



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 2  
290 BROADWAY  
NEW YORK, NY 10007-1866

FEB 14 2006

**GENERAL NOTICE LETTER  
URGENT LEGAL MATTER  
PROMPT REPLY NECESSARY  
CERTIFIED MAIL-RETURN RECEIPT REQUESTED**

Doug MacRae, President  
Degussa Building Systems, Inc.  
889 Valley Park Drive South  
Shakopee, MN 55379

RE: Diamond Alkali Superfund Site  
Notice of Potential Liability for  
Response Actions in the Lower Passaic River Study Area, New Jersey

Dear Mr. MacRae:

The United States Environmental Protection Agency ("EPA") is charged with responding to the release and/or threatened release of hazardous substances, pollutants, and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §9601 et seq. Accordingly, EPA is seeking your cooperation in an innovative approach to environmental remediation and restoration activities for the Lower Passaic River.

EPA has documented the release or threatened release of hazardous substances, pollutants and contaminants into the six-mile stretch of the river, known as the Passaic River Study Area, which is part of the Diamond Alkali Superfund Site ("Site") located in Newark, New Jersey. Based on the results of previous CERCLA remedial investigation activities and other environmental studies, including a reconnaissance study of the Passaic River conducted by the United States Army Corps of Engineers ("USACE"), EPA has further determined that contaminated sediments and other potential sources of hazardous substances exist along the entire 17-mile tidal reach of the Lower Passaic River. Thus, EPA has decided to expand the area of study to include the entire Lower Passaic River and its tributaries from Dundee Dam to Newark Bay ("Lower Passaic River Study Area").

By this letter, EPA is notifying Degussa Building Systems, Inc. of its potential liability relating to the Site pursuant to Section 107(a) of CERCLA, 42 U.S.C. §9607(a). Under CERCLA, potentially responsible parties ("PRPs") include current and past owners and operators of a facility, as well as persons who arranged for the disposal or treatment of hazardous substances at the Site, or the transport of hazardous substances to the Site.



In recognition of our complementary roles, EPA has formed a partnership with USACE and the New Jersey Department of Transportation-Office of Maritime Resources ("OMR") ["the governmental partnership"] to identify and to address water quality improvement, remediation, and restoration opportunities in the 17-mile Lower Passaic River. This governmental partnership is consistent with a national Memorandum of Understanding ("MOU") executed on July 2, 2002 between EPA and USACE. This MOU calls for the two agencies to cooperate, where appropriate, on environmental remediation and restoration of degraded urban rivers and related resources. In agreeing to implement the MOU, the EPA and USACE will use their existing statutory and regulatory authorities in a coordinated manner. These authorities for EPA include CERCLA, the Clean Water Act, and the Resource Conservation and Recovery Act. The USACE's authority stems from the Water Resources Development Act ("WRDA"). WRDA allows for the use of some federal funds to pay for a portion of the USACE's approved projects related to ecosystem restoration.

For the first phase of the Lower Passaic River Restoration Project, the governmental partners are proceeding with an integrated five- to seven-year study to determine an appropriate remediation and restoration plan for the river. The study will involve investigation of environmental impacts and pollution sources, as well as evaluation of alternative actions, leading to recommendations of environmental remediation and restoration activities. The study is being conducted pursuant to CERCLA and WRDA.

Based on information that EPA evaluated during the course of its investigation of the Site, EPA believes that hazardous substances were released from Sonneborn Paint's former operations located at both 1 River Road in Nutley, New Jersey and Hancox Avenue in Belleville, NJ, into the Lower Passaic River Study Area. Hazardous substances, pollutants and contaminants released from the facility into the river present a risk to the environment and the humans who may ingest contaminated fish and shellfish. Therefore, Degussa Building Systems, Inc. may be potentially liable for response costs which the government may incur relating to the study of the Lower Passaic River. In addition, responsible parties may be required to pay damages for injury to, destruction of, or loss of natural resources, including the cost of assessing such damages.

EPA is aware that the financial ability of some PRPs to contribute toward the payment of response costs at the Site may be substantially limited. If you believe, and can document, that you fall within that category, please inform Ms. Reddy and Mr. Hyatt in writing at the addresses identified in this letter. You will be asked to submit financial records including federal income tax returns as well as audited financial statements to substantiate such a claim.

Please note that, because EPA has a potential claim against you, you must include EPA as a creditor if you file for bankruptcy. You are also requested to preserve and retain any documents now in your Company's or its agents' possession or control, that relate in any manner to your facility or the Site or to the liability of any person under CERCLA for response actions or response costs at or in connection with the facility or the Site, regardless of any corporate document retention policy to the contrary.



Enclosed is a list of the other PRPs who have received Notice letters. This list represents EPA's findings on the identities of PRPs to date. We are continuing efforts to locate additional PRPs who have released hazardous substances, directly or indirectly, into the Lower Passaic River Study Area. Exclusion from the list does not constitute a final determination by EPA concerning the liability of any party for the release or threat of release of hazardous substances at the Site. Be advised that notice of your potential liability at the Site may be forwarded to all parties on this list as well as to the Natural Resource Trustees.

We request that you become a "cooperating party" for the Lower Passaic River Restoration Project. As a cooperating party, you, along with many other such parties, will be expected to fund the CERCLA study. Upon completion of the study, it is expected that CERCLA and WRDA processes will be used to identify the required remediation and restoration programs, as well as the assignment of remediation and restoration costs. At this time, the commitments of the cooperating parties will apply only to the study. For those who choose not to cooperate, EPA may apply the CERCLA enforcement process, pursuant to Sections 106(a) and 107(a) of CERCLA, 42 U.S.C. §9606(a) and §9607(a) and other laws.

You may become a cooperating party by participating in the Cooperating Parties Group ("Group") that has already formed to fund the CERCLA study portion of the Lower Passaic River Restoration Project.

We strongly encourage you to contact the Group to discuss your participation. You may do so by contacting:

William H. Hyatt, Esq.  
Common Counsel for the Lower Passaic River Study Area Cooperating Parties Group  
Kirkpatrick & Lockhart LLP  
One Newark Center, 10<sup>th</sup> Floor  
Newark, New Jersey 07102  
(973) 848-4045  
[whyatt@kl.com](mailto:whyatt@kl.com)

Written notification should be provided to EPA and Mr. Hyatt documenting your intention to join the Group and settle with EPA no later than 30 calendar days from your receipt of this letter. The result of any agreement between EPA and your Company as part of the Group will need to be memorialized in an Administrative Order on Consent. EPA's written notification should be mailed to:

Kedari Reddy, Assistant Regional Counsel  
Office of Regional Counsel  
U.S. Environmental Protection Agency  
290 Broadway - 17<sup>th</sup> Floor  
New York, New York 10007-1866



Pursuant to CERCLA Section 113(k), EPA must establish an administrative record that contains documents that form the basis of EPA's decision on the selection of a response action for a site. The administrative record files along with the Site file are located at EPA's Region 2 office located at 290 Broadway, New York, NY on the 18<sup>th</sup> floor. You may call the Records Center at (212) 637-4308 to make an appointment to view the administrative record and/or the Site file for the Diamond Alkali Site, Passaic River.

As you may be aware, the Superfund Small Business Liability Relief and Brownfields Revitalization Act became effective on January 11, 2002. This Act contains several exemptions and defenses to CERCLA liability, which we suggest that all parties evaluate. You may obtain a copy of the law via the Internet at <http://www.epa.gov/swerosps/bf/sblrbra.htm> and review EPA guidances regarding these exemptions at <http://www.epa.gov/compliance/resources/policies/cleanup/superfund>.

Inquiries by counsel or inquiries of a legal nature should be directed to Ms. Reddy at (212) 637-3106. Questions of a technical nature should be directed to Elizabeth Butler, Remedial Project Manager, at (212) 637-4396.

Sincerely yours,



Ray Basso, Strategic Integration Manager  
Emergency and Remedial Response Division

Enclosure

cc: Mark McClendon, Esq.  
Degussa Building Systems, Inc.  
889 Valley Park Drive South  
Shakopee, MN 55379



February 25. Meadowbrook Storm Sewer, Belleville, N. J.  
Sanitary sewage in Second River was traced to above outlet.  
This was caused by a temporary blockage in a Belleville  
sanitary sewer, and was eliminated the same day.

Preventions

February 2. Dutchess Dyeing Company, 168 W 5th Street, Paterson.  
Carelessly spilled heavy fuel oil was prevented from reach-  
ing Passaic River, when our inspector required owner of above  
concern to spread sand and ashes over oil and clear it away  
by shoveling up residue.

February 6. Ultra Chemical Company, Wood Street, Paterson.  
Our inspector had the above concern remove steel drums and  
old paint cans from river bank, thus preventing a contamination  
from this source.

March 1948.

March 3. Sonneborn Company, Hancock Avenue, Belleville.  
Blocked sanitary sewer caused overflow and sewage discharged  
into Passaic River via storm drain. Our inspector notified  
the plant engineer, who had the sewer cleaned out and the  
violation eliminated.

March 6. Belleville Dump, (Rear of Municipal Stadium), Belleville.  
During the winter the Alworth Contracting Company used this  
dump for waste from Edison Company yards in Belleville. This  
waste contains an excess of iron oxide and when the thaw  
began, this iron was washed in a storm drain that discharges  
into Third River at the foot of Chestnut Street, Belleville.  
It caused Third River to become brown in color. Our inspector  
had the contractor remove about 100 yards of this waste as  
it covered a spring and then had them cover the edge of the  
dump with about 40 loads of cinders. The discharge has cleared  
but there are still light traces of iron evident. Investigation  
continues.

March 11. Lodi Pressure Sewer, Main St., at Wright's Plant, Lodi.  
Leak in this line causing sanitary sewage and dye waste to  
escape. This waste is discharging into an old quarry and is not  
reaching Saddle River, but in order to repair leak the line  
has been put out of service, and all waste from the town of  
Lodi, including Wright Plant is being by-passed into Saddle  
River. The break was repaired and all sewage was returned  
to the line on March 15, 1948. The violation was thus eliminated.

March 12. Flintkote Company, Oak Street, East Rutherford.  
Oil and soapy water from this plant discharging into storm

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TIERRA-B-018324



May, 22, 1948.

The Passaic Valley Sewerage Commissioners,  
26 Randolph Place,  
Newark 1, New Jersey.

Gentlemen:- Report on Contaminations during April, 1948

Departures from normal in the quality of effluent liquids discharged to the streams which are within the drainage area under the jurisdiction of the Passaic Valley Sewerage Commissioners, and other features of potential temporary contaminations of the waters of the streams, are described briefly in the following list:-

- April 2. Burns Brothers Oil Company, Riverside Ave., Newark, N. J. Oil leaking into Passaic River from under dock. Our inspector notified the owner who said they had a spill of oil recently and some of it penetrated into the ground. On April 1 our inspector reports the leak had stopped.
- April 4. Ramo-Wiley Manufacturing Company, Garfield, N. J. City waste water discharge to Hackle River caused by pump overflow due to motor failure. Our inspector notified the plant engineer who had the motor repaired and the violation eliminated.
- April 5. Gregory Avenue Water Tower, River Drive, Passaic, N. J. Light red dye waste discharging into Passaic River. Our inspector could not trace this violation as it was of short duration.
- April 6. T. A. Edison Storage Battery, Belleville, N. J. Settling pit discharging iron waste into Meadowbrook Water Sewer. Our inspector notified plant superintendent who changed over the settling pits and eliminated the violation.
- April 8. Ultra Chemical Company, 12 Wood Street, Paterson, N. J. Industrial waste dumped in the river and on the banks of Passaic River at the Wood Street side of their plant. They have cleaned up the banks and street and made new sewer connections and have eliminated the violations.
- April 9. Local Pressure Water Line, 188 Main Ave., Wallington, N. J. Break in sewer line and sewage and dye waste was by-passed to Hackle River, so that break could be repaired. Break repaired and violation eliminated on April 10.
- April 13. Rye Street Sanitary Sewer, Paterson, N. J. Blocked sewer line caused sewage to overflow and discharge into Passaic River. Our inspector notified the city sewer department and they cleared the obstruction thus eliminating the violation.
- April 14. Niagara Water Sewer, Hawthorne, N. J. The sanitary sewer has overflow pipes and when the sewer

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Stream Contaminations during April, 1948, May 20, 1948, Page 2.

has peak loads they reach the overflow pipe and discharge into the storm sewer, which in turn discharges into Wagaraw Brook. Our inspector has notified the Borough Clerk and the superintendent of sewers and they are endeavoring to improve the situation.

- April 10. Lotco Chemical Company, 170- 5th Ave., Paterson, N. J. No. 1 Methyl powered violet, a water soluble dye, dumped on tanks and stream around yard, which during rains is washed into Passaic River. Our inspector notified the plant superintendent and they had it cleaned up. No. 2 Oil delivery truck allowed fuel oil to drain into storm sewer from a hose line, which polluted the Passaic River. Our inspector had them clean out the yard drain.
- April 10. Boulevard Fuel & Oil Company, 88-1st Ave., Paterson, N. J. While making a delivery of Number 6 fuel oil to the Federal Textile Processing Company, at 60-5th Ave., the driver spilled about 25 gallons in the yard, which was being washed into the Passaic River through the street drain. Our inspector informed the oil company and they sent two men over and covered up the oil with a load of sand.
- April 10. American Tallow and Fat Company, Avenue F, Newark, N. J. Due to heavy rain this plant has allowed washings from settling pits to leak into Lion Creek. These washings are from the plant waste. Our inspector notified the owner of the plant and he had the pits repaired and the violation eliminated.
- April 18. Fifth Avenue Holding Company, (Beogen Corp.), 81-5th Ave., Paterson, N. J. No. 1 Broken sewer line discharging directly into Passaic River. Our inspector notified the superintendent who sent a crew of men down and repaired the line and eliminated the violation.
- April 20. No. 2 This same sewer line developed a leak about 20 ft north of the old break and they found the sewer blocked with several shells. It was necessary to break a section of the line to remove these shells (reported as 6 1/2 inch shells) but the line was put back in good condition and the violation eliminated.
- April 21. Hazareley Manufacturing Company, Garfield, N. J. A brown turbid liquid from six inch line discharging into Saddle River. Our inspector notified the plant manager, who found that a by-pass valve had been opened at the pump. The valve was closed and the violation eliminated.
- April 21. Granite Company, Passaic Street, Passaic, N. J. Wash water containing talcum discharged into Roessel Brook. Our inspector reports he is watching the wash water outlet for future violations, as they are of short duration and to date the source has not been traced.
- April 21. Great Oil Tanker (at Phillips Oil Co.) Wallington, N. J. After unloading fuel oil, a seal on suction allowed the hose line to drain into Passaic River, causing a film of oil to spread on the river about 1/2 mile in length. Complaints

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Steel Contaminations during April, 1940, May 25, 1940, Page 3.

were received from boat owners. Our inspector notified all persons involved about the seriousness of this violation and all promised cooperation.

- April 23. T. C. Transport Garage, 93 Greenwood Ave., Montclair.  
Oil traced from this garage discharging into Tony's Brook by way of Greenwood Avenue storm sewer. Our inspector informed the garage foreman of this violation and he traced it to the washing down of busses and motors being overhauled. Instructed to prevent this oil from reaching storm sewer.
- April 22. Bakelite Corporation, Grove St., Gladfield, N. J.  
A highly inflammable solvent (Styrene) being discharged with clean wash water to the storm sewer thence to Second River via Mendowbrook storm sewer. Our inspector notified the plant foreman who blamed this condition on the failure of a pump. The pump was repaired and the violation eliminated.
- April 21. Conneborn, Inc., Lancox Avenue, Belleville, N. J.  
A discharge of milky white liquid into Belleville-Butley storm ditch. Our inspector reports a careless employee dumped four drums of this liquid down a yard drain. Plant manager was instructed to prevent such carelessness.
- April 24. Wilson Storage Battery, Belleville, N. J.  
A discharge of iron waste into the clear water line was traced by our inspector who found the iron discharge in Second River. This was late on Saturday and no one but the watchman was there. On Monday the plant superintendent could not trace this disturbance.
- April 27. Alliance Chemical Company, Avenue P, Newark, N. J.  
Discharge of yellow colored clear liquid into meadow storm ditch that drains to Plum Creek. This plant is on the property of the old amalgamated Chemical Company and they have no industrial waste sewer. Our inspector has notified the owners several times and only promises are made to improve the conditions. Other industries are moving in on this property and we have notified them there are no sewers to care for their waste, but they report that the landlord will take care of that detail. Investigation continues.
- April 25. Standard Lye and Finishing Company, 1 Van Buren St., Est.  
Lye waste discharging into Passaic River. Our inspector notified the engineer who reports their sump pump motor had broken down this morning, but was repaired immediately.
- April 28. Butley Sewer Line, rear of La Monte Paper Mill, Butley.  
Broken sewer line discharging sewage into St. Pauls Brook. Butley sewer department made immediate repairs.

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### Special Notes

Lodi Sewage Pumping station, Lodi, N. J.  
This station as previously reported is overloaded causing sewage to overflow and discharge into Saddle River. Money has been placed in this years budget to make necessary changes at the pumping station so as to allow the station to handle a greater volume. No work has started as yet.

Garfield Sanitary Sewer, (Eastern Overall) Garfield.  
This line continues to discharge into the storm drain which in turn discharges into Passaic River. However they are working on the line and it will take several weeks to clean the line out. Daily inspections show the work is progressing.

Loburn Chemical Company, Kearny, N. J.  
A consulting sanitary engineer has been retained to study this problem and to submit plans for its correction. The company has written to say that they stand ready to do all possible to correct the unpleasant condition of their waste waters. Matter being continued.

Respectfully submitted,

Signed: Richard C. Smith

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TIERRA-B-018328



August 19, 1949

The Passaic Valley Sewerage Commissioners,  
24 Branford Place,  
Newark 2, New Jersey.

Gentlemen:- Stream Contaminations during June, 1949.

Departures from normal in the quality of the liquids discharged to the streams which are under the jurisdiction of the Passaic Valley Sewerage Commissioners, and other features of potential temporary contaminations of the streams, together with the means of correction applied, are described briefly in the following list:-

- June 3, Meyden Chemical Co., Garfield.  
A temporary discharge of white liquid, found to be caused by an overflow of chemical inside the plant getting into clean water drains, reached Passaic River and caused the stream to become slightly turbid for a distance of thirty feet when it disappeared by dilution. Our inspector notified the plant manager, who found the overflow and had it corrected.
- June 6, Fair Lawn Sewage Pumping Station, Saddle River Road.  
The main sewer line at Blue Hill and Tunchbridge Road collapsed on June 6th and it was necessary to by-pass the sewage from this station into the swampland while repairs were made, work completed at 8:00 P.M. June 8th, 1949.
- June 8, Saxon Woods Development, (John Foydinecz), Clifton.  
Effluent from cesspool discharging into Pershing Brook due to the pump valve clogging. The valve was cleared and the violation eliminated. The pump is used to pump from the cesspool to the Clifton Sanitary Sewer. Bids for new sewers in this development are now being submitted.
- June 8, Sanitary Sewer, Rutley.  
This sewer, located near Haberland Manufacturing Co., and close to the Clifton line, was clogged up with rocks and debris which had been put in the sewer manhole by some mischievous persons. The blocked sewer manhole was overflowing and discharging into Nichols Brook and thence into Nichols Road in the park, tributary to Third River. Our inspector notified the town sewer superintendent and they cleaned out the sewer thus eliminating the violation. The Town Engineer and the Board of Health were also notified.
- June 9, Ultra Chemical Co., Wood Street, Paterson.  
A fuel storage tank was found to be leaking and some oil was getting into Passaic River. Our inspector notified the plant engineer. This tank is located under the floor of the building and the oil was seeping through the building walls at three places. They have a contractor on the job who is removing the tank and replacing same. Work completed June 29th, 1949. and the violation eliminated.



Stream Contaminations During June, 1949. Page 2.

- June 10, Lobsitz Mill Co., Harrison Street, Rutley.  
Industrial waste reaching Third River from a break in their industrial waste water line. Our inspector notified the owner who made repairs, thus eliminating the offense.
- June 10, Tenement House and Stores, 145 River Street, Paterson.  
Garbage and refuse dumped on bank and into Passaic River. This condition is the fault of the tenants who refuse to co-operate. The owner has co-operated by cleaning up on several occasions but the dumping continues.
- June 10, Pantasote Leather Co., Jefferson Street, Passaic.  
Due to a broken water line, floor washings containing oil were washed into the separator pits in the calender room. The pits overflowed and the oil was washed into Passaic Brook. Repairs were made immediately and the violation eliminated.
- June 14, Solar Oil Co., Passaic.  
Soot and oily rags dumped on bank of river. Our inspector had them remove the debris and a possible violation was prevented.
- June 14, Tenement House, 52 Bay Street, Montclair.  
Mr James, Tenant - Mr Del Visco, Owner.  
This tenement is located on the bank of Teay's Brook a tributary of Second River, and the Brook was littered with refuse that was thrown into the Brook. Our inspector notified the owner and the tenants, who co-operated by cleaning out the brook.
- June 14, Carson Weston Co., Mill Street, Belleville.  
Acid waste dumped on bank of Second River and trickling into the river. Our inspector notified the plant engineer who said that no more dumping of acid would reach the river.
- June 15, Joint Outlet Sewer, Mill Street, Belleville.  
This sanitary sewer crosses underneath Second River by means of a siphon. Our inspector found two employees of the Joint Outlet pumping out the siphon and putting the discharge into Second River. They stopped pumping at our inspector's request. The employee in charge is a new man.
- June 22, Borough of Fair Lawn, Prospect Street.  
There are ten homes located on Prospect Street near the Radburn Disposal Plant which have septic tanks for sewage disposal. These septic tanks are overflowing and the effluent is discharging into a storm ditch which has an outlet to Passaic River. Our inspector notified the Borough Manager of this condition.
- June 22, Sonneborn Company, Inc. Canton Avenue, Belleville.  
A discharge from this plant reaching the storm ditch. The discharge was oily and was traced to the oil department. Repairs were in progress at the end of the month. Investigation continues.

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## WEEKLY SUMMARY OF INSPECTIONS BY INSPECTORS

Week of February 14, to February 17, 1936, Inc.

DISTRICT NO. 4 - Robert Van Volkenburgh

During the daily inspections of District No. 4 from February 14, to February 17, all conditions were found to be normal.

DISTRICT NO. 5 - Wilbert Seals

During the daily inspections of District No. 5 from February 14, to February 17, all conditions were found to be normal.

DISTRICT NO. 6 - (Inspector for this District, Mr. Fruhnsfeld retired)

This district is covered by different inspectors assigned by the Chief Inspector. The Chief Inspector also inspects the district.

Feb. 15 - Special Report - Frank's Creek, Harrison, N. J.

Frank's Creek, through the Swift Plant all on Harrison Ave., is being covered by a concrete fl. This is in preparation to the building of a new plant on this property by Van Wagenen & Schuchman Co., a division of Swift & Co. (Seals)

DISTRICT NO. 7 - John B. McAtteeFeb. 15, Elimination -

Westinghouse Corp., Mac Arthur Plaza, Bloomfield  
Re: Violation of Feb. 10, 1936.

The plant engineer was notified and upon excavating around the sump, found that a 4" abandoned water line, connected to the storm sewer, was acting like a siphon from an oil pit around the tanks.

The abandoned line was plugged with concrete; this will prevent the oil, in the sump, from getting into the storm sewer thus eliminating the violation.

The manhole at Charles and Cross Street was cleaned out and flushed by the sewer department of Bloomfield.

Feb. 16, Violation -

Sonnabend & Sons Co., Belleville, N. J.

A discharge of a solvent from a 6" line into the Nutley-Belleville Storm Ditch was causing the water to become milky. This was traced to the above plant.

Mr. Burrows, the Plant Engineer, was at a l to explain the discharge but will investigate the cause and try to rectify the condition.

This will be kept under observation.

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WEEKLY SUMMARY OF INSPECTIONS BY INSPECTORS

Week of February 20, to February 24, 1936, Inc.

DISTRICT NO. 7 - John B. Mc Atter

Feb. 20, Elimination - Sonneborn & Sons Co., Belleville, N. J.

The violation on February 16, was due to an overdose of Tri Sodium Phosphate and spillage of water immiscible liquid. This entered the storm sewer which discharges into the Belleville Nutley Storm Ditch and into the Passaic River.

This concern promised to avoid any future occurrence of this violation.

Feb. 21 - 23  
Violation and  
Elimination.

M.G.M. Record Co., Arlington Ave., Bloomfield.

A heavy flow of fuel oil was discharging from the Meadow Brook Storm Sewer into Second River.

Mr. Goldberg and I, conducted a process of elimination investigation from the outlet in Belleville Park to a man hole on La France Avenue in Bloomfield.

There we found a spur in the line discharging a mixture of oil and water into the storm sewer.

Due to the time of day, 4:30 P.M., when most of the factories were shutting down and we were unable to find any man holes along the spur, we were forced to discontinue the investigation.

On Thursday February 23, I called Mr. Huber the Town Engineer of Bloomfield, to inquire about the spur and the plants connected to it. He informed me that the only plant he knew was discharging into the spur was the M.G.M. Record Company. With Mr. Goldberg we paid this plant a visit and spoke to Mr. Josephs, Plant Engineer. He informed us that water had infiltrated into his fuel tank. In attempting to pump the water out of the fuel tank into the storm sewer, some oil was pumped out with it.

We told him that this was a violation because the oil appeared on the surface of the river.

He was unaware that this was going into an open river and he promised that he would avoid doing this in the future. (Andolino)

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June 27, 1961

Sarnapher Chemical & Refining Corp.  
Pinecroft Avenue  
Mallerville, New Jersey

Gentlemen:

I am in receipt of a report from our River Inspector, which shows that material being discharged by you, to a Huskey-Bellewille stream ditch which reaches the Passaic River, is highly polluting. This highly toxic material contains among other things, grease and oil.

It is imperative that the source of this pollution within your plant, be located and halted.

I would appreciate it very much if you would write to me, explaining what the problem is, what you intend to do about it, and when you intend making the necessary corrections to this problem.

Very truly yours,

PASSAIC VALLEY SEWERAGE COMMISSIONERS

S. A. Lubetkin,  
Chief Engineer

SAL:lc

cc: Messrs. Andellin,  
Barcellona and ColCher

DDF000005



5/2/03  
VACUUM  
This is a new  
CASE - BLACK -  
WJ



James E. McGreevey  
Governor

State of New Jersey  
Department of Environmental Protection

Bradley M. Campbell  
Commissioner

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INTEROFFICE MEMORANDUM

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TO: WAYNE HOWITZ, ASSISTANT DIRECTOR  
RESPONSIBLE PARTY REMEDIATION ELEMENT

FROM: MARK PEDERSEN, BUREAU CHIEF (M)  
BUREAU OF RISK MANAGEMENT, INITIAL NOTICE & CASE  
ASSIGNMENT

SUBJECT: EXECUTED ADMINISTRATIVE CONSENT ORDER

DATE: 5/2/03

RECEIVED

07-01-103

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Enclosed please find the final executed Administrative Consent Order for the L. Sonneborne /("Arbor Hills") Site. The ACO is for the oversight of all remedial activities related to soil contamination at the Site. Should you have any questions regarding the ACO please contact Nadine M. Drake of my staff at 777-1912.

DDF000396





# State of New Jersey

James E. McGreevey  
Governor

Department of Environmental Protection

Bradley M. Campbell  
Commissioner

MS #00085909/PI #G000011510  
KCSL# NJD0001015940

Prepared by Nadine M. Drake  
Nadine M. Drake

IN THE MATTER OF THE :  
L. SONNEBORN SONS, INC. SITE :  
Aka ARBOR HILLS COOPERATIVE COMPLEX: ADMINISTRATIVE CONSENT  
AND : ORDER  
432 OWNERS, INC. :

This Administrative Consent Order is issued pursuant to the authority vested in the Commissioner of the New Jersey Department of Environmental Protection (hereinafter "the Department" or "DEP") by N.J.S.A. 13:1D-1 through -19, the Solid Waste Management Act, N.J.S.A. 13:1E-1 through -91, and the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11 et seq., and the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., and duly delegated to the Assistant Director, Division of Remediation Support, Oversight Resources Allocation Element, pursuant to N.J.S.A. 13:1B-4.

## FINDINGS

1. L. Sonneborn Sons Inc. was located at 1 River Road, and also known as Block 393, Lots 1 and 2 on the tax maps of the Town of Nutley; Block 108, Lot 100 on the tax maps of the Town of Belleville, Essex County (hereinafter "Site") which is the subject of the Administrative Consent Order.

2. L. Sonneborn Sons Inc. owned and operated at the Site from 1906 through the early 1970's. The Site operated as a manufacturing facility which products included, but were not limited to the following: paints, varnishes, white mineral oil, industrial cleaners and detergents, floor treatment products, lubricants and textile chemicals.

3. L. Sonneborn Sons Inc. manufacturing facility was destroyed by fire in the early 1970's. The remaining industrial buildings were demolished, and apartment buildings were constructed on the Site in 1973.

4. In 1985, 432 Owners, Inc. purchased the property and turned the apartments into cooperatives.

DDF000397



5. 432 Owners, Inc. is a New Jersey corporation with its corporate offices located at 1 River Road, Nutley, New Jersey, and is the party entering into this Administrative Consent Order.

6. On October 3, 1995, 432 Owners, Inc. conducted soil sampling at the Site which revealed Cadmium contamination at 1-2 ppm.

7. On May 7, 1996 the Department conducted soil sampling at the Site which revealed PCB contamination at concentrations of 2.7-16 ppm.

8. On July 17, 1998 visibly stained soils were encountered during excavation activities at the Site. Soil sampling results indicated contaminant levels of total petroleum hydrocarbons (TPHC) at 74,200 ppm and lead at 5,560 ppm. 19.35 tons of "fill" including buried waste, paint cans, and stained pigmented soils were removed.

9. In 2000, during a focused soil and ground water investigation conducted by 432 Owners, Inc., numerous soil samples revealed contamination above New Jersey Direct Contact Soil Cleanup Criteria. Contamination found included, but was not limited to, TPHC, PCB's and Arsenic. Cadmium contamination was not discovered. Ground water was found to have petroleum free product and tetrachloroethene above the NJDEP Ground Water Quality Standards.

10. By entering into this Administrative Consent Order, 432 Owners, Inc. neither admits to any fact, fault or liability under any statute or regulation concerning the condition of the Site, nor waives any rights or defenses with regard to the Site, except as specifically provided in this Administrative Consent Order.

11. The scope of the investigation and remediation required by this Administrative Consent Order will include all contaminants at the above referenced Site, unless determined to be migrating onto the Site from off-site, and all contaminants, which are emanating from or which have emanated from the Site.

### ORDER

#### I. Remedial Investigation Requirements

12. Within sixty (60) calendar days after the effective date of this Administrative Consent Order or as otherwise approved in writing by the Department, 432 Owners, Inc. agrees to submit to the Department a detailed Remedial Investigation Work Plan (hereinafter the "RI Work Plan") in accordance with N.J.A.C. 7:26E. 432 Owners, Inc. agrees to include in the RI Work Plan a baseline ecological evaluation pursuant to N.J.A.C. 7:26E-3.11 and all other work required by N.J.A.C. 7:26E-3.1 et seq., that the Department has not already approved for the site.

13. Within forty five (45) calendar days after receipt of the Department's written comments on the RI Work Plan, or as otherwise approved in writing by the Department, 432 Owners, Inc. agrees to modify the RI Work Plan to conform to the Department's comments and agrees to submit the modified RI Work Plan to the Department. The determination as to whether or not the



modified RI Work Plan, as resubmitted, conforms to the Department's comments and is otherwise approvable by the Department shall be made solely by the Department in writing.

14. Upon receipt of the Department's written final approval of the RI Work Plan, 432 Owners, Inc. agrees to conduct the remedial investigation in accordance with the approved RI Work Plan and the schedule therein.

15. 432 Owners, Inc. agrees to submit to the Department a Remedial Investigation Report (hereinafter "RI Report") in accordance with N.J.A.C. 7:26E and the RI Work Plan and the schedule therein.

16. If upon review of the RI Report the Department determines that additional remedial investigation is required, 432 Owners, Inc. agrees to conduct additional remedial investigation as required by the Department including submission of another RI Workplan and schedule, and submit another RI Report.

17. Within sixty (60) calendar days after receipt of the Department's written comments on the RI Report, or longer as authorized by the Department, 432 Owners, Inc. agrees to modify the RI Report to conform to the Department's comments and agrees to submit the modified RI Report to the Department. The determination as to whether or not the modified RI Report, as resubmitted, conforms with the Department's comments and is otherwise shall be made solely by the Department in writing.

## II. Remedial Action

18. Within sixty (60) calendar days after receipt of the Department's written approval of the RI Report, 432 Owners, Inc. agrees to submit to the Department a Remedial Action Work Plan (hereinafter "RA Workplan") in accordance with N.J.A.C. 7:26E.

19. Within forty five (45) calendar days after receipt of the Department's written comments on the RA Work Plan, or as otherwise approved in writing by the Department, 432 Owners, Inc. agrees to modify the RA Work Plan to conform to the Department's comments and agrees to submit the modified RA Work Plan to the Department. The determination as to whether or not the modified RA Work Plan, as resubmitted, conforms to the Department's comments and is otherwise acceptable to the Department shall be made solely by the Department in writing.

20. Upon receipt of the Department's written final approval of the RA Work Plan, 432 Owners, Inc. agrees to implement the approved RA Work Plan in accordance with the schedule therein.

21. 432 Owners, Inc. agrees to submit to the Department a Remedial Action Report (hereinafter "RA Report") in accordance with N.J.A.C. 7:26E and the RA Work Plan and the schedule therein.



22. If upon review of the RA Report the Department determines that additional remediation is required, 432 Owners, Inc. agrees to conduct additional remediation as directed by the Department and agrees to submit subsequent RI Reports and RA Reports, as applicable.

23. Within sixty (60) calendar days after receipt of the Department's written comments on the RA Report, or longer as authorized by the Department, 432 Owners, Inc. agrees to modify the RA Report to conform the Department's comments and agrees to submit the modified RA Report to the Department. The determination as to whether or not the modified RA Report, as resubmitted, conforms with the Department's comments and is otherwise approvable by the Department shall be made solely by the Department in writing.

### III. Additional Remedial Investigation and Remedial Action

24. If at any time that this Administrative Consent Order is in effect the Department determines that the prevailing standards in N.J.A.C. 7:26E are not being achieved or that additional remediation is required to protect the public health and safety and the environment, 432 Owners, Inc. agrees to conduct such additional remediation as the Department directs.

### IV. Progress Reports

25. 432 Owners, Inc. agrees to submit quarterly progress reports which detail the status of 432 Owners, Inc.'s compliance with this Administrative Consent Order to the Department in accordance with N.J.A.C. 7:26E-6.5(b). 432 Owners, Inc. agrees to submit the first progress report on or before the last calendar day of the fourth calendar month following the effective date of this Administrative Consent Order. 432 Owners, Inc. agrees to submit a progress report thereafter on or before the last calendar day of the month following the next three calendar months being reported. 432 Owners, Inc. may request that the Department allow progress reports be submitted semi-annually or annually.

### V. Project Coordination

26. 432 Owners, Inc. agrees to submit to the Department all documents required by this Administrative Consent Order, including correspondence relating to force majeure issues, by delivery with an acknowledgement of receipt from the Department. The date that the Department executes the acknowledgement will be the date the Department uses to determine 432 Owners, Inc.'s compliance with the requirements of this Administrative Consent Order and the applicability of penalties and any other remedies available to the Department.

27. Within seven (7) calendar days after the effective date of this Administrative Consent Order, 432 Owners, Inc. shall submit to the Department the name, title, address and telephone number of the individual who shall be 432 Owners, Inc.'s technical contact for the Department for all matters concerning this Administrative Consent Order and 432 Owners, Inc. agrees that



the person listed below is 432 Owners, Inc.'s agent for the purpose of service for all matters concerning this Administrative Consent Order. In the event the Department determines that a meeting concerning the remediation of the site is necessary, the Department will provide notification to this agent of the date, time and place of such meeting. 432 Owners, Inc. agrees to ensure that the agent is available for and participates in such meeting.

WOLFF & SAMSON  
Robert Crespi, Esq.  
One Boland Drive  
West Orange, New Jersey 07052  
Tel. (973) 530-2060  
Fax (973) 530-2260  
Attorneys for Respondent, 432 Owners, Inc.

28. Within seven (7) days after the effective date of this Administrative Consent Order the Department will identify the individual who will be the Department's contact for all matters concerning this Administrative Consent Order. Unless the Department otherwise directs in writing, 432 Owners, Inc. agrees to submit all payments and copies of all documents required by this Administrative Consent Order to the Department's contact.

29. 432 Owners, Inc. agrees to notify, both verbally and in writing, the Department's contact person identified pursuant to 28, above, at least fourteen (14) calendar days prior to the initiation of any field activities at the Site which are related to remediation, development or redevelopment.

30. The Department will consider a written request for an extension of time to perform any requirement in this Administrative Consent Order, provided that 432 Owners, Inc. submits any extension request to the Department one week prior to any applicable deadline to which the extension request refers.

#### VI. Remediation Funding Source and Remediation Funding Source Surcharge

31. 432 Owners, Inc. agrees to establish and maintain for the duration of this Administrative Consent Order a remediation funding source in an amount equal to the Department-approved estimate of the remediation costs related to compliance with this Administrative Consent Order, including all operation, maintenance and monitoring costs of all engineering and institutional controls, pursuant to N.J.A.C. 7:26E-8, used to remediate the Site, pursuant to N.J.A.C. 7:26C-7. 432 Owners, Inc. agrees that the initial remediation funding source amount is \$140,000.00.

32. 432 Owners, Inc. agrees to pay an annual remediation funding source surcharge if required to do so pursuant to N.J.A.C. 7:26C-7.8.



## VII. Project Cost Review

33. Beginning three hundred sixty-five (365) calendar days after the effective date of this Administrative Consent Order, and annually thereafter on the same calendar day, 432 Owners, Inc. agrees to submit to the Department a detailed review of all remediation costs expended by 432 Owners, Inc. to comply with this Administrative Consent Order, including:

- a) A detailed summary of all monies spent to date pursuant to this Administrative Consent Order;
- b) The detailed estimated remediation costs required to comply with this Administrative Consent Order, including all operation, maintenance and monitoring costs; and
- c) The reason for any changes from the previously submitted cost review.

34. At any time after 432 Owners, Inc. submits the first cost review pursuant to the preceding paragraph 432 Owners, Inc. may request the Department's approval to reduce the amount of the remediation funding source to reflect the remaining remediation costs necessary to comply with obligations under this Administrative Consent Order. If the Department grants written approval to such a request, 432 Owners, Inc. may amend the amount of the then existing remediation funding source consistent with that approval.

35. If the estimated costs of meeting 432 Owners, Inc.'s obligations in this Administrative Consent Order at any time increase to an amount greater than the remediation funding source, 432 Owners, Inc. agrees to within ninety (90) calendar days after receipt of written notice of the Department's determination, increase the amount of the then existing remediation funding source or provide an additional remediation funding source such that the total amount equals the Department's approved estimated cost.

36. If 432 Owners, Inc. remediates the site to a restricted use remediation standard and 432 Owners, Inc. implements institutional and engineering controls, 432 Owners, Inc. shall maintain the remediation funding source, pursuant to N.J.A.C. 7:26C-7, in an amount necessary to pay for the maintenance of the engineering and institutional controls.

## VIII. Oversight Cost Reimbursement

36. Within thirty (30) calendar days after receipt from the Department of a written summary of the Department's oversight costs, which at the request of 432 Owners, Inc. shall include copies of documents supporting such written summary, including all accrued interest incurred pursuant to paragraph 38, determined pursuant to N.J.A.C. 7:26C-9.3, 432 Owners, Inc. agrees to submit to the Department a cashier's or certified check payable to the "Treasurer, State of New Jersey" and submitted with DEP Form 062A, for the full amount of the Department's oversight costs, for the period being charged. 432 Owners, Inc. shall have the right within this thirty (30) day time period to challenge the Department's cost, pursuant to N.J.A.C. 7:26C-9.4. No interest shall accrue on these costs during the challenge.



37. 432 Owners, Inc. agrees that its agreement here to pay the Department's oversight costs will continue after the Department's termination of this Administrative Consent Order as provided herein for those oversight costs that have accrued prior to that termination.

38. 432 Owners, Inc. also agrees to pay interest on the unpaid balance of oversight costs, beginning at the end of the thirty (30) calendar day period established in the preceding paragraph, at the rate established by Rule 4:42 of the current edition of the Rules Governing the Courts of the State of New Jersey.

#### Reservation of Rights

39. The Department reserves the right to unilaterally terminate this Administrative Consent Order in the event that the Department determines that 432 Owners, Inc. has violated the terms of this Administrative Consent Order. Before the Department unilaterally terminates this Administrative Consent Order, the Department shall notify 432 Owners, Inc. in writing of the obligation(s) which it has not performed, and 432 Owners, Inc. shall have thirty (30) calendar days after receipt of such notice to perform such obligation(s).

40. Nothing in this Administrative Consent Order precludes the Department from seeking civil or civil administrative penalties or any other legal or equitable relief against 432 Owners, Inc. for violations of this Administrative Consent Order. In any such action brought by the Department under this Administrative Consent Order for injunctive relief, civil, or civil administrative penalties, 432 Owners, Inc. may raise, among other defenses, a defense that 432 Owners, Inc. failed to comply with a decision of the Department, made pursuant to this Administrative Consent Order, on the basis that the Department's decision was arbitrary, capricious or unreasonable. If 432 Owners, Inc. is successful in establishing such a defense based on the administrative record, 432 Owners, Inc. shall not be liable for penalties for failure to comply with that particular requirement of the Administrative Consent Order. Although 432 Owners, Inc. may raise such defenses in any action initiated by the Department for injunctive relief, 432 Owners, Inc. hereby agrees not to otherwise seek review of any decision made or to be made by the Department pursuant to this Administrative Consent Order and under no circumstances shall 432 Owners, Inc. initiate any action or proceeding challenging any decision made or to be made by the Department pursuant to this Administrative Consent Order.

41. This Administrative Consent Order shall not be construed to affect or waive the claims of federal or State natural resources trustees against any person for damages or injury to, destruction of, or loss of natural resources, unless expressly provided herein, and then only to the extent expressly provided herein.

42. Except as otherwise stated in this Administrative Consent Order, nothing herein shall be construed as limiting any legal, equitable or administrative remedies which 432 Owners, Inc. may have under any applicable law or regulation. In any enforcement action the Department initiates pursuant to this Administrative Consent Order, 432 Owners, Inc. reserves any defenses



which the Spill Compensation and Control Act, *Matter of Kimber Petroleum Corp.*, 110 N.J. 69 (1988) or their amendments, supplements and progeny allow.

43. Except as otherwise set forth herein, by the execution of this Administrative Consent Order the Department does not release 432 Owners, Inc. from any liabilities or obligations 432 Owners, Inc. may have pursuant to any other authority, nor does the Department waive any of its rights or remedies pursuant thereto.

#### IX. Force Majeure

44. If any event specified in the following paragraph occurs which 432 Owners, Inc. believes or should believe will or may cause delay in the compliance or cause non-compliance with any provision of this Administrative Consent Order, 432 Owners, Inc. agrees to notify the Department in writing within seven (7) calendar days of the start of delay or knowledge of the anticipated delay, as appropriate, referencing this paragraph and describing the anticipated length of the delay, the precise cause or causes of the delay, any measure taken or to be taken to minimize the delay, and the time required to take any such measures to minimize the delay. 432 Owners, Inc. agrees to take all necessary action to prevent or minimize any such delay.

45. The Department will extend in writing the time for performance for a period no longer than the delay resulting from such circumstances as determined by the Department only if:

- a) 432 Owners, Inc. has complied with the notice requirements of the preceding paragraph;
- b) Any delay or anticipated delay has been or will be caused by fire, flood, riot, strike or other circumstances beyond the control of 432 Owners, Inc.; and
- c) 432 Owners, Inc. has taken all necessary action to prevent or minimize any such delay.

46. The burden of proving that any delay is caused by circumstances beyond the control of 432 Owners, Inc. and the length of any such delay attributable to those circumstances shall rest with 432 Owners, Inc.

47. "Force Majeure" shall not include the following:

- a) Delay in an interim requirement with respect to the attainment of subsequent requirements;
- b) Increases in the cost or expenses incurred by 432 Owners, Inc. in fulfilling the requirements of this Administrative Consent Order;
- c) Contractor's breach, unless 432 Owners, Inc. demonstrates that such breach satisfies the conditions of the above paragraphs; and



d) Failure to obtain access required to implement this Administrative Consent Order, unless such attempts to obtain access are denied by a court of competent jurisdiction.

X. Penalties

48. 432 Owners, Inc. agrees to pay penalties for its violations of this Administrative Consent Order, or for its violations of a deed notice or declaration of environmental restriction that is part of a remedial action implemented pursuant to the order, according to the amounts and conditions in this section.

49. 432 Owners, Inc. agrees:

- a) That each violation of any requirement, condition or deadline in this Administrative Consent Order constitutes an additional, separate, and distinct violation to which penalties apply;
- b) That each day that a violation continues constitutes an additional, separate, and distinct violation to which penalties apply;
- c) To pay interest, at the rate set forth in the New Jersey Court Rules, R. 4:42-11(a)i, on any unpaid penalty pursuant to this Administrative Consent Order commencing on the first day after it has agreed to pay a penalty pursuant to this Administrative Consent Order;
- d) That nothing in this Administrative Consent Order shall prevent the simultaneous accrual of separate penalties for separate violations of this Administrative Consent Order;
- e) That its payment of a penalty pursuant to this Administrative Consent Order does not alter 432 Owners, Inc.'s responsibility to complete any requirement of this Administrative Consent Order; and
- f) To regard payments of penalties pursuant to this Administrative Consent Order as payments of civil or civil administrative penalties pursuant to the Spill Compensation And Control Act, N.J.S.A. 58:10-23.11 through - 23.14.

50. 432 Owners, Inc. agrees to pay a penalty for all violations of this Administrative Consent Order beginning on the first calendar day following the day the noncompliance begins and continually thereafter until the final day of correction of the noncompliance, in the following amounts:

| <u>Calendar Days After Due Date</u> | <u>Penalty</u>            |
|-------------------------------------|---------------------------|
| 1 - 7 days                          | \$ 500 per calendar day   |
| 8 - 14 days                         | \$ 1,000 per calendar day |



15 days and over

\$ 2,500 per calendar day

51. The Department will provide 432 Owners, Inc. with written notice of each violation, including a description of the conditions of this Administrative Consent Order that 432 Owners, Inc. has violated, the date that 432 Owners, Inc. was to have completed each task, the duration of the violation, and the amount of the penalty that is due and owing pursuant to Paragraph 50, above.

52. 432 Owners, Inc. agrees to pay each penalty required by this Administrative Consent Order by cashier's check or certified check payable to the "Treasurer, State of New Jersey," accompanied by DEP Form 062A and a letter referencing this Administrative Consent Order and the violations for which 432 Owners, Inc. is submitting the payment within 30 calendar days after its receipt of a penalty payment demand from the Department pursuant to Paragraph 51, above.

53. 432 Owners, Inc. agrees that nothing herein shall limit the Department's ability, upon 432 Owners, Inc.'s failure to pay a penalty pursuant to this Administrative Consent Order, to pursue civil or civil administrative penalties or take any other enforcement action for any violations of this Administrative Consent Order.

54. 432 Owners, Inc. agrees to pay a penalty in the amount of the economic benefit (in dollars) which 432 Owners, Inc. has realized as a result of not complying, or by delaying compliance, with the requirements of this Administrative Consent Order, including the following:

- a) The amount of savings realized from avoided capital or noncapital costs resulting from the violation;
- b) The return earned or that may be earned on the amount of the avoided costs;
- c) All benefits accruing to the violator as a result of a competitive market advantage enjoyed by reason of the violation; and
- d) All other benefits resulting from the violation.

55. 432 Owners, Inc. agrees that the Department will consider the following factors in determining a penalty for economic benefit:

- a) The amount of capital investments required, and whether they are one-time or recurring;
- b) The amount of one-time nondepreciable expenditures;
- c) The amount of annual expenses;
- d) The useful life of capital;



- e) Applicable tax, inflation and discount rates;
- f) The amount of low interest financing, the low interest rate, and the corporate debt rate; and
- g) Any other factors relevant to economic benefit.

56. If the total economic benefit was derived from more than one violation, 432 Owners, Inc. agrees that the Department may apportion the total economic benefit amount among the violations from which it was derived so as to increase each civil administrative penalty assessment to an amount no greater than \$50,000 per violation.

#### XI. Dispute Resolution

57. In the event a conflict arises between 432 Owners, Inc. and the Department, 432 Owners, Inc. may institute the Department's dispute resolution process at N.J.A.C. 7:26C-1.4.

#### General Provisions

58. In addition to the Department's statutory and regulatory rights to enter and inspect, 432 Owners, Inc. agrees to allow the Department and its authorized representatives access to all areas of the Site 432 Owners, Inc. has access to, at all times, for the purpose of monitoring 432 Owners, Inc.'s compliance with this Administrative Consent Order and/or to perform any remedial activities 432 Owners, Inc. fails to perform as required by this Administrative Consent Order. 432 Owners, Inc. agrees that its agreement here to provide the Department with access will continue after the Department's termination of this Administrative Consent Order pursuant to Paragraph 39, above until the completion of all required remedial activities at the Site.

59. 432 Owners, Inc. agrees to not construe any informal advice, guidance, suggestions, or comments by the Department, or by persons acting on behalf of the Department, as relieving 432 Owners, Inc. of its obligation to obtain written approvals as required herein.

60. 432 Owners, Inc. agrees to provide a copy of this Administrative Consent Order to each contractor and subcontractor retained to perform the work required by this Administrative Consent Order and agrees to condition all contracts and subcontracts entered for the performance of such work upon compliance with the terms and conditions of this Administrative Consent Order. 432 Owners, Inc. agrees to be responsible to the Department for ensuring that its contractors and subcontractors perform the work herein in accordance with this Administrative Consent Order.

61. Nothing in this Administrative Consent Order relieves 432 Owners, Inc. from complying with all other applicable laws and regulations. Compliance with the terms of this Administrative Consent Order shall not excuse 432 Owners, Inc. from obtaining and complying with any



applicable federal, state or local permits, statutes, regulations and/or orders while carrying out the obligations imposed by this Administrative Consent Order. This Administrative Consent Order shall not preclude the Department from requiring that 432 Owners, Inc. obtain and comply with any permits, and/or orders issued by the Department under the authority of the Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq., the Solid Waste Management Act, N.J.S.A. 13:1 E-1 et seq., and the Spill Compensation and Control Act N.J.S.A. 58:10:23.11 et seq., for the matters covered herein. The terms and conditions of any such permit shall not be preempted by the terms and conditions of this Administrative Consent Order if the terms and conditions of any such permit are more stringent than the terms and conditions of this Administrative Consent Order. Should any of the measures to be taken by 432 Owners, Inc. during the remediation of any ground water and surface water pollution result in a new or modified discharge as defined in the New Jersey Pollutant Discharge Elimination System ("NJPDES") regulations, N.J.A.C. 7:14A-1 et seq., then 432 Owners, Inc. agrees to obtain a NJPDES permit or permit modification from the Department prior to commencement of the activity.

62. All work plans, schedules, and other documents required by this Administrative Consent Order and approved in writing by the Department are incorporated herein and made a part hereof.

63. Upon the receipt of a written request from the Department, 432 Owners, Inc. agrees to submit to the Department all data and information, including technical records and contractual documents, concerning contamination at the site, including raw sampling and monitoring data, whether or not such data and information, including technical records and contractual documents, were developed pursuant to this Administrative Consent Order. 432 Owners, Inc. reserves its right to assert a privilege regarding such documents, but agrees not to assert any confidentiality or privilege claim with respect to any data related to site conditions, sampling or monitoring.

64. 432 Owners, Inc. agrees to comply with this Administrative Consent Order, which shall be fully enforceable as an Order in the New Jersey Superior Court pursuant to the Department's statutory authority.

65. No modification or waiver of this Administrative Consent Order shall be valid except by written amendment to this Administrative Consent Order duly executed by 432 Owners, Inc. and the Department. Any amendment to this Administrative Consent Order shall be executed by the Department and 432 Owners, Inc.. The Department reserves the right to require the resolution of any outstanding violations of the rules of this prior to executing any such amendment.

66. 432 Owners, Inc. waives its rights to an administrative hearing concerning the entry of this Administrative Consent Order.

67. This Administrative Consent Order shall be governed and interpreted under the laws of the State of New Jersey.



68. If any provision of this Administrative Consent Order or the application thereof to any person or circumstance shall, to any extent, be invalid or unenforceable, the remainder of this Administrative Consent Order or the application of such provision to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each provision of this Administrative Consent Order shall be valid and enforced to the fullest extent permitted by law.

69. This Administrative Consent Order represents the entire integrated agreement between the Department and 432 Owners, Inc. concerning the site subject to this Administrative Consent Order and supersedes all prior negotiations, representations or agreements, either written or oral, unless otherwise specifically provided herein.

70. Within thirty (30) calendar days after the effective date of this Administrative Consent Order, 432 Owners, Inc. agrees to record a copy of this Administrative Consent Order with the County Clerk, Essex County, State of New Jersey and agrees to provide the Department with written verification of compliance with this paragraph which shall include a copy of this Administrative Consent Order stamped "Filed" by the County Clerk.

71. This Administrative Consent Order shall be binding, jointly and severally, on each party, its successors, assignees and any trustee in bankruptcy or receiver appointed pursuant to a proceeding in law or equity. No change in the ownership or corporate status of any party or of the facility or site shall alter party's responsibilities under this Administrative Consent Order.

72. 432 Owners, Inc. agrees to preserve, during the pendency of this Administrative Consent Order and for a minimum of ten (10) years after its termination, all data and information, including technical records, potential evidentiary documentation and contractual documents, in its possession or in the possession of 432 Owners, Inc.'s divisions, employees, agents, accountants, contractors, or attorneys that relate in any way to the contamination at the site, despite any document retention policy to the contrary. After this ten year period, 432 Owners, Inc. may make a written request to the Department to discard any such documents. Such a request shall be accompanied by a description of the documents involved, including the name of each document, date, name and title of the sender and receiver and a statement of contents. Upon receipt of written approval by the Department, 432 Owners, Inc. may discard only those documents that the Department does not require to be preserved for a longer period. Upon receipt of a written request by the Department, 432 Owners, Inc. agrees to submit to the Department all data and information, including technical records and contractual documents or copies of the same. 432 Owners, Inc. reserves whatever rights it may have, if any, to assert any privilege regarding such data or information, however, 432 Owners, Inc. agrees not to assert any privilege or confidentiality claims with respect to any data related to site conditions, sampling, or monitoring.

73. 432 Owners, Inc. agrees to provide to the Department written notice of the dissolution of its corporate or partnership identity, the liquidation of the majority of its assets or the closure, termination or transfer of operations in accordance with the schedule set forth at N.J.A.C. 7:26B-3.2 prior to such action. Upon such notice, 432 Owners, Inc. agrees to submit a cost review



pursuant to this Administrative Consent Order to the Department. 432 Owners, Inc. agrees to also provide written notice to the Department of a filing of a petition for bankruptcy no later than the first business day after such filing. These requirements shall be in addition to any other statutory requirements arising from the dissolution of corporate or partnership identity, the liquidation of the majority of assets, or the closure, termination or transfer of operations. Upon receipt of notice of dissolution of corporate identity, liquidation of assets or filing of a petition for bankruptcy, the Department may request and, within fourteen (14) days of the Department's written request, the 432 Owners, Inc. agrees to obtain and submit to the Department additional financial assurance pursuant to this Administrative Consent Order.

74. If 432 Owners, Inc. remediates the Site to a restricted use standard and 432 Owners, Inc. implements institutional and engineering controls, this Administrative Consent Order shall remain in full force and effect including the requirements to maintain a remediation funding source, and to pay an annual 1 % surcharge of the total amount of the remediation funding source. This Administrative Consent Order shall otherwise be terminated pursuant to paragraph 75 below.

75. If 432 Owners, Inc. remediates contaminated soil at the Site to the Department's unrestricted use soil standard and any other contaminated media to the applicable remediation standard, the requirements of this Administrative Consent Order shall be deemed satisfied upon the receipt by 432 Owners, Inc. of written notice from the Department stating that 432 Owners, Inc. has completed the remediation required by this Administrative Consent Order in accordance with N.J.A.C. 7:26E and has satisfied all financial obligations imposed by this Administrative Consent Order and therefore 432 Owners, Inc. does not need to continue to maintain a remediation funding source nor pay the annual 1 % surcharge, and that no further action is necessary at the Site. The written notice shall also state that the Administrative Consent Order is thereby terminated. Such written notice shall not relieve 432 Owners, Inc. from the obligation to conduct future investigation or remediation activities pursuant to Federal, State or local laws for matters not addressed by this Administrative Consent Order.

76. By the execution of this Administrative Consent Order the Department does not release 432 Owners, Inc. from any liabilities or obligations 432 Owners, Inc. may have pursuant to any other authority, nor does the Department waive any of its rights or remedies pursuant thereto.

77. 432 Owners, Inc. may assert a claim of confidentiality for any information submitted by 432 Owners, Inc. pursuant to this Administrative Consent Order, by following the Department's procedures in N.J.A.C. 7:26B-7.

78. 432 Owners, Inc. agrees to submit to the Department, along with two original copies of the Administrative Consent Order, signed by 432 Owners, Inc., documentary evidence, such as a corporate resolution or a certification by a corporate officer, that the signatory has the authority to bind 432 Owners, Inc. to the terms of this Administrative Consent Order, and proof that the remediation funding source has been established pursuant to N.J.A.C. 7:26C-7.



79. This Administrative Consent Order shall be effective upon the execution of this Administrative Consent Order by the Department and 432 Owners, Inc.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

Date: 3/5/03

BY: Ronald T. Corcory  
Ronald T. Corcory, Assistant Director  
Oversight Resources Allocation Element

432 OWNERS, INC.

Date: \_\_\_\_\_

BY: Ninetta Pappas  
Signature  
NINETTA PAPPAS  
Print Full Name Signed Above  
PRESIDENT  
Title

DDF000411



**UNANIMOUS WRITTEN CONSENT  
OF DIRECTORS OF  
432 OWNER'S, INC.**

The undersigned, being all of the directors of 432 Owner's, Inc. (the "Corporation"), by this document hereby adopt the following resolutions:

RESOLVED, that the Corporation be and it is hereby authorized to enter into an Administrative Consent Order with the New Jersey Department of Environmental Protection for the investigation and remediation of the property, and be it further

RESOLVED, that Ninetta Pappas, as President of the Corporation, or any other officer of the Corporation, be and each of them hereby is, authorized to execute, acknowledge and deliver on behalf of the Corporation the Administrative Consent Order, and to take any and all other actions necessary or desirable to effectuate the transactions described in the preceding resolutions, and such officer's execution of such documents shall constitute conclusive evidence of his or her authority to do so, the Board of Directors of the Corporation hereby ratifying and approving all of the foregoing that any such officer may execute, deliver or take on behalf of the Corporation.

This document may be executed in two or more counterparts, each of which shall be deemed an original and all of which, taken together, shall constitute one and the same instrument.

DDF000412



IN WITNESS WHEREOF, the undersigned have executed this Unanimous Written  
Consent as of the 8 day of APRIL, 2003.

Ninetta Pappas

Name:

NINETTA PAPPAS, Pres.

Emad Iskavos

Name: EMAD ISKAVOS

Kristine Kauras

Name: KRISTINE KAURAS

Barbara Wallace V. Pres.

Name: BARBARA WALLACE

Philip Cerruti

Name: PHILIP CERRUTI

Martene Golden

Name: Martene Golden, Treasurer

Name: \_\_\_\_\_

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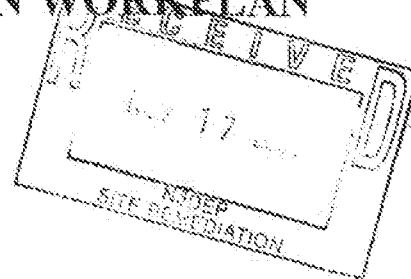




Environmental  
Waste  
Management  
Associates

ohj 5/25/04  
**REMEDIAL INVESTIGATION REPORT  
& REMEDIAL INVESTIGATION WORKPLAN**

Volume I of III



*Property Known As:*

L. Sonneborn & Sons, Inc. a.k.a. Arbor Hills Cooperative Complex  
One River Road, Nutley & Belleville, Essex County, NJ  
NJDEP Case No. NJD0001015940

*Prepared for:*

432 Owners, Inc.  
One River Road  
Belleville/Nutley, Essex County, New Jersey


November 13, 2003

*Submitted by:*

**DDF000414**

Environmental Waste Management Associates, LLC  
P. O. Box 5430  
Parsippany, New Jersey 07054  
EWMA Case No. 203099

  
Prepared by: Kristen Bebout  
Environmental Scientist

  
Reviewed By: Robert Edgar  
Senior Project Manager



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## 1.0 INTRODUCTION

Environmental Waste Management Associates, LLC (EWMA) was retained by 432 Owners, Inc. (Arbor Hills) to prepare this Remedial Investigation Report/Remedial Investigation Workplan (RIR/RIW) concerning the property known as Arbor Hills Cooperative Complex located at One River Road, Nutley, Essex County, New Jersey (subject property and site). This RIR/RIW discusses the investigation of confirmed areas of [environmental] concern (AOCs) at the site, and provides recommendations if further action is necessary in compliance with the Technical Requirements for Site Remediation (TRSR), N.J.A.C. 7:26E. The confirmed AOCs proposed for investigation, which are depicted on Figure 3, are listed below:

AOC # 1 - Tank Farm  
AOC # 2 - Drum Storage Yard 1  
AOC # 3 - Varnish Factory/Tanks  
AOC # 4 - Tank Farm 2/Pump House  
AOC # 5 - Tank Farm 3  
AOC # 6 - Oil Blending House  
AOC # 7 - Drum Storage Yard 2  
AOC # 8 - Drum Storage Yard 3  
AOC # 9 - Drum Storage Yard 4  
AOC # 10 - Surface Soils  
AOC # A - Tank Farm 4  
AOC # B - Paint Factory  
AOC # C - Laboratory/Tanks  
AOC # D - Building Sumps  
AOC # E - Former #2 Fuel Oil USTs  
AOC # F - Impacted Fill Material

This RIR/RIW was prepared in accordance with the TRSR N.J.A.C. 7:26E-4.2, Remedial Investigation Report/Remedial Investigation Workplan.

## 2.0 REMEDIAL INVESTIGATION REPORT

EWMA has reviewed the following documents as part of this investigation:

1. **December 30, 1996 Preliminary Assessment and Site Investigation** prepared by the New Jersey Department of Environmental Protection, included as **Appendix 6**;
2. **October 6, 1998 Remedial Action Report** prepared for Arbor Hill Cooperative by Applied Service Corporation of Newton, New Jersey, included as **Appendix 7**;
3. **October 15, 1998 Site Investigation Report** prepared for Arbor Hill Cooperative by Applied Service Corporation of Newton, New Jersey, included as **Appendix 8**;

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- ## 2.1 HISTORICAL INFORMATION

According to the Nutley Township Municipal offices, the Nutley portion of the subject property is recognized as SBL Nos. 393-1, 393-2, 398-1 and 398-2 and is approximately 8.08 acres. 432 Owners, Inc. is the current owner of this portion of the subject property. Past owners of this portion of the subject property have been identified as Sonneborn Building Products, Inc. and Paul Properties Nutley III, Inc. The subject property is supplied with all public utilities, including municipal sewer, water, natural gas and electric.

According to the Belleville Township Municipal offices, the Belleville portion of the subject property is recognized as SBL# 108-100-16, and is approximately 7.58 acres. 432 Owners, Inc. currently owns this portion of the subject property. Past owners of this portion of the subject property have been identified as Sonneborn Building Products, Inc., Cooperative Shareholders, Inc., the Westport Company, David and Robert Real Estate and the Franklin Sponsor Corporation in care of Oliver McCartney. The subject property is supplied with all public utilities, including municipal sewer, water, natural gas and electric.

According to "Focused Soil and Groundwater Investigation" prepared by LCS, Inc., historical maps were obtained from 1906, 1950, 1963 and 1968. According to the historical maps, the subject property has been identified as being developed with multiple industrial structures from at least 1906 through at least 1968. Based on the maps, the subject property was utilized by Sonneborn and Sons, Inc./Sonneborn Building Products, Inc., referred to hereafter as SSI, as a varnish, paint and oil manufacturer. In addition, the records indicate that the subject property included a factory, a laboratory, an engine room, a manufacturing building, an export building and varnish building. The maps reveal that changes in the on-site development appear to have occurred between 1906 and 1938. In addition to the multiple industrial structures located on-site, the subject property was noted to include numerous storage tanks for the storage of the varnishes, paints and oils.

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The following briefly outlines the pertinent history of the property:

- SSI owned and operated the site from 1906 through the early 1970's. SSI operated the site as a manufacturing facility for products including paints, varnishes, white mineral oil, industrial cleaners and detergents, floor treatment products, lubricants and textile chemicals;



- The SSI manufacturing facility was destroyed by fire in the 1960's. The remaining industrial buildings were subsequently demolished;
- The current apartment buildings were constructed on the site in 1973;
- In 1985, 432 Owners, Inc. purchased the property and converted the complex into a cooperative;
- On October 3, 1995, 432 Owners, Inc. conducted soil sampling at the site, which revealed cadmium contamination at 1 to 2 parts per million (ppm), below the current 39 ppm NJDEP Residential Direct Soil Cleanup Criteria (RDCSCC) standard;
- In 1996 the NJDEP conducted soil sampling at the site and submitted the results within a Site Investigation Report dated December 30, 1996, which revealed arsenic, PCBs and PAH's above the NJDEP RDCSCC;
- In July of 1998 excavation activities were conducted for the installation of a children's playground. During the excavation, Quinton Contractors discovered indications of buried waste, which exhibited petroleum odor and obvious soil staining. One waste class soil sample was collected and results revealed total petroleum hydrocarbons (TPHC) at 74,200 ppm and lead at 5,560 ppm, which exceeded the NJDEP RDCSCC of 10,000 ppm and 400 ppm, respectively;
- On July 17, 1998 Applied Services excavated the visibly stained soils and collected post excavation soil samples. Soil sampling results indicated that TPHC remained in the soil at levels well below the NJDEP RDCSCC. Approximately 19.35 tons of "fill" including buried waste, paint cans, and stained pigmented soils were removed;
- In 2000, LCS, Inc. conducted a focused soil and groundwater investigation for 432 Owners, Inc. The results of the LCS, Inc. investigation indicated that historic fill materials/reworked former surficial SSI soils present at the site contain levels of PCBs, arsenic and TPHC in excess of the NJDEP RDCSCC. Groundwater was found to have petroleum free product and tetrachloroethene (PCE) above the NJDEP Ground Water Quality Standards.

## 2.2 PHYSICAL SETTING

### 2.2.1 Physical Conditions of Site and Surroundings

The subject site is located in a residential, commercial and light industrial area of Belleville and Nutley. Condominiums and commercial properties bound the site to the north, west and south and the Passaic River is located across River Road to the east.

The site is improved with apartments that are surrounded by landscaped and paved parking areas. The property is secured by an 8-foot high chainlink fence. A copy of the *Site Plan* is included as Figure 2.

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## 2.2.2 Geology and Soil

According to the Rutgers University Engineering Soil Survey of New Jersey for Essex County (Report No. 2), the subject site is located within the Piedmont physiographic province of New Jersey. The survey shows that the site is underlain by "GM" material, which is ground moranic till composed of non-residual materials that have been deposited by waters flowing within or from the Wisconsin Glacier. GM soils are made up of silty loams, and sandy-silts with varying amounts of pebbles, gravel, and boulders. Below depths of three to four feet, the material may tend more towards silty-sand. According to the survey, the depth to bedrock in the region is usually greater than 10 to 20 feet in the GM areas.

Site specific soils encountered during the installation of temporary groundwater points by EWMA consisted of landscaping material and topsoil from 0 to 6 inches below site grade (b.s.g.) and brown medium sands and silt with little cobble/gravel from 6 inches b.s.g. to 4.0 feet b.s.g. Fill material consisting of brick, wood and glass fragments were noted in boring locations B4, B8, B9 and B11 at depths ranging between 1.0 to 5.0 feet b.s.g. Brown medium to fine sand and silt, with little cobble was encountered at 4.0 feet b.s.g. to 12.0' b.s.g.; and red brown medium to fine sand and silt and cobble was encountered at 12.0 feet b.s.g. to 16.0' b.s.g. Groundwater was encountered between 8.0 feet b.s.g. to 16 feet b.s.g.

Numerous boring installations performed by LCS, Inc. in March of 2000 indicated historic fill containing cinders and wood, at varying depths ranging between 0 and 24 feet.

It is reasonable to assume that, based on the contaminants detected at the site, and the presence of cinders, a component of the historic fill is comprised of former surficial soils present during the operations conducted by SSI that have been since reworked and used to regrade the site.

## 2.2.3 Hydrogeology

According to the engineering soil survey, GM soils generally have poor internal drainage, with intermediate to poor surface drainage depending on surface slope. The survey also indicates that depths to water table are correlative with location. Ground water was generally encountered between 8-15' b.s.g. during the temporary well installation activities. Based on the topography of the site and the surrounding area, ground water beneath the site is expected to flow east towards the Passaic River.

Ground water in the unconsolidated aquifer beneath the site flows to the east-southeast under hydraulic gradients of approximately 0.037 ft/ft (8/8/03) and 0.038 ft/ft (9/11/03). Ground water has been encountered at depths between 1.95 and 14.76 feet below site grade during the most recent (9/11/03) sampling event.

**DDF000421**



According to the United States Geological Survey (USGS), 7.5-minute Topographic Map of the Orange, New Jersey Quadrangle (1995), the site is located approximately 20 feet above mean sea level (MSL). The elevation of the western portion of the site is 55 feet above MSL. The site slopes toward the Passaic River to an elevation of 10 feet at the eastern most property boundary.

The Passaic River, located approximately 250 feet east of the site, is the nearest downgradient, major surface water body.

EWMA reviewed the 7.5-minute Topographic Map of the Orange, New Jersey Quadrangle (1995). Based on EWMA's review, no additional areas of concern were identified.

Review of the Atlas of National Wetlands Inventory Maps for New Jersey, published by the United States Department of the Interior, Fish and Wildlife Service, 1984, does not depict wetlands on or surrounding the site. A copy of the Orange, New Jersey Wetlands Map is included as Figure 9.

Boring logs for the temporary ground water sampling points installed by EWMA are included as Appendix 3.

The surrounding area is zoned as mixed industrial, commercial and residential. The site is currently residential and is bordered by an industrial park to the south, railroad tracks and other industrial facilities to the west, two highways to the east and commercial facilities to the north.

LCS, Inc. performed a soil and groundwater investigation that focused on suspected contaminants that may have impacted the environmental quality of the surface soils, subsurface soil and shallow groundwater beneath the site. In March 2000, soil sampling and monitoring well installation activities were performed by LCS, Inc. LCS, Inc. collected the first round of groundwater samples from the monitoring wells in April 2000. Monitoring well installations.



soil and ground water sampling methods performed by LCS, Inc. are outlined within the Focused Soil and Groundwater Investigation report included as Appendix 10.

In accordance with EWMA's Scope of Work dated June 11, 2003, EWMA collected groundwater samples from the existing monitoring wells on August 8, 2003 and on September 11, 2003. EWMA also installed temporary ground water sampling points in the area surrounding MW-4 to delineate the occurrence of free product. EWMA notes that separate phase product was not noted in MW-4 during the 8/8/03 and 9/11/03 sampling events.

### 2.3.1 Reliability of Analytical Data

All sampling activities performed by LCS, Inc. and EWMA were completed in accordance with the procedures set forth in both the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E)<sup>1</sup> and the May 1992 NJDEP *Field Sampling Procedures Guide*.

The NJDEP Residential Direct Contact Soil Cleanup Criteria (NJDEP RDCSCC), the NJDEP Non-residential Direct Contact Soil Cleanup Criteria (NJDEP NRDCSCC), and the NJDEP Impact to Ground Water Cleanup Criteria (NJDEP IGWCC) will be utilized herein as the source of applicable soil cleanup criteria (revised 5/12/99). The term most stringent soil cleanup criteria (MSSCC) is used to denote the most stringent of the NJDEP RDCSCC, NRDCSCC and IGWSCC criteria. The Class II-A Ground Water Quality Standards (N.J.A.C. 7:9.6) are used herein as the source of applicable NJDEP ground water cleanup standards (NJDEP GWQS). All soil analytical results summarized in the tables are shown as parts per million (ppm) unless otherwise stated. Additionally, all ground water analytical results summarized in the tables are shown as parts per billion (ppb) unless otherwise stated.

Monitoring wells installed by LCS, Inc. were allowed to stabilize two weeks following installation to allow equilibration with the aquifer after initial development of each well. LCS, Inc. conducted one groundwater sampling event in April 2000 using low flow groundwater sampling techniques. Groundwater samples were collected with the use of a bailer, with the exception of those for metals analysis. These were collected directly from the peristaltic pump using new dedicated teflon and polyethylene tubing. All groundwater samples were analyzed and collected in the following order: volatiles (VO+10), semi-volatiles (BN+15), and metals.

Groundwater sampling events conducted by EWMA for on-site monitoring wells were performed on August 8, 2003 and September 11, 2003. All samples were analyzed and collected in the following order: volatiles (VO+10), semi-volatiles (BN+15), PCB's and metals. Low flow ground water sampling procedures were utilized for all wells.

DDF000423



On August 8, 2003, EWMA representatives gauged and sampled the on-site monitoring wells via low-flow sampling technique using a peristaltic pump. This low flow technique was used in order to minimize chemical and physical disturbances in the ground water and to minimize the amount of purged ground water. Pumping rates were adjusted accordingly (typically around 0.25 gallons per minute) to minimize drawdown. The ground water was pumped to a flow-through cell where pH, dissolved oxygen, turbidity, specific conductance and temperature were monitored until stable.

Due to high sediment content during the first round of ground water sampling, on September 11, 2003 EWMA used a bladder pump and Teflon-coated polyethylene tubing to purge and sample the wells. Each well was purged until field indicator parameters stabilized. The flow rate was recorded using an in-line flow meter, and a drawdown of less than 0.3 feet was maintained during the entire purging process. In-line flow cells were used to monitor pH, ORP/Eh, specific conductance, dissolved oxygen (DO), temperature, and turbidity.

The flow cells were properly calibrated prior to both sampling events. Stabilization was achieved when three consecutive readings, taken at 5-minute intervals, were within the following limits:

- Turbidity (within 10% for values greater than 1 NTU)
- DO (10%)
- Specific Conductance (3%)
- Temperature (3%)
- pH (+/- 0.1 unit)
- ORP/Eh (+/- 10 millivolts)

Upon stabilization of these parameters, ground water samples were collected using a dedicated Teflon bailer and dedicated polyethylene tubing was utilized for each well.

The monitoring well sampling field data is summarized on the enclosed purge guides (Tables 4 & 5).

The ground water samples were placed in a cooler maintained at 4 degrees C in order to ensure proper preservation. Proper chain of custody documentation was maintained until delivery to Integrated Analytical Laboratories, LLC (IAL), a New Jersey certified laboratory (Certification No. 14751) for volatiles, semi-volatiles, PCB's and metals analysis. Field and a trip blanks were generated during each ground water sampling event as a measure of Quality Assurance/Quality Control (QA/QC). Laboratory QA/QC measures are documented in the analytical data package, which have been included for each sampling event.

DDF000424



All groundwater sample analyses were performed by Integrated Analytical Laboratories, Inc. (IAL), NJDEP Certification Number 14751. Samples collected by EWMA and LCS, Inc. were analyzed as follows:

| Parameter                               | Ground Water     |
|---|------------------|
| Volatile Organic Compounds ("VOs")      | EPA Method 624   |
| Semi-Volatile Organic Compounds ("BNs") | EPA Method 625   |
| Priority Pollutant Metals ("PFM")       | EPA 200 Series   |
| PCBs                                    | EPA Method 608   |
| Volatile Organic Compounds ("VOs")      | EPA Method 8260B |
| Semi-Volatile Organic Compounds ("BNs") | EPA Method 8270C |
| Priority Pollutant Metals ("PPM")       | EPA 6010/7471    |
| PCBs                                    | EPA Method 8082  |
| TPHC                                    | EPA Method 418.1 |

A copy of the Quality Assurance/Quality Control Plan (QA/QP) program implemented during the EWMA sampling events described herein is included as **Appendix 3**. The Analytical Methods/Quality Assurance Summary Table for the samples collected is included as **Table 1**.

All holding times as specified within the NJDEP 1992 Field Sampling Procedures Manual were strictly adhered to. Laboratory method detection limits did not exceed the applicable NJDEP Cleanup Criteria. Laboratory QA/QC data is available within each individual laboratory analytical package referenced herein where appropriate.

Temporary ground water sampling point installation activities supervised by EWMA were performed by Summit Drilling Company, Incorporated. (Summit) of Bound Brook, New Jersey in accordance with N.J.A.C. 7:26E, the Subsurface and Percolating Waters Act, N.J.S.A. 58:4A-4.1 et seq., ASTM Method D1586-84, the NJDEP *Alternative Ground Water Sampling Techniques Guide* and the May 1992 edition of the NJDEP *Field Sampling Procedures Manual*. Temporary ground water sampling points were advanced using a Geoprobe sampling device, which drives a one-inch sampling spoon via a hydraulic hammer. All soil samples were inspected for visual contamination, classified using the Unified Soil Classification System (USCS) and field screened for volatile organic compounds using a properly calibrated photoionization detector (PID). The water table elevation in the temporary ground water sampling points were allowed to stabilize prior to collection of ground water samples. Ground water samples were collected with dedicated disposable teflon bailers and inspected for product. Temporary groundwater sampling point locations are included as **Figure 5**.

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### 2.3.2 Site Contamination Summary

The table below lists the areas at the site where contamination was detected above the criteria and standards used by the NJDEP. The results and standards referenced below are in parts per million (ppm).

#### SOIL

| Area                         | Depth  | Contaminant        | Range      | NJDEP<br>RDCSCC / NRDCSCC * |     |
|------------------------------|--------|--------------------|------------|-----------------------------|-----|
| AOCs 1, 4, 5, 7, 8, 9, 10, F | 0-1'   | PCBs               | 0.49 to 16 | 0.49                        | 2** |
| AOC 1                        | 13-14' | TPHC               | 28,900     | 10,000*                     | ~   |
| AOCs 4, 9, 10                | 0-1'   | Benzo(a)anthracene | 1 to 2.1   | 0.9                         | 4   |

#### SOIL (continued)

| Area             | Depth  | Contaminant            | Range        | NJDEP<br>RDCSCC / NRDCSCC * |        |
|------------------|--------|------------------------|--------------|-----------------------------|--------|
| AOCs 4, 10, B, C | 0-1'   | Benzo(b)fluoranthene   | 0.94 to 3.0  | 0.9                         | 4      |
| AOCs 4           | 0-1'   | Benzo(k)fluoranthene   | 1            | 0.9                         | 4      |
| AOCs 4, 9, 10    | 0-1'   | Benzo(a)pyrene         | 0.67 to 2.1  | 0.66                        | 0.66   |
| AOCs 5, 8        | 1-3.5' | Arsenic                | 21.3 to 28.4 | 20                          | 20     |
| AOC 10           | 0-1'   | Indeno(1,2,3-cd)pyrene | 0.96         | 0.9                         | 4      |
| AOC 10           | 0-1'   | Barium                 | 887          | 700                         | 47,000 |
| AOCs 10, F       | 0-4.5' | Lead                   | 430 to 621   | 400                         | 600    |

\* Residential and Non-Residential Direct Contact Soil Cleanup Criteria, last revised 5/12/99. A site-specific standard for beryllium is requested (see Section 5.9).

\*\*Pursuant to the December 1998 NJDEP PCB Remediation Policy, in deference to TSCA, NJDEP will accept the USEPA standard of 100 ppm, as long as groundwater is protected. The NJDEP informal remedial action standard for PCBs impact to groundwater SCC is 50 ppm.

#### GROUND WATER

| Area                | Media | Contaminant             | Level*       | NJDEP<br>GWQS** |
|---------------------|-------|-------------------------|--------------|-----------------|
| MW-2 and MW-3       | GW    | Arsenic                 | 9.23 to 12.4 | 8               |
| MW-2, MW-3 and MW-5 | GW    | Lead                    | 8.7 to 144   | 10              |
| MW-3                | GW    | Trichloroethene (TCB)   | 2.2          | 1               |
| MW-3 and MW-1       | GW    | Tetrachloroethene (PCE) | 3.3 to 12.7  | 1               |
|                     | GW    | Cadmium                 | 12.9         | 4               |
| MW-5                | GW    | Benzo(a)anthracene      | 12           | 0.2             |
|                     | GW    | Benzo(a)pyrene          | 7            | 0.2             |
|                     | GW    | PCB (aroclor-1254)      | 5.73         | 0.5             |
|                     | GW    | PCB (aroclor - 1260)    | 2.44 to 4.91 | 0.5             |

\* in parts per billion (ppb)

\*\* Ground Water Quality Standard, Higher of GW Criteria vs. Practical Quantitation Limits (PQLs).

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### 2.3.3 Significant Events or Seasonal Variation

Since the site is located in an area that is suspected to be tidally influenced, EWMA recommends that fair weather synoptic water level sampling events be performed in accordance with N.J.A.C. 7:26E.

### 2.3.4 Summary of Treatability, Bench Scale or Pilot Studies

Treatability, bench scale or pilot studies were not performed.

### 2.3.5 Summary of Data for Permits

No data was collected during this phase of the investigation for developing permit limitations.

### 2.3.6 Summary of Ecological Assessments Conducted

An ecological assessment was not conducted during this phase of the investigation.

## 2.4 FINDINGS AND RECOMMENDATIONS

The following sections document the historic investigations performed for each area of concern by representatives of the NJDEP in the December 30, 1996 Site Investigation Report, Applied Services in the October 15, 1998 Site Investigation Report and LCS, Inc. in the July 31, 2000 Focused Soil and Groundwater Investigation. Ground water sampling and separate phase product delineation activities performed by EWMA in 2003 are also discussed herein.

It is important to note that the areas of concern identified at the site correspond to the former industrial operations conducted by SSI. The entire SSI facility was destroyed by a fire in the 1960's and all of the on-site structures were demolished and removed from the site. The site was regraded using native materials, and the existing apartment complex and utility easements were constructed.

While no records exist regarding the final disposition of the former structures, storage tanks, and other materials associated with operations conducted by SSI, it is reasonable to assume that any structures, storage tanks, or other materials would have been encountered during the construction of the existing apartment complex and the utility easements that cross the site. There is no record of any structures, storage tanks, or other regulated materials being encountered during construction activities at the site.

The areas of concern described herein are depicted on the *Site Plan* included as Figure 2. Sample locations are depicted on the *Sample Location Plan* included as Figure 3. The locations



and analytical results of soil samples exceeding the NJDEP Criteria are depicted on the *Exceedance Plan - Soils* included as **Figure 4**. *Ground Contour/Exceedance Plans* prepared for EWMA's August 8, 2003 and September 11, 2003 sampling events are included as **Figures 7** and **8**, respectively.

#### 2.4.1 AOC 1: Tank Farm

Twenty-five (25) petroleum storage tanks were located at the western edge of the Property. Sanborn fire insurance maps indicate that product from these tanks flowed eastward via gravity to the varnish factory and to a solvent pump house. The Sanborn maps do not indicate whether the 25 oil tanks were ASTs or USTs. Apartment buildings (identified as Buildings 17, 18, 19 and 20) and a utility easement currently occupy the area of the former tank farm; however, the westernmost portion of the former tank farm area is currently an asphalt paved parking lot. It appears that the tanks were removed during the apartment building construction and regrading activities at the site. While the contaminated soils were presumably removed, soil samples collected by LCS, Inc. in the area and downgradient of the former tank farm are indicative of historic contamination resulting from the former petroleum tanks.

On May 7, 1996 the NJDEP collected soil sample S3 in this area for TCL+30/TAL analysis. The results of the NJDEP sampling event did not reveal any individual contaminants at levels that exceed the NJDEP RDCSCC. Petroleum contamination was identified during the May 7, 1996 NJDEP investigation at sample location S3. According to the NJDEP "the contamination does not exhibit measurable levels of targeted compounds but produces large numbers of tentatively identified compounds".

LCS, Inc. conducted additional soil and groundwater sampling in this area in 2000. Specifically, LCS, Inc. collected seven additional soil samples from three soil borings labeled BH28, BH33 and BH35. Ground water was not encountered at soil borings BH28 and BH35, which were completed between 15 and 17' b.s.g. where bedrock was encountered. However, BH33 was installed to 17' and ground water was encountered at 12'. Review of the LCS, Inc. boring logs indicates that fill materials (as evidenced by cinders) were encountered between 5' and 6.5' b.s.g. at BH28 and between 2' and 3.5', and 7' and 8' at BH33. One monitoring well, MW-6, was installed downgradient of this area and sampled for volatile organic compounds, PAHs, RCRA metals and PCBs on March 16, 2000. LCS, Inc. noted that elevated PID readings were detected in each of the three soil borings, and that a sheen "indicative of a petroleum product" was noted in the area of BH28 at a depth of between 12 and 17' b.s.g.

Soil sample analysis included volatile and semi-volatile organic compounds, TPHC, RCRA metals and PCBs. The BH28 sample collected at 13 to 14' b.s.g. exhibited a TPHC concentration of 28,900 ppm, which exceeds the 10,000 ppm NJDEP TOC (Total Organic Compounds). PCBs were detected at 1.46 ppm which exceed the NJDEP RDCSCC of 0.49 ppm at sample location BH33 at a depth of 0 to 1' b.s.g. The results of volatile and semi-volatile



organic compound and RCRA metal analysis on ground water samples collected from MW-6 did not reveal any exceedances of the NJDEP Ground Water Quality Standards (NJDEP GWQS).

#### 2.4.1.1 September 3, 2003 Free Product Delineation:

Due to free product detected in MW-4 and the basement sump in Building 21, it is suspected that petroleum products or wastes discharged from the tank farms have impacted the ground water at the site.

On September 3, 2003 EWMA oversaw the installation of ten temporary ground water sampling points (B2 through B11) to determine if separate phase product, which had historically been detected within the basement sump of Building 21 and monitoring well MW-4, was still present. This investigation was also meant to delineate the known extent of the product plume, if present. Temporary points BH3, BH4 and BH7 were installed along the accessible perimeter of the sanitary sewer easement to investigate potential preferential contaminant migration. Additionally, temporary point BH10 was installed upgradient and temporary points BH5, BH6, BH8, BH9 and BH11 were installed downgradient of Building 21 and MW-4. The temporary ground water sampling points were left for a period of 48-hours. They were checked for evidence of free product using a Product Level Indicator (PLI) and a dedicated, clear teflon bailer and then removed on September 5, 2003. EWMA's separate phase evaluation was limited to a visual assessment of ground water, no ground water samples were collected for laboratory analysis. The locations and results of the September 3, 2003 temporary ground water sampling points are depicted on Figure 5. Boring logs for B3 through B11 are included as Appendix 3.

No measurable free product was detected within the Building 21 sump, MW-4, or the ten temporary points. A visible sheen and 'beads' of product were detected within two sampling points, B7 and B8, that were installed downgradient of the Building 21 sump and MW-4. Temporary point B7 was installed adjacent to the sanitary sewer easement; however, temporary points installed further downgradient along the easement did not exhibit any evidence of separate phase product. Temporary point B10, installed within the parking lot northwest and upgradient of the Building 21 sump and MW-4, exhibited no visible or measurable free product; however, a visible sheen was noted. Similarly, temporary point B9, installed immediately southeast and downgradient of Building 21 exhibited no visible or measurable free product; however a visible sheen was noted. (Boring location B1 could not be installed past 6 feet due to refusal. However a PID reading of 80.6 meter units was noted at 6 to 12-inches below the asphalt. Temporary groundwater point locations are included as Figure 5.

#### 2.4.1.2 Conclusions and Recommendations

EWMA will vertically and horizontally delineate the TPHC exceedance at LCS, Inc. sample location BH28. Since samples of the historic fill material at boring locations BH28 and BH33



The results of the temporary ground water point investigation confirm that there is no significant plume of free product; however, EWMA will install three additional monitoring wells to confirm the results of the temporary ground water sampling point investigation and to further investigate the sheens noted upgradient of the Building 21 sump (in the area of the BH28 sample location) and MW-4, and the sheens and 'beads' of product noted downgradient of the Building 21 sump and MW-4.

Soil sample locations are depicted  
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A Drum Storage Yard of unspecified size was located between the Varnish Factory and the western edge of the property. The Drum Storage Yard was located at what is now predominantly an apartment building (known as Building 15 and 16) and a PSE&G utility easement. Due to the high density of utilities and obstruction by a building, this area was not sampled by the NJDEP. LCS, Inc. conducted additional soil sampling in this area in 2000. Specifically, LCS, Inc. collected four additional soil samples from two soil borings labeled BH31 and BH42. The text of the LCS, Inc. report noted that elevated PID readings were detected in both soil borings. However, review of the Subsurface Logs prepared by LCS, Inc. indicates that no such PID readings were recorded. No staining was noted and groundwater was not encountered at soil borings BH31 and BH42, which were completed between 12.5 and 15' b.s.g. where bedrock was encountered.

LCS, Inc. collected samples at the BH42 location from 3' to 4' b.s.g. and from 6.25' b.s.g. Review of the boring log for BH42 indicates that fill materials were encountered between 3.5' and 4.5' b.s.g.

The presence of cinders and steel within soils at 3.5' to 4.5' may be an indication that these 'historic fill' materials are surficial in origin. EWMA will collect additional samples from the fill material encountered at BH42 for TPHC and PCB analysis. If elevated PID readings are recorded, additional analysis for VO+10 be performed. Sample locations are depicted on the



*Exceedance Plan-Soils* included as Figure 4. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the Proposed Sample Location Plan included as Figure 6.

#### 2.4.3 AOC 3: Varnish Factory and Associated Oil Tanks

A Varnish Factory building and oil tanks were located near the northern edge of the Property. The Sanborn maps do not indicate whether the oil tanks were ASTs or USTs. The building, which had a concrete floor, was located at what is now apartment buildings (known as Buildings 13 and 14) and a landscaped area of grass and shrubs with a PSE&G utility easement at the extreme northern edge.

On May 7, 1996 the NJDEP collected sample S7 in this area for TCL+30/TAL analysis. The results of the NJDEP sampling event did not reveal any contaminants at levels that exceed the NJDEP RDCSCC.

LCS, Inc. conducted additional soil sampling in this area in 2000. Specifically, LCS, Inc. collected three additional soil samples from two soil borings labeled BH29 and BH30. The text of the LCS, Inc. report noted that elevated PID readings were detected in both soil borings. However, review of the Subsurface Logs prepared by LCS, Inc. indicates that the PID readings were only slightly elevated, and no staining was noted. Groundwater was not encountered at soil borings BH29 and BH30, which were completed between 12.5 and 15' b.s.g. where bedrock or some other obstruction was encountered. Sample analysis included volatile organic compounds and RCRA metals. The results of sampling in this area did not reveal any contaminant concentrations in excess of the NJDEP RDCSCC.

##### 2.4.3.1 Conclusions and Recommendations

Since no visible or field screening indications of contamination were identified during the NJDEP and LCS, Inc. soil boring investigation, EWMA, on behalf of 432 Owners, Inc. requests that a no further action determination be approved for AOC 3.

#### 2.4.4 AOC 4: Tank Farm 2 and Pump Houses

Petroleum tank farm #2 was located south of the Varnish Factory. One of the two pumps located at this area was labeled "solvent pump". The tank farm and pump houses were located at what is now mostly a landscaped courtyard area of grass and shrubs and portions of Buildings 11, 14 and 21. According to the Sanborn maps, the oil tanks were located under a platform.

On May 7, 1996 the NJDEP collected sample S4 in this area for TCL+30/TAL analysis. While field indications of petroleum contamination were identified during the May 7, 1996 NJDEP



investigation at sample locations S4, the results of the NJDEP sampling event did not reveal any individual contaminants at levels that exceed the NJDEP RDCSCC.

LCS, Inc. conducted additional soil and groundwater sampling in this area in 2000. Specifically, LCS, Inc. collected seven additional soil samples from three soil borings labeled BH25, BH26 and BH27. One monitoring well, MW-5, was installed and sampled in this area. LCS, Inc. noted elevated PID readings within all three boring locations. Review of the LCS, Inc. boring logs indicates that historic fill materials (as evidenced by brick fragments) were encountered from grade to 1' b.s.g. The LCS, Inc. report indicates that "petroleum-type product" was noted within the soils collected from approximately 15' to 17' in BH26. Groundwater was encountered at approximately 14' b.s.g.

Sample analysis included volatile and semi-volatile organic compounds, TPHC, RCRA metals and PCBs. PCBs were detected at 0.99 ppm at sample location BH27 at a depth of 1 to 2' b.s.g. The following semi-volatile organic compounds were detected above the NJDEP RDCSCC: benzo(a)anthracene was detected at 2 ppm (RDCSCC is 0.9 ppm), benzo(b)fluoranthene was detected at 2.4 ppm (RDCSCC is 0.9 ppm), benzo(k)fluoranthene was detected at 1 ppm (RDCSCC is 0.9 ppm), and benzo(a)pyrene was detected at 1.7 ppm (RDCSCC is 0.66 ppm) at sample location BH27 at a depth of 1 to 2' b.s.g. No additional exceedances were identified during the LCS, Inc. investigation in this area. The results of laboratory analysis on the soils exhibiting "petroleum-type product" and on the groundwater samples collected from the monitoring well MW-5 installed at BH26 did not reveal contaminant concentrations in excess of the applicable standards.

#### 2.4.4.1 Conclusions and Recommendations

Based upon the PCB and PAH exceedances detected, EWMA will collect additional soil samples to vertically and horizontally delineate the exceedances detected at BH27. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.5 AOC 5: Tank Farm 3

The Sanborn fire insurance map shows "8 oil tanks" located along the southwest border of the site. Due to the high density of utilities and obstruction by Building 838, this area was not sampled by the NJDEP. The Sanborn maps do not indicate whether the 8 oil tanks were ASTs or USTs.

LCS, Inc. conducted additional soil sampling in this area in 2000. Specifically, LCS, Inc. collected three additional soil samples from two soil borings labeled BH18 and BH36. LCS, Inc. noted elevated PID readings within the two boring locations. Review of the LCS, Inc. boring



logs indicates that fill materials (as evidenced by cinders) were encountered from 1' to 4' b.s.g. Groundwater was not encountered at soil borings BH18 and BH36, which were completed between 10.5 and 11.5' b.s.g. where bedrock was encountered. Sample analysis included volatile organic compounds, TPHC, RCRA metals and PCBs. Arsenic was detected at 28.4 ppm and PCBs were detected at 1.81 ppm at sample location BH36 at a depth of 1' to 2' b.s.g. The NJDEP RDCSCC for arsenic and PCBs are 20 ppm and 0.49 ppm, respectively. No additional exceedances were identified during the LCS, Inc. investigation in this area.

#### 2.4.5.1 Conclusions and Recommendations

EWMA will collect additional soil samples to vertically and horizontally delineate the PCB and arsenic exceedances detected at BH36. EWMA will also collect an additional soil sample at the BH36 location from the 0 to 6-inch interval for PAH, PPM, TPHC and PCB analysis to determine if surficial soils in the area of BH36 contain contaminant concentrations in excess of the NJDEP RDCSCC. One additional soil boring will be completed in the area of BH36 and that two samples of the historic fill material will be obtained for TPHC, PPM, PAH and PCB analysis. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.6 AOC 6: Oil Blending House

A building labeled "Oil Blending House" was located at the southern border of the site within an area that is now predominately a grassy area but is also occupied by a PSE&G utility easement and bituminous parking pavement. Due to the high density of utilities and obstruction by a building, this area was not sampled by the NJDEP.

LCS, Inc. conducted additional soil and groundwater sampling in this area in 2000. Specifically, LCS, Inc. installed two soil borings (BH16 and BH17) in this area and collected one soil sample from BH16. LCS, Inc. recorded no elevated PID readings, evidence of historic fill or staining. Groundwater was not encountered at soil borings BH16 and BH17, which were completed between 10 and 14' b.s.g. where bedrock was encountered. One soil sample was obtained from BH16 at 6.5' b.s.g. for VO+10 analysis. The results of sample analysis did not reveal contaminant concentrations in excess of the NJDEP RDCSCC.

#### 2.4.6.1 Conclusions and Recommendations

Since no visible or field screening indications of contamination were identified during the LCS, Inc. investigation, EWMA, on behalf of 432 Owners, Inc. requests that a no further action determination be approved for AOC 6.

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#### 2.4.7 AOC 7: Drum Storage Yard 2

Drum Storage Yard 2 was located just east of the Oil Blending House and adjacent to the southern edge of the site. The yard was situated over what is now predominately Building 834. Due to the high density of utilities and obstruction by a building, this area was not sampled by the NJDEP.

LCS, Inc. conducted additional soil sampling in this area in 2000. Specifically, LCS, Inc. installed two soil borings (BH15 and BH37) in this area and collected one soil sample at boring location BH15. LCS, Inc. recorded no elevated FID readings, evidence of historic fill or staining. Groundwater was not encountered. Refusal was encountered at BH15 at a depth of 10' b.s.g., and at 6' b.s.g. in BH37. The soil sample was obtained from BH15 at 4' to 5' b.s.g. for volatile and semi-volatile organic compound, RCRA Metals and PCB analysis. The results of sample analysis revealed a PCB concentration of 1.12 ppm (RDCSCC is 0.49 ppm), at 1.5' to 2.5' b.s.g. at soil boring location BH37A.

##### 2.4.7.1 Conclusions and Recommendations

Due to the PCB exceedances encountered 1.5' to 2.5', EWMA will collect additional soil samples to vertically and horizontally delineate the PCB exceedance detected at BH37A. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

*samples don't match  
also one of other not sampled*

#### 2.4.8 AOC 8: Drum Storage Yard 3

Drum Storage Yard 3 was located east of AOC 7 and adjacent to the southern edge of the site. This drum storage yard was situated over what is now primarily bituminous pavement with a PSE&G utility easement at its extreme northern edge. Due to the density of utilities in this area, only one soil boring was advanced by the NJDEP on May 7, 1996. The NJDEP collected one soil sample (S-2) in this area for TCL+30/TAL analysis. The results of the NJDEP sampling event revealed arsenic at 21.3 ppm, which exceeds the 20 ppm NJDEP RDCSCC, and benzo(b)fluoranthene at 1.2 ppm which exceeds the 0.9 ppm NJDEP RDCSCC at sample location S2 collected at a depth of 3.5' b.s.g. The PCB Aroclor 1254 was detected at sample location S2 (collected at 3.5' b.s.g.) at a concentration of 16 ppm which exceeds the NJDEP RDCSCC of 0.49 ppm.

LCS, Inc. conducted additional soil sampling in this area in 2000. Specifically, LCS, Inc. installed two soil borings (BH13 and BH38) in this area and collected three additional soil samples. LCS, Inc. recorded no elevated PID readings or evidence of historic fill. Groundwater was not encountered. Refusal was encountered between 11.5' b.s.g and 15' b.s.g. Generally, soil samples were analyzed for volatile and semi-volatile organic compounds, RCRA Metals, PCBs



and TPHC. No exceedances of the NJDEP RDCSCC were detected during the LCS, Inc. investigation of this AOC. A white granular fill material was encountered at a depth of 2.5' to 3.0' b.s.g. at boring location BH13. The material was sampled for semi-volatile organic compounds and RCRA Metals. No exceedances of the NJDEP RDCSCC were recorded.

#### 2.4.8.1 Conclusions and Recommendations

EWMA will collect additional soil samples to vertically and horizontally delineate the arsenic, PAH (benzo(b)fluoranthene) and PCB exceedances at NJDEP sample location S2. In addition EWMA will collect one soil sample for a full priority pollutant plus 40 (PP+40) analysis in the location of the 'white material' noted at boring location BH13. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.9 AOC 9: Drum Storage Yard 4

Drum Storage Yard 4 was located east of AOC 8 and adjacent to the southern edge of the site. This drum storage yard was situated over what is now bituminous pavement. Due to the density of utilities in this area, only one soil boring was installed by the NJDEP. Specifically, on May 7, 1996, the NJDEP collected soil sample S1 in this area for the target compound list/target analyte list (TCL+30/TAL). The results of the NJDEP sampling event revealed the following contaminants at sample location S1 (collected at a depth of 2' b.s.g): benzo(a)anthracene detected at 1.0 ppm which exceeds the NJDEP RDCSCC of 0.9 ppm; benzo(a)pyrene detected at 0.81 ppm which exceeds the NJDEP RDCSCC of 0.66 ppm; and the PCB Aroclor 1254 was detected at 2.7 ppm which exceeds the NJDEP RDCSCC of 0.49 ppm.

LCS, Inc. conducted additional soil and groundwater investigation activities in this area in 2000. Specifically, LCS, Inc. installed two soil borings (BH12 and BH39) in this area and collected one soil sample at boring location BH39. LCS, Inc. recorded no elevated PID readings or evidence of historic fill. Refusal was encountered at 9.5' b.s.g. at BH12 and at 20' b.s.g. at BH39. Evidence of groundwater was encountered at BH39 and monitoring well MW-3 was installed. However, the monitoring well was found to be dry and could not be sampled. Soil sample BH39 was analyzed for volatile and semi-volatile organic compounds, RCRA Metals, and PCBs. No exceedances of the NJDEP RDCSCC were detected during the LCS, Inc. investigation of this AOC.

#### 2.4.9.1 Conclusions and Recommendations

EWMA will collect additional soil samples to vertically and horizontally delineate the PAH and PCB (benzo(a)anthracene) exceedances at the NJDEP sample location S1. Historic fill material containing coal was identified from 3.5-4.0' b.s.g. and 5.5 to 6.5' b.s.g. at BH12. EWMA will



collect a sample of the historic fill material for TPHC, PAH, PPM and PCB analysis. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.10 AOC 10: Surficial Soils of the Entire Site

Observations at the site and review of analytical results from the NJDEP and LCS, Inc. investigation support the assumption that debris from the previous industrial activities may have been mixed with subsurface soils during regrading and apartment building construction activities. To address the potential site-wide direct contact threat, on May 7, 1996 the NJDEP collected one (1) soil sample, S7, for TCL+30/TAL analysis. The results of the NJDEP sampling event did not reveal any contaminants at levels that exceed the NJDEP RDCSCC.

LCS, Inc. collected a total of thirty-seven (37) surficial soil samples to address this area of concern. Eighteen of the thirty-seven surficial soil samples were collected to address other AOCs and are further described in each individual AOC section of this report. The remaining nineteen (19) surficial samples were collected from areas outside of the established AOCs. Surficial soil samples were generally analyzed for volatile and semi-volatile organic compounds, RCRA Metals, and PCBs. Seven (7) of the nineteen (19) surficial samples collected by LCS, Inc. exhibited exceedances of the NJDEP RDCSCC. The exceedances detected at each of these locations are summarized below:

- BH1 detected benzo(a)anthracene at 2.1 ppm (NJDEP RDCSCC is 0.9 ppm), benzo(b)fluoranthene at 3.0 ppm (NJDEP RDCSCC is 0.9 ppm), benzo(a)pyrene at 2.1 ppm (NJDEP RDCSCC is 0.66 ppm), indeno(1,2,3-cd)pyrene at 0.96 ppm (NJDEP RDCSCC is 0.9 ppm) and PCBs at 0.83 ppm (NJDEP RDCSCC is 0.49 ppm);
- BH3 detected PCBs at 2.02 ppm (NJDEP RDCSCC is 0.49 ppm), barium at 887 ppm (NJDEP RDCSCC is 700 ppm), lead at 621 ppm (NJDEP RDCSCC is 400 ppm), benzo(b)fluoranthene at 1.1 ppm (NJDEP RDCSCC is 0.9 ppm), and benzo(a)pyrene at 0.77 (NJDEP RDCSCC is 0.66 ppm);
- BH4 detected PCBs at 1.9 ppm (NJDEP RDCSCC is 0.49 ppm);
- BH6 detected PCBs at 0.49 ppm (NJDEP RDCSCC is 0.49 ppm);
- BH20 detected PCBs at 5.9 ppm (NJDEP RDCSCC is 0.49 ppm);
- BH41 detected (benzo(b)fluoranthene at 0.94 ppm (NJDEP RDCSCC is 0.9 ppm), benzo(a)pyrene 0.67 ppm (NJDEP RDCSCC is 0.66 ppm), and PCBs at 1.66 ppm (NJDEP RDCSCC is 0.49 ppm);
- BH19 detected TPHC at 14,600 ppm (NJDEP TOC is 10,000ppm).

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#### 2.4.10.1 Conclusions and Recommendations

Twenty-two (22) of the thirty-seven (37) surficial soil samples collected at the subject property exhibited contaminant concentrations that exceed the NJDEP RDCSCC. Many of the exceedances are located within the current AOCs and only slightly exceed the NJDEP RDCSCC.

EWMA will collect additional samples to achieve vertical and horizontal delineation of the exceedances detected at the above referenced surficial soil sample locations. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.11 AOC A: Tank Farm 4

LCS, Inc. identified additional oil tanks through review of Sanborn fire insurance maps. The Sanborn maps do not indicate whether the oil tanks were ASTs or USTs. This area is currently occupied by Building 840. Based upon the location of this AOC beneath Building 840, no sampling was conducted. Monitoring well MW-4 is located downgradient of this area, and is sufficient to confirm that the former tanks were not impacting the property.

##### 2.4.11.1 Conclusions and Recommendations

As previously stated, no evidence of storage tanks or contamination was noted during the construction of the current apartment complex, and soils in the area of the foundation of the current buildings were likely cleared. Since soils in the immediate vicinity of the former storage tank locations have been removed to facilitate the construction of the existing building, and AOC A is not accessible due to the location of Building 840, an investigation of soils in this area is not possible. EWMA will purchase and review aerial photographs to confirm that the existing monitoring well locations are sufficient to investigate this AOC. If EWMA's review of aerial photographs confirms that the monitoring well network is sufficient to evaluate ground water quality at this AOC, EWMA will request that the NJDEP approve a no further action determination for AOC A.

#### 2.4.12 AOC B: Paint Factory

LCS, Inc. identified the location of the Paint Factory through review of Sanborn fire insurance maps. This area is currently a landscaped grass area on the southeast corner of Building 21. In 2000, LCS, Inc. installed one soil boring (BH21) in this area. LCS, Inc. recorded elevated PID readings and petroleum odors between 14' and 19' b.s.g. Historic fill (as evidenced by cinders) was encountered at 1.5' to 2.0' b.s.g. and 5.0' to 6.0' b.s.g. Refusal was encountered at 19' b.s.g. No staining was noted in soil boring BH21. Groundwater was encountered at BH21 at 12' b.s.g. Two soil samples were obtained from the 1' to 2' and the 18' to 19' intervals. The surficial soil



sample was analyzed for volatile and semi-volatile organic compounds. The sample collected at the 18' to 19' b.s.g. interval was analyzed for volatile and semi-volatile organic compounds, RCRA Metals, TPHC and PCBs. The semi-volatile organic compounds benzo(b)fluoranthene and benzo(a)pyrene were detected within the surficial sample at 1.5 ppm and 0.87 ppm, which exceed the NJDEP RDCSCC of 0.9 ppm and 0.66 ppm, respectively. The soil samples collected at BH21 did not reveal any other contaminant concentrations above the NJDEP RDCSCC.

#### 2.4.12.1 Conclusions and Recommendations

EWMA will collect additional soil samples to vertically and horizontally delineate the semi-volatile organic compounds detected at the BH21 (1' to 2' interval) surficial soil sample location. One additional soil boring will be completed in the area of BH21 and one soil sample will be obtained from the historic fill material encountered at 5.0' to 6.0' b.s.g. for TPHC, PPM, PAH and PCB analysis. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.13 AOC C: Tank Farm

LCS, Inc. identified additional oil tanks in the vicinity of Building 10, through review of Sanborn fire insurance maps. The Sanborn maps do not indicate whether the oil tanks were ASTs or USTs. This area is currently a landscaped area of grass. LCS, Inc. installed three soil borings (BH22, BH23 and BH24) in this area in 2000. LCS, Inc. collected soil samples from boring locations BH23 and BH24. LCS, Inc. recorded "elevated" PID readings ranging up to 69.2 meter units (BH23, 4.0' to 4.5' b.s.g.). Historic fill (evidenced by cinders) was encountered at 4.0' to 8.0' b.s.g. and 9.5' to 12.0' b.s.g. at BH23. Refusal was encountered between 15.5' (BH22) and 24' b.s.g. (BH24). Groundwater was encountered between 15' and 16' b.s.g. No staining was noted in soil borings BH22, BH23 and BH24. Soil samples were obtained from the 0' to 1' and the 4.0' to 5.0' intervals b.s.g. at BH23 and the 15' to 16' interval at BH24. The surficial soil sample was analyzed for volatile and semi-volatile organic compounds, RCRA Metals and PCBs and the sample obtained from 4.0' to 5.0' b.s.g. was analyzed for VO-10, PCBs and TPHC. Sample BH23 collected at the 15' to 16' b.s.g. interval was analyzed for volatile organic compounds. The semi-volatile organic compounds benzo(b)fluoranthene and benzo(a)pyrene were detected within the BH23 surficial sample at 1.5 ppm and 0.98 ppm respectively. These concentrations exceed the NJDEP RDCSCC however, no other contaminant concentrations were detected above the NJDEP RDCSCC at soil borings locations BH22, BH23 and BH24.

#### 2.4.13.1 Conclusions and Recommendations

EWMA will obtain additional samples to achieve vertical and horizontal delineation of the semi-volatile organic compounds detected at the above referenced BH23 surficial soil sample location. One additional soil sample be obtained from the historic fill material encountered at 4.0' to 8.0'



b.s.g. for TPHC, PPM, PAH and PCB analysis. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

#### 2.4.14 AOC D: Building Sumps

LCS, Inc. identified five (5) concrete sumps with sediment bottoms at the Property. Sumps were identified within Buildings 2, 14, 21, 824 and 835. The sumps within Buildings 14, 21 and 825 were noted to contain water. The Building 21 sump was noted to contain petroleum product and exhibited slightly elevated PID readings relative to background conditions. LCS, Inc. collected samples of the sediments within the sumps at Buildings 2 and 835 for volatile organic compound analysis. An aqueous sample was collected from the Building 21 sump for volatile and semi-volatile organic compound analysis. Aqueous samples were collected from the Buildings 14 and 824 sumps for volatile organic compound analysis.

According to LCS, Inc., the results of sample analysis did not reveal any contaminant concentrations in excess of the applicable NJDEP Criteria. Refer to Section 2.5 for EWMA's Sensitive Receptor Survey performed on October 28, 2003.

##### 2.4.14.1 Conclusions and Recommendations

The results of sampling performed by LCS, Inc. did not reveal any contaminants that exceed the NJDEP Criteria. The results of the Sensitive Receptor Survey performed by EWMA confirm the lack of impacts to the sumps, manholes, storm and sanitary sewer pits. Since no visible or field screening indications of contamination were identified during the LCS, Inc. investigation, EWMA, on behalf of 432 Owners, Inc. requests that a no further action determination be approved for AOC D.

#### 2.4.15 AOC E: Former #2 Fuel Oil USTs

On July 16, 1998 two 7,500-gallon capacity #2 fuel oil USTs were removed from Buildings 5 and 14 by Applied Service Corporation of Newton, NJ (ASC). The USTs "did not show any signs of a petroleum discharge or holes" according to the ASC Site Investigation Report dated October 15, 1998 which is included as Appendix 8. A total of five post-excavation samples were collected from the base of the UST excavation at Building 5 and a total of four post-excavation samples were collected from the sidewalls of the UST excavation at Building 14. The collection of the sidewall samples at the Building 14 excavation indicates that groundwater may have been encountered in the base of the excavation, thus preventing the collection of base samples. Samples were analyzed for TPHC. The results of TPHC analysis revealed contaminant concentrations well below the 1,000 ppm contingent analysis trigger and the 10,000 ppm NJDEP



RDCSCC for TPHC. The NJDEP required certification for the backfill material was not provided in the copy of the report reviewed by EWMA.

#### 2.4.15.1 Conclusions and Recommendations

*✓ need  
Clear fill first*

The 7,500-gallon capacity #2 fuel oil USTs, which are not regulated by the NJDEP, did not show any indications of a discharge at the time of their removal. Laboratory analysis of post-excavation samples collected following the removal of the two former 7,500-gallon capacity #2 fuel oil USTs revealed TPHC concentrations well below the NJDEP Criteria. EWMA has requested that ACS provide copies of the clean fill receipts for the materials used to backfill the excavation. A copy of EWMA's request letter is included as Appendix 11. EWMA, on behalf of 432 Owners, Inc. requests that a no further action determination be approved for the former two 7,500-gallon capacity #2 fuel oil USTs following submission of the clean fill certification to the NJDEP.

#### 2.4.16 AOC F: Impacted Fill Material

Review of an October 6, 1998 Remedial Action Report prepared by ASC indicates that in the summer of 1998, visibly stained soils were encountered during excavation activities being performed in the area of Building 3. Excavation activities ceased and a sample of the stained materials was collected for TPHC, volatile and semi-organic compound, PPM, pesticide and PCB analysis. The results of sample analysis revealed 74,200 parts per million (ppm) TPHC which exceeds the 10,000 ppm NJDEP TOC, 5,560 ppm of lead which exceeds the 400 ppm NJDEP RDCSCC and 46.8 ppm of PCB which exceeds the NJDEP RDCSCC of 0.49 ppm. On July 17, 1998, 19.35 tons of "fill, buried waste, paint cans, stained and pigmented soil" were excavated and placed within a steel container which was disposed of at the Michigan Disposal Waste Treatment Plant. Visibly stained fill materials and soil were excavated until native materials were encountered. The excavation measured 8' x 8' x 4' deep. Five post-excavation samples were collected from the excavation sidewalls and the excavation bottom for TPHC, PCBs and PPM analysis. The results of sample analysis revealed 430 ppm of lead (NJDEP RDCSCC = 400 ppm) at sample location PL-E collected at the base of the excavation. The PCB Aroclor 1260 was detected at 2.01 ppm and 2.41 ppm at sidewall sample locations PL-C and PL-D and at 4.74 ppm at the excavation base sample location PL-E. The NJDEP RDCSCC for PCBs is 0.49. No other contaminants were detected above the NJDEP RDCSCC. The excavation was backfilled using "engineer approved clean, virgin quarry fill material". The NJDEP required certification for the backfill material was not provided in the report.

#### 2.4.16.1 Conclusions and Recommendations

*✓*

EWMA will collect additional samples to achieve vertical and horizontal delineation of the lead and PCBs detected at the above referenced post-excavation sample locations. The proposed delineation soil sampling is further discussed in the RIW portion of this report and proposed



sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

EWMA has requested the required certification documentation from ACS concerning the clean fill used to backfill the excavation at this AOC. EWMA's November 12, 2003 request letter to ACS is included as Appendix 11. EWMA will forward the clean fill certification to the NJDEP upon receipt.

#### 2.4.17 Other Areas Sampled by LCS, Inc.

LCS, Inc. collected additional samples for laboratory analysis from soil borings installed at random locations across the remainder of the Property as a general screening to investigate site-wide conditions. A total of nineteen soil samples were collected for laboratory analysis. Refusal was encountered between 8' and 23.5' b.s.g. Petroleum odors and "elevated" PID readings were recorded within twelve (12) of the nineteen (19) soil borings. Samples were collected at various depths. Samples were analyzed for one or more of the following parameters: volatile and semi-volatile organic compounds, TPHC, RCRA Metals and PCBs.

Soil boring location BH19 exhibited concentrations of TPHC at 4.0' to 5.0' b.s.g. (14,600 ppm) and 12' to 13' b.s.g. (22,500 ppm) which exceed the 10,000 ppm NJDEP RDCSCC for TPHC. No other exceedances were recorded. Historic fill was encountered at the following locations and depths b.s.g. during this portion of the LCS, Inc. investigation: BH4 3.0' to 3.5' (wood); BH5 12.5' to 16' (cinders); BH6 2.0' to 2.5' (cinders); BH7 6.0' to 6.5' (hard gray fibrous material); BH9 8.5' to 9.0' (cinders); BH9 12.0' to 12.5' (cinders); and BH40 2.0' to 2.5' (cinders).

Historic fill identified at BH7 was sampled for semi-volatile organic compounds, RCRA Metals and PCBs, historic fill encountered at BH9 was sampled for semi-volatile organic compounds and RCRA Metals, and historic fill encountered at BH40 was sampled for RCRA Metals.

#### 2.4.17.1 Conclusions and Recommendations

EWMA will collect additional soil samples to horizontally and vertically delineate the TPHC detected at BH19. Additionally, EWMA will collect samples of the historic fill identified for TPHC, PCBs, PPM and PAH analysis. Where sampling of the historic fill material has already been performed, only the additional required analytical parameters necessary to comply with NJAC 7:26E will be performed. The proposed additional soil sampling is further discussed in the RIW portion of this report and proposed sample depth intervals are included in Section 3.4. Soil sample locations are depicted on the *Proposed Sample Location Plan* included as Figure 6.

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#### 2.4.18 Ground Water

In March 2000 LCS, Inc. installed a total of six (6) monitoring wells biased in areas where contaminants may have impacted the environmental quality of groundwater beneath the site as well as suspected contaminants that may have entered the on-site apartment buildings through the respective drainage system. Monitoring wells were installed at depths approximately ranging from 16 to 20 feet. Groundwater is generally encountered from 1.0' at the eastern portion of the property to 15.0 feet at the western portion of the property. Well construction details are included within the Focused Soil and Groundwater Investigation performed by LSC, Inc. which is included as Appendix 10.

Shortly after the installation and sampling of monitoring well MW-1, it was determined that MW-1 installation activities had damaged a nearby sanitary sewer line. Monitoring well MW-1 was completely removed via excavation during subsequent sanitary sewer repair activities. It is presumed that LCS, Inc. completed the appropriate abandonment report. EWMA will verify this by reviewing a well search and, if necessary, by contacting the NJDEP Bureau of Water Allocation.

Monitoring well sampling activities were performed by LCS, Inc. in April 2000 and by EWMA on August 8, 2003 and September 11, 2003.

##### 2.4.18.1 April 2000 Ground Water Sampling Event Performed by LCS, Inc.

In April 2000, LCS, Inc. purged and sampled monitoring wells MW-1, MW-2, MW-4, MW-5 and MW-6 for VO+10, BNA + 25, and RCRA Metals. Sampling techniques and procedures are outlined within the Focused Soil and Groundwater Investigation Report included as Appendix 10.

The only exceedances of the NJDEP GWQS during the April 2000 sampling round conducted by LCS, Inc. were PCE at 3.3 ppb within MW-1 (NJDEP GWQS is 1.0 ppb), and benzo(a)anthracene at 1.2 ppb and benzo(a)pyrene at 0.6 ppb within MW-4 (NJDEP GWQS is 0.2 ppb). Due to an insufficient amount of water, no groundwater samples were collected from MW-3.

##### 2.4.18.2 8/8/03 and 9/11/03 Groundwater Sampling Events Performed by EWMA

On August 8, 2003 and September 11, 2003, EWMA representatives gauged and sampled the on-site monitoring wells via low-flow sampling technique according to EPA's April 1996 Groundwater Issue. This technique was used in order to minimize chemical and physical disturbances in the ground water and to minimize the amount of purged ground water. Pumping rates were adjusted accordingly (typically around 0.25 gallons per minute) to minimize drawdown. The ground water was pumped to a flow-through cell where pH, dissolved oxygen,



Ground water was found to contain high sediment content during both rounds of ground water sampling. Additionally, some monitoring wells, most notably MW-3, have consistently been found to contain very limited amounts of ground water. The combination of a high sediment content and low volume of water within the wells result in a high probability that the ground water being sampled contains sediments. This sediment content can result in higher than expected concentrations of organic compounds and metals.

During the September 11, 2003 ground water sampling event, samples were collected from monitoring wells MW-2, MW-4, MW-5 and MW-6 for VO+10 and BN+15. Monitoring wells MW-4 and MW-6 were not sampled for PCBs or priority pollutant metals because these compounds had either been non-detectable or below the NJDEP GWQS during previous sampling rounds. Similarly, monitoring well MW-2 was not sampled for PCBs because these compounds had either been non-detectable or below the NJDEP GWQS during previous sampling rounds. Monitoring well MW-3 was not sampled during the 9/11/03 sampling event due to an insufficient volume of water within the well.

#### 2.4.18.3 August 8, 2003 Groundwater Analytical Results

| Monitoring Well | Contaminant | NJDEP GWQS (ppb) | Results (ppb) |
|-----------------|-------------|------------------|---------------|
| MW-2            | Arsenic     | 8                | 12.3          |
|                 | Lead        | 10               | 10.7          |



| Monitoring Well | Contaminant             | NJDEP GWQS (ppb) | Results (ppb) |
|-----------------|-------------------------|------------------|---------------|
| MW-3            | Trichloroethene (TCE)   | 1                | 2.2           |
|                 | Tetrachloroethene (PCE) | 1                | 12.7          |
|                 | Arsenic                 | 8                | 12.4          |
|                 | Cadmium                 | 4                | 12.9          |
|                 | Lead                    | 10               | 144           |
| MW-5            | Benzo(a)anthracene      | 0.2              | 0.34          |
|                 | Benzo(a)pyrene          | 0.2              | 0.209         |
|                 | PCB Aroclor 1260        | 0.5              | 2.44          |
|                 | Lead                    | 10               | 65.9          |

Ground water was found to contain high sediment content during the August 2003 round of sampling. All parameters were either non-detectable or below NJDEP GWQS at monitoring wells MW-4 and MW-6. The August 8, 2003 Analytical Laboratory Packet is included as Appendix 4 (IAL Report No. E03-06965).

#### 2.4.18.4 September 11, 2003 Groundwater Analytical Results

Since many of the contaminants detected during the August 8, 2003 round of ground water sampling could be attributable to elevated sediment content, a second ground water sampling event was conducted using a bladder pump capable of an even lower purge rate, thus reducing the agitation of the water within the well and lowering the overall sediment content of the ground water sample collected for laboratory analysis.

According to the September 11, 2003 ground water sampling event ground water flows to the east-southeast under hydraulic gradients of approximately 0.037 ft/ft. A *Groundwater Contour and Exceedance Plan* is included as Figure 8. A *Groundwater Results Summary Table* is included as Table 3. The results of the September 11, 2003 round of ground water sampling revealed the following exceedances of the NJDEP GWQS:

| Monitoring Well | Contaminant      | NJDEP GWQS (ppb) | Results (ppb) |
|-----------------|------------------|------------------|---------------|
| MW-2            | Arsenic          | 8                | 9.23          |
| MW-5            | PCB Aroclor 1254 | 0.49             | 5.73          |
|                 | PCB Aroclor 1260 | 0.49             | 4.91          |
|                 | Lead             | 10               | 69.8          |

Ground water was found to contain high sediment content during the September 2003 round of sampling. MW-3 was not sampled due to insufficient water in the well at the time of sampling. All parameters were either non-detectable or below NJDEP GWQS at monitoring wells MW-4 and MW-6. The September 11, 2003 Analytical Laboratory Packet is included as Appendix 5 (IAL Report No. E03-08142).



*new 3 PCE*

#### 2.4.18.5 Conclusions and Recommendations

According to historic ground water results collected by LCS, Inc. in April 2000, PCE was detected at MW-1 above the NJDEP GWQS, however, no other significant ground water contamination was identified in monitoring wells MW-2 through MW-6.

The results of the first round of ground water sampling performed by EWMA in August 2003 indicated concentrations of the priority pollutant metals arsenic, lead, and cadmium; the PAHs benzo(a)anthracene and benzo(a)pyrene; the volatile organic compounds TCE and PCE; and PCBs at levels that exceeded the NJDEP GWQS. The results of the most recent round of ground water monitoring, performed by EWMA in September 2003, revealed concentrations of only lead, arsenic and PCBs at levels that exceeded the NJDEP GWQS. Separate phase product was not noted in any of the monitoring wells or sumps during EWMA's sampling events.

EWMA notes that, even after using low flow purging techniques, ground water within onsite monitoring wells was noted to contain a visibly high sediment content. Since the majority of the compounds detected within ground water have been detected within onsite soils, and elevated quantities of sediment can result in artificially elevated concentrations of these contaminants, the majority of the contaminants detected in ground water are likely attributable to the sediment content. The most notable example of this is the detection of PCBs within MW-5, since PCBs are hydrophobic and usually do not leach into ground water.

EWMA will install three additional wells (see Figure 8) to further investigate and delineate the ground water contamination detected at the property. Specifically, monitoring well MW-7 will be installed upgradient of Building 21 in the vicinity of EWMA's temporary ground water sampling point B10 to investigate the field indications of contamination noted in that area during the separate phase product delineation activities and to establish ground water quality upgradient of MW-4. Monitoring well MW-8 will be installed downgradient of MW-4 and Building 21 to confirm the findings of EWMA's separate phase product investigation and delineate contaminants detected within MW-5. Monitoring well MW-1R will be installed as an additional downgradient monitoring well in the approximate area of former LCS, Inc. monitoring well MW-1, in the vicinity of the former MW-1 to address the PCE detected in the ground water by LCS, Inc.

The existing and new monitoring wells will be surveyed by a New Jersey licensed surveyor, and additional ground water sampling rounds will be conducted, as outlined within the RIW portion of this report. During future sampling rounds, EWMA will re-develop MW-3 so that it can continue to be used to monitor ground water quality.

#### 2.5 SENSITIVE RECEPTOR SURVEY

On October 28, 2003 EWMA performed a Sensitive Receptor Survey (SRS) to determine if subsurface utilities in the area where separate phase product had previously been detected had



been impacted. The SRS was completed by visually assessing and using field instrumentation to screen the sumps (Buildings 21 and 14), utility manholes, storm and sanitary sewer pits in the vicinity of Building 21 and area where product was detected during the installation of temporary ground water points. The pits were visually inspected to document their integrity and screened using a photoionization detector (PID). The PID used to screen the pits was calibrated with isobutylene span gas and equipped with a 10.6 eV UV lamp. The sumps in Building 21 and 14 were noted to have concrete casings with what appeared to be sediment bottoms. No elevated PID readings were recorded during the October 28, 2003 SRS, however, a sheen was noted on the water that had accumulated in the bottom of the sump. The results of the SRS performed by EWMA confirm the lack of impacts to the sumps, manholes, storm and sanitary sewer pits.

In accordance with NJAC 7:26E-3.7(e)3, EWMA will complete the SRS requirements by obtaining and reviewing/tabulating a well search. The well search will also be used to confirm that the proper well abandonment forms were completed and submitted for MW-1.

### 3.0 REMEDIAL INVESTIGATION WORKPLAN

The RIW portion of this report has been prepared to outline additional soil sampling, monitoring well installation, and ground water sampling activities referenced in the preceding sections of this report.

#### 3.1 SCHEDULE OF ACTIVITIES

The detailed schedule of all remedial investigation activities proposed in this workplan is included as Table 1, Schedule of Implementation.

#### 3.2 PRINCIPAL PERSONNEL

The Remedial Investigation (RI) activities proposed within this workplan will be implemented upon approval by the NJDEP and under the supervision of personnel identified in the table on the following page. The table identifies the primary personnel connected with implementing the workplan and describes their responsibilities. The list is subject to change. The site-specific Health and Safety Plan (HASP) lists the actual EWMA representatives that supervised the implementation of the tasks.

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| Personnel                                  | Affiliation  | Responsibilities   |
|--|--|--|
| Robert Edgar<br>Senior Project Manager     | Environmental Waste Management<br>Associates, LLC<br>PO Box 5430<br>Parsippany, New Jersey 07054<br>973-560-1400<br>973-560-0400-fax | <ul style="list-style-type: none"> <li>• Senior Project Manager (SPM).</li> <li>• Provides overall directions from the office upon consultation with the SM.</li> </ul>  |
| Kristen Bebout<br>Environmental Scientist  | Environmental Waste Management<br>Associates, LLC<br>PO Box 5430<br>Parsippany, New Jersey 07054<br>973-560-1400<br>973-560-0400-fax | <ul style="list-style-type: none"> <li>• Site Manager (SM); reports to SPM.</li> <li>• Supervises all on-site activities in connection with the workplan.</li> <li>• Assures adherence with the technical requirements of the workplan.</li> <li>• Primary contact for on-site H&amp;S emergencies.</li> <li>• Primary contact concerning activities, field personnel, contact with the SPM and public inquiries.</li> </ul> |
| Personnel                                  | Affiliation  | Responsibilities   |
| Amy Mc Watters<br>Environmental Technician | Environmental Waste Management<br>Associates, LLC<br>PO Box 5430<br>Parsippany, New Jersey 07054<br>973-560-1400<br>973-560-0400-fax | <ul style="list-style-type: none"> <li>• Site Safety Manager (SSM); reports to SM.</li> <li>• Assures adherence with the HASP of the workplan.</li> <li>• Assists in ensuring adherence with the QA/QC procedures of the workplan.</li> <li>• Has authority in stopping work per SM approval when H&amp;S concerns arise.</li> </ul>   |
| Summit Drilling                            | Summit Drilling<br>Chimney Rock Road<br>Bound Brook, NJ, 08805<br>Phone # 908-722-4266<br>Fax # 732-356-1009                         | <ul style="list-style-type: none"> <li>• Consults with the SM for activities.</li> <li>• Supervises personnel associated with Summit.</li> <li>• Coordinates activities under the direction of the SM.</li> </ul>  |

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### 3.3 FINDINGS AND CONCLUSIONS

The confirmed AOCs at the property consist of the following:

AOC # 1 - Tank Farm  
AOC # 2 - Drum Storage Yard 1  
AOC # 3 - Varnish Factory/Tanks  
AOC # 4 - Tank Farm 2/Pump House  
AOC # 5 - Tank Farm 3  
AOC # 6 - Oil Blending House  
AOC # 7 - Drum Storage Yard 2  
AOC # 8 - Drum Storage Yard 3  
AOC # 9 - Drum Storage Yard 4  
AOC # 10 - Surface Soils  
AOC # A - Tank Farm 4  
AOC # B - Paint Factory  
AOC # C - Laboratory/Tanks  
AOC # D - Building Sumps  
AOC # E - Former #2 Fuel Oil USTs  
AOC # F - Impacted Fill Material

Site and remedial investigation sampling of soils at the above referenced AOCs, which is summarized within the RI portion of this report, has demonstrated that PCBs, PAHs, arsenic and TPHC have been detected at concentrations that exceed the NJDEP RDCSCC. These contaminants are present within the historic fill materials that include reworked surficial SSI soils impacted during operations performed by SSI.

The results of the additional remedial investigation sampling outlined in the following tables will be evaluated to determine if further RI work is necessary. If the results of the additional soil sampling indicate that the historic fill type contaminants are ubiquitous, a proposal for leaving these materials in-place through the use of a Deed Notice will be submitted rather than a proposal for further delineation.

Contaminants detected at levels that exceeded the NJDEP GWQS within onsite ground water within the last two rounds of sampling performed by EWMA are limited to the priority pollutant metals arsenic, lead, and cadmium; the PAHs benzo(a)anthracene and benzon(a)pyrene; the volatile organic compounds TCE and PCE; and PCBs. The results of the most recent round of ground water monitoring, performed by EWMA in September 2003, revealed concentrations of only lead, arsenic and PCBs at levels that exceeded the NJDEP GWQS. Separate phase product was not noted in any of the monitoring wells or sumps during EWMA's sampling events.



The results of the additional monitoring well installation and ground water sampling outlined in the following tables will be evaluated to determine if further RI work is necessary. If the results of the additional ground water sampling indicate that ground water contamination is limited and is horizontally delineated, a proposal for the use of natural attenuation and a Classification Exception Area will be submitted rather than a proposal for further delineation.

### 3.4 PROPOSED SAMPLING & ANALYSIS SUMMARY TABLE

The proposed Sampling & Analysis Summary table is incorporated into the *Proposed Sample Location Map* that is included as **Figure 6** of this workplan.

| Area of Concern                      | Soil Boring Location and Depth of Contamination | Sampling Parameters              | No. of Samples | Proposed Sample Depth |
|--------------------------------------|---|----------------------------------|----------------|-----------------------|
| AOC 1<br>Tank Farm                   | BH28A-C Horizontal Delineation Samples for BH28 | TPHC                             | 3              | 13.5 to 14'           |
|                                      | BH28D Vertical Delineation sample for BH28      | TPHC                             | 1              | 14.0 to 14.5'         |
|                                      | BH28X Historic Fill Sample for BH28             | TPHC, PCB, PAH & PPM             | 1              | 6.0 to 6.5'           |
|                                      | BH33X Historic Fill Sample for BH33             | TPHC, PCB, PAH & PPM             | 1              | 3.0 to 3.5'           |
|                                      | BH33XX Historic Fill Sample for BH33            | TPHC, PCB, PAH & PPM             | 1              | 7.5 to 8.0'           |
| AOC 2<br>Drum Storage Yard 1         | BH42 X Historic Fill Sample for BH42            | TPHC, PCB, and conditional VO+10 | 1              | 4.0 to 4.5'           |
| AOC 4<br>Tank Farm 2 and Pump Houses | BH27A-C Horizontal Delineation Samples for BH27 | PCBs and PAH                     | 3              | 1.5 to 2.0'           |
|                                      | BH27D Vertical Delineation Sample for BH27      | PCBs and PAH                     | 1              | 2.0 to 2.5'           |
| AOC 5<br>Tank Farm 3                 | BH36A-C Horizontal Delineation Samples for BH36 | PCB and Arsenic                  | 3              | 1.5 to 2.0'           |
|                                      | BH36D Vertical Delineation Sample for BH36      | PCB and Arsenic                  | 1              | 2.5 to 3.0'           |
|                                      | BH36X Surficial Soil Sample for BH36            | TPHC, PCB, PAH & PPM             | 1              | 0 to 6.0'             |

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| Area of Concern                              | Soil Boring Location and Depth of Contamination   | Sampling Parameters      | No. of Samples | Proposed Sample Depth |
|--|---|--------------------------|----------------|-----------------------|
| AOC 7<br>Drum Storage Yard 2                 | BH37A-A-C Horizontal Delineation Samples for BH37 | PCB                      | 3              | 2.0 to 2.5'           |
|  | BH37A-D Vertical Delineation Sample for BH37      | PCB                      | 1              | 2.5 to 3.0'           |
| AOC 8<br>Drum Storage Yard 3                 | S2A-C Horizontal Delineation Samples for S2       | Arsenic, PAH & PCB       | 3              | 3.0 to 3.5'           |
|  | S2D Vertical Delineation Sample for S2            | Arsenic, PAH & PCB       | 1              | 3.5 to 4.0'           |
|  | BH13X White Fill Material for BH13                | PP+40                    | 1              | 2.5 to 3'             |
| AOC 9<br>Drum Storage Yard 4                 | S1A-C Horizontal Delineation Samples for S1       | PAH & PCB                | 3              | 1.5 to 2.0'           |
|  | S1D Vertical Delineation Sample for S1            | PAH & PCB                | 1              | 2.0 to 2.5'           |
|  | BH12X Historic Fill Sample for BH12               | TPHC, PCB, PAH & PPM     | 1              | 3.5 to 4.0'           |
|  | BH12XX Historic Fill Sample for BH12              | TPHC, PCB, PAH & PPM     | 1              | 6.0 to 6.5'           |
| AOC 10<br>Surficial Soils of the Entire Site | BH1A-C Horizontal Delineation Samples for BH1     | PAH & PCBs               | 3              | 0 to 0.5'             |
|  | BH1D Vertical Delineation Sample for BH1          | PAH & PCBs               | 1              | 0.5' to 1.0'          |
|  | BH3A-C Horizontal Delineation Samples for BH3     | PCB, PAHS, Barium & Lead | 3              | 0 to 0.5'             |
|  | BH3D Vertical Delineation Sample for BH3          | PCB, PAHS, Barium & Lead | 1              | 0.5' to 1.0'          |
|  | BH4A-C Horizontal Delineation Samples for BH4     | PCBs                     | 3              | 0 to 0.5'             |
|  | BH4D Vertical Delineation Sample for BH4          | PCBs                     | 1              | 0.5 to 1.0'           |

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| Area of Concern                              | Soil Boring Location and Depth of Contamination | Sampling Parameters  | No. of Samples | Proposed Sample Depth |
|--|---|----------------------|----------------|-----------------------|
| AOC 10<br>Surficial Soils of the Entire Site | B4X Historic Fill Sample for BH4                | TPHC, PCB, PAH & PPM | 1              | 3.0 to 3.5'           |
|  | BH6A-C Horizontal Delineation Samples for BH6   | PCBs                 | 3              | 0 to 0.5'             |
|  | BH6D Vertical Delineation Sample for BH6        | PCBs                 | 1              | 0.5 to 1.0'           |
|  | B6X Historic Fill Sample for BH6                | TPHC, PCB, PAH & PPM | 1              | 2.0 to 2.5'           |
|  | BH20A-C Horizontal Delineation Samples for BH20 | PCBs                 | 3              | 0 to 0.5'             |
|  | BH20D Vertical Delineation Sample for BH20      | PCBs                 | 1              | 0.5 to 1.0'           |
|  | BH41A-C Horizontal Delineation Samples for BH41 | PAHs and PCBs        | 3              | 0 to 0.5'             |
|  | BH41D Vertical Delineation Sample for BH41      | PAHs and PCBs        | 1              | 0.5 to 1.0'           |
| AOC B<br>Paint Factory                       | BH21A-C Horizontal Delineation Samples for BH21 | PAHs                 | 3              | 1.5 to 2.0'           |
|  | BH21D Vertical Delineation Sample for BH21      | PAHs                 | 1              | 2.0 to 2.5'           |
|  | BH21X Historic Fill Sample for BH21             | TPHC, PCB, PAH & PPM | 1              | 5.0 to 6.0'           |
| AOC C<br>Tank Farm                           | BH23A-C Horizontal Delineation Samples for BH23 | PAHs                 | 3              | 0 to 0.5'             |
|  | BH23D Vertical Delineation Sample for BH23      | PAHs                 | 1              | 5.5 to 6.0'           |
|  | BH23X Historic Fill Sample for BH23             | TPHC, PCB, PAH & PPM | 1              | 7.5 to 8.0'           |
| AOC F<br>Impacted Fill Material              | Post Excavation Samples for AOC F               | Lead and PCBs        | 4              | 3.5 to 4.0'           |
|  | Excavation Base Sample                          | Lead and PCBs        | 1              | 4.0 to 4.5'           |



| Area of Concern                  | Soil Boring Location and Depth of Contamination | Sampling Parameters  | No. of Samples | Proposed Sample Depth |
|----------------------------------|---|----------------------|----------------|-----------------------|
| Other Areas Sampled by LCS, Inc. | BH19A-C Horizontal Delineation Samples for BH19 | TPHC                 | 3              | 4.5 to 5'             |
|                                  | BH19D Vertical Delineation Sample for BH19      | TPHC                 | 1              | 5.0 to 5.5'           |
|                                  | BH19X Historic Fill Sample for BH19             | TPHC                 | 1              | 12.5 to 13'           |
|                                  | B5X Historic Fill Sample for B5                 | TPHC, PCB, PAH & PPM | 1              | 15.5 to 16.0'         |
|                                  | BH7X Historic Fill Sample for B7                | TPHC, PCB, PAH & PPM | 1              | 6.0 to 6.5'           |
|                                  | BH9X Historic Fill Sample for BH9               | TPHC, PCB, PAH & PPM | 1              | 8.5 to 9.0'           |
|                                  | BH9X Historic Fill Sample for BH9               | TPHC, PCB, PAH & PPM | 1              | 12.0 to 12.5'         |
|                                  | BH40X Historic Fill Sample for BH40             | TPHC, PCB, PAH & PPM | 1              | 2.0 to 2.5'           |

#### Ground Water

| Monitoring Wells On-Site  | Sampling Parameters       | Proposed Number of Sampling Rounds |
|---------------------------|---------------------------|------------------------------------|
| MW-2                      | PPM                       | 1                                  |
| MW-3                      | VO+10, PAHs and PPM       | 2                                  |
| MW-4                      | PAHs                      | 1                                  |
| MW-5                      | PCBs and lead             | 2                                  |
|                           | PPM                       | 2                                  |
|                           | PAHs                      | 1                                  |
| MW-6                      | VO+10, PAHs, PPM and PCBs | 1                                  |
| Proposed Monitoring Wells |                           |                                    |
| MW-1R (MW-1 Replacement)  | VO+10, PAHs, PPM and PCBs | 2                                  |
| MW-7                      | VO+10, PAHs, PPM and PCBs | 2                                  |
| MW-8                      | VO+10, PAHs, PPM and PCBs | 2                                  |

### 3.5 PROPOSED SAMPLE LOCATIONS

The *Proposed Sample Location Plan* is included as **Figure 6** of this workplan.

### 3.6 OTHER PROPOSALS

No other sampling activities are proposed in this workplan.

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### **3.7 QUALITY ASSURANCE PROJECT PLAN**

The Quality Assurance Project Plan (QAPP) document for the activities proposed in this workplan is included in **Appendix 1**.

### **3.8 HEALTH AND SAFETY PLAN**

The Health and Safety Plan for the activities proposed herein is included in **Appendix 2**.

### **4.0 HAZSITE DATA**

Monitoring well Form B information was not included in the information prepared by LCS, Inc. EWMA will have the locations and elevations of the existing and new monitoring wells surveyed by a New Jersey licensed surveyor. Once the monitoring wells are surveyed, EWMA will complete the required Hazsite data deliverables for the August and September 2003 ground water sampling rounds and submit this information to the NJDEP.

### **5.0 CERTIFICATION PAGE**

The required certification page will be submitted under separate cover.

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**Table 1: Remedial Investigation Workplan Implementation Schedule**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, New Jersey**

| Task   | Estimated Completion Date |
|--|---------------------------|
| NJDEP approval of the November 13, 2002 RIR/RIW    | January 2004              |
| Obtain Well Search                                 | January 2004              |
| Soil Boring Investigation and Delineation Sampling | February - March 2004     |
| Monitoring Well Installation Activities            | February - March 2004     |
| Monitoring Well Survey                             | March 2004                |
| Monitoring Well Sampling Activities                | April 2004                |
| Monitoring Well Sampling Activities                | May 2004                  |
| RIR or RAW Submission                              | June - July 2004          |

**DDF000455**



**Table 2: August 8, 2003 Groundwater Sampling Results**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, NJ**

| Client ID:               | NJDEP<br>GROUND WATER<br>QUALITY<br>CRITERIA | NJDEP<br>PRACTICAL<br>QUANTIFICATION<br>LEVELS<br>(PQLs) | HIGHER OF PQLs<br>+ GROUND WATER<br>QUALITY<br>CRITERIA | MW 2  | MW 3 | MW 4  | MW 5  | MW 6  |
|--------------------------|--|--|---|-------|------|-------|-------|-------|
| Sample Depth:            |  |  |   |       |      |       |       |       |
| Lab ID:                  |  |  |   |       |      |       |       |       |
| Date Sampled:            |  |  |   |       |      |       |       |       |
| Matrix:                  |  |  |   |       |      |       |       |       |
| Volatiles (ppb)          |  |  |   |       |      |       |       |       |
| Trichloroethene          | 1  | 1  | 1   | ND    | 2.20 | ND    | ND    | ND    |
| Tetrachloroethene        | 0.4  | 1  | 1   | ND    | 12.7 | ND    | ND    | ND    |
| TOTAL VOC's:             | NA   | NA   | NA  | ND    | 14.9 | ND    | ND    | ND    |
| TOTAL TIC's:             | NA   | NA   | NA  | ND    | 14.9 | ND    | 482   | ND    |
| TOTAL VOC's & TIC's:     | NA   | NA   | NA  | ND    | 14.9 | ND    | 482   | ND    |
| Semivolatiles - BN (ppb) |  |  |   |       |      |       |       |       |
| Naphthalene              | 300(ISM)                                     | 2(ISM)   | 300(ISM)  | ND    | ND   | ND    | 1.05  | ND    |
| Acenaphthene             | 400  | 10   | 400   | ND    | ND   | ND    | 0.703 | ND    |
| Dibenzofuran             | 100(IGNC)                                    | 10(IGNC)   | 100(IGNC)   | ND    | ND   | ND    | 0.389 | ND    |
| Fluorene                 | 300  | 10   | 300   | ND    | ND   | ND    | 0.485 | ND    |
| Phenanthrene             | 100(IGNC)                                    | 0.4(IGNC)  | 100(IGNC)   | ND    | ND   | ND    | 0.677 | ND    |
| Anthracene               | 3000   | 10   | 2000  | ND    | ND   | ND    | 0.166 | ND    |
| Di-n-butylphthalate      | 500  | 20   | 500   | 0.486 | ND   | 0.403 | ND    | 0.970 |
| Fluoranthene             | 300  | 10   | 300   | ND    | ND   | ND    | 0.785 | ND    |
| Pyrene                   | 200  | 20   | 200   | ND    | ND   | ND    | 0.550 | ND    |
| Benz[a]anthracene        | 0.06(IS)                                     | 0.2(IS)  | 0.2(IS)   | ND    | ND   | ND    | 0.311 | ND    |
| Chrysene                 | 5(IS)  | 0.2(IS)  | 5(IS)   | ND    | ND   | ND    | 0.512 | ND    |
| Benzofluorene            | 0.005(IS)                                    | 0.2(IS)  | 0.2(IS)   | ND    | ND   | ND    | 0.209 | ND    |
| TOTAL BN's:              | NA   | NA   | NA  | 0.486 | ND   | 0.402 | 6.24  | 0.970 |
| TOTAL TIC's:             | NA   | NA   | NA  | 0.486 | ND   | 0.402 | 377   | ND    |
| TOTAL BN's & TIC's:      | NA   | NA   | NA  | 0.486 | ND   | 0.402 | 383   | 0.970 |
| PCB's (ppb)              |  |  |   |       |      |       |       |       |
| Aroclor-1260             | 0.02   | 0.5  | 0.5   | ND    | ~    | ND    | 2.44  | ND    |
| Metals (ppb)             |  |  |   |       |      |       |       |       |
| Antimony                 | 2  | 20   | 20  | 8.80  | ND   | ND    | ND    | ND    |
| Arsenic                  | 0.02   | 8  | 8   | 12.3  | 12.4 | ND    | 6.19  | ND    |
| Beryllium                | 0.006  | 20   | 20  | ND    | 5.71 | ND    | ND    | ND    |
| Cadmium                  | 4  | 2  | 4   | 3.66  | 12.8 | ND    | 1.24  | ND    |
| Copper                   | 1000   | 1000   | 1000  | 39.5  | 93.8 | ND    | 20.8  | ND    |
| Lead                     | 5  | 10   | 10  | 10.7  | 144  | ND    | 65.9  | 8.03  |
| Nickel                   | 100  | 10   | 100   | 6.54  | 20.3 | ND    | 6.42  | ND    |
| Zinc                     | 5000   | 30   | 5000  | 652   | 433  | 26.4  | 1150  | 34.0  |

(IGNC) = Interim Generic Criteria for SOCs lacking evidence of carcinogenicity; 100 ppb

~ = Sample not analyzed for

ND = Analyzed for but Not Detected at the MDL

NA = Not Applicable

**DDF000456**



Table 3: September 11, 2003 Groundwater Sampling Results  
 Arbor Hills Cooperative Complex  
 One River Road  
 Nutley, Essex County, NJ

| Client ID:               | NJDEP<br>GROUND WATER<br>QUALITY<br>CRITERIA | NJDEP<br>PRACTICAL<br>QUANTITATION<br>LEVELS<br>(PQLs) | HIGHER OF PQLs<br>+ GROUND WATER<br>QUALITY<br>CRITERIA | MW2        | MW4        | MW5        | MW6        |
|--------------------------|--|--|---|------------|------------|------------|------------|
| Sample Depth:            |  |  |   | 08142-001  | 08142-004  | 08142-003  | 08142-002  |
| Lab ID:                  |  |  |   | 09/11/2003 | 09/11/2003 | 09/11/2003 | 09/11/2003 |
| Date Sampled:            |  |  |   | Aqueous    | Aqueous    | Aqueous    | Aqueous    |
| Matrix:                  |  |  |   | Conc       | Conc       | Conc       | Conc       |
| Volatiles (ppb)          | NA   | NA   | NA  | ND         | ND         | ND         | ND         |
| TOTAL VO's:              | NA   | NA   | NA  | ND         | ND         | 255        | ND         |
| TOTAL TIC's:             | NA   | NA   | NA  | ND         | ND         | 255        | ND         |
| TOTAL VO's & TIC's:      |  |  |   |            |            |            |            |
| Semivolatiles - BN (ppb) |  |  |   |            |            |            |            |
| Fluorene                 | 300  | 10   | 300   | ND         | ND         | 1.47       | ND         |
| Phenanthrene             | 100(IGNC)                                    | 0.4(IGNC)  | 100(IGNC)   | ND         | ND         | 2.05       | ND         |
| Fluoranthene             | 300  | 10   | 300   | ND         | ND         | 1.83       | ND         |
| Pyrene                   | 200  | 20   | 200   | ND         | ND         | 2.48       | ND         |
| TOTAL BN's:              | NA   | NA   | NA  | ND         | ND         | 7.83       | ND         |
| TOTAL TIC's:             | NA   | NA   | NA  | ND         | ND         | 2100       | ND         |
| TOTAL BN's & TIC's:      | NA   | NA   | NA  | ND         | ND         | 2110       | ND         |
| PCB's (ppb)              |  |  |   |            |            |            |            |
| Aroclor-1254             | 0.02   | 0.5  | 0.5   | ~          | ~          | 5.73       | ~          |
| Aroclor-1260             | 0.02   | 0.5  | 0.5   | ~          | ~          | 4.91       | ~          |
| Metals (ppb)             |  |  |   |            |            |            |            |
| Arsenic                  | 0.02   | 8  | 8   | 9.23       | ~          | 4.18       | ~          |
| Cadmium                  | 4  | 2  | 4   | 3.10       | ~          | ND         | ~          |
| Copper                   | 1000   | 1000   | 1000  | 30.8       | ~          | 18.0       | ~          |
| Lead                     | 5  | 10   | 10  | 8.53       | ~          | 69.8       | ~          |
| Nickel                   | 100  | 10   | 100   | 7.56       | ~          | ND         | ~          |
| Zinc                     | 5000   | 30   | 5000  | 501        | ~          | 326        | ~          |

(IGNC) = Interim Generic Criteria for SOCs lacking evidence of carcinogenicity; 100 ppb

~ = Sample not analyzed for

ND = Analyzed for but Not Detected at the MDL

NA = Not Applicable

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sum 2003-9-11



**Table 4: Groundwater Purge Table August 8, 2003**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, NJ**



Project Name: Arbor Hills  
 Project Location: One River Road, Belleville/ Nutley  
 Project Number: 203099  
 EWMA Personnel: A. McWatters  
 Weather: cloudy 85  
 Date: 08-Aug-03

| MW-2                     |             | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss. O <sub>2</sub><br>mg/l | Temp.<br>°C | ORP<br>mv |
|--------------------------|-------------|-----------------|------|----------------|------------------|------------------------------|-------------|-----------|
| Depth to Water (initial) | 0.90        | 11:06           | 6.81 | 0.633          | 999              | 1.81                         | 24.5        | 40        |
| Depth to Water (final)   | 0.90        | 11:11           | 6.75 | 0.650          | 999              | 1.95                         | 24.4        | 67        |
| Depth of Well (ft)       | 16.00       | 11:16           | 6.30 | 0.561          | 999              | 2.27                         | 24.3        | 84        |
| Well Diameter (in)       | 2.00        | 11:21           | 6.22 | 0.559          | 999              | 2.11                         | 24.3        | 85        |
| Screen Length (ft)       | 13.00       | 11:26           | 6.11 | 0.558          | 960              | 2.09                         | 24.4        | 87        |
| Casing Type              | PVC         | 11:31           | 6.10 | 0.556          | 958              | 2.02                         | 24.4        | 90        |
| PID (initial)            | 2.3         |                 |      |                |                  |                              |             |           |
| Pump Type                | Peristaltic |                 |      |                |                  |                              |             |           |
| Tubing Type              | Teflon      |                 |      |                |                  |                              |             |           |
| Max. Drawdown (ft)       | 0.00        |                 |      |                |                  |                              |             |           |
| Purge Start Time         | 11:06       |                 |      |                |                  |                              |             |           |
| Purge End                | 11:31       |                 |      |                |                  |                              |             |           |
| Purge Rate (LPM)         | 0.33        |                 |      |                |                  |                              |             |           |
| Purge Volume (L)         | 8.25        |                 |      |                |                  |                              |             |           |
| Sample Time              | 11:31       |                 |      |                |                  |                              |             |           |
| Depth To Product         | N/A         |                 |      |                |                  |                              |             |           |
| Odor                     | none        |                 |      |                |                  |                              |             |           |
| Comments:                |             |                 |      |                |                  |                              |             |           |

| MW-4                     |             | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss. O <sub>2</sub><br>mg/l | Temp.<br>°C | ORP<br>mv |
|--------------------------|-------------|-----------------|------|----------------|------------------|------------------------------|-------------|-----------|
| Depth to Water (initial) | 13.25       | 2:37            | 4.88 | 0.677          | 522              | 1.06                         | 23.4        | 8         |
| Depth to Water (final)   |             | 2:42            | 4.73 | 0.683          | 521              | 1.15                         | 21.5        | 12        |
| Depth of Well (ft)       | 20.00       | 2:47            | 4.71 | 0.683          | 520              | 1.14                         | 21.3        | 13        |
| Well Diameter (in)       | 1.00        | 2:52            | 4.68 | 0.684          | 521              | 1.13                         | 21.3        | 15        |
| Screen Length (ft)       | 10.00       |                 |      |                |                  |                              |             |           |
| Casing Type              | PVC         |                 |      |                |                  |                              |             |           |
| PID (initial)            | 0.0         |                 |      |                |                  |                              |             |           |
| Pump Type                | Peristaltic |                 |      |                |                  |                              |             |           |
| Tubing Type              | Teflon      |                 |      |                |                  |                              |             |           |
| Max. Drawdown (ft)       | -13.25      |                 |      |                |                  |                              |             |           |
| Purge Start Time         | 2:37        |                 |      |                |                  |                              |             |           |
| Purge End                | 2:52        |                 |      |                |                  |                              |             |           |
| Purge Rate (LPM)         | 0.33        |                 |      |                |                  |                              |             |           |
| Purge Volume (L)         | 4.95        |                 |      |                |                  |                              |             |           |
| Sample Time              | 2:52        |                 |      |                |                  |                              |             |           |
| Depth To Product         | N/A         |                 |      |                |                  |                              |             |           |
| Odor                     | none        |                 |      |                |                  |                              |             |           |
| Comments:                |             |                 |      |                |                  |                              |             |           |

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**Table 4: Groundwater Purge Table August 8, 2003**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, NJ**

| MW-5                     |             | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss.O.<br>mg/l | Temp.<br>°C | ORP<br>mv |
|--------------------------|-------------|-----------------|------|----------------|------------------|-----------------|-------------|-----------|
| Depth to Water (initial) | 8.36        | 1:31            | 5.50 | 0.486          | 688              | 0.78            | 23.4        | 44        |
| Depth to Water (final)   |             | 1:56            | 5.48 | 0.501          | 650              | 1.60            | 24.4        | 50        |
| Depth of Well (ft)       | 17.00       | 2:01            | 5.46 | 0.503          | 644              | 1.63            | 24.5        | 51        |
| Well Diameter (in)       | 1.00        | 2:06            | 5.44 | 0.503          | 648              | 1.65            | 24.6        | 51        |
| Screen Length (ft)       | 10.00       |                 |      |                |                  |                 |             |           |
| Casing Type              | PVC         |                 |      |                |                  |                 |             |           |
| PID (initial)            | 35.5        |                 |      |                |                  |                 |             |           |
| Pump Type                | Peristaltic |                 |      |                |                  |                 |             |           |
| Tubing Type              | Teflon      |                 |      |                |                  |                 |             |           |
| Max. Drawdown (ft)       | -8.36       |                 |      |                |                  |                 |             |           |
| Purge Start Time         | 1:51        |                 |      |                |                  |                 |             |           |
| Purge End                | 2:06        |                 |      |                |                  |                 |             |           |
| Purge Rate (LPM)         | 0.33        |                 |      |                |                  |                 |             |           |
| Purge Volume (L)         | 4.95        |                 |      |                |                  |                 |             |           |
| Sample Time              | 2:06        |                 |      |                |                  |                 |             |           |
| Depth To Product         | N/A         |                 |      |                |                  |                 |             |           |
| Odor                     | Yes/Sheen   |                 |      |                |                  |                 |             |           |
| Comments:                |             |                 |      |                |                  |                 |             |           |

| MW-6                     |             | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss.O.<br>mg/l | Temp.<br>°C | ORP<br>mv |
|--------------------------|-------------|-----------------|------|----------------|------------------|-----------------|-------------|-----------|
| Depth to Water (initial) | 8.85        | 1:00            | 5.95 | 0.687          | 440              | 2.04            | 22.2        | 106       |
| Depth to Water (final)   |             | 1:05            | 5.88 | 0.768          | 442              | 2.16            | 20.7        | 115       |
| Depth of Well (ft)       | 17.00       | 1:10            | 5.87 | 0.772          | 445              | 2.18            | 20.6        | 116       |
| Well Diameter (in)       | 1.00        | 1:15            | 5.85 | 0.777          | 445              | 2.20            | 20.5        | 117       |
| Screen Length (ft)       | 10.00       |                 |      |                |                  |                 |             |           |
| Casing Type              | PVC         |                 |      |                |                  |                 |             |           |
| PID (initial)            | 9.5         |                 |      |                |                  |                 |             |           |
| Pump Type                | Peristaltic |                 |      |                |                  |                 |             |           |
| Tubing Type              | Teflon      |                 |      |                |                  |                 |             |           |
| Max. Drawdown (ft)       | -8.85       |                 |      |                |                  |                 |             |           |
| Purge Start Time         | 1:00        |                 |      |                |                  |                 |             |           |
| Purge End                | 1:15        |                 |      |                |                  |                 |             |           |
| Purge Rate (LPM)         | 0.33        |                 |      |                |                  |                 |             |           |
| Purge Volume (L)         | 4.95        |                 |      |                |                  |                 |             |           |
| Sample Time              | 1:15        |                 |      |                |                  |                 |             |           |
| Depth To Product         | N/A         |                 |      |                |                  |                 |             |           |
| Odor                     | none        |                 |      |                |                  |                 |             |           |
| Comments:                |             |                 |      |                |                  |                 |             |           |

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**Table 5: Groundwater Purge Table September 11, 2003**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, NJ**



Project Name: Arbor Hills  
 Project Location: One River Road, Belleville/ Nutley  
 Project Number: 203099  
 EWMA Personnel: A. McWatters  
 Weather: sunny 75  
 Date: 11-Sep-03

| MW-2                     |         | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss. Or.<br>mg/L | Temp.<br>°C | ORP<br>mv |
|--------------------------|---------|-----------------|------|----------------|------------------|-------------------|-------------|-----------|
| Depth to Water (initial) | 1.95    | 10:50           | 6.37 | 2.380          | 999              | 1.14              | 22.7        | 70        |
| Depth to Water (final)   | 2.04    | 10:55           | 6.33 | 2.350          | 376              | 0.90              | 22.1        | 71        |
| Depth of Well (ft)       | 12.81   | 11:00           | 6.32 | 2.350          | 377              | 0.81              | 22.1        | 69        |
| Well Diameter (in)       | 2.00    | 11:05           | 6.31 | 2.350          | 375              | 0.78              | 22.3        | 66        |
| Screen Length (ft)       | 13.00   |                 |      |                |                  |                   |             |           |
| Casing Type              | PVC     |                 |      |                |                  |                   |             |           |
| PID (initial)            | 0.0     |                 |      |                |                  |                   |             |           |
| Pump Type                | Bladder |                 |      |                |                  |                   |             |           |
| Tubing Type              | Teflon  |                 |      |                |                  |                   |             |           |
| Max. Drawdown (ft)       | 0.09    |                 |      |                |                  |                   |             |           |
| Purge Start Time         | 10:45   |                 |      |                |                  |                   |             |           |
| Purge End                | 11:05   |                 |      |                |                  |                   |             |           |
| Purge Rate (LPM)         | 0.25    |                 |      |                |                  |                   |             |           |
| Purge Volume (L)         | 5       |                 |      |                |                  |                   |             |           |
| Sample Time              | 11:05   |                 |      |                |                  |                   |             |           |
| Depth To Product         | N/A     |                 |      |                |                  |                   |             |           |
| Odor                     | none    |                 |      |                |                  |                   |             |           |
| Comments:                |         |                 |      |                |                  |                   |             |           |

| MW-4                     |           | Time<br>24 Hour | pH   | Cond.<br>us/cm | Turbidity<br>NTU | Diss. Or.<br>mg/L | Temp.<br>°C | ORP<br>mv |
|--------------------------|-----------|-----------------|------|----------------|------------------|-------------------|-------------|-----------|
| Depth to Water (initial) | 14.76     | 4:15            | 5.88 | 0.790          | 535              | 4.16              | 20.4        | 96        |
| Depth to Water (final)   | 14.89     | 4:20            | 5.86 | 0.787          | 532              | 3.24              | 20.3        | 95        |
| Depth of Well (ft)       | 19.10     | 4:25            | 5.86 | 0.786          | 530              | 3.19              | 20.3        | 94        |
| Well Diameter (in)       | 1.00      | 4:30            | 5.85 | 0.787          | 529              | 3.17              | 20.2        | 94        |
| Screen Length (ft)       | 10.00     |                 |      |                |                  |                   |             |           |
| Casing Type              | PVC       |                 |      |                |                  |                   |             |           |
| PID (initial)            | 0.0       |                 |      |                |                  |                   |             |           |
| Pump Type                | Bladder   |                 |      |                |                  |                   |             |           |
| Tubing Type              | Teflon    |                 |      |                |                  |                   |             |           |
| Max. Drawdown (ft)       | 0.13      |                 |      |                |                  |                   |             |           |
| Purge Start Time         | 4:09      |                 |      |                |                  |                   |             |           |
| Purge End                | 4:30      |                 |      |                |                  |                   |             |           |
| Purge Rate (LPM)         | 0.25      |                 |      |                |                  |                   |             |           |
| Purge Volume (L)         | 5.25      |                 |      |                |                  |                   |             |           |
| Sample Time              | 4:30      |                 |      |                |                  |                   |             |           |
| Depth To Product         | N/A       |                 |      |                |                  |                   |             |           |
| Odor                     | yes/sheen |                 |      |                |                  |                   |             |           |
| Comments:                |           |                 |      |                |                  |                   |             |           |

DDF000460



**Table 5: Groundwater Purge Table September 11, 2003**  
**Arbor Hills Cooperative Complex**  
**One River Road**  
**Nutley, Essex County, NJ**

| MW-5                     |           | Time<br>24 Hour | pH   | Cond<br>us/cm | Turbidity<br>NTU | Diss.O <sub>2</sub><br>mg/L | Temp.<br>°C | ORP<br>mv |
|--------------------------|-----------|-----------------|------|---------------|------------------|-----------------------------|-------------|-----------|
| Depth to Water (initial) | 11.49     | 2:07            | 6.35 | 1.370         | 573              | 0.44                        | 23.8        | -11       |
| Depth to Water (final)   | 11.76     | 2:12            | 6.35 | 1.370         | 574              | 0.30                        | 23.9        | -28       |
| Depth of Well (ft)       | 15.95     | 2:17            | 6.35 | 1.360         | 575              | 0.27                        | 23.9        | -31       |
| Well Diameter (in)       | 1.00      | 2:22            | 6.35 | 1.360         | 574              | 0.25                        | 23.9        | -33       |
| Screen Length (ft)       | 10.00     |                 |      |               |                  |                             |             |           |
| Casing Type              | PVC       |                 |      |               |                  |                             |             |           |
| PID (initial)            | 0.0       |                 |      |               |                  |                             |             |           |
| Pump Type                | Bladder   |                 |      |               |                  |                             |             |           |
| Tubing Type              | Teflon    |                 |      |               |                  |                             |             |           |
| Max. Drawdown (ft)       | 0.27      |                 |      |               |                  |                             |             |           |
| Purge Start Time         | 2:00      |                 |      |               |                  |                             |             |           |
| Purge End                | 2:22      |                 |      |               |                  |                             |             |           |
| Purge Rate (LPM)         | 0.25      |                 |      |               |                  |                             |             |           |
| Purge Volume (L)         | 5.5       |                 |      |               |                  |                             |             |           |
| Sample Time              | 2:22      |                 |      |               |                  |                             |             |           |
| Depth To Product         | N/A       |                 |      |               |                  |                             |             |           |
| Odor                     | yes/sheen |                 |      |               |                  |                             |             |           |
| Comments:                |           |                 |      |               |                  |                             |             |           |

| MW-6                     |         | Time<br>24 Hour | pH   | Cond<br>us/cm | Turbidity<br>NTU | Diss.O <sub>2</sub><br>mg/L | Temp.<br>°C | ORP<br>mv |
|--------------------------|---------|-----------------|------|---------------|------------------|-----------------------------|-------------|-----------|
| Depth to Water (initial) | 11.44   | 12:45           | 5.97 | 1.210         | 298              | 2.35                        | 22.5        | 81        |
| Depth to Water (final)   | 13.59   | 12:50           | 5.95 | 1.210         | 303              | 1.99                        | 22.5        | 71        |
| Depth of Well (ft)       | 17.00   | 12:55           | 5.96 | 1.210         | 301              | 1.88                        | 22.7        | 74        |
| Well Diameter (in)       | 1.00    | 13:00           | 5.95 | 1.210         | 289              | 1.87                        | 22.8        | 75        |
| Screen Length (ft)       | 10.00   |                 |      |               |                  |                             |             |           |
| Casing Type              | PVC     |                 |      |               |                  |                             |             |           |
| PID (initial)            | 0.0     |                 |      |               |                  |                             |             |           |
| Pump Type                | Bladder |                 |      |               |                  |                             |             |           |
| Tubing Type              | Teflon  |                 |      |               |                  |                             |             |           |
| Max. Drawdown (ft)       | 2.15    |                 |      |               |                  |                             |             |           |
| Purge Start Time         | 12:41   |                 |      |               |                  |                             |             |           |
| Purge End                | 13:00   |                 |      |               |                  |                             |             |           |
| Purge Rate (LPM)         | 0.25    |                 |      |               |                  |                             |             |           |
| Purge Volume (L)         | 4.75    |                 |      |               |                  |                             |             |           |
| Sample Time              | 13:00   |                 |      |               |                  |                             |             |           |
| Depth To Product         | N/A     |                 |      |               |                  |                             |             |           |
| Odor                     | none    |                 |      |               |                  |                             |             |           |
| Comments:                |         |                 |      |               |                  |                             |             |           |

DDF000461



W-000 000 000 000 000

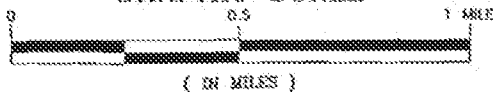
DDF000462





NEW JERSEY  
QUADRANGLE LOCATION

GRAPHIC SCALE



**Environmental Waste  
Management  
Associates, LLC**

P.O. Box 5430  
Parsippany, NJ 07054  
Tel: (973) 560-1400



SCALE: 1" = 2,000'  
DATE: 09/25/03

DRAWN BY: JM  
CHECKED BY: KB  
P.L.S. E:\drawing\5\203099\203099.dwg

PROJECT#  
203099

SITE LOCATION  
ARBOR HILLS  
1 RIVER ROAD  
NUTLEY/BELLEVILLE NEW JERSEY

**DDF000463**

FIGURE#

1

(SOURCE: USGS ORANGE N.J. 7.5 MINUTE QUADRANGLE)

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