



MILLER SPRINGS REMEDIATION MANAGEMENT, INC.

**QUARTERLY MONITORING REPORT
SECOND QUARTER - 2005**

**HYDE PARK RRT PROGRAM
NIAGARA FALLS, NEW YORK**

PRINTED ON:

FEBRUARY 17, 2006



MILLER SPRINGS REMEDIATION MANAGEMENT, INC.

QUARTERLY MONITORING REPORT SECOND QUARTER - 2005

**HYDE PARK RRT PROGRAM
NIAGARA FALLS, NEW YORK**

Conestoga-Rovers & Associates

**FEBRUARY 2006
REF. NO. 1069 (347)**

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION.....	1
1.1 REPORT ORGANIZATION	1
2.0 NAPL PLUME CONTAINMENT SYSTEM.....	3
2.1 PURGE WELL OPERATIONS	3
2.2 CONTAINMENT SYSTEM MONITORING	4
2.2.1 HYDRAULIC MONITORING	4
2.2.2 NAPL MONITORING.....	5
2.2.2.1 NAPL PRESENCE CHECKS	5
2.2.2.2 NAPL ACCUMULATION RATIO.....	5
2.2.3 CHEMICAL MONITORING.....	5
2.4 SUMMARY	6
3.0 APL PLUME CONTAINMENT SYSTEM.....	8
3.1 APL PURGE WELL OPERATIONS	8
3.2 PERFORMANCE MONITORING	9
3.2.1 WATER LEVEL MEASUREMENTS	9
3.2.2 GRADIENT EVALUATION.....	9
3.2.3 SEEP FLOW	9
3.2.4 CHEMICAL MONITORING.....	10
3.2.4.1 APW CLMP/ ACIDS SAMPLING AND ANALYSES	10
3.2.4.2 APL PLUME FLUX CALCULATIONS.....	10
3.3 NON-ROUTINE INVESTIGATIONS AND ACTIVITIES.....	11
3.4 SUMMARY	11
4.0 OVERBURDEN MONITORING DATA.....	12
4.1 OVERBURDEN BARRIER COLLECTION SYSTEM	12
4.1.1 PERFORMANCE MONITORING	12
4.1.1.1 GRADIENT EVALUATION.....	13
4.1.1.2 OVERBURDEN NAPL PRESENCE CHECKS.....	13
4.2 RESIDENTIAL COMMUNITY MONITORING PROGRAM.....	13
4.2.1 PERFORMANCE MONITORING	14
4.2.1.1 HYDRAULIC MONITORING AND GRADIENT EVALUATION.....	14
4.2.1.2 SOIL VAPOR SAMPLING.....	14
4.2.1.3 ANNUAL GROUNDWATER SAMPLING	15
4.3 NON-ROUTINE INVESTIGATIONS AND ACTIVITIES.....	15
4.4 SUMMARY	15
4.4.1 OVERBURDEN BARRIER COLLECTION SYSTEM	15
4.4.2 RESIDENTIAL COMMUNITY MONITORING PROGRAM.....	16
5.0 LEACHATE TREATMENT SYSTEM	17
5.1 EFFLUENT ANALYSIS.....	17

5.1.1	DAILY SAMPLING	17
5.1.2	WEEKLY SAMPLING	17
5.1.3	MONTHLY SAMPLING	17
6.0	NAPL ACCUMULATION	18
6.1	DECANTERS	18
6.2	MANUAL RECOVERY	18
6.3	INCINERATION	18

LIST OF FIGURES
(Following Text)

FIGURE 2.1	APL/NAPL REMEDIAL ACTION ELEMENTS
FIGURE 2.2	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-01
FIGURE 2.3	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-02
FIGURE 2.4	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-04
FIGURE 2.5	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-05
FIGURE 2.6	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-06
FIGURE 2.7	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-07
FIGURE 2.8	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-09
FIGURE 2.9	LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-11
FIGURE 3.1	PURGE/MONITORING WELL LOCATIONS APL PLUME CONTAINMENT SYSTEM
FIGURE 3.2	APL FLUX WELL LOCATIONS APL PLUME CONTAINMENT SYSTEM
FIGURE 3.3	GORGE FACE SEEP LOCATIONS APL PLUME CONTAINMENT SYSTEM
FIGURE 4.1	OBCS MONITORING WELL LOCATIONS
FIGURE 4.2	COMMUNITY MONITORING WELL LOCATIONS

LIST OF TABLES
(Following Text)

TABLE 2.1	MONTHLY AVERAGE PURGE WELL PUMPING RATES (GPM) NAPL PLUME CONTAINMENT SYSTEM
TABLE 2.2	HYDRAULIC MONITORING NAPL PLUME CONTAINMENT SYSTEM
TABLE 2.3	NAPL PRESENCE CHECKS NAPL PLUME CONTAINMENT SYSTEM
TABLE 4.1	HYDRAULIC GRADIENT SUMMARY OVERBURDEN BARRIER COLLECTION SYSTEM
TABLE 4.2	NAPL PRESENCE MONITORING OVERBURDEN BARRIER COLLECTION SYSTEM
TABLE 4.3	HYDRAULIC MONITORING COMMUNITY MONITORING PROGRAM
TABLE 4.4	HYDRAULIC GRADIENT SUMMARY COMMUNITY MONITORING PROGRAM
TABLE 5.1	LEACHATE TREATMENT SYSTEM DAILY EFFLUENT MONITORING DATA
TABLE 5.2	ANALYTICAL RESULTS SUMMARY WEEKLY EFFLUENT COMPOSITE SAMPLES - LEACHATE TREATMENT SYSTEM
TABLE 5.3	ANALYTICAL RESULTS SUMMARY MONTHLY EFFLUENT COMPOSITE SAMPLES - LEACHATE TREATMENT SYSTEM

1.0 INTRODUCTION

Reporting of monitoring data for the Non-Aqueous Phase Liquid (NAPL) Plume Containment System, Aqueous Phase Liquid (APL) Plume Containment System, and Overburden Barrier Collection System (OBCS) began in 1993. Monitoring reports for the NAPL and APL Plume Containment Systems, as well as the OBCS, have been submitted quarterly since 1996. These quarterly monitoring reports have also included data from the Leachate Treatment System, Residential Community Monitoring Program, and NAPL accumulation and recovery.

All monitoring data presented have been collected and presented in accordance with the following documents:

- i) "Stipulation on Requisite Remedial Technology Program," dated November 13, 1995; and
- ii) "Long-Term Monitoring Manual, Hydraulic (Water Levels), Physical (NAPL Presence-Seeps), Chemical (Groundwater Sampling), Hyde Park Landfill Site," dated October 9, 1998.

Miller Springs Remediation Management, Inc. (MSRMI), an affiliate of Occidental Chemical Corporation, has been assigned the responsibility of managing the Hyde Park Requisite Remedial Technology (RRT) Program.

1.1 REPORT ORGANIZATION

The report has been prepared to present monitoring data collected during the second quarter of 2005. The report is organized as follows:

- **Section 1.0 Introduction:** Section 1.0 presents a summary of the project, its administration, and the organization of the report;
- **Section 2.0 NAPL Plume Containment System:** Section 2.0 presents NAPL purge well operating data, performance monitoring data, statistical analyses of analytical data, and descriptions of non-routine investigations and activities performed during this reporting period;
- **Section 3.0 APL Plume Containment System:** Section 3.0 presents APL purge well (APW) operating data, performance monitoring data, APL plume flux calculations where required, and descriptions of non-routine investigations and activities performed during this reporting period;

- **Section 4.0 Overburden Monitoring Data:** Section 4.0 presents performance data from the OBCS and Residential Community Monitoring Well Network, and descriptions of non-routine investigations and activities performed during this reporting period;
- **Section 5.0 Leachate Treatment Facility:** Section 5.0 presents analytical data collected from the Leachate Treatment Facility; and
- **Section 6.0 NAPL Accumulation:** Section 6.0 presents a summary of the volume of NAPL collected from the Bedrock and Overburden Containment Systems and volumes of NAPL shipped off-Site for incineration.

2.0 NAPL PLUME CONTAINMENT SYSTEM

The objective of the NAPL Plume Containment System as stated in the RRT is to design, install, and monitor a system to contain, to the extent practicable, NAPL and APL within the NAPL Plume found in the Lockport Bedrock and to maximize collection of contained NAPL.

Operation of the NAPL Plume Containment System commenced in 1994 and consisted of extraction from a series of six purge wells. The system has been modified over time to better achieve its objectives. The system presently consists of 17 NAPL Plume Containment Purge Wells, as shown on Figure 2.1, and 113 performance monitoring piezometers located in 45 wells. The piezometers are installed at specific depths in flow zones, within the Lockport bedrock formation. The locations of the purge wells, monitoring wells, and piezometers for each flow zone are shown on Figures 2.2 through 2.9.

2.1 PURGE WELL OPERATIONS

The purge well system was operated continuously during the second quarter of 2005 with no shutdowns.

Maintenance of the purge well system was performed as follows:

- April 21 Replaced pump and motor at PW-2UR;
- May 5 Replaced pump and motor at PW-5UR and cleaned well; and
- May 20 Replaced pump and motor at PW-8U.

The average operating pumping rates and setpoint elevations at each of the bedrock purge wells during the second quarter of 2005 are presented in Table 2.1.

Based on the metered flow from individual wells, the average operating pumping rate of the NAPL Plume Containment System during operation over the second quarter of 2005 is as follows:

<i>Quarter</i>	<i>Average Rate (gallons/minute)</i>	<i>Total Pumped (gallons)</i>
Second	73.2	9,584,615

2.2 CONTAINMENT SYSTEM MONITORING

Routine performance monitoring of the NAPL Plume Containment System consists of hydraulic, chemical, and NAPL presence monitoring. The performance monitoring well network for chemical and NAPL monitoring is presented in the "NAPL Plume Assessment and System Design Recommendations" report dated July 1995, and modified most recently during the fourth quarter of 2000. The hydraulic monitoring program for the NAPL Plume Containment System was modified during the second quarter of 2002, with the submission of the report entitled "Work Plan for the Site Characterization Report - Hydrologic Characterization" dated April 5, 2002. With the submission of that Work Plan, MSRMI discontinued the hydraulic monitoring program and began work to install a monitoring network representative of the significant discrete flow zones beneath the Site. This network consists of 113 piezometers to monitor eight of the eleven flow zones. Three flow zones were not monitored due to extremely low transmissivities or close proximity to monitored flow zones.

The monitoring conducted during the second quarter of 2005 is described in the following subsections.

2.2.1 HYDRAULIC MONITORING

The hydraulic monitoring of the 113 piezometers began in mid-December 2002 and was continued through November of 2004. This monitoring was accomplished by installing transducers in each piezometer. These transducers were programmed to record water levels at 10-minute intervals. Periodic measurements were also manually taken to verify the accuracy of the recorded data.

The hydraulic monitoring between December 2002 and November 2004 resulted in the completion of the following reports, "Site Characterization Report - Bedrock Groundwater Quality, April 2004" and "Comprehensive Remedial Characterization Report, August 2004", which defined the NAPL plume boundaries for each of the (11) flow zones.

Manual water levels were taken in April 2005 and are presented in Table 2.2.

2.2.2 NAPL MONITORING

NAPL monitoring is performed to provide information to assist in the evaluation of containment system effectiveness. NAPL monitoring consists of:

- i) the physical inspection of monitoring wells located both inside and outside the NAPL plumes for the presence of NAPL; and
- ii) determination of the volume of NAPL removed by the NAPL Plume Containment System.

2.2.2.1 NAPL PRESENCE CHECKS

During the second quarter of 2005, a check for NAPL presence was performed at each well using a weighted tape measure with a length of cotton rope attached. This NAPL presence check methodology was summarized in the memorandum entitled "NAPL Presence Check Method Comparison, Hyde Park RRT Program" dated January 12, 2001. A summary of the findings of the NAPL presence checks performed in the second quarter of 2005 is presented in Table 2.3.

2.2.2.2 NAPL ACCUMULATION RATIO

In previous years, in accordance with the "Future Monitoring and Assessment Requirements," Section 4.1.2.2, dated 1996, a determination of the ratio of NAPL/APL extracted through the operation of the bedrock NAPL plume containment system occurred during each quarter.

Based on the data obtained during the re-characterization of the Lockport Bedrock between 2002 and 2004, NAPL plume boundaries were defined for each of the eleven flow zones. The NAPL plumes are not expanding and appear to be shrinking in some areas. Due to these findings of the site, this sampling was not done.

2.2.3 CHEMICAL MONITORING

Traditionally groundwater samples were collected and analyzed each quarter to obtain data for use in the evaluation of the NAPL Plume Containment System. Through the end of 2002, the groundwater monitoring consisted of the collection of samples from the outer well of each of the bedrock performance well pairs.

With the publication of the "Site Characterization Report - Revised Geologic and Hydrogeologic Characterization" and the "Site Characterization Report - Hydrologic Characterization," it was demonstrated that, in the Lockport formation, instead of three dominant water bearing zones, there are actually eleven flow zones. It was also discovered that numerous monitoring wells are open over multiple flow zones allowing groundwater from different flow zones to mix. This "mixing" not only confounded the hydraulics of the flow zones but also prevented the chemical monitoring from showing a true spatial understanding of the three dimensional APL plume distribution.

The comprehensive sampling analysis program between December 2002 and November 2004 resulted in the completion of the following reports, "Site Characterization Report - Bedrock Groundwater Quality, April 2004" and "Comprehensive Remedial Characterization Report, August 2004", which defined the NAPL plume boundaries for each of the eleven flow zones.

Additionally, the sampling analysis program was used to establish the "Performance Monitoring Plan" submitted to the Agencies March 2, 2005. It is MSRMI intent for this Plan, once approved, to supercede all the monitoring requirements spelled-out in the RRT.

2.4 SUMMARY

The hydraulic monitoring of the 113 piezometers concluded in November 2004. Publication of the "Site Characterization Report - Bedrock Groundwater Quality" and "Comprehensive Remedial Characterization", defined the NAPL plume boundaries for each of the eleven flow zones.

The "Performance Monitoring Plan" submitted to the Agencies March 2005 is intended to supercede all the monitoring requirements spelled-out in the RRT, once approved by the agencies.

The water levels in the operating bedrock purge wells were generally at or very close to their setpoint elevations during the second quarter of 2005. The average pumping rate for the system during this quarter was approximately 73.2 gpm.

During the second quarter of 2005, approximately 9.6 million gallons of groundwater were pumped from the bedrock by the NAPL Plume Containment System purge wells.

NAPL monitoring indicates that NAPL is not present in any monitoring wells or piezometers located outside of the NAPL plume boundary.

3.0 APL PLUME CONTAINMENT SYSTEM

The objective of the APL Plume Containment System is to contain, by pumping, APL in the Lockport Bedrock within the area of the remediated APL plume. The goal is to achieve flow convergence towards the purge wells and eliminate seepage at the gorge face to the extent practicable.

In previous years, the APL Plume Containment System consisted of two purge wells (APW-1 and APW-2) and four monitoring well pairs (ABP-1/ABP-2, ABP-3/ABP-4, ABP-5/ABP-6, and ABP-7/ABP-8). However, during 2002, wells ABP-1 and ABP-7 were retrofit for use in the overall NAPL Plume Monitoring Program. The locations of these wells are shown on Figure 3.1.

The APL Plume Containment System also included three clusters of APL Flux Monitoring Wells (AFWs), AFW-1U/M/L, AFW-2U/M/L, and AFW-3U/M/L oriented toward the west of the Site and located south of the remediated APL plume (as shown on Figure 3.2). The performance criteria for the AFWs is to monitor the APL plume flux to the Niagara River through chemical monitoring and to determine whether the flux measured in these wells exceeds the Flux Action Levels specified in the RRT Stipulation.

In 2002, AFW-1U/M/L and AFW-2U/M/L were retrofit with piezometers. As a result, a new sampling method for APL Flux Monitoring was required to properly obtain a composite sample. A new method has been presented to the Agencies in March 2005 as part of the Performance Monitoring Plan. To date this plan has not been approved.

3.1 APL PURGE WELL OPERATIONS

During the second quarter of 2005, automated pump operations were uninterrupted and groundwater levels within each purge well were generally maintained within their respective design settings.

Maintenance of the APWs was performed as follows:

- May 25 Replaced pump and motor at APW-2;
- May 26 Replaced pump and motor at APW-1; and
- June 24 Cleaned contacts at APW-1.

During the second quarter of 2005, approximately 0.17 MM gallons of groundwater were pumped from the bedrock to the leachate storage tanks by the APL Plume Containment System purge wells.

3.2 PERFORMANCE MONITORING

3.2.1 WATER LEVEL MEASUREMENTS

The hydraulic monitoring program for the APL Plume Containment System was modified during the second quarter of 2002 and continued through the fourth quarter of 2004 with the submission of the Hydrologic Characterization Work Plan. With the submission of this work plan, MSRMI discontinued the hydraulic monitoring plan until a revised monitoring network representative of the significant discrete flow zones beneath the Site is established.

The Publication of the "Site Characterization Report - Bedrock Groundwater Quality", dated April 2004 and "Comprehensive Remedial Characterization", dated August 2004, defined the eleven discrete flow zones. The information obtained in these reports was used to establish the "Performance Monitoring Plan" submitted to the Agencies March 2, 2005. It is MSRMI intent for this Plan, once approved, to supercede all the monitoring requirements spelled-out in the RRT.

3.2.2 GRADIENT EVALUATION

With the discontinuation of the hydraulic monitoring program, evaluations of hydraulic gradient evaluations have also been discontinued. A revised hydraulic gradient monitoring program will be developed following the revised hydrologic characterization of the Site.

3.2.3 SEEP FLOW

The four gorge face seeps (GF-S1, GF-S2, GF-S3, and GF-S4 shown of Figure 3.3) were inspected this quarter and flows were estimated. Results are presented below in gallons per minute (gpm). A cumulative history of the seep flow rate estimations is included on the enclosed CD under the filename HIST.pdf.

<i>Quarter</i>	<i>GF-S1</i>	<i>GF-S2</i>	<i>GF-S3</i>	<i>GF-S4</i>
Second	0	1	0	1.5

3.2.4 CHEMICAL MONITORING

Analytical groundwater samples are normally collected each quarter from the APW and AFW wells in order to assist in the evaluation of the APL Plume Containment System, and calculate the APL Plume flux when required. Two of the AFW well clusters (AFW-1 and AFW-2) were retrofit with 1-inch diameter piezometers during the second quarter of 2002. As a result of the retrofitting of AFW-1 and AFW-2, sampling procedures for collecting the APW/AFW composite sample require modification. A draft Work Plan presenting new procedures for collecting the APW/AFW composite sample was presented to the Agencies' field representatives during a project review meeting on September 17, 2002. The proposed sampling procedures have not been approved; therefore, an APW/AFW composite sample was not collected during the second quarter of 2005.

Chemical monitoring of the APL Plume Containment system includes semiannual sampling of the APWs in February and August. Samples collected from these wells are analyzed for the Collected Liquids Monitoring Parameters (CLMPs) as described in Section 9.9 of the RRT. This sampling has been discontinued pending approval of the "Performance Monitoring Plan" which was submitted to the Agencies March 2, 2005.

3.2.4.1 APW CLMP/ACIDS SAMPLING AND ANALYSES

In previous years, in accordance with the RRT Stipulation (Section 11.1.3 Collected APL Monitoring and Section 9.9 CLMPs), the APWs were sampled semiannually, generally during the first and third quarters. Samples were analyzed for the CLMPs, as well as benzoic, monochlorobenzoic (sum o, p, and m isomers), and chlorendic acids.

This sampling has been discontinued pending approval of the "Performance Monitoring Plan" which was submitted to the Agencies March 2, 2005.

3.2.4.2 APL PLUME FLUX CALCULATIONS

Since the AFW/APW composite sample was not collected, the APL Plume Flux to the Niagara River was not calculated for the second quarter of 2005. A calculation of the

APL Plume Flux will be made following the approval of a Work Plan for collection of the AFW/APW composite sample.

3.3 NON-ROUTINE INVESTIGATIONS AND ACTIVITIES

During the second quarter of 2005, no non-routine activities were performed specifically for the APL Plume Containment System.

3.4 SUMMARY

During the second quarter of 2005, approximately 0.17 MM gallons of groundwater were pumped from the bedrock by the APL Plume Containment System purge wells and treated at the Hyde Park Treatment System.

4.0 OVERBURDEN MONITORING DATA

The required overburden monitoring reporting includes monitoring data for the following programs:

- i) OBCS (Section 4.1); and
- ii) Residential Community Monitoring Program (Section 4.2).

4.1 OVERBURDEN BARRIER COLLECTION SYSTEM

The objective of the OBCS is to contain the lateral migration of NAPL in the overburden and, to the extent practicable, contain APL migration in the overburden.

The OBCS consists of an overburden collection trench that extends around the north, west, and south of the Site and is located within the limits of the overburden APL plume. Eight pairs of OBCS monitoring wells (OMWs) are located beyond the OBCS alignment, with one well from each pair installed within the overburden APL plume limits and the second well from each pair installed outside the overburden APL plume limits. The locations of the OMWs are shown on Figure 4.1.

No maintenance of the wet wells was performed during the second quarter of 2005.

During the second quarter of 2005, approximately 3.7 MM gallons of groundwater were collected from the overburden by the OBCS System and treated.

4.1.1 PERFORMANCE MONITORING

Hydraulic and NAPL monitoring are performed at the OMWs in order to assess the performance of the OBCS system. Hydraulic data are used to determine whether or not an inward horizontal gradient across the APL plume boundary is being created by the OBCS or if a downward vertical gradient exists between the overburden and upper bedrock. NAPL monitoring is performed as an additional assessment in order to determine whether or not horizontal migration of overburden NAPL is occurring.

4.1.1.1 GRADIENT EVALUATION

Hydraulic monitoring of the OBCS is performed by collecting water level measurements from 16 OMWs installed around the Hyde Park Landfill. Hydraulic monitoring of the 16 OMWs was performed monthly for the second quarter of 2005. Table 4.1 summarizes the hydraulic head differential gradients (referred to herein as hydraulic gradients) for the second quarter of 2005. The cumulative hydraulic monitoring data for the OBCS from 1992 to present are included on the enclosed CD under the filename HIST.pdf.

The data presented in Table 4.1 demonstrate that an inward horizontal hydraulic gradient within the overburden regime was achieved throughout the second quarter of 2005 at monitoring well pair OMW-1/OMW-2 and OMW-5R/OMW-6. Inward hydraulic gradients were also demonstrated at monitoring well pairs OMW-10R/OMW-9 and OMW-3/OMW-4R in April 2005 and OMW-15/OMW-16R in May and June. There was an outward gradient at OMW-11R/OMW-12R, OMW-13R/OMW-14R, and OMW-8R2/OMW-7 for all of the second quarter.

The outward gradients observed at OBCS well pairs do not necessarily indicate a lack of control of the overburden water. The use of well pairs as a determination of the control of overburden water is superseded in the "Performance Monitoring Plan". This plan evaluates containment based on target manhole elevations and an annual evaluation which is a more accurate evaluation of the overburden water flows.

4.1.1.2 OVERBURDEN NAPL PRESENCE CHECKS

In accordance with Section 3.6.2.3 of the RRT Stipulation, a NAPL presence check was conducted at all overburden wells within the overburden APL plume but outside the defined (1996) overburden NAPL plume limit. Table 4.2 summarizes the results of the NAPL presence checks conducted during the second quarter of 2005.

4.2 RESIDENTIAL COMMUNITY MONITORING PROGRAM

The objective of the Residential Community Monitoring Program is to supplement other monitoring and remedial programs by monitoring to provide "early warning" of APL plume migration toward residential areas, taking all feasible actions to prevent or remediate such migration to residential areas and taking any additional action required to protect those living in the Hyde Park - Bloody Run area.

In order to meet this objective, 11 pairs of Community Monitoring Wells (CMWs), each consisting of one overburden and one shallow bedrock well, are located in the residential areas around the Hyde Park Landfill Site. These wells provide an early warning for possible APL plume migration towards the residential areas. The overburden (OB) wells are screened to within 1 foot of the bottom of the clay layer overlying the bedrock, while the shallow bedrock (SB) wells extend approximately 15 feet below the top of bedrock. The locations of these wells are shown on Figure 4.2.

4.2.1 PERFORMANCE MONITORING

The performance monitoring activities required for the Residential Community Monitoring Program are as follows:

- i) quarterly monitoring of overburden and bedrock groundwater elevations;
- ii) analyses of soil air samples where no overburden groundwater is present; and
- iii) annual groundwater sampling and analysis of CMW-2OB.

4.2.1.1 HYDRAULIC MONITORING AND GRADIENT EVALUATION

During the second quarter of 2005, water levels were measured at the CMWs during the month of April. The water levels are presented in Table 4.3. Table 4.4 summarizes the vertical hydraulic head differential gradients (referred to herein as hydraulic gradients) for the quarter. The cumulative hydraulic monitoring data for the CMWs from 1987 through this reporting period are included on the enclosed CD under the filename HIST.pdf.

The calculation of vertical hydraulic gradients indicates that downward hydraulic gradients were present during the month of April 2005 at all well pairs where water was present in the overburden.

4.2.1.2 SOIL VAPOR SAMPLING

The "Indoor Air Quality Monitoring Plan" was approved and instituted in 2004. This new plan specifies the use of a PID, with a detection level of parts per billion (ppb), for performing the soil vapor monitoring.

At well locations (CM-7 and CMW-8) the overburden wells have historically contained little to no groundwater, indicating unsaturated conditions in the overburden soils, which is ideal for accurate soil vapor monitoring.

This sampling was not done in the second quarter of 2005.

4.2.1.3 ANNUAL GROUNDWATER SAMPLING

Sampling of CMW-2OB is performed annually each year as an early warning of APL migration in the overburden. This sampling event is performed in conjunction with quarterly sampling activities during the third quarter (August through October) of each year.

4.3 NON-ROUTINE INVESTIGATIONS AND ACTIVITIES

During the second quarter of 2005, there were no non-routine investigations or field activities conducted with regards to the overburden systems.

4.4 SUMMARY

4.4.1 OVERBURDEN BARRIER COLLECTION SYSTEM

During the second quarter of 2005, approximately 3.7 MM gallons of groundwater were collected from the overburden by the OBCS System and treated at the Hyde Park Treatment System.

A review of the hydraulic monitoring data for the second quarter of 2005 indicates that, in general, inward horizontal hydraulic gradients were present at two of the eight monitoring well pairs.

NAPL was not observed in any of the overburden monitoring wells, indicating that the OBCS continues to serve as an effective barrier to off-Site NAPL migration.

4.4.2 RESIDENTIAL COMMUNITY MONITORING PROGRAM

Downward vertical hydraulic gradients were achieved in the second quarter of 2005 at all of the monitored well pairs where groundwater was present in the overburden. Soil vapor samples were not collected during the second quarter of 2005.

5.0 LEACHATE TREATMENT SYSTEM

In accordance with Section 11.1.4 of the RRT and Addendum I of the Settlement Agreement, the midpoint and effluent of the APL treatment system are monitored. Sampling is required at daily, weekly, and monthly intervals for various parameter groups in order to determine whether and when the carbon beds need to be replaced or other maintenance activities need to be undertaken.

5.1 EFFLUENT ANALYSIS

The APL treatment system effluent was sampled daily during the second quarter of 2005. The sample data is grouped by frequency of sample collection for discussion in the following subsections. The frequency of sample collection and the analyses performed have been modified in the "Performance Monitoring Plan" based on 15 years of operating experience.

5.1.1 DAILY SAMPLING

Table 5.1 summarizes the results of the daily composite sampling. No exceedances of the treatment levels were reported in the second quarter of 2005 for any of the three daily parameters; pH, total organic carbon (TOC), and phenol.

5.1.2 WEEKLY SAMPLING

Table 5.2 summarizes the results of the weekly composite sampling which was done during the second quarter of 2005. No exceedances of the treatment levels were reported in the second quarter of 2005 for any of the five weekly parameters or their isomers from the collected effluent samples.

5.1.3 MONTHLY SAMPLING

Table 5.3 summarizes the results of the monthly composite sampling which was done during the second quarter of 2005. No exceedances of the treatment levels were reported in the second quarter of 2005 for any of the eight parameters or their isomers.

6.0 NAPL ACCUMULATION

The well extraction systems and manual NAPL removal collected approximately 107 gallons of NAPL during the second quarter 2005.

6.1 DECANTERS

Manual NAPL level measurements are conducted monthly in the three decanters. The levels are extrapolated to estimate the quantity of NAPL present in each of the decanters. A description of each decanter's source is provided below:

- Decanter No. 1 Bedrock Purge Well System;
- Decanter No. 2 OBCS; and
- Decanter No. 3 Source Control System.

The total NAPL accumulated during the second quarter of 2005 was 36 gallons.

NAPL measurements in the decanters are subject to a measurement error of ± 6 inches, which equates to ± 188 gallons of NAPL.

6.2 MANUAL RECOVERY

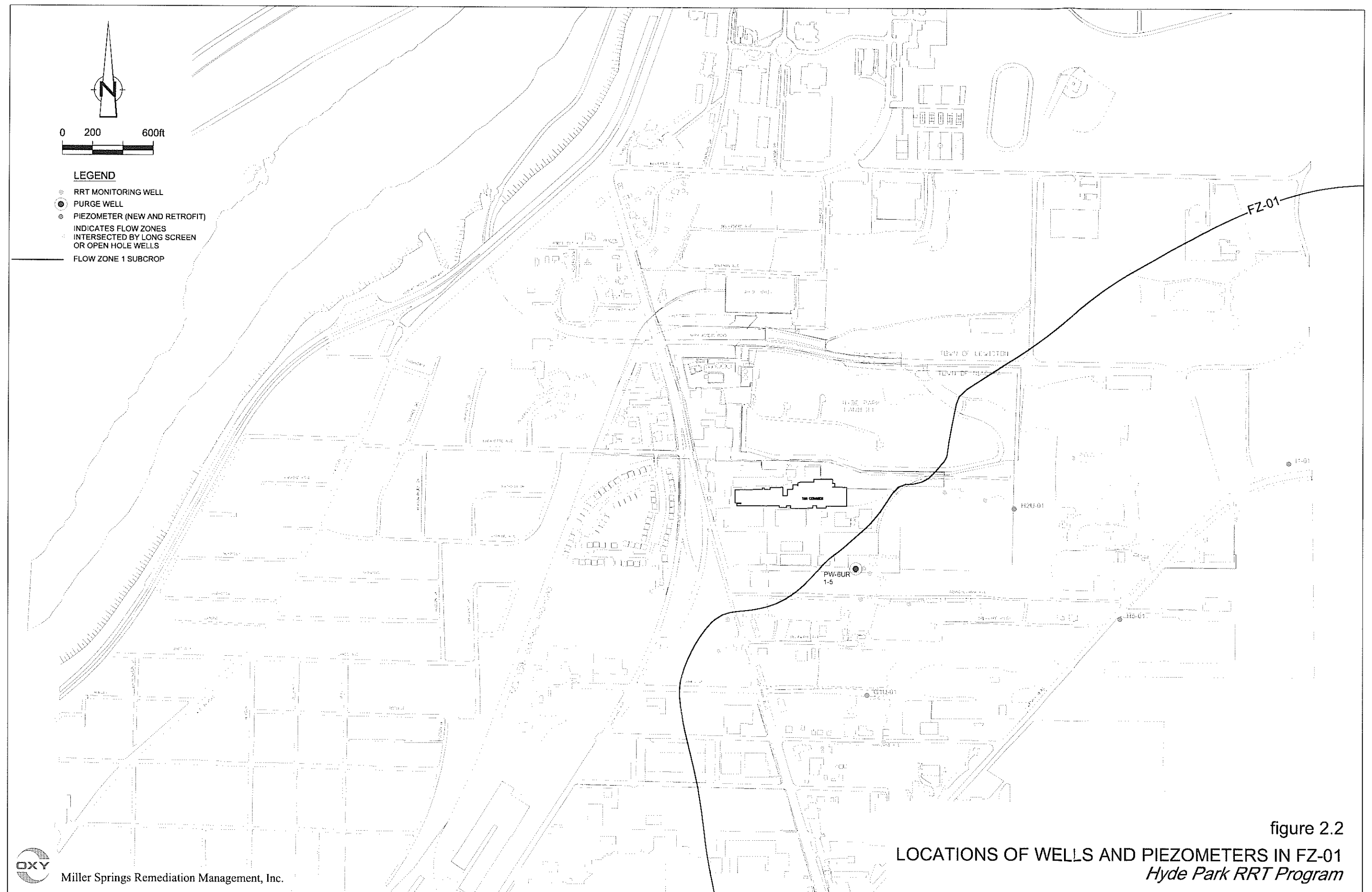
In an effort to enhance NAPL recovery at the Site, MSRMI has voluntarily initiated manual NAPL removal from monitoring wells where sufficient NAPL volumes exist. During the second quarter of 2005, approximately 71 gallons of NAPL were manually recovered.

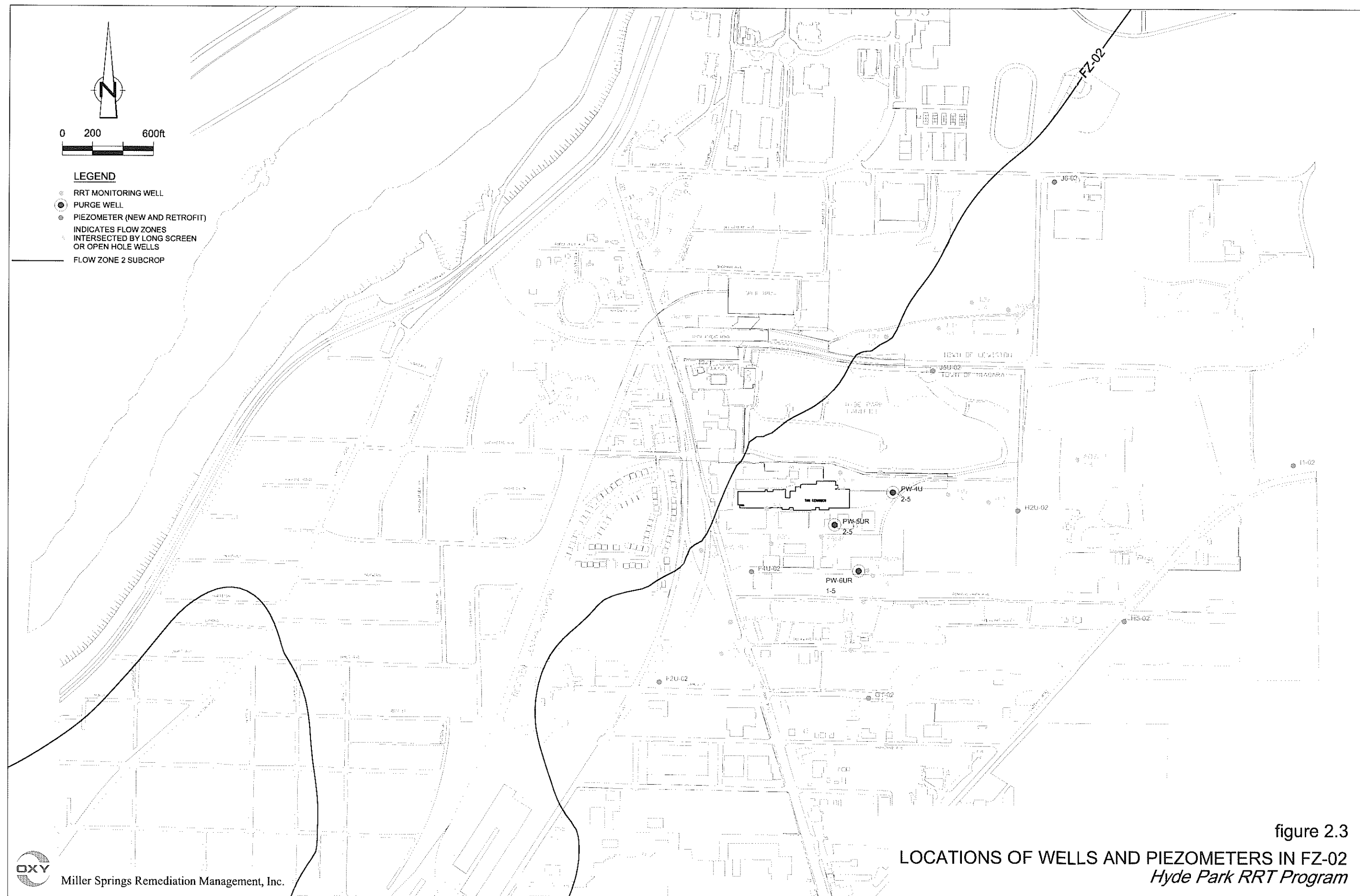
6.3 INCINERATION

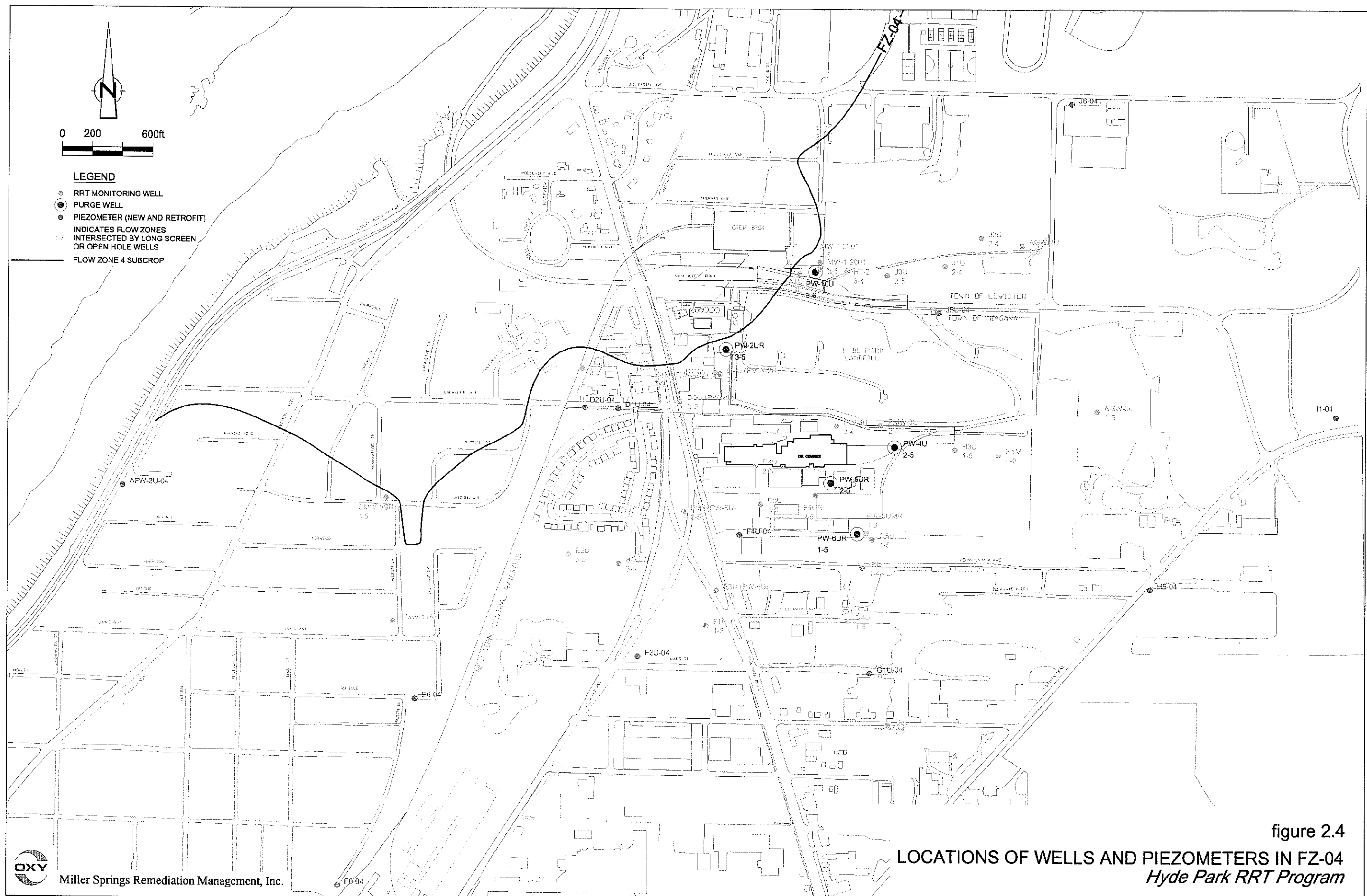
During the second quarter of 2005, NAPL was not shipped from the Hyde Park Site.

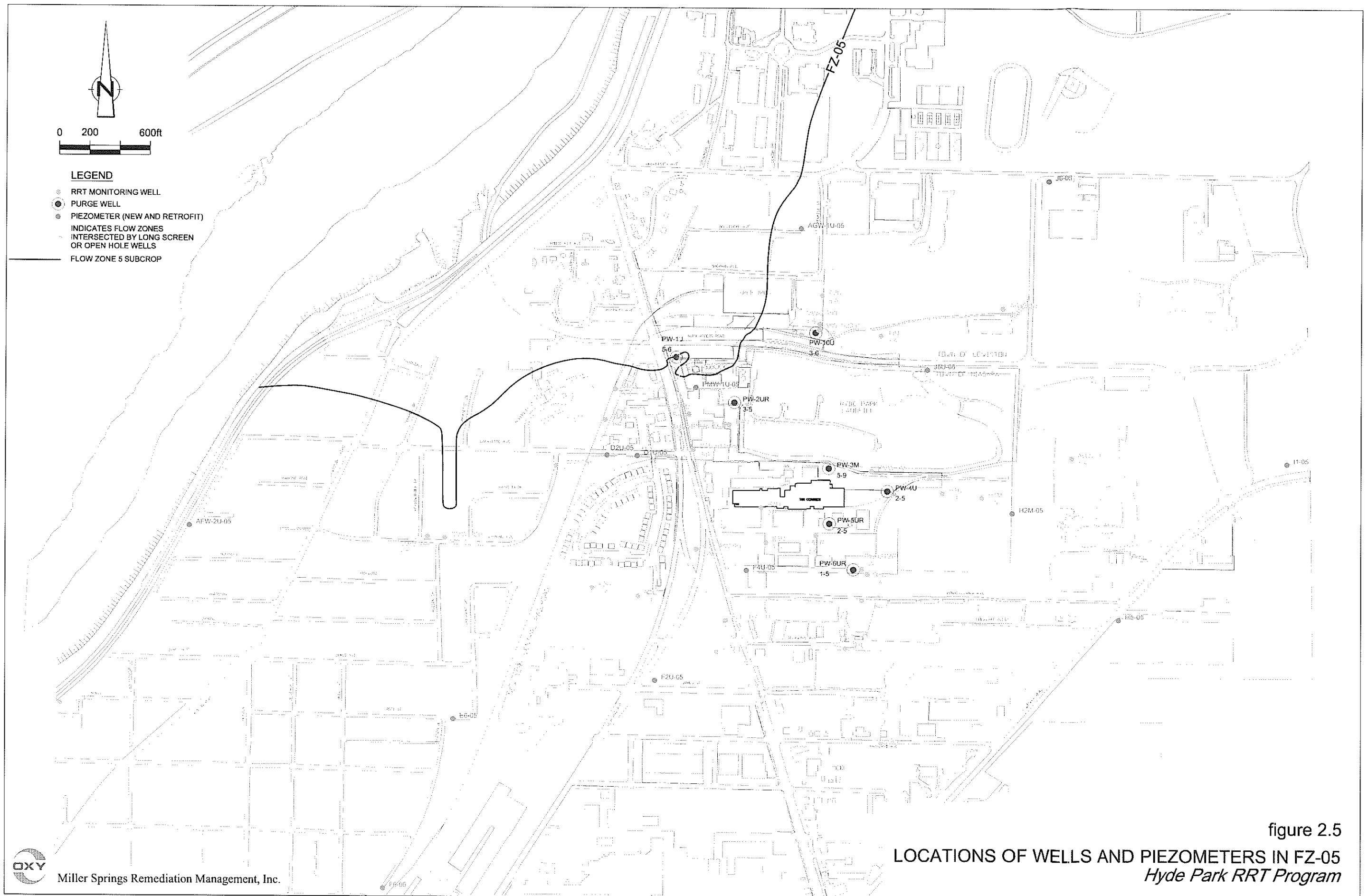
FIGURES











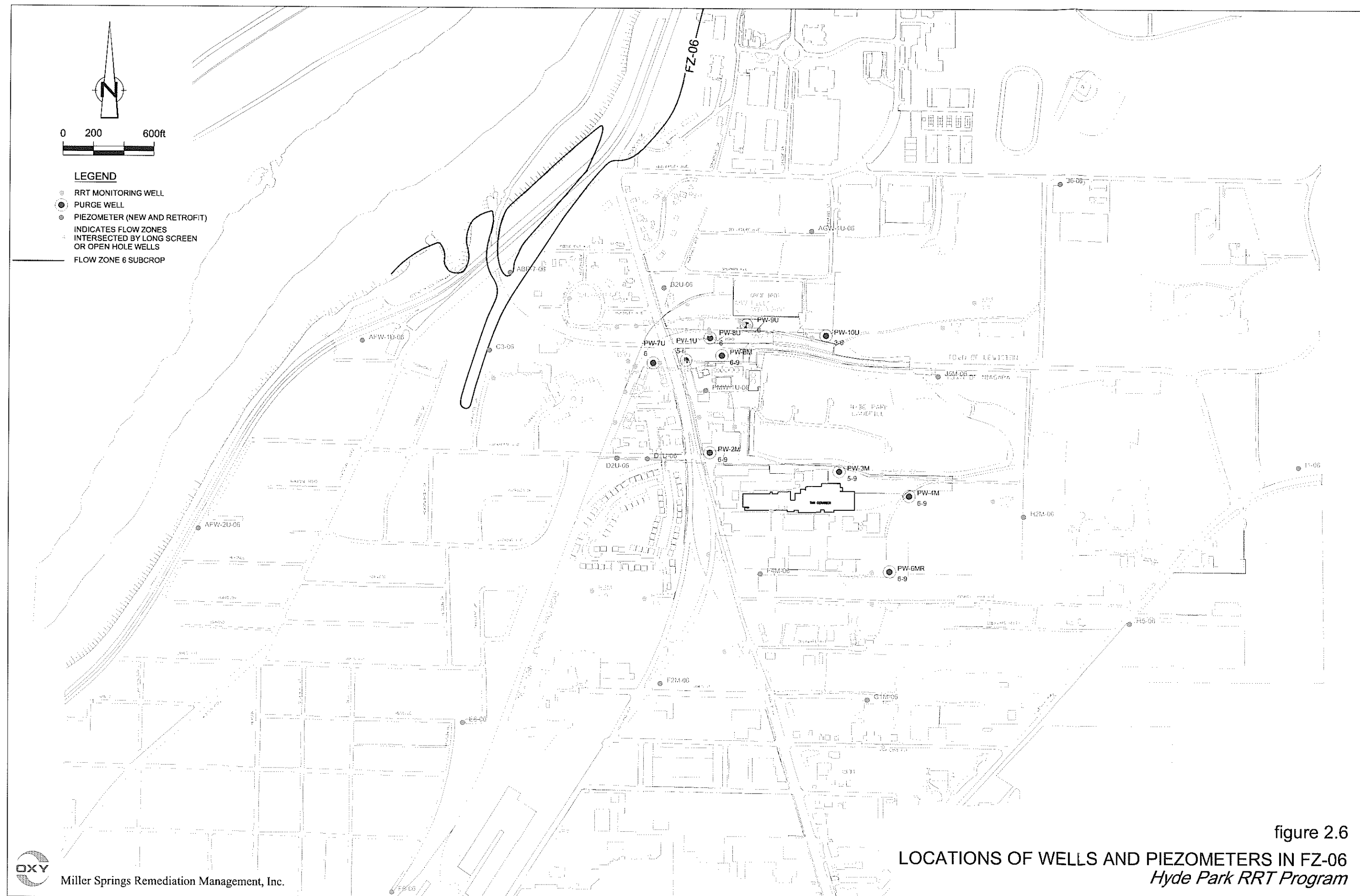
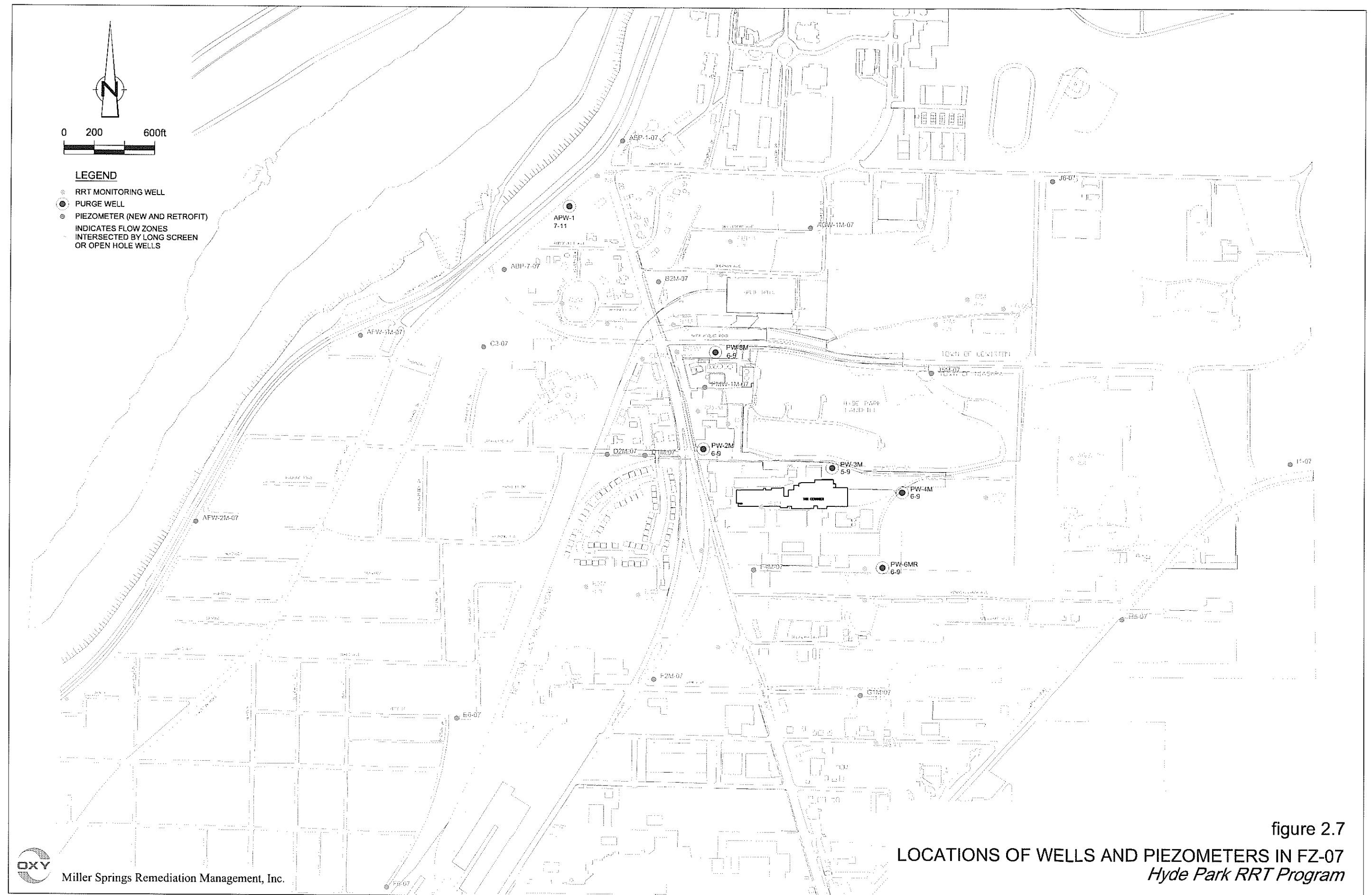


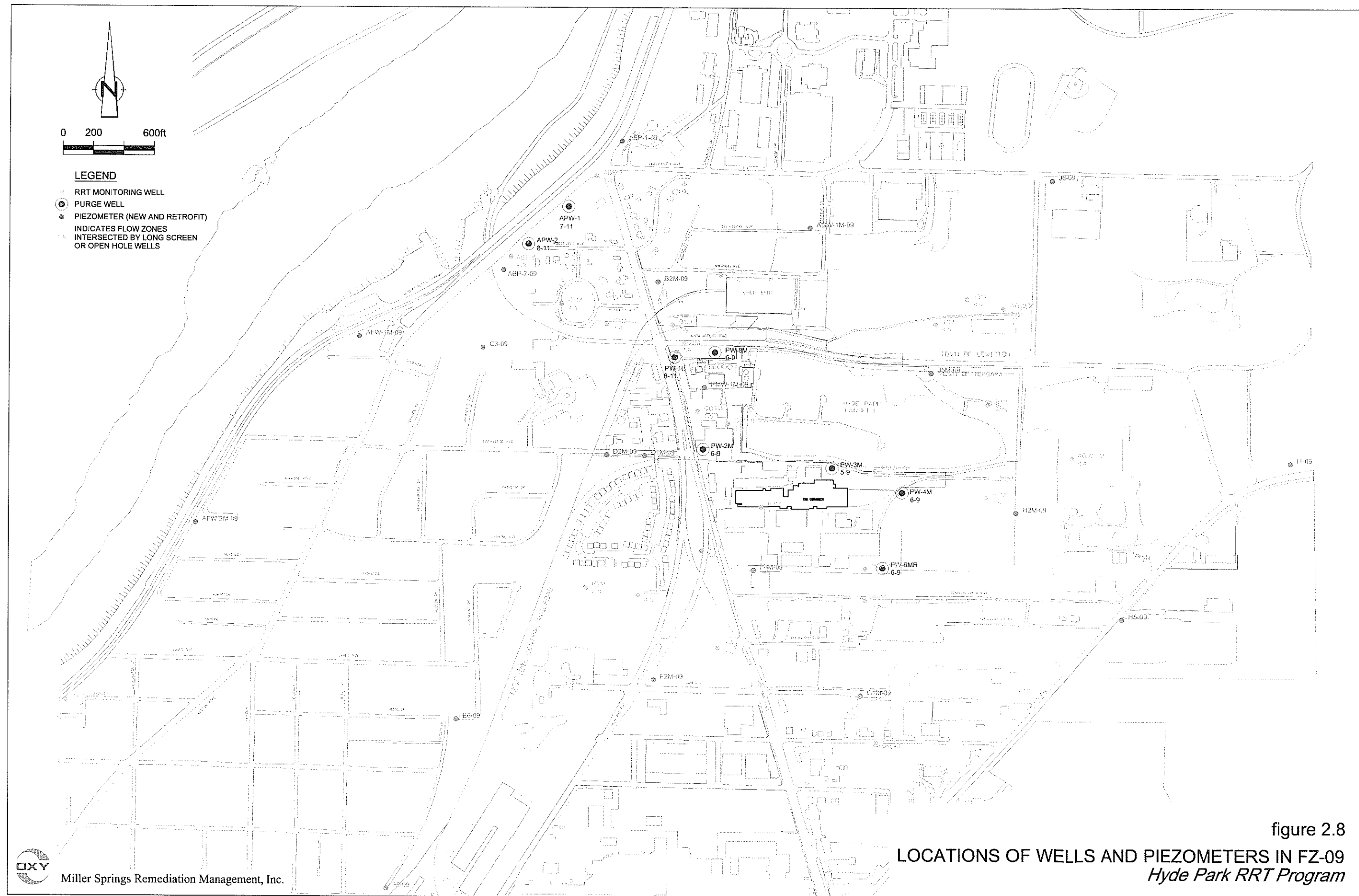
figure 2.6
LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-06
Hyde Park RRT Program



Miller Springs Remediation Management, Inc.



Miller Springs Remediation Management, Inc.



Miller Springs Remediation Management, Inc.

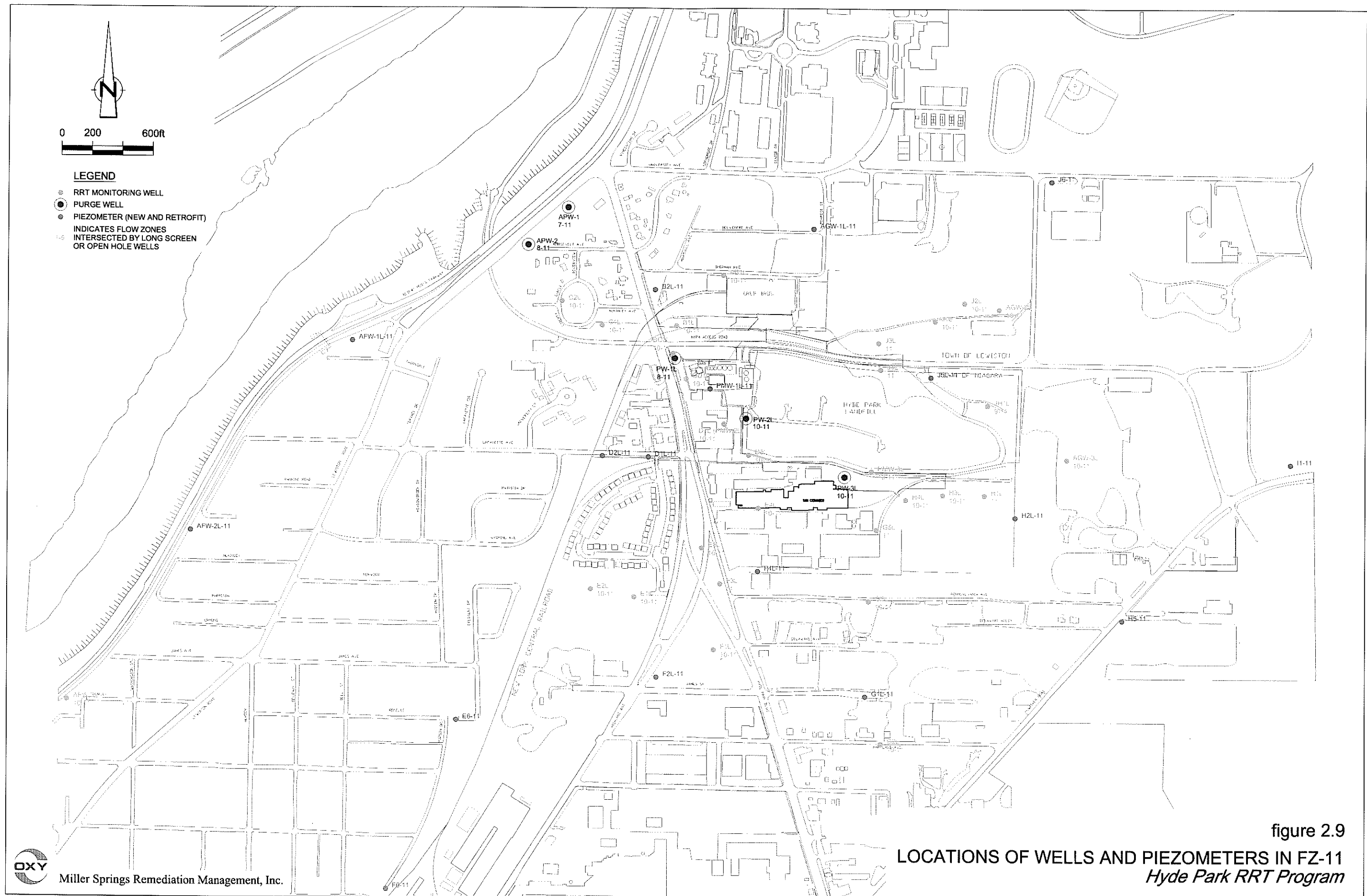
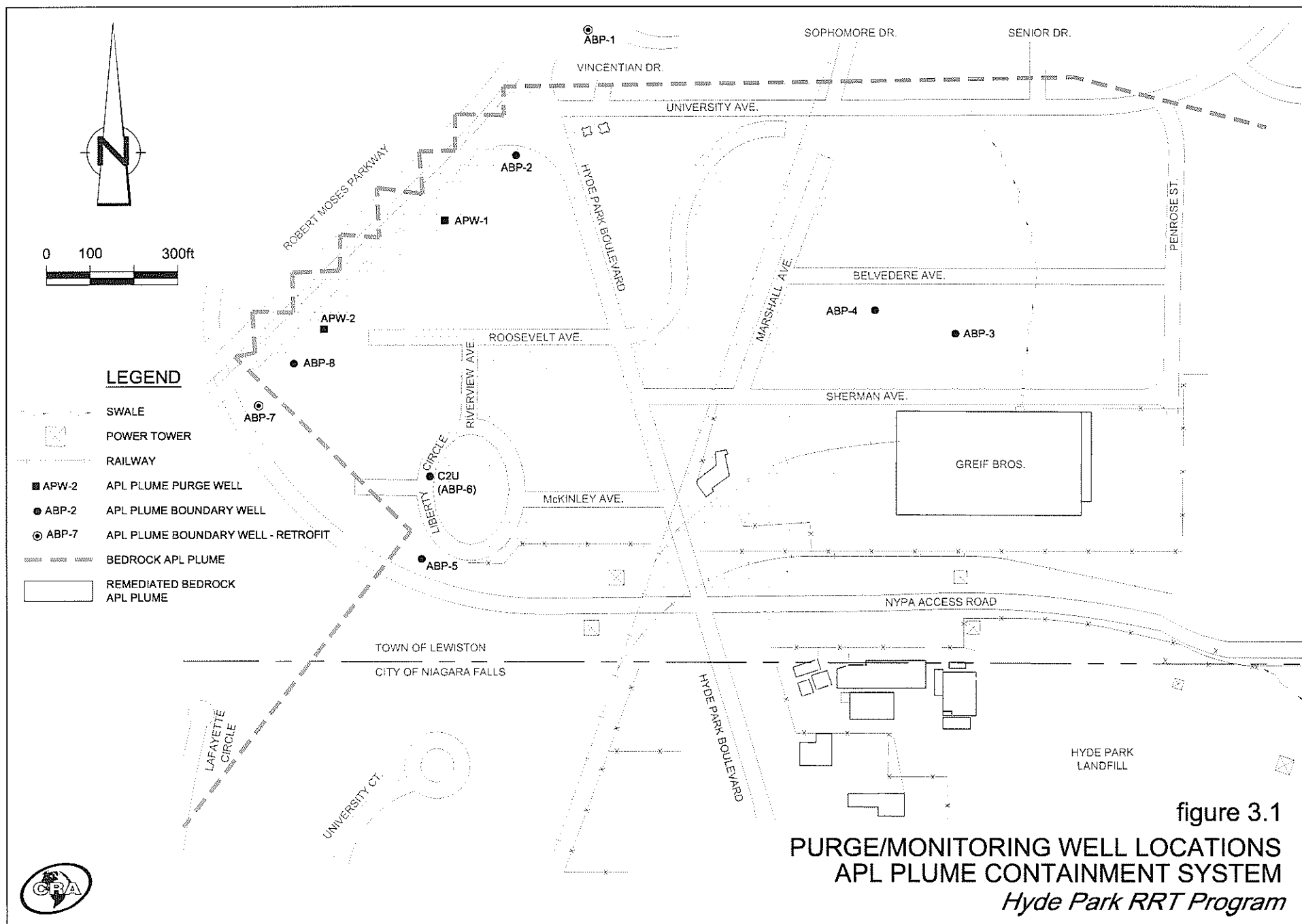
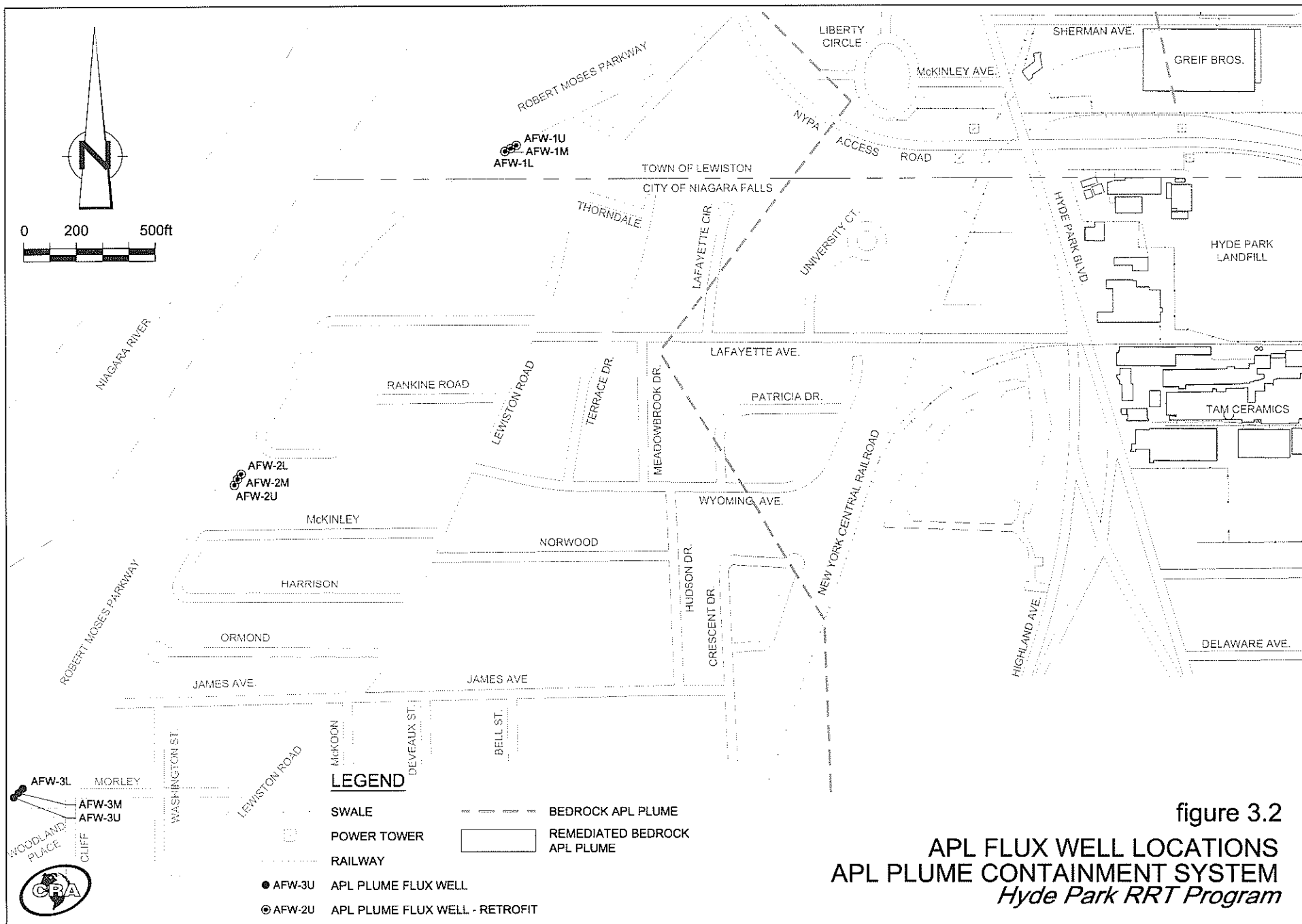
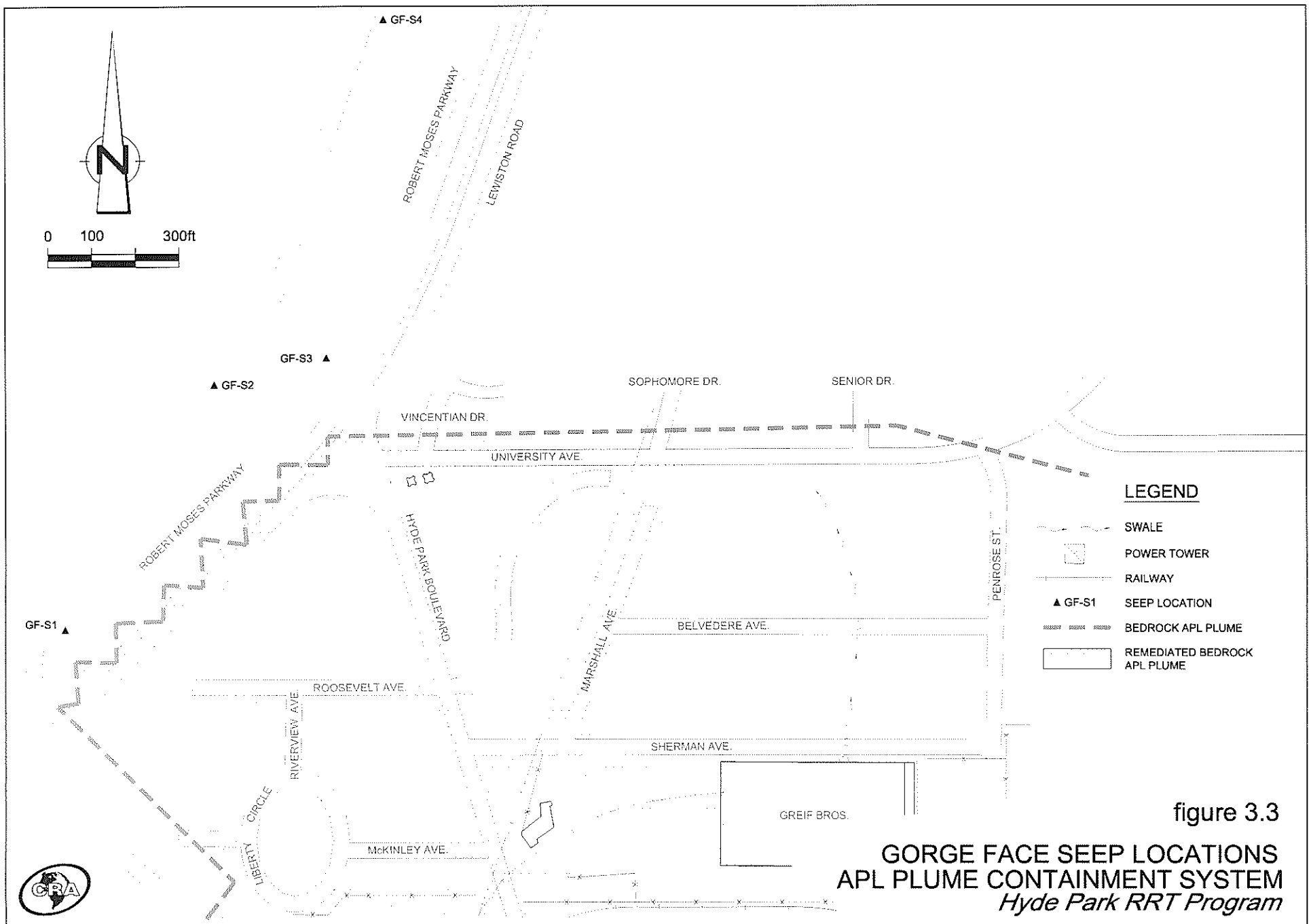
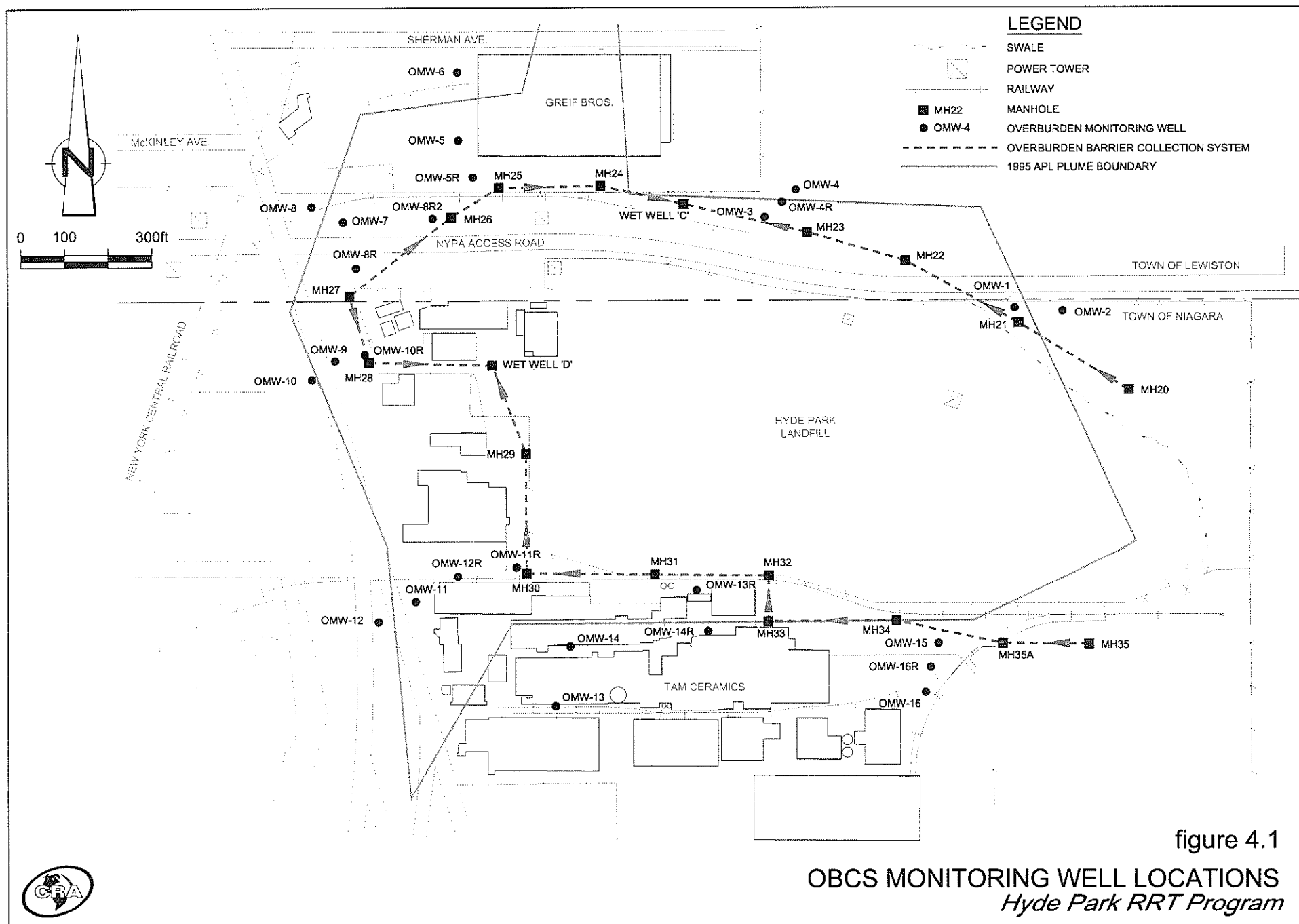


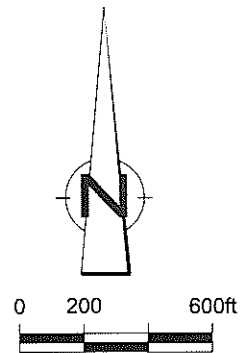
figure 2.9
LOCATIONS OF WELLS AND PIEZOMETERS IN FZ-11
Hyde Park RRT Program











LEGEND

- SWALE
- POWER TOWER
- RAILWAY
- COMMUNITY MONITORING WELL

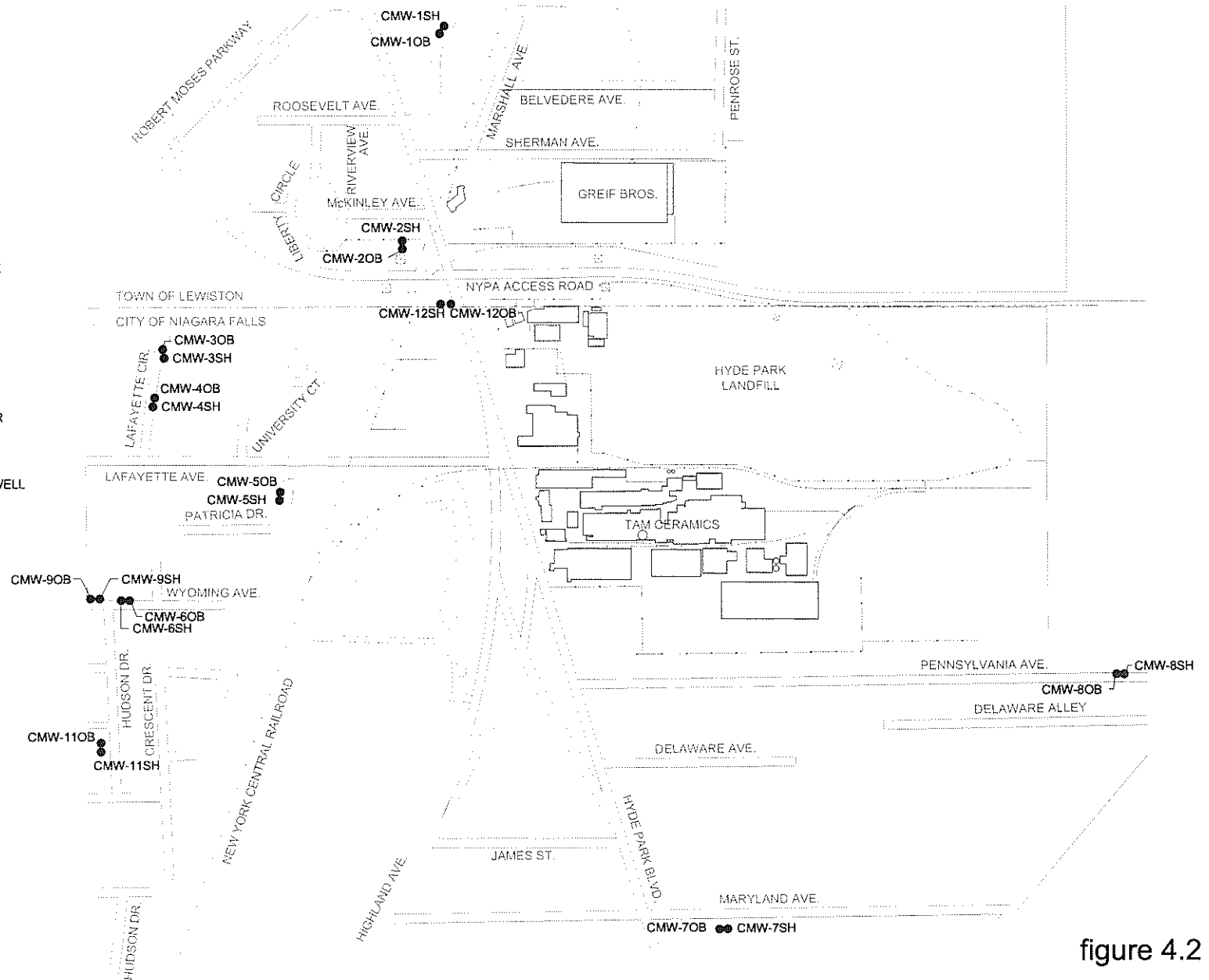


figure 4.2

COMMUNITY MONITORING WELL LOCATIONS *Hyde Park RRT Program*



TABLES

TABLE 2.1

MONTHLY AVERAGE PURGE WELL PUMPING RATES (GPM)
 NAPL PLUME CONTAINMENT SYSTEM
 SECOND QUARTER 2005
 HYDE PARK RRT PROGRAM

<i>Bedrock Purge Wells</i>	<i>Set Points (Ft. AMSL)</i>	<i>Apr</i>	<i>May</i>	<i>Jun</i>	<i>Monthly Average</i>
PW-1U	549	2.0	2.0	2.1	2.0
PW-1L	527	13.2	12.9	13.1	13.0
PW-2UR	559	1.1	1.2	1.0	1.1
PW-2M	532	25.7	23.1	21.3	23.3
PW-2L	505	0.6	0.2	0.1	0.3
PW-3M	522	0.1	0.1	4.0	1.4
PW-3L	525	7.2	7.7	8.8	7.9
PW-4U	573	0.4	0.3	8.5	3.1
PW-4M	522	0.0	0.0	0.0	0.0
PW-5UR	555	1.4	3.8	5.1	3.4
PW-6UR	560	1.6	1.3	1.0	1.3
PW-6MR	505	5.3	5.2	4.9	5.1
PW-7U	540	0.7	0.5	0.3	0.5
PW-8M	520	0.7	0.2	0.1	0.3
PW-8U	546	0.8	0.2	0.2	0.4
PW-9U	542	2.0	1.6	0.8	1.4
PW-10U	542	7.9	9.5	8.0	8.5
Individual Total		70.7	69.6	79.3	73.2

Notes:

GPM Gallons per minute.

AMSL Above mean sea level.

TABLE 2.2

**HYDRAULIC MONITORING
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK LANDFILL**

WELL NAME	TOP OF CASING	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
G1U-01	617.08	11:33:00 AM	11.25	605.83	
G6-01	608.11	10:13:00 AM	4.62	603.49	
H2U-01	620.92	11:47:00 AM	6.09	614.83	
H5-01	617.61	9:52:00 AM	10.50	607.11	
I1-01	621.55	9:47:00 AM	18.84	602.71	
F2U-02	599.89	11:00:00 AM	23.15	576.74	
F4U-02	602.32	12:05:00 PM	15.40	586.92	
G1-02	616.86	11:31:00 AM	22.64	594.22	
G6-02	608.11	10:15:00 AM	15.40	592.71	
H2U-02	620.88	11:49:00 AM	24.50	596.38	
H5-02	617.47	9:53:00 AM	21.90	595.57	
I1-02	621.42	9:49:00 AM	26.92	594.5	
J2U-02	609.66	10:27:00 AM	11.67	597.99	
J5U-02	606.21	10:36:00 AM	7.72	598.49	
J6-02	609.23	10:07:00 AM	9.66	599.57	
AFW-2U-04	593.48	11:20:00 AM	14.87	578.61	
D1U-04	593.77	9:54:00 AM	11.70	582.07	
D2U-04	590.65	9:58:00 AM	7.70	582.95	
E6-04	578.23	11:30:00 AM	11.64	566.59	
F2U-04	599.76	11:02:00 AM	20.57	579.19	
F4U-04	602.19	12:06:00 PM	12.95	589.24	
F6-04	588.06	10:45:00 AM	17.85	570.21	
G6-04	608.11	10:16:00 AM	15.11	593	
H5-04	617.4	9:54:00 AM	19.03	598.37	
I1-04	621.31	9:51:00 AM	33.13	588.18	
J2U-04	609.42	10:28:00 AM	13.08	596.34	
J5U-04	606.05	10:37:00 AM	16.17	589.88	
J6-04	609.12	10:08:00 AM	25.61	583.51	
AFW-2U-05	593.33	11:18:00 AM	14.61	578.72	

**HYDRAULIC MONITORING
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK LANDFILL**

WELL NAME	TOP OF CASING	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
AGW-1U-05	591.8	11:00:00 AM	2.50	589.3	
D1U-05	593.51	9:53:00 AM	13.31	580.2	
D2U-05	590.56	9:57:00 AM	10.38	580.18	
E6-05	578.04	11:31:00 AM	10.38	567.66	
F2U-05	599.64	11:03:00 AM	19.90	579.74	
F4U-05	602.06	12:07:00 PM	15.43	586.63	
F6-05	587.85	10:46:00 AM	15.90	571.95	
G6-05	608.11	10:17:00 AM	15.33	592.78	
H2M-05	621.59	11:51:00 AM	26.00	595.59	
H5-05	617.31	9:55:00 AM	24.42	592.89	
I1-05	621.21	9:52:00 AM	63.69	557.52	
J2U-05	609.3	10:29:00 AM	26.83	582.47	
J5U-05	605.87	10:38:00 AM	23.10	582.77	
J6-05	609.02	10:09:00 AM	25.68	583.34	
PMW-1U-05	598	11:00:00 AM	19.43	578.57	
ABP-7-06	575.78	10:49:00 AM			Dry @ 21.88
AFW-1U-06	571.83	11:28:00 AM	13.28	558.55	
AFW-2U-06	593.22	11:17:00 AM	48.10	545.12	
AGW-1U-06	591.66	10:59:00 AM	38.46	553.2	
B2U-06	589.29	11:05:00 AM	35.25	554.04	
C3-06	585.78	10:39:00 AM	37.08	548.7	
D1U-06	593.25	9:52:00 AM			Dry @ 50.7
D2U-06	590.38	9:56:00 AM			Dry @ 47.24
E6-06	577.99	11:32:00 AM	5.52	572.47	
F2M-06	599.06	11:06:00 AM	26.38	572.68	
F4M-06	602.05	12:09:00 PM	47.96	554.09	
F6-06	587.84	10:47:00 AM	15.40	572.44	
G1M-06	616.75	11:20:00 AM	44.00	572.75	
G6-06	608.11	10:18:00 AM	35.04	573.07	

**HYDRAULIC MONITORING
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK LANDFILL**

WELL NAME	TOP OF CASING	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
H2M-06	621.42	11:52:00 AM	52.15	569.27	
H5-06	617.17	9:56:00 AM	26.00	591.17	
I1-06	621.08	9:53:00 AM	71.43	549.65	
J2M-06	608.94	10:20:00 AM	56.92	552.02	
J5M-06	606.22	10:40:00 AM	63.15	543.07	
J6-06	608.93	10:10:00 AM	54.92	554.01	
PMW-1U-06	597.92	11:01:00 AM	53.27	544.65	
ABP-1-07	576.98	10:00:00 AM			Well destroyed
ABP-7-07	575.67	10:49:00 AM	40.26	535.41	
AFW-1M-07	571.41	11:30:00 AM			Dry @ 38.9
AFW-2M-07	593.44	11:23:00 AM	66.87	526.57	
AGW-1M-07	592.91	10:57:00 AM	36.17	556.74	
B2M-07	589.52	11:08:00 AM	45.52	544	
C3-07	585.62	10:38:00 AM	43.02	542.6	
D1M-07	594.15	9:50:00 AM	57.90	536.25	
D2M-07	590.77	10:01:00 AM			Dry @ 66.48
E6-07	577.91	11:33:00 AM	23.27	554.64	
F2M-07	598.91	11:07:00 AM	76.72	522.19	
F4M-07	601.91	12:10:00 PM	73.40	528.51	
F6-07	587.68	10:48:00 AM	21.69	565.99	
G1M-07	616.68	11:21:00 AM	46.92	569.76	
G6-07	608.11	10:20:00 AM	34.90	573.21	
H5-07	617.05	9:57:00 AM	62.00	555.05	
I1-07	620.97	9:55:00 AM	65.41	555.56	
J5M-07	606.07	10:41:00 AM	49.32	556.75	
J6-07	608.85	10:11:00 AM	52.73	556.12	
PMW-1M-07	598.5	10:55:00 AM	68.70	529.8	
ABP-1-09	576.73	10:00:00 AM			Well destroyed
ABP-7-09	575.67	10:48:00 AM	40.22	535.45	

**HYDRAULIC MONITORING
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK LANDFILL**

WELL NAME	TOP OF CASING	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
AFW-1M-09	571.12	11:29:00 AM	39.36	531.76	
AFW-2M-09	593.32	11:22:00 AM	71.62	521.7	
AGW-1M-09	592.75	10:55:00 AM	35.92	556.83	
B2M-09	589.34	11:07:00 AM	67.90	521.44	
C3-09	585.54	10:37:00 AM	45.08	540.46	
D1M-09	594.02	9:49:00 AM	72.80	521.22	
D2M-09	590.66	9:59:00 AM	69.37	521.29	
E6-09	577.82	11:34:00 AM	19.48	558.34	
F2M-09	598.71	11:08:00 AM	77.20	521.51	
F4M-09	601.79	12:12:00 PM	71.00	530.79	
F6-09	587.53	10:49:00 AM	3.92	583.61	
G1M-09	616.58	11:23:00 AM	45.88	570.7	
G6-09	608.11	10:21:00 AM	36.20	571.91	
H2M-09	621.32	11:54:00 AM	64.70	556.62	
H5-09	616.93	9:59:00 AM	61.80	555.13	
I1-09	620.86	9:58:00 AM	60.35	560.51	
J2M-09	608.77	10:22:00 AM	52.12	556.65	
J5M-09	605.82	10:42:00 AM	48.84	556.98	
J6-09	608.76	10:13:00 AM	53.76	555	
PMW-1M-09	598.34	10:57:00 AM	77.14	521.2	
AFW-1L-11	572.1	11:26:00 AM	59.33	512.77	
AFW-2L-11	593.43	11:17:00 AM	96.14	497.29	
AGW-1L-11	592.71	10:54:00 AM	29.44	563.27	
B2L-11	589.65	11:03:00 AM	74.52	515.13	
D1L-11	593.8	9:47:00 AM	80.10	513.7	
D2L-11	590.21	10:04:00 AM	63.77	526.44	
E6-11	577.72	11:36:00 AM	41.92	535.8	
F2L-11	598.94	11:12:00 AM	50.00	548.94	
F4L-11	602.22	12:15:00 PM	41.00	561.22	

HYDRAULIC MONITORING
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK LANDFILL

WELL NAME	TOP OF CASING	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
F6-11	587.4	10:50:00 AM	59.93	527.47	
G1L-11	616.84	11:29:00 AM	39.20	577.64	
G6-11	608.11	10:22:00 AM	28.02	580.09	
H2L-11	620.73	11:55:00 AM	63.50	557.23	
H5-11	616.81	10:00:00 AM	63.55	553.26	
I1-11	620.71	10:00:00 AM	74.68	546.03	
J5L-11	607.2	10:45:00 AM	56.16	551.04	
J6-11	608.68	10:15:00 AM	44.27	564.41	
PMW-1L-11	598.84	10:53:00 AM	87.31	511.53	

TABLE 2.3

NAPL PRESENCE CHECKS
NAPL PLUME CONTAINMENT SYSTEM
SECOND QUARTER 2005
HYDE PARK RRT PROGRAM

<i>Jun-05</i>		<i>Jun-05</i>	
<i>Well I.D.</i>		<i>Well I.D.</i>	
A1U	NO	GH1U	NO
A2U	NO	H1L	NO
B1L	NO	H1M	NO
B1M	NO	H1U	NO
B1U	NO	H2L	NO
BC3L	NO	H2M	NO
BC3M	NO	H3L	NO
BC3U	NO	H3U	YES
C1L	NO	J1M	NO
C1M	NO	J1U	NO
C1U	NO	J2M	NO
CD1L	NO	J3L	NO
CD1M	NO	J3U	YES
CD1U	YES	J4L	NO
CD2U	NO	J5U	NO
CD3U	NO	OMW-1	NO
D1L	NO	OMW-10R	NO
D1M	NO	OMW-11	NO
D2M	NO	OMW-11R	NO
D3U	NO	OMW-12R	NO
D4L	NO	OMW-13R	NO
D4U	NO	OMW14R	NO
D5L	NO	OMW-15	NO
E3M	NO	OMW-16R	NO
E3U	NO	OMW-2	NO
E4L	NO	OMW-3	NO
E4U	YES	OMW-4R	NO
E5U	NO	OMW-5	NO
F1M	NO	OMW-5R	NO
F4L	NO	OMW-6	NO
F4M	NO	OMW-7	NO
F4U	NO	OMW-8R	NO
F5UR (1)	NO	OMW-8R2	NO
G1L	NO	OMW-9	NO
G1M	NO	PMW-1L	YES
G3L	NO	PMW-3M	YES
G3M	NO	PW-2L	YES
G3U	NO	PW-3UM	YES
G4U	NO	PW-6UMR	NO

Notes:

(1) Not NAPL but fuel oil
 NAPL Non-aqueous phase liquid
 NO NAPL not present
 YES NAPL present

TABLE 4.1

HYDRAULIC GRADIENT SUMMARY
OVERBURDEN BARRIER COLLECTION SYSTEM
SECOND QUARTER 2005
HYDE PARK RRT PROGRAM

Well Pair	April 2005			May 2005			June 2005		
	Inner Elevation (feet AMSL)	Outer Elevation (feet AMSL)	Hydraulic Gradients(1)	Inner Elevation (feet AMSL)	Outer Elevation (feet AMSL)	Hydraulic Gradients(1)	Inner Elevation (feet AMSL)	Outer Elevation (feet AMSL)	Hydraulic Gradients(1)
OMW-10R-OMW-9	590.59	591.27	-0.68	588.59	587.17	1.42	588.19	587.07	1.12
OMW-11R-OMW-12R	594.47	593.35	1.12	590.87	589.65	1.22	590.77	589.45	1.32
OMW-13R-OMW-14R	595.44	591.82	3.62	593.04	590.52	2.52	592.74	589.92	2.82
OMW-15-OMW-16R	604.54	603.93	0.61	601.44	602.33	-0.89	601.24	602.03	-0.79
OMW-1-OMW-2	602.57	604.49	-1.92	600.07	N/A	N/A	600.37	N/A	N/A
OMW-3-OMW-4R	592.77	592.83	-0.06	590.37	590.23	0.14	590.27	589.93	0.34
OMW-5R-OMW-6	586.25	586.47	-0.22	582.25	585.97	-3.72	582.05	586.17	-4.12
OMW-8R2-OMW-7	590.21	587.89	2.32	587.01	583.89	3.12	587.21	583.59	3.62

Notes:

- (1) Negative number indicates an inward/downward gradient measured in feet.
N/A Not applicable.
AMSL Above Mean Sea Level.

TABLE 4.2

NAPL PRESENCE MONITORING

OVERBURDEN BARRIER COLLECTION SYSTEM

SECOND QUARTER 2005

HYDE PARK RRT PROGRAM

<i>Well I.D. ⁽¹⁾</i>	<i>June 2005</i>
OMW1	NO
OMW2	NO
OMW3	NO
OMW4R	NO
OMW5R	NO
OMW6	NO
OMW7	NO
OMW8R	NO
OMW9	NO
OMW10R	NO
OMW11R	NO
OMW12R	NO
OMW13R	NO
OMW14R	NO
OMW15	NO
OMW16R	NO

Notes:

- Not available
- NO NAPL not present
- ⁽¹⁾ R designates replacement well

TABLE 4.3

HYDRAULIC MONITORING
COMMUNITY MONITORING PROGRAM
SECOND QUARTER 2005
HYDE PARK LANDFILL

WELL NAME	TOP OF CASING	DATE	TIME	DEPTH TO GROUNDWATER	ELEVATION	COMMENTS
CMW-12OB	595.26	4/6/2005	9:10	2.2	593.06	
CMW-1OB	576.12	4/15/2005	10:30:00 AM	10.05	566.07	
CMW-1SH	576.68	4/15/2005	10:31:00 AM	12.06	564.62	
CMW-2OB	590.05	4/15/2005	10:42:00 AM	0.90	589.15	
CMW-2SH	589.73	4/15/2005	10:43:00 AM	26.25	563.48	
CMW-3OB	582.79	4/15/2005	10:07:00 AM	5.38	577.41	
CMW-3SH	582.74	4/15/2005	10:08:00 AM	31.68	551.06	
CMW-4OB	574.85	4/15/2005	10:09:00 AM	0.01	574.84	
CMW-4SH	574.97	4/15/2005	10:10:00 AM	10.52	564.45	
CMW-5OB	584.13	4/15/2005	11:15:00 AM	0.00	584.13	Flooded
CMW-5SH	584.13	4/15/2005	11:13:00 AM	5.15	578.98	
CMW-6OB	572.55	4/15/2005	11:19:00 AM	2.70	569.85	
CMW-6SH	572.68	4/15/2005	11:17:00 AM	10.16	562.52	
CMW-7OB	611.38	4/15/2005	10:25:00 AM	0.00	611.38	Water level at top of casing
CMW-7SH	611.16	4/15/2005	10:26:00 AM	8.30	602.86	
CMW-8OB	616.78	4/15/2005	10:06:00 AM	3.20	613.58	
CMW-8SH	617.01	4/15/2005	10:08:00 AM	4.00	613.01	
CMW-9OB	572.41	4/15/2005	11:22:00 AM	2.44	569.97	
CMW-9SH	572.59	4/15/2005	11:21:00 AM	12.02	560.57	
CMW-11OB	573.51	4/15/2005	11:26:00 AM	2.63	570.88	
CMW-11SH	573.86	4/15/2005	11:25:00 AM	8.36	565.5	
CMW-12OB	595.26	4/15/2005	12:26:00 PM	5.70	589.56	
CMW-12SH	597.65	4/15/2005	12:28:00 PM	27.54	570.11	
CMW-12OB	595.26	5/5/2005	9:40	10.8	584.46	
CMW-12OB	595.26	6/1/2005	9:45	15.5	579.76	

TABLE 4.4

HYDRAULIC GRADIENT SUMMARY
COMMUNITY MONITORING PROGRAM
SECOND QUARTER 2005
HYDE PARK RRT PROGRAM

Well Pair	April 2005		
	Inner Elevation (feet AMSL)	Outer Elevation (feet AMSL)	Hydraulic Gradients(1)
CMW-1OB-CMW-1SH	564.62	566.07	-1.45
CMW-2OB-CMW-2SH	563.48	589.15	-25.67
CMW-3OB-CMW-3SH	551.06	577.41	-26.35
CMW-4OB-CMW-4SH	564.45	574.84	-10.39
CMW-5OB-CMW-5SH	578.98	N/A	N/A
CMW-6OB-CMW-6SH	562.52	569.85	-7.33
CMW-7OB-CMW-7SH	602.86	611.38	-8.52
CMW-8OB-CMW-8SH	613.01	613.58	-0.57
CMW-9OB-CMW-9SH	560.57	569.97	-9.40
CMW-11OB-CMW-11SH	565.50	570.88	-5.38

Notes:

- (1) Negative number indicates an inward/downward gradient measured in feet.
 N/A Not applicable. One or both wells dry.
 AMSL Above Mean Sea Level.

TABLE 5.1
LEACHATE TREATMENT SYSTEM DAILY EFFLUENT MONITORING DATA
SECOND QUARTER - 2005
HYDE PARK RRT PROGRAM

Date	Operating Hours	TOC* - mg/L				PHENOL** - mg/L					Effluent		
		C.B. Feed	2nd Instg.	3rd Instg.	Effluent	C.B. Feed	1st Instg.	2nd Instg.	3rd Instg.	Effluent	pH	Gallons	Comments
04/01/05		-	-	-	1.5	-	0.35	-	-	0.010 U	6	-	
04/02/05		-	-	-	-	-	-	-	-	-	-	-	
04/03/05		-	-	-	-	-	-	-	-	-	-	-	
04/04/05		-	-	-	-	-	0.33	0.015	-	0.010 U	7.06	-	
04/05/05		-	-	-	-	-	0.010 U	-	-	0.34	7.01	-	
04/06/05		-	-	-	-	-	0.42	-	-	0.010 U	6.99	-	
04/07/05		-	-	-	-	-	0.43	-	-	0.077	7.02	-	
04/08/05		-	-	-	-	-	0.70	-	-	0.12	7	-	
04/09/05		-	-	-	-	-	-	-	-	-	-	-	
04/10/05		-	-	-	-	-	-	-	-	-	-	-	
04/11/05		-	2.4	-	1.1	-	0.349	0.0232	-	0.005 U	7.01	-	
04/12/05		-	-	-	1.1	-	0.438	-	-	0.005 U	7.03	-	
04/13/05		-	-	-	1.0	-	0.45	-	-	0.005 U	7.02	-	
04/14/05		-	-	-	1.3	-	0.462	-	-	0.0055	7	-	
04/15/05		-	-	-	1.5	-	0.47	-	-	0.005 U	7.2	-	
04/16/05		-	-	-	-	-	-	-	-	-	-	-	
04/17/05		-	-	-	-	-	-	-	-	-	-	-	
04/18/05		-	1.6	-	1.4	-	0.446	0.018	-	0.005 U	7.02	-	
04/19/05		-	-	-	1.9	-	0.438	-	-	0.005 U	7.01	-	
04/20/05		-	-	-	1.4	-	0.47	-	-	0.005 U	6.99	-	
04/21/05		-	-	-	1.3	-	0.466	-	-	0.005 U	7	-	
04/22/05		-	-	-	1.4	-	-	-	-	0.005 U	6.99	-	
04/23/05		-	-	-	-	-	-	-	-	-	-	-	
04/24/05		-	-	-	-	-	-	-	-	-	-	-	
04/25/05		-	3.3	-	2.0	-	0.462	0.0168	-	0.0059	7.01	-	
04/26/05		-	-	-	3.3	-	0.458	-	-	0.005 U	7.1	-	
04/27/05		-	-	-	2.0	-	0.498	-	-	0.0055	7.12	-	
04/28/05		-	-	-	1.9	-	0.486	-	-	0.005 U	7.08	-	
04/29/05		-	-	-	1.9	-	0.482	-	-	0.005 U	6.98	-	
04/30/05		-	-	-	-	-	-	-	-	-	-	-	

TABLE 5.1
LEACHATE TREATMENT SYSTEM DAILY EFFLUENT MONITORING DATA
SECOND QUARTER - 2005
HYDE PARK RRT PROGRAM

Date	Operating Hours	TOC* - mg/L				PHENOL** - mg/L					Effluent		
		C.B. Feed	2nd Instg.	3rd Instg.	Effluent	C.B. Feed	1st Instg.	2nd Instg.	3rd Instg.	Effluent	pH	Gallons	Comments
05/01/05		-	-	-	-	-	-	-	-	-	-	-	
05/02/05		-	3.2	-	1.9	-	0.482	0.0216	-	0.0059	6.98	-	
05/03/05		-	-	-	3.7	-	0.458	-	-	0.005 U	6.99	-	
05/04/05		-	-	-	2.0	-	-	0.0422	-	0.087	6.97	-	
05/05/05		-	-	-	2.1	-	0.478	-	-	0.0059	7	-	
05/06/05		-	-	-	1.8	-	0.474	-	-	0.0083	7	-	
05/07/05		-	-	-	-	-	-	-	-	-	-	-	
05/08/05		-	-	-	-	-	-	-	-	-	-	-	
05/09/05		-	3.3	-	2.4	-	0.49	0.0244	-	0.0063	6.91	-	
05/10/05		-	-	-	4.6	-	0.486	-	-	0.005 U	7	-	
05/11/05		-	-	-	2.2	-	0.478	-	-	0.005 U	6.89	-	
05/12/05		-	-	-	2.4	-	0.494	-	-	0.0067	6.93	-	
05/13/05		-	-	-	2.2	-	0.474	-	-	0.005 U	6.8	-	
05/14/05		-	-	-	-	-	-	-	-	-	-	-	
05/15/05		-	-	-	-	-	-	-	-	-	-	-	
05/16/05		-	3.0	-	1.9	-	0.746	0.0244	-	0.0079	7	-	
05/17/05		-	-	-	3.2	-	0.77	-	-	0.0051	7.1	-	
05/18/05		-	-	-	1.8	-	0.762	-	-	0.0067	6.99	-	
05/19/05		-	-	-	2.0	-	0.754	-	-	0.005 U	7.01	-	
05/20/05		-	-	-	1.9	-	0.73	-	-	0.005 U	7	-	
05/21/05		-	-	-	-	-	-	-	-	-	-	-	
05/22/05		-	-	-	-	-	-	-	-	-	-	-	
05/23/05		-	3.2	-	2.1	-	1.12	0.0216	-	0.0107	7.03	-	
05/24/05		-	-	-	2.3	-	1.08	-	-	0.0071	7.01	-	
05/25/05		-	-	-	2.0	-	1.16	-	-	0.0071	7	-	
05/26/05		-	-	-	2.1	-	1.16	-	-	0.0083	7.02	-	
05/27/05		-	-	-	2.1	-	1.14	-	-	0.0055	7	-	
05/28/05		-	-	-	-	-	-	-	-	-	-	-	
05/29/05		-	-	-	-	-	-	-	-	-	-	-	
05/30/05		-	-	-	-	-	-	-	-	-	-	-	
05/31/05		-	-	-	2.2	-	2.5	-	-	0.030	7.01	-	

TABLE 5.1
LEACHATE TREATMENT SYSTEM DAILY EFFLUENT MONITORING DATA
SECOND QUARTER - 2005
HYDE PARK RRT PROGRAM

Date	Operating Hours	TOC* - mg/L				PHENOL** - mg/L					Effluent		
		C.B. Feed	2nd Instg.	3rd Instg.	Effluent	C.B. Feed	1st Instg.	2nd Instg.	3rd Instg.	Effluent	pH	Gallons	Comments
06/01/05		-	-	-	2.4	-	2.3	-	-	0.030	7.02	-	
06/02/05		-	-	-	2.6	-	-	2.4	-	0.033	6.98	-	
06/03/05		-	-	-	2.2	-	2.5	-	-	0.033	7	-	
06/04/05		-	-	-	-	-	-	-	-	-	-	-	
06/05/05		-	-	-	-	-	-	-	-	-	-	-	
06/06/05		-	3.8	-	2.3	-	0.014	2.6	-	0.052	7.01	-	
06/07/05		-	-	-	2.4	-	-	-	-	0.010 U	6.98	-	
06/08/05		-	-	-	2.3	-	2.8	-	-	0.010 U	7.01	-	
06/09/05		-	-	-	2.5	-	2.5	-	-	0.014	6.99	-	
06/10/05		-	-	-	2.8	-	-	-	-	-	6.93	-	
06/11/05		-	-	-	-	-	-	-	-	-	-	-	
06/12/05		-	-	-	-	-	-	-	-	-	-	-	
06/13/05		-	4.2	-	2.7	-	2.6	0.057	-	0.010 U	7.01	-	
06/14/05		-	-	-	2.5	-	2.7	-	-	0.055	7	-	
06/15/05		-	-	-	2.5	-	2.4	-	-	0.010 U	7.02	-	
06/16/05		-	-	-	1.0 U	-	-	0.057	-	0.030	7.09	-	
06/17/05		-	-	-	1.1	-	-	0.064	-	0.010 U	7.07	-	
06/18/05		-	-	-	-	-	-	-	-	-	-	-	
06/19/05		-	-	-	-	-	-	-	-	-	-	-	
06/20/05		-	-	-	-	-	-	-	-	-	7.15	-	
06/21/05		-	-	-	-	-	-	0.065	-	-	7.11	-	
06/22/05		-	-	-	-	-	-	0.10	-	-	7.12	-	
06/23/05		-	-	-	-	-	-	-	-	-	7.09	-	
06/24/05		-	-	-	-	-	-	0.066	-	0.038	7	-	
06/25/05		-	-	-	-	-	-	-	-	-	-	-	
06/26/05		-	-	-	-	-	-	-	-	-	-	-	
06/27/05		-	-	6.0	1.0 U	-	-	0.081	0.043	0.010 U	7.01	-	
06/28/05		-	-	-	1.7	-	-	0.094	-	0.010 U	7.08	-	
06/29/05		-	-	-	1.5	-	-	0.077	-	0.010 U	6.99	-	
06/30/05		-	-	-	1.3	-	-	0.061	-	0.010 U	7.03	-	
		-	-	-	-	-	-	-	-	-	-	-	

Notes:

- (1) TOC treatment level = 1,000 mg/L.
 (2) Phenol treatment level = 1 mg/L.
 NA Not available.
 TOC Total Organic Carbon.

TABLE 5.2

ANALYTICAL RESULTS SUMMARY
WEEKLY EFFLUENT COMPOSITE SAMPLES - LEACHATE TREATMENT SYSTEM
SECOND QUARTER - 2005
HYDE PARK RRT PROGRAM

Parameter	Units	Treatment	04/01/05	04/15/05	04/18/05	04/29/05	05/06/05	05/13/05	05/20/05	05/27/05
		Level								
2-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
3-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Parameter	Units	Treatment	05/31/05	06/03/05	06/10/05	06/17/05	06/30/05
		Level					
2-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
3-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
m-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
p-Monochlorobenzotrifluoride	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

- Not available/not applicable.
- J Associated value is estimated.
- U Non-detect at associated value.

TABLE 5.3
ANALYTICAL RESULTS SUMMARY
MONTHLY EFFLUENT COMPOSITE SAMPLES - LEACHATE TREATMENT SYSTEM
SECOND QUARTER - 2005
HYDE PARK RRT PROGRAM

Parameter	Units	Treatment	April 2005	May 2005	June 2005
		Level			
1,2,3,4-Tetrachlorobenzene	ug/L	10	9.8 U	9.4 U	9.6 U
1,2,4,5-Tetrachlorobenzene	ug/L	10	9.8 U	9.4 U	9.6 U
1,2,4-Trichlorobenzene	ug/L	10	-	-	-
1,3,5-Trichlorobenzene	ug/L	10	-	-	-
2,4,5-Trichlorophenol	ug/L	10	9.8 U	9.4 U	9.6 U
Hexachlorobenzene	ug/L	10	9.8 U	9.4 U	9.6 U
Hexachlorobutadiene	ug/L	10	9.8 U	9.4 U	9.6 U
Hexachlorocyclopentadiene	ug/L	10	9.8 U	9.4 U	9.6 U
Octachlorocyclopentene	ug/L	10	9.8 U	9.4 U	9.6 U
Pesticides					
alpha-BHC	ug/L	10	0.048 U	0.047 U	0.048 U
beta-BHC	ug/L	10	0.048 U	0.047 U	0.048 U
delta-BHC	ug/L	10	0.048 U	0.047 U	0.048 U
gamma-BHC (Lindane)	ug/L	10	0.048 U	0.047 U	0.048 U

Notes:

- Not available/not applicable.
- J Associated value is estimated.
- U Non-detect at associated value.