atlanta testing
& engineering
11420 johns creek parkway / duluth, georgia 30136 / (404) 476-3555

March 3, 1988

E.I. DuPont De Nemours & Company
Athens Plant
P.O. Box 1808
Athens, Georgia 30613-4099

Attention: Mr. Fred A. Denson

Re: Groundwater Study
E.I. DuPont De Nemours & Company
Athens Plant
Athens, Georgia
Job No. 7613, Report No. 1068
(Revised)

Gentlemen:

Atlanta Testing & Engineering has completed the authorized groundwater study of the subject site and is submitting its findings in this report. The purpose of this study was to determine if impact to the groundwater regime had occurred as a result of the spray fields, the fuel tanks and inadvertent spills, and what impact, if any, may be occurring to off-site groundwater users.

We appreciate the opportunity to be of service to you. Please feel free to contact us at your convenience if you have questions about this report or need further information.

Sincerely,

ATLANTA TESTING & ENGINEERING

Mark A. Sherrill, G.I.T.
Staff Hydrogeologist

Gregory R. Fischer, P.G.
Senior Hydrogeologist
Reg. Ga. 633

MS/GRF/lw

and bicarbonate. However, groundwater quality in the bedrock aquifer may naturally differ somewhat from that in the shallow aquifer. The results measured for the deep wells are comparable with the regional water quality for the bedrock aquifer.

A tabulation of water quality data for spray field wells, the deep wells, and applicable EPA limits are presented in Table 8.

10.3 Fuel Tank Area

As previously mentioned, soil samples collected during the installation of the three monitoring wells were analyzed for the presence of total organic vapors. Wells FT-1 and FT-2 are located within the tank pit area. Well FT-3 is located approximately 35 feet southeast of Well FT-1 in an area judged to be outside of the tank pit. The concentrations measured from the samples collected from Well FT-1 ranged from 1.3 parts per million (ppm) to 7.9 ppm. The concentrations measured from the samples collected from Well FT-2 ranged from 0.1 ppm to 2.0 ppm. These concentrations are considered relatively low. However, the vapor concentration for samples collected from Well FT-3 are high at various depths. Values ranged from 613 ppm, which was measured at ground surface, to 3.2 ppm; the average concentration was 84 ppm. It is our understanding that no signs of tank leakage were evident when the tanks were removed. Most likely, the organic vapors are present as a result of spillage during tank filling. The OVA measurements are presented on Table 9.

On September 28, 1987, Wells FT-1, FT-2, and CW-1 were sampled and analyzed for the presence of BTEX.

No BTEX was detected in Wells FT-2 and CW-1; however 34 parts per billion (ppb) of xylene was measured in Well FT-1. To confirm the presence of xylene the well was resampled on December 2, 1987, again, xylene was detected; this time at a concentration of 23 ppb. To determine if migration of xylene had occurred outside of the tank pit into the underlying groundwater table; well FT-3 was installed and sampled on December 22, 1987; no BTEX was detected. As inferred the occurrence of xylene appears to be confined at the present time to within the tank pit.

The results of the groundwater analysis are presented in Table 10.

11.0 CONCLUSIONS

11.1 Spray Fields

For parameters tested, the groundwater quality analysis of the spray field wells and deep wells indicate that no off-site migration is occurring. Even though some of the parameters showed elevated levels when compared to the background well, the results are comparable to the regional water quality and are generally in line with the EPA drinking water standards.

In order to continue to evaluate impact to the groundwater, it is recommended that the spray field wells and deep wells be sampled on a semi-annual basis and

analyses for the shallow and deep lysimeters is presented as Table 4; presented is the minimum, maximum and average value for each parameter analyzed.

The two deep wells are located down gradient of the spray fields. Well P-1 is located 140 feet south of Spray Field 2, and Well P-2 is located 80 feet south of Spray Field 5. Each well is approximately 90 feet deep. No completion log was available for those wells; it is assumed that they are completed into the bedrock aquifer.

City water has also been sampled and analyzed along with the deep wells. The deep wells are analyzed for the following parameters: COD, BOD, oil and grease, total dissolved solids, nitrate nitrogen, ammonia nitrogen, total phosphorus, TOC, pH, and specific conductance. A tabulation of the minimum, maximum, and average values for the deep well parameters are presented as Table 5. City water has also been analyzed for some of the deep well parameters. These results are shown on Table 6. The water quality data of the deep wells show the groundwater quality to be comparable to the Athens drinking water.

Characterization of the waste water applied to the spray fields has also been done. A tabulation of this data from 1979 through 1987 is presented in Table 7. Some of the more predominant constituents present are total dissolved solids, TOC, COD, and BOD.

10.2 Spray Fields

When compared with the results from the background well SF-1, the labaratory analysis for the monitoring wells surrounding the spray fields show elevated levels of total dissolved solids, COD, total phosphorous, calcium, magnesium, sodium, potassium, bicarbonate, sulfate and chloride. The wells showing elevated levels of these parameters are SF-3, SF-4, SF-5, SF-8 and to some extent, Wells SF-2, SF-6, and SF-7.

Discussions with Dr. Wade L. Nutter, Ph.D. of Earth Systems Associates, LTD; Dupont's consultant responsible for managing the land application program, indicate that the above parameters are not present in the waste stream, but are, with the exception of chloride, compounds associated with the fertilizer and lime that are applied to assure high levels of crep production.

With regard to chloride the concentration in all of the wells, except for Well SF-4, range from less than 1.0 ppm to 3.1 ppm. In Well SF-4 chloride was detected at a concentration of 21 ppm. Future monitoring for this parameter well confirm if this concentration is representative.

While elevated levels of the these parameters do occur none of the concentions, except for pH, for which there is a limit exceed the EPA drinking water standards. The pH is slightly lower than the EPA standard.

The two deep wells, CW-1 and PH-1, also showed elevated levels of certain parameters when compared with the results of the analysis for the background well. These parameters are total dissolved solids, nitrate-N, calcium, sodium,

Prior to well installation, a soil boring was drilled. This consisted of drilling the hole with hollow stem augers and obtaining split spoon samples in selected borings at various depths. The borings were terminated below the water table. The screened intervals in all the wells extended to above the water table. Coarse sand was placed around the screened interval of the wells, followed by a seal of bentonite. The annulus was then grouted to the surface. Equipment used during the installation of the monitoring wells was steam cleaned prior to drilling each hole. The well completion logs in the Appendix provide a more complete description of the monitoring well construction and of the soil types encountered.

After well installation, each well was purged of stagnant casing water by bailing and sampled. Samples were obtained using a clean Teflon bailer and then packed on ice and delivered to an analytical laboratory. Groundwater samples were analyzed for pH, total dissolved solids, specific conductivity, nitrate as nitrogen, total phosphorous, ammonia-N, total Kjeldahl N, total organic carbon (TOC), chemical oxygen demand (COD), biological oxygen demand (BOD), calcium, magnesium, sodium, potassium, bicarbonate, hydroxide, sulfate, chloride, and fluoride.

Also, the well which provides make-up cooling water (CW-1) and the pumphouse well (PH-1), which as previously mentioned is no longer in service, were sampled and analyzed for the parameters listed above.

8.2 Fuel Tank Area

In 1986, two 20,000-gallon capacity underground diesel fuel storage tanks were removed. It is our understanding that during tank removal, no evidence was observed to indicate that the tanks had leaked. Three shallow monitoring wells were installed to assess the groundwater quality in the fuel tank area.

The wells in this area were installed and sampled in the same procedure as described for the spray field monitoring wells, except that the soil samples collected from the borings were analyzed for the presence of total organic vapors.

Each of the wells were sampled for benzene, toluene, ethyl benzene, and xylene (BTEX). The well which provides make-up cooling water, which is located adjacent to the fuel tank area, was also sampled for BTEX.

9.0 SITE HYDROGEOLOGY

9.1 Hydrogeologic Units

At the site the hydrogeology consists of a metamorphic bedrock aquifer (predominantly gneiss) which is overlain by a shallow water table aquifer consisting of saprolite and overburden soils.

The overburden soils consist of generally a reddish-brown sandy silt with varying amounts of clay and mica. The saprolite consists of a multi-colored silty fine to coarse sand with mica and partially weathered rock lenses at varying depths.

1.0 INTRODUCTION

Atlanta Testing & Engineering has completed the authorized groundwater study of the subject site. This report presents a brief summary of our scope of work, the results of the field and laboratory testing, and our findings with regard to the extent of contamination present.

For convenience, provided below is a summary of findings and recommendations. The reader should refer to the text for a more complete description regarding the rationale used to present this information.

2.0 FINDINGS

1. Elevated levels of certain parameters associated with the fertilization and liming of the spray fields were measured in the shallow water table aquifer. All concentrations were generally below the Environmental Protection Agency's (EPA) limits established for drinking water.

2. Based on the parameters analyzed, off-site migration of contaminated groundwater from the spray fields is not occurring.

3. Elevated concentrations of organic vapors were detected near the fuel tank area in soil samples that were collected during drilling of Wells FT-1, FT-2, and FT-3. Concentrations ranges form 0.10 parts per million (ppm) to 613 ppm. The average concentrations for Wells FT-1, FT-2, and FT-3 were approximately 3 ppm, 1.0 ppm, and 84 ppm, respectively.

4. The monitor wells installed near the fuel tank area and were sampled for benzene, toluene, ethyl benzene and xylene (BTEX). No BTEX was detected in wells FT-2 and FT-3. Two samples taken from well FT-1 indicated a xylene concentration of 23 parts per billion (ppb) and 34 ppb. The data indicates that xylene appears to be confined to within the tank pit and has not migrated into the deeper aquifer(s).

3.0 RECOMMENDATIONS

Need PALs for current standards

1. A groundwater monitoring program should be undertaken. Samples should be collected from the spray field wells and deep wells on a semi-annual basis. The following parameters should be analyzed for: pH, specific conductivity, total dissolved solids, chemical oxygen demand, total phosphorus, calcium, magnesium, sodium, potassium, bicarbonate, sulfate, chloride, oil and grease, and nitrate-N.

2. With regard to the xylene contamination consideration should be given to implementing one of the following three recommendations:

   a) Remove the contaminated soils from the tank pit area.

   b) Install recovery well(s) in the tank pit and extract/treat contaminated groundwater.

Found in AEI report

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   a) Remove the contaminated soils from the tank pit area.

   b) Install recovery well(s) in the tank pit and extract/treat contaminated groundwater.

5.3 Surrounding Land Use

The land immediately adjacent to the site is undeveloped and consists of cultivated areas, pasture, and woodland. Four residences are located south of Voyles Road, directly across from the DuPont Plant.

6.0 SURFACE SITE CONDITIONS

As shown on Plate 2, the topography of the site is generally gently sloping to moderately sloping to the south and southeast. Elevations range from a high of approximately 800 feet above mean sea level (MSL) to the west of the spray fields to a low of approximately 730 feet above MSL southeast of the spray fields.

As previously mentioned, five spray fields are used to dispose of effluent generated during yarn processing operations. The fields range in site from 1.3 acres to 2.5 acres and are located east of the plant. The spray fields are surrounded by a buffer of trees on the north, west, and east.

A small lake, approximately nine acres in size, is located immediately east of the spray fields. The lake is fed by a stream which originates off-site to the north. Overflow from the lake is piped through the dam located at the south end of the lake, where it merges with another stream which enters the site from the east. From this point, the stream flows in a southerly direction where it merges with other small streams, until eventually it joins the Oconee River.

Two wet weather drainage features traverse the spray fields and carry run-off to the lake.

In addition to the two 90-foot wells, two other wells are also on-site. One well is located east of and adjacent to the plant and provides make-up cooling water. The other well is located 450 feet south of the southern most spray field and 100 feet north of Voyles Road. In the past, this well, according to Dupont officials, supplied potable water to the four residents living south of and adjacent to Voyles Road. This well is no longer in service. The residents now obtain potable water from a single well located on their property.

Potable water for the facility is supplied by the City.

7.0 REGIONAL HYDROGEOLOGY

The site is located in the Piedmont Physiographic Province where bedrock is covered by unconsolidated material. The unconsolidated material consists of saprolite, alluvium, and soil.

Most of the area is overlain by saprolite, which is a clayey residual deposit formed by in-place mechanical and chemical weathering of the underlying bedrock, and by soils derived from saprolite. In the site area the saprolite retains the distinctive layering of the parent rock. Depending on the properties of the parent rock and the topographic setting, saprolite can range in thickness from zero to approximately 200 feet. Soil is nearly present everywhere as a thin cover on top of the saprolite and alluvium.

The area is underlain by a variety of metamorphosed plutonic, volcanic, and sedimentary rocks which include gneiss, schist, amphibolite, and diabase and by unmetamorphosed granite plutons, and diabase dikes. Individual rock units range in thickness from less than 10 feet to more than 10,000 feet.

In the site area, the subsurface hydrogeologic conditions are dependent on the geologic units described above. Two aquifers have been mapped by the USGS. These aquifers are the shallow water table aquifer and the bedrock aquifer.

The shallow water table aquifer consists of soil, saprolite, and alluvium which overlies the bedrock aquifer. The shallow aquifer constitutes a medium of recharge for the bedrock aquifer.

The bedrock aquifer is the principal water-bearing aquifer in the area. The aquifer which underlies the site area has been designated as Unit I. Unit I consists of thinly laminated muscovite gneiss. Groundwater in the bedrock aquifer occupies joints, fractures, and other secondary openings. Well yields in the bedrock aquifer are dependent on the number and occurrence of these secondary openings and the thickness of saprolite and overburden which overlies the bedrock aquifer.

Water well data for Unit I in the site vicinity reveals the following general characteristics:

- Well Yield; 20 to 120 gallons per minute (gpm); average 48 gpm
- Well Depth; 125 to 568 feet; average 256 feet
- Casing Depth; 21 to 119 feet; average 78 feet

The groundwater in the site area is of good chemical quality and is suitable for drinking and many other uses. Concentrations of dissolved constituents are generally consistent throughout the area. Selected water quality parameters for the bedrock aquifer designated as Unit I are presented as Table 1.

8.0 SITE EXPLORATION AND TESTING

The site study consisted of performing the following:

- Groundwater sampling and analyses - Spray Fields
- Groundwater and soil sampling and analyses - Fuel Tank Area

Presented on Table 2 is a tabulation of the monitoring wells installed and the areas that they monitor. Also, presented on Plates 2 (in pocket) and 3 are the site plans showing the approximate locations of the monitoring wells. Provided below is a detailed discussion of well installation and sampling rationale for the spray fields and the fuel tank area.

8.1 Spray Fields

Eight shallow monitoring wells were installed in the vicinity of the spray fields. The monitoring wells were located to provide water quality data representative of the site in the up-gradient and down-gradient flow directions from the spray fields.

The overburden and saprolite unit forms a shallow water table aquifer which overlies the metamorphic bedrock aquifer.

The above description of hydrogeologic units is general, there are exceptions. The boring for Well FT-1 was drilled into one of the previously existing tank pits and encountered a perched water table overlying the shallow water table aquifer. The tank pit area is covered in coarse gravel; as a result rainfall has a tendency to percolate into the soil rather than runoff into the adjacent road. This perched condition occurs because of the loose coarse backfill, which due to its having a higher hydraulic conductivity than the native soils captures and retains infiltrating precipitation in the vicinity of Well FT-1. For this reason, Well FT-1 was terminated at a depth of 25.0 feet.

9.2 Groundwater Flow Direction

Water level measurements taken on September 24, 1987 indicate the depth to groundwater to range from approximately 9.00 feet below ground surface to 41.00 feet below ground surface. Groundwater elevations are presented on Table 3. The direction of groundwater flow is generally to the south and southeast toward the lake.

A groundwater contour map of the shallow water table aquifer is presented on Plate 4 (in pocket).

9.3 Off-Site Groundwater Use

As previously mentioned, within the immediate site vicinity, there are four residences which are obtaining potable water from the bedrock aquifer. The farmhouses are served by one well. The well is located approximately 0.25 miles south of the site, along Voyles Road. The well does not appear to be directly down-gradient of the spray fields.

10.0 IMPACT ON WATER QUALITY

10.1 Historical Monitoring Data

Water quality at the site is being monitored from samples collected and analyzed from the unsaturated zone via suction lysimeters and from two deep wells located down-gradient of the spray fields.

Pairs of suction lysimeters were installed in March 1986. One lysimeter was set one foot below ground surface and designated as a shallow lysimeter; the other lysimeter was set three feet below ground surface and designated as a deep lysimeter. Lysimeters 5 and 6 are located in Spray Field 5. Lysimeters 8 and 9 are in Spray Field 1. Lysimeter 7 is the control lysimeter located 50 feet east of Deep Well P-1. Water collected from the lysimeters is routinely analyzed for oil and grease, specific conductance, nitrate nitrogen, COD, phosphorus, and ammonia nitrogen. When compared with the control lysimeter, the water quality data for the shallow and deep lysimeters shows elevated levels of oil and grease, specific conductance, and COD. A tabulation of the

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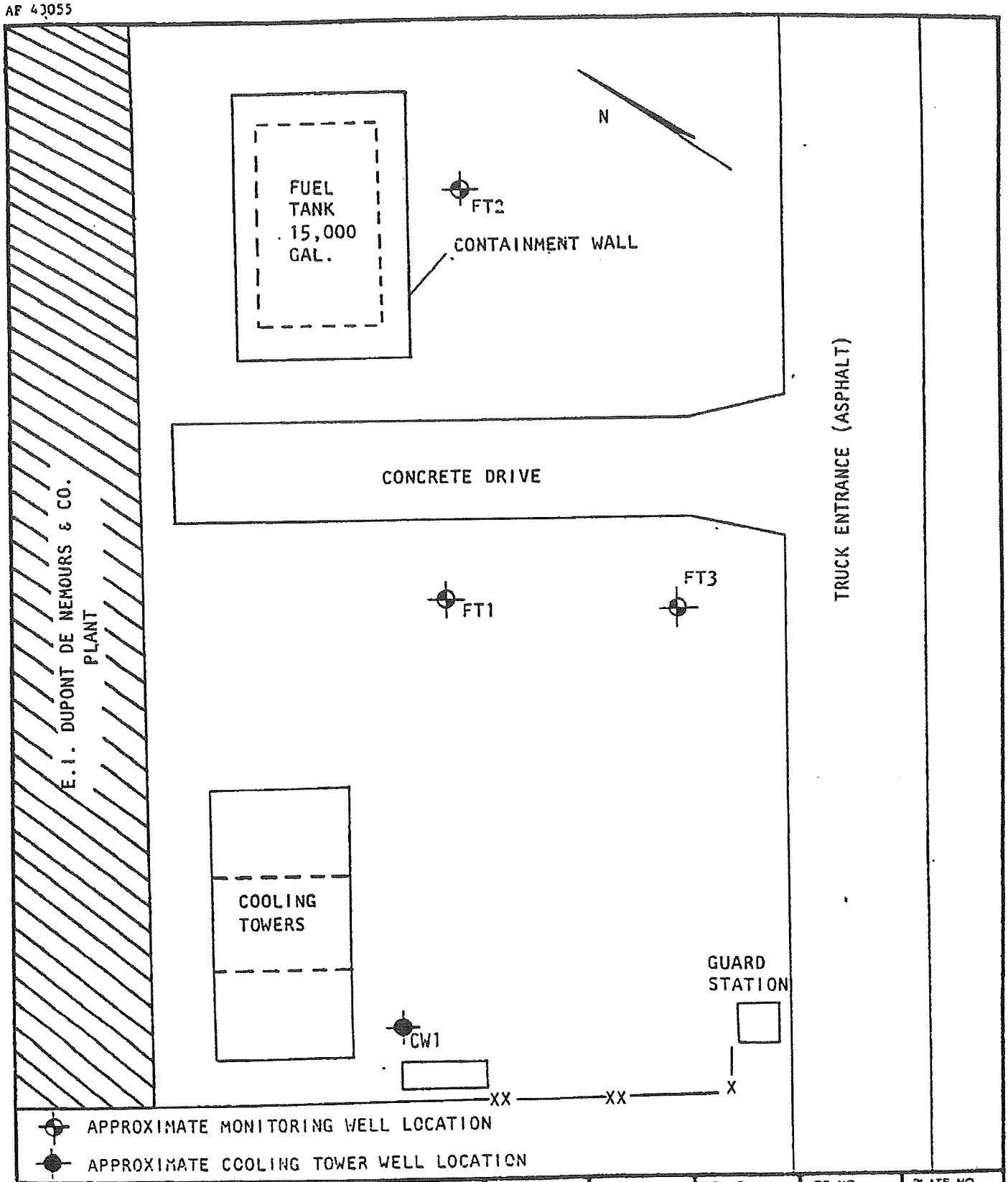

DATE	DRAWN BY	CHECKED BY	SCALE	JOB NO	PLATE NO
10-1-87	S.H.		1"=20'	7613	3

a.t. & e. consultants inc.
geotechnical and testing engineers
atlanta, greenville, charlotte,
tampa, jacksonville, lakeland, marco island

MONITORING WELL LOCATION PLAN
FUEL TANK AREA
DUPONT PLANT
ATHENS, GA.

ATE-108

TABLE 10
GROUNDWATER QUALITY DATA
FUEL TANK AREA
E. I. DuPONT de NEMOURS & COMPANY
ATHENS, GEORGIA
JOB NO. 7613, REPORT NO. 1068

	WELLS				
	FT-1		FT-2	FT-3	CW-1
Parameter	9/28/87	12/2/87	9/28/87	12/22/87	9/28/87
Benzene	<5	<5	<5	<5	<5
Toluene	<5	<5	<5	<5	<5
Ethyl Benzene	<5	<5	<5	<5	<5
Xylenes	34	23	<5	<5	<5

Note: All results reported in parts per billion (ppb).

CERTIFICATE OF RECYCLING / DISPOSAL

LEI, Inc. certifies that all waste materials accepted are recycled or disposed of in accordance with all applicable Federal, State, and Local Regulations and within all regulated time periods.

EPA ID: LAR000055467
LA0000365668

Date: 3/1/2016 Document No: 002950155GBF Invoice No: 57345

Qty	Description	U/M
341	PCB Ballasts	per lb

CERTIFICATE ISSUED TO:

JOHNSON CONTROLS LIGHTING SERVICES
ATTN: AMY HUCKABY
1350 NORTHMEADOW PARKWAY, STE 100
ROSWELL, GA 30076

ITEMS OWNED BY:

INVISTA
110 VOYLES RD
ATHENS, GA 30601

On Behalf of LEI

Larry Fannaly
Vice-President, Sales & Operations

VERTEX

INVISTA Property
110 Voyles Road
Athens, Georgia 30601

PHASE I ENVIRONMENTAL SITE ASSESSMENT

JULY 26, 2018

PREPARED FOR:
INVISTA S.à r.l.
c/o Blank Rome LLP
One Logan Square
Philadelphia, PA 19103
Attn: Ms. Margaret Anne Hill

PREPARED BY:
The Vertex Companies, Inc.
400 Libbey Parkway
Weymouth, MA 02189
PHONE 781.952.6000

VERTEX PROJECT NO: 51521

PHASE I ENVIRONMENTAL SITE ASSESSMENT

INVISTA Property
110 Voyles Road
Athens, Georgia 30601
VERTEX Project No. 51521

1.0 SUMMARY

On July 6, 2018, The Vertex Companies, Inc. (VERTEX) was contracted by Blank Rome LLP to conduct a Phase I Environmental Site Assessment (ESA) of the INVISTA Property, located at 110 Voyles Road, Athens, Georgia. According to the Clarke County Tax Assessor, the site is part of a larger 401-acre parcel identified as Parcel Number 214019. According to a survey provided by the Client, the site, for the purposes of this report, includes 132 acres of land within the 410-acre parcel recorded by the Clarke County Tax Assessor. The site includes an approximately 400,000-sqaure foot warehouse building constructed in 1972 and expanded through the early 2000s, which is located on the western portion of the parcel, as well as a security guardhouse, a small lake (Lake Dupont) with an associated recreational pavilion, a storage shed, baseball fields, a fire pump house building, and undeveloped land, which is located on the southern, northern and eastern portions of the site parcel. The site currently consists of vacant warehouse space, which includes various areas such as offices, breakrooms/lunch areas, conference rooms, a mail room, a former medical office area, a boiler room, electrical areas, warehouse space, compressor areas, maintenance support areas for the various equipment formerly located throughout the warehouse, and utility areas. The site was vacated in 2017.

The purpose of this assessment was to identify Recognized Environmental Conditions (RECs), Controlled RECs (CRECs), Historical RECs (HRECs), and *de minimis* conditions in connection with the site.

ASTM Findings

- Based on review of readily available historical information, it appears that the site was undeveloped land and/or agricultural land with several residential structures developed on the southern, central, and northern portions of the site from at least 1938 through 1972, when the site was developed with a large warehouse structure and associated driveways and parking lots. Smaller associated structures including a security guardhouse, a fire pump house building, and recreational structures were also developed to the south of the warehouse building. A small lake (Lake Dupont) was developed on the southern portion of the site and has remained since that time. By the early 1980s, the site building was expanded to the east/northeast and recreational fields (baseball fields) and tennis courts were developed on the southern portion of the site. Remaining portions of the site remained as undeveloped land. By 1988, a railroad spur was developed on a small area on the northern portion of the site, and by the early 1990s, the site building was expanded again, further to the east/northeast. By 2007, an addition to the site building was developed on the northeastern corner of the site. Additionally, fewer recreational areas were located on the southern portion of the site, and the railroad spur was no longer located on the northern portion of the site. By 2010, the site consisted of the current improvements. According to city directories reviewed and information obtained from the site contact, the site has operated as a textile processing facility since development in 1972, operating under entities E I Dupont Denemours and Company and INVISTA S.à r.l. ("INVISTA").The site was utilized for the beaming (winding) of yarn for distribution to textile manufacturers. The beaming process utilized a series of automated spinning machines, which bound different strands together and wound the finished product on large spools. No RECs were identified in connection with the historical use of the site.

- The site address was listed as INVISTA on the Resource Conservation and Recovery Act-Conditionally Exempt Small Quantity Generator (RCRA-CESQG), Integrated Compliance

Information System (ICIS), US Aerometric Information Retrieval System (US AIRS), AIRS, Facility Index System (FINDS), Enforcement and Compliance History Online (ECHO), National Pollutant Discharge Elimination System (NPDES), and Tier 2 databases. Between 1972 and 2017, the site was occupied by E.L. Dupont De Nemours & Co. and later INVISTA. Site operations, particularly the transportation of raw materials and finished spools, required the use of forklifts, which were battery powered. Based on the quantity of recharging batteries and the contents of the batteries (lead and sulfuric acid), Tier 2 reporting was required. Small quantities of waste oils were generated in the beaming process, which were stored in 55-gallon drums for off-site disposal on an as-need basis by Heritage Crystal Clean. Waste oils, as well as several additional hazardous wastes generated, classified the facility as a RCRA-CESQG. According to the database, no associated violations were identified with respect to hazardous waste generation. According to the site contact, no solvents were utilized in connection with former site operations. In May 2018, the Georgia Hazardous Waste Management Program deactivated the site from the hazardous waste database due to the decommissioning of the site operations, which reported that all hazardous wastes had been removed from the site. Specific hazardous wastes removed from the site in January 2018 by Heritage Crystal-Clean included fuels for thermal treatment, aerosols/paints, acids, flammable liquids, oxidizers, organic poisons, and lead acid batteries.

- Beaming operations also produced stray fibers and dust from the high-speed spinning process. In order to maintain good air quality, the facility utilized an air filtration and exhaust system (referred to as a scrubber). The system collected ambient air from the production floor and passed it through an industrial filter, which collected particulate matter. Process water was used in a closed loop system within the scrubber to maintain system pressure. Following the filtration process, the filtered air was discharged through an exhaust pipe. The associated air emissions were permitted through AIRS permit #2282-059-0038-B-01-0. The site maintained an additional AIRS permit (#2282-059-0038-B-01-

1) for the presence of oil-fired boilers (currently natural gas-fired), which provided heat to the building. No violations associated with the AIRS permits were identified other than various administrative violations, which were not identified as a concern as noted in Section 6.1.

- On a regular basis, approximately 20% of the process water from the scrubber was drained from the system to maintain soft water quality. Discharged water was originally stored in a 5,000-gallon finish water aboveground storage tank (AST), which was present south of the site building. This AST was reportedly empty and out of use at the time of VERTEX's site visit. Upon filling of the AST, the finish water was sprayed onto five fields on the site and an adjacent property to north (formerly associated with the site). The spraying process was referred to as a Land Application System (LAS), and was permitted by the Georgia Environmental Protection Division (GEPD) via Permit # GA01-405. Due to the proximity of residential water wells in the vicinity of the site, and the eventual discharge of the on-site lake to the Oconee River, groundwater quality was monitored within the spray fields for drinking water parameters. In 1988, eight temporary groundwater monitoring wells were advanced and sampled for pH, total dissolved solids, specific conductivity, nitrate-nitrogen, total phosphorus, ammonia-nitrogen, total potassium nitrate, total organic carbon (TOC), chemical oxygen demand (COD), biological oxygen demand (BOD), calcium, magnesium, sodium, potassium, bicarbonate, hydroxide, sulfate, chloride, and fluoride. Due to elevated levels of pH (not exceeding EPA standards), quarterly sampling was conducted for BOD, COD, specific conductivity, ammonia-nitrogen, nitrate-nitrogen, pH, total phosphorus, total dissolved solids, suspended solids, oil and grease, and total organic carbon, which was required by the GEPD between 1988 and 1994. Further concerns were not identified by the GEPD with respect to the groundwater monitoring. In September 1994, LAS operations ceased when the site facility obtained a NPDES Industrial General Permit (IGP) (#GAIS00967) to discharge the finish water directly to the municipal stormwater system. Beginning in 1995, the LAS

system was utilized once a year for maintenance of the system (held as backup option), and corresponding sampling. The annual maintenance and sampling continued until 2012, when INVISTA decided to let the associated permit expire. It should be noted that during the sampling events, groundwater was encountered at depths ranging from 2 feet below ground surface (bgs) to 40 feet bgs. As part of the NPDES permit (GAR050000) filed for the site in June 2012 for stormwater discharges associated with industrial activity, annual monitoring of the two on-site stormwater outfalls was required. No associated concerns were identified by the GEPD in the most recent report (2017). It should also be noted that the 2012 NPDES permit expired in 2017, and due to discontinued site operations, was not renewed. Various administrative violations were identified on the ICIS database pertaining to the facilities AIRS and NPDES permits; however, no formal action or violation descriptions were provided. The facility was not identified on any large quantity petroleum storage, spills, or release databases; no information has been identified indicating a material threat of subsurface contamination; and the site building is currently vacant. As such, these database listings, as well as former LAS operations, are not considered to represent a REC in connection with the site.

- According to the site contact, as well as documentation provided, two 20,000-gallon underground USTs containing fuel oil were removed from the site in May 1986. The USTs were formerly located to the south of the site building and were utilized to store fuel oil for the boilers used to heat the building. According to UST closure documentation reviewed, the USTs were reported to be in excellent condition upon removal and no evidence of a release was observed around the excavation area. It should be noted that USTs were not required to be permitted with the GEPD until December 1988. As such, permitting documentation as well as closure documentation was not required to be obtained at the time of the on-site UST installation and removal. Three shallow monitoring wells were installed in 1988 as part of a groundwater study for E.I. DuPont De Nemours & Company to assess the groundwater quality in the former fuel tank area as

Should use same standards as regulated USTs per EPD UST closure Guidelines

Sampled for Rooker 2/2019

well as the spray fields. Soil samples were also collected for each boring and field screened for total organic vapors (TOVs) using a photoionization detector (PID). Elevated PID readings (up to 613 parts per million [ppm]) were detected in soil collected from one of the monitoring wells; however, the higher PID readings were at or near the ground surface. Groundwater samples were collected from each of the wells and an on-site non-potable well that provided make-up cooling water and analyzed for benzene, toluene, ethyl benzene, and xylene (BTEX). A low concentration of xylene (34 parts per billion (ppb) and 23 ppb) was detected in one of the monitoring wells. BTEX was not detected in the other three groundwater samples above the laboratory method detections limits. The xylene concentration is well below the Georgia Maximum Contaminant Level (MCL) for xylene (10,000 ppb), and as such, is considered de minimis. As such, the former USTs are not considered a REC.

No PAH analysis which is/was required for diesel/#2 Fuel Oil. Phase II did PAHs to address this

- The site currently maintains one solid waste compactor serviced by Republic Services. The dumpster is located to the north of the site building and was observed to be staged on concrete pavement in good condition. *De minimis* staining was observed on the concrete around the compactor; however, no evidence of a release of hazardous substances or petroleum products was observed.

- The site is located in an industrial and residential area. According to readily available historical information, the surrounding properties were mainly undeveloped and/or agricultural land from at least 1938 through the 1960s, with various associated residential and/or agricultural structures developed to the south, north and west of the site. Railroad tracks were also developed further to the north. By 1967, additional residential structures were developed to the south and west of the site. Additionally, a small pond was present to the south and west and multiple large commercial structures were depicted further west. The surrounding properties remained relatively unchanged through the 1970s and by 1981, additional residential structures were developed further northeast beyond

undeveloped land, as well as further to the north beyond the railroad tracks. Undeveloped and/or agricultural land was located on the adjacent property north of the site. By 1988, a railroad spur was located on the adjacent property east/northeast of the site, and additional commercial structures were developed to the west/northwest. In 1993, a larger warehouse type structure was developed further to the southwest and by 2007, the railroad spur was no longer located to the east/northeast of the site. By 2010, the surrounding properties were developed with the current improvements. No RECs were identified with respect to the current or past use of adjoining properties.

- VERTEX conducted a regulatory review that included a search of state and federal regulatory databases to identify environmental concerns for the site and surrounding properties. Five facilities were identified within the ASTM search distances of the site. Based on distance, apparent gradient relationship, regulatory status, and/or other facility-specific characteristics, no RECs to the site were identified with respect to these facilities.

Non-ASTM Additional Services

In accordance with the scope of work, VERTEX conducted additional services as discussed in Section 9.0 of this report, including the assessment of asbestos-containing materials (ACMs) and lead-based paint (LBP). Assessment of the additional services revealed the following:

- Suspect ACMs observed included tile flooring and associated mastics, drywall, roofing materials, and piping insulation. During the site visit, VERTEX observed a warning sign within an office area hallway identifying roofing, boiler fuel lines, office drywall, and cooling tower side walls as ACMs. VERTEX reviewed the site's asbestos Operations and Maintenance (O&M) plan. No concerns were identified regarding review of the O&M Plan. The materials assessed as well as the materials previously confirmed as ACM were observed to be in generally undamaged physical condition. Based on the fact the site

maintains an ACM O&M plan and the fact that ACM has been sampled and identified within the site building, ACM is not considered a Business Environmental Risk.

- Based on the date of construction (1972), it is possible that LBP is present at the site. No peeling or chipped paint was observed within the site building during the site visit conducted by VERTEX. Based on the industrial use of the site and the fact that no peeling or chipped paint was observed within the site building, the potential presence of LBP within the site building is not considered a Business Environmental Risk to this investigation.

Conclusions

VERTEX has performed a Phase I ESA in conformance with the scope and limitations of ASTM E 1527-13, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, of the INVISTA Property, located at 110 Voyles Road, Athens, Georgia. Any exceptions to, or deletions from, this practice are described in Section 8.0 of this report. This assessment has revealed no evidence of RECs, CRECs, or HRECs in connection with the site. However, the following *de minimis* conditions were identified:

- *De minimis* staining was observed on the concrete around the compactor; however, no evidence of a release of hazardous substances or petroleum products was observed.

- Low concentrations of xylene were detected in groundwater in the area of former fuel oil USTs during a 1988 investigation. The concentration detected was well below the MCL and is considered de minimis.

No additional investigation is recommended at this time.

FINDINGS

Recognized Environmental Condition (REC) is defined by the ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

- According to site personnel, two heating oil underground storage tanks (USTs) were previously located on the southeastern exterior of the subject property building. These USTs were reportedly removed in 1986; however, no closure documentation or other information was provided for AEI's review. No records of the USTs were identified by the municipal or regulatory agencies contacted during this assessment. Based on the lack of closure documentation, these former tanks represent a REC for the subject property.

Controlled Recognized Environmental Condition (CREC) is defined by the ASTM Standard Practice E1527-13 as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- AEI did not identify evidence of CRECs during the course of this assessment.

Historical Recognized Environmental Condition (HREC) is defined by the ASTM Standard Practice E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

- AEI did not identify evidence of HRECs during the course of this assessment.

Other Environmental Considerations warrant discussion, but do not qualify as RECs as defined by the ASTM Standard Practice E1527-13. These include, but are not limited to, de minimis conditions and/or environmental considerations such as the presence of ACMs, LBP, radon, mold, and lead in drinking water, which can affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the subject property.

- Due to the age of the subject property building, there is a potential that ACMs are present. The observed suspect ACMs at the subject property were in good condition at the time of the site reconnaissance and are not expected to pose a health and safety concern to the occupants of the subject property at this time. In the event that building renovation or demolition activities are planned, a thorough asbestos survey to identify asbestos-containing building materials is required in accordance with the EPA NESHAP 40 CFR Part 61 prior to demolition or renovation activities that may disturb suspect ACMs.

- Due to the age of the subject property building, there is a potential that LBP is present. All observed painted surfaces were in good condition and are not expected to pose a health and safety concern to the occupants of the subject property at this time. Local regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an X-ray fluorescence (XRF) survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the OSHA lead standard contained in 29 CFR 1910.1025 and 1926.62.

Conclusions, Opinions, and Recommendations

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard Practice E1527-13, the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), and the January 15, 2014 Wells Fargo Bank *Phase I ESA Scope of Work* of 110 Voyles Road, Athens, Clarke County, Georgia, the *subject property*. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

AEI did not identify evidence of RECs or CRECs in connection with the property except for those previously identified in the Findings section. AEI recommends the following:

- Pending the receipt of additional information, AEI recommends that a subsurface assessment of the former USTs be conducted to evaluate the presence/absence of the tanks and any associated impacts.

Phase II
2/15/19
satisfies this