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SUPERFUND STANDBY PROGRAM
New York State
Department of Environmental Conservation
50 Wolf Road
Albany, New York 12233-7010

SITE ID 278: CENTRAL PLATING COMPANY, INC.

SITE SUMMARY REPORT
FINAL

Onondaga Lake Project
104(e) Review

August 1999

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1.0 SITE DESCRIPTION

The information referenced in this report was mainly obtained from the 104(e) responses of Central Plating Company, Inc. (Company ID 2034), with additional information and data provided by other Department sources. This report is not an all inclusive representation of the contamination concerns that exist on and/or off-site due to past and present operations at the facility.

1.1 Location

The former Central Plating Company facility is owned by the Maffei family and located at 931-935 Burnet Avenue in Syracuse; see Figures 1-2: Locational Maps. Figure 3: Adjacent Properties Map, shows the adjacent parcels that are also owned by the Maffei family (properties 935-939 and 1001-1025). The property is located in an area zoned for light industrial, commercial and residential use. On the north side are residential properties and Citra Furniture. On the south side are Hygrade Metal Product Corporation, a Niagara Mohawk electric substation, and residential properties. On the east side are Holiday Ice and residential properties. On the west side are Triple P Painting, Autotech Repair Garage, and a former dry-cleaner.

1.2 Geology

Surficial deposits in this area of Syracuse are mainly the result of glacial till being deposited beneath a retreating glacier. Soils are generally compact and characteristically have a low hydraulic conductivity. During drilling in 1997 by TNJ Environmental, Inc. (TNJ), the glacial till was encountered more than ten (10) feet below grade. The surficial deposits are underlain by Upper Silurian dolostone and shale of the Camillus Formation (Rickard, 1970). Bedrock was not encountered during drilling but is estimated to be approximately 100 feet below ground surface. Soils at the site were identified as generally silty, medium-to-fine sand with little clay and traces of fine gravel. The soils were backfill material brought in during development of the area. These fine grained compact soils retard the flow of groundwater and/or contaminants.

1.3 Hydrogeology

According to the subsurface investigation of the facility performed by TNJ and during a Phase 2 Investigation dated July 1997, the groundwater was encountered at an average depth of five (5) feet below grade, and flows south at an approximate gradient of 1%. As previously stated, surficial deposits found at the site are compact and have a low hydraulic conductivity.

1.4 Surface Water Hydrology

The property lies at an approximate elevation of 415 feet AMSL and slopes very gently to the south. Onondaga Creek, a tributary of Onondaga Lake, is approximately 8000 feet west of the site.

2.0 SITE HISTORY

2.1 Owners/Operators

The Central Plating Company property is currently vacant and owned and managed by the Maffei family. The past owner/president/sole operator passed away in 1991. Central Plating Company was a chrome plating facility from 1956 until October 1990.

Mr. Neil Maffei, who died on November 10, 1991, established the company in 1956 and remained its president until his death. Mr. Ernest Maffei, Neil Maffei's son, is the current president of the unincorporated company. His address is 1681 James Street; Syracuse, New York 13203.

2.2 Site Operations

Central Plating performed electroplating and polishing of the following metals: chromium, nickel and copper from 1956-1990. There have been no operations as of October 19, 1990.

2.3 Generation and Disposal of Wastes

The present company manager maintains that the deceased Mr. Maffei was the chemist and sole operator and therefore the only knowledgeable source of the details of plant operations. From October 1990 until 1992, the plant was closed and chemicals and machinery were removed and properly disposed of off-site. In 1997, in anticipation of a potential property sale, an environmental assessment report was contracted to TNJ Environmental, Inc. TNJ's final report called "Phase II Environmental Site Assessment, July 1997", contained a letter from TNJ to the site owner dated August 29, 1997 (containing the results of a second round of groundwater sampling). This report and the hazardous waste manifests (generated during the 1992 site cleanup) are the only documentation submitted to help describe materials used in the electroplating and polishing processes. See below.

The following is a list of wastes assembled from the hazardous waste manifests generated by the shut down operations completed in 1992:

(a) Characteristic plating wastes, ignitable wastes and F-wastes -- F001,F002,F003, F004, F005,D002, D003, D006, D007, D008;
(b) 2000 gallons of chromic acid;
(c) 1 drum of waste trichloroethylene;
(d) 1 drum of waste perchloroethylene;
(e) 11 drums of methylene chloride;
(f) 30,000 pounds of nickel plating solution;
(g) 15 drums of nickel plating sludge;
(h) 15,286 pounds of copper cyanide plating solution;
(i) 210 gallons of cyanide-contaminated zinc oxide;
(j) 30 gallons of cyanide-contaminated copper sulfate;

(k) 30 gallons of zinc cyanide;
(l) Chromium plating solution contaminated with mercury (1.7 ppm);
(m) 7 drums of plating dust scraped from tank used to plate chromium over zinc-based diecasting;
(n) 11 drums of metal stripper (organic solvents?);
(o) 5 gallons of caustic soda (sodium hydroxide);
(p) 5 drums of leabrite nickel.

No information is available regarding disposal practices during facility operations. TNJ's records noted waste material in the cover of the floor drain. No documentation has been submitted regarding the eventual destination of this drainage. The company operated without RCRA oversight and without waste reporting until August 1990. There is no documentation of the fate of the facility stormwater or the content of wastewater prior to issue of the County permit in 1988.

The facility's first RCRA inspection was performed by a Regional NYSDEC inspector in August 1990. The inspector noted some minor violations and determined that the facility was a small quantity generator of hazardous waste. All operations ceased in October 1990. The president and sole operator (Mr. Neil Maffei) died in November 1991. His son (Mr. Ernest Maffei) and granddaughter (Debra Maffei) completed shut down operations in 1992.

3.0 POTENTIAL PATHWAYS FOR RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM

3.1 Soil

TNJ's subsurface investigation of the Maffei properties yielded the following findings concerning contaminated soils. Laboratory analyses of soils obtained from monitoring wells indicated that metals, pH and semi-volatile organic compounds (SVOCs) were present above the respective guidance limits for contaminated soil according to the NYSDEC Soil Guidance Policy of August 1992 (STARS Memo). The soil and monitoring well borings were screened with a PID, the PID readings revealed VOC concentrations in the soil from three of the four monitoring well borings, the concentrations were 25 ppb in MW-1, 17 ppb in MW-3, and 6 ppb in MW-4, no VOC concentrations were detected in the four soil borings. SVOCs were also present in all of the monitoring well borings. The total SVOC concentrations were 563,000 ppb in MW-1, 1000 ppb in MW-2, 18,800 ppb in MW-3, and 10,800 ppb in MW-4 (table 4, May 27, 1997).

3.2 Surface water

Not applicable.

3.3 Groundwater

The assessment performed by TNJ Environmental in July 1997 found elevated concentrations of trichloroethylene (3700 ppb) and perchloroethylene (5700 ppb) in MW-2 and SVOCs (27 ppb) in MW-3 (see Table 6, May 29, 1997). Chromium and lead were found to be above the NYSDEC's Technical and Operational Guidance Series (TOGS) Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (see Table 5, May 29, 1997). In a second round of groundwater sampling of the same four monitoring wells, concentrations of 23,100 ppb of total chlorinated solvent, consisting of 600 ppb of cis-1,2 dichloroethene, 7500 ppb of trichloroethylene, and 15,000 ppb of perchloroethylene were detected (table 2, August 7, 1997).

3.4 Air

Central Plating company had permits for the following reference emission points which were surrendered at the end of 1995--DEC ID: 731150039/Air ID: 3115000096/ Emission Points: 00001 and 00002.

3.5 Onondaga County Department of Drainage and Sanitation (POTW)

Process and sanitary waters were discharged to the Onondaga County Public Sewer System with eventual discharge to METRO. Industrial Wastewater Discharge Permit No. 16 was in effect from January 31, 1988 to January 31, 1991.

SPDES: Process and sanitary wastewater was discharged to the Onondaga County Public Sewer System. Industrial Wastewater Discharge Permit No. 16 was in effect from Jan 31, 1988 to Jan 31, 1991.

Storm Water: No documentation has been provided regarding the fate of facility stormwater. Based upon the location of the facility in an urban area, it is assumed that stormwater from the facility discharged to the County stormwater system in the street.

4.0 LIKELIHOOD OF RELEASE OF HAZARDOUS SUBSTANCES TO THE LAKE SYSTEM

4.1 Documented Releases

There are no documented releases to the Lake System.

4.2 Threat of Release to the Lake System

4.2.1 Extent of On-Site Contamination

Because of the long term storage and housekeeping practices of the company as witnessed by the DEC site inspection on August 30, 1990, it is possible that the area immediately below and around the facility has been impacted by plant wastes. However, no documentation is currently available to support this. The 1997 site assessment report found relatively high levels of perchloroethylene, trichloroethylene and dichloroethene in MW-2, this is the downgradient well which is very close to the street and adjacent to a former dry cleaner. Other monitoring wells onsite also contained trace levels of these substances. Sampling of monitoring wells MW-1, MW-2, and MW-3 on May 29, 1997 detected chromium and/or lead above TOGS standards.

4.2.2 Migration Potential of Contaminants

Chlorinated hydrocarbons, notably perchloroethylene, trichloroethylene and cis-1,2-dichloroethene, were found in one of the onsite monitoring wells. If it is determined that those contaminants originated at the plating company and not the adjacent former dry cleaner, then those chemicals may migrate offsite in the groundwater.

4.2.3 Proximity to Onondaga Lake System

The site is 8000 feet east of Onondaga Creek, a tributary to Onondaga Lake.

5.0 POTENTIAL FOR ADVERSE IMPACTS TO LAKE SYSTEM DUE TO A RELEASE OR THREAT OF A RELEASE

5.1 Hazardous Substance Characteristics

The contaminants of concern at this site appear to be chromic acid and chromium plating solution, trichloroethylene and perchloroethylene (also known as trichlorethene and tetrachloroethene, respectively), methylene chloride, nickel, zinc, copper cyanide solutions, mercury, and leabrite nickel. These substances and wastes were taken from the site during the 1992 site shut down operations.

Mobility/Toxicity/Persistence/Bioaccumulation

Trichloroethylene (TCE) rapidly volatilizes into the atmosphere to produce hydrochloric acid, carbon monoxide, carbon dioxide, and carboxylic acid. Volatilization is considered the most important fate and transport process of TCE in surface water and in surficial soil. Most importantly, **TCE** is highly mobile in soil; leaches into the groundwater fairly readily; and its movement in groundwater is generally not severely retarded.
Perchloroethylene has similar characteristics to **trichloroethylene.**
TCE was found to be carcinogenic to mice after oral administration, however, it was not found to cause reproductive toxicity. Chronic inhalation exposure to elevated concentrations of **TCE** caused liver, kidney and neural damage and dermatological reactions in animals. Limited data is available on the toxicity of **TCE** to aquatic organisms. The acute toxicity LC50 concentration for freshwater species was estimated to be about 50 mg/L in water (USEPA, September 1985).
The relative short half-life of **TCE** in the atmosphere, due to its high vapor pressure, indicates that it is not a persistent atmospheric compound. As stated above, **TCE** in surface waters or surficial soils will predominantly volatilize into the atmosphere and is thus not persistent. In subsurface soils where volatilization cannot occur, **TCE** may be relatively persistent since it is slowly degraded (USDOH&HS, October 1991).
Based on **TCE**'s log octanol water-partitioning coefficient of 2.29, potential for weak to moderate bioaccumulation exists, however, no evidence of biomagnification has been found (USEPA, December 1979).

Regarding the characteristics of copper, nickel and cyanide, the mobility of **copper** in freshwater is strongly dependent on pH, Eh and the occurrence of potential surfaces such as organic matter and other clay mineral species. Copper has a strong affinity for the hydrous iron and manganese oxides, clays, carbonate minerals and organic matter. Sorption to these materials results in the relative enrichment of the bed sediments and the reduction of **copper** in the dissolved phase. The sorption of **copper** to other materials effectively results in the removal of copper from the water column and greatly inhibits **copper**'s mobility in the environment. In polluted waters, studies have indicated that the controlling factor is sorption to organics minerals. **Cyanides** are sorbed by clays, biological solids, activated carbon, and sediments, and are considered fairly mobile in the soil environment, depending on pH, clay content, and concentrations of free iron oxides. **Cyanide ions** react with a variety of metals forming insoluble **metal cyanides**. In general, in natural waters, most of the **free cyanide** in solution is present as **hydrogen**

cyanide. **Nickel** is one the most mobile heavy metals in the aquatic environment. Mobility of **nickel** is affected by sorption to organic materials, and hydrous iron and manganese oxides (USEPA, 1979).

Copper is a common component of many algicides, insecticides, molluscides and plant fungicides. It is toxic to aquatic life at high concentrations, especially the divalent **copper ion** and its hydroxy complexes. **Cyanide** is highly toxic in all forms, although **hydrogen cyanide** is the most toxic of **cyanide compounds**. The central nervous system is the target for **cyanide** toxicity in humans and animals following ingestion, inhalation, or dermal contact. Acute exposure to high levels of **cyanide** leads quickly to death, following convulsions and central nervous system depression. Nickel can be lethal following prolonged exposure by inhalation or ingestion, targeting respiratory tissue. Soluble forms of nickel are generally more toxic than non-soluble compounds (Syracuse Research Corporation, 1991). Soluble halide, hydroxide, carbonate, and sulfate compounds form complexes with **nickel** and can persist at toxic levels in the aquatic environment (USEPA, 1979). **Copper** is very persistent in both water and sediment. Since **copper** and **nickel** are elements, they cannot be broken down at all, and their concentration in environmental media is governed solely by dilution mechanisms. In the environment, **copper** can be transformed from inorganic to organic forms, affecting relative toxicity, but ultimately only dilution or removal affects the presence of this element. **Cyanide compounds** are subject to biodegradation and volatilization, and therefore, they are generally not persistent (USEPA, 1979).
As an essential nutrient, **copper** is strongly bioaccumulated by all plants and animals. However, data indicates an apparent lack of biomagnification, since bioconcentration factors for fish are lower than levels for algae and the lowest trophic levels. Bioaccumulation of **metal cyanide complexes** in fish has been documented. **Hydrogen cyanides** generally do not bioaccumulate, as they are either metabolized quickly by the organism, or result in death of the organism due to high toxic levels. **Nickel** is bioaccumulated by some aquatic organisms, however not in significant amounts compared to other metals (USEPA, 1979).

Mercury mobility is highly dependent on the speciation of the metal. Some of the complex ions are highly soluble while others are very insoluble. **Metallic mercury** tends to vaporize due to its high vapor pressure. In aquatic environments high in chloride, such as Onondaga Lake and parts of the water shed, the solubility of **mercury** may be greatly increased due to the formation of charged **mercuric chloride complexes**. **Mercury** also has a very high adsorption (partitioning) coefficient such that sediment transport is a primary transport mechanism. **Mercury** can remobilize after deposition in bottom sediments through biomethylation where bacteria in the sediments metabolize **metallic mercury** into **methyl mercury compounds**. These compounds can be quite mobile in the environment and bioaccumulated in many aquatic organisms (USEPA, 1979). **Mercury**, in both organic and inorganic forms, is toxic to both humans and animals (ATSDR, 1989). The organic forms of **mercury** such as **methyl mercuric chloride** are usually considered more toxic than the inorganic forms such as **mercuric chloride**. Long-term exposure to either form of **mercury** can damage the brain, kidneys and developing fetuses. **Elemental mercury** is not classified as a carcinogen, while **methyl**

mercury and **mercury chloride** are classified as possible human carcinogens (IRIS, 1997). The primary route of exposure for the general population is the ingestion of **methyl mercury** in contaminated foodstuffs, especially fish. **Methyl mercury** is the form of **mercury** most readily accumulated and retained in the aquatic food chain (USEPA, 1979).
Mercury is very persistent in the environment. Since **mercury** is an element, it cannot be broken down at all and its concentration in environmental media is governed solely by dilution mechanisms. Because of its strong adsorption characteristics, **mercury** primarily concentrates in bottom sediments. **Mercury** can also enter the biologic environment as bacteria metabolize **metallic mercury** to **methyl mercury**. Once in the biologic cycle, **mercury compounds** can maintain a dynamic system of reversible reactions which lead to a steady-state concentration of **methyl mercury** in sediments and water. Once in the biologic cycle, **methyl mercury** is very persistent (USEPA, 1979).
Methyl mercury is the most readily accumulated and retained form of **mercury** in aquatic biota. Bioconcentration factors can be high for many biota. The depurative half-life of **methyl mercury** in aquatic organisms has been estimated between one and three years (USEPA, 1979).

Central Plating's operations produced a significant amount of **chromic acid waste.** **Chromic acid** is considered a fairly strong acid in its primary dissociation (Encyclopedia of Chemical Technology, 1964). In commerce, **chromic acid** is **chromium(VI) trioxide (CrO_3).** In aqueous systems, chromium exists in two oxidation states, trivalent, Cr(III), and hexavalent, Cr(VI) (USEPA, December 1979). Some forms of chromium, including Cr(III), are naturally-occurring elements that are considered essential nutrients. Cr(VI) is generally produced by industrial processes (US Dept. of Health and Human Services, 1991).
Chromium(VI) trioxide is a red solid that decomposes slowly in the molten state. It is very soluble in water and also soluble in organic solvents such as glacial acetic acid and pyridine (Encyclopedia of Chemical Technology, 1964). The hexavalent form of chromium is generally soluble in water whereas the trivalent form is generally insoluble. Some hydrated trivalent chromium salts, such as Cr(III) chloride-hexahydrate salts, are soluble in water. The alkaline metal salts (e.g., calcium and strontium) of **chromic acid** are less soluble in water. However, chromic acid salts such as lead chromate and zinc chromate are relatively insoluble in water (US Dept. of Health and Human Services, 1991). The hexavalent form readily reduces to the trivalent form in the presence of oxidizable organic matter and strongly sorbs to organic carbon, which results in the removal of dissolved chromium to sediments. Thus, much of the chromium in surface waters is adsorbed to particulate matter. The hexavalent form will not readily reduce to the trivalent form if the soil pH is high.
Chromic acid is a confirmed human carcinogen and has a corrosive action on the skin and mucous membranes (Lewis, 1992). Hexavalent chromium, Cr(VI), is classified as a human carcinogen (USEPA, 1996). Epidemiological studies of chromate facilities in the United States have found an association between chromium exposure and lung cancer. Workers are likely exposed to both Cr(III) and Cr(VI), however, only Cr(VI) has been found to be carcinogenic in animals (USEPA, 1996). Chromium(VI) is also very toxic to aquatic organisms (USEPA, December 1979). Exposure to high levels of

Cr(III), although an essential element, via inhalation, ingestion, or dermal contact may cause serious health effects (US Dept. of Health and Human Services, 1991). In general, hexavalent compounds are considered more toxic than trivalent compounds (Lewis, 1992 and US Dept. of Health and Human Services, 1991).

In surface waters, no data have been found that would indicate that photolysis, biodegradation, and volatilization of chromium compounds are important fate processes (USEPA, December 1979). Sorption and bioaccumulation are considered important aquatic fate processes. As discussed above, chemical speciation plays an important role in the fate of chromium in surface water; conditions favorable to Cr(VI) will maintain chromium in soluble form while conditions favorable to Cr(III) will result in precipitation and partitioning to solids and to sediments (USEPA, December 1979). Chromium is not considered as persistent in surface water as compared to soil and sediment.

Bioaccumulation of chromium in aquatic organisms and passage through the food chain has been demonstrated (USEPA, December 1979). However, the chromium concentrations decrease with an increase in trophic level. Chromium is not expected to biomagnify in the aquatic food chain (US Dept. of Health and Human Services, 1991). Partitioning studies indicated that bioconcentration factors of benthic invertebrates to water are approximately 2,000 to 3,000 whereas the bioconcentration factor of benthics to sediments is less than one (USEPA, December 1979). In general, chromium is accumulated in aquatic and marine biota to levels much higher than surface water, however, concentrations in biota are usually lower than sediment concentrations. Also, chromium does not biomagnify along the terrestrial food chain from soil to plant to animal (US Dept. of Health and Human Services, 1991).

5.2 Quantity and Levels of Contaminants

SVOCs were found in the soil boring for MW-1 at levels above NYSDEC Soil Guidance TAGM 4046. MW-1 had a total SVOC concentration of 563 ppm. Significant groundwater contamination was only found in MW-2 (23 ppm total chlorinated solvents); however, the source of these compounds may be offsite from the adjacent former dry cleaner. Lead and chromium were also detected in monitoring wells MW-1, MW-2, and MW-3 at values between 230 and 900 ppb, which are above the groundwater standards of 25 and 50 ppb, respectively, for these metals (see Table 5, May 29, 1997).

5.3 Impact on Special Status Areas

There are no special status areas located within the area of concern of the former Central Plating operation.

6.0 SUMMARY OF CONCERNS

Based on the information and data provided, the following concerns are noted:

- Soil from the soil and monitoring well borings indicated that metals, pH, and SVOCs were present above the respective guidance limits for contaminated soil. The metals detected in the soil are: chromium, lead, and zinc. Three of the four monitoring well soil samples screened with a PID revealed VOC concentrations ranging from 25 ppb to 6 ppb. In the soil from MW-1 cyanide was found at a concentration of 44 ppm.

- Groundwater sampling detected elevated levels of chromium, lead, trichloroethylene, perchloroethylene, and SVOCs. If these contaminants are from Central Plating then it is possible for them to migrate off-site in the groundwater.

- Other contaminants of concern that were not detected in the soil and groundwater samples but were found during the shut down operations were methylene chloride, nickel, copper cyanide solutions, mercury, and leabrite nickel.

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TABLE 2

SOIL ANALYTICAL SUMMARY
EPA METHOD 200 (Metals) (ppm)

May 27, 1997

Parameter	MW1	MW2	MW3	MW4	SB1 – SB4 (Composite)	Regulatory Limit
Cyanide	44	< 1.3	< 1.2	< 1.5	< 1.2	*
Chromium	99	< 20	12	10	< 10	5.0
Lead	1,200	< 20	100	260	27	5.0
Zinc	2,280	23	85	510	53	*
pH	8.0	8.5	8.4	8.0	8.5	6.5-7.5

* = Not regulated under STARS Memo

TABLE 3

SOIL ANALYTICAL SUMMARY
EPA METHOD 8020 (ppb)

May 27, 1997

Analyte	MW1	MW2	MW3	MW4	SB1-SB4 (Composite)	Regulatory Limit
Benzene	< 3	< 3	< 3	< 6	< 5	14
Toluene	9	< 3	< 3	< 6	< 5	100
Ethylbenzene	< 3	< 3	< 3	< 6	< 5	100
Xylenes	< 3	< 3	< 3	< 6	< 5	100
Total	9	BDL	BDL	BDL	BDL	NA

BDL = Below Method Detection Limits

TABLE 4

SOIL ANALYTICAL SUMMARY
EPA METHOD 8270 (ppb)

May 27, 1997

Analyte	MW1	MW2	MW3	MW4	SB1-SB4 (Composite)	Regulatory Limit
Napthalene	44,000	< 450	<4,000	<5,000	< 4,000	200
2-Methylnapthalene	12,000	< 450	<4,000	<5,000	< 4,000	*
Acenaphthene	20,000	< 450	<4,000	<5,000	< 4,000	400
Dibenzofuran	15,000	< 450	<4,000	<5,000	< 4,000	*
Fluorene	20,000	< 450	<4,000	<5,000	< 4,000	1,000
Phenanthrene	81,000	< 450	4,800	<5,000	< 4,000	1,000
Anthracene	31,000	< 450	<4,000	<5,000	< 4,000	1,000
Carbazole	12,000	< 450	<4,000	<5,000	< 4,000	*
Fluoranthene	56,000	< 450	4,700	5,500	< 4,000	1,000
Pyrene	104,000	< 450	9,300	5,300	< 4,000	1,000
Benzo(a)anthracene	34,000	< 450	<4,000	<5,000	< 4,000	0.04
Chrysene	30,000	1,000	<4,000	<5,000	< 4,000	0.04
Benzo(b)fluoranthene	36,000	< 450	<4,000	<5,000	< 4,000	0.04
Benzo(k)fluoranthene	12,000	< 450	<4,000	<5,000	< 4,000	0.04
Benzo(a)pyrene	28,000	< 450	<4,000	<5,000	< 4,000	0.04
Indeno pyrene	13,000	< 450	<4,000	<5,000	< 4,000	0.04
Benzo(ghi)perylene	15,000	< 450	<4,000	<5,000	< 4,000	0.04
TOTAL	563,000	1,000	18,800	10,800	BDL	-

BDL = Below Method Detection Limits
* = Not Regulated Under STARS Memo

TABLE 8
GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8270 (ppb)

May 29, 1997

Analyte	MW1	MW2	MW3	MW4	Regulatory Limit
Napthalene	< 5	< 5	< 5	< 5	200
Acenaphthene	< 5	< 5	< 5	< 5	400
Fluorene	< 5	< 5	< 5	< 5	1,000
Phenanthrene	< 5	< 5	5	< 5	1,000
Anthracene	< 5	< 5	< 5	< 5	1,000
Fluoranthene	5	< 5	9	< 5	1,000
Pyrene	< 5	< 5	6	< 5	1,000
Benzo(a)anthracene	< 5	< 5	< 5	< 5	0.04
Chrysene	< 5	< 5	< 5	< 5	0.04
Benzo(b)fluoranthene	< 5	< 5	7	< 5	0.04
Benzo(k)fluoranthene	< 5	< 5	< 5	< 5	0.04
Benzo(a)pyrene	< 5	< 5	< 5	< 5	0.04
Indeno pyrene	< 5	< 5	< 5	< 5	0.04
Benzo(ghi)perylene	< 5	< 5	< 5	< 5	0.04
TOTAL	5	BDL	27	BDL	-

BDL = Below Method Detection Limits

TABLE 5*

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 200 (Metals) (ppb)

May 29, 1997

Parameter	MW1	MW2	MW3	MW4	Regulatory Limit (TOGS)
Cyanide	30	<10	<10	<10	200
Chromium	230	680	<50	<60	50
Lead	300	<100	900	<100	25
Zinc	1600	1100	420	1400	2000
pH	6.7	7.0	7.1	7.1	6.5-7.5

TABLE 6*

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8010 (ppb)

May 29, 1997

Analyte	MW1	MW2	MW3	MW4	Regulatory Limit (TOGS)
Trichloroethene	<500	3,700	<500	<500	5
Tetrachloroethene	<500	5,700	<500	<500	5
Total	BDL	9,400	BDL	BDL	NA

BDL = Below Method Detection Limits

TABLE 7*

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8020 (ppb)

May 29, 1997

Analyte	MW1	MW2	MW3	MW4	Regulatory Limit (TOGS)
Benzene	<1	<500	<1	<1	1
Toluene	<1	<500	<1	<1	5
Ethylbenzene	<1	<500	<1	<1	5
Xylenes	<1	<500	<1	<1	5
Total	BDL	BDL	BDL	BDL	NA

BDL = Below Method Detection Limits

*Tables have been modified from the original TNJ Environmental
July 1997 Phase II Environmental Site Assessment

TABLE 1

GROUNDWATER ELEVATIONS and SUMMARY (feet)

August 7, 1997

Monitoring Well #	Casing Elevation	Top of Screen Elevation	Depth to Product	Depth to Water	Product Thickness	Adj. Depth To Water	Groundwater Elevation
MW1	98.62	97.12	None	7.87	None	7.87	90.75
MW2	98.93	96.93	"	9.14	"	9.14	89.79
MW3	100.70	99.20	"	4.15	"	4.15	96.55
MW4	100.91	99.41	"	3.36	"	3.36	97.55

Date	MW1	MW2	MW3	MW4
5/29/97	93.60	90.01	96.81	98.09
8/7/97	90.75	89.79	96.55	97.55

TABLE 2

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8010 (ppb)

Analyte	MW1	MW2	MW3	MW4
5/29/97	BDL	9,400	BDL	BDL
8/7/97	3	23,100	BDL	BDL

BDL = Below Method Detection Limits

TABLE 3

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8021 STARS (ppb)

Date	MW1	MW2	MW3	MW4
5/29/97*	BDL	BDL	BDL	BDL
8/7/97	BDL	BDL	BDL	BDL

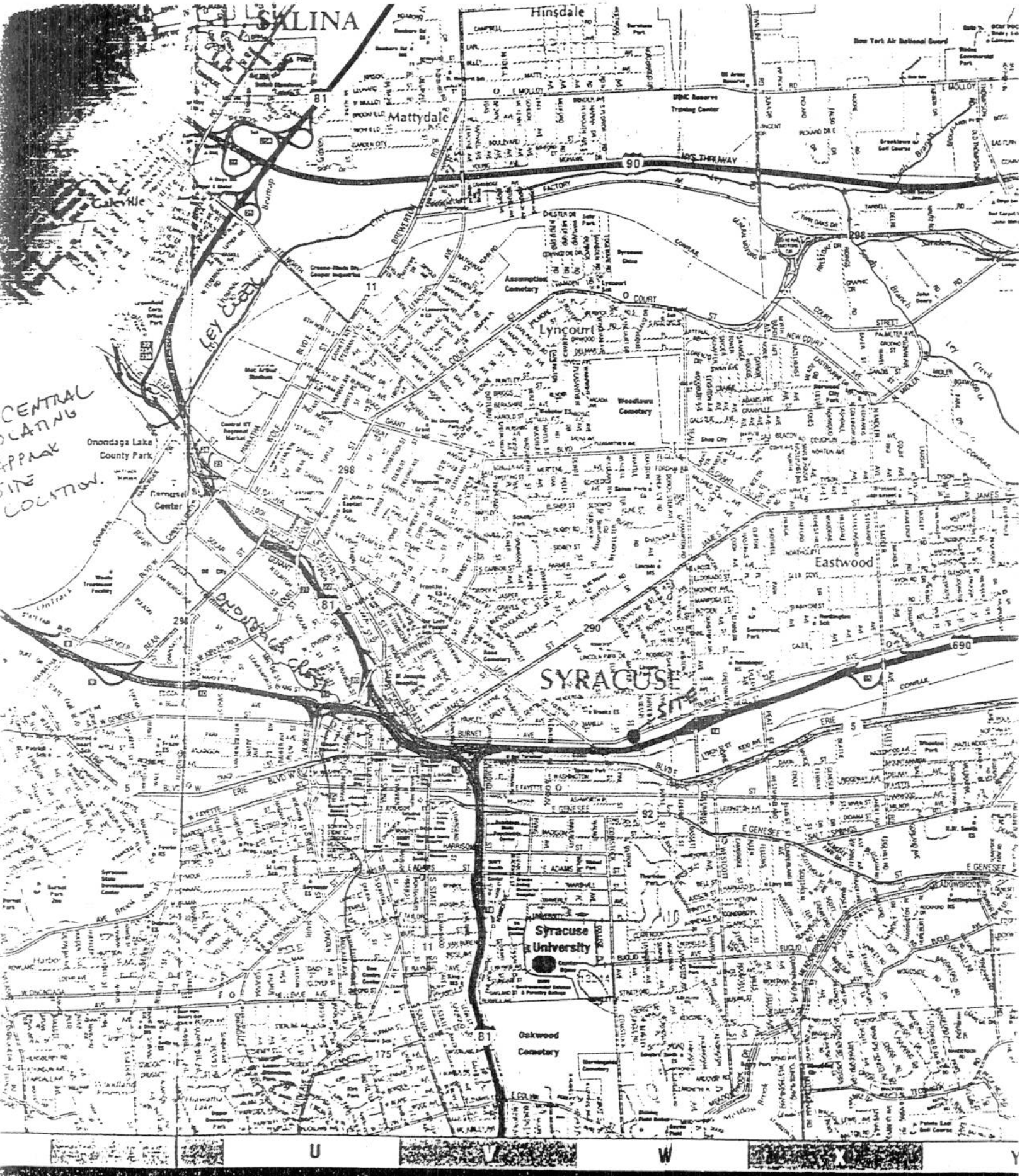
BDL = Below Method Detection Limits
* = Analysis Using EPA Method 8020

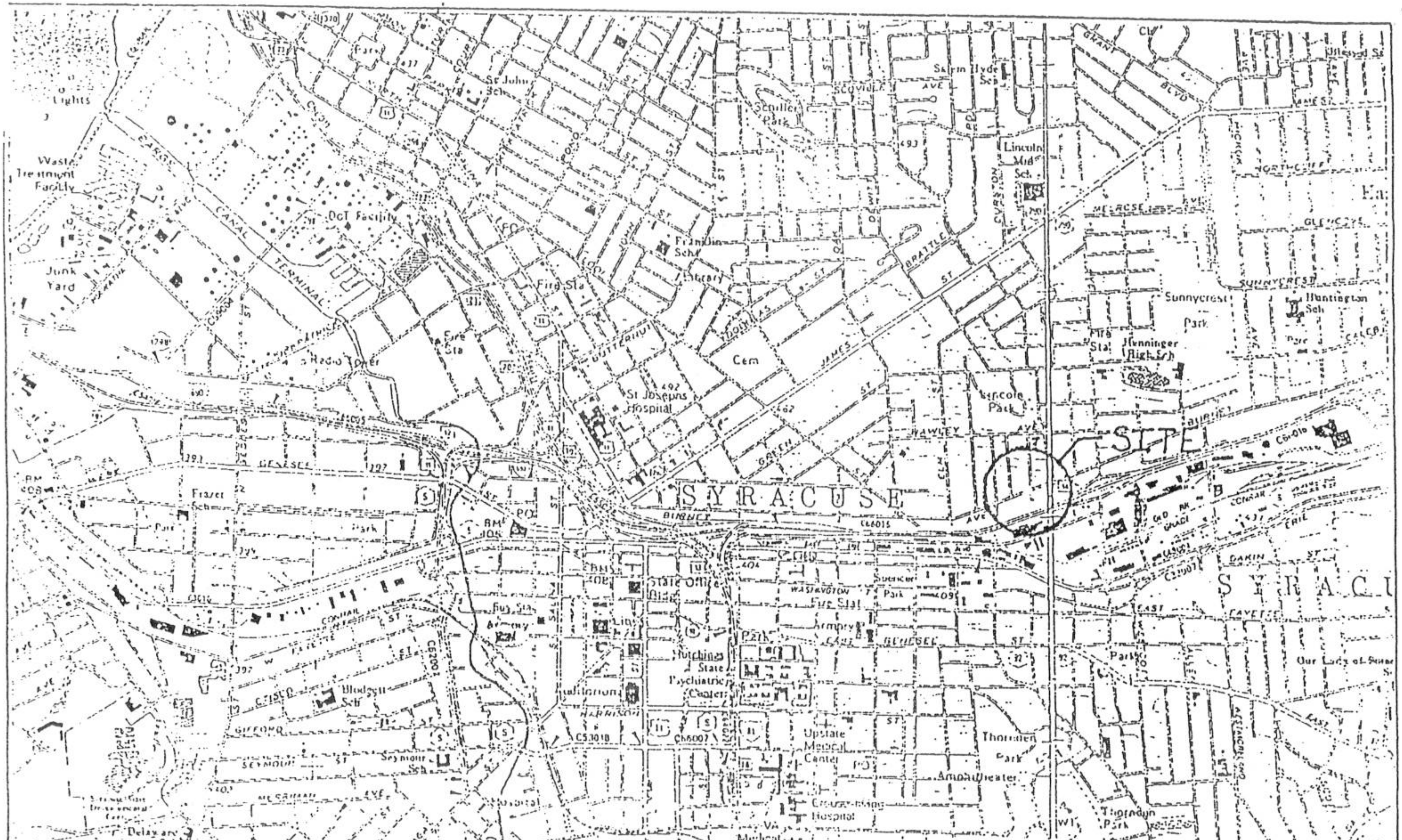
TABLE 4

GROUNDWATER ANALYTICAL SUMMARY
EPA METHOD 8270 STARS (ppb)

Date	MW1	MW2	MW3	MW4
5/29/97	5	BDL	27	BDL
8/7/97	BDL	BDL	BDL	BDL

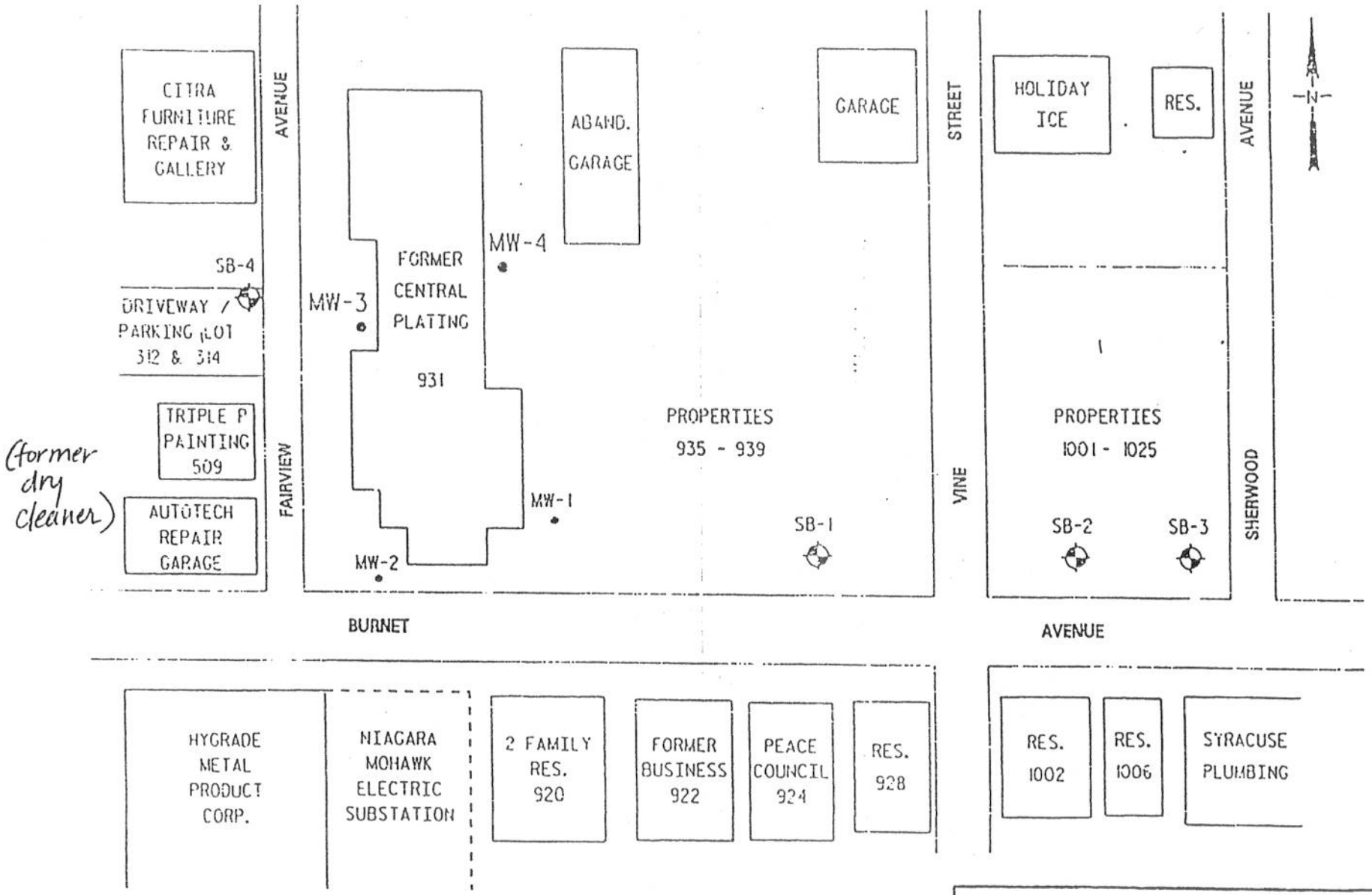
BDL = Below Method Detection Limits


SALINA
Hinsdale
Mattydale
Galeville
Lyncourt
Eastwood
SYRACUSE
SITE
Onondaga Lake County Park
Carousel Center
Syracuse University
Oakwood Cemetery
Assumption Cemetery
Woodlawn Cemetery
New York Air National Guard
CENTRAL
LOCATING
APPROX
SITE
LOCATION.
U
W
Y



	TNJ Environmental
MAP TITLE:	GENERALIZED SITE MAP FIGURE 1
PROJECT NAME:	MAFFEI PROPERTIES BURNET AVENUE, SYRACUSE, N.Y.

SCALE	PROJECT NO.	DRAWN BY	DATE
1:24,000	97-002	USGS	July 1, 1997

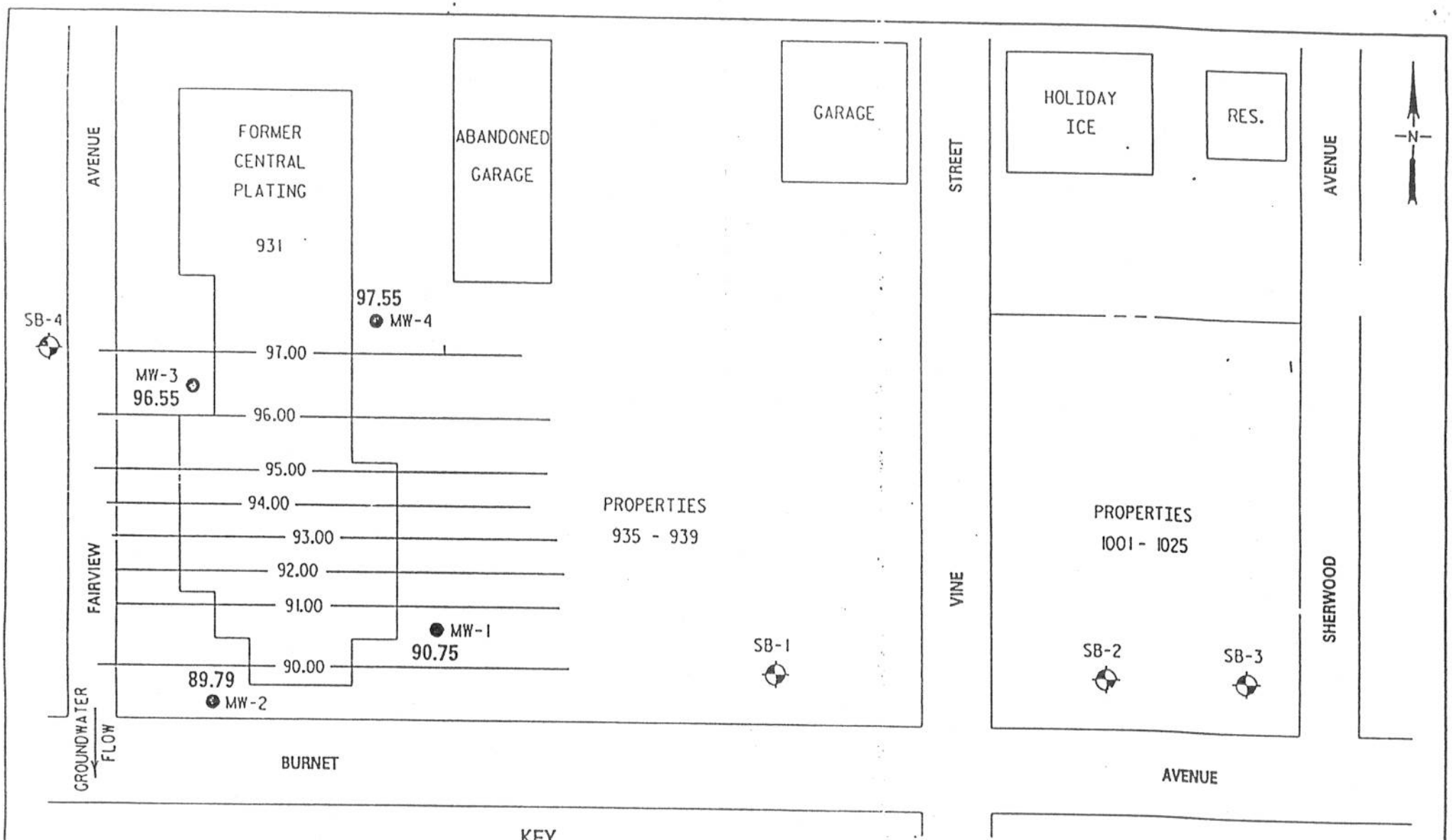


TNJ Environmental

MAP TITLE: ADJACENT PROPERTIES MAP
FIGURE 3

PROJECT NAME: MAFFEI PROPERTIES
BURNET AVENUE, SYRACUSE, N.Y.

SCALE:	PROJECT NO.:	DRAWN BY:	DATE
Not To Scale	97-002	JML Graphics	July 1, 1997



KEY

MW-1	EXISTING MONITORING WELL
SB-1	EXISTING SOIL BORING
—— 97.00 ——	GROUNDWATER CONTOUR BASED ON 8/7/97 MONITORING WELL WATER LEVELS (ARBITRARY DATUM)
90.01	GROUNDWATER ELEVATIONS

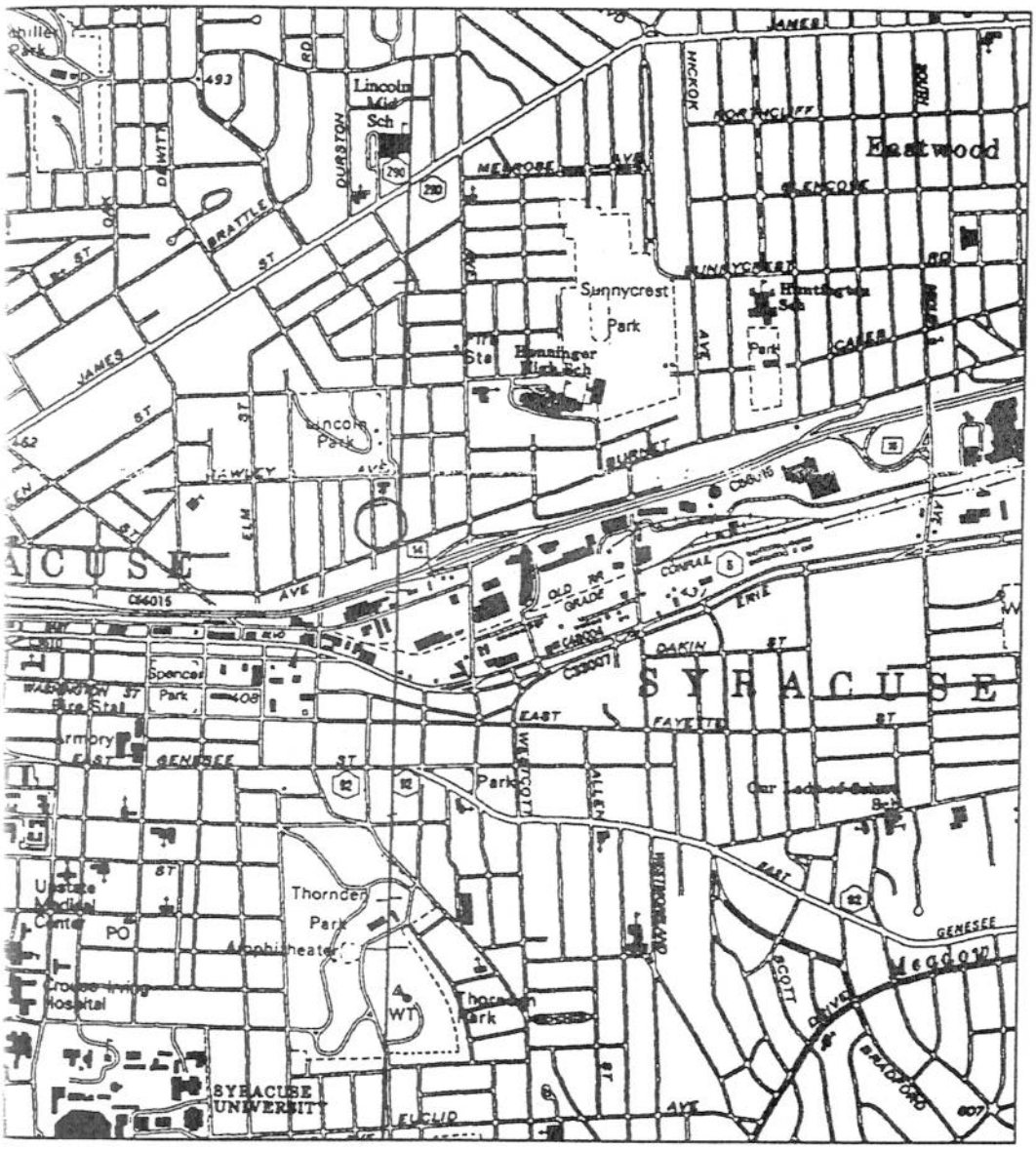
TNJ Environmental

MAP TITLE: GROUNDWATER CONTOUR MAP

PROJECT NAME: MAFFEI PROPERTIES
BURNET AVENUE, SYRACUSE, N.Y.

SCALE	PROJECT NO:	DRAWN BY:	DATE
Not To Scale	97-002	JML Graphics	August 29 1997

'entral Plating Site
Burnet Road



1:24000

ge Program Site (none)

Wetland (none)

1
2
3
4

0.2 0 0.2 0.4 0.6 0.8 1 Miles

Judy Marth Stevens, NYSDEC Bureau of Habitat, Feb. '98.