122356

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: MAY - 7 2012

SUBJECT: Explanation of Significant Differences for the Hooker Hyde Park Superfund Site

FROM: Doug Garbarini, Chief
New York Remediation Branch

TO: Walter E. Mugdan, Director
Emergency and Remedial Response Division

Attached is an Explanation of Significant Differences (ESD) for the Hooker Hyde Park Landfill Superfund Site.

The Environmental Protection Agency's November 1985 Enforcement Decision Document (EDD, precursor and equivalent to a Record of Decision) for the Hooker Hyde Park Landfill Superfund Site (Site) selected a containment remedy. The goal of the hydraulic containment remedy was to prevent the migration of leachate and contaminated groundwater from the Site through capping, groundwater collection, leachate collection, and treatment of extracted groundwater and leachate.

This Explanation of Significant Differences documents the placement of an institutional control, a Declaration of Restrictive Covenants and Environmental Easement, on the property which constitutes the former Hyde Park Landfill. The remedy selected in the EDD is a containment remedy. The goal of a containment remedy is to prevent the migration of disposed waste and leachate along with affected groundwater from a landfill or site. This ESD clarifies that the selected remedy for the Site in the EDD is a containment remedy and not an aquifer restoration remedy intended to restore the aquifer to its best beneficial use (i.e., a source of drinking water).

A letter from the New York State Department of Environmental Conservation concurring with the ESD is attached.

Please indicate your approval of the ESD by signing below.

If you have any questions related to the ESD, please call me at extension 4288.

Attachments

Approved: _____ 5/7/2012

Walter E. Mugdan, Director
Emergency and Remedial Response Division

Date

Explanation of Significant Differences

Hooker Hyde Park Landfill

Town of Niagara, Niagara County, New York

May 2012

INTRODUCTION

In accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. '9617(c), and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), if after the United States Environmental Protection Agency (EPA) selects a remedial action, there is a significant change with respect to that action, an explanation of the significant differences (ESD) and the reasons such changes were made must be published.

EPA issued an Enforcement Decision Document (EDD, the equivalent of what is today called a Record of Decision) on November 26, 1985 which documented the selected remedy for the site. The remedy for the Hyde Park Landfill Superfund Site (Site) in the 1985 EDD includes the following specific elements:

- Source control (prototype extraction wells);
- Containment and collection of APL (Aqueous Phase Liquid) and NAPL (Non-Aqueous Phase Liquid) in the overburden of the aquifer;
- Containment and collection of APL and NAPL in the bedrock;
- Treatment of collected APL and NAPL;
- Community Monitoring Program (peripheral monitoring wells for early detection of migration of Site chemicals);
- Intermediate and Deep Formations Study (monitoring wells);
- Industrial Protection Program (remediation of sumps and sealing of manholes);
- Perimeter Capping (clay cap around perimeter of landfill);
- Gorge face seeps remediation;
- Bloody Run excavation or capping;
- Final capping and Site closure; and
- 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) Bioaccumulation Study in Lake Ontario.

This ESD is supported by an Administrative Record file. The Administrative Record includes those reports and documents supporting the EDD and this ESD. Reports and documents generated during the investigation and remediation of the Site are included in the Site file. The Administrative Record and other documents are available for public review at the following locations:

U.S. EPA Western NY Public Information Office
86 Exchange Place
Buffalo, NY 14204-2026
(716) 551-4410

and

U.S. EPA Region 2
Superfund Records Center
290 Broadway, 18th Floor
New York, New York 10007
(212) 637-4308

This ESD documents the placement of an institutional control, a Declaration of Restrictive Covenants and Environmental Easement, on the property which constitutes the former Hyde Park Landfill (Landfill). The remedy selected in the EDD is a containment remedy. The goal of a containment remedy is to prevent the migration of disposed waste and leachate along with affected groundwater from a landfill or site. This ESD clarifies that the selected remedy for the Site in the EDD is a containment remedy and not an aquifer restoration remedy intended to restore the aquifer to its best beneficial use (i.e., a source of drinking water).

The change to the selected remedy set forth below is not considered by EPA and the New York State Department of Environmental Conservation (NYSDEC) to have fundamentally altered the EDD. The remedy, as modified by this ESD, remains protective of human health and the environment.

SITE HISTORY

The Site, approximately 15 acres in area, is located northwest of the City of Niagara Falls in the northwest corner of the Town of Niagara. The neighborhood surrounding the Site is mixed industrial and residential. The Niagara River, an international water body, is located 2000 feet northwest of the Site in the Niagara Gorge which descends approximately 350 feet below the surface of the Landfill.

Hooker Chemical and Plastic Corporation, now Occidental Chemical Corporation (OCC), disposed of approximately 80,000 tons of chemical wastes at the Landfill from 1953 to 1975, primarily consisting of chlorobenzenes. Trichlorophenol (TCP) still bottoms were also disposed; approximately 0.7 - 1.6 tons of TCDD are believed to have been associated with these TCP wastes.

The geology underlying the Site is glacial overburden overlying Lockport Dolomite, a fractured rock. The overburden is relatively impermeable and approximately 0 to 30 feet thick. Bloody Run Creek is a drainage channel that flows from the northwest corner of the Landfill directly north, into storm sewers discharging to the Niagara Gorge and Niagara River. The bedrock is composed of the following layers: beginning with the Lockport Dolomite, a fractured Karst formation (approximately 100 feet thick); followed by the Rochester Shale (60 feet thick); followed by the Irondequoit/Reynales Limestone formation (Intermediate Formation); and ending with the Queenston Shale (Deeper Formation).

The groundwater in the overburden moves toward the northwest and strongly downward into the bedrock. The groundwater in the bedrock moves downward and laterally, primarily in a northwesterly

direction toward the Gorge Face, which acts as a natural drain. Some of the groundwater emerges from the bedrock at the Gorge Face in the form of seeps which flow into the Niagara River.

The contaminants of concern for the Site are TCDD, perchloropentacyclodecane, Aroclor 1248, chloroform, phenol, total organic halogen, benzoic acid, monochlorobenzoic acids (sum of O, P, M-isomers), and chlorendic acid.

Chemicals migrate from the Landfill in two phases: (1) chemicals dissolved in the groundwater, called APL and (2) a denser than water phase-like viscous sludge in appearance which migrates under the influence of gravity, called NAPL.

APL and NAPL migrate from the Landfill, creating two separate contaminant plumes in the overburden and the bedrock. It is believed that the Bloody Run drainage area was contaminated as a result of infiltration of surface runoff while the Landfill was still operating, not from the movement of groundwater from below the Landfill. OCC placed a clay cap on the Landfill in 1978.

ENFORCEMENT SUMMARY

EPA filed a lawsuit in 1979 under the authority of the Clean Water Act to require OCC to remediate the Site. EPA, New York State and OCC entered into a Settlement Agreement in January 1981 which was approved by the United States District Court for the Western District of New York in April 1982. Under the Settlement Agreement, OCC was required to characterize the nature and areal and vertical extent of the APL and NAPL plumes in both the overburden and the bedrock. OCC has been implementing the Settlement Agreement under government oversight since 1982. OCC completed the Aquifer Survey (the equivalent of a remedial investigation under the NCP) in 1983. In 1985, after extensive negotiations, EPA, New York State, and OCC agreed on the Requisite Remedial Technology (RRT) Stipulation which decreed the remedies for cleanup of the Site. EPA issued the EDD (the equivalent of a Record of Decision as mentioned above) in November 1985. The District Court in Buffalo approved the RRT Stipulation in May 1986.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

This ESD has two components. The first component involves an institutional control, which is a non-engineered control to restrict or limit exposure to a hazardous substance. This institutional control is in the form of a "Declaration of Restrictive Covenants and Environmental Easement" which was placed on the deed to the property on October 7, 2010.

The second component of this ESD is a discussion which clarifies that the remedy selected in the EDD, and approved by the federal court, is a containment remedy and not an aquifer restoration remedy intended to restore the aquifer to its best beneficial use (i.e., a source of drinking water).

COMPONENTS OF THE ESD

INSTITUTIONAL CONTROLS:

The EDD did not specify the implementation of institutional controls as a component of the selected remedy. A Declaration of Restrictive Covenants and Environmental Easement was placed on the deed to the Landfill property at the County recording office in Niagara County on October 7, 2010. The Grantor (OCC) grants a permanent restrictive covenant and an environmental easement to the Grantee (Town of Niagara) to provide a right of access over the approximately twenty-one acre property (the "Property") for purposes of implementing, facilitating, and monitoring the remedial action. The covenant/easement also imposes on the Property certain use restrictions that will run with the land for the purpose of protecting human health and the environment in the future. Figure 1 identifies the boundaries of the environmental easement.

The following restrictions apply to the use of the Property, run with the land, and are binding on the Grantor: the Property shall not be used in any manner that would interfere with or adversely affect the implementation, integrity, or effectiveness of the remedial action performed at the Site, including, but not limited to, a) the extraction of on-site groundwater, b) any digging, excavation, extraction of materials, construction, or other activity outside the requirements of the remedial action that would disturb the cap placed upon the Landfill at the Site, or c) other activity that would disturb or interfere with any portion of the remedial action for the Site enumerated in the RRT Stipulation. The Property also may not be used for residential use. However, the Property may be used for commercial or industrial use as long as long-term engineering controls are employed and remain effective. Specifically, the operation of the portion of the remedial action pertaining to the pumping of extraction wells, operation of the treatment facility, and maintenance of the Landfill cap.

In addition to the specific institutional control at the Site, the Niagara County Department of Health imposes restrictions on the drilling and usage of wells. These restrictions ensure that drinking-water wells are not installed in areas of contaminated groundwater, effectively preventing the exposure to site-related contaminants through ingestion.

CONTAINMENT REMEDY

The remedy selected in the EDD is a containment remedy. While EPA expects to return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site, when restoration of ground water to beneficial uses is not practicable, EPA expects to prevent further migration of the plume and, prevent exposure to the contaminated ground water. The goal of the Hyde Park Landfill containment remedy is to prevent the migration of leachate and contaminated groundwater from the Site through capping, groundwater collection, NAPL collection and treatment of extracted groundwater and NAPL. A containment remedy differs from an aquifer restoration remedy which has the goal of restoring the aquifer to its best beneficial use. The best beneficial use of this aquifer is use as drinking water. In order to achieve this use, concentrations of the contaminants of concern would need to be reduced to their respective Maximum Contaminant Levels (MCLs) established under the Safe Drinking Water Act and/or New York State groundwater and drinking-water standards. Figure 2 presents an aerial view of the bedrock NAPL zone and the area of hydraulic containment resulting from these actions. Achieving these standards within the containment area is not practicable and is not an objective of the EDD. The remedy

for the Site will not restore the aquifer to drinking-water standards; rather, it is designed to control exposure to contaminants associated with the Site. The NAPL zone in the fractured bedrock, if left uncontrolled, continues to be a source of dissolved constituents to the groundwater. A pump and treat system is the main component of the remedy implemented at the Site. This remedy provides engineering controls (pumping wells) to contain the migration of contaminants from the NAPL zone. The selected remedy in the EDD is protective of human health and the environment because contaminated groundwater is controlled, collected and treated, therefore preventing exposure to the contaminants in the groundwater.

EPA examined various remedial alternatives before selecting a source control and hydraulic control remedy in the EDD. No feasible alternative was capable of restoring the aquifer to drinking-water standards. As part of the remedy selection process, EPA determined that it was technically impracticable to restore the aquifer. The most effective remedy to protect human health and the environment was to contain and control the NAPL and contaminated groundwater.

Technology does not exist at present which will restore the aquifer to drinking-water standards. Excavation of the source of contamination is not practical because the NAPL is present in fractured bedrock. A significant portion of the NAPL has sorbed to the limestone, effectively creating a reservoir of contamination for the groundwater. The remedy implemented at the Site creates hydraulic control of the affected groundwater.

The remedy as implemented is essentially a source removal and containment action. Operation of this remedy was anticipated to be required for a long time period as demonstrated by the 35-year operation and maintenance estimate. It is anticipated that the remedy will not achieve applicable groundwater standards in the foreseeable future due to the presence of immobile NAPL in both the overburden and the bedrock. This immobile NAPL will act as a long-term source of chemicals to the groundwater.

A major evaluation and assessment of the remedy was performed from 2000 to 2004. The findings of the assessments and evaluations were presented in the report entitled "Comprehensive Remedial Characterization Report" dated August 2004. The primary conclusions of the Characterization Report were that the Bedrock NAPL Plume Containment System:

i) Satisfies the objective of the RRT hydraulic containment;

ii) Maintains the RRT containment objective year-round; and

ii) Satisfies the RRT hydraulic containment objective since system start-up in 1993.

The Comprehensive Remedial Characterization Report prepared by OCC in 2004 documents the hydraulic performance of the remedy as implemented at the Site. Several lines of evidence (information derived from different sources or by different techniques) were selected to evaluate the performance of the remedy including flow directions from potentiometric surface maps, flow directions estimated from vertical gradients, the distribution of site-related parameters in groundwater, the distribution of major ions, and the relative age of the groundwater and groundwater flow modeling. Following all these lines of evidence, EPA concluded that the performance objectives of the remedy were maintained throughout the year. Based upon these results, the EDD remedy selected for the Site is deemed to be effective in protecting human health and the environment.

DESCRIPTION OF REMEDY IMPLEMENTATION

This section provides a summary of the remedial components and the justification for their selection, as identified in the EDD, dated November 1985.

OVERBURDEN REMEDIATION

The remedial approach to address the overburden includes source control, landfill capping, and the installation of the Overburden Barrier Collection System.

Source Control

The purpose of the source control program is to reduce the contamination migrating downward from the Landfill by removing mobile NAPL remaining in the Landfill. The source control remedial program, as described in the RRT Stipulation, consists of a prototype system of up to six 36-inch diameter wells installed in the overburden inside the Landfill.

OCC installed two 36-inch extraction wells in the Landfill in 1990 to collect NAPL. OCC performed pump tests on these wells and also investigated potential NAPL source areas within the landfill through 1993. However, the large-diameter source control wells did not collect as much NAPL as was expected. The source control system was redesigned using the 2-inch NAPL extraction well design OCC had successfully utilized at other sites. In 1994, OCC installed four 2-inch source control wells in the Landfill with two-phase flow pumps to facilitate the pumping of NAPL. Nine monitoring wells were also installed in the Landfill. One source control well has since been converted to a monitoring well because of insufficient NAPL collection. The source control program has not yielded significant amounts of NAPL. EPA believes that most of the NAPL once present in the overburden under the Landfill has either flowed into the bedrock, been captured, or remains in pockets or pools that are not hydraulically connected to the source control wells. In addition, the installation of the final cap on the Landfill has eliminated the continued production of leachate from rainfall, thereby dramatically reducing the hydraulic head and reducing the driving force for the NAPL.

OCC has recovered and treated more than 300,000 gallons of NAPL from the Site. NAPL extracted by source control wells flows into a decanter at the on-site Storage and Treatment Facility. The total recovered NAPL volume is measured monthly, and the potential amount of NAPL contributed by each well is estimated annually by OCC. The NAPL has aged significantly and is extremely viscous. As a result, the volume of NAPL collected from the source control wells has reduced significantly over the past several years and there is no evidence of mobile NAPL. The source control wells are currently pumped only periodically because of insufficient NAPL volume. EPA believes that the NAPL is in a steady-state condition and not migrating through the bedrock.

Landfill Cap

The perimeter cap of the Landfill was completed in 1991, and the entire Landfill cap was completed in 1994. The final Landfill cap consisted of the following elements: low-permeability clay; a synthetic membrane; a drainage layer, and topsoil seeded with native vegetation for barrier protection.

Overburden Barrier Collection System (OBCS)

The goal of the remedy as it relates to the overburden is to contain the lateral migration of the NAPL plume and contain the APL plume, to the extent practicable. The remedy was implemented by construction of the Overburden Barrier Collection System (OBCS), a drain around the entire Landfill to contain and collect contaminated groundwater. The OBCS was installed in 1991. Eight well pairs were installed beyond the alignment of an existing drain around the Landfill. One well from each pair is inside the APL plume limits and one well from each pair is outside the APL plume. The inner wells are pumped to create an inward hydraulic gradient. Hydraulic stabilization was deemed to have occurred in 1994, following one year of continuous dewatering of the OBCS (i.e., no accumulation of water in the wet wells). Hydraulic monitoring of the OBCS is performed by water-level measurements taken at the eight well pairs. Water-level measurements indicate that an inward gradient is being achieved, thereby capturing the contaminated groundwater associated with the Site. In addition, NAPL has not been observed in any of the overburden monitoring well locations, indicating that the OBCS serves as a barrier impeding NAPL migration.

BEDROCK REMEDIATION

The remedial components implemented for the bedrock consist of the APL Plume Containment System and the NAPL Plume Containment System.

APL Plume Containment System

The Bedrock APL Plume Containment System consists of two purge wells installed at the Gorge Face in 1994. These wells are pumped to ensure the bedrock groundwater is flowing inward toward the center of the remediated area and to eliminate seepage to the Gorge Face.

The RRT established APL Plume Flux Action Levels based on EPA's worst-case bioaccumulation assumptions for the following chemicals: TCDD (0.5 gram/year); perchloropentacyclodecane [Mirex] (0.005 lb/day); Aroclor 1248 (0.005 lb/day); and, chloroform (1.7 lbs/day). These action levels represent concentrations of these contaminants that, if detected entering the river (flux of contaminants to the river) at or above these concentrations, would require OCC to take additional remedial actions (*e.g.,* increased pumping, installing additional wells, or other remedial measures) to reduce these contaminant levels. The only parameter detected in 2001 was TCDD. OCC calculated the flux of TCDD to the Niagara River as 7.06×10^{-5} gram/year, several orders of magnitude below the Flux Action Level.

NAPL Plume Containment System

The purpose of the NAPL Plume Containment System is to contain, to the extent practicable, APL and NAPL within the NAPL plume in the bedrock, and to maximize the collection of NAPL from within the bedrock. The NAPL System was designed to contribute to the elimination of seepage of chemicals at the Gorge Face.

In 1982, OCC performed an investigation which defined the extent of the NAPL plume in the bedrock surrounding the Landfill. The NAPL Plume Containment System was designed to create an inward hydraulic gradient in the bedrock aquifer surrounding the Landfill in order to capture groundwater

contaminated by Site chemicals. The system was designed and installed in a phased approach in order to achieve proper placement of the extraction wells. The installation of this network consisting of 17 extraction wells at the Site was completed in 2001.

The RRT Stipulation required a groundwater monitoring program with well locations selected along vectors radiating from the center of the Site. The monitoring wells are located inside and outside the NAPL Plume. The RRT Stipulation stated that an inward gradient must be established across the NAPL plume boundary. However, implementation of the vector scheme has not proven to be an effective monitoring system. Practical considerations frequently impact the selection of well locations. Certain vectors are located in non-water-bearing rock. Other vectors show a flat gradient. To enhance the vector monitoring scheme, with which OCC reports its Site cleanup progress, local groundwater contour maps were developed.

OCC has implemented the bedrock hydraulic monitoring program since 1996. For the purpose of monitoring, the bedrock was divided into three separate flow zones: Upper Bedrock, Middle Bedrock and Lower Bedrock. The monitoring program established by the RRT Stipulation was not able to demonstrate an inward hydraulic gradient of the contaminated groundwater. OCC, working with EPA, NYSDEC, and the United States Geological Service, revised the hydrogeologic framework at the Site and implemented a new groundwater monitoring plan.

OCC revised the Site conceptual model after conducting hydrogeological field investigations from 2001 to 2003. These investigations included down-borehole geophysics as well as water-level measurements in 113 piezometers. The analysis of this data resulted in a revised hydrogeologic framework consisting of eleven discrete flow zones separated by aquitards. These eleven flow zones replaced the Upper, Middle, and Lower Bedrock framework formerly used at this Site. OCC documented the revised hydrogeologic framework in two documents: *Site Characterization Report: Revised Geologic and Hydrogeologic Characterization* (February 2002) and *Site Characterization Report: Hydrologic Characterization* (February 2003). Figure 2 presents an aerial view of the bedrock NAPL zone and the area of hydraulic containment. The hydraulic containment extends vertically through the eleven flow zones to a depth of approximately 160 feet below ground surface.

Documentation of Containment – Groundwater Monitoring

OCC issued the *Site Characterization Report: Remedial Characterization Report* ("RCR") in June 2003. The conclusion set forth in the RCR is that the Bedrock NAPL Plume Containment System satisfies the performance objectives of the RRT (inward gradient). Although the data for two of the flow zones suggest some uncertainty in the inward gradient, chemical analyses of the groundwater from these two zones indicate that site-related contaminants are not present in this groundwater. This indicates that no migration of contaminants outside of the containment system is occurring.

OCC has conducted groundwater monitoring in the eleven flow zones since 2002. The heterogeneous conditions and strong vertical hydraulic gradients in the uppermost flow zones make it difficult to evaluate hydraulic capture using plan-view potentiometric-surface maps. The publication *Elements for Effective Management of Operating Pump and Treat Systems* (US EPA, 2002) states that "accurate interpretation of actual capture is difficult and is best evaluated using converging lines of evidence." OCC used several lines of evidence to demonstrate containment, including flow directions interpreted

from potentiometric-surface maps for each flow zone, flow directions estimated from vertical gradients, major ions and the relative age of groundwater, chemical monitoring, and groundwater-flow modeling.

The *Performance Monitoring Plan*, 2006, sets forth the requirements of the groundwater monitoring program. Monitoring consists of the Overburden Monitoring Program, the Bedrock Monitoring Program, and the Community Monitoring Program. OCC documents that the containment remedy is achieving its performance requirements in the *Annual Site Remedial Performance Evaluation Report*.

The Overburden Monitoring Program includes monitoring the source control wells and the OBCS. The overburden monitoring ensures that there is no lateral migration of NAPL or APL through the overburden. The data collected in 2010 demonstrate that containment in the overburden is being achieved.

The Bedrock Monitoring Program includes monitoring the APL Plume Containment System, the NAPL Plume Containment System, and the Bloody Run Creek Monitoring Program. Pursuant to the Bloody Run Creek Monitoring Program OCC samples the creek every five years with the most recent monitoring period being in 2011. The APL and NAPL Plume Containment Systems consist of 19 purge wells which control the lateral migration of APL and NAPL. Water levels collected quarterly and documented in the quarterly reports as well as the Annual Report demonstrate that containment is being achieved in the bedrock.

The Community Monitoring Program includes the Gorge Face Program, the APL Flux Monitoring Program, and the Residential Community Monitoring Program. The Gorge Face Program includes bi-annual inspection of the gorge. The APL Flux Monitoring Program ensures that the mass loading of site-related contaminants to the Niagara River is below the Flux Action Levels established in the EDD. In this case, the groundwater flux is water lost from the interaction between the river and the groundwater aquifer. The EDD requires OCC to calculate the flux to the river for the four chemicals, namely TCDD, perchloropentacyclodecane, Aroclor 1248, and chloroform. The calculated fluxes to the Niagara River for these chemicals have consistently been several orders of magnitude below the Flux Action Levels. The Residential Community Program ensures residents are not exposed to site-related groundwater or soil vapors. The residential monitoring wells have a vertical hydraulic gradient, and soil vapors have not been detected. The results of all the monitoring indicate that the remedy remains protective of human health and the environment.

FIVE-YEAR REVIEW

The NCP provides that remedial actions which result in any hazardous substances, pollutants, or contaminants remaining at the Site above levels that allow for unlimited use and unrestricted exposure be reviewed every five years to ensure protection of human health and the environment. The fourth five-year review for the Site was completed in September 2011. It evaluated the performance of the various monitoring programs that have been established for the overburden, the bedrock, and the residential community next to the Site to ensure that the components of the remedy are functioning properly. The five-year review concluded that the remedy as defined by the Site's decision document continues to protect human health and the environment.

SUPPORT AGENCY COMMENTS

NYSDEC supports the change to the remedy.

AFFIRMATION OF STATUTORY DETERMINATIONS

EPA and NYSDEC believe that the remedy is protective of human health and the environment, and complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action.

PUBLIC PARTICIPATION ACTIVITIES

EPA and NYSDEC are making this ESD and supporting information available to the public to inform them of the placement of an institutional control on the property and to clarify that the selected remedy for the Site in the EDD is a containment remedy and is not intended to restore the aquifer to drinking-water standards. Should there be any questions regarding this ESD, please contact:

Gloria M. Sosa
Remedial Project Manager
New York Remediation Branch
Emergency and Remedial Response Division
United States Environmental Protection Agency, Region 2
290 Broadway 20th Floor
New York, NY 10007-1866

Telephone: (212) 637-4283
e-mail: sosa.gloria@epa.gov

To be included on the Site mailing list, please contact:

Michael Basile
Community Involvement Coordinator
United States Environmental Protection Agency
Western New York Public Information Office
186 Exchange Place
Buffalo, NY 14204

Telephone: (716) 551-4410
e-mail: basile.michael@epa.gov

Attachment 1

FIGURES

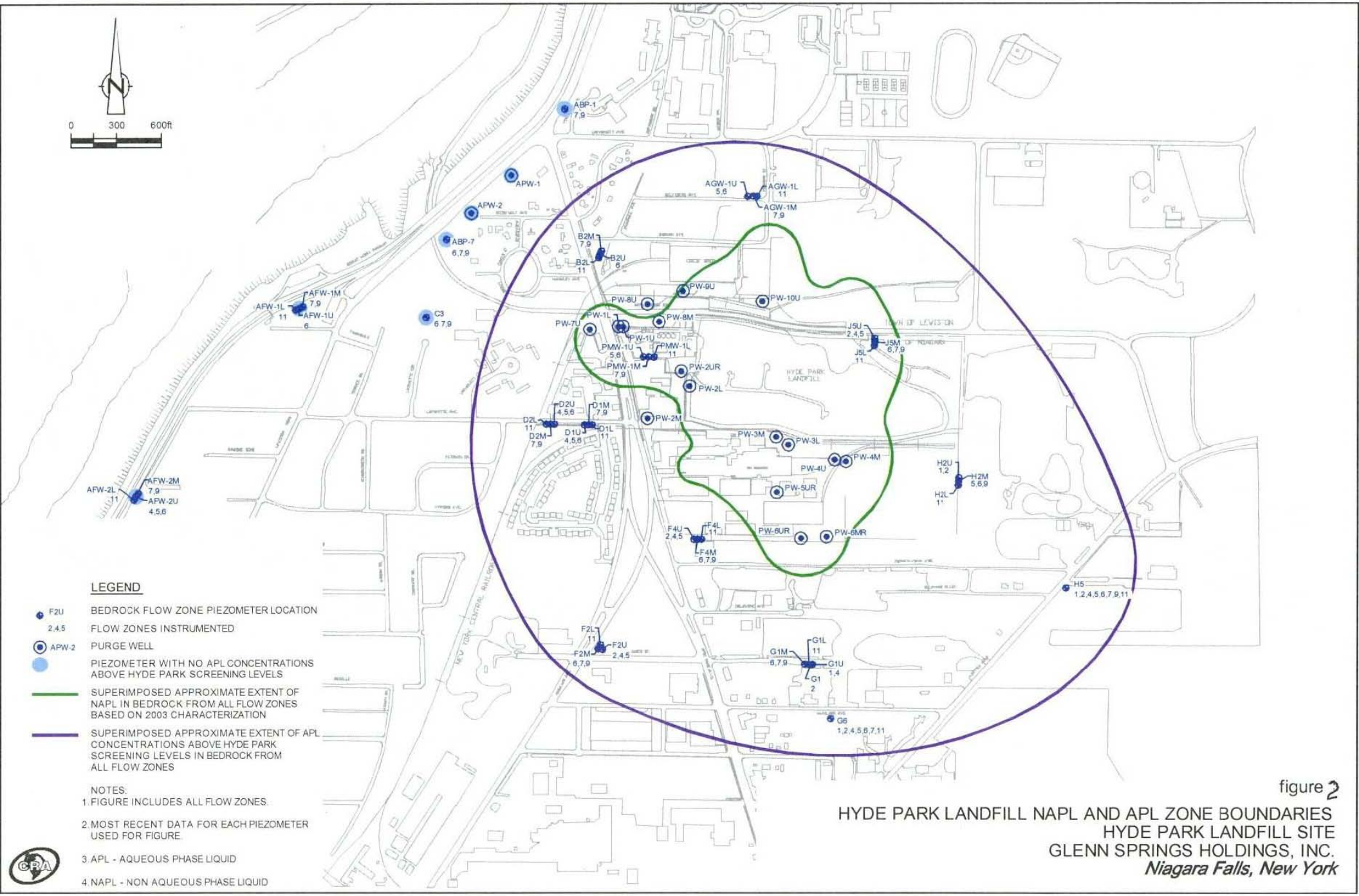
LEGEND

EXHIBIT A PARCEL BOUNDARIES

figure 1

SITE LOCATIONS
HYDE PARK BOULEVARD
Niagara Falls, New York

01069-00(MISC004)GN-BU001 OCT 10/2011



LEGEND

- F2U — BEDROCK FLOW ZONE PIEZOMETER LOCATION
- 2,4,5 — FLOW ZONES INSTRUMENTED
- APW-2 — PURGE WELL
- PIEZOMETER WITH NO APL CONCENTRATIONS ABOVE HYDE PARK SCREENING LEVELS
- SUPERIMPOSED APPROXIMATE EXTENT OF NAPL IN BEDROCK FROM ALL FLOW ZONES BASED ON 2003 CHARACTERIZATION
- SUPERIMPOSED APPROXIMATE EXTENT OF APL CONCENTRATIONS ABOVE HYDE PARK SCREENING LEVELS IN BEDROCK FROM ALL FLOW ZONES

NOTES:

1. FIGURE INCLUDES ALL FLOW ZONES.
2. MOST RECENT DATA FOR EACH PIEZOMETER USED FOR FIGURE.
3. APL - AQUEOUS PHASE LIQUID
4. NAPL - NON AQUEOUS PHASE LIQUID

figure 2

HYDE PARK LANDFILL NAPL AND APL ZONE BOUNDARIES
HYDE PARK LANDFILL SITE
GLENN SPRINGS HOLDINGS, INC.
Niagara Falls, New York

New York State Department of Environmental Conservation
Division of Environmental Remediation
Office of the Director, 12th Floor
625 Broadway, Albany, New York 12233-7011
Phone: (518) 402-9706 • **Fax:** (518) 402-9020
Website: www.dec.ny.gov

Joe Martens
Commissioner

September 13, 2011

SENT VIA EMAIL ONLY

Mr. Walter E. Mugdan, Director (mugdan.walter@epa.gov)
Emergency and Remedial Response Division
United States Environmental Protection Agency
Region 2
290 Broadway, Floor 19
New York, New York 10007-1866

RE: Explanation of Significant Differences
Hooker – Hyde Park Landfill, Site No. 932021
Town of Niagara, Niagara County
New York State Concurrence

Dear Mr. Mugdan:

The New York State Department of Environmental Conservation (Department) and the New York State Department of Health (NYSDOH) have reviewed the Explanation of Significant Differences (ESD) dated July 2011 for the Hooker – Hyde Park Landfill (Hyde Park). The ESD makes clear that the remedy is not intended to clean up the aquifer to drinking water standards but to contain the contamination within the aquifer. Groundwater pumping at Hyde Park draws in the groundwater which would otherwise carry contamination to the Niagara River and Lake Ontario.

A second purpose of the ESD is to document the addition of an institutional control. Institutional controls which safeguard the public are now a significant part of our remedial programs. The environmental easement for Hyde Park was filed with the Niagara County Clerk in August 2010. The Department has reviewed the ESD for the Hyde Park site, NYS Site No. 932021, and concurs with this ESD.

Sincerely,

Dale A. Desnoyers, Director
Division of Environmental Remediation

Attachment
ec: S. Bates, NYSDOH (smb01@health.state.ny.us)
R. Fedigan, NYSDOH (rjf01@health.state.ny.us)
M. Forcucci, NYSDOH (mjf13@health.state.ny.us)
G. Sosa, USEPA (sosa.gloria@epa.gov)
M. Cruden
S. Edwards
W. Welling
G. Sutton
B. Sadowski

INTERNATIONAL YEAR OF FORESTS · 2011

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

August 15, 2011

Mr. Dale Desnoyers, Director
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway - 12th Floor
Albany, NY 12233-7012

Re: Explanation of Significant Differences
Hooker Hyde Park Landfill
Site #932021
Niagara (T), Niagara County

Dear Mr. Desnoyers:

Staff reviewed the Explanation of Significant Differences for the Hooker Hyde Park Landfill site located in the Town of Niagara, Niagara County. I understand that the proposed changes to the November 1985 Enforcement Decision Document include: acknowledgement that it is technically impracticable to restore the underlying aquifer to drinking water standards in the area of the Non Aqueous Phase Leachate (NAPL) plume, the use of engineering controls to contain the migration of contaminants from the NAPL zone through the collection and control of contaminated groundwater, and imposition of an institutional control in the form of a "Declaration of Restrictive Covenants and Environmental Easement" on the property.

Based on the information, I believe that the proposed changes to the Enforcement Decision Document are protective of public health and concur with it.

Should you have any questions, please contact me at (518) 402-7860.

Sincerely,

Steven M. Bates, Acting Director
Bureau of Environmental Exposure Investigation

cc: A. Salame-Alfie, Ph.D.
K. Anders /Mr. R. Fedigan
M. Forcucci - WRO
K. Lewsandowski/A. Daniels, DEC Albany
J. Devald - NCHD
M. Cruden - DEC
G. Sutton - DEC Region 9
G. Sosa - EPA
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