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Report

Solid Waste Management Plan



SYRACUSE® CHINA CORPORATION
SYRACUSE, NEW YORK 13221

MAY 1991



O'BRIEN & GERE

REPORT

SOLID WASTE MANAGEMENT PLAN

SYRACUSE CHINA CORPORATION
SYRACUSE, NEW YORK

MAY 1991

O'BRIEN & GERE ENGINEERS, INC.
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SECTION 1 - INTRODUCTION

1.01 Background

The Syracuse China Corporation operates an institutional china manufacturing facility located at 2900 Court Street, Syracuse, New York as shown on Figure 1. Since approximately 1940, the Syracuse China Corporation has been landfilling industrial wastes on a portion of the property currently situated north of the manufacturing building and south of Factory Avenue. The landfill can be divided into two distinct areas; the upper portion or western half of the landfill and the lower portion or the eastern half of the landfill. The upper portion of the landfill represents the oldest area of the landfill and reportedly contains mostly biscuit, gypsum molds, broken china, wastewater treatment sludge, cement, and construction debris. The lower portion of the landfill contains mostly biscuit, gypsum molds, broken china, refractory material, and some wastewater treatment sludge.

In April of 1990, the Syracuse China Corporation submitted to the New York State Department of Environmental Conservation (NYSDEC) a report entitled "Preliminary Hydrogeologic Site Assessment Report", prepared by O'Brien & Gere Engineers, Inc.. The analytical data compiled as part of the assessment indicated exceedances of the EP Toxicity lead threshold (5.0 mg/l) in a number of the soil borings taken in the vicinity of the settling ponds and in one sample taken on the western portion of the site. As a result of the assessment, the NYSDEC has designated the site as an inactive hazardous waste disposal site, as defined in the Environmental Conservation Law of the State of New York (ECL) Section 27-1301

(2) and listed it on the Registry of Inactive Hazardous Waste Disposal Sites. The NYSDEC has classified the site, pursuant to ECL Section 27-1305, as a classification "2". As a result of that classification, the NYSDEC will require action to address the threat which has been determined to exist at the site.

1.02 Purpose and Scope of Work

The purpose of developing and implementing the Solid Waste Management Plan is to meet the requirements of Item III of the proposed ORDER ON CONSENT submitted by Syracuse China Corporation to the NYSDEC on October 14, 1990.

Syracuse China Corporation retained O'Brien & Gere Engineers, Inc. to perform engineering services associated with Item III in the draft ORDER ON CONSENT regarding the existing industrial landfill. A description of Item III is included below as referenced from the draft ORDER ON CONSENT:

Item III - Preparation of a Solid Waste Management Plan (SWMP)

Syracuse China shall submit to the Department a proposed Solid Waste Management Plan ("SWMP"), which will allow for the continued use of the Site for waste management activities, until the date of closure of the landfill.

According to the draft ORDER ON CONSENT, the SWMP set forth herein must include:

"(a) A Site Operations Plan ("SOP") which will indicate how the Respondent intends to operate the Site and conduct its waste management activities. The SOP shall address the substantive applicable requirements of ECL Article 17, Title 8, ("SPDES Permits") Article 24, Title 7 ("Freshwater Wetlands"), and Article 27, Title 7 ("Solid Waste Management Facilities");

(b) A fill plan, proposed final elevations and grades and an estimate, based on that information, of the landfill's remaining capacity;

(c) An evaluation of alternatives for the disposal of non-hazardous waste material after the closure date; and

(d) A schedule for the pursuit of alternatives for the management of the non-hazardous waste material after the closure date."

SECTION 2 - SOLID WASTE QUANTITIES AND CHARACTERISTICS

2.01 General Inventory of Solid Wastes

The solid waste generated by the Syracuse China facility and currently disposed at the landfill facility on-site, can be categorized into the following types:

Biscuit China Scrap

Biscuit China Scrap (unfinished product) is produced from the manufacturing process. It is composed of fired ceramic shapes which have not yet been decorated and/or glazed.

Glost China Scrap

Glost China Scrap (finished product) is the final product of the manufacturing process. It is composed of glazed and/or decorated china which has been fired two or more times.

Gypsum Mold Scrap

Gypsum molds are comprised of plaster of paris and are used to form all the ceramic shapes. All gypsum molds are manufactured at the plant. The gypsum molds have a limited service life due to surface wear.

Refractory Scrap

The majority of the refractory scrap is composed of shelves and posts. Shelves and posts are assembled so that the china can be placed on them before it is fired through a tunnel kiln. The material used to make the shelves and posts is called cordierite, which is simply magnesium aluminum silicate. Other refractory wastes include brick shapes and other castable materials which are used as girders or blocks to form the cars upon which the shelves and posts are placed for firing through the tunnel kiln. These items are composed of materials similar to magnesium aluminum silicate. All refractory items have a limited service life due to thermal stress which causes them to eventually crack and/or warp.

Wastewater Filter Cake

In August, 1990, the facility undertook process changes to redirect process water to the clay preparation department for filtration. Suspended solids from various wastewater streams at the plant are removed by a standard plate and frame filter press system and a wastewater filter cake is formed.

Construction and Demolition Materials

Construction and demolition materials include concrete demolition debris due to installation of new equipment, paving materials from parking lot repair, and excavated materials from road repair and underground pipe maintenance at the facility.

Material Handling - Spill Cleanup

Material Handling - Spill Cleanup refers to bag and bulk non-hazardous materials such as clay, silica, feldspar, etc. (raw materials) which are spilled inside or outside the plant and must be cleaned up and disposed. No material is disposed on-site unless it is verified as non-hazardous.

Table 1 illustrates the approximate annual quantity of each waste material currently disposed at the on-site landfill facility. Quantities were calculated at current production levels by Syracuse China. Appendix B contains the results of analyses performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) for the biscuit china scrap, glost china scrap, gypsum mold scrap, refractory scrap, and wastewater filter cake. Only one of the wastes had detectable levels of any TCLP parameters (glost china scrap; 1.0 mg/l lead) and the lead concentration detected is below the threshold value for hazardous waste characteristics in 40 CFR Part 261.

The remaining solid wastes generated by the Syracuse China plant are either disposed off-site and/or recycled. These other wastes can be categorized into the following types:

Office Wastes

Office waste, with the exception of white office paper and computer paper which is recycled, is removed from the Syracuse China plant by a contracted waste hauler and delivered to an Onondaga County solid waste transfer station.

General Plant Refuse

General plant refuse consists of lunch bags, newspapers, sweepings, cardboard, etc.. General plant refuse, with the exception of cardboard which is recycled, is removed from the Syracuse China plant by a contracted waste hauler and delivered to an Onondaga County solid waste transfer station.

Wood Scrap

Wood scrap is disposed separately by a contracted waste hauler currently using the Town of Manlius landfill. Recycle opportunities are preferred as they become viable.

Metal Scrap

Metal scrap is recycled by Roth Steel Corporation.

Cafeteria Wastes

Cafeteria wastes are disposed separately as general refuse.

Waste Oils

Waste oils are collected and recycled by Safety-Kleen Corporation approximately every 2 months.

Spent Petroleum Naptha

Spent Petroleum Naptha from maintenance parts cleaning is collected and recycled by Safety-Kleen Corporation.

Hazardous Wastes

Hazardous wastes generated at the facility are transported by licensed transporters to permitted Treatment, Storage, and Disposal Facilities off-site.

SECTION 3 - SITE OPERATIONS PLAN (SOP)

3.01 General

Currently, waste materials from the plant which are landfilled on-site, are being deposited in an area east of the settling ponds. The area of current landfilling activities is bounded to the south by railroad tracks owned by the Consolidated Rail Corporation, to the north by wetlands, to the east by an earthen berm which separates the landfill from additional properties owned by Syracuse China Corporation, and the west by the settling ponds. The area is also bisected by a 50-foot wide Niagara, Lockport & Ontario Power Company right-of-way containing 115 kV lines. The area is presently overlain by 5 to 6 feet of graded and compacted waste materials.

Interim landfill operations will be conducted in areas identified as Phase I and Phase II in Figure 3. Phase I is confined to the active landfill area south of the right-of-way. A grading plan using 3 to 1 side slopes in accordance with 6 NYCRR Part 360-2.13(q)(2)(ii) has been prepared for this area in order to maximize the available landfill volume.

It is also planned that the Phase II area, which consists of the former landfill area on the western portion of the site, be used for additional landfilling purposes. This Phase II landfill area will increase the overall available landfill capacity of Syracuse China's site, in addition to providing a more efficient grading and drainage pattern on the site. Interim use of this Phase II area will also serve to prepare the area for future installation of a final cap system. A grading plan using approximately 6 percent grades has been proposed for this area.

The grading plan for the former landfill area (Phase II) has been designed such that no additional filling will be conducted within the power company's right-of-way. It should be noted that, as part of subsequent closure activities, the addition of a final cap system will be placed over all areas of waste.

3.02 Site Capacity

Phase I

The landfill area to be operated during Phase I will cover approximately 1 acre. The area will eventually have a maximum fill depth of approximately 14 feet. Based on maximum side slopes of 3 horizontal to 1 vertical, the available airspace volume contained under the contours shown on the Engineering Drawings, is calculated to be approximately 16,500 cubic yards.

Based on an anticipated in-situ (in-place) density for the waste material of 2,700 pounds per cubic yard (100 pounds per cubic foot), the calculated life of the Phase I area is approximately 5 years. The projected life is also based on an average of approximately 350 tons per month of waste materials.

Phase II

As soon as the final contours have been reached for the landfill area during Phase I, Phase II will begin with filling operations at the western portion of the site on the former landfill area. The primary goal of Phase II will be to bring the former landfill area to more uniform and acceptable grades in preparation for the placement

of a final cap system. Phase II filling operations will occur over approximately 3 acres of the former landfill. The maximum fill depth over any portion of the former landfill area will not exceed 6 feet. Based on maximum grades of approximately 6 percent, the available airspace volume contained under the contours shown on the Engineering Drawings, is calculated to be approximately 9,000 cubic yards.

Based on an anticipated in-situ (in-place) densities for the waste material of 2,700 pounds per cubic yard (100 pounds per cubic foot), the calculated life of the Phase II area will be approximately 3 years. The projected life is also based on an average of approximately 350 tons per month of waste materials.

At present waste disposal rates, the combined site life from Phase I and Phase II is estimated to be 8 years.

3.03 Waste Placement

Waste is deposited in the landfill on a daily basis. A 15 cubic yard dump truck is loaded two or three times per day and driven by an employee with 40 hour OSHA training from the plant to the landfill via the access road shown in Figure 3 and unloaded. This procedure will remain unchanged.

During interim operations at the landfill, a contractor with 40 hour OSHA training will be retained quarterly to grade and compact waste materials.

The contractor shall spread waste materials in layers not exceeding two feet in thickness in accordance with 6 NYCRR Part 360-2.17(b)(1). The contractor will

thoroughly compact waste materials by making continuous passes over the material until it is crushed to the maximum extent possible. All waste materials shall be contained within the limits of the fill area as dictated by the 3 to 1 side slopes shown on Figure 3.

3.04 Cover Material Placement

6 NYCRR Part 360 regulations for Solid Waste Management Facilities require that cover soil be applied on all exposed surfaces of solid waste. In the case of industrial landfills, Part 360-2.14(a) provides the NYSDEC with the authority to define cover soil requirements on a case specific basis.

Waste materials disposed of at Syracuse China's landfill are non-putrescible and therefore not conducive to problems associated with vectors, fires, odors, or blowing litter. As such, 6 inches of cover soil will be placed only in areas that have achieved final grades as shown on Figure 3. All areas receiving cover soil will be seeded with a quick growing rye grass to control erosion prior to installation of the final cap system.

3.05 Fill Elevation Control

As each landfill area (Phase I & Phase II) begins to fill, Syracuse China will verify that the elevations and proper side slopes shown on Figure 3 are being adhered to. This is best accomplished by a field survey. Using the benchmark shown on Figure 3, a surveyor will be able to verify elevations on the fill areas. This work will be performed quarterly by a survey crew retained by Syracuse China.

3.06 Final Cap System

The grading plans for the landfill areas have been designed to allow for the addition of a final cap system over the fill contours shown on Figure 3.

In the case of industrial landfills, Part 360-2.14(a) provides the NYSDEC with the authority to modify cap system design requirements on a case specific basis. The final cap system will be defined in the RI/FS.

3.07 Personnel and Equipment

Waste management activities at Syracuse China are handled by materials handling personnel and maintenance employees in the various production departments. Waste such as gypsum mold scrap, wastewater filter cake, refractory scrap, and spill cleanup are collected as required by materials handling personnel and either loaded directly into a dump truck or placed on loading docks. Wastes left on loading docks are then loaded onto the dump truck by maintenance employees. A maintenance employee drives the loaded dump truck to the landfill and unloads in the active fill area. Waste management activities as described above will remain unchanged during the interim operating period.

Presently, Syracuse China retains a contractor with 40 hour OSHA training approximately every 2 months to spread and compact dumped waste in the active fill area. The grading and compacting procedure will continue generally as outlined with the exception of modifications discussed in Sections 3.03 and 3.04.

3.08 Hours of Operation

The current operating hours at the landfill are between 5:00 a.m. and 2:30 p.m., Monday through Friday. The landfill is not used on Saturdays, Sundays, and major legal holidays because the facility does not operate during these periods. These operating hours will remain unchanged during interim operations at the landfill.

3.09 Weather Operating Considerations

A variety of weather conditions exist in Central New York which may affect the landfill operations. Included below are some of the weather related procedures to follow during interim operation of the landfill.

Freezing Conditions

The waste materials disposed of at Syracuse China's landfill tend to be quite coarse and therefore not as susceptible to absorbing precipitation. As a result, waste material piles remain workable during freezing conditions. Experience has also shown that the contractor retained by Syracuse China has had no difficulty grading and compacting waste materials during winter months.

Cover soil for landfill operations will be provided as described in Section 3.04 by the contractor in sufficient quantities to cover those areas which have achieved final grades as shown on the Figure 3. As such, cover soil will not be exposed to freezing conditions before it is used.

Heavy Rains

During rainy periods, landfills are subjected to the possibility of exposed waste resulting from soil erosion and/or earth movement. Historically, erosion has not been a problem due to the nature of the materials disposed. However, if cover soil were used, a problem could develop. If so, it could be alleviated by the control of surface runoff through the use of proper grading, drainage swales, and berms. Surface runoff from the landfill area(s) will be directed to perimeter drainage ditches which discharge to the settling ponds. In addition, all areas containing cover soil will be seeded with a quick growing rye grass. Any waste materials which are exposed as a result of heavy rains will be re-covered each month by the contractor.

Snowfall

The landfill's geographic location results in the possibility of heavy snowfall. The contractor will remove snow only from the active fill face. During snow removal operations, snowbanks will be arranged in a manner which will provide drainage away from the active fill face.

Windy Conditions

Litter or dust resulting from windy conditions should not pose major problems during landfill operations due to the nature of the waste materials.

Electrical Storms

The open area of the landfill is particularly susceptible to the hazards of an electrical storm. Landfill operations are suspended for the duration of the storm.

Birds

Due to the non-putrescible nature of waste materials disposed at the landfill, the site is not susceptible to the attraction of birds and other types of vectors.

3.10 SPDES Permit

The Syracuse China Corporation has a State Pollutant Discharge Elimination System (SPDES) Permit to discharge effluents from its plant facility into the receiving waters of Ley Creek (Class B stream). The SPDES Permit was issued for the outfall of Settling Pond No. 2. The effective date of the current Permit (EDP) was September 1, 1985. A renewal application was submitted to the NYSDEC in March of 1990; however, the draft permit has not been sent to Syracuse China.

Syracuse China has developed process modifications to reduce the concentration of suspended solids and lead in the effluent. The process modifications include a refinement of the closed-loop system for the glaze process which reclaims and recycles the glaze. As part of this closed-loop system, leaded materials (solids) are recycled back into the glaze process while the resulting process wastewater is reused for cleaning.

Furthermore, a standard plate and frame filter press has been used on some of the process wastewater streams. This system has thus far been successful in removing 90 percent of the solids from that portion of the process wastewater. A wastewater filter cake is formed from this filter press system.

Syracuse China is currently in the process of refining the filter press system in an attempt to remove an even greater percentage of the solids.

Surface runoff from the landfill areas will be directed via perimeter drainage ditches to the settling ponds. This procedure is being adopted on an interim basis and its long term appropriateness will be reviewed in the context of the remedial process.

Surface runoff from the landfill areas will be in the form of sheet flow over waste materials and/or cover soil draining to perimeter drainage swales which will in turn drain to the settling ponds. To mitigate erosion and siltation problems during interim landfill operations, all areas containing cover soil will be seeded with a quick growing rye grass.

3.11 Freshwater Wetlands

Upon review of the potential impacts of the facility on the environment and the ECL Article 24, Title 7, it was determined that the implications of the interim operation of the landfill area(s) on the adjacent freshwater wetlands are minimal. It should be noted that the landfill operation predated the adoption of the State's Freshwater Wetland Act. The interim operation procedures contained herein

preclude horizontal expansion into the wetlands. Furthermore, the surface water runoff from the landfill operating area(s) will be directed to the settling ponds and then flow to the wetlands.

The RI/FS will assess the impacts of the landfill on the surrounding wetlands and identify remedial actions necessary during final closure.

SECTION 4 - ALTERNATIVES EVALUATION FOR DISPOSAL OF NON-HAZARDOUS WASTE AFTER CLOSURE

4.01 General

The purpose of this Section is to identify possible alternatives for disposal of Syracuse China's currently landfilled industrial wastes after final closure of the on-site landfill. Alternatives identified represent a list of practical options that are being pursued by Syracuse China.

4.02 New Industrial Landfill Development

Recently, six of the largest manufacturers in the Syracuse area have formed a not-for-profit cooperative venture (Onondaga Manufacturers Waste Control Inc.) with the intention of developing a new industrial waste landfill within Onondaga County. The industries involved at this time include Crucible Specialty Metals, Carrier Corp., Crouse-Hinds, Inland Fisher Guide Division of General Motors Corp., New Process Gear and Syracuse China Corporation. The Metropolitan Development Association (MDA) was instrumental in initiating discussions between these industries and assisting with development of the alternative disposal concept. The MDA, a planning, research and development organization that represents local business leaders, views an environmentally sound, economical industrial disposal facility essential for keeping manufacturers in Central New York.

The proposed facility would accept only non-hazardous industrial waste, such as, foundry sand, fly ash, slag, sludge, and construction and demolition debris. In pursuit of this concept, the following work items are currently being considered by the cooperative venture: site selection studies and site investigation studies. Subsequent design and permitting activities would follow if warranted.

4.03 Recycling Alternatives

Syracuse China is currently investigating recycling methods to reduce the amount of waste being disposed at its on-site landfill facility. One recycling method under consideration is recycling spent gypsum molds. Gypsum molds comprise over 25 percent of the total tonnage of waste materials currently being disposed at the plant's on-site landfill facility. Gypsum molds are composed of rehydrated plaster of paris for use in the casting process to form the various ceramic shapes. Surface wear limits the service life of the molds at which point they are discarded.

As an alternative to disposal, Syracuse China has been involved in discussions with other manufacturing firms regarding potential use of discarded gypsum molds. The discarded gypsum molds can be converted for reuse in the manufacture of such items as sheet rock or cement.

An additional recycling method that is being evaluated is alternative uses for the biscuit china scrap. Biscuit china scrap comprises almost 50 percent of the total tonnage of waste materials currently being disposed at the on-site landfill facility.

Biscuit china scrap is composed of fired ceramic shapes which have not yet been decorated and/or glazed.

Syracuse China has had discussions with several firms regarding reuse of biscuit china scrap in the manufacture of refractory products and as feed material in other manufacturing processes.

Other reuse options for biscuit china scrap have also been investigated by Syracuse China. Syracuse China retained O'Brien & Gere Engineers, Inc. to perform an evaluation on the biscuit china scrap for possible use as a granular material in the gas venting layers of NYSDEC required landfill cap systems. The evaluation was conducted to analyze the biscuit china scrap for its ability to withstand environmental and mechanical degradation under anticipated landfill conditions. The laboratory tests performed on the biscuit waste included: Grain Size w/ hydrometer, Permeability, Soundness, Los Angeles Abrasion, Relative Density, Direct Shear, EP Toxicity. Based on the evaluation results, O'Brien & Gere has indicated the biscuit china scrap appears to be a suitable material for use in gas venting layers.

Interesting

4.04 Landfill Disposal Options Within New York State

As an alternative to on-site waste disposal, out-of-county disposal options within New York State have been evaluated.

Many of the potential disposal facilities discussed herein were identified through discussions with NYSDEC regional solid waste engineers. Initially, both municipal and private sites were contacted. Many of the municipal landfills

contacted, explained how various social, political, and economic restraints placed on their landfills restrict the disposal to municipal waste generated within their own boundaries. Such policies are often reinforced by legislation passed by individual municipalities restricting importation of waste. Conversely, many private facilities are willing to accept waste from outside the municipality
in which they are located (provided the waste is within the requirements of their operations permit) as a way of adding to their revenue base. As such, the City of Auburn was the only municipality identified that would accept wastes from outside its municipal boundaries.

Six facilities were identified that offer the possibility of accepting waste from Syracuse China. The six facilities include one Browning-Ferris, Inc. site, four independently owned sites, and the Auburn City Landfill. The six landfills are listed below with a brief summary of the site features.

- Seneca Meadows, Seneca Falls, New York
- Orleans Sanitary Landfill, Albion, New York
- Modern Landfill, Model City, New York
- CID Landfill, Chaffee, New York
- Niagara Recycling, Niagara Falls, New York
- Auburn City Landfill

Seneca Meadows

Seneca Meadows Landfill is located in Seneca Falls, New York and currently accepts municipal wastes with a permitted rate of 660,000 tons per year. The current charges range from $60 to $65 per ton for municipal waste. Recent discussions with the operator indicate that Seneca Meadows is no longer accepting additional industrial wastes due to capacity constraints. The current operations permit expires in December, 1991, and the likelihood of permit renewal is unknown at this time. The outcome of expansion requests as part of permit renewal will determine if Seneca Meadows will accept additional industrial wastes in the future.

Orleans Sanitary Landfill

The Orleans Sanitary Landfill is a privately owned facility in Albion, New York. The Orleans landfill has been operating without a permit since September 1990, but this landfill plans to develop an expansion area of 150 acres. Permit applications for both horizontal and vertical expansions have been submitted to the NYSDEC and are currently being reviewed. Presently, the Orleans landfill charges range from about $70 to $80 per ton for municipal and non-hazardous industrial waste.

Modern Landfill

The Modern Landfill is a privately owned landfill located in Model City, New York. The Modern Landfill has a valid NYSDEC operations permit with approximately 150 acres of permitted landfill disposal area. An area encompassing over 20 acres of double lined landfill baseliner has just been completed on site. The Modern Landfill permit is valid through 1994. Presently, the charges are $65 per ton for both municipal and non-hazardous industrial waste.

CID Landfill

The CID Landfill is a privately owned site in Chaffee, New York. The CID Landfill currently charges "local" customers $55 to $60 per ton for solid waste, whereas, non-local users are charged an increased fee determined according to the distance hauled, volume and type of waste. The additional fee requested of non-local users was developed with the intent of reducing the local fee and benefiting the local users.

Niagara Recycling Landfill

The Niagara Recycling Landfill is a western New York BFI landfill located in Niagara Falls, New York. The Niagara Recycling Landfill is permitted to accept only non-putrescible waste due to its location near an airport. This landfill has sufficient capacity to stay open for the next several years. The current charges are between $65 and $70 per ton of solid waste at this site.

Auburn City Landfill

The Auburn City Landfill is located in Auburn, New York. Auburn Container Company, Inc. has a contract with the City to take industrial wastes to the landfill. Auburn Container has submitted a proposal to Syracuse China for removing the industrial wastes currently disposed at the plant's on-site landfill facility. It should be noted that this is not a long term disposal option, but it is open for 1991 and may be renegotiated for 1992.

Haul Cost

The cost to haul waste material to a disposal facility will depend on several factors, including the waste material density, the moisture content of material, the size truck used to transport the material, and the distance of the haul. Haul cost information was obtained from contacting waste hauling firms within New York State. A rough estimate of haul cost is $3.00 per mile (one-way) for any haul over 150 miles, and a

flat fee of $350 for local hauls within 150 miles. Actual charges will vary depending on the hauler and the distance to the disposal site.

The information discussed herein regarding in-state disposal options reflects the conditions concerning available disposal space, state regulations and tipping fees as of January, 1991.

SECTION 5 - SUMMARY AND CONCLUSIONS

5.01 Summary

The Syracuse China Corporation operates an institutional china manufacturing facility located at 2900 Court Street, Syracuse, New York. Syracuse China is disposing non-hazardous industrial wastes at its on-site landfill. Syracuse China has developed process modifications to reduce the concentrations of suspended solids and lead in the effluent.

Syracuse China Corporation has prepared and submitted to the NYSDEC a proposed Order on Consent designed to address the environmental concerns arising from operation of the on-site industrial landfill on its property. In accordance with the proposed Order, Syracuse China has prepared this SWMP. The SWMP will govern continued operation of the existing landfill until a Remedial Investigation/Feasibility Study can be completed and a final closure plan implemented. In addition, the SWMP identifies alternative waste management practices which Syracuse China intends to evaluate for post-closure operation. Options identified include alternative landfill facilities and recycling/reuse methods designed to minimize the quantity of waste requiring landburial.

Syracuse China has approximately 8 years of life remaining in two fill areas identified on the existing landfill.

Currently, there exists several permitted landfill sites in New York State that may be willing to accept Syracuse China non-hazardous industrial waste. Syracuse

China will contact these facilities to determine the possibility of a contract for future waste disposal services.

As an alternative to the aforementioned landfill facilities, Syracuse China is participating in a joint venture with several local industries with the intention of siting and constructing an industrial landfill in or near Onondaga County. This option may provide Syracuse China with the most practical and secure solution to its long term waste disposal needs.

Tables

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TABLE 1

QUANTITIES OF SOLID WASTES DISPOSED ON-SITE

SOLID WASTE MANAGEMENT PLAN

SYRACUSE CHINA CORPORATION

WASTE MATERIAL	ANNUAL QUANTITY
Biscuit China Scrap	2,100 tons/year
Glost China Scrap	438 tons/year
Gypsum Mold Scrap	1,162 tons/year
Refractory Scrap	100 tons/year
Waste Water Filter Cake	350 tons/year
Construction & Demolition Materials	38 tons/year
Material Handling - Spill Cleanup	10 tons/year
TOTAL	4,198 tons/year

Calculated or estimated at current production levels and process loss factors.

Figures

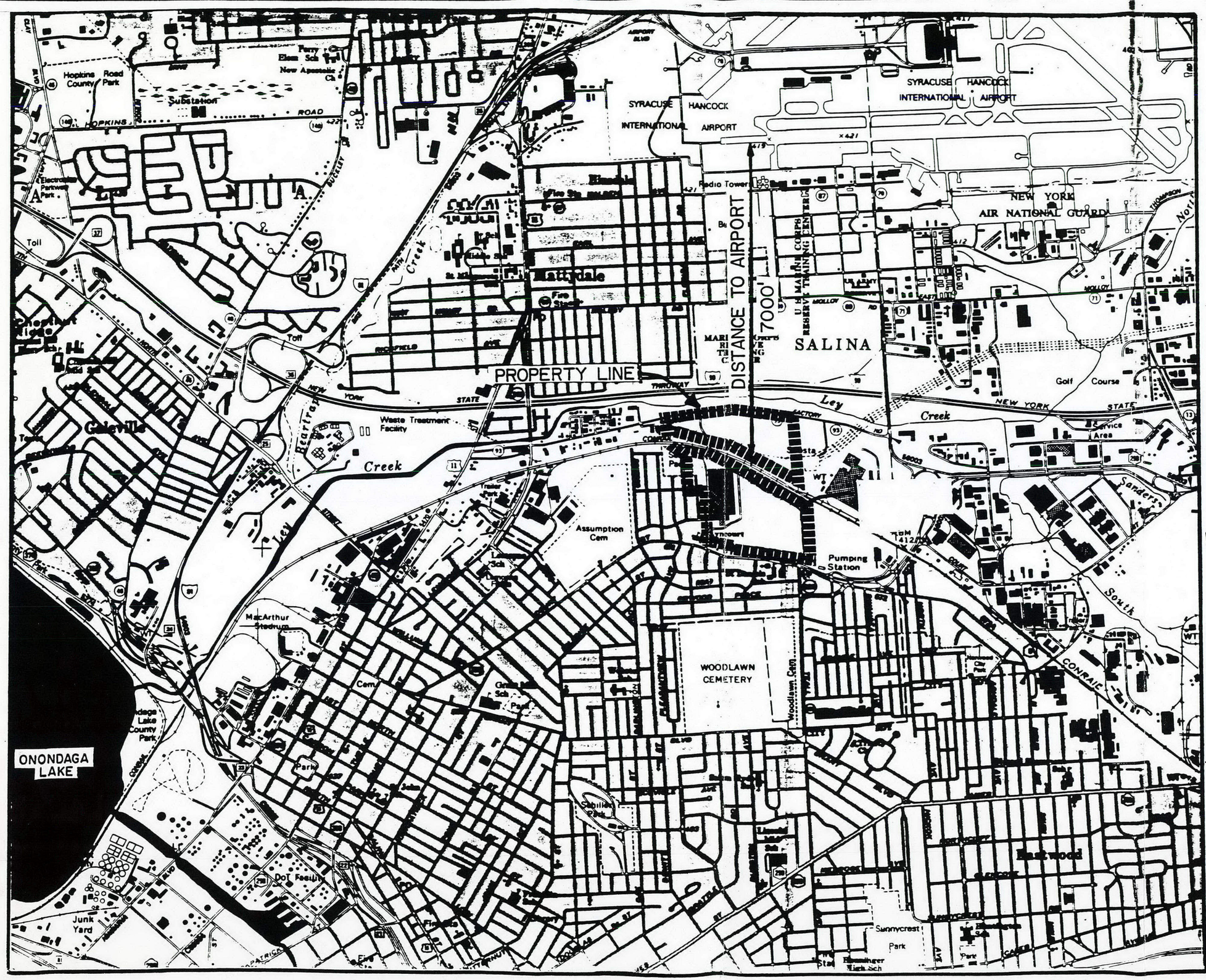
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FIGURE 1

SYRACUSE CHINA CORPORATION
SYRACUSE, NEW YORK

SOLID WASTE
MANAGEMENT PLAN

SITE LOCATION MAP



LEGEND

SYRACUSE CHINA PROPERTY LINE

0 2000 4000

SCALE IN FEET

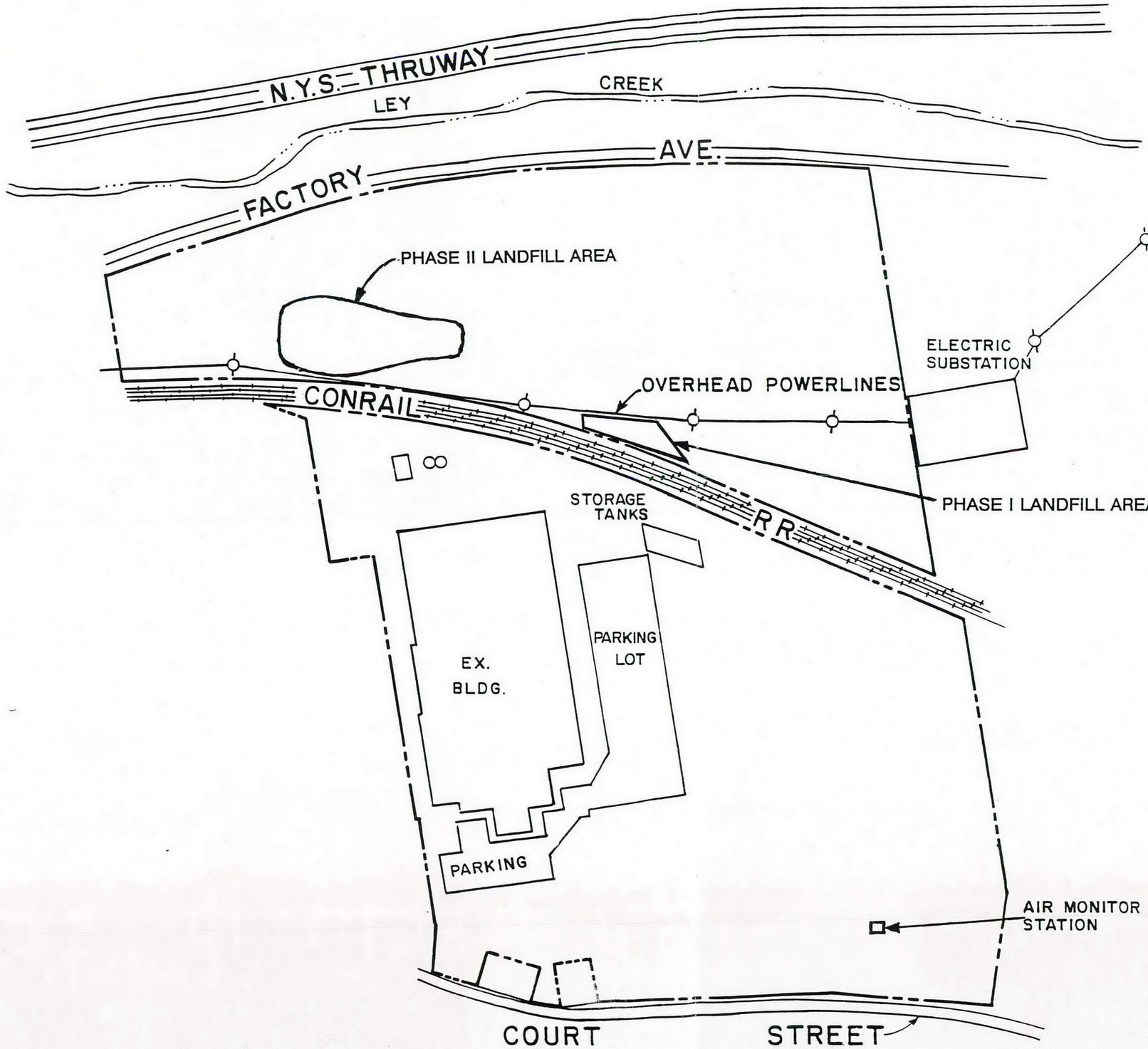
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FIGURE 2

SYRACUSE CHINA CORPORATION
SYRACUSE, NEW YORK

SOLID WASTE
MANAGEMENT PLAN

SITE PLAN



LEGEND

SYRACUSE CHINA PROPERTY LINE

0 400 800

SCALE IN FEET

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COUNTY OF ONONDAGA, R.O.
813/498

FACTORY AVENUE (COUNTY ROUTE 93)

INV. = 373.0
24" x 36" CONC CULVERT
SAN MH RIM = 378.6
INV = 373.8
APPARENT LOCATION HIGHWAY BOUNDARY
S 86° 47' 31" E
558.02'
SAN MH RIM = 378.65
INV = 375.3
24" CONC CULV.
GAS MARKER
INV = 378.1
GAS MARKER
NIAGARA MOHAWK POWER CORPORATION EASEMENT 3541/318
R = 2890.28'
L = 779.79
Δ = 15° 27' 30"
BM: RR SPIKE IN POLE NW 20 ELEV = 379.01
CHAIN LINK FENCE (W/GATE)
TARVIA
POND
505/347
SANITARY SEWER EASEMENT 814/176
MONITORING WELL
PHASE II LANDFILL AREA
GRAVEL
RYACUSS, INC., R.O.
246/215
32.648 ± ACRES
(to TIE LINE)
GRAVEL HAUL ROAD
NO ADDITIONAL FILLING IN RIGHT-OF-WAY
TOWER
R = 3869.32'
L = 2060.63'
Δ = 30°30'47"
CHORD = N 73°19'46" W 2036.36
CONSOLIDATED RAIL CORPORATION, R.O.
PROPERTY LINES ESTABLISHED FROM NEW YORK CENTRAL RAILROAD VALUATION MAP V74/4
DRIVE
BM: R.R. SPIKE IN POLE No. 507515 H, Elev. = 411.34
INV = 385.5
15" CMP
WOOD FRAME BUILDING (1 STORY)
POND 2
INV = 389.4
INV = 390.7
INV = 392.0
POND 4
INV = 392.7
POND 3
INV = 393.1
POND 1
SP-5
INV = 395.3
INV = 395.0
36" CULVERT
CONC BLOCK FOUNDATION
RIM = 406.83
SAN MH
RIM = 407.8
UGT
POWER
NIAGARA, LOCKPORT & ONTARIO POWER COMPANY RIGHT-OF-WAY 1026/363
PHASE I LANDFILL AREA (UNDER CONSTRUCTION)
WETLANDS BOUNDARY
NO ADDITIONAL FILLING IN THIS AREA
NO ADDITIONAL FILLING IN RIGHT-OF-WAY
MONITORING WELL
TIE — S 38° 17' 44" E 1502.27'

LEGEND
EXISTING CONTOURS
PROPOSED CONTOURS
℄ PROPERTY LINE

N

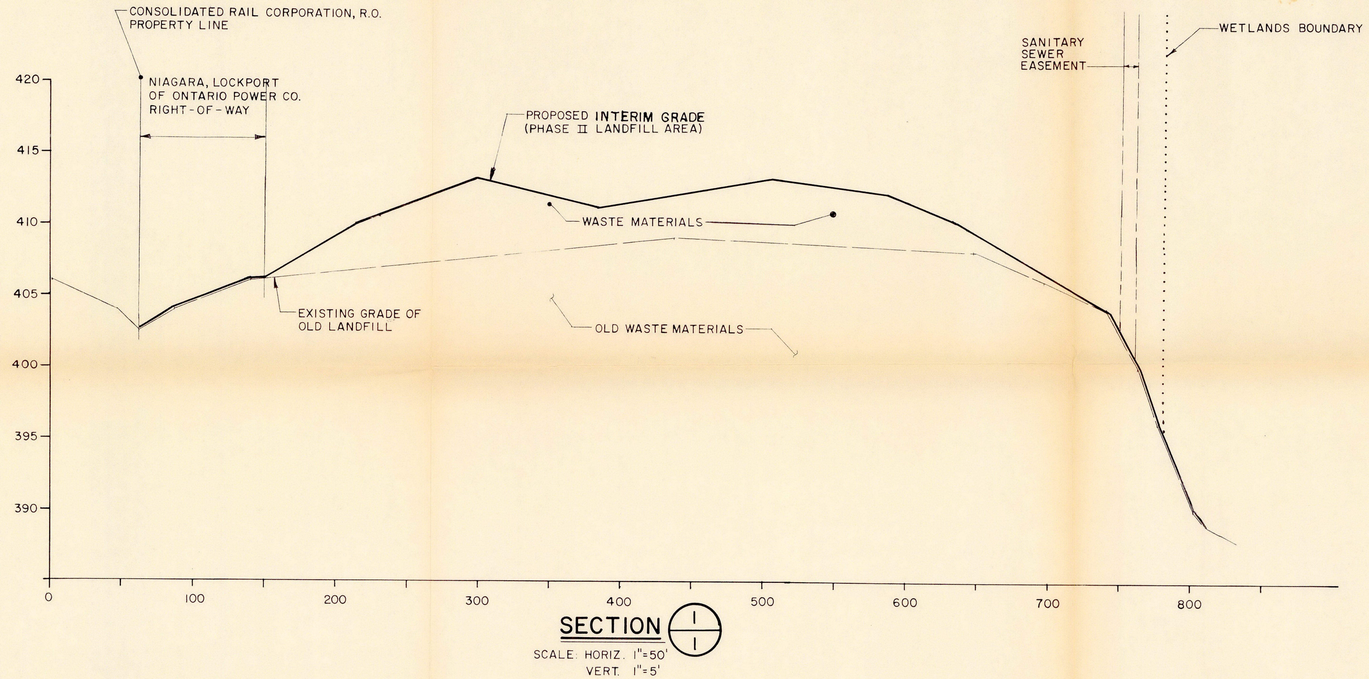
NOTE
CONTOURS SHOWN INDICATE MAXIMUM ELEVATION OF WASTE AND INTERIM COVER SOIL AND SPECIFICALLY EXCLUDE DEPTH OF FINAL CAP SYSTEM.

Wetlands
Berm
MW-4 1.10-GW
MW-3 ? .047 Pb 3.62'-GW
B-3 10.5
LIP-1 27
B-6 27
B-2 17
B-4 40.6
Drying Beds
Sludge pond
Temporary
Future
MW-2 3,831-GW 5 each 5'ea. deep
Sycamore Lite Clay Topsoil & Grass
Lake 14 deep
Dept. of Env. Conservation Treatment plant land
DEC, Inv # 734053 - Class 2

In charge of ____ Designed by ____ Checked by ____ Made by ____	1" = 50' (50 0 50 100)	NO.	DATE	REVISION	INIT.	O'BRIEN & GERE ENGINEERS, INC. Syracuse New York	SYRACUSE CHINA CORP. SYRACUSE N.Y. SOLID WASTE MANAGEMENT PLAN

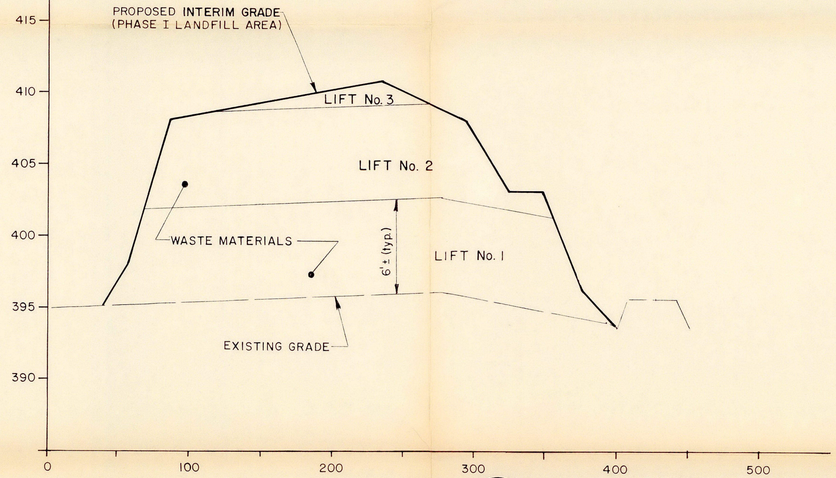
GENERAL
PHASE I & PHASE II LANDFILLS
SITE GRADING PLAN

FILE NO. 1868.011-01F
DATE MAY 1991
Fig. 3



SECTION 1

SCALE: HORIZ. 1"=50'
VERT. 1"=5'



SECTION 2

SCALE: HORIZ. 1"= 50'
VERT. 1"= 5'

In charge of	1" = 5'0" 5 0 5 10	NO.	DATE	REVISION	INIT.
Designed by Checked by					
Made by	1" = 50' 50 0 50 100				

O'BRIEN & GERE ENGINEERS, INC.
Syracuse New York

SYRACUSE CHINA CORP. SYRACUSE N.Y.

SOLID WASTE MANAGEMENT PLAN

GENERAL

PHASE I & PHASE II LANDFILLS

OPERATIONAL CROSS-SECTIONS

FILE NO. 1868.011-02 F

DATE MAY 1991

Fig. 4

Appendices

O'BRIEN & GERE

APPENDIX A

RESULTS OF ANALYSES PERFORMED IN ACCORDANCE WITH TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) FOR THE BISCUIT CHINA SCRAP, GLOST CHINA SCRAP, GYPSUM MOLD SCRAP, REFRACTORY SCRAP, AND WASTE WATER FILTER CAKE

APPENDIX A

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Atlantic, Inc.
Syracuse Division
5854 Butternut Drive
East Syracuse, NY 13057
Tel: (315) 446-8795
Fax: (315) 449-1611

Formerly. NET Northeast, Inc.

MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC LEACHING PROCEDURE

Category	Contaminant	Maximum Concentration Level (mg/l)
Metals:	Arsenic	5.0
	Barium	100.0
	Cadmium	1.0
	Chromium	5.0
	Lead	5.0
	Mercury	0.2
	Selenium	1.0
	Silver	5.0
Volatiles:	Benzene	0.5
	Carbon Tetrachloride	0.5
	Chlorobenzene	100.0
	Chloroform	6.0
	1,2-Dichloroethane	0.5
	1,1-Dichloroethylene	0.7
	Methyl Ethyl Ketone	200.0
	Tetrachloroethylene	0.7
	Trichloroethylene	0.5
	Vinyl Chloride	0.2
Semi-Volatiles:	1,4-Dichlorobenzene	7.5
	Hexachlorethane	3.0
	Hexachloro-1,3-butadiene	0.5
	Hexachlorobenzene	0.13*
	O-Cresol (2-Methylphenol)	200.0
	M-Cresol (3-Methylphenol)	200.0
	P-Cresol (4-Methylphenol)	200.0
	Cresol	200.0
	2,4-Dinitrotoluene	0.13*
	Nitrobenzene	2.0
	Pentachlorophenol	100.0
	Pyridine	5.0
	2,4,5-Trichlorophenol	400.0
	2,4,6-Trichlorophenol	2.0
Pesticides:	Methoxychlor	10.0
	Endrin	0.02
	Chlordane	0.03
	Heptachlor	0.008
	Lindane	0.4
	Toxaphene	0.5
Herbicides:	2,4-D	10.0
	2,4,5-TP (Silvex)	1.0

*Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Atlantic, Inc.
Syracuse Division
5854 Butternut Drive
East Syracuse, NY 13057
Tel: (315) 446-8795
Fax: (315) 449-1611

Formerly: NET Northeast, Inc.

To: SYRACUSE CHINA CORPORATION
P.O. BOX 4820
SYRACUSE, NY 13221

Date: Dec 14 1990

Attention: NANCY MEYERS

PURCHASE ORDER # :A1917

SAMPLE #29767

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT	: SYRACUSE CHINA CORPORATION	DATE RECEIVED	: 11/01/90
JOB #	: 405.030.00	DATE COLLECTED	: NA
LOCATION	: DISC. CHINA SCRAP	TIME COLLECTED	: NA
METHOD	:NA		

PARAMETER	RESULTS	UNITS
ZHE EXTRACTION		COMPLETE
TCLP EXTRACTION		completed
ARSENIC	<0.5	mg/l
BARIUM	<10.	mg/l
CADMIUM	<0.1	mg/l
CHROMIUM-T	<0.5	mg/l
LEAD	<0.5	mg/l
MERCURY	<0.01	mg/l
SELENIUM	<0.1	mg/l
SILVER	<0.5	mg/l
BENZENE	<0.005	mg/l
CARBON TETRACHLORIDE	<0.005	mg/l
CHLOROBENZENE	<0.005	mg/l

NATIONAL ENVIRONMENTAL TESTING, INC.

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Syracuse Division
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East Syracuse, NY 13057
Tel: (315) 446-8795
Fax: (315) 449-1611

Formerly NET Northeast, Inc.

SAMPLE #29767

LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
CHLOROFORM	<0.005	mg/l
1,2-DICHLOROETHANE	<0.005	mg/l
1,1-DICHLOROETHYLENE	<0.005	mg/l
METHYL ETHYL KETONE	<0.005	mg/l
TETRACHLOROETHYLENE	<0.005	mg/l
TRICHLOROETHYLENE	<0.005	mg/l
VINYL CHLORIDE	<0.005	mg/l
1,4-DICHLOROBENZENE	<0.13	mg/l
HEXACHLOROETHANE	<0.13	mg/l
HEXACHLORO-1,3-BUTADIENE	<0.13	mg/l
HEXACHLOROBENZENE	<0.13	mg/l
2-METHYLPHENOL	<0.13	mg/l
3-METHYLPHENOL	<0.13	mg/l
4-METHYLPHENOL	<0.13	mg/l
CRESOL	<0.13	mg/l
2,4-DINITROTOLUENE	<0.13	mg/l
NITROBENZENE	<0.13	mg/l
PENTACHLOROPHENOL	<0.13	mg/l
PYRIDINE	<0.13	mg/l
2,4,5-TRICHLOROPHENOL	<0.13	mg/l
2,4,6-TRICHLOROPHENOL	<0.13	mg/l
CHLORDANE	<0.03	mg/l
HEPTACHLOR	<0.008	mg/l
2,4D	<0.20	mg/l
2,4,5TP(SILVEX)	<0.10	mg/l
LINDANE	<0.010	mg/l
ENDRIN	<0.010	mg/l
METHOXYCHLOR	<0.10	mg/l
TOXAPHENE	<0.10	mg/l

NOTE:
Analysis performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) as per Federal Register, Thursday, March 29, 1990, Part II - Environmental Protection Agency, 40 CFR Part 261 et al.

NET warrants that any sampling and analyses conducted as part of this report are performed in accordance with the analytical industries recognized methodologies and professional standards. NET will not assume liability for any damages resulting from deficient work other than reperformance or cost of said work and will not accept any liability as a result of data interpretation by the client.

NYSDOH - ELAP #10067 APPROVED BY: Richard W Blanchard DATE: DEC 14 1990

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Atlantic, Inc.
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5854 Butternut Drive
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To: SYRACUSE CHINA CORPORATION
P.O. BOX 4820
SYRACUSE, NY 13221

Date: Dec 14 1990

Attention: NANCY MEYERS

PURCHASE ORDER # :A1917

SAMPLE #29769

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT : SYRACUSE CHINA CORPORATION
JOB # : 405.030.00
LOCATION : GLOST CHINA SCRAP
METHOD :NA

DATE RECEIVED : 11/01/90
DATE COLLECTED : NA
TIME COLLECTED : NA

PARAMETER	RESULTS	UNITS
ZHE EXTRACTION		COMPLETE
TCLP EXTRACTION		completed
ARSENIC	<0.5	mg/l
BARIUM	<10.	mg/l
CADMIUM	<0.1	mg/l
CHROMIUM-T	<0.5	mg/l
LEAD	1.0	mg/l
MERCURY	<0.01	mg/l
SELENIUM	<0.1	mg/l
SILVER	<0.5	mg/l
BENZENE	<0.005	mg/l
CARBON TETRACHLORIDE	<0.005	mg/l
CHLOROBENZENE	<0.005	mg/l

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Atlantic, Inc.
Syracuse Division
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Formerly: NET Northeast, Inc.

SAMPLE #29769

LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
CHLOROFORM	<0.005	mg/l
1,2-DICHLOROETHANE	<0.005	mg/l
1,1-DICHLOROETHYLENE	<0.005	mg/l
METHYL ETHYL KETONE	<0.005	mg/l
TETRACHLOROETHYLENE	<0.005	mg/l
TRICHLOROETHYLENE	<0.005	mg/l
VINYL CHLORIDE	<0.005	mg/l
1,4-DICHLOROBENZENE	<0.13	mg/l
HEXACHLOROETHANE	<0.13	mg/l
HEXACHLORO-1,3-BUTADIENE	<0.13	mg/l
HEXACHLOROBENZENE	<0.13	mg/l
2-METHYLPHENOL	<0.13	mg/l
3-METHYLPHENOL	<0.13	mg/l
4-METHYLPHENOL	<0.13	mg/l
CRESOL	<0.13	mg/l
2,4-DINITROTOLUENE	<0.13	mg/l
NITROBENZENE	<0.13	mg/l
PENTACHLOROPHENOL	<0.13	mg/l
PYRIDINE	<0.13	mg/l
2,4,5-TRICHLOROPHENOL	<0.13	mg/l
2,4,6-TRICHLOROPHENOL	<0.13	mg/l
CHLORDANE	<0.03	mg/l
HEPTACHLOR	<0.008	mg/l
2,4D	<0.20	mg/l
2,4,5TP(SILVEX)	<0.10	mg/l
LINDANE	<0.010	mg/l
ENDRIN	<0.010	mg/l
METHOXYCHLOR	<0.10	mg/l
TOXAPHENE	<0.10	mg/l

NOTE:
Analysis performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) as per Federal Register, Thursday, March 29, 1990, Part II - Environmental Protection Agency, 40 CFR Part 261 et al.

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NYSDOH - ELAP #10067

APPROVED BY: [signature] DATE: DEC 14 1990

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To: SYRACUSE CHINA CORPORATION
P.O. BOX 4830
SYRACUSE, NY 13221

Date: Dec 14 1990

Attention: NANCY MEYERS

PURCHASE ORDER # :A1917

SAMPLE #29766

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT	: SYRACUSE CHINA CORPORATION	DATE RECEIVED	: 11/01/90
JOB #	: 105.030.00	DATE COLLECTED	: NA
LOCATION	: GYPSUM MOULD SCRAP	TIME COLLECTED	: NA
METHOD	: NA		

PARAMETER	RESULTS	UNITS
ZHE EXTRACTION		COMPLETE
TCLP EXTRACTION		completed
ARSENIC	<0.5	mg/l
BARIUM	<10.	mg/l
CADMIUM	<0.1	mg/l
CHROMIUM-T	<0.5	mg/l
LEAD	<0.5	mg/l
MERCURY	<0.01	mg/l
SELENIUM	<0.1	mg/l
SILVER	<0.5	mg/l
BENZENE	<0.005	mg/l
CARBON TETRACHLORIDE	<0.005	mg/l
CHLOROBENZENE	<0.005	mg/l

NATIONAL ENVIRONMENTAL TESTING, INC.

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Formerly NET Northeast, Inc.

SAMPLE #30765

PAGE 1 OF 2

LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
CHLOROFORM	<0.005	mg/l
1,2-DICHLOROETHANE	<0.005	mg/l
1,1-DICHLOROETHYLENE	<0.005	mg/l
METHYL ETHYL KETONE	<0.005	mg/l
TETRACHLOROETHYLENE	<0.005	mg/l
TRICHLOROETHYLENE	<0.005	mg/l
VINYL CHLORIDE	<0.005	mg/l
1,4-DICHLOROBENZENE	<0.13	mg/l
HEXACHLOROETHANE	<0.13	mg/l
HEXACHLORO-1,3-BUTADIENE	<0.13	mg/l
HEXACHLOROBENZENE	<0.13	mg/l
2-METHYLPHENOL	<0.13	mg/l
3-METHYLPHENOL	<0.13	mg/l
4-METHYLPHENOL	<0.13	mg/l
CRESOL	<0.13	mg/l
2,4-DINITROTOLUENE	<0.13	mg/l
NITROBENZENE	<0.13	mg/l
PENTACHLOROPHENOL	<0.13	mg/l
PYRIDINE	<0.13	mg/l
2,4,5-TRICHLOROPHENOL	<0.13	mg/l
2,4,6-TRICHLOROPHENOL	<0.13	mg/l
CHLORDANE	<0.03	mg/l
HEPTACHLOR	<0.008	mg/l
2,4D	<0.20	mg/l
2,4,5TP(SILVEX)	<0.10	mg/l
LINDANE	<0.010	mg/l
ENDRIN	<0.010	mg/l
METHOXYCHLOR	<0.10	mg/l
TOXAPHENE	<0.10	mg/l

NOTE:
Analysis performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) as per Federal Register, Thursday, March 29, 1990, Part II - Environmental Protection Agency, 40 CFR Part 261 et al.

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NYSDOH - ELAP #10067

APPROVED BY: Paul W Blount DATE: DEC 14 1990

NATIONAL ENVIRONMENTAL TESTING, INC.

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Syracuse Division
5854 Butternut Drive
East Syracuse, NY 13057
Tel: (315) 446-8795
Fax: (315) 449-1611

Formerly: NET Northeast, Inc.

To: SYRACUSE CHINA CORPORATION
P.O. BOX 4820
SYRACUSE, NY 13221

Date: Dec 14 1990

Attention: NANCY MEYERS

PURCHASE ORDER # :A1917

SAMPLE #29768

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT : SYRACUSE CHINA CORPORATION
JOB # : 405.030.00
LOCATION : REFRACTORY SCRAP
METHOD :NA

DATE RECEIVED : 11/01/90
DATE COLLECTED : NA
TIME COLLECTED : NA

PARAMETER	RESULTS	UNITS
ZHE EXTRACTION		COMPLETE
TCLP EXTRACTION		completed
ARSENIC	<0.5	mg/l
BARIUM	<10.	mg/l
CADMIUM	<0.1	mg/l
CHROMIUM-T	<0.5	mg/l
LEAD	<0.5	mg/l
MERCURY	<0.01	mg/l
SELENIUM	<0.1	mg/l
SILVER	<0.5	mg/l
BENZENE	<0.005	mg/l
CARBON TETRACHLORIDE	<0.005	mg/l
CHLOROBENZENE	<0.005	mg/l

NATIONAL ENVIRONMENTAL TESTING, INC.

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Formerly NET Northeast, Inc.

SAMPLE #29768

LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
CHLOROFORM	<0.005	mg/l
1,2-DICHLOROETHANE	<0.005	mg/l
1,1-DICHLOROETHYLENE	<0.005	mg/l
METHYL ETHYL KETONE	<0.005	mg/l
TETRACHLOROETHYLENE	<0.005	mg/l
TRICHLOROETHYLENE	<0.005	mg/l
VINYL CHLORIDE	<0.005	mg/l
1,4-DICHLOROBENZENE	<0.13	mg/l
HEXACHLOROETHANE	<0.13	mg/l
HEXACHLORO-1,3-BUTADIENE	<0.13	mg/l
HEXACHLOROBENZENE	<0.13	mg/l
2-METHYLPHENOL	<0.13	mg/l
3-METHYLPHENOL	<0.13	mg/l
4-METHYLPHENOL	<0.13	mg/l
CRESOL	<0.13	mg/l
2,4-DINITROTOLUENE	<0.13	mg/l
NITROBENZENE	<0.13	mg/l
PENTACHLOROPHENOL	<0.13	mg/l
PYRIDINE	<0.13	mg/l
2,4,5-TRICHLOROPHENOL	<0.13	mg/l
2,4,6-TRICHLOROPHENOL	<0.13	mg/l
CHLORDANE	<0.03	mg/l
HEPTACHLOR	<0.008	mg/l
2,4D	<0.20	mg/l
2,4,5TP(SILVEX)	<0.10	mg/l
LINDANE	<0.010	mg/l
ENDRIN	<0.010	mg/l
METHOXYCHLOR	<0.10	mg/l
TOXAPHENE	<0.10	mg/l

NOTE:
Analysis performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) as per Federal Register, Thursday, March 29, 1990, Part II - Environmental Protection Agency, 40 CFR Part 261 et al.

NET warrants that any sampling and analyses conducted as part of this report are performed in accordance with the analytical industries recognized methodologies and professional standards. NET will not assume liability for any damages resulting from deficient work other than reperformance or cost of said work and will not accept any liability as a result of data interpretation by the client.

NYSDOH - ELAP #10067

APPROVED BY: Frederick W Blount DATE: DEC 14 1990

NATIONAL ENVIRONMENTAL TESTING, INC.

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Syracuse Division
5854 Butternut Drive
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Fax: (315) 449-1611

Formerly: NET Northeast, Inc.

To: SYRACUSE CHINA CORPORATION
P.O. BOX 4820
SYRACUSE, NY 13221

Date: Dec 14 1990

Attention: NANCY MEYERS

PURCHASE ORDER # :A1917

SAMPLE #29770

LABORATORY ANALYSIS REPORT

SAMPLE SUMMARY

CLIENT	: SYRACUSE CHINA CORPORATION	DATE RECEIVED	: 11/01/90
JOB #	: 405.030.00	DATE COLLECTED	: NA
LOCATION	: WASTEWATER FILTER CAKE	TIME COLLECTED	: NA
METHOD	:NA		

PARAMETER	RESULTS	UNITS
ZHE EXTRACTION		COMPLETE
TCLP EXTRACTION		completed
ARSENIC	<0.5	mg/l
BARIUM	<10.	mg/l
CADMIUM	<0.1	mg/l
CHROMIUM-T	<0.5	mg/l
LEAD	<0.5	mg/l
MERCURY	<0.01	mg/l
SELENIUM	<0.1	mg/l
SILVER	<0.5	mg/l
BENZENE	<0.005	mg/l
CARBON TETRACHLORIDE	<0.005	mg/l
CHLOROBENZENE	<0.005	mg/l

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Atlantic, Inc.
Syracuse Division
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Fax: (315) 449-1611

Formerly: NET Northeast, Inc.

SAMPLE #29770

LABORATORY ANALYSIS REPORT

PARAMETER	RESULTS	UNITS
CHLOROFORM	<0.005	mg/l
1,2-DICHLOROETHANE	<0.005	mg/l
1,1-DICHLOROETHYLENE	<0.005	mg/l
METHYL ETHYL KETONE	<0.005	mg/l
TETRACHLOROETHYLENE	<0.005	mg/l
TRICHLOROETHYLENE	<0.005	mg/l
VINYL CHLORIDE	<0.005	mg/l
1,4-DICHLOROBENZENE	<0.13	mg/l
HEXACHLOROETHANE	<0.13	mg/l
HEXACHLORO-1,3-BUTADIENE	<0.13	mg/l
HEXACHLOROBENZENE	<0.13	mg/l
2-METHYLPHENOL	<0.13	mg/l
3-METHYLPHENOL	<0.13	mg/l
4-METHYLPHENOL	<0.13	mg/l
CRESOL	<0.13	mg/l
2,4-DINITROTOLUENE	<0.13	mg/l
NITROBENZENE	<0.13	mg/l
PENTACHLOROPHENOL	<0.13	mg/l
PYRIDINE	<0.13	mg/l
2,4,5-TRICHLOROPHENOL	<0.13	mg/l
2,4,6-TRICHLOROPHENOL	<0.13	mg/l
CHLORDANE	<0.03	mg/l
HEPTACHLOR	<0.008	mg/l
2,4D	<0.20	mg/l
2,4,5TP(SILVEX)	<0.10	mg/l
LINDANE	<0.010	mg/l
ENDRIN	<0.010	mg/l
METHOXYCHLOR	<0.10	mg/l
TOXAPHENE	<0.10	mg/l

NOTE:
Analysis performed in accordance with Toxicity Characteristic Leaching Procedure (TCLP) as per Federal Register, Thursday, March 29, 1990, Part II - Environmental Protection Agency, 40 CFR Part 261 et al.

NET warrants that any sampling and analyses conducted as part of this report are performed in accordance with the analytical industries recognized methodologies and professional standards. NET will not assume liability for any damages resulting from deficient work other than reperformance or cost of said work and will not accept any liability as a result of data interpretation by the client.

NYSDOH - ELAP #10067

APPROVED BY: Rachel M Blount DATE: DEC 14 1990