398 |
| 3.05 to 3.66 | 3,154 |
| 3.66 to 4.27 | 542 |
| 4.27 to 4.88 | 621 |
| 4.88 to 5.49 | 632 |
| 5.49 to 6.10 | 555 |
| 6.09 to 6.70 | 1,064 |

**MW07-16**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 3,761 |
| 1.22 to 1.83 | 3,327 |
| 1.83 to 2.44 | 5,170 |
| 2.44 to 3.05 | 6,405 |
| 3.05 to 3.66 | 5,973 |
| 3.66 to 4.27 | 5,005 |
| 4.27 to 4.88 | 4,984 |
| 4.88 to 5.49 | 2,143 |
| 5.49 to 6.10 | 6,389 |

**Appendix I :**
**Compilation of Soil Water Chemistry**

**MW07-18**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.61 to 1.22 | 8,848 |
| 1.22 to 1.83 | 8,308 |
| 1.83 to 2.44 | 8,926 |
| 2.44 to 3.05 | 11,879 |
| 3.05 to 3.66 | 48,682 |
| 3.66 to 4.27 | 61,680 |
| 4.27 to 4.88 | 52,115 |
| 4.88 to 5.49 | 84,262 |
| 5.49 to 6.10 | 100,889 |
| 6.09 to 6.70 | 120,564 |

**MW07-19**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.61 | 2,724 |
| 0.61 to 1.22 | 8,230 |
| 1.22 to 1.83 | 9,221 |
| 1.83 to 2.44 | 9,255 |
| 2.44 to 3.05 | 8,506 |
| 3.05 to 3.66 | 11,328 |
| 3.66 to 4.27 | 9,285 |
| 4.27 to 4.88 | 9,281 |
| 4.88 to 5.49 | 9,252 |
| 5.49 to 6.10 | 9,817 |
| 6.09 to 6.70 | 15,053 |

**MW07-20**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 675 |
| 1.07 to 1.22 | 2,578 |
| 2.29 to 2.44 | 2,940 |
| 3.51 to 3.66 | 2,217 |
| 4.72 to 4.88 | 2,208 |
| 5.94 to 6.09 | 1,029 |
| 6.75 to 6.90 | 609 |
| 6.90 to 7.03 | 1,277 |

**MW07-21**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.61 | 834 |
| 0.61 to 1.22 | 3,497 |
| 1.22 to 2.44 | 4,188 |
| 2.44 to 3.66 | 2,734 |
| 3.66 to 4.88 | 905 |
| 4.88 to 6.10 | 516 |
| 6.09 to 6.70 | 617 |

**MW07-22**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 1,751 |
| 1.07 to 1.22 | 3,174 |
| 2.29 to 2.44 | 3,628 |
| 3.51 to 3.66 | 1,842 |
| 4.72 to 4.88 | 733 |
| 5.94 to 6.09 | 584 |
| 6.47 to 6.62 | 1,165 |
| 6.62 to 6.70 | 1,345 |

**MW07-23**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 1,187 |
| 1.07 to 1.22 | 6,655 |
| 2.29 to 2.44 | 5,515 |
| 3.51 to 3.66 | 2,634 |
| 4.72 to 4.88 | 1,133 |
| 5.25 to 5.41 | 1,022 |
| 5.41 to 5.48 | 1,049 |

**MW07-24**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 792 |
| 1.07 to 1.22 | 5,571 |
| 2.29 to 2.44 | 2,664 |
| 3.51 to 3.66 | 676 |
| 4.72 to 4.88 | 736 |
| 5.63 to 5.74 | 596 |
| 5.74 to 5.79 | 1,525 |

**MW07-25**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 827 |
| 1.07 to 1.22 | 1,967 |
| 2.29 to 2.44 | 1,251 |
| 3.51 to 3.66 | 722 |
| 4.72 to 4.88 | 754 |
| 5.94 to 6.09 | 1,124 |
| 6.09 to 6.27 | 1,820 |
| 6.27 to 6.32 | 2,390 |

**MW07-26**

| Depth (m) | Concentration (Bq/L) |
|---|---|
| 0.00 to 0.15 | 876 |
| 1.07 to 1.22 | 5,123 |
| 2.29 to 2.44 | 4,973 |
| 3.51 to 3.66 | 4,937 |
| 4.72 to 4.88 | 4,227 |
| 5.94 to 6.09 | 3,254 |
| 6.85 to 7.01 | 2,446 |

**Appendix I :**
**Compilation of Soil Water Chemistry**

| MW07-27 | |
|---|---|
| **Depth (m)** | **Concentration (Bq/L)** |
| 0.00 to 0.15 | 636 |
| 1.07 to 1.22 | 4,872 |
| 2.29 to 2.44 | 9,261 |
| 3.51 to 3.66 | 8,556 |
| 4.72 to 4.88 | 8,223 |
| 5.94 to 6.09 | 6,242 |
| 7.11 to 7.26 | 6,638 |
| 7.31 to 7.49 | 6,093 |

| MW07-29 | |
|---|---|
| **Depth (m)** | **Concentration (Bq/L)** |
| 0.00 to 0.15 | 6,711 |
| 1.07 to 1.22 | 9,542 |
| 2.29 to 2.44 | 10,574 |
| 3.51 to 3.66 | 11,471 |
| 4.72 to 4.88 | 89,683 |
| 5.94 to 6.09 | 82,613 |
| 7.06 to 7.21 | 301,918 |

| MW07-30 | |
|---|---|
| **Depth (m)** | **Concentration (Bq/L)** |
| 0.00 to 0.15 | 852 |
| 1.07 to 1.22 | 1,901 |
| 2.29 to 2.44 | 3,052 |
| 3.51 to 3.66 | 7,126 |
| 4.72 to 4.88 | 14,442 |
| 5.94 to 6.09 | 26,117 |
| 6.47 to 6.62 | 25,434 |
| 6.62 to 6.70 | 24,229 |

**Appendix I :**
**Compilation of Precipitation Water Chemistry - Ditches**

| Name | Units | D-1 | D-2 | D-3 | D-4 | D-5 | D-15 | D-16 | D-17 | D-19 | Rain Gauge 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Processing During Precipitation** | | | | | | | | | | | |
| June 9, 2006 | Bq/L | | | | | 380 | | | | | |
| June 27, 2006 | Bq/L | | | | | 960 | | | | | |
| July 12, 2006 | Bq/L | | | | | 400 | | | | | |
| July 13, 2006 | Bq/L | | | | | 1,900 | | | | | |
| July 17, 2006 | Bq/L | | | | | 550 | | | | | |
| July 18, 2006 | Bq/L | | | | | 280 | | | | | |
| July 19, 2006 | Bq/L | | | | | 310 | | | | | |
| July 20, 2006 | Bq/L | | | | | 170 | | | | | |
| July 21, 2006 | Bq/L | | | | | 180 | | | | | |
| July 27, 2006 | Bq/L | | | | | 730 | | | | | |
| August 1, 2006 | Bq/L | | | | | 1,010 | | | | | |
| August 2, 2006 | Bq/L | | | | | 930 | | | | | |
| August 2, 2006 | Bq/L | | 740 | 310 | 420 | 2,880 | | | | | |
| **Not Processing During Precipitation** | | | | | | | | | | | |
| October 11, 2006 | Bq/L | | 1,130 | 1,360 | | 370 | | | | 100 | |
| October 17, 2006 | Bq/L | | | | | | | | | | |
| October 24, 2006 | Bq/L | | | | | | | | | | 770 |
| October 30, 3006 | Bq/L | | | | | | | | | | 380 |
| November 8, 2006 | Bq/L | | | | | | | | | | |
| November 12, 2006 | Bq/L | | | | | | | | | 1,020 | |
| November 14, 2006 | Bq/L | 100 | 100 | 100 | | 100 | | | | | 100 |
| November 16, 2006 | Bq/L | | | | | 370 | | | | 100 | |
| December 5, 2006 | Bq/L | 1,280 | 100 | 100 | | 100 | 760 | 760 | 100 | | 100 |

**Appendix I :**
**Compilation of Precipitation Water Chemistry - Standing Water**

| Name | Units | A | B | C | D | SW-1 | SW-2 | SW-3 | SW-4 | Rain Gauge 1 | Rain Gauge 3 | D-9 | D-10 | D-12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Processing During Precipitation** | | | | | | | | | | | | | | |
| May 12, 2006 | Bq/L | | 510 | | | | | | | | | | | |
| May 15, 2006 | Bq/L | | 44,640 | | | | | | | | | | | |
| June 9, 2006 | Bq/L | | 47,170 | | | | | | | | | | | |
| June 27, 2006 | Bq/L | 2210 | 54,850 | | | | | | | | | | | |
| July 27, 2006 | Bq/L | | 1,620 | | | | | | | | | | | |
| August 2, 2006 | Bq/L | | 1,510 | 1,100 | 20,440 | | | | | | | | | |
| **Not Processing During Precipitation** | | | | | | | | | | | | | | |
| October 11, 2006 | Bq/L | | | | | 350 | 430 | | | | | 480 | | |
| October 17, 2006 | Bq/L | | | | | 560 | | 470 | 140 | | | | | |
| Ocotber 24, 2007 | Bq/L | | | | | 430 | 780 | 670 | 770 | 720 | | | | |
| Ocotber 30, 3006 | Bq/L | | | | | | | | | 3,900 | | | | |
| November 8, 2006 | Bq/L | | | | | | 1,980 | 1,030 | 1,040 | | | | | |
| November 12, 2006 | Bq/L | | | | | | | | | | | | | |
| November 14, 2006 | Bq/L | | | | | | 100 | 100 | 100 | 100 | 100 | 100 | | |
| November 16, 2006 | Bq/L | | | | | | 340 | | | | | 2,830 | | |
| December 5, 2006 | Bq/L | | | | | | | | | 100 | 100 | | 100 | 100 |

**Appendix I :**
**Compilation of Precipitation Water Chemistry - Stack Drip**

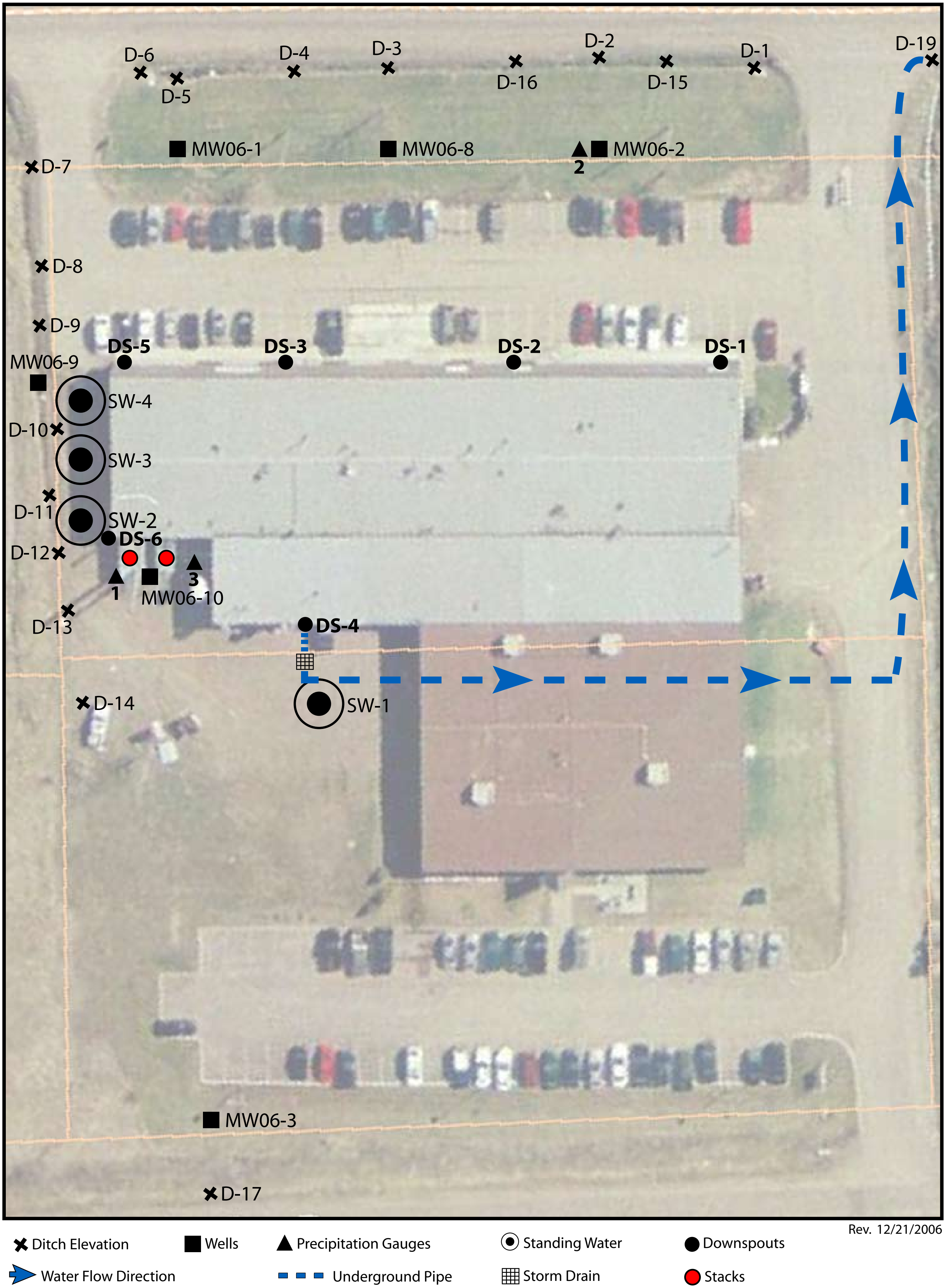
| Name | Units | A | B | C | D | Stack Area [1] |
|---|---|---|---|---|---|---|
| **Processing During Precipitation** | | | | | | |
| April 3, 2006 | Bq/L | 29,120 | 29,080 | 20,740 | 16,580 | |
| April 24, 2006 | Bq/L | 99,370 | 1,468,930 | 94,310 | 101,730 | |
| May 12, 2006 | Bq/L | 20,550 | 65,310 | 31,200 | 1,034,810 | |
| May 15, 2006 | Bq/L | | 105,540 | | 194,330 | |
| June 9, 2006 | Bq/L | 4,705,620 | 85,090 | 288,950 | 105,200 | |
| June 27, 2006 | Bq/L | 59,143,230 | 1,011,650 | 366,030 | 1,264,600 | |
| August 2, 2006 | Bq/L | 2,319,040 | 32,720 | 282,570 | 36,040 | |
| August 2, 2006 | Bq/L | 4,047,960 | 71,060 | 818,800 | 36,040 | |
| August 2, 2006 | Bq/L | 74,220 | 84,770 | 49,110 | 2,210 | |
| **Not Processing During Precipitation** | | | | | | |
| November 14, 2006 | Bq/L | | | | | 2,390 |
| November 16, 2006 | Bq/L | | | | | 2,217 |
| December 5, 2006 | Bq/L | | | | | 4,420 |

**Notes:**
Locations A, B, C and D are located within fenced stack compound
1 - Composite sample of precipitation samples collected within fenced stack compound

**Appendix I :**
**Compilation of Precipitation Water Chemistry - Downspouts**

| Name | Units | DS-1 | DS-2 | DS-3 | DS-4 | DS-5 | DS-6 |
|---|---|---|---|---|---|---|---|
| **Processing During Precipitation** | | | | | | | |
| May 12, 2006 | Bq/L | | | | | 1,100 | |
| May 15, 2006 | Bq/L | | | | | | 340 |
| June 9, 2006 | Bq/L | | | 100 | | 3,500 | 2040 |
| June 27, 2006 | Bq/L | | | 1,140 | | 84,380 | 93280 |
| July 27, 2006 | Bq/L | | | 840 | | 1,550 | 32530 |
| August 1, 2006 | Bq/L | | | 450 | | | |
| August 2, 2006 | Bq/L | | | 330 | | 23,120 | 28290 |
| August 2, 2006 | Bq/L | | | 310 | | 450 | 1430 |
| **Not Processing During Precipitation** | | | | | | | |
| October 11, 2006 | Bq/L | 510 | 190 | 500 | 790 | 490 | 530 |
| Ocotber 11, 2006 | Bq/L | 670 | 400 | 510 | 570 | 550 | 320 |
| Ocotber 17, 2006 | Bq/L | 800 | 730 | 780 | 580 | 610 | 220 |
| Ocotber 17, 2007 | Bq/L | 610 | 530 | 190 | 120 | 210 | 430 |
| Ocotber 18, 2006 | Bq/L | | 520 | 260 | 770 | | 880 |
| October 22, 2006 | Bq/L | 670 | 980 | 600 | 1,130 | 820 | 750 |
| Ocotber 23, 2006 | Bq/L | 620 | 680 | 850 | 1,050 | 1,080 | 670 |
| November 9, 2006 | Bq/L | | | | 100 | | 1,050 |
| November 16, 2006 | Bq/L | 100 | 100 | 100 | 100 | 100 | 100 |

# Standing Water/Snow Sample Locations



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ETB-07-068

05 April 2007

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## SRB Technologies – Environmental Monitoring Program
### MW06-8 & MW06-9 Soil Samples - September 2006

This memo details the moisture and tritium content of a series of soil samples collected at various depths during the installation of groundwater monitoring wells MW06-8 and MW06-9 in September 2006. The glass sealed samples containers have been stored at 4 degrees Celsius in ETB's cold prior to analysis.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was removed, weighed and re-weighed after 20 hours of oven drying at 105 degrees Celsius.

A second aliquot from each sample was mixed with approximately 20mL of blank water. After 24 hours of mixing the samples were centrifuged and filtered through Nuclepore 0.45 μM filters.

The samples were then prepared for scintillation counting by adding 2mL of filtered sample to 10mL of ULTIMA GOLD cocktail. Each sample was counted in triplicate on ETB's Beckman 6500 scintillation counter. The soil tritium counting results were background corrected and are summarized in Table 1.

An instrument background and standard sample were included in the analytical run. The background sample was prepared by mixing tritium-free water and scintillation cocktail. The standard sample was prepared from tritium-free water spiked with about 100 μL of NIST4926E-1 tritium standard per vial. These results are listed in Table 1b.

Additional analytical details can be provided at request.

**Table 1a**: S. R. B. Soil Water Tritium Monitoring – Wells MW06-8 & MW06-9

| Sample Well Number | Sample Date | Moisture Content Water Content (% by wt) | Tritium Extraction Soil Water Tritium Conc (Bq/L) |
|---|---|---|---|
| **SRB-MW06-8-1** | Sep-06 | 18% | **2572** |
| **SRB-MW06-8-2** | Sep-06 | 17% | **3673** |
| **SRB-MW06-8-3** | Sep-06 | 25% | **3351** |
| **SRB-MW06-8-4** | Sep-06 | 26% | **3293** |
| **SRB-MW06-8-5** | Sep-06 | 27% | **2549** |
| **SRB-MW06-8-6** | Sep-06 | 25% | **913** |
| **SRB-MW06-8-7** | Sep-06 | 24% | **516** |
| **SRB-MW06-8-8** | Sep-06 | 26% | **<113** |
| **SRB-MW06-8-9** | Sep-06 | 28% | **<118** |
| **SRB-MW06-8-10** | Sep-06 | 25% | **<123** |
| | | | |
| **SRB-MW06-9-1** | Sep-06 | 11% | **14222** |
| **SRB-MW06-9-1A** | Sep-06 | 24% | **16901** |
| **SRB-MW06-9-2** | Sep-06 | 25% | **15530** |
| **SRB-MW06-9-3** | Sep-06 | 25% | **13417** |
| **SRB-MW06-9-4** | Sep-06 | 25% | **10661** |
| **SRB-MW06-9-5** | Sep-06 | 27% | **6402** |
| **SRB-MW06-9-6** | Sep-06 | 25% | **3851** |
| **SRB-MW06-9-7** | Sep-06 | 27% | **886** |
| **SRB-MW06-9-8** | Sep-06 | 27% | **512** |

**Table 1b**: QC Data for Samples Analyzed on Beckman at B513 – 2 April 2007

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Soil Water Blank | 02 Apr 2007 | 02 Apr 2007 | 218 | 20 | 98 | N/A | Beckman -- B513 |
| ETB Std 416-6 | 30 Mar 2007 | 02 Apr 2007 | 16,187 | 189 | 114 | 105% | Beckman -- B513 |

Prepared By: T. Chaput

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ETB-06-291

16 November 2006

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# SRB Technologies – Environmental Monitoring Program
## MW06-10 Soil Samples – 21 September 2006
## Well Water Results – 15 November 2006

This memo details the moisture and tritium content of a series of soil samples collected at various depths during the installation of groundwater monitoring well MW06-10 on 21 September 2006. Also included are the results for the groundwater well samples collected by ETB staff of 15 November 2006.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was removed, weighed and re-weighed after 17 hours of oven drying at 105 degrees Celsius.

A second aliquot from each sample was mixed with 20mL of blank water. After 24 hours of mixing the samples were centrifuged and filtered through Nuclepore 0.45 μM filters.

The samples were then prepared for scintillation counting by adding 2mL of filtered sample to 10mL of ULTIMA GOLD cocktail. Each sample was counted in triplicate on ETB's Beckman 6500 scintillation counter. The soil tritium counting results are summarized in Table 1a and the well water results are summarized on Table 2.

A background and standard sample were included in the analytical run. The background sample was prepared by mixing tritium-free water and scintillation cocktail. The standard sample was prepared from tritium-free water spiked with about 100 μL of NIST4926E-1 tritium standard per vial. These results are listed in Table 1b.

Additional analytical details can be provided at request.

**Table 1a**: S. R. B. Soil Water Tritium Monitoring – Well MW06-10

| Sample Number | Sample Date | Water Content (% by wt) | Soil Water Tritium Conc (Bq/L) |
|---|---|---|---|
| **MW06-10 SA-1** | 21-Sep-06 | 7% | **74,333** |
| **MW06-10 SA-2** | 21-Sep-06 | 13% | **74,250** |
| **MW06-10 SA-3** | 21-Sep-06 | 23% | **67,840** |
| **MW06-10 SA-4** | 21-Sep-06 | 19% | **75,435** |
| **MW06-10 SA-5** | 21-Sep-06 | 28% | **105,712** |
| **MW06-10 SA-6** | 21-Sep-06 | 28% | **47,130** |
| **MW06-10 SA-7** | 21-Sep-06 | 30% | **67,949** |
| **MW06-10 SA-8** | 21-Sep-06 | 30% | **248,455** |
| **MW06-10 SA-9** | 21-Sep-06 | 28% | **277,844** |
| **MW06-10 SA-10** | 21-Sep-06 | 30% | **154,518** |
| **MW06-10 SA-11** | 21-Sep-06 | 29% | **25,395** |
| **MW06-10 SA-12** | 21-Sep-06 | 23% | **10,281** |
| **MW06-10 SA-13** | 21-Sep-06 | 10% | **60,562** |
| **MW06-10 SA-14** | 21-Sep-06 | 9% | **150,541** |

**Table 1b**: QC Data for Samples Analyzed on Beckman at B513 – 15 Nov.06

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Blank | 18-Sep-06 | 15-Nov-06 | 237 | 23 | 111 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 18-Sep-06 | 15-Nov-06 | 17,639 | 199 | 113 | 110% | Beckman -- B513 |

**Table 2**: S. R. B. Groundwater Monitoring Wells – 15 Nov.06

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Instrument ID |
|---|---|---|---|---|---|---|
| MW06-1 | 15-Nov-06 | 15-Nov-06 | 67,606 | 677 | 203 | Beckman -- B513 |
| MW06-2 | 15-Nov-06 | 15-Nov-06 | 5,060 | 108 | 109 | Beckman -- B513 |
| MW06-3 | 15-Nov-06 | 15-Nov-06 | 3,564 | 93 | 110 | Beckman -- B513 |
| MW06-8 | 15-Nov-06 | 15-Nov-06 | 120 | 35 | 110 | Beckman -- B513 |
| MW06-9 | 15-Nov-06 | 15-Nov-06 | 2,003 | 73 | 110 | Beckman -- B513 |
| MW06-10 | 15-Nov-06 | 15-Nov-06 | 156,643 | 1,551 | 321 | Beckman -- B513 |
| CN-1D | 15-Nov-06 | 16-Nov-06 | 3,279 | 91 | 114 | Beckman -- B513 |
| CN-1S | 15-Nov-06 | 15-Nov-06 | 3,511 | 93 | 111 | Beckman -- B513 |
| CN-2 | 15-Nov-06 | 15-Nov-06 | 2,123 | 75 | 112 | Beckman -- B513 |
| CN-3D | 15-Nov-06 | 15-Nov-06 | 1,427 | 64 | 111 | Beckman -- B513 |
| CN-3S | 15-Nov-06 | 15-Nov-06 | 2,984 | 87 | 112 | Beckman -- B513 |

Prepared By: T. Chaput / Reviewed By: T. Eve

cc: J. Bishop, R. Miller

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ETB-07-096, Rev. 1

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# SRB Technologies Groundwater Monitoring Program

## Soil Core Samples from Boreholes Monitoring Well & Residential Well Samples

This revised memo details well sample results (monthly & two residential) along with the moisture and tritium content of a series of soil core samples. The soil core samples were collected at various depths during the installation of the MW-07 series of groundwater monitoring wells in April 2007. The soil cores were placed in amber glass sample containers and were transferred to CRL on 01 May 2007. Prior to analysis, the samples were stored at 4°C in ETB's cold room.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was weighed and reweighed after approximately 20 hours of oven-drying at 105°C.

A second aliquot from each sample was mixed with approximately 20 mL of blank (tritium-free) water. After 24 hours of mixing, the samples were centrifuged for 45 minutes at 3,800 rpm. After centrifuging, the samples were filtered through Nuclepore 0.45 μm filters.

Please note that some samples (i.e. MW-19, 20'-22') contain pieces of fractured rock. It is therefore difficult to draw a comparison between the fractured rock pore water tritium concentrations against the groundwater tritium concentrations from the well due to the low porosity of this sample matrix.

Prepared By: T. Eve
Reviewed By: T. Chaput

The aqueous filtrate samples were prepared for scintillation counting by adding 2 mL of filtered sample to 10 mL of Ultima Gold scintillation cocktail. Each sample was counted in triplicate on a Beckman 6500 liquid scintillation counter. The soil tritium analysis results were background corrected and are summarized in Table 2, with associated QC samples in Table 2b. The monitoring well water tritium results are summarized in Tables 1a (17 May 2007) and 1c (27 April 2007). Analytical results for samples from two residential wells are in Table 1b.

Recovery refers to the amount of H-3 spike that was recovered during the processing of the samples. The RPD (Relative Percent Difference) compares the spike recovered to the actual value of the spike or the difference between duplicate samples.

The method blank is prepared from tritium-free water and scintillation cocktail. The spiked blank is prepared from tritium-free water and cocktail with a known quantity of NIST-4926E standard added to it.

All QC samples met the required criteria for Analytical Control.

Additional analytical details can be provided at request.

**Table 1a:** **S.R.B. Groundwater Monitoring – Monitoring Wells – 17 May 2007**

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Blank | 02 Apr 2007 | 24 May 2007 | 235 | 22 | 108 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 02 Apr 2007 | 24 May 2007 | 16,409 | 187 | 109 | 106% | Beckman -- B513 |
| MW06-1 | 17 May 2007 | 24 May 2007 | 51,972 | 522 | 175 | N/A | Beckman -- B513 |
| MW06-2 | 17 May 2007 | 24 May 2007 | 4,646 | 101 | 105 | N/A | Beckman -- B513 |
| MW06-3 | 17 May 2007 | 24 May 2007 | 3,267 | 87 | 106 | N/A | Beckman -- B513 |
| MW06-8 | 17 May 2007 | 24 May 2007 | 207 | 37 | 105 | N/A | Beckman -- B513 |
| MW06-9 | 17 May 2007 | 24 May 2007 | 1,609 | 65 | 106 | N/A | Beckman -- B513 |
| MW06-10 | 17 May 2007 | 24 May 2007 | 94,956 | 948 | 242 | N/A | Beckman -- B513 |
| MW06-10 Dup | 17 May 2007 | 24 May 2007 | 94,495 | 943 | 241 | 0.49% | Beckman -- B513 |
| MW06-10 Spike | 17 May 2007 | 24 May 2007 | 111,321 | 1,108 | 264 | 102% | Beckman -- B513 |

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Blank | 02 Apr 2007 | 24 May 2007 | 235 | 22 | 108 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 02 Apr 2007 | 24 May 2007 | 16,409 | 187 | 109 | 106% | Beckman -- B513 |
| MW07-11 | 17 May 2007 | 24 May 2007 | 638 | 47 | 105 | N/A | Beckman -- B513 |
| MW07-12 | 17 May 2007 | 24 May 2007 | 154 | 35 | 106 | N/A | Beckman -- B513 |
| MW07-13 | 17 May 2007 | 24 May 2007 | 7,781 | 129 | 106 | N/A | Beckman -- B513 |
| MW07-14 | 17 May 2007 | 24 May 2007 | 1,662 | 65 | 105 | N/A | Beckman -- B513 |
| MW07-15 | 17 May 2007 | 24 May 2007 | 675 | 48 | 106 | N/A | Beckman -- B513 |
| MW07-16 | 17 May 2007 | 24 May 2007 | 6,845 | 122 | 106 | N/A | Beckman -- B513 |
| MW07-17 | 17 May 2007 | 24 May 2007 | 519 | 44 | 106 | N/A | Beckman -- B513 |
| MW07-18 | 17 May 2007 | 24 May 2007 | 108,879 | 1,087 | 261 | N/A | Beckman -- B513 |
| MW07-19 | 17 May 2007 | 24 May 2007 | 25,806 | 261 | 120 | N/A | Beckman -- B513 |
| MW All Purge Drum | 14 May 2007 | 24 May 2007 | 35,842 | 361 | 143 | N/A | Beckman -- B513 |

Prepared By: T. Eve
Reviewed By: T. Chaput

**Table 1b:** **S.R.B. Groundwater Monitoring – Residential Wells – 17 May 2007**

| Sample Location | Sample Date | Count Date | Reported Bq/Litre | ± 1 sigma Bq/Litre | MDA Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Method Blank # 1 | 18 Apr 2007 | 20 May 2007 | < 5.5 | | | | PE 3170 / B560 |
| Method Blank # 2 | 18 Apr 2007 | 20 May 2007 | < 5.5 | | | | PE 3170 / B560 |
| Spiked Blank Efficiency | 18 Apr 2007 | 20 May 2007 | 29,049 | 64 | 5 | 101% | PE 3170 / B560 |
| 10 Bq/L Standard | 18 Apr 2007 | 20 May 2007 | 9 | 2 | 6 | 15% | PE 3170 / B560 |
| 100 Bq/L Standard | 18 Apr 2007 | 20 May 2007 | 108 | 4 | 6 | -6.7% | PE 3170 / B560 |
| 361 Boundary Rd Superior Propane Office | 17 May 2007 | 20 May 2007 | 1,289 | 13 | 5 | N/A | PE 3170 / B560 |
| 413 Boundary Road (Yuill residence) | 17 May 2007 | 20 May 2007 | 1,366 | 14 | 6 | N/A | PE 3170 / B560 |
| 413 Boundary Road Duplicate (Yuill residence) | 17 May 2007 | 20 May 2007 | 1,345 | 14 | 5 | 1.6% | PE 3170 / B560 |

**Table 1c:** **S.R.B. Groundwater Monitoring – Monitoring Wells – 27 April 2007**

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Blank | 02 Apr 2007 | 01 May 2007 | 231 | 22 | 107 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 02 Apr 2007 | 01 May 2007 | 16,125 | 185 | 108 | 104% | Beckman -- B513 |
| MW06-1 | 27 Apr 2007 | 01 May 2007 | 50,170 | 504 | 170 | N/A | Beckman -- B513 |
| MW06-2 | 27 Apr 2007 | 01 May 2007 | 4,657 | 101 | 105 | N/A | Beckman -- B513 |
| MW06-3 | 27 Apr 2007 | 01 May 2007 | 3,273 | 87 | 105 | N/A | Beckman -- B513 |
| MW06-8 | 27 Apr 2007 | 01 May 2007 | 209 | 37 | 105 | N/A | Beckman -- B513 |
| MW06-9 | 27 Apr 2007 | 01 May 2007 | 1,450 | 62 | 105 | N/A | Beckman -- B513 |
| MW06-10 | 27 Apr 2007 | 01 May 2007 | 104,350 | 1,036 | 252 | N/A | Beckman -- B513 |
| MW06-10 Dup | 27 Apr 2007 | 01 May 2007 | 104,024 | 1,039 | 253 | 0.31% | Beckman -- B513 |
| MW06-10 Spike | 27 Apr 2007 | 01 May 2007 | 118,465 | 1,178 | 271 | 89% | Beckman -- B513 |

***Preliminary results from samples collected shortly after MW-07 well installations.***

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Blank | 02 Apr 2007 | 01 May 2007 | 231 | 22 | 107 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 02 Apr 2007 | 01 May 2007 | 16,125 | 185 | 108 | 104% | Beckman -- B513 |
| MW07-11 | 27 Apr 2007 | 01 May 2007 | 203 | 36 | 105 | N/A | Beckman -- B513 |
| MW07-12 | 27 Apr 2007 | 01 May 2007 | 152 | 35 | 104 | N/A | Beckman -- B513 |
| MW07-13 | 27 Apr 2007 | 01 May 2007 | 6,358 | 117 | 105 | N/A | Beckman -- B513 |
| MW07-14 | 27 Apr 2007 | 01 May 2007 | 1,504 | 63 | 104 | N/A | Beckman -- B513 |
| MW07-15 | 27 Apr 2007 | 01 May 2007 | 690 | 48 | 105 | N/A | Beckman -- B513 |
| MW07-16 | 27 Apr 2007 | 01 May 2007 | 6,855 | 121 | 105 | N/A | Beckman -- B513 |
| MW07-17 | 27 Apr 2007 | 01 May 2007 | 521 | 44 | 105 | N/A | Beckman -- B513 |
| MW07-18 | 27 Apr 2007 | 01 May 2007 | 110,422 | 1,097 | 260 | N/A | Beckman -- B513 |
| MW07-19 | 27 Apr 2007 | 01 May 2007 | 28,788 | 291 | 127 | N/A | Beckman -- B513 |
| 2Q 04 07 Drum | 27 Apr 2007 | 01 May 2007 | 27,070 | 274 | 123 | N/A | Beckman -- B513 |
| Purge Well Drum | 21 Apr 2007 | 01 May 2007 | 62,146 | 622 | 191 | N/A | Beckman -- B513 |

**Table 2b:** **S.R.B. Groundwater Monitoring – QC Data for Core Sample Analysis**

| Average of QC Samples For Core Samples Analyzed on Beckman LS6500 | | | | | |
|---|---|---|---|---|---|
| Sample Location | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
| Blank | 238 | 22 | 109 | N/A | Beckman -- B513 |
| NIST 4926E-1 | 15,997 | 185 | 109 | 103% | Beckman -- B513 |

Prepared By: T. Eve
Reviewed By: T. Chaput

**Table 2**: **S.R.B. Groundwater Monitoring – Core Samples from Boreholes**

| Bore Hole Number | Sample Identification and/or Location | Collection Date | Count Date | Water Content (% by Wt) | Tritium Extraction Soil Water (Bq/Litre) |
|---|---|---|---|---|---|
| MW07-11 | BH-11, 2' - 4' | 25 Apr 2007 | 18 May 2007 | 24% | 4,734 |
| MW07-11 | BH-11, 4' - 6' | 25 Apr 2007 | 18 May 2007 | 25% | 3,751 |
| MW07-11 | BH-11 6' - 8' | 25 Apr 2007 | 18 May 2007 | 27% | 4,577 |
| MW07-11 | BH-11, 8' - 10' | 25 Apr 2007 | 18 May 2007 | 28% | 3,280 |
| MW07-11 | BH-11, 10' - 12' | 25 Apr 2007 | 18 May 2007 | 29% | 1,928 |
| MW07-11 | BH-11, 12' - 14' | 25 Apr 2007 | 18 May 2007 | 29% | 901 |
| MW07-11 | BH-11, 14' - 16' | 25 Apr 2007 | 18 May 2007 | 26% | 606 |
| MW07-11 | B-11, 16' - 18' | 25 Apr 2007 | 18 May 2007 | 30% | 518 |
| MW07-11 | BH-11, 18' - 20' | 25 Apr 2007 | 18 May 2007 | 27% | 520 |
| MW07-11 | BH-11, 20' - 22' | 25 Apr 2007 | 18 May 2007 | 31% | 490 |
| MW07-12 | BH-12, 2' - 4' | 25 Apr 2007 | 18 May 2007 | 15% | 1,301 |
| MW07-12 | BH-12, 4' - 6' | 25 Apr 2007 | 18 May 2007 | 28% | 2,880 |
| MW07-12 | BH-12, 6' - 8' | 25 Apr 2007 | 18 May 2007 | 26% | 2,798 |
| MW07-12 | BH-12, 8' - 10' | 25 Apr 2007 | 18 May 2007 | 27% | 2,907 |
| MW07-12 | BH-12, 10' - 12' | 25 Apr 2007 | 18 May 2007 | 29% | 2,153 |
| MW07-12 | BH-12, 12' - 14' | 25 Apr 2007 | 18 May 2007 | 28% | 1,235 |
| MW07-12 | BH-12, 14' - 16' | 25 Apr 2007 | 18 May 2007 | 29% | 533 |
| MW07-12 | BH-12, 16' - 18' | 25 Apr 2007 | 18 May 2007 | 30% | 560 |
| MW07-12 | BH-12, 18' - 20' | 25 Apr 2007 | 18 May 2007 | 30% | 548 |
| MW07-12 | BH-12, 20' - 22' | 25 Apr 2007 | 18 May 2007 | 14% | 892 |
| MW07-13 | BH-13, 2' - 4' | 25 Apr 2007 | 18 May 2007 | 20% | 4,378 |
| MW07-13 | BH-13, 4' - 6' | 25 Apr 2007 | 18 May 2007 | 25% | 10,064 |
| MW07-13 | BH-13, 6' - 8' | 25 Apr 2007 | 18 May 2007 | 27% | 25,111 |
| MW07-13 | BH-13, 8' - 10' | 25 Apr 2007 | 18 May 2007 | 29% | 22,205 |
| MW07-13 | BH-13, 10' - 12' | 25 Apr 2007 | 18 May 2007 | 30% | 25,070 |
| MW07-13 | BH-13, 12' - 14' | 25 Apr 2007 | 18 May 2007 | 29% | 40,686 |
| MW07-13 | BH-13, 14' - 16' | 25 Apr 2007 | 18 May 2007 | 29% | 36,610 |
| MW07-13 | BH-13, 16' - 18' | 25 Apr 2007 | 18 May 2007 | 28% | 23,244 |
| MW07-13 | BH-13, 18' - 20' | 25 Apr 2007 | 19 May 2007 | 27% | 14,433 |
| MW07-13 | BH-13, 20' - 22' | 25 Apr 2007 | 19 May 2007 | 25% | 15,134 |
| MW07-14 | BH-14, 2' - 4' | 25 Apr 2007 | 19 May 2007 | 25% | 2,587 |
| MW07-14 | BH-14, 4' - 6' | 25 Apr 2007 | 19 May 2007 | 24% | 2,738 |
| MW07-14 | BH-14, 6' - 8' | 25 Apr 2007 | 19 May 2007 | 24% | 2,503 |
| MW07-14 | BH-14, 8' - 10' | 25 Apr 2007 | 19 May 2007 | 26% | 3,464 |
| MW07-14 | BH-14, 10' - 12' | 25 Apr 2007 | 19 May 2007 | 24% | 4,123 |
| MW07-14 | BH-14, 12' - 14' | 25 Apr 2007 | 19 May 2007 | 26% | 3,644 |
| MW07-14 | BH-14, 14' - 16' | 25 Apr 2007 | 19 May 2007 | 27% | 1,071 |
| MW07-14 | BH-14, 16' - 18' | 25 Apr 2007 | 19 May 2007 | 24% | 2,858 |
| MW07-14 | BH-14, 18' - 20' | 25 Apr 2007 | 19 May 2007 | 21% | 697 |
| MW07-14 | BH-14, 20' - 22' | 25 Apr 2007 | 19 May 2007 | 13% | 928 |

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**Table 2**: **S.R.B. Groundwater Monitoring – Core Samples from Boreholes (continued)**

| Bore Hole Number | Sample Identification and/or Location | Collection Date | Count Date | Water Content (% by Wt) | Tritium Extraction Soil Water (Bq/Litre) |
|---|---|---|---|---|---|
| MW07-15 | BH-15, 2' - 4' | 25 Apr 2007 | 19 May 2007 | 26% | 8,525 |
| MW07-15 | BH-15, 4' - 6' | 25 Apr 2007 | 19 May 2007 | 28% | 10,121 |
| MW07-15 | BH-15, 6' - 8' | 25 Apr 2007 | 19 May 2007 | 29% | 10,724 |
| MW07-15 | BH-15, 8' - 10' | 25 Apr 2007 | 19 May 2007 | 28% | 6,398 |
| MW07-15 | BH-15, 10' - 12' | 25 Apr 2007 | 19 May 2007 | 27% | 3,154 |
| MW07-15 | BH-15, 12' - 14' | 25 Apr 2007 | 19 May 2007 | 29% | 542 |
| MW07-15 | BH-15, 14' - 16' | 25 Apr 2007 | 19 May 2007 | 25% | 621 |
| MW07-15 | BH-15, 16' - 18' | 25 Apr 2007 | 19 May 2007 | 23% | 632 |
| MW07-15 | BH-15, 18' - 20' | 25 Apr 2007 | 19 May 2007 | 25% | 555 |
| MW07-15 | BH-15, 20' - 22' | 25 Apr 2007 | 19 May 2007 | 11% | 1,064 |
| MW07-16 | BH-16, 2-4' | 25 Apr 2007 | 14 May 2007 | 27% | 3,761 |
| MW07-16 | BH-16, 4-6' | 25 Apr 2007 | 14 May 2007 | 28% | 3,327 |
| MW07-16 | BH-16, 6-8' | 25 Apr 2007 | 14 May 2007 | 28% | 5,170 |
| MW07-16 | BH-16, 8-10' | 25 Apr 2007 | 14 May 2007 | 29% | 6,405 |
| MW07-16 | BH-16, 10-12' | 25 Apr 2007 | 14 May 2007 | 28% | 5,973 |
| MW07-16 | BH-16, 12-14' | 25 Apr 2007 | 14 May 2007 | 32% | 5,005 |
| MW07-16 | BH-16, 14-16' | 25 Apr 2007 | 14 May 2007 | 28% | 4,984 |
| MW07-16 | BH-16, 16-18' | 25 Apr 2007 | 14 May 2007 | 25% | 2,143 |
| MW07-16 | BH-16, 18-20' | 25 Apr 2007 | 14 May 2007 | 10% | 6,389 |
| MW07-17 | BH-17, Soil Core | 25 Apr 2007 | 12 May 2007 | 22% | 7,217 |
| MW07-18 | BH-18, 2-4' | 25 Apr 2007 | 10 May 2007 | 24% | 8,848 |
| MW07-18 | BH-18, 4-6' | 25 Apr 2007 | 10 May 2007 | 24% | 8,308 |
| MW07-18 | BH-18, 6-8' | 25 Apr 2007 | 10 May 2007 | 25% | 8,926 |
| MW07-18 | BH-18, 8-10' | 25 Apr 2007 | 10 May 2007 | 24% | 11,879 |
| MW07-18 | BH-18, 10-12' | 25 Apr 2007 | 10 May 2007 | 22% | 48,682 |
| MW07-18 | BH-18, 12-14' | 25 Apr 2007 | 10 May 2007 | 21% | 61,680 |
| MW07-18 | BH-18, 14-16' | 25 Apr 2007 | 10 May 2007 | 26% | 52,115 |
| MW07-18 | BH-18, 16-18' | 25 Apr 2007 | 10 May 2007 | 10% | 84,262 |
| MW07-18 | BH-18, 18-20' | 25 Apr 2007 | 10 May 2007 | 10% | 100,889 |
| MW07-18 | BH-18, 20-22' | 25 Apr 2007 | 10 May 2007 | 10% | 120,546 |
| MW07-19 | BH-19, 0-2' | 25 Apr 2007 | 10 May 2007 | 24% | 2,724 |
| MW07-19 | BH-19, 2-4' | 25 Apr 2007 | 10 May 2007 | 24% | 8,230 |
| MW07-19 | BH-19, 4-6' | 25 Apr 2007 | 10 May 2007 | 25% | 9,221 |
| MW07-19 | BH-19, 6-8' | 25 Apr 2007 | 10 May 2007 | 26% | 9,255 |
| MW07-19 | BH-19, 8-10' | 25 Apr 2007 | 10 May 2007 | 25% | 8,506 |
| MW07-19 | BH-19, 10-12' | 25 Apr 2007 | 10 May 2007 | 26% | 11,328 |
| MW07-19 | BH-19, 12-14' | 25 Apr 2007 | 10 May 2007 | 29% | 9,285 |
| MW07-19 | BH-19 14-16' | 25 Apr 2007 | 10 May 2007 | 28% | 9,281 |
| MW07-19 | BH-19, 16-18' | 25 Apr 2007 | 10 May 2007 | 11% | 9,252 |
| MW07-19 | BH-19, 18-20' | 25 Apr 2007 | 10 May 2007 | 11% | 9,817 |
| MW07-19 | BH-19, 20-22' | 25 Apr 2007 | 10 May 2007 | 10% | 15,053 |
| MW07-19 | BH-19, 20' - 22' Repeat | 25 Apr 2007 | 19 May 2007 | 10% | 14,403 |

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ETB-06-244

28 September 2006

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**SRB Technologies – Environmental Monitoring Program**
**Surface Soil Water Tritium Monitoring - 12 September 2006**

On 12 September 2006, SRBT and AECL staff collected a series of surface soil samples for soil water tritium analysis at 320-140 Boundary Road, Pembroke.

Using a 10cm X 5cm stainless corer and slide hammer, 23 sites, cleared of surface vegetation, were sampled into plastic bags and transferred to Chalk River for processing.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was removed, weighed and re-weighed after 24 hours of oven drying at 105 degrees Celsius.

A second aliquot from each sample was mixed with 20mL of blank water. After 72 hours of mixing the samples were centrifuged and filtered through Nuclepore 0.45 μM filters.

The samples were then prepared for scintillation counting by adding 2mL of filtered sample to 10mL of ULTIMA GOLD cocktail. Each sample was counted in triplicate on ETB's Beckman 6500 scintillation counter. The counting results are summarized in Table 1.

A background and standard sample were included in the analytical run. The background sample was prepared by mixing tritium-free water and scintillation cocktail. The standard sample was prepared from tritium-free water spiked with about 100 μL of ETB-416-6 (NIST traceable) tritium standard per vial.

Analytical details can be provided at request.

**Table 1a**: S. R. B. Soil Water Tritium Monitoring

| Sample Number | Sample Date | Water Content (% by wt) | Soil Water Tritium Conc (Bq/L) |
|---|---|---|---|
| **SRB-SS1** | 12-Sep-06 | 12.2% | **2374** |
| **SRB-SS2** | 12-Sep-06 | 20.2% | **1634** |
| **SRB-SS3** | 12-Sep-06 | 20.8% | **1004** |
| **SRB-SS4** | 12-Sep-06 | 21.3% | **804** |
| **SRB-SS5** | 12-Sep-06 | 16.8% | **1598** |
| **SRB-SS6** | 12-Sep-06 | 19.5% | **1293** |
| **SRB-SS7** | 12-Sep-06 | 22.4% | **1285** |
| **SRB-SS8** | 12-Sep-06 | 10.4% | **1580** |
| **SRB-SS9** | 12-Sep-06 | 7.6% | **2080** |
| **SRB-SS10** | 12-Sep-06 | 2.4% | **19734** |
| **SRB-SS10-A** | 12-Sep-06 | 4.9% | **8923** |
| **SRB-SS11** | 12-Sep-06 | 2.6% | **20113** |
| **SRB-SS12** | 12-Sep-06 | 3.3% | **15344** |
| **SRB-SS13** | 12-Sep-06 | 2.2% | **13277** |
| **SRB-SS14** | 12-Sep-06 | 3.6% | **31353** |
| **SRB-SS14-Dup** | 12-Sep-06 | 4.1% | **25960** |
| **SRB-SS15** | 12-Sep-06 | 5.5% | **248602** |
| **SRB-SS16** | 12-Sep-06 | 4.1% | **366747** |
| **SRB-SS17** | 12-Sep-06 | 4.9% | **3831** |
| **SRB-SS18** | 12-Sep-06 | 14.6% | **1439** |
| **SRB-SS19** | 12-Sep-06 | 12.8% | **695** |
| **SRB-SS20** | 12-Sep-06 | 12.1% | **1854** |
| **SRB-SS21** | 12-Sep-06 | 17.7% | **684** |
| **SRB-SS22** | 12-Sep-06 | 16.8% | **1267** |

**Table 1b**: QC Data for Samples Analyzed on Beckman at B513

| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Soil Water Blank | 15 Sep 2006 | 19 Sep 2006 | 216 | 21 | 102 | N/A | Beckman -- B513 |
| ETB Std 416-6 | 04 Apr 2006 | 19 Sep 2006 | 11,236 | 159 | 110 | 93% | Beckman -- B513 |

Prepared By: T. Chaput / Reviewed By: J. Jirovec

cc: J. Bishop, R. Miller

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ETB-07-219 Rev.1

01 November 2007

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## SRB Technologies – Groundwater Monitoring Program
### Soil Core Tritium & Moisture Analysis of MW07 Wells - September 2007

This memo details the moisture and tritium content of a series of soil samples collected at various depths during the installation of several new groundwater-monitoring wells in September 2007. The glass sealed sample containers were delivered to AECL immediately after drilling and prior to analysis were stored at 4 degrees Celsius in ETB's cold room.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was removed, weighed and re-weighed after 20 hours of oven drying at 105 degrees Celsius.

A second aliquot from each sample was mixed with approximately 20mL of blank water. After 24 hours of mixing the samples were centrifuged and filtered through Nuclepore 0.45 µM filters.

The samples were then prepared for scintillation counting by adding 2mL of filtered sample to 10mL of ULTIMA GOLD cocktail. Each sample was counted in triplicate on ETB's Beckman 6500 scintillation counter. The soil core tritium counting results were background corrected and are summarized in Table 1.

An instrument background and standard sample were included in the analytical run. The background sample was prepared by mixing tritium-free water and scintillation cocktail. The standard sample was prepared from tritium-free water spiked with about 100 µL of NIST4926E-1 tritium standard per vial. These results are listed in Table 1b.

Additional analytical details can be provided at request.

**Table 1a**: S. R. B. Soil Water Tritium Monitoring – September 2007

| Sample Well Number | Sample Depth (feet) | Sample Date | **Moisture Content** Water Content (% by wt) | **Tritium Extraction Soil Water Tritium Conc (Bq/L)** |
|---|---|---|---|---|
| **SRB-MW07-20** | **0 - 6** | Sep-07 | 20.6% | **< 675** |
| **SRB-MW07-20** | **3'6" - 4'** | Sep-07 | 15.7% | **2578** |
| **SRB-MW07-20** | **7'6" - 8'** | Sep-07 | 33.1% | **2940** |
| **SRB-MW07-20** | **11'6" - 12'** | Sep-07 | 33.0% | **2217** |
| **SRB-MW07-20** | **15'6" - 16** | Sep-07 | 29.1% | **2208** |
| **SRB-MW07-20** | **19'6" - 20'** | Sep-07 | 30.0% | **1029** |
| **SRB-MW07-20** | **22'2" - 22'8"** | Sep-07 | 24.0% | **< 609** |
| **SRB-MW07-20** | **22'8" - 23'1"** | Sep-07 | 9.3% | **< 1277** |
| **SRB-MW07-21** | **SA-1** | Sep-07 | 18.7% | **834** |
| **SRB-MW07-21** | **SA-2** | Sep-07 | 20.8% | **3497** |
| **SRB-MW07-21** | **SA-3** | Sep-07 | 28.6% | **4188** |
| **SRB-MW07-21** | **SA-4** | Sep-07 | 30.7% | **2734** |
| **SRB-MW07-21** | **SA-5** | Sep-07 | 29.1% | **905** |
| **SRB-MW07-21** | **SA-6** | Sep-07 | 27.0% | **< 516** |
| **SRB-MW07-21** | **SA-7** | Sep-07 | 21.7% | **< 617** |

| Sample Well Number | Sample Depth (feet) | Sample Date | **Moisture Content** Water Content (% by wt) | **Tritium Extraction Soil Water Tritium Conc (Bq/L)** |
|---|---|---|---|---|
| **SRB-MW07-22** | **0 - 6** | Sep-07 | 15.3% | **< 1751** |
| **SRB-MW07-22** | **3'6" - 4'** | Sep-07 | 23.2% | **3174** |
| **SRB-MW07-22** | **7'6" - 8'** | Sep-07 | 26.3% | **3628** |
| **SRB-MW07-22** | **11'6" - 12'** | Sep-07 | 28.4% | **1842** |
| **SRB-MW07-22** | **15'6" - 16** | Sep-07 | 27.5% | **< 733** |
| **SRB-MW07-22** | **19'6" - 20'** | Sep-07 | 23.9% | **< 584** |
| **SRB-MW07-22** | **21'3" - 21'9"** | Sep-07 | 10.8% | **< 1165** |
| **SRB-MW07-22** | **21'9" - 22'** | Sep-07 | 9.2% | **< 1345** |
| **SRB-MW07-23** | **0 - 6** | Sep-07 | 11.9% | **< 1187** |
| **SRB-MW07-23** | **3'6" - 4'** | Sep-07 | 24.6% | **6655** |
| **SRB-MW07-23** | **7'6" - 8'** | Sep-07 | 24.6% | **5515** |
| **SRB-MW07-23** | **11'6" - 12'** | Sep-07 | 27.1% | **2634** |
| **SRB-MW07-23** | **15'6" - 16** | Sep-07 | 24.9% | **1133** |
| **SRB-MW07-23** | **17'3" - 17'9"** | Sep-07 | 12.4% | **< 1022** |
| **SRB-MW07-23** | **17'9" - 18'** | Sep-07 | 12.4% | **< 1049** |

**Table 1a:** continued

| Sample Well Number | Sample Depth (feet) | Sample Date | **Moisture Content** Water Content (% by wt) | **Tritium Extraction Soil Water Tritium Conc (Bq/L)** |
|---|---|---|---|---|
| **SRB-MW07-24** | **0 - 6** | Sep-07 | 19.3% | **< 792** |
| **SRB-MW07-24** | **3'6" - 4'** | Sep-07 | 19.8% | **5571** |
| **SRB-MW07-24** | **7'6" - 8'** | Sep-07 | 26.6% | **2664** |
| **SRB-MW07-24** | **11'6" - 12'** | Sep-07 | 28.0% | **< 676** |
| **SRB-MW07-24** | **15'6" - 16** | Sep-07 | 27.2% | **< 736** |
| **SRB-MW07-24** | **18'6" -18'10"** | Sep-07 | 23.2% | **< 596** |
| **SRB-MW07-24** | **18'10" - 19'** | Sep-07 | 7.7% | **<1525** |
| **SRB-MW07-25** | **0 - 6** | Sep-07 | 16.1% | **< 827** |
| **SRB-MW07-25** | **3'6" - 4'** | Sep-07 | 23.9% | **1967** |
| **SRB-MW07-25** | **7'6" - 8'** | Sep-07 | 26.7% | **1251** |
| **SRB-MW07-25** | **11'6" - 12'** | Sep-07 | 27.0% | **< 722** |
| **SRB-MW07-25** | **15'6" - 16** | Sep-07 | 24.1% | **< 754** |
| **SRB-MW07-25** | **19'6" - 20'** | Sep-07 | 11.7% | **< 1124** |
| **SRB-MW07-25** | **20' - 20'7"** | Sep-07 | 7.9% | **1820** |
| **SRB-MW07-25** | **20'7" - 20'9"** | Sep-07 | 7.1% | **2390** |

| Sample Well Number | Sample Depth (feet) | Sample Date | **Moisture Content** Water Content (% by wt) | **Tritium Extraction Soil Water Tritium Conc (Bq/L)** |
|---|---|---|---|---|
| **SRB-MW07-26** | **0 - 6** | Sep-07 | 16.0% | **< 876** |
| **SRB-MW07-26** | **3'6" - 4'** | Sep-07 | 23.8% | **5123** |
| **SRB-MW07-26** | **7'6" - 8'** | Sep-07 | 25.2% | **4973** |
| **SRB-MW07-26** | **11'6" - 12'** | Sep-07 | 25.3% | **4937** |
| **SRB-MW07-26** | **15'6" - 16** | Sep-07 | 28.1% | **4227** |
| **SRB-MW07-26** | **19'6" - 20'** | Sep-07 | 25.7% | **3254** |
| **SRB-MW07-26** | **22'6" - 23'** | Sep-07 | 9.5% | **2446** |
| **SRB-MW07-27** | **0 - 6** | Sep-07 | 20.9% | **< 636** |
| **SRB-MW07-27** | **3'6" - 4'** | Sep-07 | 6.9% | **4872** |
| **SRB-MW07-27** | **7'6" - 8'** | Sep-07 | 25.8% | **9261** |
| **SRB-MW07-27** | **11'6" - 12'** | Sep-07 | 24.7% | **8556** |
| **SRB-MW07-27** | **15'6" - 16** | Sep-07 | 27.1% | **8223** |
| **SRB-MW07-27** | **19'6" - 20'** | Sep-07 | 22.5% | **6242** |
| **SRB-MW07-27** | **23'4" - 23'10"** | Sep-07 | 9.3% | **6638** |
| **SRB-MW07-27** | **24' - 24'7"** | Sep-07 | 10.6% | **6093** |
| **SRB-MW07-27** | **Tip (Rock)** | Sep-07 | 8.9% | **6556** |

**Table 1a:** continued

| Sample Well Number | Sample Depth (feet) | Sample Date | **Moisture Content** Water Content (% by wt) | **Tritium Extraction Soil Water Tritium Conc (Bq/L)** |
|---|---|---|---|---|
| **SRB-MW07-29** | **0 - 6** | Sep-07 | 14.3% | **6711** |
| **SRB-MW07-29** | **3'6" - 4'** | Sep-07 | 24.9% | **9542** |
| **SRB-MW07-29** | **7'6" - 8'** | Sep-07 | 27.3% | **10574** |
| **SRB-MW07-29** | **11'6" - 12'** | Sep-07 | 26.3% | **11471** |
| **SRB-MW07-29** | **15'6" - 16** | Sep-07 | 24.7% | **89683** |
| **SRB-MW07-29** | **19'6" - 20'** | Sep-07 | 10.1% | **82613** |
| **SRB-MW07-29** | **23'2" - 23'8"** | Sep-07 | 14.8% | **301918** |
| **SRB-MW07-29-Dup** | **23'2" - 23'8"** | Sep-07 | 14.5% | **298839** |
| **SRB-MW07-30** | **0 - 6** | Sep-07 | 15.7% | **< 852** |
| **SRB-MW07-30** | **3'6" - 4'** | Sep-07 | 14.2% | **1901** |
| **SRB-MW07-30** | **7'6" - 8'** | Sep-07 | 28.0% | **3052** |
| **SRB-MW07-30** | **11'6" - 12'** | Sep-07 | 29.2% | **7126** |
| **SRB-MW07-30** | **15'6" - 16** | Sep-07 | 29.2% | **14442** |
| **SRB-MW07-30** | **19'6" - 20'** | Sep-07 | 26.3% | **26117** |
| **SRB-MW07-30** | **21'3" - 21'9"** | Sep-07 | 12.6% | **25434** |
| **SRB-MW07-30** | **21'9" - 22'2"** | Sep-07 | 11.7% | **24229** |
| **SRB-MW07-32** | **Clay Seam** | Sep-07 | 12.6% | **< 930** |

**Table 1b**: QC Data for Samples Analyzed on Beckman at B513 – 18 October 2007

| Sample Location | Sample Date | Count Date | | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|---|
| **Instrument Blank** | 02 Oct 2007 | 18 Oct 2007 | | 241 | 23 | 111 | N/A | Beckman – B513 |
| **ETB Std 416-6** | 02 Oct 2007 | 18 Oct 2007 | | 15,715 | 186 | 111 | 105% | Beckman – B513 |
| **Soil Water Blank** | 28 Sep 2007 | 28 Sep 2007 | < | 109 | | | NA | Beckman – B513 |

Prepared By: T. Chaput

AECL EACL

CANDU TECHNOLOGY DEVELOPMENT
RADIOLOGICAL & ANALYTICAL SCIENCES DIVISION
Environmental Technologies Branch

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ETB-07-238

14 November 2007

Mr. S. Levesque, President
Miss K. Belec, Health Physics Technician
SRB Technologies (Canada) Inc.
320 – 140 Boundary Road
PEMBROKE, ON K8A 6W5

## SRB Technologies – Environmental Monitoring Program
### Surface Soil Tritium & Moisture Analysis – September & October 2007

This memo details the moisture and tritium content of a series of soil samples collected at various locations around 320-140 Boundary Road, Pembroke Ontario on 11 September and 19 October 2007. The glass sealed sample containers were transferred to AECL immediately after collection and prior to analysis were stored at 4 degrees Celsius in ETB's cold room.

To determine soil moisture content, each sample was thoroughly homogenized and a sub-sample was removed, weighed and re-weighed after 20 hours of oven drying at 105 degrees Celsius.

A second aliquot from each sample was mixed with approximately 20mL of blank water. After 24 hours of mixing the samples were centrifuged and filtered through Nuclepore 0.45 μM filters.

The samples were then prepared for scintillation counting by adding 2mL of filtered sample to 10mL of ULTIMA GOLD cocktail. Each sample was counted in triplicate on ETB's Beckman 6500 or PerkinElmer scintillation counters. The soil core tritium counting results were background corrected and are summarized in Table 1a.

An instrument background and standard sample were included in the analytical runs. The background sample was prepared by mixing tritium-free water and scintillation cocktail. The standard sample was prepared from tritium-free water spiked with about 100 μL of NIST4926E-1 tritium standard per vial. These results are listed in Table 1b.

In additional to samples colleted on 11 September 2007, eight other surface samples were collected on 19 October 2007 and were analyzed be azeotrophic distillation at ETB's Low Background Laboratory in building 560. These results are summarized in Table 2.

Additional analytical details can be provided at request.

**Table 1a**: S.R.B. Surface Soil Water Tritium Monitoring – 11 September 2007

| Sample Sample ID | Sample Date | Moisture Content Water Content (% by wt) | Tritium Extraction Soil Water Tritium Conc (Bq/L) |
|---|---|---|---|
| SRB-SA07-1 | 11-Sep-07 | 10.4% | < 1218 |
| SRB-SA07-2 | 11-Sep-07 | 9.8% | < 1340 |
| SRB-SA07-3 | 11-Sep-07 | 33.9% | < 535 |
| SRB-SA07-4 | 11-Sep-07 | 31.6% | < 566 |
| SRB-SA07-5 | 11-Sep-07 | 24.9% | < 599 |
| SRB-SA07-6 | 11-Sep-07 | 24.4% | < 592 |
| SRB-SA07-7 | 11-Sep-07 | 24.8% | < 706 |
| SRB-SA07-8 | 11-Sep-07 | 7.1% | < 1752 |
| SRB-SA07-9 | 11-Sep-07 | 17.4% | 1694 |
| SRB-SA07-10 | 11-Sep-07 | 4.0% | 3807 |
| SRB-SA07-10A | 11-Sep-07 | 16.1% | < 913 |
| SRB-SA07-11 | 11-Sep-07 | 15.1% | < 901 |
| SRB-SA07-12 | 11-Sep-07 | 4.3% | 6036 |
| SRB-SA07-13 | 11-Sep-07 | 4.4% | 15202 |
| SRB-SA07-14 | 11-Sep-07 | 5.1% | 60450 |
| SRB-SA07-15 | 11-Sep-07 | 4.6% | 39877 |
| SRB-SA07-16 | 11-Sep-07 | 4.3% | 17115 |
| SRB-SA07-17 | 11-Sep-07 | 25.0% | 1053 |
| SRB-SA07-18 | 11-Sep-07 | 22.3% | 961 |
| SRB-SA07-19 | 11-Sep-07 | 18.8% | 705 |
| SRB-SA07-20 | 11-Sep-07 | 19.6% | 746 |
| SRB-SA07-21 | 11-Sep-07 | 24.9% | 834 |
| SRB-SA07-22 | 11-Sep-07 | 22.2% | 1026 |
| SRB-SA07-23 | 11-Sep-07 | 16.0% | < 822 |
| SRB-SA07-24 | 11-Sep-07 | 24.0% | < 612 |
| SRB-SA07-25 | 11-Sep-07 | 24.9% | < 668 |
| SRB-SA07-26 | 11-Sep-07 | 27.7% | < 610 |
| SRB-SA07-27 | 11-Sep-07 | 26.4% | 637 |
| SRB-SA07-28 | 11-Sep-07 | 24.5% | < 692 |
| SRB-SA07-29 | 11-Sep-07 | 8.7% | 15655 |
| SRB-SA07-30 | 11-Sep-07 | 7.1% | 1066838 |
| SRB-SA07-31 | 11-Sep-07 | 6.0% | 16774 |

**Table 1b:** QC Data for Samples Analyzed on Beckman at B513 – 12 November 2007

| SRBT Soil Samples | Sample Count Raw Data | | Reported Values | | | | |
|---|---|---|---|---|---|---|---|
| Sample Location | Sample Date | Count Date | Bq/Litre | 1 sigma Bq/Litre | LLD Bq/Litre | Recovery or R.P.D. | Instrument ID |
| Instrument Blank | 02 Oct 2007 | 12 Nov 2007 | 236 | 23 | 111 | N/A | Beckman -- B513 |
| ETB Std 416-6 | 02 Oct 2007 | 12 Nov 2007 | 15,441 | 185 | 111 | 104% | Beckman -- B513 |
| Soil Water Blank | 05 Nov 2007 | 12 Nov 2007 | < 109 | | | NA | Beckman -- B513 |

**Table 2**: S.R.B. Surface Soil Water Tritium Monitoring – 19 October 2007

| Sample Location | Sample Date | Count Date | Reported Bq/Litre | ± 1 sigma Bq/Litre | MDA Bq/Litre | Recovery or R.P.D. | Instrument ID |
|---|---|---|---|---|---|---|---|
| Method Blank # 1 | 19 Jul 2007 | 23 Oct 2007 | < 4.3 | | | | PerkinElmer / B560 |
| Method Blank # 2 | 19 Jul 2007 | 23 Oct 2007 | < 4.3 | | | | PerkinElmer / B560 |
| Spiked Blank Efficiency | 19 Jul 2007 | 23 Oct 2007 | 25,568 | 44 | 4 | 107% | PerkinElmer / B560 |
| 10 Bq/L Standard | 19 Jul 2007 | 23 Oct 2007 | 10 | 2 | 4 | 5.3% | PerkinElmer / B560 |
| 100 Bq/L Standard | 19 Jul 2007 | 23 Oct 2007 | 107 | 3 | 4 | -5.9% | PerkinElmer / B560 |
| **Soil Sample, SE Cliche # 1 property** | 19 Oct 2007 | 23 Oct 2007 | **153** | **4** | **6** | N/A | PerkinElmer / B560 |
| **Soil Sample, NW Cliche # 1 property** | 19 Oct 2007 | 23 Oct 2007 | **289** | **4** | **3** | N/A | Quantulus / B560 |
| **Soil Sample, NW Cliche # 2 property** | 19 Oct 2007 | 24 Oct 2007 | **340** | **5** | **3** | N/A | Quantulus / B560 |
| **Soil Sample, SE Cliche # 2 property** | 19 Oct 2007 | 24 Oct 2007 | **143** | **3** | **3** | N/A | Quantulus / B560 |
| **Soil Sample, Motel 6 # 1 property** | 19 Oct 2007 | 23 Oct 2007 | **56** | **2** | **3** | N/A | Quantulus / B560 |
| **Soil Sample, Motel 6 # 2 property** | 19 Oct 2007 | 23 Oct 2007 | **32** | **2** | **4** | N/A | PerkinElmer / B560 |
| **Soil Sample, Motel 6 # 3 property** | 19 Oct 2007 | 23 Oct 2007 | **27** | **2** | **6** | N/A | PerkinElmer / B560 |
| **Soil Sample, Motel 6 # 4 property** | 19 Oct 2007 | 23 Oct 2007 | **51** | **2** | **3** | N/A | Quantulus / B560 |

Prepared By: T. Chaput

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**ENVIRONMENT & RADIOLOGICAL SCIENCES DIVISION**
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ETB-06-312

18 December 2006

Mr. S. MacDougall, Health Physics Manager
Miss K. Belec, Health Physics Technician
SRB Technologies (Canada) Inc.
320 – 140 Boundary Road
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## SRB Technologies – Environmental Monitoring Program

### Radiological Characterization of Well Water From 361 Boundary Road, Pembroke

SRB Technologies was asked to provide a comprehensive radiological analysis of water from the well used to supply water to the office of Superior Propane at 361 Boundary Road, Pembroke. This memo provides information on the methods used for and the results of analyses that the Environmental Technologies Branch (ETB) of AECL has undertaken for SRB Technologies, but before we present that information it is important to briefly discuss the radiological drinking water quality criteria that the Province of Ontario provides.

Ontario drinking water quality guidelines for radionuclides are provided in the June 2006 Technical Support Document for Ontario Drinking Water Standards, Objectives & Guidelines (PIBS 4449e01). This document provides an extensive list of natural and artificial radionuclides, and this listing is reproduced in Table 1 of this report. All of the radionuclides and recommended maximum drinking water concentrations listed in PIBS 4449e01 are reproduced directly from Health Canada's 2006 recommended guidelines for drinking water quality [1]. The Health Canada guideline, however, also includes the following statement: "*Water samples may be initially screened for radioactivity using techniques for gross alpha and gross beta activity determinations. Compliance with the guidelines may be inferred if the measurements for gross alpha and gross beta activity are less than 0.1 Bq/L and 1 Bq/L, respectively, as these are lower than the strictest MACs.*" This is an extremely important statement, since analyses for radionuclides that have no, or almost no, gamma rays associated with their decay require elaborate chemical separations of all of the elements of interest prior to analysis for alpha and/or beta activity. These separations are costly, time-consuming, and some of the procedures generate significant quantities of chemical wastes. Although the PIBS 4449e01 does not include Health Canada's statement on the acceptability of gross alpha and gross beta analyses if the limiting concentrations are met, for the moment we have assumed that meeting the Health Canada gross alpha and gross beta criteria would also be acceptable to Ontario regulators. Should this not be the case, a large additional analytical effort will be required.

Prepared By: T. Chaput, T. Eve / Reviewed By: D. Killey, ETB Monitoring Services cc. J. Bishop, R. Miller

On 01 December 2006, staff from Environmental Technologies Branch (ETB) collected seven litres of well water at 361 Boundary Road, Pembroke (the office water supply well for Superior Propane). The water was collected from the tap on the kitchen sink in the building's coffee room after letting the tap run for 5 minutes. The water was returned to AECL's Chalk River Laboratories (CRL), where it was sub-sampled for tritium, gross beta, gross alpha, and gamma spectrometry analyses. Tritium and gamma spectrometry analyses were made using aliquots of the water as provided from the tap – no filtering or sample pre-treatment were conducted. The aliquot for gross beta and gross alpha analysis was acidified, boiled to dryness, re-dissolved in a small volume of concentrated nitric acid, and dried onto a stainless steel planchettes, using ETB's standard laboratory procedure for such analyses.

Tritium analysis was completed on a Beckman LS6500 liquid scintillation counter. Gross alpha was determined by an Oxford Low Background LB4100 system, while an Oxford Low Background LB5100 system was employed for the gross beta analysis. Please note that the gross beta determination does not include tritium. Gamma spectral analysis was completed by high-resolution gamma spectrometry using an ORTEC hyper-pure germanium detector and Canberra's Genie spectral analysis software. All counting systems are corrected for background and calibrated routinely under the protocols of the Radiological Monitoring Program for CRL.

Results are summarized in Tables 2 through 5. Tritium (Table 2) was identified in the water sample at a level that is 18% of the Drinking Water Limit (7,000 Bq/L). Gross beta (Table 3) concentration is 16% or less of the maximum 1 Bq/L value recommended by Health Canada for this parameter. The gross alpha concentration in the water sample (Table 4) is 60% or less of the Health Canada guideline of 0.1 Bq/L.

Having addressed radionuclides that decay by beta or alpha particle emission through the gross beta and gross alpha analyses, one is left with radionuclides that decay by electron capture, positron emission, or isomeric transition. All of the radionuclides with these decay modes that are listed in the Ontario Regulation emit gamma rays and/or X-rays during their decay. Table 5 lists the results for radionuclides with these decay modes that can be measured by ETB's standard gamma spectrometry system. All of the listed radionuclides were below the minimum detectable activity (MDA) concentrations provided by the analysis, and as Table 5 shows the MDA values are all 0.6% or less of the PIB 4449e01 limiting concentrations.

We have appreciated the opportunity to assist you, and we hope that these results provide the information that you require. If you are seeking more details on the analytical results, please contact T. Chaput (613-584-8811, DN 4735). Should the Province of Ontario not be satisfied with gross beta and gross alpha analyses as a means to screen water samples for these radionuclides before embarking on complex radiochemical analyses, ETB would be happy to assist SRB Technologies in obtaining the necessary analyses.

Prepared By: T. Chaput, T. Eve / Reviewed By: D. Killey, ETB Monitoring Services cc. J. Bishop, R. Miller

**Table 1**: Table 3 from PIBs 4449e01, Radionuclide Concentration Limits, Organized by Decay Mode

| Origin | Item | Radiological Parameter | Mode of Decay | Max. Perm. Conc. Bq/L * |
|---|---|---|---|---|
| Natural | 2 | Bismuth-210 | Alpha | 7 |
| Natural | 3 | Lead-210 | Alpha | 0.1 |
| Natural | 4 | Polonium-210 | Alpha | 0.2 |
| Natural | 5 | Radium-224 | Alpha | 2 |
| Natural | 6 | Radium-226 | Alpha | 0.6 |
| Natural | 7 | Radium-228 | Alpha | 0.5 |
| Natural | 8 | Thorium-228 | Alpha | 2 |
| Natural | 9 | Thorium-230 | Alpha | 0.4 |
| Natural | 10 | Thorium-232 | Alpha | 0.1 |
| Natural | 11 | Thorium-234 | Alpha | 20 |
| Natural | 12 | Uranium-234 | Alpha | 4 |
| Natural | 13 | Uranium-235 | Alpha | 4 |
| Natural | 14 | Uranium-238 | Alpha | 4 |
| Artificial | 15 | Americium-241 | Alpha | 0.2 |
| Artificial | 46 | Neptunium-239 | Alpha | 100 |
| Artificial | 49 | Plutonium-238 | Alpha | 0.3 |
| Artificial | 50 | Plutonium-239 | Alpha | 0.2 |
| Artificial | 51 | Plutonium-240 | Alpha | 0.2 |
| Artificial | 52 | Plutonium-241 | Alpha | 10 |

* PIBS 4449e01 Standard expressed as a maximum in Becquerels per Litre.

**Table 1 (continued)**: Table 3 from PIBs 4449e01, Radionuclide Concentration Limits, Organized by Decay Mode

| Origin | Item | Radiological Parameter | Mode of Decay | Max. Perm. Conc. Bq/L * |
|---|---|---|---|---|
| Artificial | 16 | Antimony-122 | Beta | 50 |
| Artificial | 17 | Antimony-124 | Beta | 40 |
| Artificial | 18 | Antimony-125 | Beta | 100 |
| Artificial | 19 | Barium-140 | Beta | 40 |
| Artificial | 20 | Bromine-82 | Beta | 300 |
| Artificial | 21 | Calcium-45 | Beta | 200 |
| Artificial | 22 | Calcium-47 | Beta | 60 |
| Artificial | 23 | Carbon-14 | Beta | 200 |
| Artificial | 24 | Cerium-141 | Beta | 100 |
| Artificial | 25 | Cerium-144 | Beta | 20 |
| Artificial | 27 | Caesium-134 | Beta | 7 |
| Artificial | 28 | Caesium-136 | Beta | 50 |
| Artificial | 29 | Caesium-137 | Beta | 10 |
| Artificial | 33 | Cobalt-60 | Beta | 2 |
| Artificial | 35 | Gold-198 | Beta | 90 |
| Artificial | 38 | Iodine-129 | Beta | 1 |
| Artificial | 39 | Iodine-131 | Beta | 6 |
| Artificial | 41 | Iron-59 | Beta | 40 |
| Artificial | 44 | Mercury-203 | Beta | 80 |
| Artificial | 45 | Molybdenum-99 | Beta | 70 |
| Artificial | 47 | Niobium-95 | Beta | 200 |
| Artificial | 48 | Phosphorus-32 | Beta | 50 |
| Artificial | 53 | Rhodium-105 | Beta | 300 |
| Artificial | 56 | Ruthenium-103 | Beta | 100 |
| Artificial | 57 | Ruthenium-106 | Beta | 10 |
| Artificial | 61 | Silver-111 | Beta | 70 |
| Artificial | 64 | Strontium-89 | Beta | 40 |
| Artificial | 65 | Strontium-90 | Beta | 5 |
| Artificial | 66 | Sulphur-35 | Beta | 500 |
| Artificial | 67 | Technetium-99 | Beta | 200 |
| Artificial | 69 | Tellurium-129m | Beta | 40 |
| Artificial | 70 | Tellurium-131m | Beta | 40 |
| Artificial | 71 | Tellurium-132 | Beta | 40 |
| Artificial | 73 | Tritium | Beta | 7000 |
| Artificial | 75 | Yttrium-90 | Beta | 30 |
| Artificial | 76 | Yttrium-91 | Beta | 30 |
| Artificial | 78 | Zirconium-95 | Beta | 100 |

* PIBS 4449e01 Standard expressed as a maximum in Becquerels per Litre.

**Table 1 (continued)**: Table 3 from PIBs 4449e01, Radionuclide Concentration Limits, Organized by Decay Mode

| Origin | Item | Radiological Parameter | Mode of Decay | Max. Perm. Conc. Bq/L * |
|---|---|---|---|---|
| Artificial | 1 | Beryllium-7 | Electron Capture | 4000 |
| Artificial | 26 | Caesium-131 | Electron Capture | 2000 |
| Artificial | 30 | Chromium-51 | Electron Capture | 3000 |
| Artificial | 31 | Cobalt-57 | Electron Capture | 40 |
| Artificial | 34 | Gallium-67 | Electron Capture | 500 |
| Artificial | 36 | Indium-111 | Electron Capture | 400 |
| Artificial | 37 | Iodine-125 | Electron Capture | 10 |
| Artificial | 40 | Iron-55 | Electron Capture | 300 |
| Artificial | 42 | Manganese-54 | Electron Capture | 200 |
| Artificial | 43 | Mercury-197 | Electron Capture | 400 |
| Artificial | 54 | Rubidium-81 | Electron Capture | 3000 |
| Artificial | 55 | Rubidium-86 | Electron Capture | 50 |
| Artificial | 58 | Selenium-75 | Electron Capture | 70 |
| Artificial | 59 | Silver-108m | Electron Capture | 70 |
| Artificial | 60 | Silver-110m | Electron Capture | 50 |
| Artificial | 62 | Sodium-22 | Electron Capture | 50 |
| Artificial | 63 | Stronitum-85 | Electron Capture | 300 |
| Artificial | 72 | Thallium-201 | Electron Capture | 2000 |
| Artificial | 74 | Ytterbium-169 | Electron Capture | 100 |
| Artificial | 77 | Zinc-65 | Electron Capture | 40 |
| Artificial | 68 | Technetium-99m | Isomeric Trans. | 7000 |
| Artificial | 32 | Cobalt-58 | Positron | 20 |

* PIBS 4449e01 Standard expressed as a maximum in Becquerels per Litre.

**Table 2:** Tritium Analysis Results

| **Tritium Results** | |
|---|---|
| Sample Bq/Litre | 1,288 |
| 1 sigma Bq/Litre | 56 |
| MDA Bq/Litre | 95 |

**Table 3:** Gross Beta Results

| **Gross Beta Results** | |
|---|---|
| Sample Bq/Litre | 0.16 |
| 1 sigma Bq/Litre | 0.03 |
| MDA Bq/Litre | 0.05 |

* MDA = Lower Limit of Detection

**Table 4:** Gross Alpha Results

| **Gross Alpha Results** | |
|---|---|
| Sample Bq/Litre | 0.06 |
| 1 sigma Bq/Litre | 0.01 |
| MDA Bq/Litre | 0.01 |

* MDA = Lower Limit of Detection

**Table 5:** Gamma Spectral Results

| Nuclide | Mode of Decay | Reported Bq/Litre | 1 sigma Bq/Litre | MDA Bq/Litre | PIBS4449e01 Max Bq/L |
|---|---|---|---|---|---|
| Be-7 | Electron Capture | < 0.44 | | | 4000 |
| Na-22 | Electron Capture | < 0.04 | | | 50 |
| Cr-51 | Electron Capture | < 0.43 | | | 3000 |
| Mn-54 | Electron Capture | < 0.06 | | | 200 |
| Co-57 | Electron Capture | < 0.05 | | | 40 |
| Zn-65 | Electron Capture | < 0.22 | | | 40 |
| Rb-81 | Electron Capture | < 2.3 | | | 3000 |
| Rb-86 | Electron Capture | < 0.70 | | | 50 |
| Se-75 | Electron Capture | < 0.07 | | | 70 |
| Sr-85 | Electron Capture | < 0.07 | | | 300 |
| Ag-108m | Electron Capture | < 0.05 | | | 70 |
| Ag-110m | Electron Capture | < 0.05 | | | 50 |
| In-111 | Electron Capture | < 0.07 | | | 400 |
| Eu-152 | Electron Capture | < 0.40 | | | N / L |
| Yb-169 | Electron Capture | < 0.13 | | | 100 |
| Hf-175 | Electron Capture | < 0.05 | | | N / L |
| Hg-197 | Electron Capture | < 0.33 | | | 400 |
| Tl-201 | Electron Capture | < 0.19 | | | 2000 |
| Co-58 | Positron | < 0.06 | | | 20 |
| Tc-99m | Isomeric Trans. | < 0.74 | | | 7000 |

MDA = Minimum Detectable Activity
< Indicates that the concentration is less than the MDA, which is the value given following the < symbol.

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1 Health Canada, *Guidelines for Canadian Drinking Water Quality Summary Table*, Prepared by the Federal–Provincial-Territorial Committee on Health and the Environment, March 2006.

Prepared By: T. Chaput, T. Eve / Reviewed By: D. Killey, ETB Monitoring Services cc. J. Bishop, R. Miller

EcoMetrix
INCORPORATED

# APPENDIX J

## Information on Excavation and Development of Land On and Around SRB

**SRB TECHNOLOGIES (CANADA) INC.**
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Pembroke, Ontario, Canada, K8A 6W5
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E-Mail: sales@betalight.com
Web: www.betalight.com

July 26, 2006


Ann Erdman
Project Officer
Processing Facilities and Technical Support Division
P.O. Box 1046, Station B
280 Slater Street
Ottawa, Ontario
K1P 5S9

**RE: GROUNDWATER STUDY AND POTENTIAL LIMITATIONS ON FUTURE USE OF THE LAND:**

Dear Ms. Erdman,

Please note that I am writing to you in response to your letter to my attention of June 30, 2006 titled "Study of Tritium in Groundwater in the Vicinity of the SRB Pembroke Facility, March 2006."

In their review staff stated that the study had identified the magnitude and extent of groundwater contamination by tritium beyond the borders of the SRB facility's site and confirmed that there is no immediate health risk to persons living in the area.

SRB is currently undertaking work to better define the magnitude of tritium contamination of groundwater underlying the SRB facility's site and to better define the specific areas of the site which would be of concern if any.

In the "Additional Work" outlined in this letter, item 1 requires that by August 1, 2006 SRB submit a discussion of the potential limitations on future use of the land contaminated by the tritium, including a description of the options and measures that are possible for reducing those limitations.

SRB has entered into discussion with the City of Pembroke Manager for Planning and Building Departments Ms. Colleen Sauriol and with the land owner Mr. Mike Harrington regarding this matter.

Both were provided a copy of the CNSC staff letter dated June 30, 2006 titled "Study of Tritium in Groundwater in the Vicinity of the SRB Pembroke Facility, March 2006." and of the "Study of Tritium in Groundwater in the Vicinity of the SRB Pembroke Facility" issued by ECOMETRIX INC. on March 31, 2006.

Once the extent of contamination on SRB facility's site has been better defined the landlord is willing to sign an agreement with SRB that would restrict excavation or modification of land on any of a defined areas of the site until an assessment is performed by SRB to ensure that the work undertaken will not result in a risk to a worker performing such work. Upon being notified of the intent of such work SRB would develop a plan with tasks to be undertaken to ensure that risk to a worker is minimized and assessed and that the workers are aware of these risks. The plan will also ensure that the equipment involved in the work will be cleared to industry clearance levels. The plan will also ensure that any waste is assessed and disposed in accordance to industry clearance levels. Mr. Harrington has read this letter and agrees to these terms and condition as land owner and a letter is attached as confirmation.

The City of Pembroke have also provided a response which is attached on the potential limitations on future use of land contaminated by the tritium, their position is as follows:

1. The land is presently zoned "Business Park-2 – M2-2" zone. This zone permits a mixture of industrial uses and some limited commercial uses. The list of permitted uses is attached.
2. Any development or redevelopment of this property would require a Site Plan Agreement. The City would require a plan of the site illustrating the location of land contaminated by the tritium to ensure development is not constructed near contamination or provide a report that contamination has been cleaned up.

3. The Zoning By-law 97-38 requires all buildings including residential dwellings in the City of Pembroke to be connected to municipal piped services.

4. If the property is to be developed in the future for a residential subdivision, a rezoning of the site to residential will be required. As part of the rezoning, the City will require an Environmental Site Assessment (ESA) of the site. All recommendations of the ESA will have to be followed prior to the issuance of any building permits.

I trust that this response fulfills the requirements of item 1 of the "Additional Work" outlined in your letter of June 30, 2006 titled "Study of Tritium in Groundwater in the Vicinity of the SRB Pembroke Facility, March 2006."

Do not hesitate to call me if you have any questions.

Best Regards,

Stephane Levesque
President

898702 Ontario Inc.
1145 Pembroke St. E.
Pembroke, Ontario
K8A 7R4

July 27, 2006

SRB Technologies (Canada) Inc.

Attn: Stephane Levesque

Re: Ground Water Study and Potential Limitations of Future Use of Land
320 – 140 Boundary Road, Pembroke, Ontario

As landowner of the above noted property, I agree with the terms and conditions as set out on Mr. Levesques' letter dated July 26, 2006 for restriction of excavation or modifications of land on any of the defined areas of the site.

If there are any questions, please advise.

Yours sincerely,

Michael Harrington
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**CITY OF PEMBROKE**
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July 25, 2006

Mr. Stephane Levesque
President
SRB Technologies (Canada) Inc.
320 – 140 Boundary Road
Pembroke, ON K8A 6W5

Dear Mr. Levesque:

**Re: Study of Tritium in Groundwater in the Vicinity of SRB Pembroke Facility, March 2006**

Further to your letter of July 18, 2006, please be advised the City of Pembroke has reviewed the findings of the Groundwater Study and the June 30, 2006 letter from Ann Erdman from the Directorate of Nuclear Cycle and Facilities Regulation.

The letter indicates a response is required regarding the potential limitations of future use of land contaminated by the tritium. The following protections are in place for any development within the City of Pembroke and would apply to SRB Pembroke facility in this circumstance:

1. The land is presently zoned "Business Park-2 – M2-2" zone. This zone permits a mixture of industrial uses and some limited commercial uses. The list of permitted uses is attached.

2. Any development or redevelopment of this property would require a Site Plan Agreement. The City would require a plan of the site illustrating the location of land contaminated by the tritium to ensure development is not constructed near contamination or provide a report that contamination has been cleaned up.

3. The Zoning By-law 97-38 requires all buildings including residential dwellings in the City of Pembroke to be connected to municipal piped services. There is a water main along Boundary Road as well as a water main along Upper Valley Drive located at the rear of the property.

4. If the property is to be developed in the future for a residential subdivision, a rezoning of the site to residential will be required. As part of the rezoning, the City will require an Environmental Site Assessment (ESA) of the site. All recommendations of the ESA will have to be followed prior to the issuance of any building permits.

I trust this information is sufficient for your purposes. Should you require further information, please do not hesitate to contact me.

Sincerely,

Colleen Sauriol, Manager
Planning and Building Departments

/lm

Enclosure

## SECTION 16
## BUSINESS PARK ZONE (M2)

No person shall hereafter use any lands or erect, alter, enlarge or use any building or structure in an Industrial Park (M2) Zone except in accordance with the provisions of this Section and any other relevant Sections of this By-law.

### 16.1 USES PERMITTED

No person shall within any M2 Zone use any lot or erect, alter or use any building or structure for any purpose except one or more of the following M2 uses:

- assembly plant;
- business administrative offices of government and other larger associations or institutions;
- business office and financial facility accessory and related to industry;
- business of a quasi-industrial nature such as a utility, computer service, vocational training shop, building contractor establishment and an electrical, heating and plumbing contractors' establishments;
- catering business;
- custom workshop;
- eating establishments;
- gasoline retail facility;
- laboratory accessory and related to industry;
- machinery and industrial equipment service, sales and rental facilities;
- manufacturing plant;
- offices;
- printing and bookbinding shop;
- recreation facilities;
- retail or wholesale factory outlet accessory to a permitted use, owned and operated by the industry selling the goods manufactured or processed on the site;
- service industry;
- testing or research laboratory;
- transportation terminal and associated storage and handling facility;
- warehouse facility arranging for the importation and distribution to businesses and institutions;
- workshop involved with the provision of specialized manufacturing, repair, cleaning, maintenance and construction services to other industrial and businesses.

### 16.2 ZONE PROVISIONS

No person shall use any lot or erect, alter or use any building or structure for a non-residential purpose except in accordance with the following provisions:

| | | |
|---|---|---|
| (i) | Minimum Lot Area | Nil |
| (ii) | Minimum Lot Frontage | Nil |