**HAZARDOUS WASTE SECTION - COMPLIANCE BRANCH**
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# MEMO

DATE: 9/30/94

TO: Keith Masters / Joe Deakins

fax: 704-251-6452 910-896-7005

SUBJECT: Clean-Ups

11 pages

ENSCI is working on two sites in your area and have submitted the following reports for review.

NovaChem Corp. – they have not declared if contamination is from hazardous waste or not. It appears that toluene, xylene and acetone may have.

Oliver America – Lou Ann Williams is reviewing data also

Let me know if you will write response or give me your comments and I'll draft something.

From: Thanks, Linda Culpepper

North Carolina Department of Environment, Health, and Natural Resources

Printed on Recycled Paper

Received 10/3/94

10/26/94 Joe is to visit site 10-31 or 11-1-94 - He will determine if RCRA applies -

ENSCI
ENGINEERING GROUP, P.A.

September 8, 1994

Jerome H. Rhodes, Chief, Hazardous Waste Section
North Carolina DEHNR
Department of Solid Waste Management
Hazardous Waste Section
Post Office Box 27687
Raleigh, North Carolina 27611-7687

**RE: Request to Perform In-place Treatment of Contaminated Soil, Former NovaChem Corporation Facility, 1505 Potts Avenue, High Point, North Carolina.**

Dear Mr. Rhodes:

ENSCI Engineering Group, P.A. requests permission to perform in-place treatment of contaminated soil at the above-referenced facility.

## Site History

Novachem Corporation is a manufacturer of textile auxiliary chemicals, chemicals for rubber compounding and plasticizers for the rubber industry. NovaChem operated out of a facility located at 1505 Potts Avenue from 1980 to 1992. During that time chemicals were manufactured in the reactor room at the facility (**Figure 1**). The reactor room was equipped with a drainage trough to collect spills and water used to rinse out reactor vessels and clean the floor. The drainage trough emptied into a steel pipe outside the building which ran underground to a sump in front of the building. The wastewater in the sump was transferred into a 7,500-gallon holding tank inside the building and stored until picked up for disposal. NovaChem moved to a new facility in late 1992. ENSCI was contracted by NovaChem Corporation in February 1994 to perform a Phase II Limited Soil Sampling Investigation to determine if releases had occurred from the reactor room drainage trough, the drain line, and sump. Results of the investigation indicated levels of volatile and semi-volatile organic compounds in the soil. A summary of the soil sampling analysis results is attached.

Additional work performed at the site included the installation of two groundwater monitoring wells to determine if groundwater had been impacted by the chemical releases. Samples collected from the two wells were analyzed for volatile and semi-volatile organic compounds and TCLP metals. Results of the analysis indicated that all parameters are below the NCAC 2L drinking water standards.

any traces?

Was Novachem a generator

Post Office Box 80275
Raleigh, North Carolina 27623-0275
T (919) 787-8209
F (919) 881-8205

1108 Old Thomasville Road
High Point, North Carolina 27260
T (919) 883-7505
F (919) 882-7958

As shown in the attached tables, significant levels of dibutyl phthalate, naphthalene, 1,2,4, trichlorobenzene, toluene, carbon disulfide, total xylenes and butyl benzoate were detected in the drainage trough at 0 - 6 inches. However, these levels decreased considerably at 6 - 6.5 feet. In addition significant levels of acetone, ethylbenzene, toluene, and total xylenes were detected at 3.5 feet at the location of the former sump. These levels also decreased with depth as shown from the results of the sample collected at 12 feet.

The following information was obtained from NovaChem regarding the use of each of the constituents detected in the soil at the site.

- **dibutyl phthalate**: This product is manufactured from raw materials by NovaChem. Contamination occurred from the alkali washing of the product, cleaning the reactor, and spills in the reactor room. Virgin dibutyl phthalate is an U-listed hazardous waste (U069).

- **naphthalene/ethyl benzene**: These products were not purchased by NovaChem. They were probably constituents of Solvent 150 and Solvent HAN, which were purchased. These solvents were blended with other chemicals to make textile dying assistants. Contamination occurred from cleaning the reactor and spills in the reactor room. Virgin naphthalene is an U-listed hazardous waste (U165). Spent ethyl benzene is a F-listed hazardous waste (F003).

- **toluene**: Toluene was used in the manufacturing of organic esters to remove water formed in the reactor, and thereby making a high purity ester. After making the ester, the product is washed with water and alkali to remove traces of organic acid. 97 - 99% of the toluene used is recovered and used in subsequent batches. 1 - 3 % of the toluene ends up in the ester. Contamination occurred from discharge of the alkali wash to the drainage trough, reactor cleaning, and spills in the reactor room. Virgin toluene is an U-listed hazardous waste. Spent toluene is an F-listed hazardous waste (F005).

- **xylene**: Xylene was used as a suspension medium to produce a solid rubber accelerator. This slurry was then filtered to recover the accelerator. The xylene was recovered and reused in subsequent batches. Contamination occurred from reactor cleaning and spills in the reactor room. Virgin xylene is an U-listed hazardous waste (U239). Spent xylene is an F-listed hazardous waste (F003).

- **carbon disulfide**: Carbon Disulfide was a raw material used in the manufacture of several rubber accelerators, as well as a wastewater treatment additive. Contamination occurred from reactor cleaning and spills in the reactor room. Virgin carbon disulfide is a P-listed hazardous waste (P022). Spent carbon disulfide is potentially a F-listed hazardous waste (F005).

- **trichloroethane**: This product was not purchased by NovaChem. It was probably a minor constituent of perchloroethylene which was blended with other products to produce a textile dying assistant. Contamination occurred from reactor cleaning and spills in the reactor room. Virgin trichloroethene is an U-listed hazardous waste (U228). Spent trichloroethene is a F-listed hazardous waste (F002).

- **1,2,4 trichlorobenzene**: This product was mixed with solvents to make a textile dye carrier. The formula consisted of approximately 40 % 1,2,4 trichlorobenzene, which is not a listed hazardous waste.

Acetone ?

Existing levels of xylenes, naphthalene, ethyl benzene and toluene in the soil exceed their respective constituent concentration in waste (CCW, 40 CFR 268.43) limits for land disposal. In order to lower the concentrations of these contaminants to meet the CCW, ENSCI recommends in-place treatment using a soil vapor extraction (SVE) system. The proposed pretreatment of the contaminated soil will be accomplished in the following manner.

- Sections of PVC slotted well screen (0.010 slot size) will be installed vertically in the former reactor room and former sump location
- The slotted PVC well screen will be attached to a common header pipe which is connected to a Model P124, 1 horse power soil vapor extraction system manufactured by Pollution Equipment Company, Inc.
- Approximately 80 cubic feet per minute (cfm) of air will be drawn through the contaminated soil by the soil vapor extraction system.
- Off gas from the SEV system will be routed through a vapor phase carbon canister to remove the volatilized contaminants from the off gas. Effluent from the carbon canister will be vented through a 2-inch stack at a minimum height of 12 feet above ground surface. ENSCI is aware that off gas discharge form this system will require a letter of registration as an air emissions source but will not require a full air permit
- In order to verify the effectiveness of this treatment system, a composite soil sample will be collected from the contaminated area one month after the initiation of treatment and analyzed for volatile and semi-volatile organic compounds by EPA Methods 8240 and 8270 respectively. Additional verification samples will be collected at monthly intervals if needed.
- Treatment of the soil will cease when analyses verify that the concentrations of the detected compounds do not exceed their respective CCW maximum concentrations for landfill disposal. Subsequent to this verification the remaining contaminated soil will be excavated and transported to an approved facility for disposal.
- Confirmatory samples will be collected from the limits of the excavation and analyzed for volatile and semi-volatile organic compounds by EPA Methods 8240 and 8270 respectively to assure effective remediation.

ENSCI is of the opinion that treatment, excavation and disposal of the contaminated soil will be completed within three months of initiation. If you have any questions regarding this letter, please contact me at your convenience.

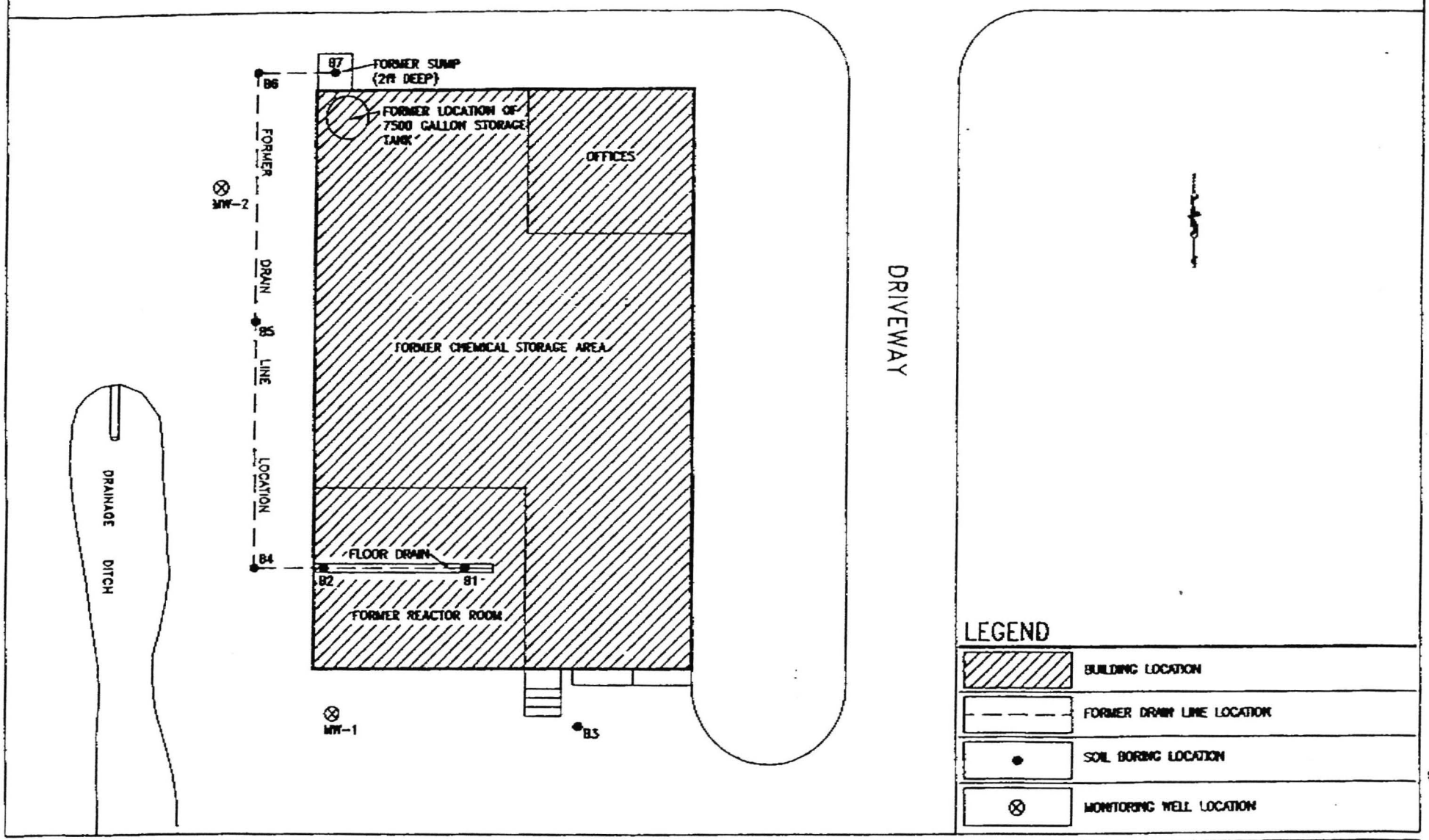
Sincerely,

Scheduled for Oct 28 or 31, 1994

**ENSCI Engineering Group, P.A.**

Brett S. Higgins

Brett S. Higgins
Environmental Scientist




ENVIRONMENTAL ENGINEERING GROUP, P.A.

| | | | |
|---|---|---|---|
| SUBJ | NOVACHEM CORPORATION | SCALE | NTS |
| LOC | POTTS AVENUE | DATE | 9/6/94 |
| CITY | HIGH POINT | STATE | NORTH CAROLINA |
| TITLE | SOIL SAMPLE LOCATION MAP | DWG | SM10-074 |

| | |
|---|---|
| DRWN | DJ |
| CHKD | BSH |
| LAY | ACL |
| FILE | SM10-074 |
| PAGE | 1. |

GRAPHIC SCALE IN FEET

0

DRAWING NOT TO SCALE

# NovaChem

Preliminary sampling

## Semi-Volatile and Volatile Organic Analysis for Selected Sampling Locations

*ENSCI Job #SN10-074*

| PARAMETER | B1S1 Floor Drain (0-6')(mg/kg) | B1S7 Floor Drain (6-6.5')(mg/kg) | B3S4 Loading Dock (3-3.5')(mg/kg) | B4S3 Drain Line (3-3.5')(mg/kg) | B5S2 Drain Line (2-2.5')(mg/kg) |
|---|---|---|---|---|---|
| Semi-Volatile Organics - Method 8270 | | | | | |
| *Bis (2-ethyl-hexyl) phthalate* | 4.33 | 17.9 | <0.33 | 0.46 | <0.33 |
| *Di-N-Butyl phthalate* | 15.2 | <0.33 | <0.33 | 15 | <0.33 |
| *Di-N-Octyl phthalate* | <3.33 | 1.02 | <0.33 | <0.33 | <0.33 |
| *Naphthalene* | 58.4 | <0.33 | <0.33 | <0.33 | <0.33 |
| *Pyrene* | 4.59 | <0.33 | <0.33 | <0.33 | <0.33 |
| *1,2,4-Trichlorobenzene* | 15.3 | <0.33 | <0.33 | 0.33 | <0.33 |
| Volatile Organics - Method 8240 | | | | | |
| *1,1-Dichloroethane* | <0.100 | <0.010 | 0.018 | <0.100 | <0.010 |
| *Trichloroethene* | 0.414 | <0.010 | <0.010 | <0.100 | <0.010 |
| *1,1,1-Trichloroethane* | <0.100 | <0.010 | 0.024 | <0.100 | <0.010 |
| *Toluene* | 7.08 | 0.02 | 0.046 | 1.99 | <0.010 |
| *Ethyl Benzene* | 0.648 | 0.013 | <0.010 | 1.57 | <0.010 |
| *Acetone* | <2.00 | <0.200 | 0.511 | <2.00 | <0.200 |
| *Carbon Disulfide* | 3.45 | <0.010 | <0.010 | <0.100 | <0.010 |
| *Total Xylenes* | 1.68 | 0.053 | 0.027 | 5.46 | <0.010 |
| *Butyl Benzoate* | 848 | 48.1 | 5.67 | 181 | <5.0 |

9/27/94 - no g.w. data submitted
- All BDL
- only perfectly.

# NovaChem

Well sampler?

Additional Testing.

## Semi-Volatile and Volatile Organic Analysis for Selected Sampling Locations

same as previous page? rechecked ans.

*ENSCI Job #SN10-087*

| PARAMETER | Loading Dock 3 - 3.5 Ft. | A #1A Sump 3.5 Ft. | A #1B Sump 12 Ft. | NCAC 2L Standard or * Appendix IX ~~Pg L~~ PQL |
|---|---|---|---|---|
| **Semi-Volatile Organics - Method 8270** | | | | |
| *Naphthalene* | ---- | .50 | BDL | *0.010 |
| **Volatile Organics - Method 8240** | | | | |
| *Acetone* | 2.9 | 13 | 110 | 0.700 |
| *2-Butanone (MEK)* | BDL | BDL | .660 | 0.17 |
| *Ethylbenzene* | BDL | 16 | .023 | .029 |
| *Toluene* | BDL | 16 | .096 | 1.0 |
| *Total Xylenes* | BDL | 88 | BDL | .530 |
| **Metals** | | | | |
| *Cadmium* | ---- | .009 | .008 | .005 |
| *Selenium* | ---- | .012 | .003 | .05 |

*BDL = Below Detection Limit*

*All results expressed in parts per million.*

10-31-94

To: Keith Masters, Western Regional Supervisor
From: Joe Deaking, Waste Mgt. Spec.

Subject: Investigation of soil contamination at Nova Chem Corp., 1505 Potts Ave., High Point, N.C.

On 10-31-94 I visited Nova Chem Corp, High Point, and met with Peter Kopack, President, in regard to contaminated soil at the facility. The soil is contaminated with various organic solvents as determined by a soil sampling investigation as shown in the enclosed report from Ensci Corp, High Point.

I questioned Mr. Kopack as to how the chemicals were used in his processes. He stated all the chemicals found in the soil are constituents of products the company was manufacturing. The leaks into the soil were not virgin chemicals (U-list) or used as solvents (F-list) according to Mr. Kopack. The waste does not appear to be characteristic. It does not seem to be a hazardous waste in my opinion.

Mr. Kopack originally was using Ensci Corp. for remediation but has since changed to Four Seasons Industrial Service, Greensboro. His plan is to excavate the soil and ship to a landfill or treatment facility. Nothing has been done at this time.

Please advise as to your opinion on this site. If you agree please notify as soon as possible because Mr. Kopack wants to begin excavation.

If you agree with my opinion I will submit the assessment to DEM groundwater for their review.