NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

STATEMENT OF BASIS
FOR
KODAK PARK INVESTIGATION AREA MIA-351
FINAL CORRECTIVE MEASURES SELECTION

FINAL
May 2002

FACILITY: **Eastman Kodak Company**
Kodak Park
ROCHESTER, NEW YORK
MONROE COUNTY

USEPA ID No.: NYD980592497
NYSDEC Permit Application No.: 8-2614-00205/00104-0
Inactive Hazardous Waste Site Code: 828082

Introduction

The purpose of this Statement of Basis is to provide an opportunity for the public to be informed of and to participate in the selection of a final remedy for soils and groundwater at Investigation Area MIA-351, located in the northern portion of Kodak Park Section M (KPM), in Rochester, New York (see Figure 1). The investigation area is comprised of a grouping of solid waste management units (SWMUs) that were identified during the RCRA Facility Assessment. The grouping has been designated MIA-351.

This document:

- Provides a brief overview of the site history and site investigations which were conducted at MIA-351;
- Identifies the proposed remedy and presents the basis for its selection;
- Describes the remedial goals that were considered;
- Solicits public review and comment on the proposed remedy and other plausible remedies; and
- Provides information on how the public can be involved in the remedy selection process.

The New York State Department of Environmental Conservation (NYSDEC or Department) has selected a proposed remedy. Changes to the proposed remedy, or the selection of an alternative remedy may be made if public comments or additional data indicate that such changes are warranted. The Department will select a final remedy for the facility after the public comment period has ended and the comments have been reviewed and considered.

This document summarizes information that can be found in greater detail at the document repositories identified below. The Department encourages the public to review the documents at the repositories to gain a more comprehensive understanding of the environmental investigations and interim corrective measures that have been undertaken for MIA-351, and the possible remedies to address that contamination.

Proposed Remedy

The Department has tentatively selected the remedy for MIA-351 described below.

The proposed remedy includes:

- continued operation of the existing KPM North Fence line overburden groundwater Migration Control System (MCS). This system includes a 1520-foot long french drain,

constructed in the overburden, at the interface with the top of bedrock, along the north fence line of KPM between Building 351 (B-351) on the west end and Building 324 (B-324) on the east end. Groundwater is removed from the overburden MCS through a single pump well and is discharged to the industrial sewer for treatment at Kodak's Kings Landing Wastewater Purification Plant (KLWPP), located next to the Genesee River in KPE.

- continued operation of the existing KPM North Fence line Top-of-Rock groundwater Migration Control System (MCS). This system includes two "trenches", linear zones in the bedrock, where the rock has been purposefully fractured to enhance the collection of groundwater. Each trench segment is approximately 100 feet long, and extends approximately 25 feet into the upper bedrock, and is equipped with a single pumping well. The trenches parallel the overburden MCS, with one segment north of B-351 and the other north of Building 319 (B-319). Groundwater is discharged to the industrial sewer for treatment at KLWPP.

- a groundwater monitoring program to assess the effectiveness of the remedy.

- an operation and maintenance plan for the groundwater recovery systems. This plan in concert with the related groundwater monitoring program specifies routine monitoring, maintenance, and reporting requirements to ensure that the systems continue to operate as designed.

- administrative controls to address potential exposure to contaminated soils and groundwater, both currently and in the future.

Facility Background

Since the late 1800's Kodak Park has been Eastman Kodak Company's primary photographic manufacturing facility. Primary operations at the site include the manufacture of film and paper base; preparation and coating of photographic emulsions; production of vitamins and food additives; manufacture of electrophotographic toner; cutting, packaging and distribution of finished products; and the production of synthetic organic chemicals, dyes, and couplers.

The MIA-351 investigation area covers approximately 9 acres and is located in the north central part of Kodak Park Section M (KPM). KPM is bounded by Mount Read Boulevard to the east, Interstate 390 to the west, the Koda Vista neighborhood to the north, and approximately Ridgeway Avenue to the south (Figure 1). Development in KPM began in the 1940's, following development of the KPE, KPW and KPX sections of Kodak Park, which are all located to the east. KPM has historically been used primarily for photographic paper/film base manufacturing and sensitizing, and chemical manufacturing. KPM is on the New York State Department of Environmental Conservation Registry of Inactive Hazardous Waste Disposal Sites.

MIA-351 includes the Building 351/Building 352 (B-351/352) polyester recovery operation. In this operation, polyester scrap from waste film and others sources is processed to manufacture polyethylene teraphthalate, a raw material used in the production of polyester-based film and other products. The B-351/352 complex includes storage facilities for solid and liquid hazardous wastes. These include drum, tank and trailer/lugger offloading and staging areas. A distillation complex is also located near B-351 and is used for the polyester recovery operation. There have been a number of spills in the MIA-351 area that have contaminated the groundwater. In the late 1990's, Kodak subsequently reconstructed and upgraded the liquid waste storage tanks and transfer station system at B-351/352 complex. Since the early 1990's, Kodak has taken several actions to reduce potential releases through replacing process sewer lines in this area. Kodak has also implemented several interim corrective measures to control and recover contaminated groundwater in this area.

Numerous subsurface utilities underlie MIA-351, including sewer, water, electric, and gas. MIA-351 is connected to the Kodak Park industrial sewer. A Kodak storm water sewer passes through MIA-351, exiting to the north and connecting with a public storm sewer in the Koda Vista neighborhood, under Corona Road. The Monroe County Combined Sewer Overflow Abatement Program (CSOAP) tunnel system that is present in the eastern sections of Kodak Park do not extend into KPM.

In 1998, Kodak completed a RCRA Facility Assessment for Kodak Park. The assessment identified solid waste management units (SWMUs) subject to corrective action requirements. To administer corrective action, SWMUs were grouped into investigation areas, based on geographic and operational concerns. This statement of basis is for the SWMU grouping MIA-351. This grouping includes the 13 SWMUs listed in Table 1 (see Figure 2 for SWMU locations).

Given the similarities between this area and other areas of Kodak Park, where remedies have already been selected and implemented, the Department suggested that Kodak prepare a presumptive remedy report for MIA-351. Rather than conducting a broad review of all potentially applicable remedial alternatives, the presumptive remedy approach allowed Kodak to rely on the results of such analyses conducted previously for other areas, and focus on a remedy specific to MIA-351. Kodak had already implemented interim corrective measures for the MIA-351 area groundwater, so it was assumed that those measures would be a component of the final corrective measures. Kodak submitted the Presumptive Remedy Report for MIA-351 in May 2000. The NYSDEC has reviewed this report and is soliciting public comment on the tentative selection of a final remedy to address conditions at MIA-351.

Facility Investigations

The RCRA Facility Investigation (RFI) for MIA-351 was completed and documented in a report dated October 1999. The investigation area contains 13 SWMUs. Subsurface investigations in MIA-351 were conducted in a number of phases, between 1989 and 1999.

Subsurface Conditions/Groundwater

The field investigations initially focused on the north fence line of KPM, and were implemented to determine if off-site contaminant migration was occurring in the overburden and upper bedrock. Additional subsurface investigations were subsequently implemented to more fully assess the upper and lower bedrock in the MIA-351 area. A total of approximately 40 wells have been installed in and near the MIA-351 area.

The investigations identified a number of subsurface zones that have contrasting hydrogeologic properties. In order of increasing depth, these include:

- Overburden - Unconsolidated materials, primarily glacially derived sands, silts, and clays and in some cases fill material including construction/demolition debris and boiler ash. The water table generally occurs in this interval.

- Top-of-Rock - The uppermost bedrock, typically moderately to highly fractured sandstone/siltstone of variable thickness but generally on the order of 15-20 feet. The top-of-rock and overburden are collectively referred to as the upper flow zones.

- Intermediate Grimsby - Sandstone/siltstone with relatively few fractures, exhibiting generally low hydraulic conductivity. This unit functions as an aquitard and is not considered a flow zone for groundwater.

- Grimsby/Queenston (GQ) - Interval of moderately fractured (conductive) bedrock occurring within approximately 15 feet above or below the contact between the Grimsby Sandstone and the Queenston Shale. The GQ and the underlying Queenston are collectively referred to as the lower bedrock flow zones.

- Queenston Shale - Interbedded siltstones and shales with no discernible horizontal interval of elevated hydraulic conductivity. This zone was not investigated within MIA-351, but was for the Kodak Park section KPW, located to the east.

Figure 3 shows the vertical relationship between these zones in the MIA-351 area (a cross-sectional view of the subsurface, looking east). Groundwater flow in the three primary flow zones is generally to the north. Figures 4, 5, and 6 show the groundwater potentiometric surface for overburden, top-of-rock and Grimsby/Queenston, respectively. For the overburden and top-of-rock zones, groundwater flow converges on the groundwater migration control systems that are positioned near the northern fence line of KPM.

The principal groundwater contaminants are volatile and semi-volatile organic compounds (VOCs and SVOCs). Figures A-2, A-4 and A-5, based on 1999 sample results, show total volatile and semi-volatile organic groundwater contamination in the overburden, top-of-rock, and Grimsby/Queenston flow zones, respectively. Contaminant concentrations are highest to the north and south of the B-351/352 complex and to the north of Building 350 (B-350). Very low

levels of contamination were detected in the GQ flow zone near B-351/352. For this reason, the underlying Queenston was not investigated.

MIA-351 has a history of numerous releases of chemicals to the environment, mostly related to the polyester recovery operation. Kodak has reviewed the latest groundwater data against criteria commonly used to screen for the likely presence of non-aqueous phase liquid (NAPL). Based on that evaluation, Kodak has concluded that it is unlikely that NAPL is or was present in this area. Contaminated soils were excavated and removed from the site during the Kodak Park Storage Tank Improvement Program (STIP) upgrade activities. Many of the chemicals used in this area have a high solubility in water, or solidify under normal environmental conditions, so they are unlikely to form NAPLs.

Soils

Soil characterization has been conducted for various reasons in MIA-351. In addition to soil sampling specifically for the RFI, Kodak has tested soil during well installations, for tank and transfer station closures and upgrades, and for other routine site activities. The overburden ranges in thickness from about 3 feet north of B-350 to greater than 35 feet in the northwest corner of the study area, at the B352NW well cluster. The investigations have identified three types of unconsolidated deposits in KPM: imported fill, lacustrine deposits and glacial till. Imported granular fill, consisting of sand, silt, gravel, mixed with minor amounts of wood, bricks, cinders, slag and glass is the uppermost deposit and is generally less than 10 feet thick. The lacustrine deposit is next and comprises the majority of the overburden material in the study area. It contains relatively coarse-grained sands and gravels, likely derived from reworking of the underlying glacial till. The glacial till is discontinuous in the study area and generally consists of dense, poorly sorted granular material (sand, silt, gravel with little clay). Till is thickest in the northwest corner of the study area. A cross-sectional view of these deposits is shown on Figure 3.

Soil sampling in the MIA-351 area has included testing for VOCs (69 samples from 45 locations), SVOCs (48 samples from 39 locations), pesticides/PCBs (15 samples from 9 locations) and metals (49 samples from 46 locations). Soils in the area were relatively clean, with few detections of contaminants above the Department's comparison values. Exceedances were limited to several SVOCs, primarily polynuclear aromatic hydrocarbons, and arsenic. Soils results are discussed in more detail in the Summary of Facility Risks, below.

Summary of Facility Risks

Contaminated Media and Chemicals of Concern

The RCRA facility investigation has shown contamination of groundwater in MIA-351, primarily in the vicinity of the B-351/352 complex, as well as exceedances of the Department's soils

comparison values. In response, Kodak prepared a Presumptive Remedy Report to identify potential risks to human health and the environment and to identify suitable corrective measures to address site conditions. This report was submitted in May 2000 and approved by the Department.

Contaminants of concern in MIA-351 include chlorinated and non-chlorinated volatile and semivolatile organic compounds and metals. Volatile organic chemicals (solvents) are the most widespread type of contaminant observed in the groundwater. Table 2 lists chemicals that have been found in groundwater at concentrations greater than the Department's comparison values.

Baseline Exposure Scenarios

Groundwater

Groundwater in the vicinity of MIA-351 is generally contaminated above New York State Groundwater Standards or other relevant comparison criteria. The existing overburden and bedrock MCS provide control for the groundwater contaminant plume.

Groundwater contamination can pose a potential threat to residential indoor air quality. If contaminated groundwater were to migrate off-site in the upper flow zones, it could potentially result in a complete exposure pathway involving indoor air. Many of the contaminants found in MIA-351 are moderately volatile, so they could partition into the indoor air, either indirectly through the migration of soil gas into the house, or directly from the groundwater, if the house has a basement sump that collects groundwater. MIA-351 abuts the Koda Vista residential neighborhood. However, since the existing groundwater migration control system has effectively controlled groundwater flow in the contaminated area, and prevented off-site migration, this exposure pathway is not complete. It should be noted that during investigations conducted around 1989, Kodak conducted a health-related study in the Koda Vista neighborhood, before more detailed hydrogeologic investigations were completed. This study, conducted under plans approved by the NYSDEC and NYSDOH included groundwater, soil gas and indoor air sampling in the neighborhood. That study did not identify any exposures at levels that would pose a health concern. Since continued operation of the migration control system is part of the proposed remedy, such exposures would not be expected to occur in the future either. For this reason, this exposure pathway was not given further consideration in the Presumptive Remedy Report.

Potential for exposure due to the ingestion of contaminated groundwater was also considered. Although groundwater concentrations of some constituents at the site are above drinking water standards, the current risk of such exposure is precluded by availability of high quality water from the municipal water system that supplies drinking water in this area, the generally poor natural quantity and quality of the groundwater in this region (low well yields because of the low permeability subsurface geology; high concentrations of dissolved solids - iron, etc.). Groundwater at the site and in the surrounding neighborhood is not used as a source for drinking water.

Soils

Kodak used a multi-step screening process to identify soils that have the potential to pose a health threat under differing future uses of MIA-351. The first step screened soil results against residential exposure criteria based on a direct ingestion/contact exposure pathway (under the assumption of unrestricted use). If soils did not exceed this screening criteria, there would not be any reason to restrict future use to protect against this exposure pathway.

The next step evaluated results against criteria developed to represent a commercial/industrial exposure scenario. Arsenic was the only constituent detected at concentrations exceeding the commercial/industrial screening criteria. In the next step of the screening process, Kodak compared the concentrations to the concentration ranges listed in NYSDEC TAGM 4046 as being typical of background conditions in New York State (3-12 mg/kg). The average arsenic concentration of the 9 samples in the study area where there is potential for exposure (i.e., the ground is not paved, or otherwise covered by a structure) is 7.8 mg/kg. Only one sample was slightly above the TAGM 4046 background range, at 16 mg/kg. From other investigations at and near Kodak Park, Kodak has often observed elevated concentrations of several metals, including arsenic. Kodak believes that these values represent background conditions, and are not related to operations in MIA-351. These detections could be related to fill that was used in grading operations in many areas of Kodak Park. The fill often contains minor amounts of cinders, ash and slag, materials that generally have slightly elevated metals concentrations.

Even though the arsenic value was consistent with background values for this area, Kodak still performed a pathway evaluation for this constituent. A baseline assessment identified the following potential exposure pathway for soils in MIA-351: exposure to soils by incidental ingestion and through possible inhalation of dust. Under current conditions and use of the site, the potential for human health exposure is very low. The facility is an active industrial site, with buildings, related structures and pavement covered soils in the area of interest in MIA-351. In the future there is potential for worker exposure during excavation activities. Such exposures would be of limited duration and would rarely occur. The duration and frequency of exposure under current conditions and anticipated future conditions are very low.

The reasonably anticipated future use of MIA-351 is also industrial. This facility is listed in the registry of *Inactive Hazardous Waste Disposal Sites in New York State* that is published by the NYSDEC as Site Code 8-28-082. The facility is also under federal hazardous waste management facility permit, and has applied for a NYSDEC 6NYCRR Part 373 hazardous waste management facility permit. Due to these circumstances, use of MIA-351 for purposes other than industrial are not expected or likely.

Even though the soils do not appear to pose an unacceptable risk via the direct contact/ingestion pathway, to reduce potential exposures to site soils, Kodak has recommended continued use of institutional controls. To limit potential exposure associated with subsurface excavations, Kodak has developed and implemented a soils excavation master plan. This plan imposes conditions, including health and safety provisions, that must be followed during the excavation and

management of subsurface materials (soil) at the site.

Soil Impacts to Groundwater Quality

In this evaluation, contaminant concentrations from all soil samples (both from the surface and at depth from borings) were screened to identify soils that have the potential to cause groundwater to be contaminated at concentrations higher than NYS groundwater standards (using values listed in NYSDEC TAGM HWR-94-4046). These values are generally much lower than the ingestion exposure values discussed above. This screening showed a few samples exceeding the TAGM 4046 soils criteria for groundwater protection in MIA-351, generally for the more soluble contaminants. This shows that the soils are sufficiently contaminated to pose a threat to the groundwater through potential leaching of contaminants. This was expected and is consistent with results from groundwater monitoring wells that show elevated contaminant levels.

The high degree of industrial development of the site limits measures that could be taken to address the soil contamination. The high density of subsurface utilities, and the presence of buildings and foundations in the area where elevated soil contamination was found complicates and reduces the potential effectiveness of excavation and treatment/disposal as a remedial alternative for the soils. In light of the difficulties and limited expectation for success (complete removal would not be achievable, so action would still need to be taken for the groundwater), widespread excavation and removal of soils were eliminated from further consideration. Excavation and treatment of localized areas of highly contaminated soils has been retained as a possible remedial component, however, the presumptive remedy assessment has not identified any areas where such actions are planned. Rather than directly addressing the potential impact of the soils on groundwater quality, Kodak has proposed a groundwater remedial alternative that will also address contaminants leaching from soils. It should be noted that under the Kodak Park soils management plan, visibly contaminated soils and soils that exhibit elevated organic vapor readings will be removed and disposed of off-site if encountered during excavation activities.

The risk evaluations show that existing conditions are protective of human health and the environment.

Remedial Goals

With the nature and extent of site contamination characterized and the potential risks identified, remedial goals were established. In order for a remedy to be acceptable, it needs to satisfy the remedial goals listed below. The primary goal is to protect human health and the environment from potential impacts associated with MIA-351. The following goals have been identified:

1. Soils - Reduce exposure potential by utilizing the soils management plan (Excavation Master Plan II) for surface/subsurface activities conducted in MIA-351 and by imposing deed notices so that future owners are aware past uses of this area, and restricting future use of this area.

2. Groundwater -

A. Control migration of contaminated groundwater to the extent necessary to protect human health and the environment. This includes preventing the expansion of the contaminant plume in the upper flow zones (precludes off-site exposures) and minimizing the discharge of contaminated groundwater to the storm sewer.

B. Long-term operation of the groundwater control measures will reduce the contaminant mass in MIA-351. The long-term goal for this remedy is the restoration of groundwater quality in this area to New York State Ambient Water Quality Criteria. Since the Overburden MCS became operational in 1994, and the bedrock MCS began operation in 1997, groundwater contaminant concentrations have been reduced significantly. The MCS shall remain in operation until such time as Kodak can demonstrate that any residual contamination will not result in an exceedance of the groundwater quality criteria in TAGM 4046 at the point of exposure. The Department will seek public comment prior to making a determination regarding termination of operation of the groundwater measures.

Remedial Actions to Date

Kodak has already taken a number of actions to control groundwater contamination at MIA-351. These have included eliminating potential sources of contamination, such as upgrading segments of the sewer system and the renovation of the tank-storage facilities, as well as collection and treatment of groundwater. In 1991 Kodak replaced a segment of the industrial sewer in this area with an above ground line. The old sewer was suspected to be a possible source for releases to the groundwater. In 1997, Kodak completed an upgrade of the tank storage facility at B-351 as part of the STIP. The tanks were replaced by a new tank system, providing secondary containment of possible spills, including tank leak detection systems.

In 1994 Kodak constructed and began operating the 1520-foot long overburden groundwater interceptor trench (Overburden MCS), adjacent to the north KPM fence line. This system was designed to collect overburden groundwater. In 1997, Kodak began operating the bedrock MCS in the same area to collect bedrock groundwater. These systems were designed to intercept contaminated groundwater, preventing it from migrating into the Koda Vista neighborhood. Comparisons between the 1991 (Figures A-1 and A-3) and 1999 (Figures A-2 and A-4) overburden and top-of-rock groundwater data sets show significant reductions in contaminant concentrations, indicating that the interim measures that Kodak has taken have improved conditions in the MIA-351 area.

Summary of Proposed Corrective Action

For groundwater in the overburden/top-of-rock (upper) flow zones, the goal is prevention of

offsite groundwater migration from MIA-351 (containment that precludes further expansion of the plume in this zone). This will be accomplished by active pumping from overburden and bedrock MCS and through passive infiltration of groundwater to the industrial sewer system. This will eliminate potential future risk to offsite residents associated with contaminant exposure from groundwater migration. It will also remove contaminant mass from the subsurface environment in MIA-351. This should eventually result in decreasing contaminant concentrations in the groundwater, although some levels would be expected to remain above state groundwater criteria for an extended period of time.

The remedy will include a groundwater monitoring program to ensure that the implemented measures continue to meet their design objectives. The monitoring program will provide a means of identifying and correcting problems that may develop in the future. The program will also provide data that can be used to aid in the design of enhancements to the remedy that may be needed in the future. Based on the investigations, the primary need is to control the migration of contaminated groundwater. Facility upgrades that Kodak has implemented for the tank systems and transfer stations have reduced the potential for future releases to the environment in this area. Monitoring results indicate that the interim corrective measures have been providing effective control for the groundwater.

Groundwater at this site will require long-term remedial action. These proposed actions will also address any potential contaminants leaching from soils, so the only exposure associated with soils that needs to be considered is direct contact/ingestion. As discussed in the potential risks section, the soils concentrations in MIA-351 are consistent with background values found throughout Kodak Park and surrounding areas, and do not indicate unacceptable exposure risk. Nevertheless, Kodak has developed and implemented a NYSDEC approved soils management plan (Excavation Master Plan II) that specifies the procedures and controls, including health and safety requirements, that must be followed when conducting excavation activities within Kodak Park. It should be noted that this remedy was selected with the understanding that the area is in industrial use, and that the reasonably anticipated future use of this area is also industrial. However, as a precautionary measure, Kodak will follow a NYSDEC approved soils management plan for future excavation activities in MIA-351. The plan specifies routine procedures designed to minimize potential exposures associated with soil excavation activities.

The proposed remedy for MIA-351 includes:

- continued operation of the existing KPM North Fence line overburden groundwater MCS. This system includes a 1520-foot long french drain, constructed in the overburden, at the interface with the top of bedrock, along the north fence line of KPM between B-351 on the west end and B-324 on the east end. Groundwater is removed from the overburden MCS through a single pump well and is discharged to the industrial sewer for treatment at Kodak's Kings Landing Wastewater Purification Plant (KLWPP), located next to the Genesee River in KPE.

- continued operation of the existing KPM North Fence line Top-of-Rock groundwater

MCS. This system includes two "trenches", linear zones in the bedrock, where the rock has been purposefully fractured to enhance the collection of groundwater. Each trench segment is approximately 100 feet long, and extends approximately 25 feet into the upper bedrock, and is equipped with a single pumping well. The trenches parallel the overburden MCS, with one segment north of B-351 and the other north of B-319. Groundwater is discharged to the industrial sewer for treatment at KLWPP.

- a groundwater monitoring program to assess the effectiveness of the remedy.

- an operation and maintenance plan for the groundwater recovery systems. This plan in concert with the related groundwater moniotirng program specifies routine monitoring, maintenance, and reporting requirements to ensure that the systems continue to operate as designed.

- administrative controls to address potential exposure to contaminated soils and groundwater.

The remedy that the Department is proposing be implemented for MIA-351, is also the alternative that was recommended in the Presumptive Remedy Report that Kodak submitted. This report and related environmental investigation reports are available for review at the NYSDEC Region 8 office located in Avon and at the Kodak Park Neighborhood Information Center located in Rochester.

Evaluation of the Proposed Remedy

The proposed remedy was evaluated by the NYSDEC for technical feasibility, implementability, and short-term and long-term effectiveness with respect to the remedial goals identified above. The proposed remedy is technically feasible, relies on routinely available equipment and engineering practices and has to a substantial degree already been implemented and shown to be effective in the MIA-351 area, through implementation of interim corrective measures.

Elements of the MCS's have been in operation since 1994. Performance monitoring has demonstrated the MCS's ability to contain and control groundwater in the MIA-351 area. Groundwater monitoring results along the KPM north fence line and in the Koda Vista neighborhood have shown that the MCS's are preventing contaminated groundwater from migrating offsite. The operational history for the MCS has shown it to be reliable, with very few incidents requiring extended shutdowns.

The total 30-year costs for the proposed remedy are estimated to be $1.03 million (net present value cost @ 5% is $566,000). The MIA-351 Presumptive Remedy Report provides a breakdown of these costs. Since the groundwater MCSs have already been constructed, capital costs associated with initial construction were not included in the estimate.

The NYSDEC has determined that the proposed remedy satisfies the selection criteria and

recommends that this remedy be implemented as the final corrective measure for MIA-351. The proposed remedy adequately addresses potential threats to the environment and human health, associated with MIA-351. It has also been demonstrated to be an effective, reliable remedy based on operating records for the interim corrective measures.

Public Participation

The Department encouraged input from the community on the tentatively selected remedy. Documents about the proposed remedy selection were placed in local document repositories. Copies of this Statement of Basis, the Fact Sheet, the RFI Report, the Presumptive Remedy Report for MIA-351 were available for inspection at the following locations:

NYSDEC - Region 8
6274 East Avon-Lima Road
Avon, NY 14414-9519
Contact Person: Mark Domagala
Telephone (716) 226-5305

Kodak Park Neighborhood Information Center
200 Ridge Road West
Rochester, NY 14652-3413
Telephone (716) 722-1707

NYSDEC - Albany
Bureau of Solid Waste and Corrective Action
Division of Solid & Hazardous Materials
625 Broadway - 8th Floor
Albany, NY 12233-7252
Contact Person: Larry Thomas
Telephone (518) 402-8594

The proposed remedy was initially public-noticed from July 11, 2001 to September 12, 2001. During this period, one set of comments was received from the public. A copy of these comments is included in Appendix A. The Department's response to these comments is also included in Appendix A.

In reponse to those comments, the Department reopened the comment period on February 27, 2002 and also held a public meeting on March 14, 2002. The second public comment period closed on March 29, 2002 to allow for the submission of written comments arising from the public meeting. No additional written comments were received. The Department has prepared a responsiveness summary listing comments raised during the meeting, followed by the Department's responses. This is included in Appendix B.

REFERENCES

Blasland and Bouck, 1989, Health Related Study: Koda-Vista Groundwater Sampling; Technical Memorandum.

Blasland and Bouck, 1990, KPM Northern Fenceline Groundwater Quality Assessment. Blasland and Bouck Engineers, Syracuse, New York.

Blasland, Bouck & Lee 1991. Interim Report, Hydrogeologic Investigation, KPM. Blasland & Bouck Engineers, Syracuse, New York.

Blasland, Bouck & Lee, 1992. Preliminary Site Assessment, KPM Order on Consent. Blasland & Bouck Engineers, Syracuse, New York.

Blasland, Bouck & Lee, 1999. MIA-351 RCRA Facility Investigation Work Plan.

Eastman Kodak Company, 1992 through 1998. Kodak Park Groundwater Extraction Systems Performance Evaluation Reports, Kodak Park, Rochester, New York, 1992 through 1998

Eastman Kodak Company, 1993a. RCRA Facility Investigation: Description of Current Conditions for the Kodak Park Corrective Action Program: Kodak Park Facility, Eastman Kodak Company, Rochester, New York, December 8, 1993.

Eastman Kodak Company, 1993b. Part E, Corrective Requirements, 6NYCRR Part 373 Permit Application for Eastman Kodak Company, Kodak Park Facility, August 1993, revised March 1998.

Eastman Kodak Company, 1993c. Kodak Park Groundwater Sampling and Analysis Plan, Rochester, New York, Revised 1999.

Eastman Kodak Company, 1994, RCRA Facility Investigation, Pre-Investigation Evaluation of Corrective Measure Technologies, Kodak Park, Rochester, New York, June 1994.

Eastman Kodak Company, 1996. Excavation Master Plan II, Kodak Park Facility, Eastman Kodak Company, Rochester, New York, Revised June 1999.

Golder Associates Inc., 1999. MIA-351 RCRA Facility Investigation Report, Kodak Park Corrective Action Program, Eastman Kodak Company, Golder Associates Inc., October 1999.

Golder Associates Inc., 2000. MIA-351 Presumptive Remedy Report, Kodak Park Corrective Action Program, Eastman Kodak Company, Golder Associates Inc., May 2000.

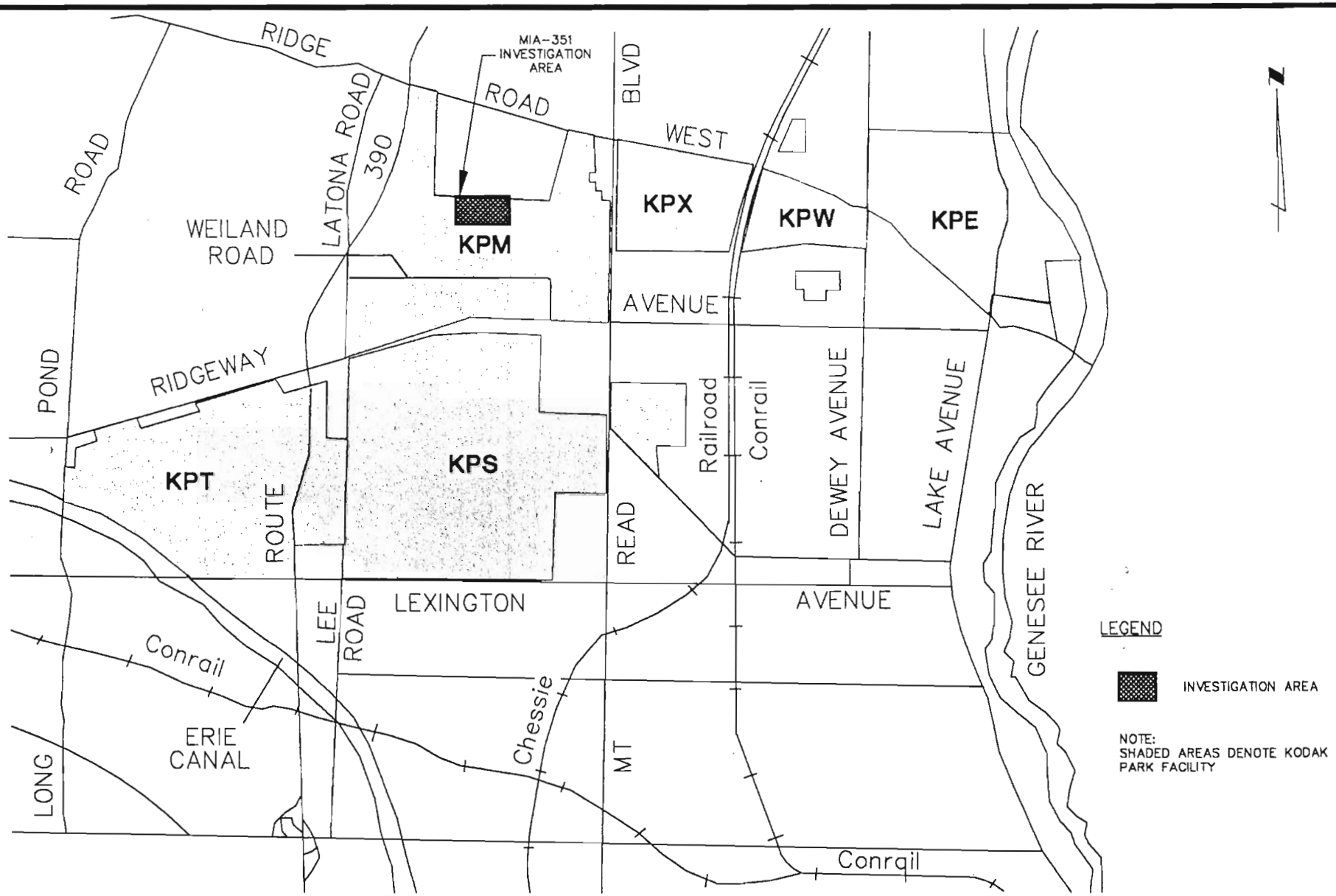
New York State Department of Environmental Conservation, 1994. HWR-94-4046, Technical

and Administrative Guidance Memorandum 4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994.

New York State Department of Environmental Conservation, 1997. Technical and Administrative Guidance Memorandum 3028, "Contained-in Criteria for Environmental Media", November 30, 1992, Revised March 14, 1997.

United States Environmental Protection Agency, 1996. Corrective Action for Releases From Solid Waste Management Units at Hazardous Waste Facilities, Proposed Rule. Federal Register Vol.65, No.85, May 1, 1996.

file: lmt\kpm\MIA-351 statement of basis final April 2002.wpd



CLIENT/PROJECT

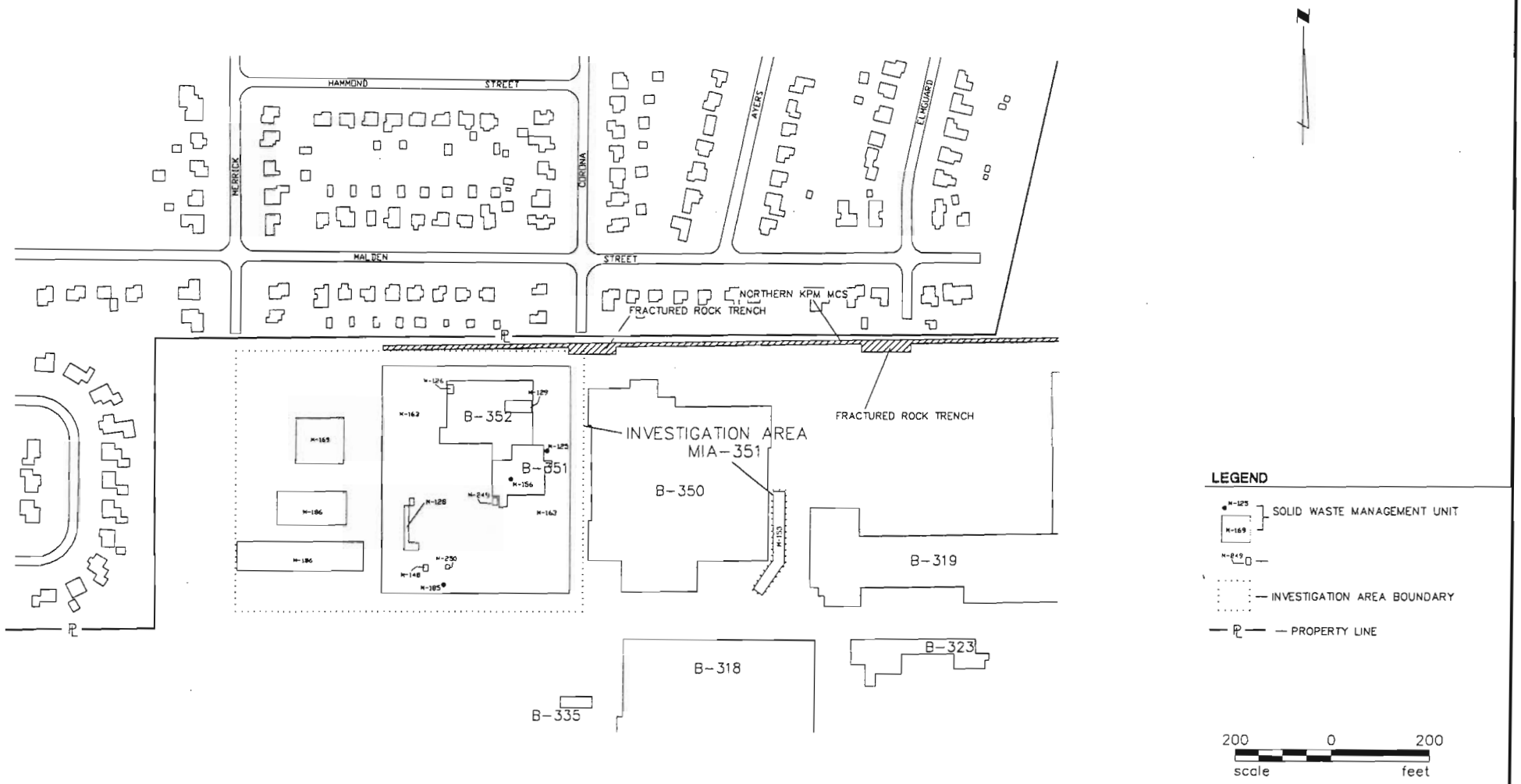
MIA-351 PRESUMPTIVE REMEDY
EASTMAN KODAK COMPANY
KODAK PARK HSE DIVISION
GROUNDWATER QUALITY SECTION

Golder Associates Buffalo, New York

TITLE

MIA-351
SITE LOCATION MAP

DRAWN	CHECKED	REVIEWED	DATE	SCALE	FILE NO.	JOB NO.	DWG NO.	FIGURE
BEC	DJM	DJM	4/19/00	NA	003-9244	003-9244	KOD125	1

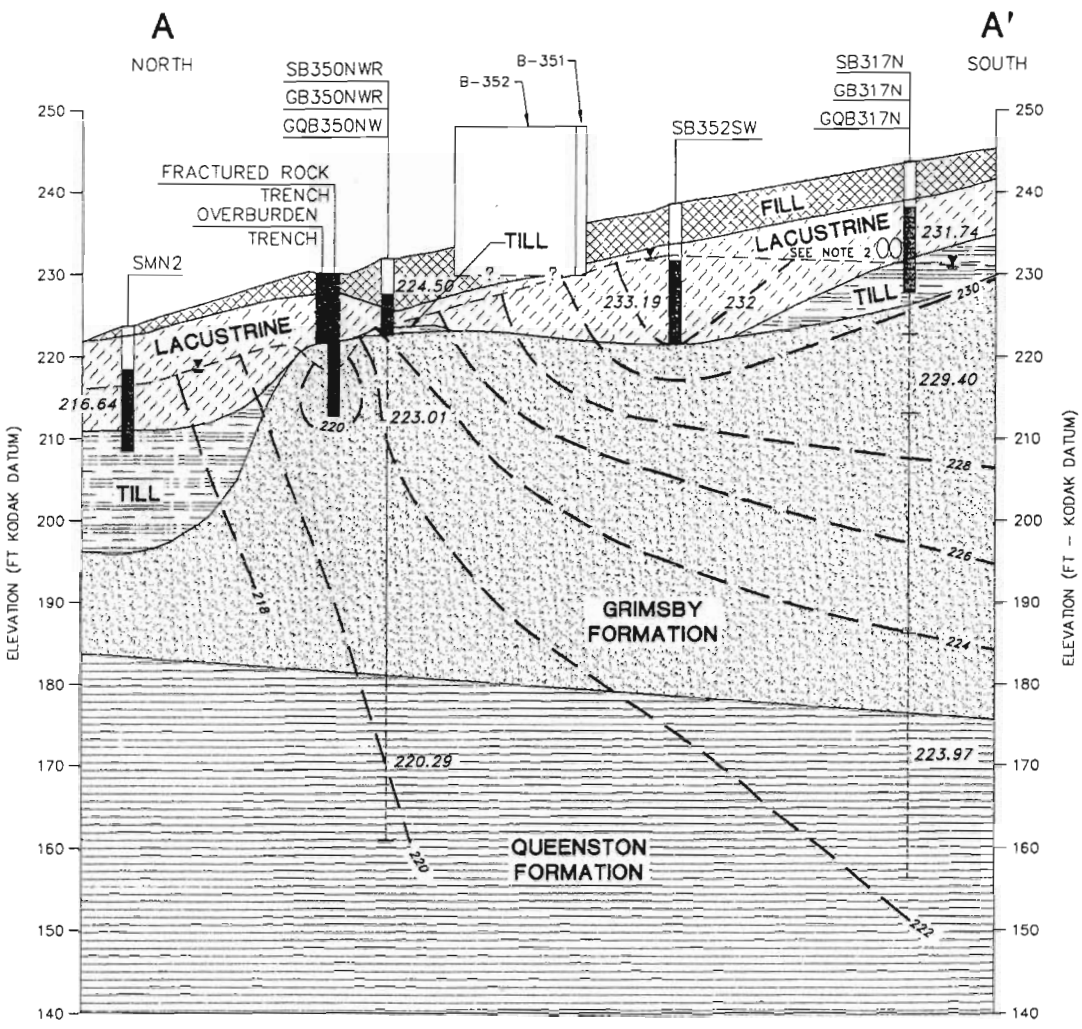


Golder Associates — Buffalo, New York

CLIENT/PROJECT: MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: INVESTIGATION AREA LOCATION MAP

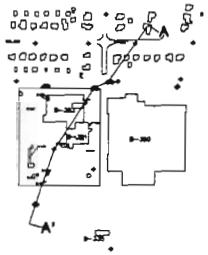
DRAWN	MJS	DATE 4/19/00	JOB NO. 003-9244
CHECKED	DCW	SCALE AS SHOWN	DWG. NO. KOD-126
REVIEWED	DJM	FILE NO. 003-9244	FIGURE NO. 2



LEGEND

- SB9IS — BOREHOLE LABEL
- TOP OF BOREHOLE
- 223.01 — GROUNDWATER ELEVATION
- SCREENED INTERVAL
- BOTTOM OF SCREEN
- OPEN COREHOLE INTERVAL
- BOTTOM OF BOREHOLE
- FILL
- TILL = F-M SAND AND SILT
- LACUSTRINE = F-M SAND AND SILT
- GRIMSBY FORMATION = F-M GRAINED SANDSTONE
- QUEENSTON FORMATION = SHALE
- —— 222 — GROUNDWATER EQUIPOTENTIAL CONTOUR IN FEET (KODAK PARK DATUM)
- – – – UPPERMOST GROUNDWATER POTENTIOMETRIC SURFACE

CROSS-SECTION LOCATION



HORIZONTAL SCALE

150 0 150

scale feet

NOTES:

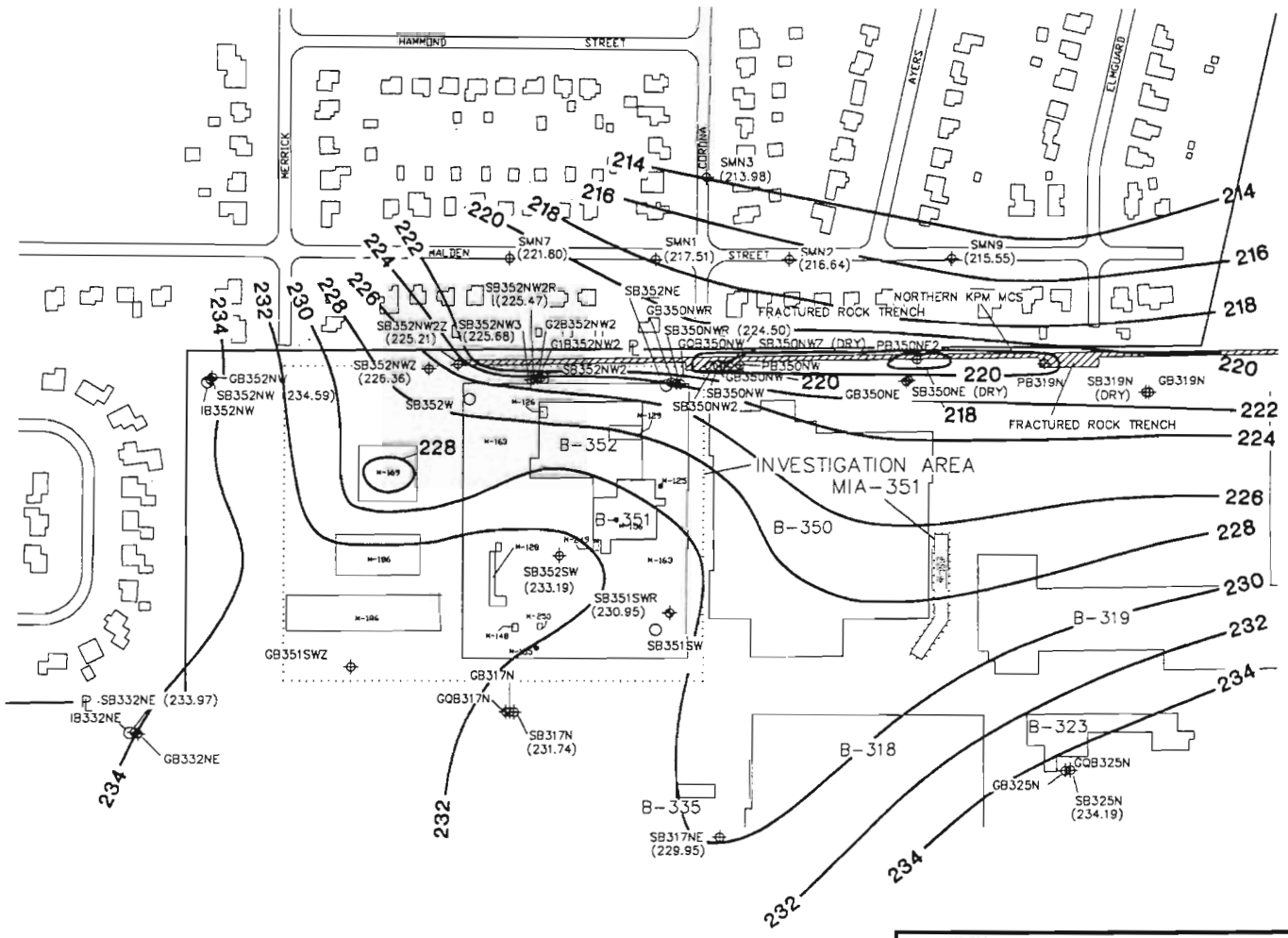
1. GROUNDWATER ELEVATIONS MEASURED AUGUST 19, 1999.
2. APPROXIMATE LOCATION OF A 36" RCP STORM SEWER PIPE AND A 36" INDUSTRIAL SEWER PIPE THAT ARE APPROXIMATELY 5' APART.

Golder Associates — Buffalo, New York

CLIENT/PROJECT: MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: GEOLOGIC CROSS-SECTION OF MIA-351

DRAWN: MJS	DATE: 4/19/00	JOB NO.: 003-9244
CHECKED: DCW	SCALE: AS SHOWN	DWG. NO.: KOD-135
REVIEWED: DJM	FILE NO.: 003-9244	FIGURE NO.: 3



LEGEND

- — NEW MONITORING WELL LOCATION
- — EXISTING MONITORING WELL LOCATION
- — ABANDONED MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- '(234.19) — GROUNDWATER ELEVATION
- 234 — GROUNDWATER POTENTIOMETRIC CONTOUR IN FEET (KODAK PARK DATUM).
- SOLID WASTE MANAGEMENT UNIT
- — PROPERTY LINE

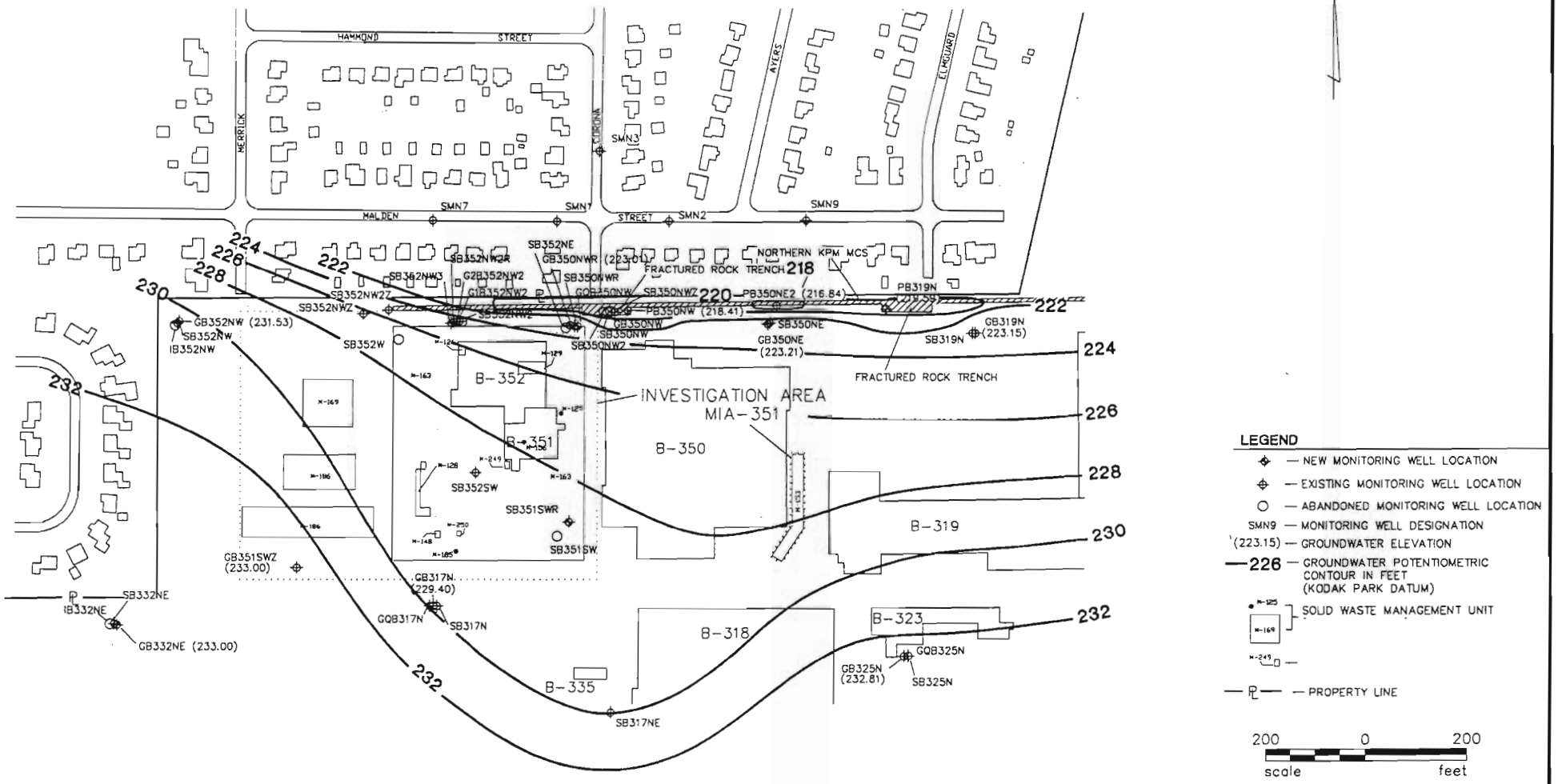
200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: OVERBURDEN GROUNDWATER CONTOUR MAP - AUGUST 19, 1999

DRAWN MJS	DATE 4/18/00	JOB NO. 003-9244
CHECKED DCW	SCALE AS SHOWN	DWG. NO. KOD-127
REVIEWED DJM	FILE NO. 003-9244	FIGURE NO. 4



LEGEND

- — NEW MONITORING WELL LOCATION
- — EXISTING MONITORING WELL LOCATION
- — ABANDONED MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- (223.15) — GROUNDWATER ELEVATION
- 226 — GROUNDWATER POTENTIOMETRIC CONTOUR IN FEET (KODAK PARK DATUM)
- SOLID WASTE MANAGEMENT UNIT
- — PROPERTY LINE

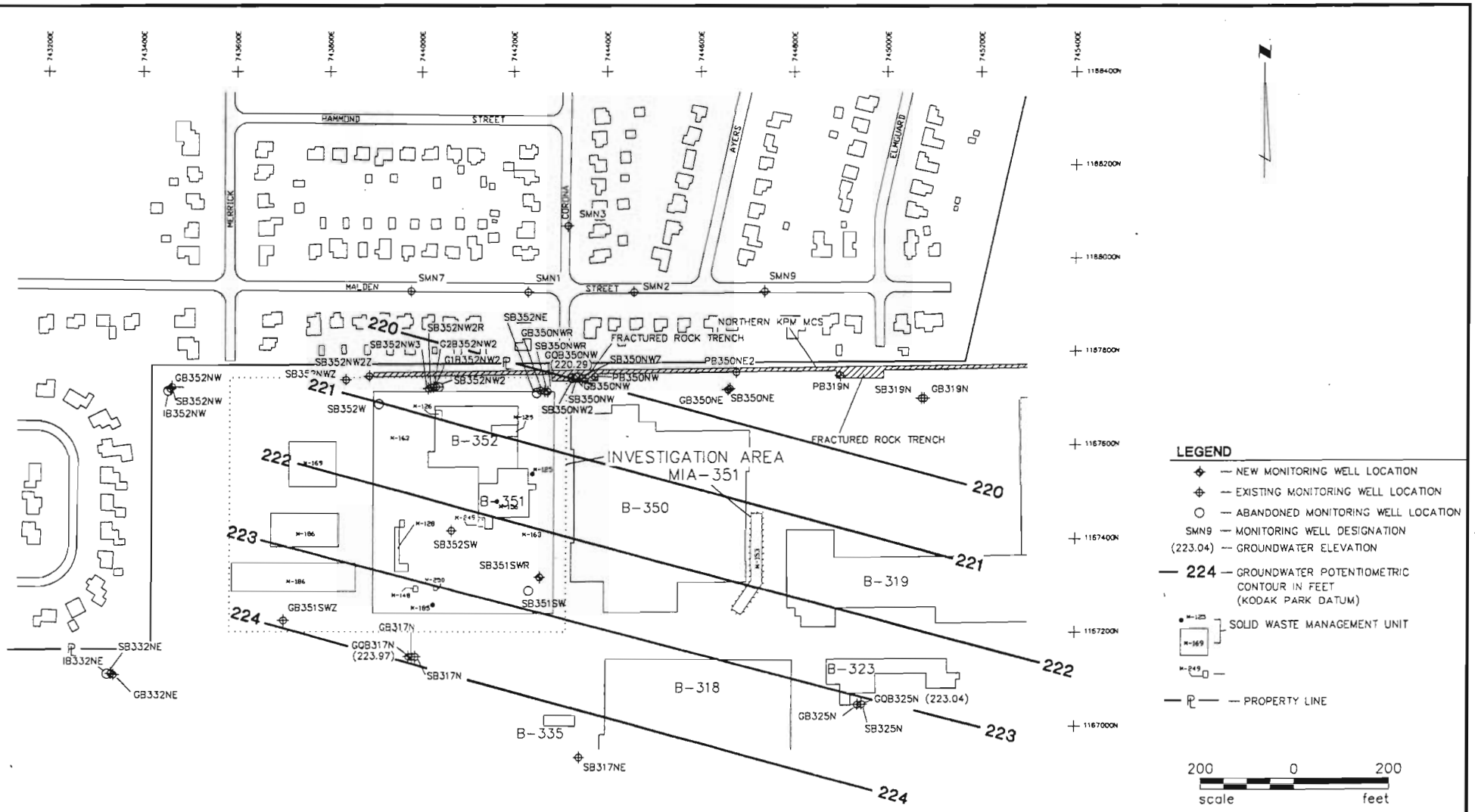
200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT: MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: TOP-OF-ROCK GROUNDWATER POTENTIOMETRIC CONTOUR MAP - AUGUST 19, 1999

DRAWN: MJS	DATE: 4/19/00	JOB NO.: 003-9244	
CHECKED: DCW	SCALE: AS SHOWN	DWG. NO.: KOD-128	
REVIEWED: DJM	FILE NO.: 003-9244	FIGURE NO.: 5	

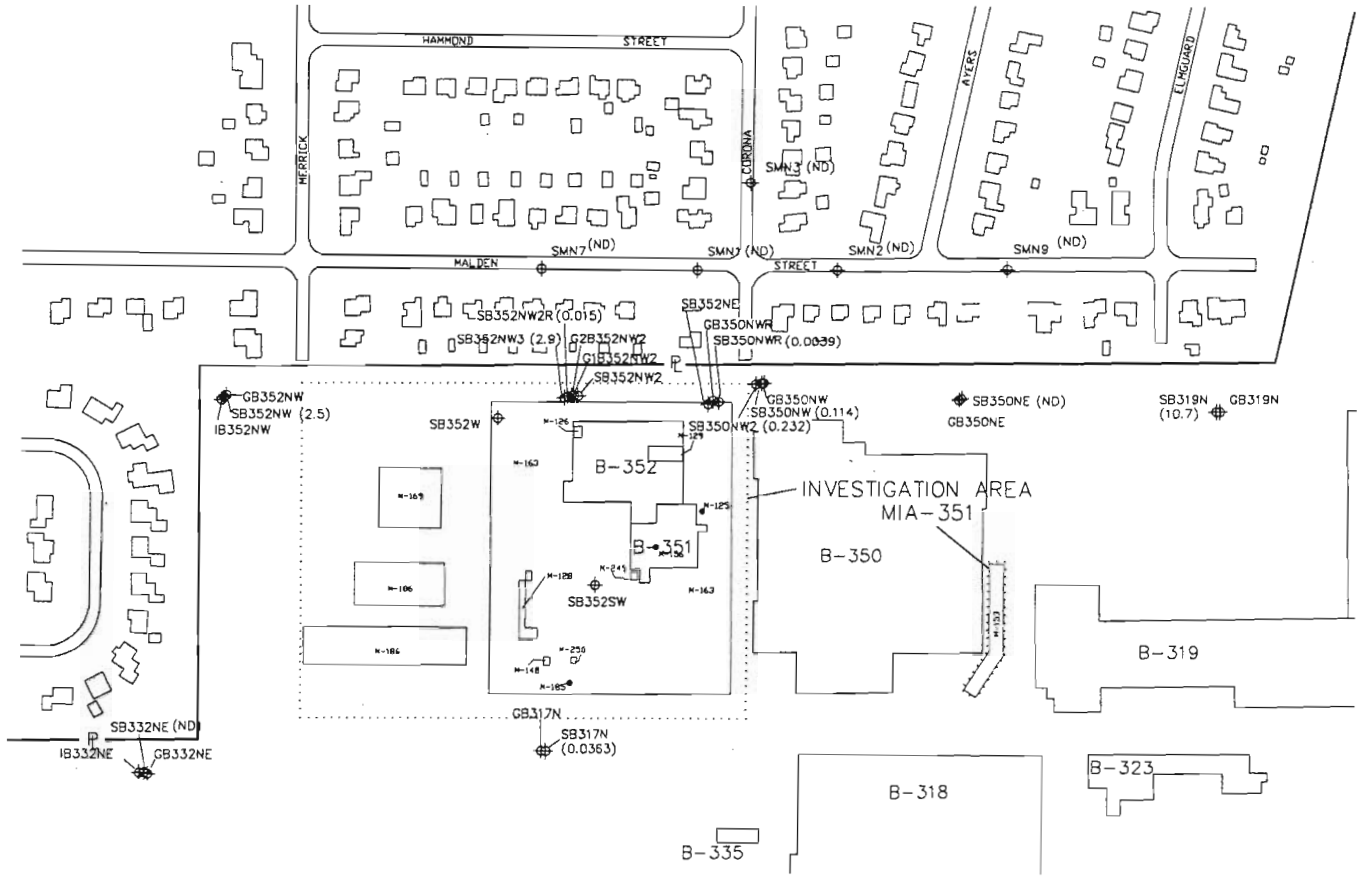


Golder Associates — Buffalo, New York

CLIENT/PROJECT: MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: GRIMSBY-QUEENSTON GROUNDWATER POTENTIOMETRIC CONTOUR MAP - AUGUST 19, 1999

DRAWN: MJS	DATE: 4/19/00	JOB NO.: 003-9244
CHECKED: DCW	SCALE: AS SHOWN	DWG. NO.: KOD-129
REVIEWED: DJM	FILE NO.: 003-9244	FIGURE NO.: 6



LEGEND

- ⊕ — EXISTING MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- (0.0363) — TOTAL VOCs 1991 GROUNDWATER SAMPLING
- SOLID WASTE MANAGEMENT UNIT
- — ℄ — PROPERTY LINE

NOTES

1. SHALLOW WELL LOCATIONS WITHOUT RESULTS FOR THIS TIME PERIOD ARE LEFT BLANK.
2. TOTAL VOCs DO NOT INCLUDE KPM SITE-SPECIFIC ALCOHOLS.
3. UNITS mg/L.

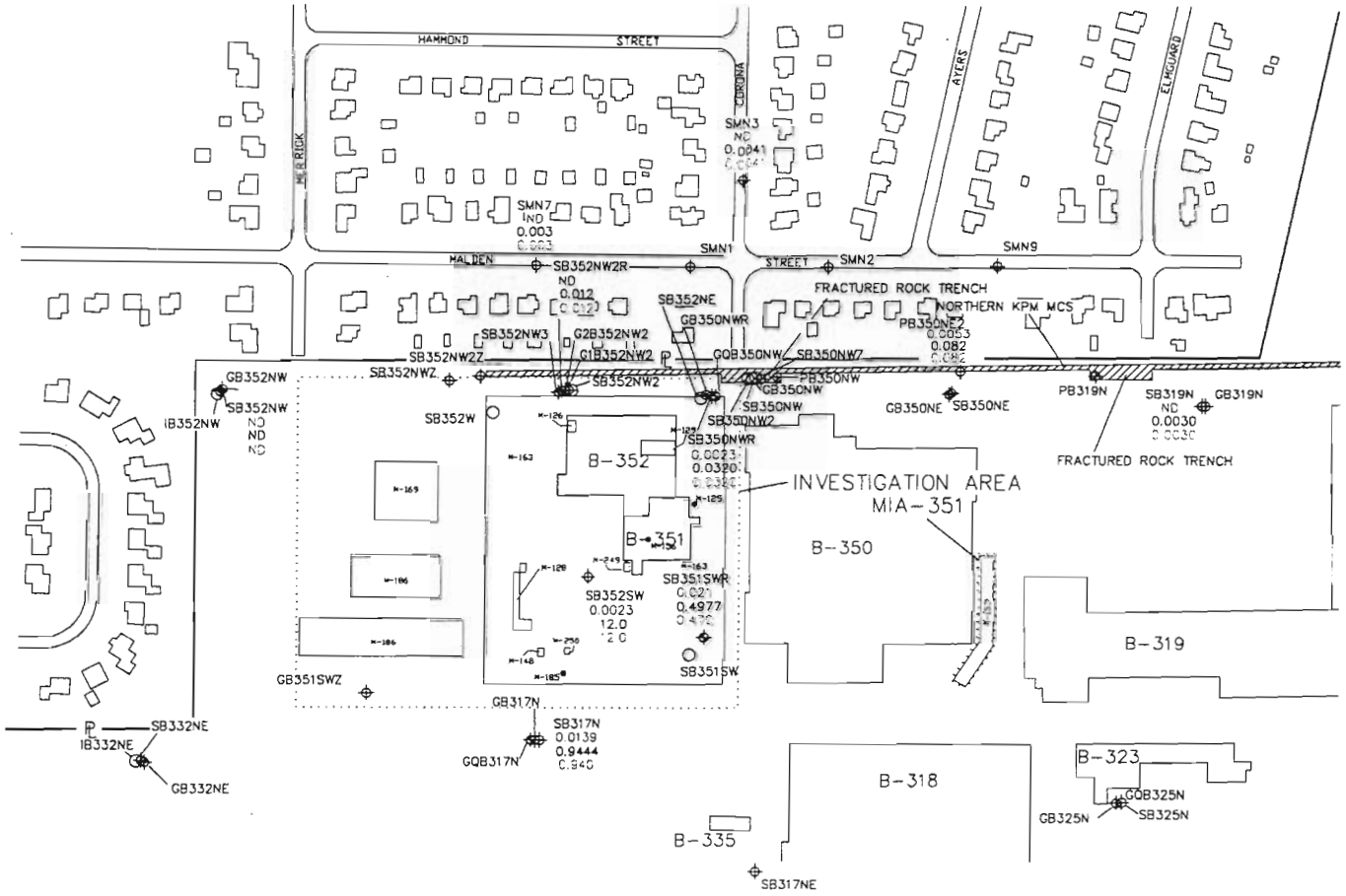
200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT
MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE
OVERBURDEN GROUNDWATER TOTAL VOC CONCENTRATIONS - 1991

DRAWN MJS	DATE 4/19/00	JOB NO. 003-9244
CHECKED DCW	SCALE AS SHOWN	DWG. NO. KOD-130
REVIEWED DJM	FILE NO. 003-9244	FIGURE NO. A-1



LEGEND

- ⊕ — NEW MONITORING WELL LOCATION
- ⊕ — EXISTING MONITORING WELL LOCATION
- ○ — ABANDONED MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- 0.0139 — TOTAL VOCs
- 0.9444 — TOTAL SVOCs
- 0.940 — 1,4 – DIOXANE
- SOLID WASTE MANAGEMENT UNIT
- P — PROPERTY LINE

NOTES

1. NO ETHYLENE GLYCOL DETECTED IN WELLS SAMPLED 1999.
2. UNITS mg/L.
3. TOTAL VOCs VALUES DO NOT INCLUDE KPM SITE-SPECIFIC ALCOHOLS.
4. WATER QUALITY DATA FROM MAY – JUNE 1999 RFI SAMPLING.

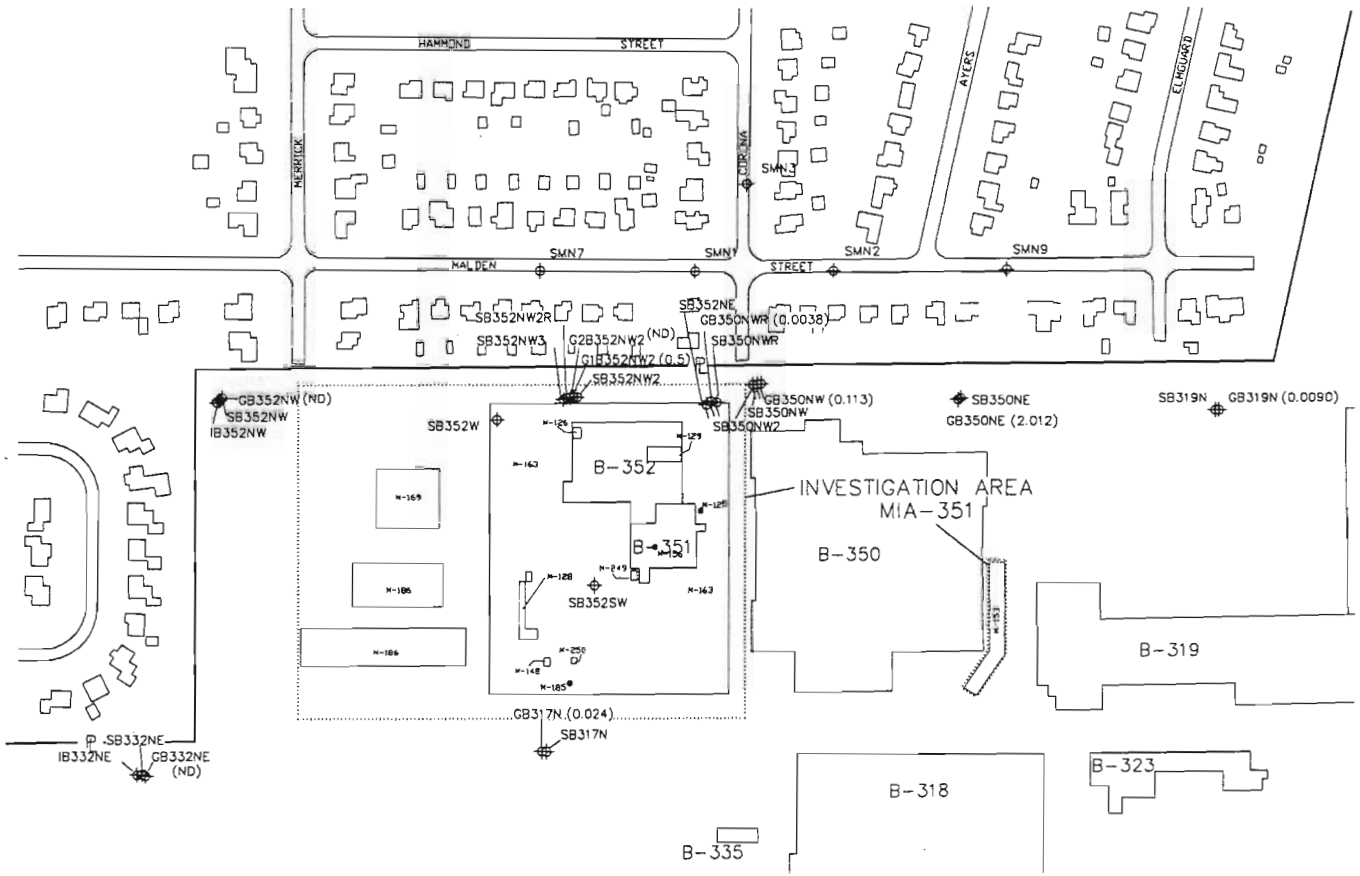
200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT
MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE
OVERBURDEN GROUNDWATER TOTAL VOC AND TOTAL SVOC CONCENTRATIONS - 1999

DRAWN	MJS	DATE	4/19/00	JOB NO.	003-9244
CHECKED	DCW	SCALE	AS SHOWN	DWG. NO.	KOD-131
REVIEWED	DJM	FILE NO.	003-9244	FIGURE NO.	A-2



N

LEGEND

- ⊕ — EXISTING MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- (0.0038) — TOTAL VOCs 1991 GROUNDWATER SAMPLING (mg/L)
- SOLID WASTE MANAGEMENT UNIT
- — PROPERTY LINE

NOTES

1. (NA) NO ANALYSIS.
2. TOTAL VOCs VALUES DO NOT INCLUDE KPM SITE-SPECIFIC ALCOHOLS.

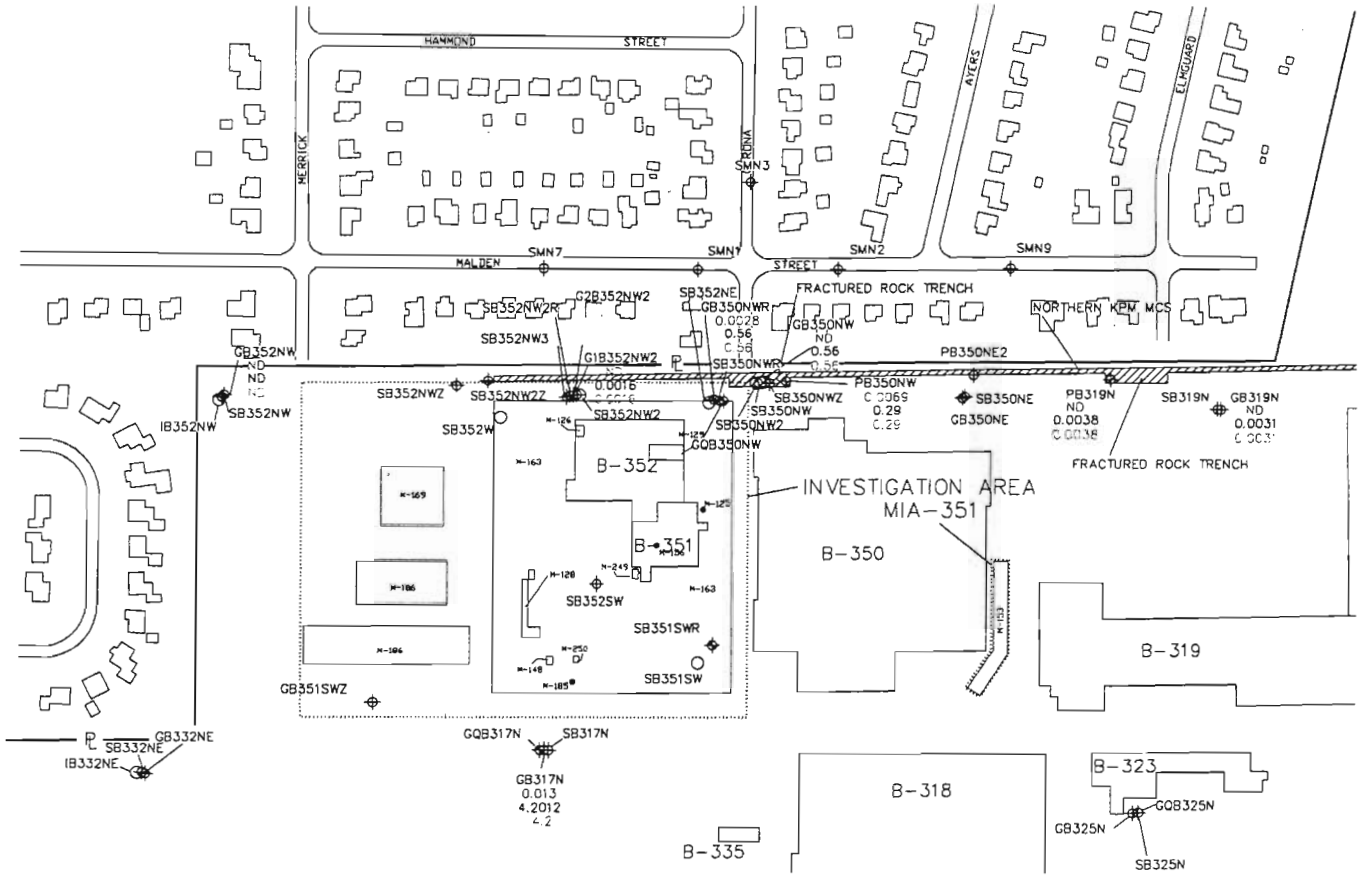
200 0 200
scale feet

Golder Associates — Buffalo, New York

CLIENT/PROJECT: MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE: TOP-OF-ROCK GROUNDWATER TOTAL VOC CONCENTRATIONS - 1991

DRAWN: MJS	DATE: 4/19/00	JOB NO.: 003-9244	
CHECKED: DCW	SCALE: AS SHOWN	DWG. NO.: KOD-132	
REVIEWED: DJM	FILE NO.: 003-9244	FIGURE NO.: A-3	



LEGEND

- ◆ — NEW MONITORING WELL LOCATION
- ⊕ — EXISTING MONITORING WELL LOCATION
- ○ — ABANDONED MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- 0.013 — TOTAL VOCs
- 4.2012 — TOTAL SVOCs
- 4.2 — 1,4 – DIOXANE
- SOLID WASTE MANAGEMENT UNIT
- — P — — PROPERTY LINE

NOTES

1. NO ETHYLENE GLYCOL DETECTED IN WELLS SAMPLED 1999.
2. UNITS mg/L
3. TOTAL VOCs VALUES DO NOT INCLUDE KPM SITE-SPECIFIC ALCOHOLS.
4. WATER QUALITY DATA FROM MAY – JUNE 1999 RFI SAMPLING.

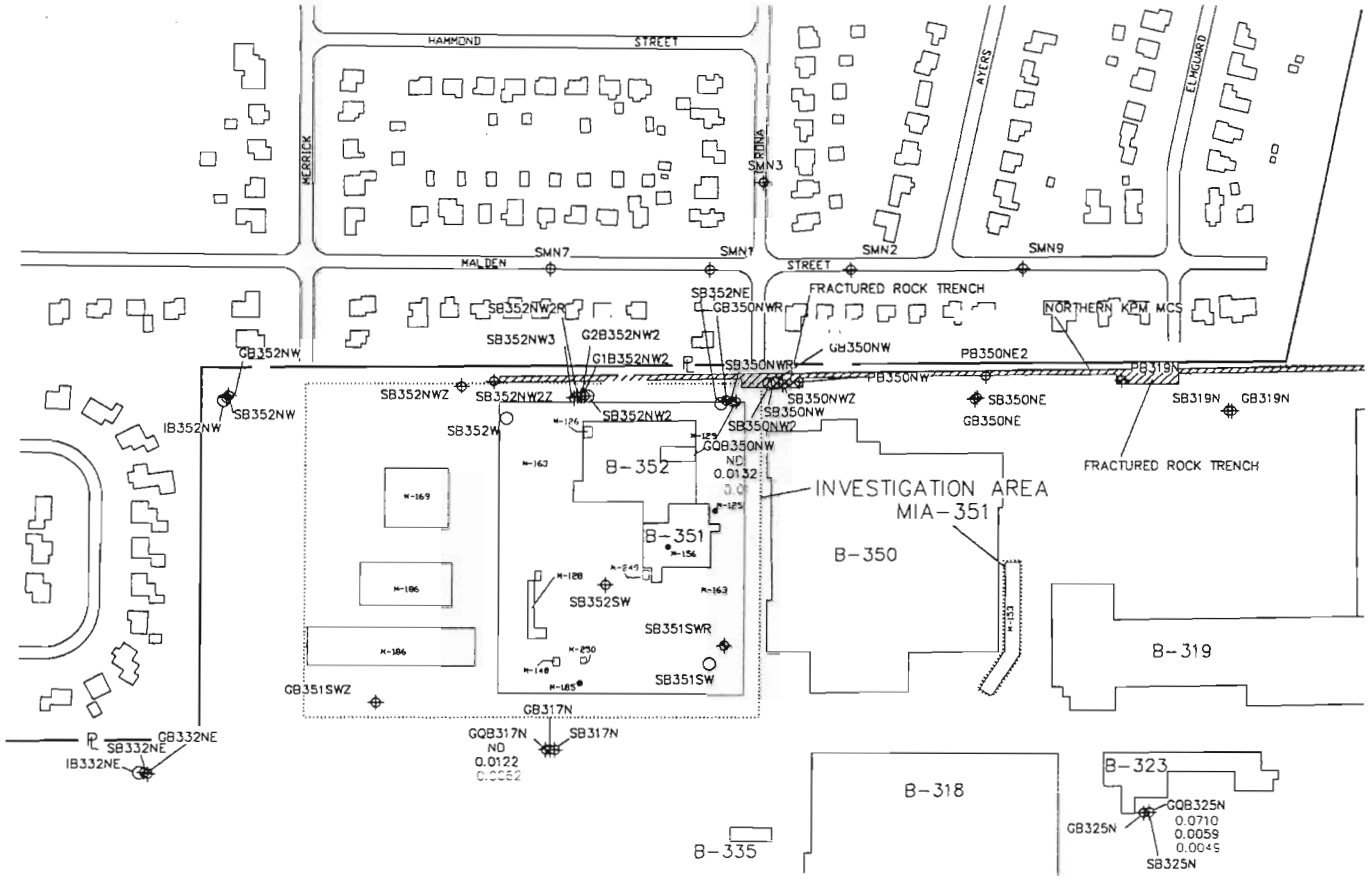
200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT
MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE
TOP-OF-ROCK GROUNDWATER TOTAL VOC AND TOTAL SVOC CONCENTRATIONS - 1999

DRAWN MJS	DATE 4/19/00	JOB NO. 003-9244
CHECKED DCW	SCALE AS SHOWN	DWG. NO. KOD-133
REVIEWED DJM	FILE NO. 003-9244	FIGURE NO. A-4



LEGEND

- ⊕ — NEW MONITORING WELL LOCATION
- ⊕ — EXISTING MONITORING WELL LOCATION
- ○ — ABANDONED MONITORING WELL LOCATION
- SMN9 — MONITORING WELL DESIGNATION
- 0.0710 — TOTAL VOCs
- 0.0059 — TOTAL SVOCs
- 0.0049 — 1,4 – DIOXANE
- K-125 / K-169 / K-249 — SOLID WASTE MANAGEMENT UNIT
- — P — — PROPERTY LINE

NOTES

1. UNITS mg/L
2. WATER QUALITY DATA FROM MAY – JUNE 1999 RFI SAMPLING.
3. TOTAL VOCs DO NOT INCLUDE KPM SITE-SPECIFIC ALCOHOLS.

200 0 200
scale feet

Golder Associates Buffalo, New York

CLIENT/PROJECT MIA-351 PRESUMPTIVE REMEDY
KODAK PARK CORRECTIVE ACTION PROGRAM
EASTMAN KODAK COMPANY
ROCHESTER, NEW YORK

TITLE
GRIMSBY-QUEENSTON GROUNDWATER TOTAL VOC AND TOTAL SVOC CONCENTRATIONS - 1999

DRAWN MJS	DATE 4/19/00	JOB NO. 003-9244
CHECKED DCW	SCALE AS SHOWN	DWG. NO. KOD-134
REVIEWED DJM	FILE NO. 003-9244	FIGURE NO. A-5

TABLE 1
SWMU DESCRIPTION SUMMARY
MIA-351 RFI
KODAK PARK, ROCHESTER, NEW YORK

SWMU No.	Unit* Type	Pre-RFI Status**	Proposed Status	General Description	Location
M - 125	MA	SV	FA	Marshalling Area	B-351, East, Outside
M - 126	PMR	NFA	NFA	Silver Recovery Vaults	B-352, Northwest Corner Inside
M - 128	TS	SV	FA	Transfer Station (Sludge/Caustic/ Reactor Purge)	West Side of Tank Farm
M -129	TS	SV	FA	Transfer Station (Rich Water)	B-352 Dock Area, North Bays
M - 148	TaS	SV	FA	90-Day Storage (Tank)	Southwest of B-351
M - 153	UST	FA	NFA	Underground Storage Tank System (Closed)	B-350, East, Outside
M - 156	RS	FA (1)	FA	Release Site	Undetermined
M - 163	RS	FA	FA	Release Site	B-351/B-352 Area
M - 169	SI	FA	FA	Retention Pond	West of B-352
M - 185	TS	SV	FA	Sewer Station	Southeast of M-77 (Near RR Tracks)
M - 186	CS	FA	FA	Container Storage Area	Southwest of B-351/352 Complex (on Cinder Area)
M-249	MA	NFA	NFA	Marshalling Area	B-351, Southwest Corner, Outside
M-250	TS	NFA (2)	NFA	Transfer Station	East Side of Distillation Complex

*Unit Type:
CS = Container Storage
MA = Marshalling Area
PMR = Precious Metals Recovery
RS = Release Site
SI = Retention Pond
TaS = Storage Tank
TS = Transfer Station
UST = Underground Storage Tank

**Action:
FA - Further Action
NFA - No Further Action
SV - Sampling Visit

Notes: 1. Area of potential impact is located outside the investigation area and is not part of the MIA-351 RFI.
2. Proposed Action.
3. Table from Table 1-1, MIA-351 RCRA Facility Investigation Work Plan (BBL, 1999).