

File ID Number: HWCB2016494

DEQ/DWM/Hazardous Waste Section

NCD/NCR (other) Number: NCD003172442

Facility Name: Livingstone Coating Corporation

Address: 240 Ryne Rd

City: Charlotte

County: Mecklenburg

File Date Range: 2/24/94—10/9/98

Document Type (s)

- Inspection Reports
- *NOV (See Comments)
- * Compliance Orders/Settlement Agreement (See Comments)
- *(Provide NOV Type, Docket Number and Date of NOV in Comment Section)
- Correspondence/Letters
- Pictures (Tape to a full sheet of paper)
- ** Name Change and Date of Change
- ** (Write Name Change Information in Comment Section)
- Sampling Data
- Other Information (See Comments)

Comments:

Box ID Number:

STATE OF NORTH CAROLINA
 Department of Environment, Health,
 and Natural Resources
 919 North Main St.
 Mooresville, N.C. 28115
 (704)663-1699/ FAX 663-6040

Hazardous Waste Section File Access Record

Time/ Date 10/19/98
 Name Woody Parker
 Representing The Tomlin Group

Guidelines for Access:

The staff of the Mooresville Regional Office is dedicated to making public records, in our custody, readily available to the public for review and copying. We also have the responsibility to the public, to safeguard these records, and to carry out our day-to-day program obligations. Please read carefully, the following guidelines before signing this form:

1. We prefer that you call at least a day in advance to schedule an appointment to review the files. Appointments will be scheduled between 9:00 am and 4:00 pm. Viewing time ends at 5:00 pm. Anyone arriving without an appointment may view the files to the extent that time and staff supervision is available.
2. You must specify the files you want to review by facility names. The number of files that you may review at one time will be limited to five (5).
3. You may make copies of a file when the copier is not in use by the staff, and if time permits. Access to the copy machine may be limited after 2:00 pm, due to heavy staff use. Cost per copy is ten (10) cents; payment may be made by check, money order, or cash at the reception desk. Checks should be made payable to the Dept. of Environment, Health, and Natural Resources, or DEHNR.
4. **FILES MUST BE KEPT IN THE ORDER YOU FOUND THEM.** Files may not be taken from the State office. To remove, alter, deface, mutilate, or destroy material in one of these files is a misdemeanor for which you can be fined up to \$ 500.00.

| <u>Facility Name</u> | <u>County</u> |
|--|-------------------|
| 1. Jones Chemical | Mecklenburg |
| 2. Weaverhouse Paper | " |
| 3. Livingston Cardings | " |
| 4. All Waste Container Services | " |
| 5. Haver Materials Handling Group, Inc | " |
| 6. Mast Bros. Truck Cleaning & Wash Parker/Tomlin Group | |
| Signature & Name of Firm/ Business | Date |
| | Time In/ Time Out |

- (Please Attach a Business Card to This Form)
7. CENTRAL TRANSPORT
 8. Kysor Michigan Fleet
 9. Continental Industrial
 10. APS, Inc
 11. Dags Transport

Joe P

DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE SECTION
SITE STATUS REPORT

Tracking Number: 005-602597

Date in: 7/10/97

Close Date: 7/13/98

Site Name: Livingstone Coatings
240 Rhyne Road
Charlotte, NC

County: Mecklenburg

Owner:

From: Roberta Proctor, Chemist

RPP

Site History: Site applied coatings and had a Chrome waste stream. Waste went to septic tank. tank failed, Sample pulled from tank 28.3 ppm TCLP Chrome. septic system shut down. water in drain field pumped as HW, soil below drain field non hax. Site refered to Sharon Rogers on 1-28-97. No word as to its status.

Actions Taken to Date: 7/14/97- Spoke with Jesse Wells, he gave me site history and he will send copy of referral letter to Sharon Rogers to me.
7/15/97- Spoke with Pete Doorn, Remediation Branch, he has reviewed file and spoken w/ JW on 7/14. He is to send a letter to LCoatings either accepting what they have done or maybe requiring some confirmatory samples. He will send me the letter to review prior to sending to LC. He will do this as soon as he can, etimate in next 2-3 weeks.
9/4/97- Left message w/Pete Doorn 2 update. 9/22- e mailed P doorn for an update. 9/24- Pete to look at 1st week in October. 10-15-97 there is to be a meeting at Mooresville about this site on 10-23. advised Pete Doorn on this.
12-15 contacted Pete Doorn. He has to draft memo to Luanne Williams to get her to write off on this site. If he is unable to do this, he will reassign it to someone who can get on it immediatly.
2-3-98 Pete is working on and will send letter to Luanne Williams for her to agree with levels.
6-9-98 letter is in Linda's group now pending being sent to Luanne.
6-17-98- D roberts to send letter closing out site.
7-13-98- Letter sent to Linvinstone coatings saying that their activities have adequately fulfilled the requirements of the NOV and that there are no further RCRA issues. The site is offically refered to the GW section for continued work on remaining organic contamination. Site Closed.
7/14/98


Site Closed

7/14/98



NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

July 17, 1998



Mr. H. Stephen Trammell
Livingstone Coating Corporation
P.O. Box 668267
Charlotte, N.C. 28266

Subject; Septic Tank and #2 Leach Field Closure Report
Livingstone Coating Corporation
NCD 003 172442

Dear Mr. Trammell:

This office has reviewed your facility's Industrial Septic Tank and Leach Field #2 Closure Report. This report details the excavation, confirmatory sampling, and waste characterization of the soil/water removed.

Based on the information provided in the report, the described activities performed as part of the closure, has adequately fulfilled the requirements of the December 19, 1996 Notice Of Violation (NOV). As such, there are no further requirements in conjunction with the NOV. Livingstone Coatings must continue to work with the Groundwater Section regarding the remaining organic contamination not addressed in the December 19, 1996 NOV.

If you have any questions, please contact Doug Roberts at (919) 733-2178.

Sincerely,



James A. Carter, Chief
Hazardous Waste Section

c Keith Masters rc Linda Culpepper
Jesse Wells Helen Cotton
Doug Roberts Shelia Askew
Central Files

NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WASTE MANAGEMENT

July 17, 1998

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Central Files



NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

DIVISION OF WASTE MANAGEMENT



JAMES B. HUNT JR.
GOVERNOR

WAYNE McDEVITT
SECRETARY

WILLIAM L. MEYER
DIRECTOR

March 17, 1998

LIVINGSTONE COATING CORPORATION
PO BOX 668267
CHARLOTTE, NC 28266-8267



RE EPA ID NO.: NCD003172442

Dear Sir/Madam:

Based on information received by this office for the site identified with the EPA ID number, the state has accepted and processed the change in RCRA classification or information for the above site.

Please verify the computer generated information on the attached report and notify us of any corrections. We are advising EPA of the changes.

Enclosed you will find some information we hope will be helpful. If you have any questions or if I can be of any further assistance, please call me at (919)733-2178 ext.209.

Sincerely,

R. J. Edwards, Administrative Assistant
Division of Waste Management

cc: JOE PARKER

State of North Carolina
Department of Environment
and Natural Resources

Division of Waste Management

March 17, 1998



P. O. Box 29603
Raleigh, North Carolina 27611-9603
Voice 919-733-2178

**Notification of Hazardous Waste Report
Current Computer Record**
'X' indicates operation status of your facility.

EPA ID#: NCD003172442
Company name: LIVINGSTONE COATING CORPORATION
Owner: LIVINGSTONE COATING CORP
Contact: MONCRIEF J. SCOTT, MGR-ENGR
Phone number: 704/392-2323
Location address: 240 RHYNE RD
City, St & ZIP: CHARLOTTE, NC 28214-9462

- Generator**
- LARGE GENERATOR
 - SMALL QNTY GENERATOR
 - EXEMPT SMALL QNTY
 - LG QNTY. UNIVERSAL

- Transporter**
- For own waste only
 - For commercial purposes

- Transportation**
- Air
 - Rail
 - Highway
 - Water
 - Other

- TSD**
- STORES
 - TREATER
 - DISPOSER

- Hazardous Waste Fuel**
- Gentr marketing to burner
 - Other marketers
 - Burner
 - 1. Smelter deferral
 - 2. Small qunt. exempt

- Combustion Devices**
- Utility boiler
 - Industrial boiler
 - Industrial furnace

- Used Oil Fuel Marketer**
- Marketer directs shipment of used oil to off-specification burner
 - Marketer who first claims the used oil meets specifications
- Used Oil Burner-Combustion Devices**
- Utility Boiler
 - Industrial Boiler
 - Industrial Furnace
- Used Oil Transporter Activities**
- Transporter
 - Transfer facility
- Used Oil Processor/Re-refiner Activities**
- Process
 - Re-refine

**Please notify us if there is any further change in your operation which would affect your status specifically
Company's Name, Ownership, Address, Contact or Telephone Number.**

Your EPA ID number is currently active.

STATE OF NORTH CAROLINA
Department of Environment, Health,
and Natural Resources
919 North Main St.
Mooreville, N.C. 28115
(704)663-1699/ FAX 663-6040

Hazardous Waste Section File Access Record

Time/Date 3/3/98
Name Susan Cooper
Representing Livingstone

Guidelines for Access:

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| | <u>Facility Name</u> | <u>County</u> |
|----|----------------------------|--------------------|
| 1. | <u>Livingstone Coating</u> | <u>Mechlenburg</u> |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |

Susan Cooper / Livingstone Coating 5/3/98 _____
Signature & Name of Firm/ Business Date Time In/ Time Out

(Please Attach a Business Card to This Form)

State of North Carolina
Department of Environment
and Natural Resources
Division of Environmental Health

James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary
Linda C. Sewall, Director



October 28, 1997

MEMORANDUM

To: Barbara Christian, Landon Davidson, Joseph Parker, Brent Burch, Britt Setzer, Don Willard, Lisa Corbitt, Vicki Jones, Bobby Cobb, Sylvia Daniel, Toni Higgins-Bunney
From: R.N. Godshall
Subject: Minutes of meeting conducted October 23, 1997, NC DENR Mooresville Regional Office, re: Coordination of environmental activities at the Livingstone Coating Corporation facility, Rhyne Road, Mecklenburg County, North Carolina

1. Attached are the meeting minutes for the subject meeting held on October 23, 1997 at the NC DENR Mooresville Regional Office. The subject of this meeting was the environmental situation and activities at the Livingstone Coating Corporation (LCC), Rhyne Road facility in Mecklenburg County, North Carolina. The following persons attended the subject meeting;

| Name | Organization | Phone Number |
|--|---|--|
| Doc Godshall | NC DENR/DEH/ On-Site Wastewater Section (OSWS)(Raleigh) | 919 715-3270 |
| Barbara Christian Landon Davidson | NC DENR/DWQ/ Groundwater Section (Mooresville Reg. Off.) | 704 663-1699 |
| Joseph Parker Brent Burch | NC DENR/DSW/ Hazardous Waste Section (Mooresville Reg. Off.) | 704 663-1699 |
| Britt Setzer | NC DENR/DEH/ Public Water Supply Section (Mooresville Reg. Off.) | 704 663-1699 |
| Don Willard Lisa Corbitt Vicki Jones | Mecklenburg County Department of Environmental Protection (MCDEP) (Charlotte) | 704 336-5500 |
| Bobby Cobb Sylvia Daniel Toni Higgins-Bunney | Mecklenburg County Health Department (MCHD)(Charlotte) | 704 336-5567 704 336-5565 704 336-5572 |

Since many of the above personnel had not previously worked together, the meeting started with introductions of the attendees. Following the introductions, the purpose and agenda of the meeting were presented although the schedule of discussions was subsequently modified.

2. Vicki Jones of MCDEP described the reported air quality problems at LCC and the activities undertaken by her organization with respect to air quality. The particulates reported were determined to be either dust or molds and there is no current impetus for LCC to install further air quality/pollution prevention measures. Don Willard of MCDEP reviewed the history of the site as contained in the

records maintained by his department. This was the first time many of the attendees had been given a clear chronology of the site.

3. The previous, current and proposed groundwater investigations were outlined by Landon Davidson, DWQ/GWS. There are a number of issues associated with the reported groundwater contamination in the area of LCC. GWS is currently putting together a drilling plan for their continued investigation. The details of the LCC Intermediate Corrective Action Plan (ICAP) were also discussed.

4. Britt Setzer of Public Water Supply reviewed the situation with the water supply well at the site. Discussion also included the installation of water and sanitary sewer to and around LCC.

5. Toni Higgins-Bunney of MCHD reviewed the site history from the perspective of her department. Of note was that Tank #1 was removed, replaced and re-permitted by the county. Tank #2 was removed due a detected chromium contamination. The closure report for this tank is still under review by Pete Dorn of Hazardous Waste, Raleigh office.

6. Doc Godshall detailed why the On-Site Wastewater Section has advised MCHD to issue a Notice of Violation to LCC (see letter dated October 22, 1997). The possible legal remedies which could be undertaken by OSWS and MCHD were discussed at length.

7. The attendees agreed that closer coordination between the involved agencies was warranted. A key component to this coordination will be the sharing of information. The attendees agreed to keep the other participating organizations informed as to their actions and share any pertinent information which becomes available. Finally, the attendees outlined their proposed courses of action as detailed below;

| Organization | Planned Future Activity |
|--|--|
| Mecklenburg County Health Department (MCHD)(Charlotte) | <ul style="list-style-type: none"> • Issue NOV and Pump and Haul order to LCC; • Review LCC Corrective Action Plan when received; • Review and permit repair plan with OSWS concurrence/approval. |
| Mecklenburg County Department of Environmental Protection (MCDEP)(Charlotte) | <ul style="list-style-type: none"> • Await LCC response to NOV; • Investigate the issuance of a public information notice to keep local populace informed of LCC situation. |
| NC DENR/DEH/ On-Site Wastewater Section (Raleigh) | <ul style="list-style-type: none"> • Await LCC response to NOV; • Review/approve LCC Corrective Action Plan; • Provide technical assistance to MCHD and LCC as required. |
| NC DENR/DSW/ Public Water Supply Section (Mooresville Reg. Off.) | <ul style="list-style-type: none"> • Place the LCC water supply well on the public water supply well inventory. |
| NC DENR/DWQ/ Groundwater Section (Mooresville Reg. Off.) | <ul style="list-style-type: none"> • Proceed with groundwater investigations as planned; • Review LCC response to NOV. |
| NC DENR/DSW/ Hazardous Waste Section (Mooresville Reg. Off.) | <ul style="list-style-type: none"> • Continue to monitor LCC sampling data with respect to hazardous waste classification. |

Livingstone Coating Corporation
October 28, 1997
Page 3

Attendees are requested to advise this office of any corrections that may be made to the above minutes and planned activities.

OSWS shall continue to carefully monitor the situation at LCC. Per our discussions, I will advise attendees with respect to the MCHD NOV and the LCC response. Attendees are requested to advise this office of any other activities that occur with respect to LCC. Please feel free to contact me if you have any questions pertaining to this letter. I can be contacted directly at (919) 715-3270 or by email at robin_godshall@mail.ehn.state.nc.us.

Sincerely,



R.N. Godshall
Environmental Engineer II
On-Site Wastewater Engineering

RNG/rng

cc: Mabel Bullock
Joe Lynn

\\S:\OSWWD\Doc\IPWW\Livingstn_Coatings\Mtg_minutes_971023.doc

Livingstone Continues Meeting

10-23-97

Participants

Barbara Christian - GW

Lanham Davidson - GW

Tony Higgins MCDOP

Bobby Cobb - MCDOP

Steve Daniel - MCDOP

Brent Busch - Air Waste

Bart Setzer - Public Water

Vicki Jones - Air Quality MCDOP

Leon Corbett - MCDOP

Dor Willard - MCDOP

Doc Goodshall - Onsite Wastewater

Joe Parker - Air Waste

1700 gal DOOT - Landfill
845.65 Tons of Nonhaz
Palmetto Landfill
Spartanburg S.C.

} Health Dept.

Doc Goodshall - Onsite Wastewater Sect. -> Not lead agency - will not take on

AIR Quality - Black Point waste - sampling (AWB.) -> (Mold + Mirex)

ONGOING INDUSTRY -> Refueling Air toxics -
emissions - less than 2 tons

will not make ~~any~~ company do stack testing -

GW Reference HANDOUT

Mack Co. Relocation of Septic Tank Dec '96

Meeting Agenda
October 23, 1997
NC DENR Mooresville Regional Office
NC DENR and Mecklenburg County personnel

The subject of the meeting to be held at 10:00 on October 22, 1997 at the NC DENR Mooresville Regional Office is the environmental situation at the Livingstone Coatings Corporation (LCC) located in Mecklenburg County. The purpose of the meeting will be to coordinate the state and county activities to be undertaken in response to this situation.

1. Introduction

- a.) Introduce attendees
- b.) Brief the meeting purpose
 - To review site history
 - Detail current site activities
 - Detail future site activities
 - Coordinate NC DENR and Mecklenburg County future actions

2. Review the history of the situation at LCC; Review actions previously taken by state and county agencies:

- a.) On-Site Wastewater Section (OSWS)
 - Previous inspection
 - Sealing of floor drains
- b.) Groundwater Section (GW)
 - Previous legal actions
 - On-going ICAP and CAP
 - Groundwater monitoring
- c.) Hazardous Waste
 - Previous legal actions
- d.) Public Water Supply
- e.) Mecklenburg County

3. Discussion of current situation at LCC:

- a.) On-Site Wastewater
 - Presence and discharge of industrial constituents (industrial process wastewater [IPWW]) into a domestic only tank
 - LCC is currently only permitted to discharge domestic-only wastes in this tank; OSWS will not continue to allow discharge of IPWW into this tank
 - Water in tank has VOCs in excess of 2L
 - OSWS has advised MCHD to issue NOV and PH order
 - OSWS is also going to look at their other on-site systems
- b.) Groundwater Section
 - Groundwater is contaminated
 - CSA submitted when?
 - Intermediate CAP currently working, awaiting final CAP
 - GW monitoring

- c.) Hazardous Waste
 - Waste in the tank is not classified as "hazardous"
 - Need to be kept informed in case concentrations do become hazardous.
 - HW is currently reviewing closure report from Delta for LCC Tank #2 (Pete Dorn)
- d.) Public Water Supply
 - Status of well on property?
 - Status of water and sewer being run to LCC => not likely in near future due
 - Place well on public water supply inventory
- e.) Mecklenburg County
 - NOV to be issued tomorrow
 - PH concurrent with NOV

4. Considerations

- a.) Previous lawsuit/legal actions
- b.) NOV/PH (OSWS)
- c.) On-going groundwater remediation activities
- d.) Haz. Waste only involved if concentrations increase or other information discovered
- e.) Public Water Supply concerns
- f.) Mecklenburg County concerns
- g.) LCC attitude/response
- h.) Political actions by LCC
- i.) Press activity
 - Do we want to issue a joint statement? Who should issue? MCHD? DEP? DWQ?
 - Any future statements to press should indicate that we have now coordinated our water efforts.

5. Coordination of Future State and County activities

- a.) On-Site
 - Await and react to LCC NOV/PH response
 - Provide technical assistance to MCHD and or LCC as requested
 - Review On-Site CAP after MCHD review
 - Will info other agencies on status
 - Coordinate as required (produce meeting minutes, etc.)
- b.) Groundwater
 - CAP
 - GW monitoring
 - Further actions related to site remediation
- c.) Hazardous Waste
 - Monitor and be kept informed
- d.) Public Water Supply
 - Place well on public water supply inventory?
- e.) Mecklenburg County
 - Await and react to LCC NOV/PH response, inform DENR of response
 - Monitor PH order

6. Summary

State of North Carolina
Department of Environment
and Natural Resources
Division of Environmental Health

James B. Hunt, Jr., Governor
Wayne McDevitt, Secretary
Linda C. Sewall, Director



October 22, 1997

Ms. Sylvia Daniel, Program Chief
Mecklenburg County Environmental Health
700 North Tryon Street
Charlotte, North Carolina 28202
Courier 05-16-21

Subject: Violation of Domestic On-Site Wastewater Permit, Livingstone Coating Corporation,
Rhyne Road Mecklenburg County, North Carolina

Dear Ms. Daniel:

After careful review of all the data in the possession of this office regarding the Livingstone Coating Corporation (LCC), it is our determination that a serious violation of the on-site wastewater laws, rules and the operating permit conditions has occurred. The specific violation is the apparent continuous discharge and presence of industrial process wastewater (IPWW) into domestic septic tank #3, a septic tank permitted for domestic wastewater only. Additionally, despite repeated efforts by various county and state organizations, this violation continues to exist. Our determination that a violation has occurred and continues to occur is based on the following findings:

1. Per a letter from J. Pearce, NC DEHNR/OSWS dated July 24, 1996, this office notified you that domestic septic tank and system #3 was classified as industrial wastewater. This classification was based on the results of chemical analyses. By letter from J. Pearce, dated September 30, 1996, it was agreed that the Mecklenburg County Health Department could issue the repair/replacement domestic wastewater system permit for tank/system #3. Permitting by Mecklenburg CHD could occur after confirming the closure of the floor drains in the facility and determining that the remaining wastewater entering tank/system #3 would be domestic only. It was also agreed that the monitoring of Volatile Organic Compounds (VOCs) and other selected parameters would be accomplished and included as conditions of the operation permit for this system.
2. On October 1, 1997, this office received from you the results of the chemical analyses performed on samples from domestic septic tank #3 for the months of February through September 1997. The results of these analyses are summarized in the table below. Other parameters were detected but at concentrations below limits allowed under North Carolina Administrative Code (NCAC) Title 15A Subchapter 2L .0202 standards. Only those parameters, which had reported concentrations above allowable 2L limits, are shown in the

ON-SITE WASTEWATER SECTION

P.O. Box 29594, Raleigh, North Carolina 27626-0594

Telephone 919-733-2895

FAX 919-715-3227

An Equal Opportunity Affirmative Action Employer

50% recycled/ 10% post-consumer paper

table. The specific 2L violations are highlighted in bold and italicized print.

3. Detectable concentrations of the Volatile Organic Compounds (VOCs) Chloromethane, Methylene Chloride, 1,1 - Dichloroethene (1,1 DCE) and 1,4 - Dichlorbenzene (DCB) were found to be above limits allowable under NCAC 2L .0202 standards. Concentrations for both biochemical oxygen demand (BOD) and chemical oxygen demand (COD) were reported at concentrations above those expected to be found in domestic septic tank effluent. These concentrations could interfere with the aerobic activity necessary for effluent biodegradation and possibly deteriorate soil capabilities to carry wastewater from the site.

| Constituent | NC 2L Limit | Date 2/12/97 | 3/12/97 | 4/15/97 | 5/12/97 | 6/26/97 | 7/14/97 | 8/12/97 | 9/16/97 |
|----------------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Chloromethane | 0.005 | < 0.0005 | <i>0.0074</i> | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 |
| Methylene Chloride | 0.005 | 0.0017 | <i>0.0088</i> | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 | < 0.0050 |
| 1,1 - Dichloroethene | 0.007 | <i>0.0595</i> | <i>0.0330</i> | <i>0.0550</i> | <i>0.0214</i> | <i>0.0430</i> | <i>0.0460</i> | <i>0.0401</i> | <i>0.0300</i> |
| 1,4 - Dichlorbenzene | 0.075 | 0.0270 | 0.0200 | <i>0.1680</i> | <i>0.1400</i> | 0.0600 | 0.0420 | <i>0.0864</i> | 0.0320 |
| | OSWS limit | | | | | | | | |
| BOD-5 | 150 | <i>153</i> | <i>204</i> | <i>363</i> | <i>518</i> | <i>270</i> | 92 | 89 | 63 |
| COD | 250 | <i>380</i> | <i>533</i> | <i>780</i> | <i>987</i> | <i>502</i> | <i>400</i> | <i>409</i> | <i>348</i> |

4. There have only been four suggested explanations for the presence of VOCs in domestic septic tank #3. The previous explanation given by LCC that the presence of these constituents in domestic septic tank and system #3 was due to hand washing was found to be unsupported by J. Pearce, OSWS. (See letter dated June 24, 1996.) The second explanation was that the VOCs were entering the system via some undetermined source in the facility. The sealing of all floor drains in the facility subsequently eliminated this possibility. Yet, the tank still exhibits high VOC concentrations. Hence this explanation is no longer considered plausible.

The third explanation suggested is that these parameters are present in the septic system due to their persistent presence in the water from the supply well on the property. This reasoning is also unsupported. On August 19, 1997, Landon Davidson, NC DEHNR/DWQ/GWS informed you that analytical results from the samplings conducted on the water supply indicated the presence of VOCs in septic system #3 but not in the water supply. Specifically, while 1,4 DCB, 1,1 DCA, methylene chloride and toluene were found in tank/septic system #3, these constituents were not present in the water supply samples.

A fourth possible source of the VOCs would be the surrounding groundwater. If this were the case, then the tank is leaking and must be replaced immediately. This possibility is deemed extremely unlikely but can be tested with a simple watertightness test. Since at least these VOCs are not coming from the water supply well and no other source has been identified, it must be concluded that they are being introduced via the plant.

In any event, while this office remains available to assist in the correction of this problem, it is incumbent upon LCC rather than your department or this office to determine the source of the VOCs and to submit appropriate corrective action for review.

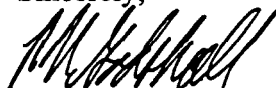
5. Other VOCs, (1,1,1, trichloroethane (1,1,1 TCE), 1,1 dichloroethane (1,1 DCA) and toluene) are also present in the tank/system #3 and in the groundwater at the site. While the concentrations of these constituents *in the septic tank* are not above NCAC 2L limits, their presence also strongly suggests the introduction of IPWW into the tank #3 system.
6. Since 1,1 DCE has been detected in both domestic tank #3 and in the groundwater, it is possible that the water supply is the primary source of 1,1 DCE in the septic tank. It may however not be the *only* source of 1,1 DCE entering the tank.
7. We are in concurrence with Landon Davidson's assessment that regardless of the source of the VOCs, their current presence in tank #3 suggests the potential of this system to contribute VOC concentrations in excess of NC AC 2L standards to the surrounding groundwater.
8. The continuous excess concentration of 1,1 DCE suggests that efforts by LCC to mitigate this pollution have been unsuccessful. Further, despite correspondence and documented telephone conversations between state, county and LCC personnel, little in the way of action to correct the septic system problem appears to have been accomplished at the site. The exception to this would be the sealing the floor drains.
9. Reclassification of the wastewater in tank #3 as industrial dictates that a corrective action for this system plan must be prepared by LCC and submitted to this office for review and approval. This plan must include the need for pretreatment of the wastewater prior to discharge into tank #3.
10. The presence of VOCs from industrial process wastewater into a system permitted for domestic wastewaters only is a violation of NCGS 130A – 336(c) and of the Operation Permit for this system and is sufficient in and of itself to issue a Notice of Violation.

Given the above findings, you are advised to accomplish the following actions with respect to the subject facility:

1. Immediately issue a Notice of Violation (NOV) to LCC citing the findings listed above.
2. LCC is to be directed to begin to Pump and Haul within ten days of the date of notice of all wastewater from domestic septic tank and system #3 to an approved wastewater system. LCC will continue to pump and haul all effluent to domestic tank and system #3 until an approved corrective action plan has been implemented.
3. LCC shall be directed to submit a Corrective Action Plan (CAP) within 30 days to the Mecklenburg County Health Department. Following review by your department, the CAP will be forwarded to this office for review.
4. LCC shall be informed that failure to adequately address these violations and any future violations may result in the initiation of enforcement action pursuant to GS 130A, which may include injunctive relief, administrative penalties and criminal penalties.

We shall continue to work with your department to carefully monitor the situation at LCC. We are available for technical assistance to both your office and to LCC. Please feel free to contact us if you have any questions pertaining to this letter. I can be contacted directly at (919) 715-3270 or by email at robin_godshall@mail.ehnr.state.nc.us.

Sincerely,



R.N. Godshall

Environmental Engineer II

On-Site Wastewater Engineering

RNG/rng

cc: Mabel Bullock
Barbara Christian
Landon Davidson
Joe Lynn
Britt Setzer

Groundwater Action Items - Livingstone Coatings

- ▶ NPDES permit appears to be nearing completion and authorization to construct should be granted within the next two weeks (10/23 conversation with Jeff Myra). The new cover letter for the permit will state that adjacent property access is not required to begin discharge. If permit issue is not resolved by Nov. 7, groundwater will issue notice requiring implementation of ICAP under .0106(f) regardless of outstanding permit issues. This may also become necessary due to the adjacent property access issue.
- ▶ October 26, 1996 NORR requires:
 - Livingstone to notify GW when the NPDES permit is granted
 - operation of the remediation system (ICAP) to begin 60 days upon receiving permit (I understand that the system parts have been ordered and have observed construction onsite)
 - groundwater samples collected prior to startup are to be received 45 days after sample collection
 - monthly reports of the system performance, analytical data generated and water level measurements are required
 - ICAP system influence will be evaluated and a CAP will be required of Livingstone
- ▶ meeting will be held first week of Nov. with Livingstone to discuss ICAP issues and to discuss locations for soil and groundwater testing to delineate PCE plume
- ▶ on Sept. 23, 1997 groundwater section collected split samples of selected wells on Livingstone site to
- ▶ regarding Dom. system #3, groundwater will require installation of monitoring well to determine if groundwater in that area has been adversely affected by contaminants known to be present in the septic tank.

Groundwater Action Items - Ross Well Investigation

- ▶ property access has been granted however, based on site visit additional site access is needed
- ▶ during Oct. 20, 1997 field visit, several engine blocks and a transmission casing were observed on adjacent wooded property, presumably upgradient of impacted well. Currently seeking site access for this property while preparing drilling plan. DPT will be used first to sample groundwater. Shallow groundwater samples will be collected near wooded dump lot area in addition to a few samples to be collected on Livingstone and possibly adjacent Springstead property.
- ▶ groundwater samples were collected from both the irrigation well and drinking water well on Oct. 20, 1997

Groundwater Action Items - Green Well Area Investigation

- ▶ property access letter issued for Lassister Well Drilling office property
- ▶ planning meeting with Cleveland onsite next week as a field reconnaissance and well sampling visit
- ▶ need additional planning and site visit to prepare drill plan but will definitely include sampling on Lassister property near shop. Affected wells are both bedrock wells.

GROUNDWATER SECTION

Livingstone Coatings Site History

- purch. Property in 1969 and remainder in 1976, total =20 acres
- previous use agricultural and forest
- cons. in 1972 with expansions in 1978, 1984 and 1997

Livingstone Coatings Regulatory File History

- 9/20/90 MCDEP sampled WSW well and detected chlorinated solvents
- NOV issued 12/19/90 2L
- 2/5/91 Extension granted for CSA until 3/10/91
- 3/12/91 Extension granted for CSA until 5/8/91
- 6/14/91 NOV abeyed pending Haz. Was. Review ref. to Haz. Waste
- 6/10/94 site back to DWQ
- 6/27/94 NOV issued by DWQ 2L
- 9/23/94 Extension granted for addtl. assess. until 10/30/94
- 12/6/94 NORR addtl. req. work for CSA
- 5/25/95 NOV 2L req. To sample WSWs
- 9/18/95 Extension granted until 11/22/95
- 2/29/96 Extension granted for CAP until 3/18/96
- 1/16/96 NORR for CAP other issues
- 7/10/96 NORR for CAP review
- 10/22/96 NORR for ICAP and outline schedule
- 4/30/97 Notice to Enforce due to schedule-no enforce due to info. submittal
- 7/28/97 request for sampling of MWs
- 7/30/97 request to split samples
- 7/31/97 req. for site access
- 8/19/97 letter to MCHD regarding septic tank results
- 9/8/97 reopening of UST closure site
- 10/14/97 additional site access letters go out to surrounding properties
- +additional letters regarding NPDES permit and status

Reports Submitted

- Preliminary Environmental Site Assessment-12/15/88
- Pre. Site Contamination Assess.-1/26/89
- Soil and Tank Content Sampling and Chemical Analysis-2/28/89
- Report of Contamination Assess.-5/10/91
- Interim CSA 11/94
- Addendum to Interim CSA 4/95
- CSA 11/22/95
- Interim CAP 9/4/96
- UST Closure Report 12/23/96
- Individual Monitoring Report 9/29/97

| Well Owner | Address | Date Sampled | Sampled By: | PCE | TCE | cis-1,2DCE | 1,2DCA | 1,1DCA | 1,1DCE | 1,1,1TCA | Xylenes | Napthalene | MEK |
|-------------------------------|---------------|--------------|-------------|----------|------|------------|--------|--------|--------|----------|---------|------------|------------|
| V. Lassiter | 438 Rhyne Rd. | 7/1/97 | NCDENR | - | - | - | - | - | - | - | - | - | - |
| Lassiter Well Drilling (ndsw) | 600 Rhyne Rd. | 10/10/96 | NCDENR | 1 | 0.65 | 1 | 0.39 | 0.35 | - | - | - | - | - |
| Lassiter Well Drilling (wsw) | 600 Rhyne Rd. | 7/1/97 | NCDENR | 0.69 | 0.53 | 1.2 | - | - | - | - | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 8/14/90 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 9/20/90 | MCDEP | - | - | - | - | - | 207 | 541 | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 12/28/90 | LIVINGSTON | - | - | - | - | - | 36 | - | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 11/25/91 | LIVINGSTON | - | - | - | - | - | 327 | 333 | - | - | 3,575,000? |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 10/4/93 | LIVINGSTON | - | - | - | - | - | 500 | 210 | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 10/7/94 | LIVINGSTON | - | - | - | - | - | 405 | - | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 10/26/95 | LIVINGSTON | - | - | - | - | 3.9 | 342 | 112.1 | - | - | - |
| Livingstone Coatings Corp. | 240 Rhyne Rd. | 10/29/95 | LIVINGSTON | - | - | - | - | - | 582 | 80 | - | - | - |
| Propes | 452 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Propes | 452 Rhyne Rd. | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 10/23/95 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 10/26/95 | LIVINGSTON | 2.3 | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 3/28/96 | NCDENR | D | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 6/5/97 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 7/1/97 | NCDENR | - | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 7/28/97 | NCDENR | 0.67 | - | - | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 10/20/97 | NCDENR | AWAITING | | | | | | | | | |
| Ross (iws) | 425 Rhyne Rd. | 10/23/95 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (iws) | 425 Rhyne Rd. | 3/28/96 | NCDENR | 0.92 | - | - | - | - | - | - | - | - | - |
| Ross (iws) | 425 Rhyne Rd. | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Ross (iws) | 425 Rhyne Rd. | 7/1/97 | NCDENR | 5.3 | 0.24 | 0.79 | - | - | - | - | - | - | - |
| Ross (dsw) | 425 Rhyne Rd. | 10/20/97 | NCDENR | AWAITING | | | | | | | | | |
| Tickle | 456 Rhyne Rd. | 5/6/96 | MCDEP | - | - | - | - | - | - | - | - | - | - |
| Thompson | 526 Rhyne Rd. | 5/6/96 | MCDEP | - | - | - | - | - | - | - | - | - | - |

DRAFT

| Rhyne Road Analytical Results | | | | | | | | | | | | |
|-------------------------------|----------------|--------------|-------------|------|------|------------|--------|----------|--------|----------|---------|------------|
| Well Owner | Address | Date Sampled | Sampled By: | PCE | TCE | cis-1,2DCE | 1,2DCA | 1,1,1DCA | 1,1DCE | 1,1,1TCA | Xylenes | Napthalene |
| Barton | 317 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - |
| Barton | 317 Rhyne Rd. | 3/31/92 | MCDEP | - | - | - | - | - | - | - | - | - |
| Barton | 317 Rhyne Rd. | 2/12/93 | MCDEP | - | - | - | - | - | - | - | - | - |
| Auten | 317 Rhyne Rd. | 3/28/96 | NCDENR | - | - | - | - | - | - | - | - | - |
| Auten | 317 Rhyne Rd. | 4/22/96 | NCDENR | - | - | - | - | - | - | - | - | - |
| Auten | 317 Rhyne Rd. | 8/22/96 | NCDENR | - | - | - | 0.55 | - | - | - | - | - |
| Auten | 317 Rhyne Rd. | 6/4/97 | MCDEP | - | - | - | - | - | - | - | - | - |
| Auten | 317 Rhyne Rd. | 7/1/97 | NCDENR | - | - | - | - | - | - | - | - | - |
| Carter Lumber | 120 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - |
| Carter Lumber | 120 Rhyne Rd. | 12/26/95 | LIVINGSTONE | - | - | - | - | - | - | - | - | - |
| Cleveland | 460 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - |
| Cleveland | 460 Rhyne Rd. | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - |
| Cleveland | 460 Rhyne Rd. | 7/10/96 | NCDENR | 0.33 | - | - | 0.37 | - | - | - | - | - |
| Cleveland | 460 Rhyne Rd. | 7/1/97 | NCDENR | 0.28 | - | - | - | - | - | - | - | - |
| Fontiane | 9827 Mt. Holly | 3/31/92 | MCDEP | - | - | - | - | - | - | - | - | - |
| Fontiane | 9827 Mt. Holly | 2/12/93 | MCDEP | - | - | - | - | - | - | - | - | - |
| Fontiane | 9827 Mt. Holly | 8/2/94 | LIVINGSTONE | - | - | - | - | - | - | - | - | - |
| Fontiane | 9827 Mt. Holly | 10/26/95 | LIVINGSTONE | - | - | - | - | - | 2.8 | 1.5 | - | - |
| Fontiane | 9827 Mt. Holly | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - |
| Fontiane | 9827 Mt. Holly | 7/24/96 | LIVINGSTONE | - | - | - | - | 0.5 | 4 | 2.1 | - | - |
| Fontiane | 9827 Mt. Holly | 9/3/97 | LIVINGSTONE | - | - | - | - | - | 2.8 | 1 | - | - |
| Green | 544 Rhyne Rd. | 4/22/96 | MCDEP | 7 | - | - | - | - | - | - | - | - |
| Green | 544 Rhyne Rd. | 5/6/96 | MCDEP | 8 | - | - | - | - | - | - | - | - |
| Green | 544 Rhyne Rd. | 7/10/96 | NCDENR | 4.9 | 1.5 | 1.2 | 0.54 | 0.27 | - | - | - | - |
| Green | 544 Rhyne Rd. | 7/1/97 | NCDENR | 5.6 | 1 | 2 | - | - | - | - | - | - |
| Howard | 726 Rhyne Rd. | 8/22/96 | NCDENR | - | - | - | 0.56 | - | - | - | - | - |
| - | 614 Rhyne Rd. | 10/10/96 | NCDENR | 0.83 | 0.67 | 2.4 | 0.52 | 0.44 | - | - | - | - |
| V. Lassiter | 438 Rhyne Rd. | 12/11/90 | MCDEP | - | - | - | - | - | - | - | - | - |
| V. Lassiter | 438 Rhyne Rd. | 7/22/92 | MCDEP | - | - | - | - | - | - | - | - | - |
| V. Lassiter | 438 Rhyne Rd. | 4/22/96 | MCDEP | - | - | - | - | - | - | - | - | - |
| V. Lassiter | 438 Rhyne Rd. | 5/6/96 | MCDEP | - | - | - | - | - | - | - | - | - |
| V. Lassiter | 438 Rhyne Rd. | 8/22/96 | NCDENR | - | - | - | 0.31 | - | - | - | - | - |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

DRAFT

| Well Construction Information - Rhyne Road Water Supply Wells | | | | | | | | |
|---|----------------------------------|-------------------|--------------|-------------|------|----------------------------|---------------------------|---|
| Well Owner | Well Location (address) | Total Depth (ft.) | Casing Depth | Static W.L. | S.I. | Contaminants >EPA (y/n) | Contaminants >2L (y/n) | Log Notes |
| Ross (dsw) | 325 Rhyne Road | 350 ^ | 39 | 20 | n/a | N | Y | installed in 8/22/77 39-350 blue granite 0-20 grout |
| Ross (wsw) | 325 Rhyne Road | 42* | n/a | n/a | n/a | Y | Y | |
| Cleveland (dsw) | 460 Rhyne Road | 165* | 41 | n/a | n/a | N | Y | installed in 1980 info. off plate on well only no record |
| Green (dsw) | 544 Rhyne Road | 84* | n/a | n/a | n/a | Y | Y | |
| Howard (dsw) | 726 Rhyne Road | unk | n/a | n/a | n/a | N | N | |
| Lassiter Well Drill (dsw) | 600 Rhyne Road | 300~ | n/a | n/a | n/a | N | Y | |
| Lassiter Well Drill (ndsw) | 600 Rhyne Road | 200~ | n/a | n/a | n/a | N | N | |
| Resident (dsw) | 614 Rhyne Road | unk | n/a | n/a | n/a | N | Y | |
| Fontaine (dsw) | 9827 Mt. Holly Road | 550 ^ | 35 | 40 | n/a | N | N | 35-550 blue granite, installed 1983 for Morrison Concrete |
| Carter Lumber (former) (dsw) | - | 145 ^ | 21 | 25 | n/a | N | N | installed in 1977 21-145 blue granite |
| | * info. off of well casing plate | | | | | | | |
| | ~info. from well owner only | | | | | | | |
| | ^ info. from DENR records | | | | | | | |

1:11564

1.03 by

1.0 miles

35.17.10/ 80.58.14

MECKLENBURG COUNTY, NC



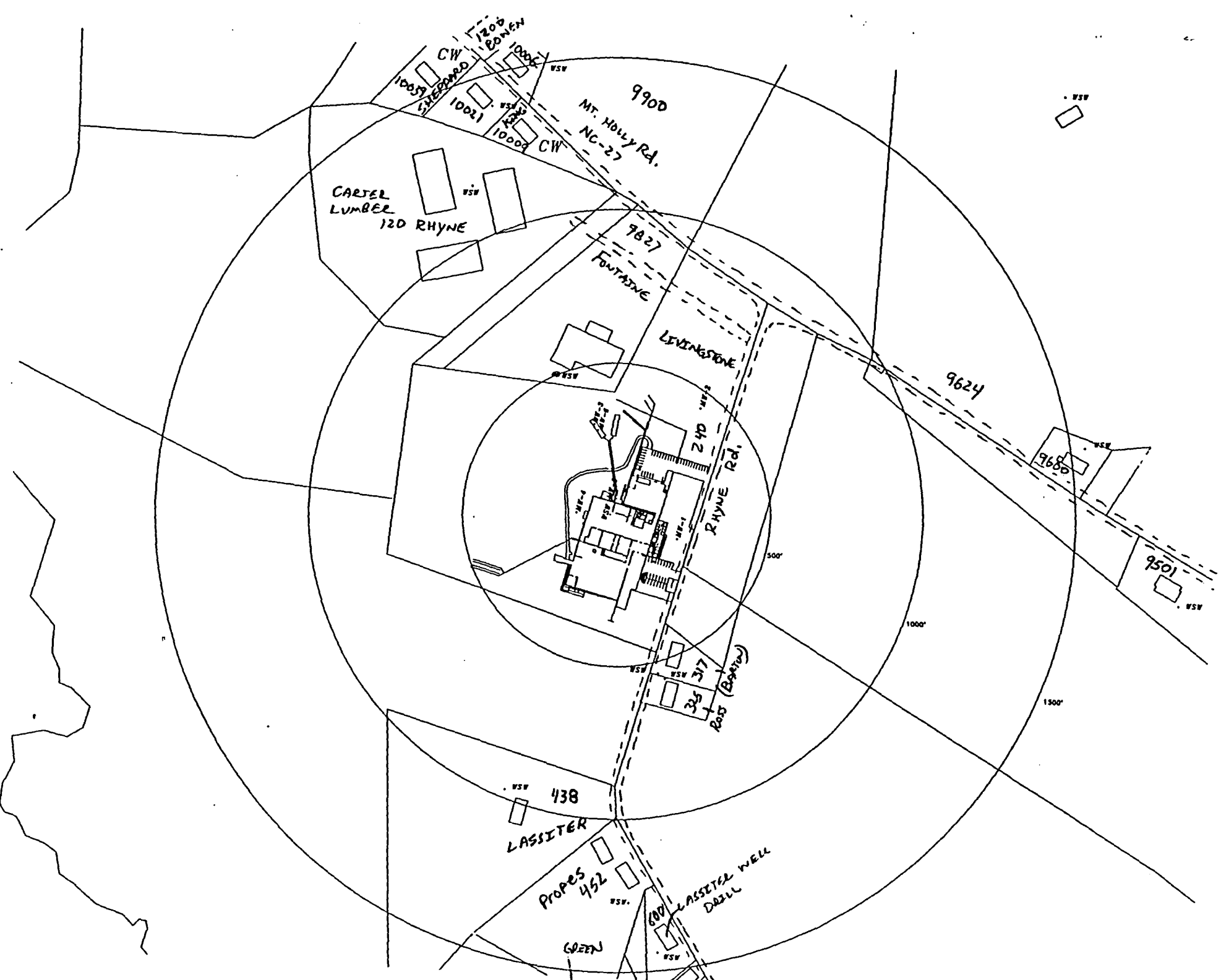
01: Entry View

MapVision (tm) MAP PRINT

Thu Sep 25 16:38:29 1997

Please Stand By

- 9827 MT HOLLY ROAD
- LIVINGSTONE COATING
- 317 RHYNE ROAD
- 325 RHYNE ROAD
- 438 RHYNE ROAD
- 452 RHYNE ROAD
- 456 RHYNE ROAD
- 460 RHYNE ROAD
- 526 RHYNE ROAD
- 514 RHYNE ROAD
- 614 RHYNE ROAD
- 726 RHYNE ROAD



1200' EDWIN
1000' CW
1000' CW
1000' CW
1000' CW

9900
MT. HOLLY RD.
NC-27

CARTER
LUMBER
120 RHYNE

9827
FONTAINE

LIVINGSTONE

9624

9680

9501

270 RHYNE Rd.

317
325
Rd. (Barrow)

438

LASSITER

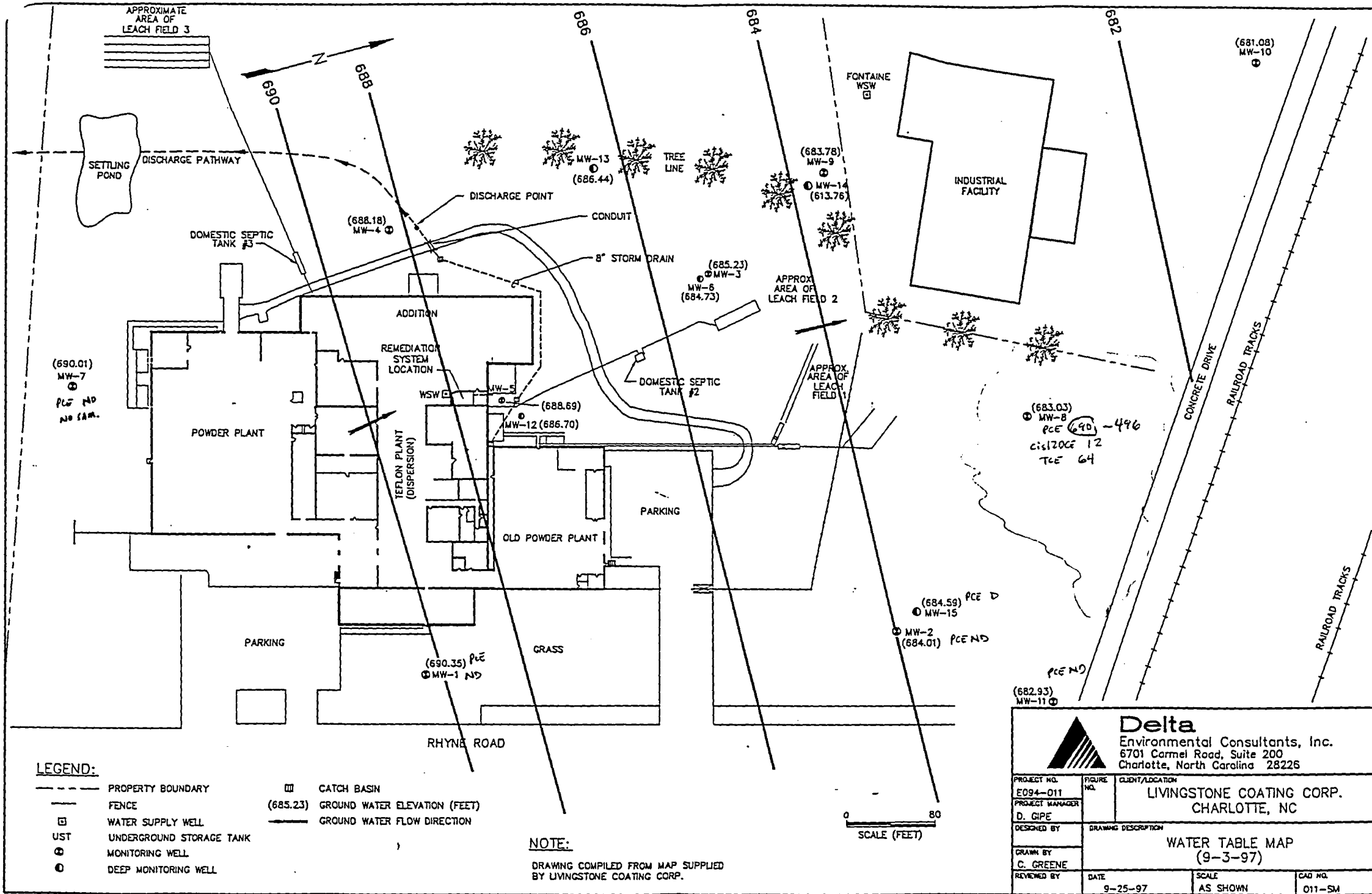
PROPER 452

GREEN

600' LASSITER WELL
DRILL

1000'

1500'



CONSTR. SPECS.

| MW ID | TD (ft) |
|-------|---------|
| MW-15 | 199.5 |
| MW-2 | 34 |
| MW-11 | 24.5 |
| MW-1 | 40 |
| MW-8 | 32 |

• LIVINGSTONE
• DENSE SPLITS (APP)
(PCE ONLY OR COMP. PRESENT IN USW LISTED - NOT ALL DETECTS)

Delta
Environmental Consultants, Inc.
6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226

| | | |
|----------------------------|-------------------|---|
| PROJECT NO. E094-011 | FIGURE NO. | CLIENT/LOCATION LIVINGSTONE COATING CORP. CHARLOTTE, NC |
| PROJECT MANAGER D. GIPE | DESIGNED BY | DRAWING DESCRIPTION WATER TABLE MAP (9-3-97) |
| DRAWN BY C. GREENE | REVIEWED BY | DATE 9-25-97 |
| | SCALE AS SHOWN | CAD NO. 011-SM |

LIVINGSTONE COATINGS TIME LINE

- 4-16-97 STATE receives Plan for closure of Ind. Septic Tank + Leach Field #2
- 1-28-97 Referral to Remediation Branch (HW) of Land Disposal of D007 haz. WASTE from site
- 1-15-97 LIVINGSTONE NOTIFIES LQG, for closure project (TANK #2)
- 12-19-96 (IM NOV) issued - Docket # 97-034 from RALEIGH
1. Immediate determination and/or analysis of all waste that is being discharged and disposed on site and offsite
 2. Liquid in TANK #2 must be immediately removed and managed as a haz. waste
- 12-4-96 Response to LETTER CONCERNING sampling results
- 11-25-96 LETTER to Livingstone Coatings notifying them of the sampling results from the 2 onsite Industrial Septic Tanks.
- 11-19-96 RECEIVE Results of SAMPLING Results from STATE LAB
- 9-30-96 LIVINGSTONE Coatings proposal to recycle its process water
To: STEVE LEVITAS - Deputy Secretary of DENR
- 8-20-96 STATE receives copies of COATING MSDS (MATERIAL USED AT FACILITY)
- 8-9-96 Sampling of Industrial Septic System with other STATE and County Agencies
- 7-24-96 CHAIN OF CUSTODY Records on Samples
COPY OF LETTER from JOE PEARCE (ONSITE WASTEWATER SECTION) to SYLVIA DANIEL (MCEH) CONCERNING Domestic System #3 Relocation

- 6-10-94 Referral to DEM-GW concerning gw contamination as a result of a industrial / discharge to an onsite septic system
- 5-20-94 LETTER from DOJ to Livingstone stating referral of site to DEM
- 4-8-94 Letter from Livingstone - reasons not to be considered a RCRA site - chronological listing
- 2-24-94 Memo from Jesse Wells concerning Richard Gaskins letter "RCRA empty"
- 2-24-94 FAX ~~from~~ ^{to} Livingstone concerning from LAW Engineering - DEM (now)
- 2-15-94 Richard Gaskins letter "RCRA empty"
- 2-1-94 COPIES of the Admin. ORDER on CONSENT
- 8-16-93 ACTIVITY REPORT - Determine status of GW contamination incident

STATE OF NORTH CAROLINA
 Department of Environment, Health,
 and Natural Resources
 919 North Main St.
 Mooresville, N.C. 28115
 (704)663-1699/ FAX 663-6040

Hazardous Waste Section File Access Record

Time/Date 6-13-97 1050
 Name BONNIE HENDERSON
 Representing THE CHARLOTTE OBSERVER

Guidelines for Access:

The staff of the Mooresville Regional Office is dedicated to making public records, in our custody, readily available to the public for review and copying. We also have the responsibility to the public, to safeguard these records, and to carry out our day-to-day program obligations. Please read carefully, the following guidelines before signing this form:

1. We prefer that you call at least a day in advance to schedule an appointment to review the files. Appointments will be scheduled between 9:00 am and 4:00 pm. Viewing time ends at 5:00 pm. Anyone arriving without an appointment may view the files to the extent that time and staff supervision is available.
2. You must specify the files you want to review by facility names. The number of files that you may review at one time will be limited to five (5).
3. You may make copies of a file when the copier is not in use by the staff, and if time permits. Access to the copy machine may be limited after 2:00 pm, due to heavy staff use. Cost per copy is ten (10) cents; payment may be made by check, money order, or cash at the reception desk. Checks should be made payable to the Dept. of Environment, Health, and Natural Resources, or DEHNR.
4. **FILES MUST BE KEPT IN THE ORDER YOU FOUND THEM.** Files may not be taken from the State office. To remove, alter, deface, mutilate, or destroy material in one of these files is a misdemeanor for which you can be fined up to \$ 500.00.

| | <u>Facility Name</u> | <u>County</u> |
|----|-----------------------------------|---------------|
| 1. | <u>LIVINGSTONE COPPINGS COND.</u> | <u>MECK</u> |
| 2. | _____ | _____ |
| 3. | _____ | _____ |
| 4. | _____ | _____ |
| 5. | _____ | _____ |

BPH _____ 6-13-97 _____
 Signature & Name of Firm/ Business Date Time In/ Time Out
 (Please Attach a Business Card to This Form)

STATE OF NORTH CAROLINA
Department of Environment, Health,
and Natural Resources
919 North Main St.
Mooresville, N.C. 28115
(704)663-1699/ FAX 663-6040

Hazardous Waste Section File Access Record

Time/ Date 9:00 AM 8-11-97
Name HARRY J ROSS
Representing _____

Guidelines for Access:

The staff of the Mooresville Regional Office is dedicated to making public records, in our custody, readily available to the public for review and copying. We also have the responsibility to the public, to safeguard these records, and to carry out our day-to-day program obligations. Please read carefully, the following guidelines before signing this form:

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| | <u>Facility Name</u> | <u>County</u> |
|----|-----------------------------|---------------|
| 1. | <u>LIVINGSTONE COATINGS</u> | <u>MECK</u> |
| 2. | _____ | _____ |
| 3. | _____ | _____ |
| 4. | _____ | _____ |
| 5. | _____ | _____ |

Signature & Name of Firm/ Business Date Time In/ Time Out
(Please Attach a Business Card to This Form)

**** Transmit Conf. Report ****

Jun 20 '97 9:24

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State of North Carolina
Department of Environment, Health and Natural Resources
Division of Waste Management
Hazardous Waste Section

28 Jan 1997

To: Sharron Rogers
Remediation Branch Head
Hazardous Waste Section

Through: Keith Masters *JW for*
Compliance Unit Supervisor
Waste Management Branch
Hazardous Waste Section

From: Jesse W. Wells *JW*
Waste Management Specialist
 Mooresville Regional Office

RE: Referral of: Livingstone Coatings,
240 Rhyne Road, Charlotte, NC,
Mecklenburg County

Attached is information regarding the Livingstone Coatings site. After review, it has been determined that, at this time, the hazardous waste regulations (RCRA) do apply to this site.

See Attached Information

Our review did indicate that site conditions exist which may warrant a review by your office. Consequently, we respectfully refer this site to your Branch for review.

attachment

cc: Doug Holyfield, Compliance Branch Head
Central Files

84
have removed ^{RM} material of hazardous nature
have complied with NOV
sent to Remediation for land disposal of material

**DEPARTMENT OF ENVIRONMENT, HEALTH and NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION
REPORT**

Subject: Livingstone Coatings

Location: Mecklenburg

Date: 28 Jan 1997

Date closed:

Address: 240 Rhyne Road

Time spent: 5

City: Charlotte, NC

State: NC **Zip:** 28266

By Whom: Jesse W. Wells

Persons contacted: Mr. Stephen Trammell

Reason for visit: N/A Interagency Referral (Remediation Branch)

Copies to: Keith Masters

REPORT:

The subject facility was issued Notice of Violation Docket #97-034 dated December 19, 1996, to address the potential impact of the disposal of an industrial wastewater to a subsurface septic type system (Attachement I). On August 9, 1996 the writer and Mr. Joseph Parker took into possession two split samples of supernatant from two industrial septic tanks on the Livingstone property. The sample collected from industrial tank #2 was determined to contain chromium in excess of the TCLP regulatory level of five mg/l(ppm). The concentration of chromium in the sample was determined to be 28.3 mg/l and thus would be considered a characteristic hazardous waste (Analysis Attachment II). The supernatant in industrial tank #2 exhibits the characteristic of a D007 hazardous waste as identified in Subpart C of Part 261.

The NOV issued to the facility required that an assessment be conducted in and around industrial tank #2 to include all distribution collection units and drain fields associated with the system. On January 21, 1997 the regional office received a fax copy of a report dated January 17, 1997, from Delta Environmental Consultants which outlines the findings of an assessment conducted on industrial tank #2 (Attachment III). The original report was reported to have been submitted to the Raleigh Office addressed to the attention of Mr. James A. Carter, Chief, Hazardous Waste Section. The report indicates that chrome

Page Two
Livingstone Coatings
January 28, 1997

has impacted the soil in and around the drainfield area and that a sample of free standing water collected from the area was determined to be a characteristic D007 hazardous waste. The concentration of chrome detected in the drainfield water was determined to be 12.9 mg/l. Please be advised that the wastewater discharge to the septic system has ceased. The facility has initiated management of hazardous waste from the production process into containers. The facility is developing a recycle/reuse system for process waters.

Based upon the findings that land disposal of a D007 hazardous waste has been confirmed, this site is being referred to the Hazardous Waste Section's Remediation Branch as the lead group for further assessment, regulatory requirements and enforcement consideration. It should be noted that the facility is also conducting an investigation with oversight of the Division of Water Quality, Groundwater Section as a result of VOC contamination of the groundwater.

Contact Telephone Numbers:

1. Mr Stephen Trammell, Livingstone Coatings, (704) 392-2323
2. Mr. Scott Moncrief, Livingstone Coatings, (704) 392-2323
3. Mr. Rick Sanderson, Delta Environmental, (704) 541-9890
4. Mr. David Gipe, Delta Environmental, (704) 541-9890
5. Mr. Landon Davidson, DWQ/GW Section, (704) 663-1699

If you should have any questions, do not hesitate to contact me at (704) 663-1699 ext. 287.

Activity Type: Check Most Appropriate

- | | |
|--------------------------|---------|
| 1. Investigation | _____ |
| 2. Compliance Assistance | _____ |
| 3. Presentation | _____ |
| 4. Training | _____ |
| 5. Meeting | _____ |
| 6. Other | ___5___ |

ATTACHMENT I

NOV

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



December 19, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOTICE OF VIOLATION
Docket # 97-034

Mr. H. Stephen Trammell
Livingstone Coating Corporation
P.O. Box 668267
Charlotte, N.C. 28266

Dear Mr. Trammell:

On December 18, 1980, the State of North Carolina, Hazardous Waste Section (Section) was authorized to operate the State Resource Conservation Recovery Act (RCRA) Hazardous Waste Program under the Solid Waste Management Act (Act), N.C.G.S. 130A, Article 9 and rules promulgated thereto at 15A NCAC 13A (Rules) in lieu of the federal RCRA program.

On August 9, 1996, Jesse W. Wells, Waste Management Specialist and Mr. Joseph Parker with this Office, took into possession two split samples of supernatant from two industrial septic tanks on the Livingstone Coating property. The sample collected from industrial tank #2 was determined to contain chromium in excess of the TCLP hazardous waste regulatory level of five mg/l (ppm). The concentration of chromium in the sample was determined to be 28.3 mg/l and thus would be considered characteristic hazardous waste (Report Attached). The liquid in industrial tank #2 exhibits the characteristic of a D007 hazardous waste as identified in Subpart C of 261.

- A. 40 CFR 261.1(a), codified at 15A NCAC 13A .0006, states that this part identifies those solid waste which are subject to regulation as hazardous wastes under Parts 262 through 276 and Parts 270,271 and 124 of this Chapter and which are subject to the notification requirements of Section 3010 of RCRA.
- B. 40 CFR 261.2(b) codified at 15 A NCAC 13A .0006, states that materials are solid waste if they are abandoned by being (1) disposed of; or (2) burned or incinerated; or (3) accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of burned, or incinerated.

P.O. Box 27687,
Raleigh, North Carolina 27611-7687
Voice 919-733-4996



FAX 919-715-3605
An Equal Opportunity Affirmative Action Employer
50% recycled/10% post-consumer paper

- C. 40 CFR 261.3(a), codified at 15A NCAC 13A .0006, states that a solid waste, as defined in Section 261.2 is a hazardous waste if:
1. It is not excluded from regulation as a hazardous waste under Section 261.4(b); and
 2. It meets any of the following criteria:
 - i. It exhibits the characteristics of hazardous waste identified in Subpart C.
 - ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20 and 260.22 of this chapter.
 - iii. It is a mixture of solid waste and hazardous waste that is listed in Subpart D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C, unless the resultant mixture no longer exhibits any characteristics of hazardous waste identified in Subpart C.
 - iv. It is a mixture of solid waste and one or more hazardous waste listed in Subpart D and has not been excluded from this paragraph under Sections 260.20 and 260.22 of this chapter.
- D. NCGS 130A-290(6), defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land, water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwater.
- E. It is the determination of the Section that the disposal of the industrial wastewater from processes discharging into tank #2 constitutes disposal of hazardous waste subject to all applicable requirements of 40 CFR 262 through 265 and 270. Specifically:
1. 40 CFR 262.11, codified at 15A NCAC 13A .0007, states that a person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:
 - a. He should first determine if the waste is excluded from regulation under 40 CFR 261.4 and 261.5.
 - b. He must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR 261.

- c. If the waste is not listed as a hazardous waste in Subpart D of 40 CFR Part 261, he must determine whether the waste is identified in Subpart C of 40 CFR 261 by either:
 - i. Testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or
 - ii. Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

Livingstone Coating Corporation is in violation of 40 CFR 262.11, codified at 15A NCAC 13A .0007, in that it generated a solid waste, as defined in 40 CFR 261.2 and did not determine if that waste is a hazardous waste.

- 2. 15A NCAC 13A .0009(a), states that any person who treats, stores, or disposes of hazardous waste shall comply with the requirements set forth in this section. The treatment, storage or disposal of hazardous waste is prohibited except as provided in this section.

Livingstone Coating Corporation is in violation of 15A NCAC 13A .0009(a), in that hazardous waste has been disposed without complying with the requirements set forth in this section.

COMPLIANCE SCHEDULE

By the dates specified below, Livingstone Coating Corporation, Charlotte, North Carolina, shall comply with the following requirements:

- 1. Comply with 40 CFR 262.11, codified at 15A NCAC 13A .0007. An immediate determination and/or analysis of all waste that is being discharged and disposed on-site and off-site, to include but not limited to, spraybooth filters and other solid waste must be completed to ensure proper characterization and disposition.

By January 20, 1997, develop and submit to this office a comprehensive sampling and analysis report which will characterize soil contamination (inorganic) at your site, specific to the area of disposal. The assessment must be conducted in and around industrial tank #2 to include all distribution collection units and drain fields associated with the system. This report must specify constituents analyzed, sampling procedures, sampling locations, and depths that will assess the horizontal and vertical extent of contamination. Soil

samples must be analyzed for the eight RCRA metals using the appropriate analytical methods.

Upon verification of contamination, Livingstone Coating Corporation must immediately provide for the remediation of the site including soil removal, storage and transportation to an off-site disposal facility and sampling to evaluate the adequacy of the cleanup. Livingstone Coating Corporation must complete the initial soil removal with post-excavation sampling results by February 20, 1997. Failure by Livingstone Coating Corporation to initiate an effective site remediation by these dates may subject the site to additional requirements including closure plans, financial assurance for closure and groundwater monitoring.

2. Comply with 15A NCAC 13A .0009(a). Livingstone Coating Corporation shall no longer dispose of hazardous waste, and all hazardous waste previously on site shall be shipped to a permitted hazardous waste treatment, storage or disposal facility. The liquid contained in tank #2 must be immediately removed and managed as a hazardous waste.

During the interim, pending shipment of the waste, 40 CFR 262.34(a), codified at 15A NCAC 13A .0007 states that:

- a. If the waste is placed in containers, the generator must comply with Subpart I of 40 CFR Part 265 or if the waste is placed in tanks, the generator must comply with Subpart J of 40 CFR Part 265 except 265.193;
- b. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;
- c. While being accumulated on-site, each container and tank is labeled or marked clearly with the words "Hazardous Waste" and;
- d. The generator complies with the requirements for owners or operators in Section 265.16.

If the requirements above are not met, pursuant to N.C.G.S. 130A-22(a) and 15A NCAC 13B .0701-.0707, an administrative penalty of up to \$25,000.00 per day may be assessed for violation of the hazardous waste law or regulations.

Page Five
Livingstone Coating Corporation

If you should have any questions concerning this matter, you may contact Jesse W. Wells at (704) 663-1699 ext 287.

Sincerely,



James A. Carter, Chief
Hazardous Waste Section

cc: Keith Masters
Jesse Wells
Central Files

ATTACHMENT II

SAMPLE ANALYSIS

NC-DEHNR
 Division of Solid Waste Management
 Superfund Section
 Hazardous Waste Section
 Solid Waste Section

Organics Lab: _____
 Inorganics Lab:



CHAIN OF CUSTODY RECORD

| | |
|---|--|
| Project Name: <u>LIVINGSTONE Coatings</u> | Sampled by: <u>Delta Environmental/ Joe Parker</u> |
| Site ID # (NCD#) <u>NCD 003172442</u> | Sampler ID <u>029</u> |
| Location: <u>240 Rhyme Road @ NC 27-W</u> | Telephone: <u>(704) 663-1699</u> |
| Address: <u>POB 668267 Charlotte NC 28266</u> | Date Sampled: <u>August 9, 1996</u> |
| | Time Sampled: _____ |

Sample Types: Soil _____ Water _____ Waste Other _____

Remarks: Supernatant from two industrial septic system.

Field Sample Numbers NT-1(017697) NT-2(017699)

Relinquished by: Jesse W. Welles (Signature) Date: 8/9/96 Time: 3:00 P.M.

Received by: Donald Hail (Signature) Date: 8/12/96 Time: 8:30 AM

Relinquished by: Donald Hail (Signature) Date: 8/12/96 Time: 1:40 PM

Received by: Jesse D. Davis (Signature) Date: 8/17/96 Time: 1:40

Relinquished by: _____ (Signature) Date: _____ Time: _____

Received by: _____ (Signature) Date: _____ Time: _____

Results Reported: Jesse D. Davis (Signature) Date: 11/15/96 Time: _____

SOLID WASTE MANAGEMENT DIVISION

Receipt for Samples

Livingstone Coating Corp. 240 Rhyme Rd. NC-27 W POB 648267 Charlotte, NC 28266
 Name of Firm Firm Address

J. Scott Moncrief, Manager-Engineering, Research and Development
 Firm Owner, Operator, or Agent Title

| SAMPLE NUMBER | COLLECTED DATE TIME | | SAMPLE TYPE WATER SOIL OTHER | | | DUPLICATE SAMPLE OFRD ACPT RJCTD | | | SAMPLE LOCATION ONSITE OFFSITE | |
|---------------|-----------------------|------|----------------------------------|--|---|--------------------------------------|---|--|----------------------------------|--|
| | | | | | | | | | | |
| 017697 | 8/9/96 | 0948 | | | ✓ | | ✓ | | ✓ | |
| 017699 | 8/9/96 | | | | ✓ | | ✓ | | ✓ | |
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Receipt for the sample(s) described above is hereby acknowledged:

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Jesse W. Wells
 Signature of Inspector

 Signature of Firm Owner, Operator, or Agent

Waste Mgmt Specialist
 Title

 Title

Comments: DWM/HW accepted duplicate samples from facility

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-1 (017697)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road @ NC 27W Charlotte, N.C.

Collected By J. Parker ID# 029 Date Collected 8/9/96 Time 0948

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | |
|--|--|----------------------------|
| Environmental | Concentrate | Comments |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 1</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

| TCLP Compounds | |
|--|-----------------|
| Inorganic Compounds | Results(mg/l) |
| <input checked="" type="checkbox"/> Arsenic | <u><0.2</u> |
| <input checked="" type="checkbox"/> Barium | <u>0.40</u> |
| <input checked="" type="checkbox"/> Cadmium | <u><0.05</u> |
| <input checked="" type="checkbox"/> Chromium | <u><0.05</u> |
| <input checked="" type="checkbox"/> Lead | <u><0.10</u> |
| <input checked="" type="checkbox"/> Mercury | <u><0.01</u> |
| <input checked="" type="checkbox"/> Selenium | <u><0.05</u> |
| <input checked="" type="checkbox"/> Silver | <u><0.05</u> |

| Organic Chemistry | | Inorganic Chemistry | |
|--|---------------|---------------------------------------|----------------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> P&T:GC/MS | | <input type="checkbox"/> Arsenic | |
| <input type="checkbox"/> Acid:B/N Ext. | | <input type="checkbox"/> Barium | |
| <input type="checkbox"/> MTBE | | <input type="checkbox"/> Cadmium | |
| | | <input type="checkbox"/> Chloride | |
| | | <input type="checkbox"/> Chromium | |
| | | <input type="checkbox"/> Copper | |
| | | <input type="checkbox"/> Fluoride | |
| | | <input type="checkbox"/> Iron | |
| | | <input type="checkbox"/> Lead | |
| | | <input type="checkbox"/> Manganese | |
| | | <input type="checkbox"/> Mercury | |
| | | <input type="checkbox"/> Nitrate | |
| | | <input type="checkbox"/> Selenium | |
| | | <input type="checkbox"/> Silver | |
| | | <input type="checkbox"/> Sulfates | |
| | | <input type="checkbox"/> Zinc | |
| | | <input type="checkbox"/> pH | |
| | | <input type="checkbox"/> Conductivity | |
| | | <input type="checkbox"/> TDS | |
| | | <input type="checkbox"/> TOC | |

| Radiochemistry | |
|--------------------------------------|-----------------|
| Parameter | Results (PCi/l) |
| <input type="checkbox"/> Gross Alpha | |
| <input type="checkbox"/> Gross Beta | |

| Microbiology | |
|--------------|---------------------|
| Parameter | Results (Col/100ml) |
| | |
| | |

| Organic Compounds | Results(mg/l) |
|--|---------------|
| <input type="checkbox"/> benzene | |
| <input type="checkbox"/> carbon tetrachloride | |
| <input type="checkbox"/> chlordane | |
| <input type="checkbox"/> chlorobenzene | |
| <input type="checkbox"/> chloroform | |
| <input type="checkbox"/> o-cresol | |
| <input type="checkbox"/> m-cresol | |
| <input type="checkbox"/> p-cresol | |
| <input type="checkbox"/> cresol | |
| <input type="checkbox"/> 1,4-dichlorobenzene | |
| <input type="checkbox"/> 1,2-dichloroethane | |
| <input type="checkbox"/> 1,1-dichloroethylene | |
| <input type="checkbox"/> 2,4-dinitrotoluene | |
| <input type="checkbox"/> heptachlor | |
| <input type="checkbox"/> hexachlorobenzene | |
| <input type="checkbox"/> hexachlorobutadiene | |
| <input type="checkbox"/> hexachloroethane | |
| <input type="checkbox"/> methyl ethyl ketone | |
| <input type="checkbox"/> nitrobenzene | |
| <input type="checkbox"/> pentachlorophenol | |
| <input type="checkbox"/> pyridine | |
| <input type="checkbox"/> tetrachloroethylene | |
| <input type="checkbox"/> trichloroethylene | |
| <input type="checkbox"/> 2,4,5-trichlorophenol | |
| <input type="checkbox"/> 2,4,6-trichlorophenol | |
| <input type="checkbox"/> vinyl chloride | |
| <input type="checkbox"/> endrin | |
| <input type="checkbox"/> lindane | |
| <input type="checkbox"/> methoxychlor | |
| <input type="checkbox"/> toxaphene | |
| <input type="checkbox"/> 2,4-D | |
| <input type="checkbox"/> 2,4,5-TP (Silvex) | |

Date Received _____ Reported by _____
Date Extracted _____ Date Reported _____
Date Analyzed _____ Lab Number _____

012100 AUG 13 96

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-2 (017699)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road NC 277

Collected By J. Parler ID# 029 Date Collected 8/9/96 Time 1000

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | Comments |
|--|--|----------------------------|
| <u>Environmental</u> | <u>Concentrate</u> | |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 2</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

| TCLP Compounds | |
|---------------------|-----------------|
| Inorganic Compounds | Results(mg/l) |
| Asenic | <u><0.2</u> |
| Barium | <u>0.25</u> |
| Cadmium | <u><0.05</u> |
| Chromium | <u>28.3</u> |
| Lead | <u><0.10</u> |
| Mercury | <u><0.01</u> |
| Selenium | <u><0.2</u> |
| Silver | <u><0.05</u> |

| Organic Chemistry | | Inorganic Chemistry | | Organic Compounds | |
|--|---------------|---------------------|----------------------|--|---------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) | | Results(mg/l) |
| <input type="checkbox"/> P&T:GC/MS | | Asenic | | <input type="checkbox"/> benzene | |
| <input type="checkbox"/> Acid:B/N Ext. | | Barium | | <input type="checkbox"/> carbon tetrachloride | |
| <input type="checkbox"/> MTBE | | Cadmium | | <input type="checkbox"/> chlordane | |
| | | Chloride | | <input type="checkbox"/> chlorobenzene | |
| | | Chromium | | <input type="checkbox"/> chloroform | |
| | | Copper | | <input type="checkbox"/> o-cresol | |
| | | Fluoride | | <input type="checkbox"/> m-cresol | |
| | | Iron | | <input type="checkbox"/> p-cresol | |
| | | Lead | | <input type="checkbox"/> cresol | |
| | | Manganese | | <input type="checkbox"/> 1,4-dichlorobenzene | |
| | | Mercury | | <input type="checkbox"/> 1,2-dichloroethane | |
| | | Nitrate | | <input type="checkbox"/> 1,1-dichloroethylene | |
| | | Selenium | | <input type="checkbox"/> 2,4-dinitrotoluene | |
| | | Silver | | <input type="checkbox"/> heptachlor | |
| | | Sulfates | | <input type="checkbox"/> hexachlorobenzene | |
| | | Zinc | | <input type="checkbox"/> hexachlorobutadiene | |
| | | pH | | <input type="checkbox"/> hexachloroethane | |
| | | Conductivity | | <input type="checkbox"/> methyl ethyl ketone | |
| | | TDS | | <input type="checkbox"/> nitrobenzene | |
| | | TOC | | <input type="checkbox"/> pentachlorophenol | |
| | | | | <input type="checkbox"/> pyridine | |
| | | | | <input type="checkbox"/> tetrachloroethylene | |
| | | | | <input type="checkbox"/> trichloroethylene | |
| | | | | <input type="checkbox"/> 2,4,5-trichlorophenol | |
| | | | | <input type="checkbox"/> 2,4,6-trichlorophenol | |
| | | | | <input type="checkbox"/> vinyl chloride | |
| | | | | <input type="checkbox"/> endrin | |
| | | | | <input type="checkbox"/> lindane | |
| | | | | <input type="checkbox"/> methoxychlor | |
| | | | | <input type="checkbox"/> toxaphene | |
| | | | | <input type="checkbox"/> 2,4-D | |
| | | | | <input type="checkbox"/> 2,4,5-TP (Silvex) | |

Date Received _____ Reported by _____

Date Extracted _____ Date Reported 012191 AUG 13 96

Date Analyzed _____ Lab Number _____

ATTACHMENT III

**DELTA REPORT
JANUARY 21, 1997**

FAX TRANSMITTAL FORM

P. 01/09



6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226
(704) 541-9890
FAX: (704) 543-4035

TO: Jesse Wells
COMPANY: NCD EHR - Mooresville
DATE: 1/21/97 FAX #: 663-6040
SUBJECT: Livingstone Coating
DELTA PROJECT #: EW94-01-1 # OF PAGES TO FOLLOW: 9
FROM: Rick Sanderson

MESSAGE: Per our telephone conversation. Please review and let us know of any comments or concerns. We are planning on starting this work next week. Also, this has been submitted to the State Hazardous Waste Management Division for approval.

Working to be the best for selected clients at solving environment-related business problems - The Delta Way

JAN-21-97 TUE 14:56



COPY

6701 Carme Road
 Suite 200
 Charlotte NC 28226-3921
 704/541-9300
 FAX: 704/543-4035

January 17, 1997

North Carolina Department of Environment,
 Health and Natural Resources
 Division of Solid Waste Management
 Hazardous Waste Section
 P.O. Box 27687
 Raleigh, North Carolina 27611-7687

Attention: Mr. James A. Carter, Chief
 Hazardous Waste Section

Subject: Notice Of Violation
 Docket # 97-034
 Comprehensive Sampling and Analysis Report
 Livingstone Coating Corporation
 Charlotte, North Carolina
 Delta No. EG94-011-1.005C

Dear Mr. Carter:

Delta Environmental Consultants, Inc. (Delta) is submitting this Comprehensive Sampling and Analysis Report on behalf of Livingstone Coating Corporation (Livingstone). This report is in response to Item 1 of the Compliance Schedule on page 3 of your letter dated December 19, 1996.

WASTEWATER CHARACTERIZATION AND ANALYTICAL PROTOCOL

Delta performed a wastewater characterization of influent to industrial septic tank #2 which included collection of 24 hour composite samples over a four day period. These samples were analyzed for the eight RCRA metals and only chromium was found above the method detection limits. A TCLP analysis for RCRA metals was also been performed on this wastewater and again only chromium was found above the method detection limits. The results of this analytical testing is shown in Table 1. Therefore, Delta chose to analyze the soil samples for chromium and not the other seven RCRA metals as they were not present in the wastestream.

SOIL SAMPLING

On December 6, 1996 Delta collected 23 soil samples at 16 different locations via direct push technology (Figure 1). Two of these soil samples were designated as being from a background

location (GP-7). The remaining 21 soil samples were collected adjacent to industrial septic tank and leach field #2. Soil samples were collected at the background location and adjacent to the septic tank at depths of 4-6 feet and 8-10 feet. These depths were selected as they represent the depth just below the top and bottom of the septic tank. The soil samples collected around the perimeter of the leach field were at a depth of 6-8 feet. This depth represents the area of gravel backfill used in the leach field. The soil samples collected within the boundary of the leach field were collected approximately 3 feet below the bottom of the leach field. All soil samples were analyzed for total chromium. The results of this sampling event are included in Table 2.

Based on the results of the soil sampling performed on December 6, 1996, Delta collected 13 additional soil samples on December 27, 1996 via direct push technology. These samples were collected to further define the potentially contaminated area and also to more accurately define background chromium concentrations. These soil samples were analyzed for total chromium. The results are included in Table 2.

CLOSURE OF INDUSTRIAL SEPTIC TANK #2

On December 12, 1996, Delta contracted with Shamrock Environmental Corporation (Shamrock) to remove and dispose of the contents of industrial septic tank #2. This work also included pressure washing of the septic tank and disposal of wash water. Documentation concerning the disposal of this material is attached. No evidence of cracks or other structural failures was noted in the septic tank. The septic tank and leach field remain out of service.

INDUSTRIAL LEACH FIELD #2 INVESTIGATION

On December 5, 1996, Delta contracted with Superior Industrial Maintenance Company (SIMCO) to define the horizontal and vertical limits of industrial leach field #2 and define the construction characteristics. SIMCO was directed by Delta to excavate a series of trenches perpendicular to the suspected leach field area. The length and depth of the trenches was determined by the appearance of gravel in the excavations. Delta was able to determine that the leach field covers an area approximately 18 feet wide by 45 feet long. The top of the leach field is covered with 4-5 feet of native soils followed by 18 to 24 inches of coarse gravel placed on undisturbed soils. Free standing water was observed in the trenches when they were first excavated but the water would quickly dissipate into the rest of the leach field.

Delta collected a sample of the leach field gravel and the free standing water. The samples were analyzed for chromium via TCLP. The standing water had a TCLP chromium concentration of 12.9 mg/L. The leach field gravel had a TCLP chromium concentration of 0.063 mg/L which is less than the hazardous waste regulatory level.

FINDINGS

- Delta collected a total of 8 soil samples to measure the approximate background level of chromium in the soils and 28 soil samples to determine the potential extent of soil contamination resulting from the wastewater in industrial septic tank and leach field #2.
- Delta estimates that the background chromium concentration in soils adjacent to the septic tank and leach field is less than 20 mg/kg. Background samples in some locations may be higher.

P. 03/09

JAN-21-97 TUE 14:56

- The free standing liquid in the leach field exceeds the TCLP hazardous waste regulatory level of 5 mg/L. ★
- The gravel in the leach field does not exceed the TCLP hazardous waste regulatory level of 5 mg/L.

RECOMMENDATIONS

- Livingstone will remove industrial septic tank #2 and the soils adjacent to the northwest corner near sampling point GP-2 (Figure 2). The concrete from the septic tank and the soils will be containerized on site and analyzed for TCLP chromium. The material will then be properly disposed of off-site.
- Livingstone will excavate the soils covering industrial leach field #2 and store on site for use as backfill. The leach field gravel will be containerized and disposed of off-site as non hazardous waste. The free liquids in the leach field excavation will be pumped to an on-site container and disposed of as hazardous waste.
- Livingstone will excavate the soils beneath the south end of the leach field to a depth of 15 ft and containerize on-site for further analysis. Delta will also excavate the area at the south east end of the leach field near sampling points GP-3 and GP-22 to a depth of 12 to 15 ft (Figure 2). These soils will be containerized on-site for further analysis.
- Livingstone will collect confirmatory samples for analysis of total chromium to evaluate the adequacy of the soil removal process.
- The above recommendations will be completed by February 20, 1997.

If you have any questions concerning this report please contact me at 704-541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

David W. Gipe, P.E.

David W. Gipe, P.E.
Project Manager

DWG/mcw

Attachments

cc: I. Scott Moncrief, Livingstone Coating Corporation

P. 04/09

JAN-21-97 TUE 14:57

TABLES

JAN-21-97 TUE 14:57

P.05/09

P. 06/09

TABLE 1
WASTEWATER CHARACTERIZATION
INDUSTRIAL SEPTIC TANK #2
LIVINGSTONE COATING CORPORATION

| RCRA METALS | SAMPLE 1 mg/L | SAMPLE 2 mg/L | SAMPLE 3 mg/L | SAMPLE 4 mg/L | SAMPLE 5 TCLP mg/L |
|-------------|------------------|------------------|------------------|------------------|-----------------------|
| Arsenic | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 |
| Barium | <0.125 | <0.125 | <0.125 | <0.125 | <0.100 |
| Cadmium | <0.005 | <0.005 | <0.005 | <0.005 | <0.010 |
| Chromium | 16.4 | 44 | 102 | 105 | 26 |
| Lead | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 |
| Mercury | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.00040 |
| Selenium | <0.005 | <0.005 | <0.005 | <0.005 | <0.050 |
| Silver | <0.005 | <0.005 | <0.005 | <0.005 | <0.020 |

A

JAN-21-97 TUE 14:57

TABLE 2
SOIL SAMPLING ANALYTICAL RESULTS
TOTAL CHROMIUM MG/KG
LIVINGSTONE COATING CORPORATION

| SAMPLE ID | SAMPLE DEPTH FT | LOCATION DESIGNATION | DECEMBER 6, 1996 TOTAL CHROME MG/KG | DECEMBER 27, 1996 TOTAL CHROME MG/KG |
|-----------|-----------------|----------------------|-------------------------------------|--------------------------------------|
| GP-1A | 4-6 ft | N. End St, #2 | 13.2 | |
| GP-1B | 8-10 ft | N. End St, #2 | 8.37 | |
| GP-2A | 4-6 ft | NW Cor St, #2 | | |
| GP-2B | 8-10 ft | NW Cor St, #2 | | |
| GP-3A | 4-6 ft | NE Cor St, #2 | 10.8 | |
| GP-3B | 8-10 ft | NE Cor St, #2 | 10.8 | |
| GP-4A | 4-6 ft | SE Cor St, #2 | 16.6 | |
| GP-4B | 8-10 ft | SE Cor St, #2 | 7.36 | |
| GP-5A | 4-6 ft | S End St, #2 | 10.8 | |
| GP-5B | 8-10 ft | S End St, #2 | 3.52 | |
| GP-6A | 4-6 ft | SW Cor St, #2 | 3.94 | |
| GP-6B | 8-10 ft | SW Cor St, #2 | 3.56 | |
| GP-7A | 4-6 ft | Background | 91.2 | |
| GP-7B | 8-10 ft | Background | 117 | |
| GP-8 | 6-8 ft | SE Cor LF, #2 | | |
| GP-9 | 6-8 ft | E Side LF, #2 | 11.4 | |
| GP-10 | 6-8 ft | NE Cor LF, #2 | 6.48 | |
| GP-11 | 6-8 ft | NW Cor LF, #2 | 3.24 | |
| GP-12 | 6-8 ft | W Side LF, #2 | 5.69 | |
| GP-13 | 6-8 ft | SW Cor LF, #2 | 8.01 | |
| GP-14 | 6-8 ft | SE Inside LF, #2 | | |
| GP-15 | 6-8 ft | MID Inside LF, #2 | 11.5 | |
| GP-16 | 6-8 ft | NE Inside LF, #2 | 2.69 | |
| GP-17 | 4-6 ft | Background | | 11 |
| GP-17 | 8-10 ft | Background | | 5.57 |
| GP-18 | 4-6 ft | Background | | 6.98 |
| GP-18 | 8-10 ft | Background | | 82.5 |
| GP-19 | 4-6 ft | Background | | 5.89 |
| GP-19 | 8-10 ft | Background | | 6.61 |
| GP-20 | 6-8 ft | N End LF, #2 | | 3.5 |
| GP-21 | 6-8 ft | same as GP-8 | | |
| GP-22 | 6-8 ft | S End LF, #2 | | <2.24 |
| GP-23 | 4-6 ft | West of GP-2 | | 5.58 |
| GP-23 | 8-10 ft | West of GP-2 | | <1.71 |
| GP-24 | 4-6 ft | West of GP-22 | | 3.92 |
| GP-24 | 8-10 ft | West of GP-22 | | 2.83 |

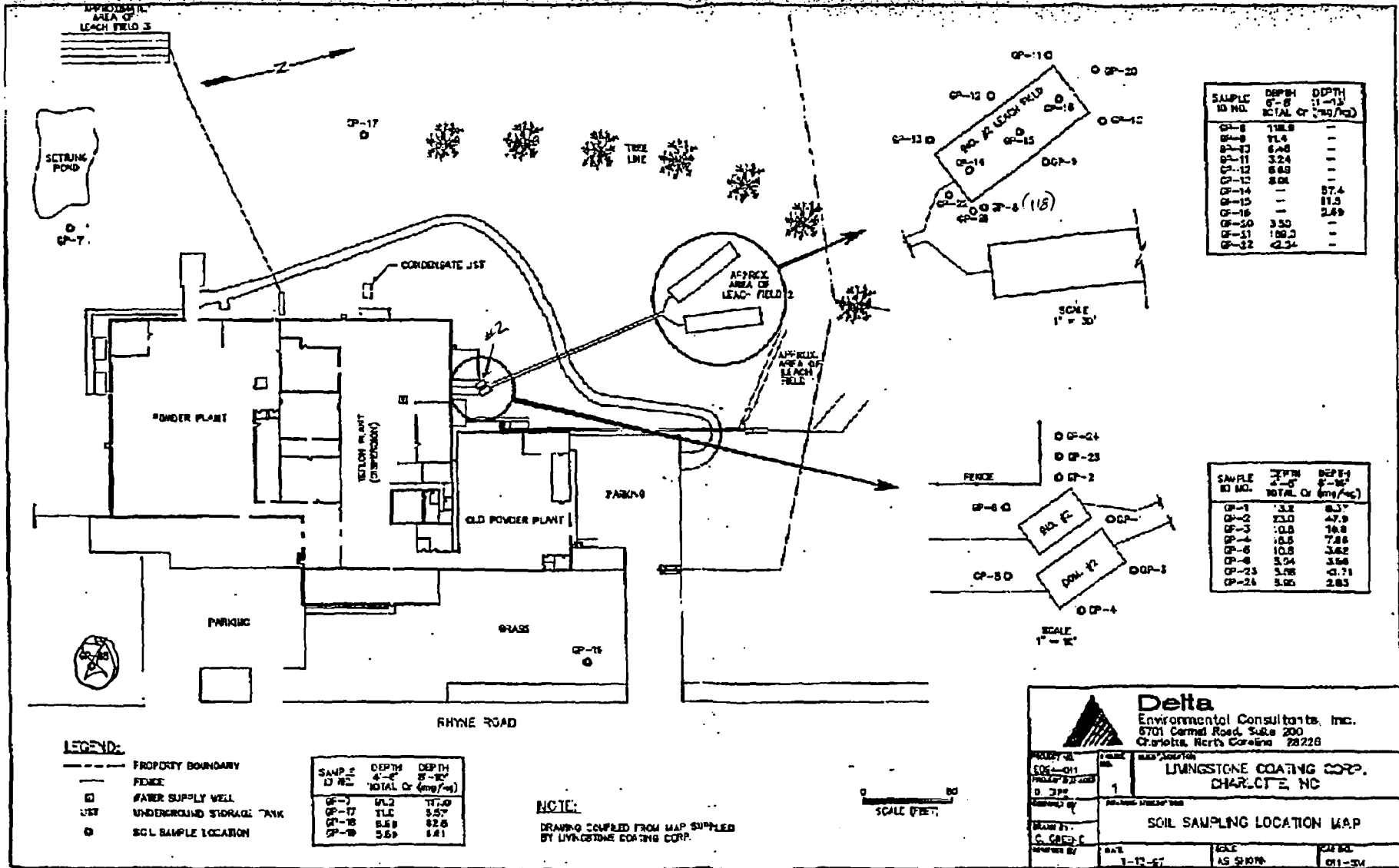
20 or less Banned

retail? TCSP 20-1

JAN-21-97 TUE 14:57 Background?

would theoretically fail TCSP at 20.1 detection

STANDARD METHOD FOR DETERMINATION OF CHROMIUM IN SOILS

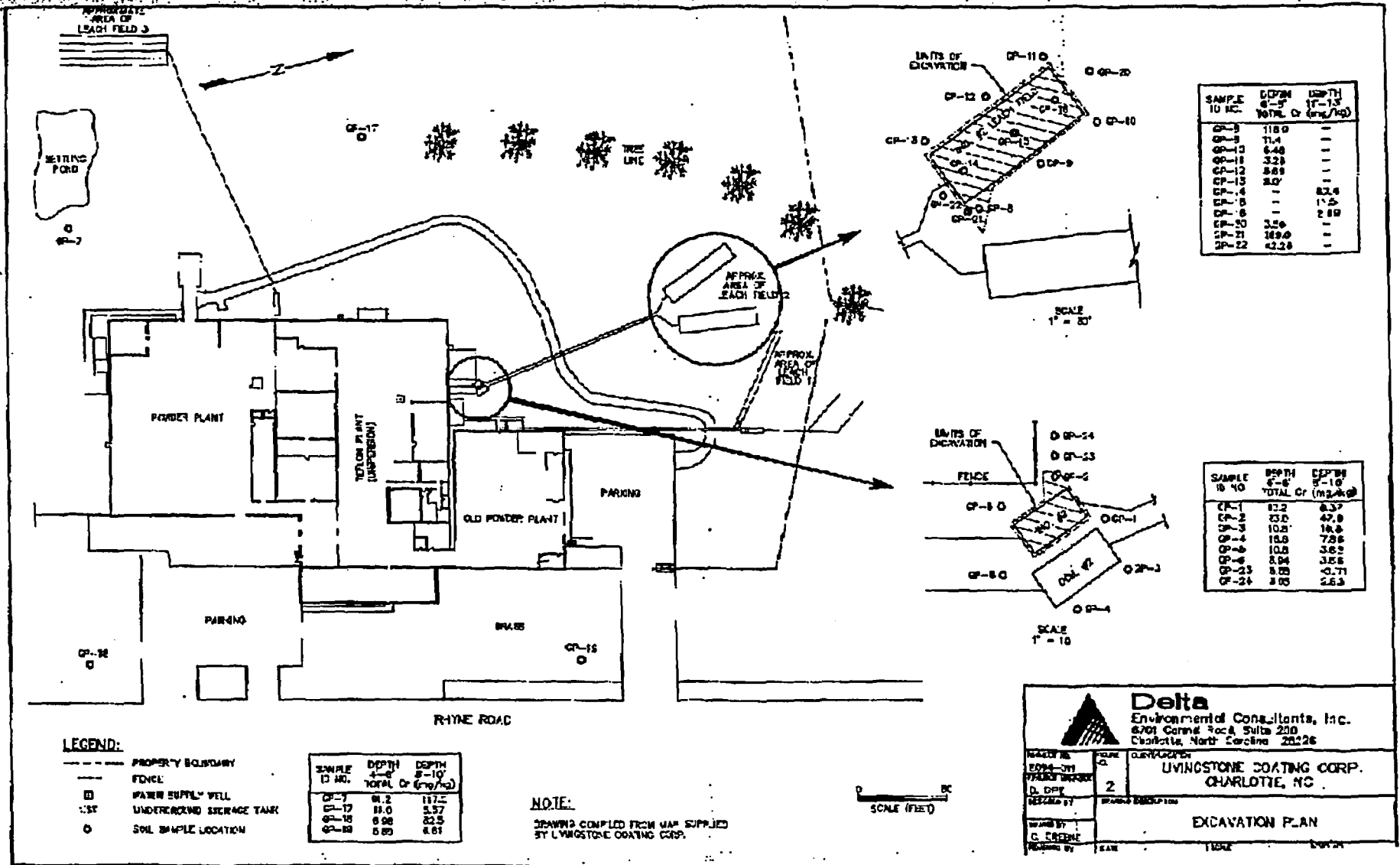


Delta
Environmental Consultants, Inc.
6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226

LIVINGSTONE COATING CORP., CHARLOTTE, NC

SOIL SAMPLING LOCATION MAP

DATE: 1-17-87
SCALE: AS SHOWN
JOB NO.: 011-34



| SAMPLE ID NO. | DEPTH 0'-5' TOTAL Cr (mg/kg) | DEPTH 5'-10' TOTAL Cr (mg/kg) |
|---------------|------------------------------|-------------------------------|
| CP-5 | 118.0 | --- |
| CP-8 | 71.4 | --- |
| CP-10 | 6.40 | --- |
| CP-18 | 328 | --- |
| CP-12 | 888 | --- |
| CP-13 | 8.07 | --- |
| CP-14 | --- | 82.6 |
| CP-6 | --- | 12.5 |
| CP-9 | --- | 2.89 |
| CP-21 | 1.56 | --- |
| CP-22 | 42.8 | --- |

| SAMPLE ID NO. | DEPTH 0'-5' TOTAL Cr (mg/kg) | DEPTH 5'-10' TOTAL Cr (mg/kg) |
|---------------|------------------------------|-------------------------------|
| CP-1 | 12.2 | 8.37 |
| CP-2 | 23.0 | 47.8 |
| CP-3 | 10.5 | 18.8 |
| CP-4 | 15.5 | 7.88 |
| CP-6 | 10.8 | 3.62 |
| CP-8 | 8.94 | 3.55 |
| CP-23 | 8.89 | 43.71 |
| CP-24 | 8.05 | 2.53 |

JS



{6701 Carmel Road, Suite 200}
{Charlotte, North Carolina 28226}
{(704) 541-9890}
FAX: (704) 543-4035

Providing a Competitive Edge

FAX TRANSMITTAL FORM

TO: Jesse Wells
COMPANY: Hazardous Waste Section, Mooresville Office
DATE: January 31, 1997 **TIME:** 4:14 PM
FAX NO: 663-6040
SUBJECT: Livingstone Coating Corp /Notice of Violation

MESSAGE:

FROM: David Gipe

Number of pages to follow: 2
Sent:



6701 Carmel Road
Suite 200
Charlotte, NC 28226-3901
704/541-9890
FAX: 704/543-4035

January 31, 1997

North Carolina Department of Environment,
Health and Natural Resources
Division of Solid Waste Management
Hazardous Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687

Attention: Mr. James A. Carter, Chief
Hazardous Waste Section

Subject: Notice Of Violation
Docket # 97-034
Closure of Industrial Leach Field #2
Livingstone Coating Corporation
Charlotte, North Carolina
Delta No. E094-011-1.0060

Dear Mr. Carter:

Delta Environmental Consultants, Inc. (Delta) is submitting this letter to document an agreement between Mr. Peter Doorn of the Hazardous Waste Section (HWS) and Mr. David W. Gipe of Delta Environmental Consultants, Inc. (Delta) on behalf of Livingstone. On Monday, January 27, 1997, Mr. Jesse Wells of the Mooresville Regional Office contacted Livingstone and informed them not to proceed with the closure of industrial leach field #2. Over the following 4 days, Delta and representatives of the HWS including yourself, Keith Masters and Peter Doorn discussed the reasons behind the request not to proceed with closure. On Friday morning, January 31, 1997, Peter Doorn said that it had been decided that Livingstone should proceed with the closure of industrial leach field #2 as a generator closure following the methods outlined in Delta's Comprehensive Sampling and Analysis report dated January 17, 1997.

Mr. Doorn suggested using the EPA Region 3 soil screening level for chromium as an appropriate cleanup standard for potentially impacted soils. The soil screening level for chromium which is protective of ground water for hexavalent chromium is 19 mg/kg. As there is no approved analytical method for hexavalent chromium in soils, Delta will initially analyze the soil for total chromium. At the present time, Delta will assume that all chromium remaining in the soil is hexavalent which will result in the most conservative assumption and be most protective of the environment.

Notice of Violation
Closure of Industrial Leach Field #2
Livingstone Coating Corporation
Delta Project No. E094-011-1.0060

Page 2

Delta has informed Hepaco, Inc. to begin work on the closure of industrial leach field #2 effective Monday February 3, 1997.

If you have any questions concerning this letter, or any objections to the proposed work plan, please contact me at 704-541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

David W. Gipe/mcw

David W. Gipe, P.E.
Project Manager

DWG/mcw

Attachments

cc: J. Scott Moncrief, Livingstone Coating Corporation
Peter Doorn, HWS Raleigh
Jesse Walls, HWS Mooresville
Rick Gaskins, Petree Stockton
Susan Cooper, Petree Stockton



COPY

6701 Carmel Road
Suite 200
Charlotte, NC 28226-3901
704/541-9890
FAX: 704/543-4035

January 31, 1997

North Carolina Department of Environment,
Health and Natural Resources
Division of Solid Waste Management
Hazardous Waste Section
P.O. Box 27687
Raleigh, North Carolina 27611-7687



Attention: Mr. James A. Carter, Chief
Hazardous Waste Section

Subject: Notice Of Violation
Docket # 97-034
Closure of Industrial Leach Field #2
Livingstone Coating Corporation
Charlotte, North Carolina
Delta No. E094-011-1.0060

Dear Mr. Carter:

Delta Environmental Consultants, Inc. (Delta) is submitting this letter to document an agreement between Mr. Peter Doorn of the Hazardous Waste Section (HWS) and Mr. David W. Gipe of Delta Environmental Consultants, Inc. (Delta) on behalf of Livingstone. On Monday, January 27, 1997, Mr. Jesse Wells of the Mooresville Regional Office contacted Livingstone and informed them not to proceed with the closure of industrial leach field #2. Over the following 4 days, Delta and representatives of the HWS including yourself, Keith Masters and Peter Doorn discussed the reasons behind the request not to proceed with closure. On Friday morning, January 31, 1997, Peter Doorn said that it had been decided that Livingstone should proceed with the closure of industrial leach field #2 as a generator closure following the methods outlined in Delta's Comprehensive Sampling and Analysis report dated January 17, 1997.

Mr. Doorn suggested using the EPA Region 3 soil screening level for chromium as an appropriate cleanup standard for potentially impacted soils. The soil screening level for chromium which is protective of ground water for hexavalent chromium is 19 mg/kg. As there is no approved analytical method for hexavalent chromium in soils, Delta will initially analyze the soil for total chromium. At the present time, Delta will assume that all chromium remaining in the soil is hexavalent which will result in the most conservative assumption and be most protective of the environment.

Delta has informed Hepaco, Inc. to begin work on the closure of industrial leach field #2 effective Monday February 3, 1997.

If you have any questions concerning this letter, or any objections to the proposed work plan, please contact me at 704-541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

David W. Gipe/mcw

David W. Gipe, P.E.
Project Manager

DWG/mcw

Attachments

cc: J. Scott Moncrief, Livingstone Coating Corporation
Peter Doorn, HWS Raleigh
Jesse Wells, HWS Mooresville
Rick Gaskins, Petree Stockton
Susan Cooper, Petree Stockton

FAX TRANSMITTAL FORM

P. 01/08



6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226
(704) 541-9890
FAX: (704) 543-4035

TO: Jesse Wells
COMPANY: NCD SH&R - Mooresville
DATE: 1/21/97 FAX #: 663-6040
SUBJECT: Limestone Coating
DELTA PROJECT #: 0094-01-1 # OF PAGES TO FOLLOW: 9
FROM: Rick Sanderson

MESSAGE: Per our telephone conversation, please review and let us know of any comments or concerns. We are planning on starting this work next week. Also, this has been submitted to the State Hazardous Waste Management Division for approval.

Working to be the best for selected clients at solving environment-related business problems - The Delta Way

JAN-21-97 TUE 14:56



COPY

6701 Carme Road
 Suite 200
 Charlotte NC 28226-3921
 704/541-0300
 FAX: 704/543-4035

January 17, 1997

North Carolina Department of Environment,
 Health and Natural Resources
 Division of Solid Waste Management
 Hazardous Waste Section
 P.O. Box 27687
 Raleigh, North Carolina 27611-7687

Attention: Mr. James A. Carter, Chief
 Hazardous Waste Section

Subject: Notice Of Violation
 Docket # 97-034
 Comprehensive Sampling and Analysis Report
 Livingstone Coating Corporation
 Charlotte, North Carolina
 Delta No. EG94-011-1.006C

Dear Mr. Carter:

Delta Environmental Consultants, Inc. (Delta) is submitting this Comprehensive Sampling and Analysis Report on behalf of Livingstone Coating Corporation (Livingstone). This report is in response to Item 1 of the Compliance Schedule on page 3 of your letter dated December 19, 1996.

WASTEWATER CHARACTERIZATION AND ANALYTICAL PROTOCOL

Delta performed a wastewater characterization of influent to industrial septic tank #2 which included collection of 24 hour composite samples over a four day period. These samples were analyzed for the eight RCRA metals and only chromium was found above the method detection limits. A TCLP analysis for RCRA metals was also been performed on this wastewater and again only chromium was found above the method detection limits. The results of this analytical testing is shown in Table 1. Therefore, Delta chose to analyze the soil samples for chromium and not the other seven RCRA metals as they were not present in the wastestream.

SOIL SAMPLING

On December 6, 1996 Delta collected 23 soil samples at 16 different locations via direct push technology (Figure 1). Two of these soil samples were designated as being from a background

location (GP-7). The remaining 21 soil samples were collected adjacent to industrial septic tank and leach field #2. Soil samples were collected at the background location and adjacent to the septic tank at depths of 4-6 feet and 8-10 feet. These depths were selected as they represent the depth just below the top and bottom of the septic tank. The soil samples collected around the perimeter of the leach field were at a depth of 6-8 feet. This depth represents the area of gravel backfill used in the leach field. The soil samples collected within the boundary of the leach field were collected approximately 3 feet below the bottom of the leach field. All soil samples were analyzed for total chromium. The results of this sampling event are included in Table 2.

Based on the results of the soil sampling performed on December 6, 1996, Delta collected 13 additional soil samples on December 27, 1996 via direct push technology. These samples were collected to further define the potentially contaminated area and also to more accurately define background chromium concentrations. These soil samples were analyzed for total chromium. The results are included in Table 2.

CLOSURE OF INDUSTRIAL SEPTIC TANK #2

On December 12, 1996, Delta contracted with Shamrock Environmental Corporation (Shamrock) to remove and dispose of the contents of industrial septic tank #2. This work also included pressure washing of the septic tank and disposal of wash water. Documentation concerning the disposal of this material is attached. No evidence of cracks or other structural failures was noted in the septic tank. The septic tank and leach field remain out of service.

INDUSTRIAL LEACH FIELD #2 INVESTIGATION

On December 5, 1996, Delta contracted with Superior Industrial Maintenance Company (SIMCO) to define the horizontal and vertical limits of industrial leach field #2 and define the construction characteristics. SIMCO was directed by Delta to excavate a series of trenches perpendicular to the suspected leach field area. The length and depth of the trenches was determined by the appearance of gravel in the excavations. Delta was able to determine that the leach field covers an area approximately 18 feet wide by 45 feet long. The top of the leach field is covered with 4-5 feet of native soils followed by 18 to 24 inches of coarse gravel placed on undisturbed soils. Free standing water was observed in the trenches when they were first excavated but the water would quickly dissipate into the rest of the leach field.

Delta collected a sample of the leach field gravel and the free standing water. The samples were analyzed for chromium via TCLP. The standing water had a TCLP chromium concentration of 12.9 mg/L. The leach field gravel had a TCLP chromium concentration of 0.063 mg/L which is less than the hazardous waste regulatory level.

FINDINGS

- Delta collected a total of 8 soil samples to measure the approximate background level of chromium in the soils and 28 soil samples to determine the potential extent of soil contamination resulting from the wastewater in industrial septic tank and leach field #2.
- Delta estimates that the background chromium concentration in soils adjacent to the septic tank and leach field is less than 20 mg/kg. Background samples in some locations may be higher.

P. 03/09

JAN-21-97 TUE 14:56

- The free standing liquid in the leach field exceeds the TCLP hazardous waste regulatory level of 5 mg/L. ★
- The gravel in the leach field does not exceed the TCLP hazardous waste regulatory level of 5 mg/L.

RECOMMENDATIONS

- Livingstone will remove industrial septic tank #2 and the soils adjacent to the northwest corner near sampling point GP-2 (Figure 2). The concrete from the septic tank and the soils will be containerized on site and analyzed for TCLP chromium. The material will then be properly disposed of off-site.
- Livingstone will excavate the soils covering industrial leach field #2 and store on site for use as backfill. The leach field gravel will be containerized and disposed of off-site as non hazardous waste. The free liquids in the leach field excavation will be pumped to an on-site container and disposed of as hazardous waste.
- Livingstone will excavate the soils beneath the south end of the leach field to a depth of 15 ft and containerize on-site for further analysis. Delta will also excavate the area at the south east end of the leach field near sampling points GP-3 and GP-22 to a depth of 12 to 15 ft (Figure 2). These soils will be containerized on-site for further analysis.
- Livingstone will collect confirmatory samples for analysis of total chromium to evaluate the adequacy of the soil removal process.
- The above recommendations will be completed by February 20, 1997.

If you have any questions concerning this report please contact me at 704-541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

David W. Gipe, mcw

David W. Gipe, P.E.
Project Manager

DWG/mcw

Attachments

cc: I. Scott Moncrief, Livingstone Coating Corporation

P. 04/09

JAN-21-97 TUE 14:57

JAN-21-97 TUE 14:57

P. 05/09

TABLES

**TABLE 1
WASTEWATER CHARACTERIZATION
INDUSTRIAL SEPTIC TANK #2
LIVINGSTONE COATING CORPORATION**

| RCRA METALS | SAMPLE 1 mg/L | SAMPLE 2 mg/L | SAMPLE 3 mg/L | SAMPLE 4 mg/L | SAMPLE 5 TCLP mg/L |
|-------------|------------------|------------------|------------------|------------------|-----------------------|
| Arsenic | <0.010 | <0.010 | <0.010 | <0.010 | <0.050 |
| Barium | <0.125 | <0.125 | <0.125 | <0.125 | <0.100 |
| Cadmium | <0.005 | <0.005 | <0.005 | <0.005 | <0.010 |
| Chromium | 164 | 44 | 102 | 105 | 26 |
| Lead | <0.050 | <0.050 | <0.050 | <0.050 | <0.010 |
| Mercury | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.00040 |
| Selenium | <0.005 | <0.005 | <0.005 | <0.005 | <0.050 |
| Silver | <0.005 | <0.005 | <0.005 | <0.005 | <0.020 |

*

P. 07/09

TABLE 2
SOIL SAMPLING ANALYTICAL RESULTS
TOTAL CHROMIUM MG/KG
LIVINGSTONE COATING CORPORATION

20 or less BBT method

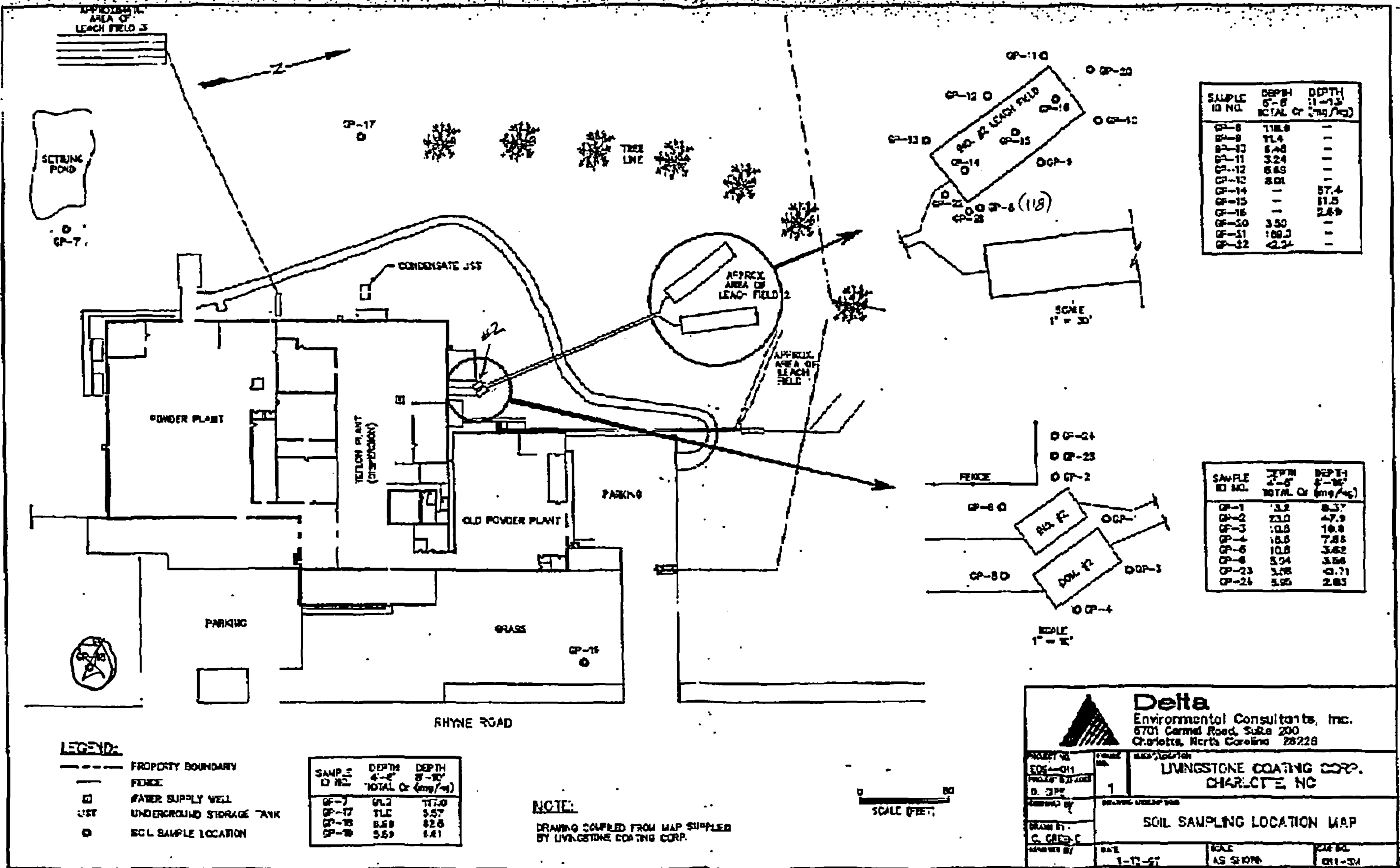
hericidly? TCP 20:1

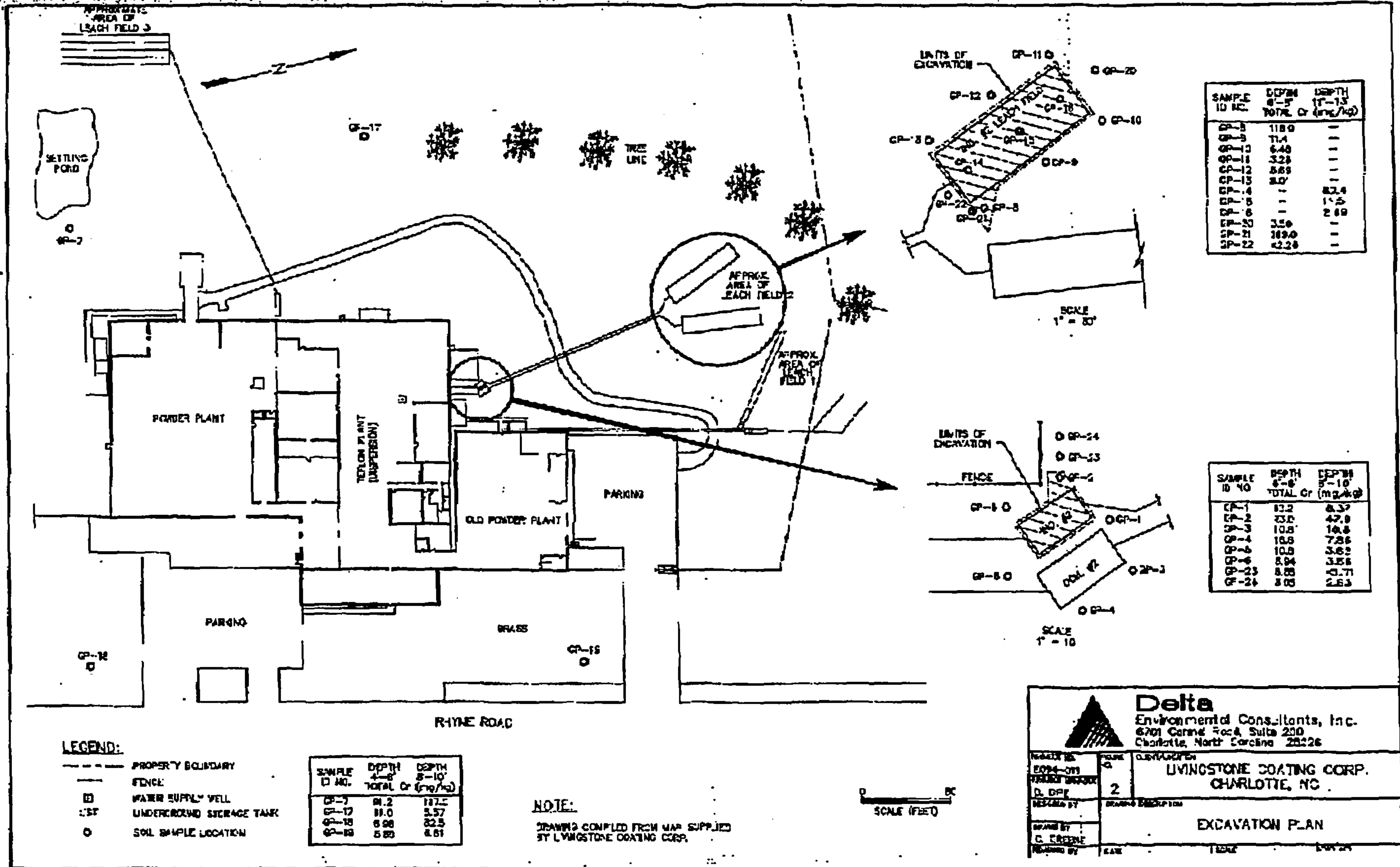
JAN-21-97 TUE 14:57
Background?

would hericidly find TCP at 20:1 dilution

| SAMPLE ID | SAMPLE DEPTH FT | LOCATION DESIGNATION | DECEMBER 6, 1996 TOTAL CHROME MG/KG | DECEMBER 27, 1996 TOTAL CHROME MG/KG |
|-----------|-----------------|----------------------|---|--|
| GP-1A | 4-6 ft | N. End St, #2 | 15.2 | |
| GP-1B | 8-10 ft | N. End St, #2 | 8.37 | |
| GP-2A | 4-6 ft | NW Cor St, #2 | | |
| GP-2B | 8-10 ft | NW Cor St, #2 | | |
| GP-3A | 4-6 ft | NE Cor St, #2 | 10.8 | |
| GP-3B | 8-10 ft | NE Cor St, #2 | 10.8 | |
| GP-4A | 4-6 ft | SE Cor St, #2 | 16.6 | |
| GP-4B | 8-10 ft | SE Cor St, #2 | 7.36 | |
| GP-5A | 4-6 ft | S End St, #2 | 10.8 | |
| GP-5B | 8-10 ft | S End St, #2 | 3.62 | |
| GP-6A | 4-6 ft | SW Cor St, #2 | 3.94 | |
| GP-6B | 8-10 ft | SW Cor St, #2 | 3.56 | |
| GP-7A | 4-6 ft | Background | 91.2 | |
| GP-7B | 8-10 ft | Background | 117 | |
| GP-8 | 6-8 ft | SE Cor LF, #2 | | |
| GP-9 | 6-8 ft | E Side LF, #2 | 11.4 | |
| GP-10 | 6-8 ft | NE Cor LF, #2 | 6.48 | |
| GP-11 | 6-8 ft | NW Cor LF, #2 | 3.24 | |
| GP-12 | 6-8 ft | W Side LF, #2 | 5.69 | |
| GP-13 | 6-8 ft | SW Cor LF, #2 | 8.01 | |
| GP-14 | 6-8 ft | SE Inside LF, #2 | | |
| GP-15 | 6-8 ft | MID Inside LF, #2 | 11.5 | |
| GP-16 | 6-8 ft | NE Inside LF, #2 | 2.69 | |
| GP-17 | 4-6 ft | Background | | 11 |
| GP-17 | 8-10 ft | Background | | 5.57 |
| GP-18 | 4-6 ft | Background | | 6.98 |
| GP-18 | 8-10 ft | Background | | 82.5 |
| GP-19 | 4-6 ft | Background | | 5.89 |
| GP-19 | 8-10 ft | Background | | 6.61 |
| GP-20 | 6-8 ft | N End LF, #2 | | 3.5 |
| GP-21 | 6-8 ft | same as GP-8 | | |
| GP-22 | 6-8 ft | S End LF, #2 | | <2.24 |
| GP-23 | 4-6 ft | West of GP-2 | | 5.58 |
| GP-23 | 8-10 ft | West of GP-2 | | <1.71 |
| GP-24 | 4-6 ft | West of GP-22 | | 3.95 |
| GP-24 | 8-10 ft | West of GP-22 | | 2.83 |

NE ADJ. TO S. SIDE OF N. END ST.





Delta
Environmental Consultants, Inc.
6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226

PROJECT NO. E094-075
CLIENT LIVINGSTONE COATING CORP., CHARLOTTE, NC.
SCALE 2

DATE 1/21/87
DRAWN BY G. EBERLE
CHECKED BY []
TITLE EXCAVATION PLAN

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director
January 10, 1997

J. SCOTT MONCRIEF
LIVINGSTONE COATING CORPORATION
Po Box 668267
CHARLOTTE, NC 28266



RE EPA ID NO.: NCD003172442

Dear Sir/Madam:

Based on information received by this office for the site identified with the EPA ID number, the state has accepted and processed the change in RCRA classification or information for the above site.

Please verify the computer generated information below and notify us of any corrections. We are advising EPA of the changes.

Sincerely,


R. J. Edwards, Administrative Assistant
Division of Waste Management

[REDACTED]
'X' indicates operation status of your facility.

| | | |
|--|-----------------------------------|---|
| <input type="checkbox"/> LARGE GENERATOR | <input type="checkbox"/> STORES | <input type="checkbox"/> TRANSPORTER |
| <input checked="" type="checkbox"/> SMALL QNTY GENERATOR | <input type="checkbox"/> TREATER | <input type="checkbox"/> SMALL QTY BURNER |
| <input type="checkbox"/> EXEMPT SMALL QNTY | <input type="checkbox"/> DISPOSER | <input type="checkbox"/> USED OIL |
| <input type="checkbox"/> LG QNTY. UNIVERSAL | | |

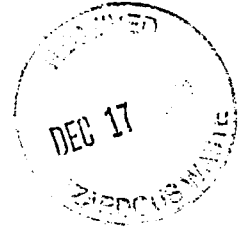
Company name: LIVINGSTONE COATING CORPORATION
Owner: LIVINGSTONE COAT INC. CORP.
Contact: MONCRIEF J. SCOTT,
Phone number: 910/392-2323
Location address: 240 RHYNE RD @ NC 27 W
City, St & ZIP: CHARLOTTE, NC 28266-

Please notify us if there is any further change in your operation which would affect your status namely
Company's Name, Ownership, Address, Contact or Telephone Number.

Your EPA ID number is currently active.

cc: JOE PARKER

December 12, 1996



To whom it may concern:

Livingstone Coating Corporation is submitting the attached completed EPA Form 8700-12 indicating Regulated Waste Activity on a Large Quantity Generator status for a one-time closure project. Livingstone's ongoing day-to-day operations continue and will continue in the future to generate regulated wastes at a Small Quantity Generator status level.

LIVINGSTONE COATING CORPORATION

A handwritten signature in cursive script, appearing to read "H. S. Trammell".

H. S. Trammell
President

Please refer to the instructions for filling out this form before completing this form. The information requested here is required by law (Section 3016 of the Resource Conservation and Recovery Act).



Notification of Regulated Waste Activity

United States Environmental Protection Agency

202122
DEC 17 1996
257627

Date Received (For Official Use Only)

DEC 17

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

A. First Notification

B. Subsequent Notification (Complete Item C)

C. Installation's EPA ID Number
N 0 2 D 0 0 3 5 7 2 4 4 2

II. Name of Installation (Include company and specific site name)

L I V I N G S T O N E C O A T I N G C O R P O R A T I O N

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street

2 4 0 R H Y N E R O A D

Street (Continued)

City or Town

C H A R L O T T E

State

N C

Zip Code

2 8 2 1 4 -

County Code

County Name

M E C K L E N B U R G

IV. Installation Mailing Address (See instructions)

Street or P.O. Box

P O B O X 6 6 8 2 6 7

City or Town

C H A R L O T T E

State

N C

Zip Code

2 8 2 6 6 - 8 2 6 7

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (Last)

M O N C R I E F

(First)

J. S C O T T

Job Title

M A N A G E R - E N G

Phone Number (Area Code and Number)

7 0 4 - 3 9 2 - 2 3 2 3

VI. Installation Contact Address (See instructions)

A. Contact Address Location Mailing Other

B. Street or P.O. Box

City or Town

State

Zip Code

VII. Ownership (See instructions)

A. Name of Installation's Legal Owner

L I V I N G S T O N E C O A T I N G C O R P

Street, P.O. Box, or Route Number

P O B O X 6 6 8 2 6 7

City or Town

C H A R L O T T E

State

N C

Zip Code

2 8 2 6 6 - 8 2 6 7

Phone Number (Area Code and Number)

7 0 4 - 3 9 2 - 2 3 2 3

B. Land Type

P

C. Owner Type

P

D. Change of Owner Indicator

Yes No

(Date Changed)

Month Day Year
0 4 0 1 8 9

ID - For Official Use Only

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|

VIII. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes; Refer to instructions)

| A. Hazardous Waste Activity | | | B. Used Oil Recycling Activities | | |
|--|--|--|---|--|--|
| 1. Generator (See instructions) <input type="checkbox"/> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> a. Greater than 1000kg/mo (2,200 lbs.) <input type="checkbox"/> b. 100 to 1000 kg/mo (200-2,200 lbs.) <input type="checkbox"/> c. Less than 100 kg/mo (220 lbs.) | | | 1. Used Oil Fuel Marketer <input type="checkbox"/> <ul style="list-style-type: none"> <input type="checkbox"/> a. Marketer Directs Shipment of Used Oil to Off-Specification Burner <input type="checkbox"/> b. Marketer Who First Claims the Used Oil Meets the Specifications | | |
| 2. Transporter (Indicates Mode in boxes 1-6 below) <ul style="list-style-type: none"> <input type="checkbox"/> a. For own waste only <input type="checkbox"/> b. For commercial purposes | | | 2. Used Oil Burner - Indicates Type(s) of Combustion Device(s) <input type="checkbox"/> <ul style="list-style-type: none"> <input type="checkbox"/> a. Utility Boiler <input type="checkbox"/> b. Industrial Boiler <input type="checkbox"/> c. Industrial Furnace | | |
| Mode of Transportation <ul style="list-style-type: none"> <input type="checkbox"/> 1. Air <input type="checkbox"/> 2. Rail <input type="checkbox"/> 3. Highway <input type="checkbox"/> 4. Water <input type="checkbox"/> E. Other - specify _____ | | | 3. Used Oil Transporter - Indicates Type(s) of Activity/ies <input type="checkbox"/> <ul style="list-style-type: none"> <input type="checkbox"/> a. Transporter <input type="checkbox"/> b. Transfer Facility <input type="checkbox"/> 4. Used Oil Processor/Refiner - Indicates Type(s) of Activity/ies <ul style="list-style-type: none"> <input type="checkbox"/> a. Process <input type="checkbox"/> b. Re-refining | | |
| 3. Trailer, Storage, Disposer (at Installation) Note: A permit is required for this activity; see instructions. <ul style="list-style-type: none"> <input type="checkbox"/> Hazardous Waste Fuel <input type="checkbox"/> a. Generator Marketing to Burner <input type="checkbox"/> b. Other Marketers <input type="checkbox"/> c. Boiler and/or Industrial Furnace <input type="checkbox"/> 1. Smaller Diameter <input type="checkbox"/> 2. Small Quantity Exemption Indicate Type of Combustion Device(s) <ul style="list-style-type: none"> <input type="checkbox"/> 1. Utility Boiler <input type="checkbox"/> 2. Industrial Boiler <input type="checkbox"/> 3. Industrial Furnace <input type="checkbox"/> E. Underground Injection Control | | | | | |

IX. Description of Hazardous Wastes (Use additional sheets if necessary)

A. Characteristics of Nonlisted Hazardous Wastes. (Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles: See 40 CFR Parts 261.20 - 261.24)

| | | | | | | | | | | | |
|--|--|---|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1. Ignitable (DOT#) <input type="checkbox"/> X | 2. Corrosive (DOT#) <input type="checkbox"/> | 3. Reactive (DOT#) <input type="checkbox"/> | 4. Toxicity Characteristic (Like specific EPA hazardous waste number(s) for the Toxicity characteristics corresponding to) <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

B. Listed Hazardous Wastes. (See 40 CFR 261.21 - 23; See instructions if you need to list more than 12 waste codes.)

| | | | | | |
|---------|---------|---|----|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 |
| F 0 0 2 | F 0 0 5 | | | | |
| | | | 10 | | 12 |

C. Other Wastes. (State or other wastes requiring a handler to have an LD number. See instructions.)

| | | | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | | | | | |

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my knowledge and the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature *H. S. Trammell*

Name and Official Title (Type or print)
H. S. Trammell, President

Date Signed
12/10/96

XI. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management



James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director
January 15, 1997

J. SCOTT MONCRIEF
LIVINGSTONE COATING CORPORATION
Po Box 668267
CHARLOTTE, NC 28266

RE EPA ID NO.: NCD003172442

Dear Sir/Madam:

Based on information received by this office for the site identified with the EPA ID number, the state has accepted and processed the change in RCRA classification or information for the above site.

Please verify the computer generated information below and notify us of any corrections. We are advising EPA of the changes.

Sincerely,


R. J. Edwards, Administrative Assistant
Division of Waste Management

[REDACTED]
'X' indicates operation status of your facility.

| | | |
|---|-----------------------------------|---|
| <input checked="" type="checkbox"/> LARGE GENERATOR | <input type="checkbox"/> STORES | <input type="checkbox"/> TRANSPORTER |
| <input type="checkbox"/> SMALL QNTY GENERATOR | <input type="checkbox"/> TREATER | <input type="checkbox"/> SMALL QTY BURNER |
| <input type="checkbox"/> EXEMPT SMALL QNTY | <input type="checkbox"/> DISPOSER | <input type="checkbox"/> USED OIL |
| <input type="checkbox"/> LG QNTY. UNIVERSAL | | |

Company name: LIVINGSTONE COATING CORPORATION
Owner: LIVINGSTONE COAT INC. CORP.
Contact: MONCRIEF J. SCOTT,
Phone number: 910/392-2323
Location address: 240 RHYNE RD @ NC 27 W
City, St & ZIP: CHARLOTTE, NC 28266-

Please notify us if there is any further change in your operation which would affect your status namely
Company's Name, Ownership, Address, Contact or Telephone Number.

Your EPA ID number is currently active.

cc: JOE PARKER

December 19, 1996

To: Sue Page

From: Jesse W. Wells

Subject: IMNOV
Livingstone Coating Corporation
Mecklenburg County, N.C.

Attached is a draft IMNOV to be issued to the subject facility. A disc is included with the document. The file name is A: livingim.jw. Please advise should you have any questions.

cc: Keith Masters

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



DRAFT

Division of Waste Management
Hazardous Waste Section

December 19, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. H. Stephen Trammell
Livingstone Coating Corporation
P.O. Box 668267
Charlotte, N.C. 28266

NOTICE OF VIOLATION
Docket # _____

Dear Mr. Trammell:

On December 18, 1980, the State of North Carolina, Hazardous Waste Section (Section) was authorized to operate the State Resource Conservation Recovery Act (RCRA) Hazardous Waste Program under the Solid Waste Management Act (Act), N.C.G.S. 130A, Article 9 and rules promulgated thereto at 15A NCAC 13A (Rules) in lieu of the federal RCRA program.

On August 9, 1996, Jesse W. Wells, Waste Management Specialist and Mr. Joseph Parker with this Office, took into possession two split samples of supernatant from two industrial septic tanks on the Livingstone Coating property. The sample collected from industrial tank #2 was determined to contain chromium in excess of the TCLP hazardous waste regulatory level of five mg/l (ppm). The concentration of chromium in the sample was determined to be 28.3 mg/l and thus would be considered characteristic hazardous waste (Report Attached). The liquid in industrial tank #2 exhibits the characteristic of a D007 hazardous waste as identified in Subpart C of 261.

- A. 40 CFR 261.1(a), codified at 15A NCAC 13A .0006, states that this part identifies those solid waste which are subject to regulation as hazardous wastes under Parts 262 through 276 and Parts 270,271 and 124 of this Chapter and which are subject to the notification requirements of Section 3010 of RCRA.
- B. 40 CFR 261.2(b), codified at 15 A NCAC 13A .0006, states that materials are solid waste if they are abandoned by being (1) disposed of; or (2) burned or incinerated; or (3) accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of burned, or incinerated.



C. 40 CFR 261.3(a), codified at 15A NCAC 13A .0006, states that a solid waste, as defined in Section 261.2 is a hazardous waste if:

1. It is not excluded from regulation as a hazardous waste under Section 261.4(b);
and
2. It meets any of the following criteria:
 - i. It exhibits the characteristics of hazardous waste identified in Subpart C.
 - ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20 and 260.22 of this chapter.
 - iii. It is a mixture of solid waste and hazardous waste that is listed in Subpart D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C, unless the resultant mixture no longer exhibits any characteristics of hazardous waste identified in Subpart C.
 - iv. It is a mixture of solid waste and one or more hazardous waste listed in Subpart D and has not been excluded from this paragraph under Sections 260.20 and 260.22 of this chapter.

D. NCGS 130A-290(6), defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land, water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwater.

E. It is the determination of the Section that the disposal of the industrial wastewater from processes discharging into tank #2 constitutes disposal of hazardous waste subject to all applicable requirements of 40 CFR 262 through 265 and 270. Specifically:

1. 40 CFR 262.11, codified at 15A NCAC 13A .0007, states that a person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:
 - a. He should first determine if the waste is excluded from regulation under 40 CFR 261.4 and 261.5.
 - b. He must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR 261.

- c. If the waste is not listed as a hazardous waste in Subpart D of 40 CFR Part 261, he must determine whether the waste is identified in Subpart C of 40 CFR 261 by either:
- i. Testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or
 - ii. Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

Livingstone Coating Corporation is in violation of 40 CFR 262.11, codified at 15A NCAC 13A .0007, in that it generated a solid waste, as defined in 40 CFR 261.2 and did not determine if that waste is a hazardous waste.

2. 15A NCAC 13A .0009(a), states that any person who treats, stores, or disposes of hazardous waste shall comply with the requirements set forth in this section. The treatment, storage or disposal of hazardous waste is prohibited except as provided in this section.

Livingstone Coating Corporation is in violation of 15A NCAC 13A .0009(a), in that hazardous waste has been disposed without complying with the requirements set forth in this section.

COMPLIANCE SCHEDULE

By the dates specified below, Livingstone Coating Corporation, Charlotte, North Carolina, shall comply with the following requirements:

1. Comply with 40 CFR 262.11, codified at 15A NCAC 13A .0007. An immediate determination and/or analysis of all waste that is being **discharged and disposed** on-site and off-site, to include but not limited to, spray booth filters and other solid waste must be completed to ensure proper characterization and disposition.

By Jan. 20, 1997, develop and submit to this office a comprehensive sampling and analysis report which will characterize soil contamination (inorganic) at your site, specific to the area of disposal. The assessment must be conducted in and around industrial tank #2 to include all distribution collection units and drain fields associated with the system. This report must specify constituents analyzed, sampling procedures, sampling locations, and depths that will assess the horizontal and vertical extent of contamination. Soil samples must be analyzed for the eight RCRA metals using the appropriate analytical methods.

Page Four
Livingstone Coating Corporation
December 19, 1996

Upon verification of contamination, Livingstone Coating Corporation must immediately provide for the remediation of the site including soil removal, storage and transportation to an off-site disposal facility and sampling to evaluate the adequacy of the cleanup. Livingstone Coating Corporation must complete the initial soil removal with post-excavation sampling results by _____. Failure by Livingstone Coating Corporation to initiate an effective site remediation by these dates may subject the site to additional requirements including closure plans, financial assurance for closure and groundwater monitoring.

2. Comply with 15A NCAC 13A .0009(a). Livingstone Coating Corporation shall no longer dispose of hazardous waste, and all hazardous waste previously on site shall be shipped to a permitted hazardous waste treatment, storage or disposal facility. The liquid contained in tank #2 must be immediately removed and managed as a hazardous waste.

During the interim, pending shipment of the waste, 40 CFR 262.34(a), codified at 15A NCAC 13A .0007 states that:

- a. If the waste is placed in containers, the generator must comply with Subpart I of 40 CFR Part 265 or if the waste is placed in tanks, the generator must comply with Subpart J of 40 CFR Part 265 except 265.193;
- b. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;
- c. While being accumulated on-site, each container and tank is labeled or marked clearly with the words "Hazardous Waste" and;
- d. The generator complies with the requirements for owners or operators in Section 265.16.

If the requirements above are not met, pursuant to N.C.G.S. 130A-22(a) and 15A NCAC 13B .0701-.0707, an administrative penalty of up to \$25,000.00 per day may be assessed for violation of the hazardous waste law or regulations.

If you should have any questions concerning this matter, you may contact Jesse W. Wells at (704) 663-1699 ext 287.

Sincerely,

cc: Keith Masters
Jesse Wells
Central Files

James A. Carter, Chief
Hazardous Waste Section

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
William L. Meyer, Director



December 19, 1996

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

NOTICE OF VIOLATION
Docket # 97-034

Mr. H. Stephen Trammell
Livingstone Coating Corporation
P.O. Box 668267
Charlotte, N.C. 28266

Dear Mr. Trammell:

On December 18, 1980, the State of North Carolina, Hazardous Waste Section (Section) was authorized to operate the State Resource Conservation Recovery Act (RCRA) Hazardous Waste Program under the Solid Waste Management Act (Act), N.C.G.S. 130A, Article 9 and rules promulgated thereto at 15A NCAC 13A (Rules) in lieu of the federal RCRA program.

On August 9, 1996, Jesse W. Wells, Waste Management Specialist and Mr. Joseph Parker with this Office, took into possession two split samples of supernatant from two industrial septic tanks on the Livingstone Coating property. The sample collected from industrial tank #2 was determined to contain chromium in excess of the TCLP hazardous waste regulatory level of five mg/l (ppm). The concentration of chromium in the sample was determined to be 28.3 mg/l and thus would be considered characteristic hazardous waste (Report Attached). The liquid in industrial tank #2 exhibits the characteristic of a D007 hazardous waste as identified in Subpart C of 261.

- A. 40 CFR 261.1(a), codified at 15A NCAC 13A .0006, states that this part identifies those solid waste which are subject to regulation as hazardous wastes under Parts 262 through 276 and Parts 270,271 and 124 of this Chapter and which are subject to the notification requirements of Section 3010 of RCRA.
- B. 40 CFR 261.2(b) codified at 15 A NCAC 13A .0006, states that materials are solid waste if they are abandoned by being (1) disposed of; or (2) burned or incinerated; or (3) accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of burned, or incinerated.

P.O. Box 27687,
Raleigh, North Carolina 27611-7687
Voice 919-733-4996



FAX 919-715-3605
An Equal Opportunity Affirmative Action Employer
50% recycled/10% post-consumer paper

- C. 40 CFR 261.3(a), codified at 15A NCAC 13A .0006, states that a solid waste, as defined in Section 261.2 is a hazardous waste if:
1. It is not excluded from regulation as a hazardous waste under Section 261.4(b); and
 2. It meets any of the following criteria:
 - i. It exhibits the characteristics of hazardous waste identified in Subpart C.
 - ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20 and 260.22 of this chapter.
 - iii. It is a mixture of solid waste and hazardous waste that is listed in Subpart D solely because it exhibits one or more of the characteristics of hazardous waste identified in Subpart C, unless the resultant mixture no longer exhibits any characteristics of hazardous waste identified in Subpart C.
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- D. NCGS 130A-290(6), defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking or placing of any solid waste into or on any land, water so that the solid waste or any constituent part of the solid waste may enter the environment or the emitted into the air or discharged into any waters, including groundwater.
- E. It is the determination of the Section that the disposal of the industrial wastewater from processes discharging into tank #2 constitutes disposal of hazardous waste subject to all applicable requirements of 40 CFR 262 through 265 and 270. Specifically:
1. 40 CFR 262.11, codified at 15A NCAC 13A .0007, states that a person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:
 - a. He should first determine if the waste is excluded from regulation under 40 CFR 261.4 and 261.5.
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 - i. Testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or
 - ii. Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

Livingstone Coating Corporation is in violation of 40 CFR 262.11, codified at 15A NCAC 13A .0007, in that it generated a solid waste, as defined in 40 CFR 261.2 and did not determine if that waste is a hazardous waste.

- 2. 15A NCAC 13A .0009(a), states that any person who treats, stores, or disposes of hazardous waste shall comply with the requirements set forth in this section. The treatment, storage or disposal of hazardous waste is prohibited except as provided in this section.

Livingstone Coating Corporation is in violation of 15A NCAC 13A .0009(a), in that hazardous waste has been disposed without complying with the requirements set forth in this section.

COMPLIANCE SCHEDULE

By the dates specified below, Livingstone Coating Corporation, Charlotte, North Carolina, shall comply with the following requirements:

- 1. Comply with 40 CFR 262.11, codified at 15A NCAC 13A .0007. An immediate determination and/or analysis of **all waste** that is being **discharged and disposed** on-site and off-site, to include but not limited to, spraybooth filters and other solid waste must be completed to ensure proper characterization and disposition.

By January 20, 1997, develop and submit to this office a comprehensive sampling and analysis report which will characterize soil contamination (inorganic) at your site, specific to the area of disposal. The assessment must be conducted in and around industrial tank #2 to include all distribution collection units and drain fields associated with the system. This report must specify constituents analyzed, sampling procedures, sampling locations, and depths that will assess the horizontal and vertical extent of contamination. Soil

samples must be analyzed for the eight RCRA metals using the appropriate analytical methods.

Upon verification of contamination, Livingstone Coating Corporation must immediately provide for the remediation of the site including soil removal, storage and transportation to an off-site disposal facility and sampling to evaluate the adequacy of the cleanup. Livingstone Coating Corporation must complete the initial soil removal with post-excavation sampling results by February 20, 1997. Failure by Livingstone Coating Corporation to initiate an effective site remediation by these dates may subject the site to additional requirements including closure plans, financial assurance for closure and groundwater monitoring.

2. Comply with 15A NCAC 13A .0009(a). Livingstone Coating Corporation shall no longer dispose of hazardous waste, and all hazardous waste previously on site shall be shipped to a permitted hazardous waste treatment, storage or disposal facility. The liquid contained in tank #2 must be immediately removed and managed as a hazardous waste.

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- b. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;
- c. While being accumulated on-site, each container and tank is labeled or marked clearly with the words "Hazardous Waste" and;
- d. The generator complies with the requirements for owners or operators in Section 265.16.

If the requirements above are not met, pursuant to N.C.G.S. 130A-22(a) and 15A NCAC 13B .0701-.0707, an administrative penalty of up to \$25,000.00 per day may be assessed for violation of the hazardous waste law or regulations.

Page Five
Livingstone Coating Corporation

If you should have any questions concerning this matter, you may contact Jesse W. Wells at (704) 663-1699 ext 287.

Sincerely,



James A. Carter, Chief
Hazardous Waste Section

cc: Keith Masters
Jesse Wells
Central Files

December 12, 1996



To whom it may concern:

Livingstone Coating Corporation is submitting the attached completed EPA Form 8700-12 indicating Regulated Waste Activity on a Large Quantity Generator status for a one-time closure project. Livingstone's ongoing day-to-day operations continue and will continue in the future to generate regulated wastes at a Small Quantity Generator status level.

LIVINGSTONE COATING CORPORATION

A handwritten signature in black ink, appearing to read "H. S. Trammell".

H. S. Trammell
President

10 - For Official Use Only

VIII. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes; Refer to Instructions)

| A. Hazardous Waste Activity | | B. Used Oil Recycling Activities | |
|--|--|---|--|
| <p>1. Generator (See Instructions)</p> <p><input checked="" type="checkbox"/> a. Greater than 1000kg/mo (2,200 lbs.)</p> <p><input type="checkbox"/> b. 100 to 1000 kg/mo (200-2,200 lbs.)</p> <p><input type="checkbox"/> c. Less than 100 kg/mo (220 lbs.)</p> <p>2. Transporter (Indicate Mode in boxes 1-5 below)</p> <p><input type="checkbox"/> a. For own waste only</p> <p><input type="checkbox"/> b. For commercial purposes</p> <p>Mode of Transportation</p> <p><input type="checkbox"/> 1. Air</p> <p><input type="checkbox"/> 2. Rail</p> <p><input type="checkbox"/> 3. Highway</p> <p><input type="checkbox"/> 4. Water</p> <p><input type="checkbox"/> 5. Other - specify _____</p> | <p><input type="checkbox"/> 3. Treater, Storer, Disposer (at installation) Note: A permit is required for this activity; see instructions.</p> <p>4. Hazardous Waste Fuel</p> <p><input type="checkbox"/> a. Generator Marketing to Burner</p> <p><input type="checkbox"/> b. Other Marketers</p> <p><input type="checkbox"/> c. Boiler and/or Industrial Furnace</p> <p><input type="checkbox"/> 1. Smaller Deferral</p> <p><input type="checkbox"/> 2. Small Quantity Exemption</p> <p>Indicate Type of Combustion Device(s)</p> <p><input type="checkbox"/> 1. Utility Boiler</p> <p><input type="checkbox"/> 2. Industrial Boiler</p> <p><input type="checkbox"/> 3. Industrial Furnace</p> <p><input type="checkbox"/> 5. Underground Injection Control</p> | <p>1. Used Oil Fuel Marketer</p> <p><input type="checkbox"/> a. Marketer Directs Shipment of Used Oil to Off-Specification Burner</p> <p><input type="checkbox"/> b. Marketer Who First Claims the Used Oil Meets the Specifications</p> <p>2. Used Oil Burner - Indicate Type(s) of Combustion Device(s)</p> <p><input type="checkbox"/> a. Utility Boiler</p> <p><input type="checkbox"/> b. Industrial Boiler</p> <p><input type="checkbox"/> c. Industrial Furnace</p> <p>3. Used Oil Transporter - Indicate Type(s) of Activity(ies)</p> <p><input type="checkbox"/> a. Transporter</p> <p><input type="checkbox"/> b. Transfer Facility</p> <p>4. Used Oil Processor/Re-refiner - Indicate Type(s) of Activity(ies)</p> <p><input type="checkbox"/> a. Process</p> <p><input type="checkbox"/> b. Re-refine</p> | |

IX. Description of Hazardous Wastes (Use additional sheets if necessary)

A. Characteristics of Nonlisted Hazardous Wastes. (Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles; See 40 CFR Parts 261.20 - 261.24)

| 1. Ignitable (D001) | 2. Corrosive (D002) | 3. Reactive (D003) | 4. Toxicity Characteristics (List specific EPA hazardous waste number(s) for the Toxicity characteristics encountered) |
|-------------------------------------|--------------------------|--------------------------|--|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> D 0 0 7 D 0 3 5 |

B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33; See Instructions if you need to list more than 12 waste codes.)

| 1 | 2 | 3 | 4 | 5 | 6 |
|---------|---------|---|----|----|----|
| F 0 0 2 | F 0 0 5 | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| | | | | | |

C. Other Wastes. (State or other wastes requiring a handler to have an LD number; See Instructions.)

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| | | | | | |

X. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

| | | |
|------------------------------------|--|-------------------------|
| Signature <i>H. S. Trammell</i> | Name and Official Title (Type or print) H. S. Trammell, President | Date Signed 12/10/96 |
|------------------------------------|--|-------------------------|

XI. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

Please refer to the instructions for Filing Notification before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).



Notification of Regulated Waste Activity

United States Environmental Protection Agency

Date Received
(For Official Use Only)

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

A. First Notification B. Subsequent Notification
(Complete Item C)

C. Installation's EPA ID Number
N C D 0 0 3 1 7 2 4 4 2

II. Name of Installation (Include company and specific site name)

L I V I N G S T O N E C O A T I N G C O R P O R A T I O N

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street
2 4 0 R H Y N E R O A D

Street (Continued)

City or Town State Zip Code
C H A R L O T T E N C 2 8 2 1 4 -

County Code County Name
M E C K L E N B U R G

IV. Installation Mailing Address (See Instructions)

Street or P.O. Box
P O B O X 6 6 8 2 6 7

City or Town State Zip Code
C H A R L O T T E N C 2 8 2 6 6 - 8 2 6 7

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (Last) (First)
M O N C R I E F J. S C O T T

Job Title Phone Number (Area Code and Number)
M A N A G E R - E N G 7 0 4 - 3 9 2 - 2 3 2 3

VI. Installation Contact Address (See Instructions)

A. Contact Address Location Mailing Other B. Street or P.O. Box

City or Town State Zip Code

VII. Ownership (See Instructions)

A. Name of Installation's Legal Owner
L I V I N G S T O N E C O A T I N G C O R P

Street, P.O. Box, or Route Number
P O B O X 6 6 8 2 6 7

City or Town State Zip Code
C H A R L O T T E N C 2 8 2 6 6 - 8 2 6 7

Phone Number (Area Code and Number) B. Land Type C. Owner Type D. Change of Owner Indicator (Date Changed) Month Day Year
7 0 4 - 3 9 2 - 2 3 2 3 P P Yes No 0 4 0 1 8 9



LIVINGSTONE COATING CORPORATION

P.O. Box 668267

Charlotte, NC 28266-8267

**FAX
MESSAGE**

Date: Monday, December 09, 1996

Number of pages including cover sheet: 3

To: **NCDEHNR-Solid Waste**

Mr. Jesse Wells

Phone: (704) 663-1699

Fax phone: (704) 663-6040

CC:

From:

J. Scott Moncrief

Manager-Engineering, R & D

Phone: (704) 392-2323

Fax phone: (704) 399-4021

REMARKS: Urgent For your review Reply ASAP Please comment

Mr. Wells:

Following is a copy of the letter mailed to you last week. We are forwarding a copy via fax as requested by Virginia McGee of Petroc Stockton, L.L.P.

-Scott Moncrief



LIVINGSTONE COATING CORPORATION

December 4, 1996

Mr. Jesse W. Wells
Waste Management Specialist
Division of Waste Management
North Carolina Department of
Environmental, Health and
Natural Resources
919 North Main Street
Mooresville, North Carolina 28115

Dear Mr. Wells:

I received your letter dated November 25, 1996 regarding the North Carolina Department of Environment, Health and Natural Resources' ("DEHNR's") concerns regarding the sampling results from industrial tank #2. Livingstone Coating is committed to working with DEHNR to resolve the agency's concerns with this tank, and the soils beneath and around the tank.

Livingstone Coating has taken immediate action to identify and remediate the contaminants of concern in and around tank #2. Livingstone Coating has hired a team of consultants to assist the company in identifying the area containing contaminants of concern on the property. On December 5, 1996, SIMCO will identify the extent of the leachate field. On December 6, 1996, Geo Environmental Inc. will conduct confirmatory geoprobe sampling to define the extent of the impacted area around tank #2. On December 12, Shamrock Environmental will remove all material in tank #2. Livingstone Coating will insure that the material from tank #2 is transported to a hazardous waste disposal facility pursuant to Title 15A NCAC Chapter 13A et seq.

Additionally, Livingstone Coating has contracted with Delta Environmental Consultants to prepare a closure plan pursuant to Title 15A NCAC Chapter 13A et seq. which will detail Livingstone Coating's plan for the immediate removal of tank #2, the contents of the tank, related system features, and impacted soils. Livingstone Coating will submit this closure plan to DEHNR for review and approval as soon as it is completed. Livingstone Coating plans to begin excavation of tank #2 and the impacted area in January of 1997.

Livingstone Coating has ceased sending material to tank #2. All chromium containing materials are collected in 55-gallon drums. These 55-gallon drums containing are disposed of as a characteristic waste under Title 15A NCAC Chapter 13A et seq. Livingstone Coating has ceased discharging any chromium containing material through industrial system 2 into tank #2.



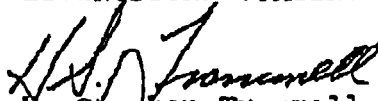
Mr. Jesse W. Wells, page 2

As outlined in the attached letter to Mr. Steven J. Levitas dated September 30, 1996, Livingstone Coating has proposed to DEHNR redesigning its coating process to recycle all process water, including the chromium containing water, in a "closed loop recycling system." Under the recycling system, Livingstone Coating will reuse process water after subjecting it to a filtration process. As an alternative to recycling the process water, Livingstone Coating continues to pursue the option of installing a pretreatment system for the process water and discharging the water into the Charlotte Mecklenburg Utility Department (CMUD's) sewer system. Although CMUD's sewer system does not yet extend to the Livingstone Coating property, Livingstone Coating is negotiating to obtain the necessary easements for the sewer extension.

Thank you for notifying me about the results of DEHNR's sampling event on our property. Please don't hesitate to contact me if you have any thoughts or questions about our closure plans, our collection of chromium material in 55-gallon drums, or our future plans for modification of our process system.

Sincerely,

LIVINGSTONE COATING CORPORATION


H. Stephen Trammell
President

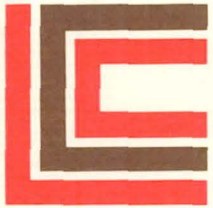
cc: David W. Gipe, P.E.
Delta Environmental Consultants

Richard C. Gaskins, Jr., Esquire
Petree Stockton, L.L.P.

Joseph R. Pearce, Engineer II
NC-DEHNR On-Site Wastewater Section

G. Landon Davidson, Hydrogeologist
NC-DEHNR Groundwater Section

Keith Masters
NC-DEHNR Hazardous Waste Section



LIVINGSTONE COATING CORPORATION

December 4, 1996

Mr. Jesse W. Wells
Waste Management Specialist
Division of Waste Management
North Carolina Department of
Environmental, Health and
Natural Resources
919 North Main Street
Mooresville, North Carolina 28115

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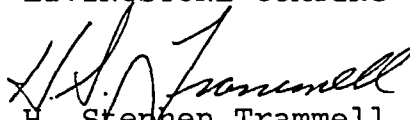
✓

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Sincerely,

LIVINGSTONE COATING CORPORATION



H. Stephen Trammell
President

cc: David W. Gipe, P.E.
Delta Environmental Consultants

Richard C. Gaskins, Jr., Esquire
Petree Stockton, L.L.P.

Joseph R. Pearce, Engineer II
NC-DEHNR On-Site Wastewater Section

G. Landon Davidson, Hydrogeologist
NC-DEHNR Groundwater Section

Keith Masters
NC-DEHNR Hazardous Waste Section

State of North Carolina
Department of Environment,
Health and Natural Resources
Mooresville Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



Division of Waste Management
Hazardous Waste Section

November 25, 1996

Mr. H. Stephen Trammell
Livingstone Coating Corporation
P.O. Box 668267
Charlotte, N.C. 28266

Dear Mr. Trammell:

Attached for your information is a copy of the laboratory reports on the samples collected from the two on-site industrial septic tanks. The samples were collected on August 9, 1996, by representatives of Delta Environmental and split samples were received by the Hazardous Waste Section.

The sample collected from industrial tank #2 was determined to contain chromium in excess of the toxic characteristic leaching procedure (TCLP) hazardous waste regulatory level of five mg/l (ppm). The concentration of chromium in the sample was determined to be 28.3 mg/l and thus would be considered characteristic hazardous waste. The liquid in industrial septic tank #2 exhibits the characteristic of a D007 hazardous waste as identified in Subpart C of 261.

Please be advised that a Notice of Violation (NOV) will be issued to Livingstone Coating Corporation which will required that the liquid and associated solids exhibiting the characteristic of a D007 hazardous waste in industrial tank #2 be immediately removed, managed and disposed of as a hazardous waste. The NOV will also require that the soils beneath and around industrial tank #2 to include all distribution collection units and drain fields associated with the system to be assessed to determine whether the soils have been impacted by the chromium.

If this Office can be of assistance in the interim pending issuance of the NOV, please do not hesitate to contact me at (704) 663-1699 ext. 287.

Sincerely,

Jesse W. Wells

Waste Management Specialist

cc: Keith Masters
Landon Davidson
Joe Pearce

919 North Main Street,
Mooresville, North Carolina 28115
Voice 704-663-1699



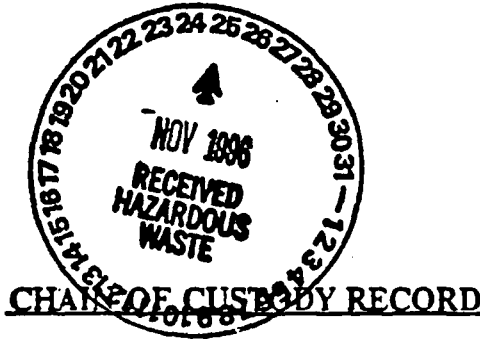
FAX 704-663-6040
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50% recycled/10% post-consumer paper

NC-DEHNR

Division of Solid Waste Management

- Superfund Section
- Hazardous Waste Section
- Solid Waste Section

Organics Lab: _____
 Inorganics Lab:



Jesse Wells

| | |
|---|--|
| Project Name: <u>LIVINGSTONE Coatings</u> | Sampled by: <u>Delta Environmental/ Joe Parker</u> |
| Site ID # (NCD#): <u>NCD 003172442</u> | Sampler ID: <u>029</u> |
| Location: <u>240 Rhyme Road C NC 27-W</u> | Telephone: <u>(104) 663-1699</u> |
| Address: <u>POB 668267 Charlotte NC 28266</u> | Date Sampled: <u>August 9, 1996</u> |
| | Time Sampled: _____ |

Sample Types: Soil _____ Water _____ Waste Other _____

Remarks: Supernatant from two industrial septic system.

Field Sample Numbers NT-1(017697) NT-2(017699)

Relinquished by: Jesse W. Wells (Signature) Date: 8/9/96 Time: 3:00 P.M.

Received by: Donald Hall (Signature) Date: 8/12/96 Time: 8:30 AM

Relinquished by: Donald Hall (Signature) Date: 8/12/96 Time: 1:40 PM

Received by: Jesse Wells (Signature) Date: 8/17/96 Time: 1:40

Relinquished by: _____ (Signature) Date: _____ Time: _____

Received by: _____ (Signature) Date: _____ Time: _____

Results Reported: Jesse Wells (Signature) Date: 15/11/96 Time: _____

SOLID WASTE MANAGEMENT DIVISION

Receipt for Samples

Livingstone Cooking Corp. 240 Rhyme Rde. NC-27W POB 648267 Charlotte, NC 28266
 Name of Firm Firm Address

J. Scott Moncrief, Manager-Engineering, Research and Development
 Firm Owner, Operator, or Agent Title

| SAMPLE NUMBER | COLLECTED DATE TIME | | SAMPLE TYPE WATER SOIL OTHER | | | DUPLICATE SAMPLE OFRD ACPT RJCTD | | | SAMPLE LOCATION ONSITE OFFSITE | |
|---------------|-----------------------|------|----------------------------------|--|---|--------------------------------------|---|--|----------------------------------|--|
| | | | | | | | | | | |
| 017697 | 8/19/96 | 0948 | | | ✓ | | ✓ | | ✓ | |
| 017699 | 8/19/96 | | | | ✓ | | ✓ | | ✓ | |
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Receipt for the sample(s) described above is hereby acknowledged:

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Deese W. Wells
 Signature of Inspector

 Signature of Firm Owner, Operator, or Agent

Waste Mgmt Specialist
 Title

 Title

Comments: DWM/HW accepted duplicate samples from facility

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-1 (017697)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road @ NC 27W Charlotte, N.C.

Collected By J. Parker ID# 029 Date Collected 8/9/96 Time 0948

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | Comments |
|--|--|----------------------------|
| Environmental | Concentrate | |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 1</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

TCLP Compounds

| Inorganic Compounds | Results(mg/l) |
|---------------------|-----------------|
| ↑ Arsenic | <u><0.2</u> |
| Barium | <u>0.40</u> |
| Cadmium | <u><0.05</u> |
| Chromium | <u><0.05</u> |
| Lead | <u><0.10</u> |
| Mercury | <u><0.01</u> |
| Selenium | <u><0.05</u> |
| ↓ Silver | <u><0.05</u> |

| Organic Chemistry | | Inorganic Chemistry | |
|--|---------------|---------------------------------------|----------------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> P&T:GC/MS | | <input type="checkbox"/> Arsenic | |
| <input type="checkbox"/> Acid:B/N Ext. | | <input type="checkbox"/> Barium | |
| <input type="checkbox"/> MTBE | | <input type="checkbox"/> Cadmium | |
| | | <input type="checkbox"/> Chloride | |
| | | <input type="checkbox"/> Chromium | |
| | | <input type="checkbox"/> Copper | |
| | | <input type="checkbox"/> Fluoride | |
| | | <input type="checkbox"/> Iron | |
| | | <input type="checkbox"/> Lead | |
| | | <input type="checkbox"/> Manganese | |
| | | <input type="checkbox"/> Mercury | |
| | | <input type="checkbox"/> Nitrate | |
| | | <input type="checkbox"/> Selenium | |
| | | <input type="checkbox"/> Silver | |
| | | <input type="checkbox"/> Sulfates | |
| | | <input type="checkbox"/> Zinc | |
| | | <input type="checkbox"/> pH | |
| | | <input type="checkbox"/> Conductivity | |
| | | <input type="checkbox"/> TDS | |
| | | <input type="checkbox"/> TOC | |
| | | | |
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| | | | |

| Radiochemistry | |
|--------------------------------------|-----------------|
| Parameter | Results (PCI/l) |
| <input type="checkbox"/> Gross Alpha | |
| <input type="checkbox"/> Gross Beta | |

| Microbiology | |
|--------------|---------------------|
| Parameter | Results (Col/100ml) |
| | |
| | |
| | |

| Organic Compounds | Results(mg/l) |
|--|---------------|
| <input type="checkbox"/> benzene | |
| <input type="checkbox"/> carbon tetrachloride | |
| <input type="checkbox"/> chlordan | |
| <input type="checkbox"/> chlorobenzene | |
| <input type="checkbox"/> chloroform | |
| <input type="checkbox"/> o-cresol | |
| <input type="checkbox"/> m-cresol | |
| <input type="checkbox"/> p-cresol | |
| <input type="checkbox"/> cresol | |
| <input type="checkbox"/> 1,4-dichlorobenzene | |
| <input type="checkbox"/> 1,2-dichloroethane | |
| <input type="checkbox"/> 1,1-dichloroethylene | |
| <input type="checkbox"/> 2,4-dinitrotoluene | |
| <input type="checkbox"/> heptachlor | |
| <input type="checkbox"/> hexachlorobenzene | |
| <input type="checkbox"/> hexachlorobutadiene | |
| <input type="checkbox"/> hexachloroethane | |
| <input type="checkbox"/> methyl ethyl ketone | |
| <input type="checkbox"/> nitrobenzene | |
| <input type="checkbox"/> pentachlorophenol | |
| <input type="checkbox"/> pyridine | |
| <input type="checkbox"/> tetrachloroethylene | |
| <input type="checkbox"/> trichloroethylene | |
| <input type="checkbox"/> 2,4,5-trichlorophenol | |
| <input type="checkbox"/> 2,4,6-trichlorophenol | |
| <input type="checkbox"/> vinyl chloride | |
| <input type="checkbox"/> endrin | |
| <input type="checkbox"/> lindane | |
| <input type="checkbox"/> methoxychlor | |
| <input type="checkbox"/> toxaphene | |
| <input type="checkbox"/> 2,4-D | |
| <input type="checkbox"/> 2,4,5-TP (Silvex) | |

Date Received _____ Reported by _____

Date Extracted _____ Date Reported 012100 AUG 13 96

Date Analyzed _____ Lab Number _____

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-2 (017699)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyne Road NC 27 W

Collected By J. Parker ID# 029 Date Collected 8/9/96 Time 1000

Agency: Hazardous Waste Solid Waste Superfund

Sample Type

| Environmental | Concentrate | Comments |
|--|--|----------------------------|
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 2</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

TCLP Compounds

| Inorganic Compounds | Results(mg/l) |
|---------------------|-----------------|
| ↑ Arsenic | <u><0.3</u> |
| Barium | <u>0.25</u> |
| Cadmium | <u><0.05</u> |
| Chromium | <u>28.3</u> |
| Lead | <u><0.10</u> |
| Mercury | <u><0.01</u> |
| Selenium | <u><0.3</u> |
| ↓ Silver | <u><0.05</u> |
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| Organic Compounds | Results(mg/l) |
|-----------------------|---------------|
| benzene | |
| carbon tetrachloride | |
| chlordane | |
| chlorobenzene | |
| chloroform | |
| o-cresol | |
| m-cresol | |
| p-cresol | |
| cresol | |
| 1,4-dichlorobenzene | |
| 1,2-dichloroethane | |
| 1,1-dichloroethylene | |
| 2,4-dinitrotoluene | |
| heptachlor | |
| hexachlorobenzene | |
| hexachlorobutadiene | |
| hexachloroethane | |
| methyl ethyl ketone | |
| nitrobenzene | |
| pentachlorophenol | |
| pyridine | |
| tetrachloroethylene | |
| trichloroethylene | |
| 2,4,5-trichlorophenol | |
| 2,4,6-trichlorophenol | |
| vinyl chloride | |
| endrin | |
| lindane | |
| methoxychlor | |
| toxaphene | |
| 2,4-D | |
| 2,4,5-TP (Silvex) | |

| Organic Chemistry | | Inorganic Chemistry | |
|--|---------------|---------------------------------------|----------------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> P&T:GC/MS | | <input type="checkbox"/> Arsenic | |
| <input type="checkbox"/> Acid:B/N Ext. | | <input type="checkbox"/> Barium | |
| <input type="checkbox"/> MTBE | | <input type="checkbox"/> Cadmium | |
| | | <input type="checkbox"/> Chloride | |
| | | <input type="checkbox"/> Chromium | |
| | | <input type="checkbox"/> Copper | |
| | | <input type="checkbox"/> Fluoride | |
| | | <input type="checkbox"/> Iron | |
| | | <input type="checkbox"/> Lead | |
| | | <input type="checkbox"/> Manganese | |
| | | <input type="checkbox"/> Mercury | |
| | | <input type="checkbox"/> Nitrate | |
| | | <input type="checkbox"/> Selenium | |
| | | <input type="checkbox"/> Silver | |
| | | <input type="checkbox"/> Sulfates | |
| | | <input type="checkbox"/> Zinc | |
| | | <input type="checkbox"/> pH | |
| | | <input type="checkbox"/> Conductivity | |
| | | <input type="checkbox"/> TDS | |
| | | <input type="checkbox"/> TOC | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Radiochemistry | |
|--------------------------------------|-----------------|
| Parameter | Results (PCI/l) |
| <input type="checkbox"/> Gross Alpha | |
| <input type="checkbox"/> Gross Beta | |

| Microbiology | |
|--------------|---------------------|
| Parameter | Results (Col/100ml) |
| | |
| | |
| | |

Date Received _____ Reported by _____

Date Extracted _____ Date Reported **012101 AUG 1996**

Date Analyzed _____ Lab Number _____

PETREE STOCKTC
ATTORNEYS AT
3500 ONE FIRST UNIO
CHARLOTTE, NORTH CAROL
TELEPHONE (704) 3
FAX (704) 338-

| | | | |
|-----------------------------|-------------------------|---------|--|
| POST-IT FAX INVIS | | 10/2/96 | |
| TO <i>Jesse Wells</i> | FROM <i>Joe Pende</i> | | |
| Co./Dept. | Co. | | |
| Phone # | Phone # <i>715-3270</i> | | |
| Fax # <i>(704) 663-6040</i> | Fax # <i>715-827</i> | | |

RICHARD C. GASKINS, JR.
(704) 338-8003

RALEIGH, N. C.
WINSTON-SALEM, N. C.

September 30, 1996

Mr. Steven J. Levitas
Deputy Secretary
North Carolina Department of Environment,
Health and Natural Resources
P. O. Box 27687
Raleigh, North Carolina 27611-7687



Re: *Livingstone Coating*

Dear Steve:

Pursuant to our conversations earlier this month, I am writing to provide you with additional information about Livingstone Coating's proposal to recycle its process water. Livingstone Coating Corporation is located at 240 Rhyne Road, North Carolina Highway 27 West, Charlotte North Carolina 28214 ("Livingstone Coating"). Livingstone Coating is in the business of applying a fluoropolymer compound to equipment and machine parts used in the textile industry. Currently, Livingstone Coating is redesigning its coating process in order to minimize the amount of wastewater it produces. The purpose of this letter is to request the Department of Environment, Health and Natural Resources' ("DEHNR's") input on a proposed "closed loop recycling system" before Livingstone Coating begins modifying its process for recycling of the wastewater.

Livingstone Coating will produce approximately 300 gallons of discharge water per day from rinsing of spray equipment used in its manufacturing process if the proposed changes are made. Analysis of the discharge water under the Toxicity Characteristic Leaching Procedure pursuant to Title 15A NCAC Subchapter 13A.0006(c) which incorporates 40 CFR § 261.24(a) by reference, indicates that the discharge water would exceed the toxicity characteristic for chromium (D007). Currently, Livingstone Coating is minimizing the amount of discharge water generated and collecting discharge water in drums on the property for immediate shipment to a permitted disposal facility under Title 15A NCAC Chapter 13A.0009. Livingstone Coating does not store the drums of discharge water at its facility for more than 90 days.

In order to reduce the amount of discharge water that is sent off-site for disposal, Livingstone Coating plans to modify its manufacturing process to reclaim discharge water by collecting it in sealed tanks and sending it via a closed pipe system to a closed reclamation system at its facility. The reclamation process will employ a membrane separation process to remove impurities, including chromium, from the water. The filtration system will produce two end products: 1) clean water that will be reused in Livingstone Coating's production process and

Mr. Steven J. Levitas
September 30, 1996
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2) a residue containing chromium and other impurities that will be disposed of as a hazardous waste pursuant to Title 15A NCAC Chapter 13A et seq.

Livingstone Coating's proposed recycling process fulfills both the intent of the Resource Conservation and Recovery Act's mandate to "minimiz[e] the generation of hazardous waste and the land disposal of hazardous waste by encouraging . . . properly conducted recycling and reuse," and the mandates of the United States Environmental Protection Agency's guidance on recycling. 42 U.S.C. § 6902(a)(6); see U.S. EPA's "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes," dated March 1986; see also, Memorandum from Sylvia Lowrance of U.S. EPA, Director, Office of Solid Waste to Hazardous Waste Management Division Directors dated April 26, 1989. In order to determine whether a proposed process is proper recycling, the U.S. EPA considers the following criteria:

- (1) Is the recycling process likely to release hazardous constituents?
- (2) Does the secondary material truly have value as a raw material/product?
 - (a) What degree of processing is required to produce a finished product?
 - (b) What is the value of the secondary material?
 - (c) Is there a guaranteed market for the end product?
 - (d) Is the secondary material handled in a manner consistent with the raw material/product it replaces?

See U.S. EPA's "Guidance Manual on the RCRA Regulation of Recycled Hazardous Wastes," dated March 1986; see also, Memorandum from Sylvia Lowrance of U.S. EPA, Director, Office of Solid Waste to Hazardous Waste Management Division Directors dated April 26, 1989.

Livingstone Coating's proposed recycling of discharge water will provide benefit to both the environment and the company. Livingstone Coating will reuse all reclaimed water from its recycling process in the rinse stage of its manufacturing process. The production process will benefit from using the reclaimed water which will contain fewer constituents of concern than the ambient water that Livingstone Coating currently uses in its process. Under the proposed recycling system, only residue from the filter screens will need to be disposed of off-site, rather than the discharge water that Livingstone Coating is currently sending for off-site disposal. Both the environment and Livingstone Coating will benefit from disposing of less hazardous waste in a RCRA permitted disposal facility. Since recycling of the discharge water will be conducted using a "closed loop system" as defined by Title 15A, NCAC 13A.0006(a), which incorporates

Mr. Steven J. Lovitas
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40 CFR § 261.4(a)(8) by reference, Livingstone Coating will not release any hazardous constituents into the environment during the recycling process.

Livingstone Coating does not anticipate that the proposed recycling process will change its regulatory status under RCRA. Currently, Livingstone Coating is a small quantity generator with the identification number NCB003172442, that produces less than 1,000 kilograms per month of D001 and F005 wastes. Under the proposed "closed loop recycling system," Livingstone Coating anticipates that it will remain a small quantity generator, and that there is no need for the company to fulfill the requirements of an operator of a storage or treatment facility pursuant to 40 CFR Part 264. Under 40 CFR Section 261.4(a)(8), the discharge water from the washing process is not a solid waste, and therefore not a hazardous waste, since Livingstone Coating will be reclaiming the water using the methodology specified in the regulation for a "closed loop system." The only regulated RCRA waste from the proposed process will be the D007 residue from the filters that will contain chromium and other impurities.

Modelling tests of the recycling process indicate that reclamation of the discharge water will result in a very small amount of D007 residue from the recycling process. Livingstone Coating anticipates that the total amount of hazardous wastes it will generate after implementation of the recycling process will remain below the 1,000 kilogram threshold for small quantity generators. In the event that the amount of D001, F005 and D007 residue waste exceeds 1,000 kilograms per month, Livingstone Coating will apply for large quantity generator status from the State of North Carolina.

Please call me if you have any questions regarding Livingstone Coating's recycling proposal. The company would like to obtain DEHNR's thoughts and suggestions on the proposal as quickly as possible so that they can begin the structural modifications to their manufacturing process without delay. We would welcome your comments, but if we do not hear from anybody at DEHNR responding to this proposal within thirty (30) days, we will assume that the proposal is acceptable to DEHNR.

Sincerely,

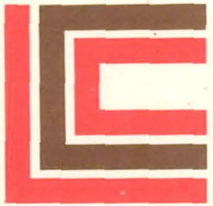


Richard C. Gaskins, Jr.

RCG/pld

cc: Mr. Joe Pearce
Mr. H. Stephen Trammel
Mr. J. Scott Moncrief
Mr. David Gipe

205219689



LIVINGSTONE COATING CORPORATION

August 20, 1996

Mr. Jesse Wells, CHMM
NCDEHNR Division of Solid Waste
Hazardous Waste Section
919 N. Main Street
Mooresville, NC 28115



Re: Coating Material Safety Data Sheets

Mr. Wells:

Enclosed are copies of the Material Safety Data Sheets (MSDS's) for our most frequently used materials as discussed on August 9, 1996.

The Whitford R-604 requires mixing with the D.C.O. Acid at a ratio of 4.6 pints of D.C.O. Acid to each gallon of R-604. The DuPont materials are supplied to us "ready-to-use", requiring no mixing.

The DuPont 456 and 459 line of products are the three-coat Silverstone system. The 459 series primer is the characteristic blue coating you saw being applied on your plant visit. Please call if you have questions concerning this information.

LIVINGSTONE COATING CORPORATION

J. Scott Moncrief
Manager-Engineering, R&D

| | | |
|-------------|-------------|---------|
| enclosures: | D.C.O. Acid | R-604 |
| | T-5 | 456-236 |
| | 456-300 | 459-516 |
| | 851-204 | 851-224 |
| | 856-200 | 856-204 |



HMIS: H=3*, F=0, R=1, PPE=X
* = Chronic health effects
may occur

WHITFORD CORPORATION
P.O. BOX 2347 - WEST CHESTER, PA 19380

MATERIAL SAFETY DATA SHEET
for
COATINGS, RESINS, and RELATED MATERIALS

SECTION I - PRODUCT IDENTIFICATION

Corporate Address:
33 Sproul Road
Frazer, PA 19355

Trade Name & Synonyms:
ULTRALON(R)

Emergency Telephone Number: (610) 296-3200
24 Hours a Day

Formula:
D.C.O. ACID

Telex: N/A

P.C. Number: E8726E

FAX: (610) 647-4849

Date of Preparation: 21 March 1996

Supercedes: None

IMPORTANT: BEFORE USING ULTRALON(R) D.C.O. ACID,
HAVE ALL PROCESSING PERSONNEL READ THIS DOCUMENT!

SECTION II - INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS

| <u>Chemical(s) with CAS RN and vapor pressure (if applicable)</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>Manufacturer's Recommendation</u> |
|---|-----------------|---------------------------------|--|
| PHOSPHORIC ACID 7664-38-2 0.03 mm Hg at 20 C | TWA = 1 mg/m3 | TWA = 1 mg/m3 STEL = 3 mg/m3 | No recommendation |
| CHROMIUM TRIOXIDE 1333-82-0 | C = 0.1 mg/m3 | TWA = 0.05 mg/m3 | TWA = 0.025 mg/m3 |

SECTION III - PHYSICAL DATA

Appearance : Orange liquid.
Boiling point (range) . . . : 100 TO 158 degrees C
Vapor density : Lighter than air
Evaporation rate : Slower than ether
Specific gravity (H2O = 1): 1.20
Percent volatile by volume: 83.70%

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MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Lower Explosive Limit (%): Not applicable

Flash point (Method Used): NONE degrees C (Setaflash)

Extinguishing Media:

This product will not burn. Use the recommended extinguishing agents for fighting surrounding fires.

Special Fire Fighting Procedures:

Use the appropriate techniques for fighting surrounding fires.

Unusual Fire and Explosion Hazards:

Product components will not support combustion in air; however, if exposed to flames, toxic fumes may be emitted. If evacuation of personnel is necessary, evacuate to upwind area. Firemen, use full protective equipment including positive pressure, self-contained breathing apparatus (SCBA).

SECTION V - HEALTH HAZARD DATA

Primary Route(s) of Entry and Exposure:

Inhalation: Yes Skin absorption: Yes Ingestion: Yes Skin or eye contact: Yes

Carcinogenicity: The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing).

| <u>Chemical</u> | <u>Reference</u> | <u>Category</u> |
|-------------------|------------------|----------------------------|
| CHROMIUM TRIOXIDE | NTP | HUMAN CARCINOGEN |
| | IARC | HUMAN CARCINOGEN (GROUP 1) |

Effects of Overexposure, PHOSPHORIC ACID:

Inhalation - Inhalation of mist may cause severe irritation to the nose, throat and lungs. It is slightly toxic when inhaled (Human TCLO: 100 mg/m3).

Skin contact - The liquid is a severe irritant and corrosive to the skin. Prolonged exposure may cause burns to exposed tissue.

Skin Absorption - Slightly hazardous (LD50, rabbit: 2,740 mg/kg).

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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- Eye contact - Mist produces irritation to the eyes. Liquid is corrosive to the eyes and may cause severe irritation; chemical burns likely.
- Ingestion - Slightly hazardous when ingested (LD50, rat: 1,530 mg/kg).
- Systemic & other effects - No data found.
- Supplemental health information - Notes to physician:
Phosphoric acid is a moderately corrosive agent which may burn any exposed tissues upon other than very brief contact. Eyes, skin and mucous membranes should be flushed thoroughly with water, and ophthalmologic consultation should be obtained for any corneal burns. In cases of ingestion, immediate dilution with water or milk is worthwhile, but attempts to neutralize with a base should be avoided because of excessive gas and heat formation, which may increase threat of esophagogastric perforation. Vomiting and diarrhea are expected with large doses.
- Parenteral fluid administration may be needed if losses therefrom are severe, or if shock ensues. Supportive care may be needed for such complications as glottal edema, hematemesis, and perforation (unlikely). Induced vomiting should be avoided because local tissue injury may be aggravated, but the person should be watched for hyperphosphatemia and hypocalcemia. Milk or other demulcents may be worthwhile for gastric irritation.

Effects of Overexposure, CHROMIUM TRIOXIDE:

- Inhalation - Inhalation of dust or mist may cause severe irritation of the nasal septum and respiratory tract. Prolonged or repeated exposure may cause ulceration and perforation of the nasal septum.
- Skin contact - Contact with skin may cause deep, penetrating ulcers on the skin. Contact with broken skin may lead to the formation of firmly marginated "chrome sores." Skin contact may rarely cause allergic contact dermatitis.
- Skin absorption - Massive overexposure could lead to kidney failure and death.
- Eye contact - Prolonged or repeated exposure to low level concentrations may cause moderate irritation and conjunctivitis. Overexposure to concentrated chromium trioxide will cause extreme burns that may result in permanent damage to the eyes. We would characterize Xylar coatings as containing "low level concentrations" of this compound.

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MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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- Ingestion - Ingestion may cause extreme tissue destruction, kidney failure, and death.
- Systemic & other effects - Epidemiological studies indicate that long-term exposure to high levels of dust and mist in the chromate producing industry is associated with increases in respiratory tract cancer in man; the causative agent is not known. Thus far, epidemiological studies have not demonstrated any increased risk of lung cancer at levels below the current TLV.
- For chromium and certain chromium compounds, NTP, IARC, and independent researchers have determined that there is sufficient evidence of carcinogenicity in both humans and experimental animals. The chromium compounds responsible for human carcinogenicity (lung tumors) cannot be specified. Chromium trioxide (Chromic acid) has not been shown to be an animal carcinogen.
- Supplemental health information - Notes to physician:
Massive overexposure to solutions of this product could lead to kidney failure and death. Death has been avoided in several such cases through the use of early renal dialysis. It has been reported that ascorbic acid administered intravenously is an effective antidote in preventing renal failure. Skin ulcers may be treated by removal from exposures, daily cleansing and debridement, and application of antibiotic cream and dressing.

Emergency & First Aid Procedures:

Inhalation - If spray mist is inhaled, remove the person from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation. Administer oxygen if a qualified operator is available.

Skin contact - In case of skin contact, remove contaminated clothing. Flush the skin with large amounts of water, then wash the skin with soap and water.

Eye contact - In case of eye contact, flush the eyes with water for fifteen (15) minutes. If contact lenses are worn, quickly remove them, then flush the eyes with water. Have a physician examine the eyes.

Ingestion - If material is ingested, seek immediate medical attention. If vomiting occurs spontaneously, keep the head below the hips to prevent aspiration of liquid into the lungs.

SECTION VI - REACTIVITY DATA

Stability:

- stable

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MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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Incompatibility (Materials to Avoid):

- reactive metals
- alkaline metals
- organic materials

Hazardous Decomposition Products:

- oxides of phosphorous

Hazardous Polymerization:

- will not occur

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:

Spill supervisor - Insure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. Remove all ignition sources. Keep nonessential personnel away from the contaminated area.

Prevent this material from entering sewers and watercourses by diking or impounding the spilled material. Advise authorities if product has entered or may enter, sewers, watercourses, or extensive land areas.

Ventilate the contaminated area. Recover free liquid with nonsparking tools and remove to covered containers. Add absorbent (sand, earth, clay) to the balance of the spilled material. Collect saturated absorbent and remove to suitable covered container(s). Dispose of properly.

Waste Disposal Method:

Pretreatment may be necessary or desirable before introducing this product into a "waste stream." Pretreatments include reducing the hexavalent chromium to trivalent chromium and/or neutralizing the pH.

If you wish to dispose of this product "as is," insure your company's hazardous waste disposal firm has the capability to treat the waste and the necessary permits to accept the waste.

The chemicals necessary to reduce hexavalent chromium are sodium bisulfite or sodium sulfite and ferrous sulfate or ferrous chloride. The chemicals necessary to adjust the pH are sodium bicarbonate, soda ash, or lime.

Reduce the hexavalent chromium to trivalent chromium by adding, in equal portions, one of the two pairs of reducing agents noted above. Doing so will cause the color of the liquid carrier of this product to change from its characteristic yellow/orange to a pale green. The reduced chromium may then be precipitated as chromic oxide by neutralizing to a pH of 9.5 using one of the three neutralizing chemicals noted above. Filter to remove the solids. Neutralize the remaining liquid to a pH of 7. The solids residue and treated liquid may now be disposed of as hazardous waste and will be classified by one or more of the

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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U.S. EPA Hazardous Waste Numbers which appear at the end of this section.

As the EPA, State, Regional, and/or other regulatory agencies may have jurisdiction over the disposal of your facility's hazardous waste, it is incumbent upon you, the hazardous waste generator, to learn of and satisfy all the requirements which affect you. Dispose of the hazardous waste at an approved disposal site or facility. Insure conformity to all applicable hazardous waste disposal regulations.

The U.S. EPA Hazardous Waste Numbers which follow are applicable to this unadulterated product and/or the solids residue and/or the treated liquid if the product enters the "waste stream."

- D002
- D007

SECTION VIII - SAFE HANDLING & USE INFORMATION

Respiratory Protection:

Respiratory protection may not be needed if the local exhaust is sufficient to maintain levels of hazardous ingredients below occupational exposure limits. If needed, use a NIOSH/MSHA approved respirator equipped with a full face piece, acid gas cartridges, and HEPA filters.

Do not use respirators beyond their capabilities. For emergencies and unknown concentrations, use positive pressure, self-contained breathing apparatus (SCBA).

Ventilation:

Use only with adequate ventilation, i.e., ventilation in compliance with occupational exposure limits.

Local Exhaust:

Local exhaust is recommended to insure adequate ventilation.

Mechanical (General):

Use explosion proof equipment and good manufacturing practice.

Special:

Safety showers and eyewash fountains should be readily available to personnel who handle this material. Enforce "No Smoking" rules. Do not use this material in close proximity to unshielded light fixtures.

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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Protective Gloves:

Wear chemical resistant gloves (butyl rubber or neoprene). Protective gloves should be inspected frequently and discarded when they exhibit cuts, tears, pinholes, or signs of excessive wear.

Eye Protection:

Wear splash goggles. If extra protection is required, wear a face shield over the splash goggles. Face shields are effective only if worn in addition to splash goggles.

Other Protective Equipment:

Wear a chemical resistant butyl rubber apron, butyl rubber boots, and other protective clothing, as deemed appropriate, to avoid skin contact.

Butyl rubber boots must be worn if there is any chance that processing personnel may walk on surfaces on which the product has been spilled.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken When Handling and Storing:

Wear all appropriate Personal Protective Equipment (PPE). Wear respiratory protection or insure adequate ventilation at all times. Use the product in a manner which minimizes splashes and/or the creation of dust.

Protect from freezing. Keep containers closed when not in use. Do not handle or store material near heat, sparks, open flames, or other sources of ignition. Store at room temperatures, 40 to 95 degrees F (4 to 35 degrees C).

Other Precautions:

Good personal hygiene and good housekeeping are important. Launder contaminated clothing before reuse. Remove contaminated shoes and dry thoroughly before reuse.

Avoid breathing vapors and/or spray mist. Avoid breathing processing fumes. Avoid eye contact. Avoid ingestion. Avoid skin contact.

Spilled material may cause the floor or contaminated area to become slippery.

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) D.C.O. ACID
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SECTION X - REGULATORY INFORMATION

FEDERAL REGULATIONS:

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| CHEMICAL | CAS NUMBER | PERCENTAGE |
|-------------------|------------|-------------|
| PHOSPHORIC ACID | 7664-38-2 | 14.60980000 |
| CHROMIUM COMPOUND | 1333-82-0 | 12.89100000 |

STATE REGULATIONS:

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity:

| CHEMICAL | CAS NUMBER | CLASSIFICATION | PERCENTAGE |
|-------------------|------------|----------------|-------------|
| CHROMIUM TRIOXIDE | 1333-82-0 | CAUSES CANCER | 12.89100000 |

NON-WARRANTY. The information presented in this publication is based upon the research and experience of Whitford Corporation. No representation or warranty is made, however, concerning the accuracy or completeness of the information presented in this publication. Whitford makes no warranty or representation of any kind, express or implied, including without limitation any warranty of merchantability or fitness for any particular purpose, and no warranty or representation shall be implied by law or otherwise. Any products sold by Whitford for any purpose particular to the buyer is for the buyer to determine. Whitford Corporation assumes no responsibility for the selection of products suitable to the particular purposes of any particular buyer. Whitford Corporation shall in no event be liable for any special, incidental, or consequential damages.

HMIS: H=1, F=1, R=0, PPE=J

WHITFORD CORPORATION
P.O. BOX 2347 - WEST CHESTER, PA 19380

MATERIAL SAFETY DATA SHEET
for
COATINGS, RESINS, and RELATED MATERIALS

SECTION I - PRODUCT IDENTIFICATION

Corporate Address:
33 Sproul Road
Frazer, PA 19355

Trade Name & Synonyms:
ULTRALON(R)

Emergency Telephone Number: (610) 296-3200
24 Hours a Day

Formula:
R-604 BROWN PRIMER

Telex: N/A

P.C. Number: E8726B

FAX: (610) 647-4849

Date of Preparation: 10 March 1993

Supercedes: 18 January 1991

**IMPORTANT: BEFORE USING ULTRALON(R) R-604 BROWN PRIMER,
HAVE ALL PROCESSING PERSONNEL READ THIS DOCUMENT!**

SECTION II - INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS

| <u>Chemical(s) with CAS RN and vapor pressure (if applicable)</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>Manufacturer's Recommendation</u> |
|---|-----------------|------------------|--|
| POLYTETRAFLUOROETHYLENE (PTFE) 9002-84-0 | TWA = 15 mg/m3 | TWA = 10 mg/m3 | TWA = 10 mg/m3 |
| IRON OXIDE (Fe2O3) 1309-37-1 | TWA = 15 mg/m3 | TWA = 10 mg/m3 | No recommendation |
| CARBON BLACK 1333-86-4 | TWA = 3.5 mg/m3 | TWA = 3.5 mg/m3 | No recommendation |

SECTION III - PHYSICAL DATA

Appearance : Viscous brown dispersion
Boiling point (range) . . : 100 degrees C
Vapor density : Heavier than air
Evaporation rate : Slower than ether
Specific gravity (H2O = 1): 1.30
Percent volatile by volume: 73.2 %

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) R-604 BROWN PRIMER
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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Lower Explosive Limit (%): N/A

Flash point (Method Used): >93 degrees C (Setaflash)

Extinguishing Media:

Use carbon dioxide (CO2), "alcohol" foam, dry chemical, or water spray/water fog extinguishing systems.

Special Fire Fighting Procedures:

Firemen, use full protective equipment including positive pressure, self-contained breathing apparatus (SCBA). If evacuation of personnel is necessary, evacuate to upwind area.

Unusual Fire and Explosion Hazards:

Vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback.

SECTION V - HEALTH HAZARD DATA

Primary Route(s) of Entry and Exposure:

Inhalation: Yes Skin absorption: No Ingestion: No Skin or eye contact: Yes

Carcinogenicity: The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing).

| <u>Chemical</u> | <u>Reference</u> | <u>Category</u> |
|-----------------|------------------|--------------------------------------|
| CARBON BLACK | IARC | POSSIBLE HUMAN CARCINOGEN (GROUP 2B) |

Effects of Overexposure, POLYTETRAFLUOROETHYLENE (PTFE):

Inhalation - Inhalation of high concentrations of PTFE dust may cause irritation of the lungs.

Skin contact - PTFE is neither a skin irritant nor a sensitizer.

Skin absorption - Skin permeation following contact with PTFE is unlikely.

Eye contact - PTFE may cause mechanical irritation of the eyes.

Ingestion - PTFE is not known to be hazardous by ingestion.

Systemic &
other effects - No data found.

WHITFORD CORPORATION
MATERIAL SAFETY DATA SHEET
ULTRALON(R) R-604 BROWN PRIMER
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Supplemental health information - Exposure to fumes that are generated during high temperature processing of PTFE may cause an influenza-like condition which is sometimes called "polymer fume fever." The symptoms of polymer fume fever are chills, fever, chest pains, coughing and shortness of breath. These symptoms do not necessarily occur at the time of exposure, but may require several hours to develop. The symptoms usually pass in 48 to 72 hours and have no lasting or cumulative effect. The inhalation of smoke from tobacco that is contaminated with PTFE may also cause polymer fume fever. To prevent exposure to fumes, do not expose PTFE coatings to open flames or extreme heat (e.g., welding).

Avoid mechanical abrasion of PTFE coatings (e.g., grinding, machining). Mechanical abrasion of PTFE coatings may release and disperse small particles of dust and metal into the air. These particles may be harmful if inhaled.

Effects of Overexposure, IRON OXIDE (Fe₂O₃):

Inhalation - No data found.

Skin contact - Injury to the skin or mucous membranes can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dust.

Skin absorption - No data found.

Eye contact - Excessive exposure to airborne dust may reduce visibility and/or cause unpleasant deposits in the eyes.

Ingestion - No data found.

Systemic & other effects - No data found.

Supplemental health information - Prolonged inhalation (6 to 10 years) of iron oxide fume has been reported to produce changes in lung X-rays of exposed individuals. This condition, siderosis, is considered to be benign pneumoconiosis that exhibits no adverse health effects. Siderosis has been observed among occupations such as arc welders where iron oxide fumes are present. The current ACGIH TLV TWA for iron oxide fume is 5 mg/m³. To the best of our knowledge, this condition has not been observed after prolonged exposure to iron oxide pigments.

A fume can be defined as an aerosol or solid particles produced by condensation of vaporized materials such as iron metal. In normally accepted usages, iron oxide pigment would not be present in the form of a fume.

Effects of Overexposure, CARBON BLACK:

- Inhalation - Inhalation of carbon black dust in concentrations above occupational exposure limits may cause temporary discomfort.
- Skin contact - No data found.
- Skin absorption - No data found.
- Eye contact - No data found.
- Ingestion - No data found.
- Systemic & other effects - No data found.

Supplemental health information - On April 12, 1996, the International Agency for Research on Cancer (IARC) published Monograph 65, "Printing Processes and Printing Inks, Carbon Black and Some Nitro Compounds." Monograph 65 changes carbon black to Category 2B (possible human carcinogen) from Category 3 (not classifiable as to human carcinogenicity). This change was based on the results of rat inhalation studies of carbon black, despite the lack of parallel evidence in humans or other animal species.

The carbon black industry, through its Environmental Health Association, has updated epidemiology mortality studies of U.S. carbon black workers which now cover nearly 60 years. The update confirmed earlier results indicating lower than expected deaths from cancer and heart disease for U.S. workers. Despite the reevaluation by IARC, the industry continues to believe that available evidence indicates carbon black is not carcinogenic to humans.

Emergency & First Aid Procedures:

Inhalation - If overcome by vapor, remove the person from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation. Administer oxygen if a qualified operator is available.

Skin contact - In case of skin contact, remove contaminated clothing. Flush the skin with large amounts of water, then wash the skin with soap and water.

Eye contact - In case of eye contact, flush the eyes with water for fifteen (15) minutes. If contact lenses are worn, quickly remove them, then flush the eyes with water. Have a physician examine the eyes.

Ingestion - If material is ingested, seek immediate medical attention. If vomiting occurs spontaneously, keep the head below the hips to prevent aspiration of liquid into the lungs.

SECTION VI - REACTIVITY DATA

Stability:

- stable

Incompatibility (Materials to Avoid):

- alkali metals
- interhalogen compounds

Hazardous Decomposition Products:

- fluorocarbon gases, primarily tetrafluoroethylene

Hazardous Polymerization:

- will not occur

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:

Spill supervisor - Insure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. Remove all ignition sources. Keep nonessential personnel away from the contaminated area.

Prevent this material from entering sewers and watercourses by diking or impounding the spilled material. Advise authorities if product has entered or may enter, sewers, watercourses, or extensive land areas.

Ventilate the contaminated area. Recover free liquid with nonsparking tools and remove to covered containers. Add absorbent (sand, earth, clay) to the balance of the spilled material. Collect saturated absorbent and remove to suitable covered container(s). Dispose of properly.

Waste Disposal Method:

As the EPA, State, Regional, and/or other regulatory agencies may have jurisdiction over the disposal of your facility's hazardous waste, it is incumbent upon you, the hazardous waste generator, to learn of and satisfy all the requirements which affect you. Dispose of the hazardous waste at a properly licensed and permitted disposal site or facility. Insure conformity to all applicable hazardous waste disposal regulations.

The U.S. EPA Hazardous Waste Numbers which follow are applicable to this unadulterated product if the product enters the "waste stream." Refer to 40 CFR 261. This part of the Code identifies solid wastes which are subject to regulation under various sections of the Code and which are subject to the notification requirements of section 3010 of RCRA.

None

SECTION VIII - SAFE HANDLING & USE INFORMATION

Respiratory Protection:

Respiratory protection may not be needed if the local exhaust is sufficient to maintain levels of hazardous ingredients below occupational exposure limits. If needed, use a NIOSH/MSHA approved respirator equipped with organic vapor cartridges and high-efficiency, particulate air (HEPA) filters.

Do not use respirators beyond their capabilities. For emergencies and unknown concentrations, use positive-pressure, self-contained, breathing apparatus (SCBA).

Ventilation:

Use only with adequate ventilation, i.e., ventilation in compliance with occupational exposure limits.

Local Exhaust:

Local exhaust is recommended to insure adequate ventilation.

Mechanical (General):

Use explosion proof equipment and good manufacturing practice.

Special:

Safety showers and eyewash fountains should be readily available to personnel who handle this material. Enforce "No Smoking" rules. Do not use this material in close proximity to unshielded light fixtures.

Protective Gloves:

Wear chemical resistant gloves (butyl rubber or neoprene). Protective gloves should be inspected frequently and discarded when they exhibit cuts, tears, pinholes, or signs of excessive wear.

Eye Protection:

Wear splash goggles. If extra protection is required, wear a face shield over the splash goggles. Face shields are effective only if worn in addition to splash goggles.

Other Protective Equipment:

Wear a chemical resistant butyl rubber apron and other protective clothing, as deemed appropriate, to avoid skin contact with material.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken When Handling and Storing:

Wear all appropriate Personal Protective Equipment (PPE). Wear respiratory protection or insure adequate ventilation at all times as vapors can accumulate in confined or poorly ventilated areas. Use the product in a manner which minimizes splashes and/or dusting.

Protect from freezing. Keep containers closed when not in use. Do not handle or store material near heat, sparks, open flames, or other sources of ignition. Store at room temperatures, 40 to 95 degrees F (4 to 35 degrees C).

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Good personal hygiene and good housekeeping are important. Launder contaminated clothing before reuse. Remove contaminated shoes and dry thoroughly before reuse.

Avoid breathing vapors and/or spray mist. Avoid breathing processing fumes. Avoid eye contact. Avoid ingestion. Avoid skin contact.

Spilled material may cause the floor or contaminated area to become slippery.

SECTION X - REGULATORY INFORMATION

FEDERAL REGULATIONS:

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| CHEMICAL | CAS NUMBER | PERCENTAGE |
|----------|------------|------------|
| None | | |

STATE REGULATIONS:

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity:

| CHEMICAL | CAS NUMBER | CLASSIFICATION | PERCENTAGE |
|----------|------------|------------------------------|------------|
| TOLUENE | 108-88-3 | CAUSES REPRODUCTIVE TOXICITY | 0.87000000 |

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AUG 12 1996

HMIS: H=3, F=3, R=0, PPE=J

WHITFORD CORPORATION
P.O. BOX 2347 - WEST CHESTER, PA 19380

MATERIAL SAFETY DATA SHEET
for
COATINGS, RESINS, and RELATED MATERIALS

SECTION I - PRODUCT IDENTIFICATION

Corporate Address:
33 Sproul Road
Frazer, PA 19355

Trade Name & Synonyms:
ULTRALON(R)

Emergency Telephone Number: (610) 296-3200
24 Hours a Day

Formula:
T-5 GREEN TOPCOAT

Telex: N/A

P.C. Number: E8727E

FAX: (610) 647-4849

Date of Preparation: 24 April 1992

Supercedes: 28 July 1989

IMPORTANT: BEFORE USING ULTRALON(R) T-5 GREEN TOPCOAT,
HAVE ALL PROCESSING PERSONNEL READ THIS DOCUMENT!

SECTION II - INGREDIENTS AND OCCUPATIONAL EXPOSURE LIMITS

| <u>Chemical(s) with CAS RN and vapor pressure (if applicable)</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>Manufacturer's Recommendation</u> |
|---|--|---|--------------------------------------|
| CHROME III OXIDE GREEN 1308-38-9 | TWA = 0.5 mg/m3 | TWA = 0.5 mg/m3 | No recommendation |
| TITANIUM DIOXIDE 13463-67-7 | TWA = 15 mg/m3 | TWA = 10 mg/m3 | No recommendation |
| TOLUENE 108-88-3 54 mm Hg at 25 C | TWA = 200 ppm PEAK = 500 ppm C = 300 ppm | (skin) TWA = 50 ppm, 188 mg/m3. | No recommendation |
| XYLENE 1330-20-7 6.6 mm Hg at 20 C | TWA = 100 ppm, 435 mg/m3. | TWA = 100 ppm, 434 mg/m3. STEL = 150 ppm, 651 mg/m3. | No recommendation |
| OCTYLPHENOXYPOLYETHOXYETHANOL 9036-19-5 0.99 mm Hg at 20 C | Not established | Not established | No recommendation |
| POLYTETRAFLUOROETHYLENE (PTFE) 9002-84-0 | TWA = 15 mg/m3 | TWA = 10 mg/m3 | TWA = 10 mg/m3 |

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ULTRALON(R) T-5 GREEN TOPCOAT
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SECTION III - PHYSICAL DATA

Appearance : Viscous green liquid
Boiling point (range) . . . : 100 TO 141 degrees C
Vapor density : Heavier than air
Evaporation rate : Slower than ether
Specific gravity (H2O = 1): 1.20
Percent volatile by volume: 69.51%

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Lower Explosive Limit (%): 1.00
Flash point (Method Used): 4 degrees C (Setaflash)

Extinguishing Media:
Use carbon dioxide (CO2), "alcohol" foam, dry chemical, or water spray/water fog extinguishing systems.

Special Fire Fighting Procedures:
Firemen, use full protective equipment including positive pressure, self-contained breathing apparatus (SCBA). If evacuation of personnel is necessary, evacuate to upwind area.

Unusual Fire and Explosion Hazards:
Vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback.

SECTION V - HEALTH HAZARD DATA

Primary Route(s) of Entry and Exposure:

Inhalation: Yes Skin absorption: Yes Ingestion: Yes Skin or eye contact: Yes

Carcinogenicity: The following chemicals comprise 0.1% or more of this mixture and are listed and/or classified as carcinogens or potential carcinogens by NTP, IARC, OSHA (mandatory listing), or ACGIH (optional listing).

| <u>Chemical</u> | <u>Reference</u> | <u>Category</u> |
|-----------------|------------------|-----------------|
| None | Not applicable | Not applicable |

Effects of Overexposure, CHROME III OXIDE GREEN:

Inhalation - No data found.
Skin contact - It is expected this chemical will not irritate the skin.
Skin absorption - No data found.

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- Eye contact - On the basis of animal toxicity testing, this chemical may be moderately irritating to the eyes, primarily caused by mechanical action of the dust in the eyes. Symptoms may include redness, swelling, or tearing of the eyes.
- Ingestion - This chemical is essentially nontoxic by ingestion.
- Systemic & other effects - Persons with preexisting eye conditions or impaired pulmonary function may be more susceptible to the effects of this chemical.
- Supplemental health information - This chemical is a trivalent chromium compound. It is not specifically listed as a carcinogen by NTP, IARC, OSHA, or ACGIH. NTP, IARC, and ACGIH found that "there is sufficient evidence for the carcinogenicity of chromium and certain chromium compounds both in humans and experimental animals," however, the chromium compounds that are considered carcinogenic are hexavalent chromium compounds.

Effects of Overexposure, TITANIUM DIOXIDE:

- Inhalation - Overexposure by inhalation of titanium dioxide may include mild and temporary upper respiratory irritation with cough and shortness of breath.
- Skin contact - No data found.
- Skin absorption - No data found.
- Eye contact - No data found.
- Ingestion - No data found.
- Systemic & other effects - No data found.
- Supplemental health information - Animal toxicological data is available upon request.

Effects of Overexposure, TOLUENE:

- Inhalation - High vapor concentrations may cause irritation of the respiratory tract. Excessive exposure may cause central nervous system effects: headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death.
- Skin contact - Prolonged or repeated skin contact with liquid tends to remove skin oils which may lead to irritation and dermatitis.

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- Skin absorption - Toluene is practically nontoxic if absorbed (LD50 >2,000 mg/kg); however, skin absorption may add significantly to exposure.
- Eye contact - Vapors are irritating to the eyes. Mists and liquid may cause moderate to severe irritation.
- Ingestion - Toluene is moderately toxic if ingested. Minute amounts aspirated (breathed) into the lungs during ingestion or vomiting may cause pulmonary injury or death.
- Systemic & other effects - Prolonged, repeated, and excessive exposures may cause chronic, adverse systemic effects (unspecified).
- Supplemental health information - Animal toxicological data is available upon request.

Effects of Overexposure, XYLENE:

- Inhalation - Inhalation of excessive concentrations of vapors or mists may cause irritation of the nose and throat, and signs of central nervous system depression (e.g., dizziness, drowsiness, fatigue, and loss of coordination). Persons with impaired lung function or asthma-like conditions may experience additional breathing difficulties due to the irritant properties of this material.
- Skin contact - Xylene is moderately irritating to the skin. Prolonged or repeated exposure will dry and defat the skin leading to redness, burning, drying, cracking, and dermatitis. Persons with preexisting skin disorders may be more susceptible to the effects of this material.
- Skin absorption - Xylene is practically nontoxic if absorbed (LD50 >2000 mg/kg); however, skin absorption may add significantly to total exposure.
- Eye contact - Vapors and mists may cause burning, tearing, and redness. Direct contact with liquid may cause severe irritation.
- Ingestion - Ingestion of excessive quantities is moderately toxic and may cause irritation of the digestive tract and signs of central nervous system depression (e.g., dizziness, drowsiness, fatigue and loss of coordination). If vomiting occurs, breathing of vomitus into the lungs poses a pulmonary aspiration hazard.
- Systemic & other effects - Prolonged or repeated exposure to vapor or mists may cause liver and kidney damage.
- Supplemental health information - Preexisting liver and kidney disorders may be aggravated by exposure to this material.

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Effects of Overexposure, OCTYLPHENOXYPOLYETHOXYETHANOL:

Inhalation - No data found.

Skin contact - This material is slightly irritating to the skin but is not a sensitizer.

Skin absorption - No data found.

Eye contact - At full strength, this material is severely irritating to the eyes and may cause permanent injury. At lower concentrations, e.g., as an additive in an aqueous dispersion, it is an irritant.

Ingestion - No data found.

Systemic & other effects - No data found.

Supplemental health information - Animal toxicological data is available upon request.

Effects of Overexposure, POLYTETRAFLUOROETHYLENE (PTFE):

Inhalation - Inhalation of high concentrations of PTFE dust may cause irritation of the lungs.

Skin contact - PTFE is neither a skin irritant nor a sensitizer.

Skin absorption - Skin permeation following contact with PTFE is unlikely.

Eye contact - PTFE may cause mechanical irritation of the eyes.

Ingestion - PTFE is not known to be hazardous by ingestion.

Systemic & other effects - No data found.

Supplemental health information - Exposure to fumes that are generated during high temperature processing of PTFE may cause an influenza-like condition which is sometimes called "polymer fume fever." The symptoms of polymer fume fever are chills, fever, chest pains, coughing and shortness of breath. These symptoms do not necessarily occur at the time of exposure, but may require several hours to develop. The symptoms usually pass in 48 to 72 hours and have no lasting or cumulative effect. The inhalation of smoke from tobacco that is contaminated with PTFE may also cause polymer fume fever. To prevent exposure to fumes, do not expose PTFE coatings to open flames or extreme heat (e.g., welding).

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Avoid mechanical abrasion of PTFE coatings (e.g., grinding, machining). Mechanical abrasion of PTFE coatings may release and disperse small particles of dust and metal into the air. These particles may be harmful if inhaled.

Emergency & First Aid Procedures:

Inhalation - If overcome by vapor, remove the person from exposure immediately; call a physician. If breathing is irregular or stopped, start resuscitation. Administer oxygen if a qualified operator is available.

Skin contact - In case of skin contact, remove contaminated clothing. Flush the skin with large amounts of water, then wash the skin with soap and water.

Eye contact - In case of eye contact, flush the eyes with water for fifteen (15) minutes. If contact lenses are worn, quickly remove them, then flush the eyes with water. Have a physician examine the eyes.

Ingestion - If material is ingested, seek immediate medical attention. If vomiting occurs spontaneously, keep the head below the hips to prevent aspiration of liquid into the lungs.

SECTION VI - REACTIVITY DATA

Stability:

- stable

Incompatibility (Materials to Avoid):

- interhalogen compounds
- alkali metals
- strong oxidizing agents
- strong reducing agents
- strong acids or bases
- selected amines

Hazardous Decomposition Products:

- oxides of carbon
- oxides of sulphur
- fluorocarbon gases, primarily tetrafluoroethylene
- aldehydes
- formaldehyde

Hazardous Polymerization:

- will not occur

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled:

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Spill supervisor - Insure cleanup personnel wear all appropriate Personal Protective Equipment (PPE), including respiratory protection. Remove all ignition sources. Keep nonessential personnel away from the contaminated area.

Prevent this material from entering sewers and watercourses by diking or impounding the spilled material. Advise authorities if product has entered or may enter, sewers, watercourses, or extensive land areas.

Ventilate the contaminated area. Recover free liquid with nonsparking tools and remove to covered containers. Add absorbent (sand, earth, clay) to the balance of the spilled material. Collect saturated absorbent and remove to suitable covered container(s). Dispose of properly.

Waste Disposal Method:

As the EPA, State, Regional, and/or other regulatory agencies may have jurisdiction over the disposal of your facility's hazardous waste, it is incumbent upon you, the hazardous waste generator, to learn of and satisfy all the requirements which affect you. Dispose of the hazardous waste at a properly licensed and permitted disposal site or facility. Insure conformity to all applicable hazardous waste disposal regulations.

The U.S. EPA Hazardous Waste Numbers which follow are applicable to this unadulterated product if the product enters the "waste stream." Refer to 40 CFR 261. This part of the Code identifies solid wastes which are subject to regulation under various sections of the Code and which are subject to the notification requirements of section 3010 of RCRA.

- D001
- D007

SECTION VIII - SAFE HANDLING & USE INFORMATION

Respiratory Protection:

Respiratory protection may not be needed if the local exhaust is sufficient to maintain levels of hazardous ingredients below occupational exposure limits. If needed, use a NIOSH/MSHA approved respirator equipped with organic vapor cartridges and high-efficiency, particulate air (HEPA) filters.

Do not use respirators beyond their capabilities. For emergencies and unknown concentrations, use positive-pressure, self-contained, breathing apparatus (SCBA).

Ventilation:

Use only with adequate ventilation, i.e., ventilation in compliance with occupational exposure limits.

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Local Exhaust:

Local exhaust is recommended to insure adequate ventilation.

Mechanical (General):

Use explosion proof equipment and good manufacturing practice.

Special:

Safety showers and eyewash fountains should be readily available to personnel who handle this material. Enforce "No Smoking" rules. Do not use this material in close proximity to unshielded light fixtures.

Protective Gloves:

Wear chemical resistant gloves (butyl rubber or neoprene). Protective gloves should be inspected frequently and discarded when they exhibit cuts, tears, pinholes, or signs of excessive wear.

Eye Protection:

Wear splash goggles. If extra protection is required, wear a face shield over the splash goggles. Face shields are effective only if worn in addition to splash goggles.

Other Protective Equipment:

Wear a chemical resistant butyl rubber apron and other protective clothing, as deemed appropriate, to avoid skin contact with material.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be Taken When Handling and Storing:

Wear all appropriate Personal Protective Equipment (PPE). Wear respiratory protection or insure adequate ventilation at all times as vapors can accumulate in confined or poorly ventilated areas. Use the product in a manner which minimizes splashes and/or dusting.

Protect from freezing. Keep containers closed when not in use. Do not handle or store material near heat, sparks, open flames, or other sources of ignition. Store at room temperatures, 40 to 95 degrees F (4 to 35 degrees C).

Other Precautions:

Good personal hygiene and good housekeeping are important. Launder contaminated clothing before reuse. Remove contaminated shoes and dry thoroughly before reuse.

Avoid breathing vapors and/or spray mist. Avoid breathing processing fumes. Avoid eye contact. Avoid ingestion. Avoid skin contact.

Spilled material may cause the floor or contaminated area to become slippery.

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SECTION X - REGULATORY INFORMATION

FEDERAL REGULATIONS:

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| CHEMICAL | CAS NUMBER | PERCENTAGE |
|------------------------|------------|-------------|
| CHROMIUM COMPOUND | 1308-38-9 | 4.86420000 |
| TOLUENE | 108-88-3 | 13.49790000 |
| XYLENE (MIXED ISOMERS) | 1330-20-7 | 1.15070000 |

STATE REGULATIONS:

State of California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): WARNING! This product contains the following chemicals which are known to the State of California to cause cancer or reproductive toxicity:

| CHEMICAL | CAS NUMBER | CLASSIFICATION | PERCENTAGE |
|--------------------------------|------------|------------------------------|-------------|
| CHROMIUM (HEXAVALENT COMPOUND) | 1308-38-9 | CAUSES CANCER | 4.86420000 |
| TOLUENE | 108-88-3 | CAUSES REPRODUCTIVE TOXICITY | 13.49790000 |

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DUPONT MATERIAL SAFETY DATA SHEET

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03/28/94

***** SECTION I *****

MANUFACTURER: E. I. DUPONT DE NEMOURS & CO., (INC.)
POLYMERS & AUTOMOTIVE
WILMINGTON, DELAWARE 19898

TELEPHONE: PRODUCT INFORMATION (800) 441-7515
MEDICAL EMERGENCY (800) 441-3637
TRANSPORTATION EMERGENCY (800) 424-9300 (CHEMTREC)

IDENTITY: SILVERSTONE INTERMEDIATE - PEWTER

PRODUCT CODE: 456- 236 FORMULA DATE: 931019

DOT NAME: NOT REGULATED

HMIS: H=1, F=1, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|------------|----------|--|
| 001 | 9002-84-0 | | POLYTETRAFLUOROETHYLENE |
| 002 | 25133-97-5 | | ACRYLIC POLYMER |
| 003 | 112-80-1 | | OLEIC ACID |
| 004 | 9036-19-5 | | OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT |
| 005 | 112-34-5 | 2 % | DIETHYLENE GLYCOL MONOBUTYL ETHER |
| 006 | 7732-18-5 | | WATER |
| 007 | 102-71-6 | | TRIETHANOLAMINE |
| 008 | 64742-95-6 | | AROMATIC HYDROCARBON |

SECTION 313 SUPPLIER NOTIFICATION

THE CHEMICALS LISTED ABOVE WITH PERCENTAGES ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | |
|------|----------------------|-----------------|--------------|
| 001 | UNKNOWN | ACGIH OSHA | NONE NONE |
| 002 | NONE | ACGIH OSHA | NONE NONE |
| 003 | NONE | ACGIH OSHA | NONE NONE |
| 004 | NONE | ACGIH OSHA | NONE NONE |

***** SECTION II CONTINUED *****

| | | | | |
|-----|------------|--------|-----------|-------------------|
| 005 | . 11 | DUPONT | 5. 0 PPM | |
| | 20 DEG (C) | ACGIH | NONE | |
| | | OSHA | NONE | |
| 006 | 23. 60 | ACGIH | NONE | |
| | 20 DEG (C) | OSHA | NONE | |
| 007 | . 01 | DUPONT | 3. 0 PPM | |
| | 20 DEG (C) | ACGIH | NONE | |
| | | OSHA | NONE | |
| 008 | 10. 00 | ACGIH | 25. 0 PPM | TRIMETHYL BENZENE |
| | 25 DEG (C) | OSHA | 25. 0 PPM | TRIMETHYL BENZENE |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|---|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER APPRECIABLE |
| PERCENT VOLATILE BY VOLUME 63. 6 | APPROX. BOILING RANGE 100-365 DEG (C) | WEIGHT PER GALLON 11. 00 |
| PERCENT VOLATILE BY WEIGHT 48. 0 | PERCENT SOLIDS 51. 9 | V. D. C. THEORETICAL 2. 2 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|--|--|
| FLASH POINT (METHOD) ABOVE 200 F (CC) | APPROX. FLAMMABLE LIMITS LEL . 9 % UEL 6. 0 % |
|--|--|

EXTINGUISHING MEDIA: FOAM , CARBON DIOXIDE, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS, IS RECOMMENDED. WATER FROM FOG NOZZLES MAY BE USED TO PREVENT PRESSURE BUILD-UP.

UNUSUAL FIRE & EXPLOSION HAZARDS: WHEN HEATED ABOVE THE FLASHPOINT, EMITS FLAMMABLE VAPORS WHICH, WHEN MIXED WITH AIR, CAN BURN OR BE EXPLOSIVE. FINE MIST OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE FLASH POINT.

HYDROGEN FLUORIDE IS RELEASED DURING A FIRE.

***** SECTION V - HEALTH HAZARD DATA *****

***** SECTION V CONTINUED *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

INHALATION: MAY CAUSE NOSE AND THROAT IRRITATION . MAY CAUSE NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY THE FOLLOWING PROGRESSIVE STEPS: HEADACHE, DIZZINESS, NAUSEA, STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS.

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OR BURNING OF THE EYES. REPEATED OR PROLONGED LIQUID CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT AND DERMATITIS.

OTHER POTENTIAL HAZARDS INCLUDE:

POLYTETRAFLUOROETHYLENE

INHALATION OF SMOKE OR FUMES FROM BURNING FLUOROCARBON OR FLUOROCARBON CONTAMINATED CIGARETTES OR TOBACCO MAY CAUSE POLYMER FUME FEVER, A FLU-LIKE ILLNESS WITH FEVER, CHILLS AND COUGH OF APPROXIMATELY 24-48 HOURS DURATION, WHICH SUBSIDES WITHOUT LASTING EFFECTS.

OCTYLPHENOXPOLYETHOXYETHANOL SURFACTANT

CAUSES EYE CORROSION AND PERMANENT INJURY.
CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR RASH.

DIETHYLENE GLYCOL MONOBUTYL ETHER

CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR RASH. RECURRENT OVEREXPOSURE MAY RESULT IN LIVER AND KIDNEY INJURY.
HIGH DOSES IN LABORATORY ANIMALS HAVE SHOWN NON SPECIFIC EFFECTS SUCH AS IRRITATION, WEIGHT LOSS, MODERATE BLOOD CHANGES.
TESTS FOR MUTAGENIC ACTIVITY IN BACTERIAL OR MAMMALIAN CELL CULTURES HAVE BEEN INCONCLUSIVE.

TRIETHANOLAMINE

LIQUID SPLASHES IN THE EYE MAY RESULT IN CHEMICAL BURNS. RECURRENT OVEREXPOSURE MAY RESULT IN LIVER AND KIDNEY INJURY.
CAN BE ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS.

AROMATIC HYDROCARBON

LABORATORY STUDIES WITH RATS HAVE SHOWN THAT PETROLEUM DISTILLATES CAUSE KIDNEY DAMAGE AND KIDNEY OR LIVER TUMORS. THESE EFFECTS WERE NOT SEEN IN SIMILAR STUDIES WITH GUINEA PIGS, DOGS, OR MONKEYS. SEVERAL STUDIES EVALUATING PETROLEUM WORKERS HAVE NOT SHOWN A SIGNIFICANT INCREASE OF KIDNEY DAMAGE OR AN INCREASE IN KIDNEY OR LIVER TUMORS.

FIRST AID:

***** SECTION V CONTINUED *****

INHALATION: IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING DIFFICULTY PERSISTS, OR OCCURS LATER, CONSULT A PHYSICIAN.

SKIN OR EYE: IN CASE OF CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES; CALL A PHYSICIAN. IN CASE OF SKIN CONTACT, WASH WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GASTRO-INTESTINAL DISTRESS.
IN THE UNLIKELY EVENT OF INGESTION, CALL A PHYSICIAN IMMEDIATELY AND HAVE NAMES OF INGREDIENTS AVAILABLE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OF THE EYES. REPEATED OR PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. IN CASE OF EYE CONTACT, FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, CALL A PHYSICIAN. FOR SKIN CONTACT, WASH WITH SOAP AND WATER.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NONE REASONABLY FORESEEABLE.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂, SMOKE, OXIDES OF HEAVY METALS REPORTED IN SECTION V.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: VENTILATE AREA. REMOVE SOURCES OF IGNITION. PREVENT SKIN CONTACT AND BREATHING OF VAPOR. CONFINE AND REMOVE WITH INERT ABSORBENT.

WASTE DISPOSAL METHOD: DO NOT ALLOW MATERIAL TO CONTAMINATE GROUND WATER SYSTEMS. INCINERATE ABSORBED MATERIAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. DO NOT INCINERATE IN CLOSED CONTAINERS.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

RESPIRATORY: DO NOT BREATHE VAPORS OR MISTS. WEAR A

***** SECTION VIII CONTINUED *****

PROPERLY FITTED VAPOR/PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA (TC-23C) FOR USE WITH PAINTS DURING APPLICATION AND UNTIL ALL VAPORS AND SPRAY MISTS ARE EXHAUSTED. FOLLOW THE RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE.

VENTILATION: PROVIDE SUFFICIENT VENTILATION IN VOLUME AND PATTERN TO KEEP CONTAMINANTS BELOW APPLICABLE OSHA REQUIREMENTS AND OTHER SUGGESTED EXPOSURE LIMITS.

PROTECTIVE CLOTHING: NEOPRENE GLOVES AND COVERALLS ARE RECOMMENDED.

EYE PROTECTION: GOGGLES ARE PREFERRED TO PREVENT EYE IRRITATION. IF SAFETY GLASSES ARE SUBSTITUTED, INCLUDE SPLASH GUARD OR SIDE SHIELDS.

PROTECTIVE CREAMS: DO NOT USE FOR PROTECTION. MAY BE USED FOR EASE OF CLEAN UP.

***** SECTION IX - SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: OBSERVE LABEL PRECAUTIONS. KEEP AWAY FROM HEAT, SPARKS AND FLAME. CLOSE CONTAINER AFTER EACH USE. GROUND CONTAINERS WHEN POURING. WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR SMOKING. DO NOT STORE ABOVE 120 F.

OTHER PRECAUTIONS: DO NOT SAND, FLAME CUT, BRAZE OR WELD DRY COATING WITHOUT A NIOSH/MSHA APPROVED RESPIRATOR OR APPROPRIATE VENTILATION.

DO NOT EXCEED RECOMMENDED BAKING TEMPERATURES. BAKING OVENS MUST BE PROPERLY VENTILATED. AT TEMPERATURES ABOVE 400 C (750 F) SMALL AMOUNTS OF HYDROGEN FLUORIDE CAN BE EVOLVED; AMOUNTS INCREASE AS TEMPERATURES INCREASE. HYDROGEN FLUORIDE IS TOXIC AND CAN CAUSE SKIN AND EYE IRRITATION. (3PPM - CEILING ACGIH-TLV). HIGH CONCENTRATIONS CAN CAUSE LUNG DAMAGE, PULMONARY EDEMA, BURNS. SOME VEGETATION IS PARTICULARLY SENSITIVE TO DAMAGE BY HYDROGEN FLUORIDE AND ATTENTION MUST BE GIVEN TO EXHAUST VENTILATION.

EXPLOSIVE REACTION MAY OCCUR ABOVE 800 DEGREES F WITH FINELY DIVIDED FLUOROCARBON AND METAL POWDER (ALUMINUM OR MAGNESIUM). OPERATIONS SUCH AS GRINDING, BUFFING OR GRIT BLASTING MAY GENERATE SUCH MIXTURES. AVOID ANY DUST BUILDUP WITH FLUOROCARBONS AND METAL MIXTURES.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

THE DATA IN THIS MATERIAL SAFETY DATA SHEET RELATE ONLY TO
THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DO NOT RELATE TO
USE IN COMBINATION WITH ANY OTHER MATERIAL OR ANY PROCESS.

PRODUCT MANAGER

DUPONT MATERIAL SAFETY DATA SHEET

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***** SECTION I *****

MANUFACTURER: E. I. DUPONT DE NEMOURS & CO., (INC.)
POLYMERS & AUTOMOTIVE
WILMINGTON, DELAWARE 19898

TELEPHONE: PRODUCT INFORMATION (900) 441-7515
MEDICAL EMERGENCY (800) 441-3637
TRANSPORTATION EMERGENCY (800) 424-9300 (CHEMTREC)

IDENTITY: SILVERSTONE TOPCOAT - CLEAR

PRODUCT CODE: 456- 300 FORMULA DATE: 931019

DOT NAME: NOT REGULATED

HMSIS: H=1, F=1, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|------------|----------|--|
| 001 | 9002-84-0 | | POLYTETRAFLUOROETHYLENE |
| 002 | 25133-97-5 | | ACRYLIC POLYMER |
| 003 | 112-80-1 | | OLEIC ACID |
| 004 | 9036-19-5 | | OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT |
| 005 | 112-34-5 | 2 % | DIETHYLENE GLYCOL MONOBUTYL ETHER |
| 006 | 7732-18-5 | | WATER |
| 007 | 102-71-6 | | TRIETHANOLAMINE |
| 008 | 64742-95-6 | | AROMATIC HYDROCARBON |

SECTION 313 SUPPLIER NOTIFICATION

THE CHEMICALS LISTED ABOVE WITH PERCENTAGES ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | |
|------|----------------------|-----------------|--------------|
| 001 | UNKNOWN | ACGIH OSHA | NONE NONE |
| 002 | NONE | ACGIH OSHA | NONE NONE |
| 003 | NONE | ACGIH OSHA | NONE NONE |
| 004 | NONE | ACGIH OSHA | NONE NONE |

***** SECTION II CONTINUED *****

| | | | | |
|-----|------------|--------|----------|-------------------|
| 005 | .11 | DUPONT | 5.0 PPM | |
| | 20 DEG (C) | ACGIH | NONE | |
| | | OSHA | NONE | |
| 006 | 23.60 | ACGIH | NONE | |
| | 20 DEG (C) | OSHA | NONE | |
| 007 | .01 | DUPONT | 3.0 PPM | |
| | 20 DEG (C) | ACGIH | NONE | |
| | | OSHA | NONE | |
| 008 | 10.00 | ACGIH | 25.0 PPM | TRIMETHYL BENZENE |
| | 25 DEG (C) | OSHA | 25.0 PPM | TRIMETHYL BENZENE |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|---|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER APPRECIABLE |
| PERCENT VOLATILE BY VOLUME 63.3 | APPROX. BOILING RANGE 100-365 DEG (C) | WEIGHT PER GALLON 11.00 |
| PERCENT VOLATILE BY WEIGHT 47.8 | PERCENT SOLIDS 52.2 | V. O. C. THEORETICAL 2.1 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|--|--|
| FLASH POINT (METHOD) ABOVE 200 F (CC) | APPROX. FLAMMABLE LIMITS LEL .9 % UEL 6.0 % |
|--|--|

EXTINGUISHING MEDIA: FOAM , CARBON DIOXIDE, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS, IS RECOMMENDED. WATER FROM FOG NOZZLES MAY BE USED TO PREVENT PRESSURE BUILD-UP.

UNUSUAL FIRE & EXPLOSION HAZARDS: WHEN HEATED ABOVE THE FLASHPOINT, EMITS FLAMMABLE VAPORS WHICH, WHEN MIXED WITH AIR, CAN BURN OR BE EXPLOSIVE. FINE MIST OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE FLASH POINT.

HYDROGEN FLUORIDE IS RELEASED DURING A FIRE.

***** SECTION V - HEALTH HAZARD DATA *****

***** SECTION V CONTINUED *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

INHALATION: MAY CAUSE NOSE AND THROAT IRRITATION . MAY CAUSE NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY THE FOLLOWING PROGRESSIVE STEPS: HEADACHE, DIZZINESS, NAUSEA, STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS.

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OR BURNING OF THE EYES. REPEATED OR PROLONGED LIQUID CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT AND DERMATITIS.

OTHER POTENTIAL HAZARDS INCLUDE:

POLYTETRAFLUOROETHYLENE

INHALATION OF SMOKE OR FUMES FROM BURNING FLUOROCARBON OR FLUOROCARBON CONTAMINATED CIGARETTES OR TOBACCO MAY CAUSE POLYMER FUME FEVER, A FLU-LIKE ILLNESS WITH FEVER, CHILLS AND COUGH OF APPROXIMATELY 24-48 HOURS DURATION, WHICH SUBSIDES WITHOUT LASTING EFFECTS.

OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT

CAUSES EYE CORROSION AND PERMANENT INJURY.
CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR RASH.

DIETHYLENE GLYCOL MONOBUTYL ETHER

CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT OR RASH.
RECURRENT OVEREXPOSURE MAY RESULT IN LIVER AND KIDNEY INJURY.

HIGH DOSES IN LABORATORY ANIMALS HAVE SHOWN NON SPECIFIC EFFECTS SUCH AS IRRITATION, WEIGHT LOSS, MODERATE BLOOD CHANGES.

TESTS FOR MUTAGENIC ACTIVITY IN BACTERIAL OR MAMMALIAN CELL CULTURES HAVE BEEN INCONCLUSIVE.

TRIETHANOLAMINE

LIQUID SPLASHES IN THE EYE MAY RESULT IN CHEMICAL BURNS.
RECURRENT OVEREXPOSURE MAY RESULT IN LIVER AND KIDNEY INJURY.

CAN BE ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS.

AROMATIC HYDROCARBON

LABORATORY STUDIES WITH RATS HAVE SHOWN THAT PETROLEUM DISTILLATES CAUSE KIDNEY DAMAGE AND KIDNEY OR LIVER TUMORS. THESE EFFECTS WERE NOT SEEN IN SIMILAR STUDIES WITH GUINEA PIGS, DOGS, OR MONKEYS. SEVERAL STUDIES EVALUATING PETROLEUM WORKERS HAVE NOT SHOWN A SIGNIFICANT INCREASE OF KIDNEY DAMAGE OR AN INCREASE IN KIDNEY OR LIVER TUMORS.

FIRST AID:

***** SECTION V CONTINUED *****

INHALATION: IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING DIFFICULTY PERSISTS, OR OCCURS LATER, CONSULT A PHYSICIAN.

SKIN OR EYE: IN CASE OF CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES; CALL A PHYSICIAN. IN CASE OF SKIN CONTACT, WASH WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GASTRO-INTESTINAL DISTRESS.
IN THE UNLIKELY EVENT OF INGESTION, CALL A PHYSICIAN IMMEDIATELY AND HAVE NAMES OF INGREDIENTS AVAILABLE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OF THE EYES. REPEATED OR PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. IN CASE OF EYE CONTACT, FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, CALL A PHYSICIAN. FOR SKIN CONTACT, WASH WITH SOAP AND WATER.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NONE REASONABLY FORESEEABLE.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂, SMOKE, OXIDES OF HEAVY METALS REPORTED IN SECTION V.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
VENTILATE AREA. REMOVE SOURCES OF IGNITION. PREVENT SKIN CONTACT AND BREATHING OF VAPOR. CONFINE AND REMOVE WITH INERT ABSORBENT.

WASTE DISPOSAL METHOD: DO NOT ALLOW MATERIAL TO CONTAMINATE GROUND WATER SYSTEMS. INCINERATE ABSORBED MATERIAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. DO NOT INCINERATE IN CLOSED CONTAINERS.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

RESPIRATORY: DO NOT BREATHE VAPORS OR MISTS. WEAR A

***** SECTION VIII CONTINUED *****

PROPERLY FITTED VAPOR/PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA (TC-23C) FOR USE WITH PAINTS DURING APPLICATION AND UNTIL ALL VAPORS AND SPRAY MISTS ARE EXHAUSTED. FOLLOW THE RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE.

VENTILATION: PROVIDE SUFFICIENT VENTILATION IN VOLUME AND PATTERN TO KEEP CONTAMINANTS BELOW APPLICABLE OSHA REQUIREMENTS AND OTHER SUGGESTED EXPOSURE LIMITS.

PROTECTIVE CLOTHING: NEOPRENE GLOVES AND COVERALLS ARE RECOMMENDED.

EYE PROTECTION: GOGGLES ARE PREFERRED TO PREVENT EYE IRRITATION. IF SAFETY GLASSES ARE SUBSTITUTED, INCLUDE SPLASH GUARD OR SIDE SHIELDS.

PROTECTIVE CREAMS: DO NOT USE FOR PROTECTION. MAY BE USED FOR EASE OF CLEAN UP.

***** SECTION IX - SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: OBSERVE LABEL PRECAUTIONS. KEEP AWAY FROM HEAT, SPARKS AND FLAME. CLOSE CONTAINER AFTER EACH USE. GROUND CONTAINERS WHEN POURING. WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR SMOKING. DO NOT STORE ABOVE 120 F.

OTHER PRECAUTIONS: DO NOT SAND, FLAME CUT, BRAZE OR WELD DRY COATING WITHOUT A NIOSH/MSHA APPROVED RESPIRATOR OR APPROPRIATE VENTILATION.

DO NOT EXCEED RECOMMENDED BAKING TEMPERATURES. BAKING OVENS MUST BE PROPERLY VENTILATED. AT TEMPERATURES ABOVE 400 C (750 F) SMALL AMOUNTS OF HYDROGEN FLUORIDE CAN BE EVOLVED; AMOUNTS INCREASE AS TEMPERATURES INCREASE. HYDROGEN FLUORIDE IS TOXIC AND CAN CAUSE SKIN AND EYE IRRITATION. (3PPM - CEILING ACGIH-TLV). HIGH CONCENTRATIONS CAN CAUSE LUNG DAMAGE, PULMONARY EDEMA, BURNS. SOME VEGETATION IS PARTICULARLY SENSITIVE TO DAMAGE BY HYDROGEN FLUORIDE AND ATTENTION MUST BE GIVEN TO EXHAUST VENTILATION.

EXPLOSIVE REACTION MAY OCCUR ABOVE 800 DEGREES F WITH FINELY DIVIDED FLUOROCARBON AND METAL POWDER (ALUMINUM OR MAGNESIUM). OPERATIONS SUCH AS GRINDING, BUFFING OR GRIT BLASTING MAY GENERATE SUCH MIXTURES. AVOID ANY DUST BUILDUP WITH FLUOROCARBONS AND METAL MIXTURES.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

THE DATA IN THIS MATERIAL SAFETY DATA SHEET RELATE ONLY TO
THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DO NOT RELATE TO
USE IN COMBINATION WITH ANY OTHER MATERIAL OR ANY PROCESS.

PRODUCT MANAGER

DUPONT MATERIAL SAFETY DATA SHEET
POLYMER PRODUCTS

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***** SECTION I *****

MANUFACTURER:

E. I. DUPONT DE NEMOURS & CO, (INC.)
POLYMER & AUTOMOTIVE
WILMINGTON, DELAWARE 19898

TELEPHONE:

PRODUCT INFORMATION (800) 441-7515
MEDICAL EMERGENCY (800) 441-3637
TRANSPORTATION EMERGENCY (800) 424-9300 (CHEMTREC)

IDENTITY: SILVERSTONE PRIMER BLUE

PRODUCT CODE: 459- 516 FORMULA DATE: 920619

DOT NAME: NOT REGULATED

HMSIS: H=1, F=1, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|------------|----------|--|
| 001 | 57455-37-5 | | SODIUM ALUMINUM SULPHO-SILICATE (ULTRAMARINE BLUE) |
| 002 | 9002-84-0 | | POLYTETRAFLUOROETHYLENE |
| 003 | 7631-86-9 | | AMORPHOUS SILICA |
| 004 | 9071-54-9 | | POLYIMIDE POLYMER |
| 005 | 7732-18-5 | | WATER |
| 006 | 121-44-8 | | TRIETHYLAMINE |
| 007 | 98-00-0 | | FURFURYL ALCOHOL |
| 008 | 872-50-4 | | METHYL PYRROLIDONE |

SECTION 313 SUPPLIER NOTIFICATION

THE CHEMICALS LISTED ABOVE WITH PERCENTAGES ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | | |
|------|----------------------|-----------------|-------------|--------------|
| 001 | NOT APP | ACGIH | NONE | |
| | | OSHA | NONE | |
| 002 | UNKNOWN | ACGIH | NONE | |
| | | OSHA | NONE | |
| 003 | NONE | ACGIH | . 2 MG/M3 | RESPIRABLE |
| | | OSHA | 15. 0 MG/M3 | |
| | | OSHA | 5. 0 MG/M3 | RESPIRABLE |
| | | ACGIH | 1. 0 MG/M3 | 15 MIN(STEL) |

***** SECTION II CONTINUED *****

| | | | | | |
|-----|---------------------|-------------------------|----------------------------------|----------------------|--------------|
| 004 | UNKNOWN | ACGIH OSHA | NONE NONE | | |
| 005 | 23.60 20 DEG (C) | ACGIH OSHA | NONE NONE | | |
| 006 | 52.00 20 DEG (C) | ACGIH OSHA ACGIH | 10.0 PPM 25.0 PPM 15.0 PPM | | 15 MIN(STEL) |
| 007 | 1.00 32 DEG (C) | ACGIH OSHA ACGIH | 10.0 PPM 50.0 PPM 15.0 PPM | SKIN SKIN SKIN | 15 MIN (ST) |
| 008 | .29 20 DEG (C) | DUPONT ACGIH OSHA | 25.0 PPM NONE NONE | | |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|---|--|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER MISCIBLE |
| PERCENT VOLATILE BY VOLUME 85.1 | APPROX. BOILING RANGE 85-172 DEG (C) | WEIGHT PER GALLON 9.54 |
| PERCENT VOLATILE BY WEIGHT 74.2 | PERCENT SOLIDS 25.7 | V. O. C. THEORETICAL 3.4 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|--|--|
| FLASH POINT (METHOD) ABOVE 200 F (CC) | APPROX. FLAMMABLE LIMITS LEL 1.2 % UEL 16.3 % |
|--|--|

EXTINGUISHING MEDIA: FOAM , CARBON DIOXIDE, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: FULL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS, IS RECOMMENDED. WATER FROM FOG NOZZLES MAY BE USED TO PREVENT PRESSURE BUILD-UP.

UNUSUAL FIRE & EXPLOSION HAZARDS: WHEN HEATED ABOVE THE FLASHPOINT, EMITS FLAMMABLE VAPORS WHICH, WHEN MIXED WITH AIR, CAN BURN OR BE EXPLOSIVE. FINE MIST OR SPRAYS MAY BE FLAMMABLE AT TEMPERATURES BELOW THE FLASH POINT.

HYDROGEN FLUORIDE IS RELEASED DURING A FIRE.

***** SECTION V - HEALTH HAZARD DATA *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

INHALATION: MAY CAUSE NOSE AND THROAT IRRITATION . MAY CAUSE NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY THE FOLLOWING PROGRESSIVE STEPS: HEADACHE, DIZZINESS, NAUSEA, STAGGERING GAIT, CONFUSION, UNCONSCIOUSNESS.

REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OR BURNING OF THE EYES. REPEATED OR PROLONGED LIQUID CONTACT MAY CAUSE SKIN IRRITATION WITH DISCOMFORT AND DERMATITIS.

OTHER POTENTIAL HAZARDS INCLUDE:

POLYTETRAFLUOROETHYLENE

INHALATION OF SMOKE OR FUMES FROM BURNING FLUOROCARBON OR FLUOROCARBON CONTAMINATED CIGARETTES OR TOBACCO MAY CAUSE POLYMER FUME FEVER, A FLU-LIKE ILLNESS WITH FEVER, CHILLS AND COUGH OF APPROXIMATELY 24-48 HOURS DURATION, WHICH SUBSIDES WITHOUT LASTING EFFECTS.

TRIETHYLAMINE

CONTACT MAY CAUSE SKIN BURNS
EXTREMELY TOXIC. MAY CAUSE SKIN AND EYE BURNS . INHALATION OF VAPORS MAY DESTROY TISSUES IN THE RESPIRATORY TRACT. CAUSES EYE CORROSION AND PERMANENT INJURY.
MAY CAUSE IRRITATION OF THE MUCOUS MEMBRANES.
MAY CAUSE LIVER ENLARGEMENT.
MAY CAUSE ABNORMAL BLOOD FORMING FUNCTION WITH ANEMIA.
MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS DIZZINESS, HEADACHE, NAUSEA, AND LOSS OF CONCIUSNESS.
INDIVIDUALS WITH PREEXISTING DISEASE OF THE LIVER, CENTRAL NERVOUS SYSTEM, GASTROINTESTINAL TRACT OR REPRODUCTIVE ORGANS MAY HAVE INCREASED SUSCEPTABILITY TO THE TOXICITY OF EXCESSIVE EXPOSURES.

FURFURYL ALCOHOL

CAN BE ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS.
EYE CONTACT MAY CAUSE IRRITATION AND CORNEAL OPACITY.

ETHYL PYRROLIDONE

TESTS IN SOME LABORATORY ANIMALS INDICATE THIS COMPOUND MAY HAVE EMBRYOTOXIC ACTIVITY.

FIRST AID:

INHALATION: IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING DIFFICULTY PERSISTS, OR OCCURS LATER, CONSULT A PHYSICIAN.

***** SECTION V CONTINUED *****

SKIN OR EYE: IN CASE OF CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES; CALL A PHYSICIAN. IN CASE OF SKIN CONTACT, WASH WITH SOAP AND WATER. IF IRRITATION OCCURS, CONTACT A PHYSICIAN.

INGESTION: GASTRO-INTESTINAL DISTRESS.
IN THE UNLIKELY EVENT OF INGESTION, CALL A PHYSICIAN IMMEDIATELY AND HAVE NAMES OF INGREDIENTS AVAILABLE.

SKIN OR EYE CONTACT: MAY CAUSE IRRITATION OF THE EYES. REPEATED OR PROLONGED SKIN CONTACT MAY CAUSE IRRITATION. IN CASE OF EYE CONTACT, FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, CALL A PHYSICIAN. FOR SKIN CONTACT, WASH WITH SOAP AND WATER.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): NONE REASONABLY FORESEEABLE.

HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO2, SMOKE, OXIDES OF HEAVY METALS REPORTED IN SECTION V.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: VENTILATE AREA. REMOVE SOURCES OF IGNITION. PREVENT SKIN CONTACT AND BREATHING OF VAPOR. CONFINE AND REMOVE WITH INERT ABSORBENT.

WASTE DISPOSAL METHOD: DO NOT ALLOW MATERIAL TO CONTAMINATE GROUND WATER SYSTEMS. INCINERATE ABSORBED MATERIAL IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. DO NOT INCINERATE IN CLOSED CONTAINERS.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

RESPIRATORY: DO NOT BREATHE VAPORS OR MISTS. WEAR A PROPERLY FITTED VAPOR/PARTICULATE RESPIRATOR APPROVED BY NIOSH/MSHA (TC-23C) FOR USE WITH PAINTS DURING APPLICATION AND UNTIL ALL VAPORS AND SPRAY MISTS ARE EXHAUSTED. FOLLOW THE RESPIRATOR MANUFACTURER'S DIRECTIONS FOR RESPIRATOR USE.

***** SECTION VIII CONTINUED *****

VENTILATION: PROVIDE SUFFICIENT VENTILATION IN VOLUME AND PATTERN TO KEEP CONTAMINANTS BELOW APPLICABLE OSHA REQUIREMENTS AND OTHER SUGGESTED EXPOSURE LIMITS.

PROTECTIVE CLOTHING: NEOPRENE GLOVES AND COVERALLS ARE RECOMMENDED.

EYE PROTECTION: GOGGLES ARE PREFERRED TO PREVENT EYE IRRITATION. IF SAFETY GLASSES ARE SUBSTITUTED, INCLUDE SPLASH GUARD OR SIDE SHIELDS.

PROTECTIVE CREAMS: DO NOT USE FOR PROTECTION. MAY BE USED FOR EASE OF CLEAN UP.

***** SECTION IX - SPECIAL PRECAUTIONS *****

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: OBSERVE LABEL PRECAUTIONS. KEEP AWAY FROM HEAT, SPARKS AND FLAME. CLOSE CONTAINER AFTER EACH USE. GROUND CONTAINERS WHEN POURING. WASH THOROUGHLY AFTER HANDLING AND BEFORE EATING OR SMOKING. DO NOT STORE ABOVE 120 F.

OTHER PRECAUTIONS: DO NOT SAND, FLAME CUT, BRAZE OR WELD DRY COATING WITHOUT A NIOSH/MSHA APPROVED RESPIRATOR OR APPROPRIATE VENTILATION.

DO NOT EXCEED RECOMMENDED BAKING TEMPERATURES. BAKING OVENS MUST BE PROPERLY VENTILATED. AT TEMPERATURES ABOVE 400 C (750 F) SMALL AMOUNTS OF HYDROGEN FLUORIDE CAN BE EVOLVED; AMOUNTS INCREASE AS TEMPERATURES INCREASE. HYDROGEN FLUORIDE IS TOXIC AND CAN CAUSE SKIN AND EYE IRRITATION. (3PPM - CEILING ACGIH-TLV). HIGH CONCENTRATIONS CAN CAUSE LUNG DAMAGE, PULMONARY EDEMA, BURNS. SOME VEGETATION IS PARTICULARLY SENSITIVE TO DAMAGE BY HYDROGEN FLUORIDE AND ATTENTION MUST BE GIVEN TO EXHAUST VENTILATION. EXPLOSIVE REACTION MAY OCCUR ABOVE 800 DEGREES F WITH FINELY DIVIDED FLUOROCARBON AND METAL POWDER (ALUMINUM OR MAGNESIUM). OPERATIONS SUCH AS GRINDING, BUFFING OR GRIT BLASTING MAY GENERATE SUCH MIXTURES. AVOID ANY DUST BUILDUP WITH FLUOROCARBONS AND METAL MIXTURES.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

THE DATA IN THIS MATERIAL SAFETY DATA SHEET RELATE ONLY TO THE SPECIFIC MATERIAL DESIGNATED HEREIN AND DO NOT RELATE TO

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POLYMER PRODUCTS

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***** SECTION X CONTINUED *****

USE IN COMBINATION WITH ANY OTHER MATERIAL OR ANY PROCESS.

PRODUCT MANAGER

DUPONT MATERIAL SAFETY DATA SHEET
Fluoroproducts

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04/26/95

***** SECTION I *****

Manufacturer:

DuPont Co.
Fluoroproducts
Wilmington, Delaware 19898

Telephone:

Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

IDENTITY: "TEFLON" PREMIXED ONE COAT ENAMEL-GREEN

PRODUCT CODE: 851- 204 FORMULA DATE: 940906

OSHA NAME: CORROSIVE MATERIAL

HMIS: H=3, F=1, R=1

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|---------------|----------|-------------------------|
| 001 | 9002-84-0 | | POLYTETRAFLUOROETHYLENE |
| 002 | 1333-82-0 | 5 % | CHROMIC ACID |
| 003 | 7664-38-2 | 5 % | PHOSPHORIC ACID |
| 004 | 7732-18-5 | | WATER |
| 005 | 1308-38-9 | 5 % | CHROMIUM OXIDE |
| 006 | NOT AVAILABLE | | POLYTETRAFLUOROETHYLENE |

Section 313 Supplier Notification

The chemicals listed above with percentages are subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986 and of 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | |
|------|-------------------------|--------------------------------|--|
| 001 | UNKNOWN | ACGIH OSHA | NONE NONE |
| 002 | UNKNOWN | ACGIH OSHA | 50.0 UG/M3 .1 MG/M3 CR CR |
| 003 | NONE | ACGIH OSHA ACGIH OSHA | 1.0 MG/M3 1.0 MG/M3 3.0 MG/M3 3.0 MG/M3 15 MIN(STEL) 15 MIN(STEL) |
| 004 | 23.60 20 DEG (C) | ACGIH OSHA | NONE NONE |

***** SECTION II CONTINUED *****

| | | | | |
|-----|---------|-------|-----------|----|
| 005 | NOT APP | ACGIH | .5 MG/M3 | CR |
| | | OSHA | 1.0 MG/M3 | CR |
| 006 | NONE | ACGIH | NONE | |
| | | OSHA | NONE | |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|---|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER NOT SOLUBLE |
| PERCENT VOLATILE BY VOLUME 70.0 | APPROX. BOILING RANGE 100-145 DEG (C) | WEIGHT PER GALLON 11.44 |
| PERCENT VOLATILE BY WEIGHT 51.0 | PERCENT SOLIDS 49.0 | V. O. C. THEORETICAL 0.0 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|---|---|
| FLASH POINT (METHOD) OVER 100 F (CC) | APPROX. FLAMMABLE LIMITS LEL .0 % UEL .0 % |
|---|---|

Extinguishing media: foam , carbon dioxide, dry chemical

Special fire fighting procedures: full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Unusual fire & explosion hazards: when heated above the flashpoint, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mist or sprays may be flammable at temperatures below the flash point.

Hydrogen fluoride is released during a fire.
Hydrogen fluoride is released during a fire.

***** SECTION V - HEALTH HAZARD DATA *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

Inhalation: May cause nose and throat irritation . May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

***** SECTION V CONTINUED *****

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

OTHER POTENTIAL HAZARDS INCLUDE:

POLYTETRAFLUOROETHYLENE

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometime cough, of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors such as mixed exposures and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash the face before smoking. Significant skin permeation after contact appears unlikely.

CHROMIC ACID

Chromic acid overexposure causes severe irritation to eyes and may cause blindness. May cause deep, painful penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation. Prolonged or repeated eye contact may cause conjunctivitis. Solutions can be absorbed through the skin in harmful amounts leading to kidney failure and death. Death has been avoided in several cases through early renal dialysis. Implantation studies have produced lung cancers in laboratory animals.

Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

Is an IARC, NTP or OSHA carcinogen.

WARNING: This chemical is known to the State of California to cause cancer.

PHOSPHORIC ACID

Prolonged skin contact may cause chemical burns.
Liquid splashes in the eye may result in chemical burns.

CHROMIUM OXIDE

Chromic acid overexposure causes severe irritation to eyes and may cause blindness. May cause deep, painful penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation. Prolonged or repeated eye contact may cause conjunctivitis. Solutions can be absorbed through the skin in harmful amounts leading to kidney failure and death. Death has been avoided in several cases through early renal dialysis.

***** SECTION V CONTINUED *****

Implantation studies have produced lung cancers in laboratory animals.

Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

WARNING: This chemical is known to the State of California to cause cancer.

POLYTETRAFLUOROETHYLENE

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometime cough, of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors such as mixed exposures and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash the face before smoking. Significant skin permeation after contact is unlikely.

First Aid:

Inhalation: If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye: In case of contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Ingestion: Gastro-intestinal distress.

In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.

Skin or eye contact: May cause irritation of the eyes. Repeated or prolonged skin contact may cause irritation. In case of eye contact, flush with plenty of water for at least 15 minutes, call a physician. For skin contact, wash with soap and water.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

Incompatibility (materials to avoid): None reasonably foreseeable.

***** SECTION VI CONTINUED *****

Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section V.

Hazardous polymerization: Will not occur.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbent.

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with Federal, State and local requirements. Do not incinerate in closed containers.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

Respiratory: Do not breathe vapors or mists. Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mists are exhausted. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements and other suggested exposure limits.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Protective creams: Do not use for protection. May be used for ease of clean up.

***** SECTION IX - SPECIAL PRECAUTIONS *****

Caution: Do not use in medical applications involving permanent or temporary implantation in the human body. For further information, see "DuPont Medical Caution Statement." H-50102.

Do not exceed recommended baking temperatures. Baking ovens must be properly ventilated. At temperatures above 400 C

***** SECTION IX CONTINUED *****

(750 F) small amounts of hydrogen fluoride can be evolved; amounts increase as temperatures increase. Hydrogen fluoride is toxic and can cause skin and eye irritation. (3ppm - ceiling ACGIH-TLV. High concentrations can cause lung damage, pulmonary edema, burns. Some vegetation is particularly sensitive to damage by hydrogen fluoride and attention must be given to exhaust ventilation.

Explosive reaction may occur above 800 degrees F with finely divided fluorocarbon and metal powder (aluminum or magnesium). Operations such as grinding, buffing or grit blasting may generate such mixtures. Avoid any dust buildup with fluorocarbons and metal mixtures.

Do not exceed recommended baking temperatures. Baking ovens must be properly ventilated. At temperatures above 400 C (750 F) small amounts of hydrogen fluoride can be evolved; amounts increase as temperatures increase. Hydrogen fluoride is toxic and can cause skin and eye irritation. (3ppm - ceiling ACGIH-TLV. High concentrations can cause lung damage, pulmonary edema, burns. Some vegetation is particularly sensitive to damage by hydrogen fluoride and attention must be given to exhaust ventilation.

Explosive reaction may occur above 800 degrees F with finely divided fluorocarbon and metal powder (aluminum or magnesium). Operations such as grinding, buffing or grit blasting may generate such mixtures. Avoid any dust buildup with fluorocarbons and metal mixtures.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

Product Manager

APR 12 1995

DUPONT MATERIAL SAFETY DATA SHEET
Fluoroproducts

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***** SECTION I *****

Manufacturer:

DuPont Co.
Fluoroproducts
Wilmington, Delaware 19898

Telephone:

Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

IDENTITY: "TEFLON" HI BUILD ENAMEL LT. GREEN

PRODUCT CODE: 851- 224 FORMULA DATE: 940713

OSHA NAME: FLAMMABLE LIQUID

HMIS: H=2, F=3, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|---------------|----------|---|
| 001 | 9016-00-6 | | SILICONE RESIN |
| 002 | 9002-84-0 | | POLYTETRAFLUOROETHYLENE |
| 003 | 9016-00-6 | | SILICONE RESIN |
| 004 | NOT AVAILABLE | | NONIONIC SURFACTANT |
| 005 | 108-88-3 | 6 % | TOLUENE |
| 006 | 112-34-5 | 2 % | DIETHYLENE GLYCOL MONOBUTYL ETHER |
| 007 | 7732-18-5 | | WATER |
| 008 | 9036-19-5 | | OCTYLPHENOXPOLYETHOXYETHANOL SURFACTANT |
| 009 | 13463-67-7 | | TITANIUM DIOXIDE |
| 010 | 1308-38-9 | 4 % | CHROMIUM OXIDE |

Section 313 Supplier Notification

The chemicals listed above with percentages are subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986 and of 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | |
|------|-------------------------|-----------------|--------------|
| | | ACGIH | OSHA |
| 001 | NONE | ACGIH OSHA | NONE NONE |
| 002 | UNKNOWN | ACGIH OSHA | NONE NONE |
| 003 | NONE | ACGIH OSHA | NONE NONE |

***** SECTION II CONTINUED *****

| | | | | | |
|-----|---------------------|---|---|---------------------|---------------------------|
| 004 | NONE | ACGIH OSHA | NONE NONE | | |
| 005 | 36.70 20 DEG (C) | ACGIH OSHA OSHA OSHA DUPONT | 50.0 PPM 200.0 PPM 300.0 PPM 500.0 PPM 50.0 PPM | SKIN CEILING | 10 MIN MAX 8&12 HR TWA |
| 006 | .11 20 DEG (C) | DUPONT ACGIH OSHA | 5.0 PPM NONE NONE | | |
| 007 | 23.60 20 DEG (C) | ACGIH OSHA | NONE NONE | | |
| 008 | NONE | ACGIH OSHA | NONE NONE | | |
| 009 | NOT APP | ACGIH OSHA DUPONT | 10.0 MG/M3 15.0 MG/M3 10.0 MG/M3 | | |
| 010 | NOT APP | ACGIH OSHA | .5 MG/M3 1.0 MG/M3 | CR CR | |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|---|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER NOT SOLUBLE |
| PERCENT VOLATILE BY VOLUME 69.4 | APPROX. BOILING RANGE 100-245 DEG (C) | WEIGHT PER GALLON 10.90 |
| PERCENT VOLATILE BY WEIGHT 51.5 | PERCENT SOLIDS 48.4 | V. O. C. THEORETICAL 2.2 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|--|--|
| FLASH POINT (METHOD) BETWEEN 20 - 73 F (CC) | APPROX. FLAMMABLE LIMITS LEL .9 % UEL 7.0 % |
|--|--|

Extinguishing media: foam , carbon dioxide, dry chemical

Special fire fighting procedures: full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

***** SECTION IV CONTINUED *****

Unusual fire & explosion hazards: when heated above the flashpoint, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mist or sprays may be flammable at temperatures below the flash point.

Hydrogen fluoride is released during a fire.

***** SECTION V - HEALTH HAZARD DATA *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

Inhalation: May cause nose and throat irritation . May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

OTHER POTENTIAL HAZARDS INCLUDE:

POLYTETRAFLUOROETHYLENE

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometime cough, of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors such as mixed exposures and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash the face before smoking. Significant skin permeation after contact is unlikely.

NONIONIC SURFACTANT

Contact may cause skin irritation with discomfort or rash. Causes eye corrosion and permanent injury.

TOLUENE

Recurrent overexposure may result in liver and kidney injury.

High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans.

Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown.

***** SECTION V CONTINUED *****

WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

DIETHYLENE GLYCOL MONOBUTYL ETHER

Contact may cause skin irritation with discomfort or rash. Recurrent overexposure may result in liver and kidney injury.

High doses in laboratory animals have shown non specific effects such as irritation, weight loss, moderate blood changes.

Tests for mutagenic activity in bacterial or mammalian cell cultures have been inconclusive.

OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT

Causes eye corrosion and permanent injury.

Contact may cause skin irritation with discomfort or rash.

TITANIUM DIOXIDE

In a lifetime inhalation test, lung cancers were found in some rats exposed to 250 mg/m³ respirable titanium dust.

Analysis of the titanium dioxide concentrations in the rat's lungs showed that the lung clearance mechanism was overwhelmed and that the results at the massive 250 mg/m³ level are not relevant to the workplace.

CHROMIUM OXIDE

Chromic acid overexposure causes severe irritation to eyes and may cause blindness. May cause deep, painful penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation. Prolonged or repeated eye contact may cause conjunctivitis. solutions can be absorbed through the skin in harmful amounts leading to kidney failure and death. Death has been avoided in several cases through early renal dialysis. Implantation studies have produced lung cancers in laboratory animals.

Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

WARNING: This chemical is known to the State of California to cause cancer.

First Aid:

Inhalation: If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye: In case of contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

***** SECTION V CONTINUED *****

Ingestion: Gastro-intestinal distress.

In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.

Skin or eye contact: May cause irritation of the eyes. Repeated or prolonged skin contact may cause irritation. In case of eye contact, flush with plenty of water for at least 15 minutes, call a physician. For skin contact, wash with soap and water.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

Incompatibility (materials to avoid): None reasonably foreseeable.

Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section V.

Hazardous polymerization: Will not occur.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbent.

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with Federal, State and local requirements. Do not incinerate in closed containers.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

Respiratory: Do not breathe vapors or mists. Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mists are exhausted. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements and other suggested exposure limits.

Protective clothing: Neoprene gloves and coveralls are

***** SECTION VIII CONTINUED *****

recommended.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Protective creams: Do not use for protection. May be used for ease of clean up.

***** SECTION IX - SPECIAL PRECAUTIONS *****

Caution: Do not use in medical applications involving permanent or temporary implantation in the human body. For further information, see "DuPont Medical Caution Statement." H-50102.

Do not exceed recommended baking temperatures. Baking ovens must be properly ventilated. At temperatures above 400 C (750 F) small amounts of hydrogen fluoride can be evolved; amounts increase as temperatures increase. Hydrogen fluoride is toxic and can cause skin and eye irritation. (3ppm - ceiling ACGIH-TLV. High concentrations can cause lung damage, pulmonary edema, burns. Some vegetation is particularly sensitive to damage by hydrogen fluoride and attention must be given to exhaust ventilation.

Explosive reaction may occur above 800 degrees F with finely divided fluorocarbon and metal powder (aluminum or magnesium). Operations such as grinding, buffing or grit blasting may generate such mixtures. Avoid any dust buildup with fluorocarbons and metal mixtures.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

Product Manager

DUPONT MATERIAL SAFETY DATA SHEET
Fluoroproducts

PAGE
07/07/8

***** SECTION I *****

Manufacturer:
DuPont Co
Fluoroproducts
Wilmington, Delaware 19898
Telephone:
Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

IDENTITY: "TEFLON" FEP RESIN FINISH - CLEAR
PRODUCT CODE: 856- 200 FORMULA DATE: 950623
OSHA NAME: FLAMMABLE LIQUID
HMIS: H=1, F=3, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|------------|----------|--|
| 001 | 25067-11-2 | | FLUORINATED ETHYLENE PROPYLENE RESIN |
| 002 | 56-81-5 | | GLYCERINE |
| 003 | 7732-18-5 | | WATER |
| 004 | 1330-20-7 | 8 % | XYLENE |
| 005 | 9036-19-5 | | OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT |

Section 313 Supplier Notification

The chemicals listed above with percentages are subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986 and of 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS |
|------|----------------------|--|
| 001 | UNKNOWN | DUPONT 10.0 MG/M3 ACGIH NONE OSHA NONE |
| 002 | NONE | ACGIH 10.0 MG/M3 OSHA 10.0 MG/M3 OSHA 5.0 MG/M3 RESPIRABLE |
| 003 | 23.60 20 DEG (C) | ACGIH NONE OSHA NONE |
| 004 | 25.00 25 DEG (C) | ACGIH 100.0 PPM OSHA 100.0 PPM ACGIH 150.0 PPM 15 MIN(STEL) OSHA 150.0 PPM 15 MIN(STEL) |

***** SECTION II CONTINUED *****

| | | | |
|------|------|-------|------|
| OSHA | NONE | ACGIH | NONE |
| | | OSHA | NONE |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|--|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER |
| PERCENT VOLATILE BY VOLUME 59.0 | APPROX. BOILING RANGE 100-292 DEG (C) | WEIGHT PER GALLON 11.16 |
| PERCENT VOLATILE BY WEIGHT 42.7 | PERCENT SOLIDS 57.2 | V. O. C. THEORETICAL 1.6 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|---|---|
| FLASH POINT (METHOD) BETWEEN 73 - 100 F (CC) | APPROX. FLAMMABLE LIMITS LEL 1.0 % UEL 7.0 % |
|---|---|

Extinguishing media: foam , carbon dioxide, dry chemical

Special fire fighting procedures: full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Unusual fire & explosion hazards: when heated above the flashpoint, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mist or sprays may be flammable at temperatures below the flash point.

Hydrogen fluoride is released during a fire.

***** SECTION V - HEALTH HAZARD DATA *****

ROUTE OF ENTRY SYMPTOMS/EFFECTS AND FIRST AID

Inhalation: May cause nose and throat irritation . May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

***** SECTION V CONTINUED *****

OTHER POTENTIAL HAZARDS INCLUDE.

FLUORINATED ETHYLENE PROPYLENE RESIN

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometime cough, of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors such as mixed exposures and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash the face before smoking. Significant skin permeation after contact appears unlikely.

GLYCERINE

May cause abnormal kidney function.

XYLENE

High concentrations have caused embryotoxic effects in laboratory animals.

Recurrent overexposure may result in liver and kidney injury.

Can be absorbed through the skin in harmful amounts.

OCTYLPHENOXYPOLYETHOXYETHANOL SURFACTANT

Causes eye corrosion and permanent injury.

Contact may cause skin irritation with discomfort or rash.

First Aid:

Inhalation: If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye: In case of contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Ingestion: Gastro-intestinal distress.

In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.

Skin or eye contact. May cause irritation of the eyes. Repeated or prolonged skin contact may cause irritation. In case of eye contact, flush with plenty of water for at least 15 minutes, call a physician. For skin contact, wash with soap and water.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

Incompatibility (materials to avoid): None reasonably foreseeable.

Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section V.

Hazardous polymerization: Will not occur.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

Steps to be taken in case material is released or spilled: Ventilate area. Remove sources of ignition. Prevent skin contact and breathing of vapor. Confine and remove with inert absorbent.

Waste disposal method: Do not allow material to contaminate ground water systems. Incinerate absorbed material in accordance with Federal, State and local requirements. Do not incinerate in closed containers.

***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

Respiratory: Do not breathe vapors or mists. Wear a properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mists are exhausted. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements and other suggested exposure limits.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Protective creams: Do not use for protection. May be used for ease of clean up.

***** SECTION IX - SPECIAL PRECAUTIONS *****

Caution. Do not use in medical applications involving permanent

***** SECTION IX CONTINUED *****

or temporary implantation in the human body. For further information, see "DuPont Medical Caution Statement," H-50102.

Do not exceed recommended baking temperatures. Baking ovens must be properly ventilated. At temperatures above 400 C (750 F) small amounts of hydrogen fluoride can be evolved; amounts increase as temperatures increase. Hydrogen fluoride is toxic and can cause skin and eye irritation. (3ppm - ceiling ACGIH-TLV. High concentrations can cause lung damage, pulmonary edema, burns. Some vegetation is particularly sensitive to damage by hydrogen fluoride and attention must be given to exhaust ventilation.

Explosive reaction may occur above 800 degrees F with finely divided fluorocarbon and metal powder (aluminum or magnesium). Operations such as grinding, buffing or grit blasting may generate such mixtures. Avoid any dust buildup with fluorocarbons and metal mixtures.

***** SECTION X - NOTES *****

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or any process.

Product Manager

DUPONT MATERIAL SAFETY DATA SHEET
Fluoroproducts

PAGE 1
07/07/95

***** SECTION I *****

Manufacturer:
DuPont Co.
Fluoroproducts
Wilmington, Delaware 19898
Telephone:
Product information (800) 441-7515
Medical emergency (800) 441-3637
Transportation emergency (800) 424-9300 (CHEMTREC)

IDENTITY: "TEFLON" FEP ENAMEL - GREEN
PRODUCT CODE: 856- 204 FORMULA DATE: 950418
OSHA NAME: FLAMMABLE LIQUID
HMIS: H=2, F=3, R=0

***** SECTION II - INGREDIENTS *****

| ING# | CAS NO. | SEC. 313 | INGREDIENT |
|------|------------|----------|---|
| 001 | 25067-11-2 | | FLUORINATED ETHYLENE PROPYLENE RESIN |
| 002 | 56-81-5 | | GLYCERINE |
| 003 | 7732-18-5 | | WATER |
| 004 | 1330-20-7 | 8 % | XYLENE |
| 005 | 9036-19-5 | | OCTYLPHENOXPOLYETHOXYETHANOL SURFACTANT |
| 006 | 1308-38-9 | 7 % | CHROMIUM OXIDE |

Section 313 Supplier Notification

The chemicals listed above with percentages are subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986 and of 40 CFR 372.

| ING# | VAPOR PRESSURE MM HG | EXPOSURE LIMITS | |
|------|----------------------|-------------------------|--|
| 001 | UNKNOWN | DUPONT ACGIH OSHA | 10.0 MG/M3 NONE NONE |
| 002 | NONE | ACGIH OSHA OSHA | 10.0 MG/M3 10.0 MG/M3 5.0 MG/M3 RESPIRABLE |
| 003 | 23.60 20 DEG (C) | ACGIH OSHA | NONE NONE |
| 004 | 25.00 25 DEG (C) | ACGIH OSHA ACGIH | 100.0 PPM 100.0 PPM 150.0 PPM |

15 MIN(STEL)

***** SECTION II CONTINUED *****

| | | | | | |
|-----|---------|-------|-----------|--|--------------|
| | | OSHA | 150.0 PPM | | 15 MIN(STEL) |
| 005 | NONE | ACGIH | NONE | | |
| | | OSHA | NONE | | |
| 006 | NOT APP | ACGIH | .5 MG/M3 | | CR |
| | | OSHA | 1.0 MG/M3 | | CR |

***** SECTION III - PHYSICAL DATA *****

| | | |
|---------------------------------------|--|--|
| EVAPORATION RATE SLOWER THAN ETHER | VAPOR DENSITY HEAVIER THAN AIR | SOLUBILITY OF SOLVENT SYSTEM IN WATER |
| PERCENT VOLATILE BY VOLUME 61.0 | APPROX. BOILING RANGE 100-292 DEG (C) | WEIGHT PER GALLON 11.39 |
| PERCENT VOLATILE BY WEIGHT 43.3 | PERCENT SOLIDS 56.6 | V. O. C. THEORETICAL 1.6 |

***** SECTION IV - FIRE & EXPLOSION DATA *****

| | |
|---|---|
| FLASH POINT (METHOD) BETWEEN 73 - 100 F (CC) | APPROX. FLAMMABLE LIMITS LEL 1.0 % UEL 7.0 % |
|---|---|

Extinguishing media: foam , carbon dioxide, dry chemical

Special fire fighting procedures: full protective equipment, including self-contained breathing apparatus, is recommended. Water from fog nozzles may be used to prevent pressure build-up.

Unusual fire & explosion hazards: when heated above the flashpoint, emits flammable vapors which, when mixed with air, can burn or be explosive. Fine mist or sprays may be flammable at temperatures below the flash point.

Hydrogen fluoride is released during a fire.

***** SECTION V - HEALTH HAZARD DATA *****

| ROUTE OF ENTRY | SYMPTOMS/EFFECTS AND FIRST AID |
|----------------|--------------------------------|
|----------------|--------------------------------|

Inhalation: May cause nose and throat irritation . May cause nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion, unconsciousness.

Reports have associated repeated and prolonged overexposure

***** SECTION V CONTINUED *****

to solvents with permanent brain and nervous system damage.

Skin or eye contact: May cause irritation or burning of the eyes. Repeated or prolonged liquid contact may cause skin irritation with discomfort and dermatitis.

OTHER POTENTIAL HAZARDS INCLUDE:

FLUORINATED ETHYLENE PROPYLENE RESIN

Inhalation of fumes from overheating PTFE may cause polymer fume fever, a temporary flu-like illness with fever, chills, and sometime cough, of approximately 24 hours duration. There are some reports in the literature of persistent pulmonary effects in individuals, especially smokers, who have had repeated episodes of polymer fume fever. Because of complicating factors such as mixed exposures and smoking history, these findings are uncertain. Protection against acute exposure should also provide protection against any potential chronic effects. Smokers should avoid contamination of tobacco products, and should wash the face before smoking. Significant skin permeation after contact appears unlikely.

GLYCERINE

May cause abnormal kidney function.

XYLENE

High concentrations have caused embryotoxic effects in laboratory animals.

Recurrent overexposure may result in liver and kidney injury.

Can be absorbed through the skin in harmful amounts.

OCTYLPHENOXPOLYETHOXYETHANOL SURFACTANT

Causes eye corrosion and permanent injury.

Contact may cause skin irritation with discomfort or rash.

CHROMIUM OXIDE

Chromic acid overexposure causes severe irritation to eyes and may cause blindness. May cause deep, painful penetrating ulcers on skin. May cause severe irritation of the respiratory tract and nasal septum and possible perforation. Prolonged or repeated eye contact may cause conjunctivitis. Solutions can be absorbed through the skin in harmful amounts leading to kidney failure and death. Death has been avoided in several cases through early renal dialysis. Implantation studies have produced lung cancers in laboratory animals.

Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother.

WARNING: This chemical is known to the State of California to cause cancer.

First Aid

***** SECTION V CONTINUED *****

Inhalation: If affected by inhalation of vapor or spray mist, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing difficulty persists, or occurs later, consult a physician.

Skin or eye: In case of contact, immediately flush with plenty of water for at least 15 minutes; call a physician. In case of skin contact, wash with soap and water. If irritation occurs, contact a physician.

Ingestion: Gastro-intestinal distress.
In the unlikely event of ingestion, call a physician immediately and have names of ingredients available.

Skin or eye contact: May cause irritation of the eyes. Repeated or prolonged skin contact may cause irritation. In case of eye contact, flush with plenty of water for at least 15 minutes, call a physician. For skin contact, wash with soap and water.

***** SECTION VI - REACTIVITY DATA *****

STABILITY
STABLE

Incompatibility (materials to avoid): None reasonably foreseeable.

Hazardous decomposition products: CO, CO₂, smoke, oxides of heavy metals reported in Section V.

Hazardous polymerization: Will not occur.

***** SECTION VII - SPILL OR LEAK PROCEDURES *****

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***** SECTION VIII - SPECIAL PROTECTION INFORMATION *****

Respiratory: Do not breathe vapors or mists. Wear a

***** SECTION VIII CONTINUED *****

properly fitted vapor/particulate respirator approved by NIOSH/MSHA (TC-23C) for use with paints during application and until all vapors and spray mists are exhausted. Follow the respirator manufacturer's directions for respirator use.

Ventilation: Provide sufficient ventilation in volume and pattern to keep contaminants below applicable OSHA requirements and other suggested exposure limits.

Protective clothing: Neoprene gloves and coveralls are recommended.

Eye protection: Goggles are preferred to prevent eye irritation. If safety glasses are substituted, include splash guard or side shields.

Protective creams: Do not use for protection. May be used for ease of clean up.

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Caution: Do not use in medical applications involving permanent or temporary implantation in the human body. For further information, see "DuPont Medical Caution Statement." H-50102.

Do not exceed recommended baking temperatures. Baking ovens must be properly ventilated. At temperatures above 400 C (750 F) small amounts of hydrogen fluoride can be evolved; amounts increase as temperatures increase. Hydrogen fluoride is toxic and can cause skin and eye irritation. (3ppm - ceiling ACGIH-TLV. High concentrations can cause lung damage, pulmonary edema, burns. Some vegetation is particularly sensitive to damage by hydrogen fluoride and attention must be given to exhaust ventilation.

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***** SECTION X - NOTES *****

NOTICE FROM DUPONT

The data in this material safety data sheet relate only to the specific material designated herein and do not relate to

***** SECTION X CONTINUED *****

use in combination with any other material or any process.

Product Manager

RCRIS

EPA ID #: NCD 003172442

FACILITY NAME: Livingstone Coatings Corp.

CITY: Charlotte, N.C.

EVALUATION DATA:

NEW: X CHANGE: DELETE:

PERSON: 025

BRANCH: 01

AGENCY: STATE

REASON:

SUPERVISOR NOV TRACKING INFO

TYPE: CDI

INITIAL INSPECTION DATE: August 9, 1996

DOCKET:

REINSP DATE:

COMMENTS: Sample Industrial Septic Tanks

GENERATORS:

GBF: GER: GGR: GLB: GMR: GOR: GPT: GRR: GSC: GSQ: X

TRANSPORTERS:

TGR: TMR: TOR: TRR: TWD:

TSD's

DBF: DCH: DCL: DFR: DGS: DGW: DIN: DLB: DLF: DLT: DMC:

DMR: DOR: DOT: DPB: DPP: DSI: DTR: DTT: DWP:

USED OIL:

TUO: TFO: BUO: MUO: PUO: RUO:

VIOLATION DATA: New: Change: Delete:

1. Agency: State Type: Date Determined:
Class: Priority: Seq#
Returned to Compliance:
Actual Date:
Req. Description:
Comment:

2. Agency: STATE Type: Date Determined:
Class: Priority: Seq.#
Returned to Compliance:
Actual Date:
Reg. Description:
Comment:

✓

**DEPARTMENT OF ENVIRONMENT, HEALTH and NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION
REPORT**

Subject: Livingstone Coatings
NCD003172442

Location: 240 Rhyne Road

Date: 9 Aug 1996

Address: P.O. Box 668267

Time spent: 5

City: Charlotte, N.C.
28266-8267

State: NC **Zip:**

By Whom: Jesse Wells *JWW*

Persons contacted: Mr. Scott Moncrief

Reason for visit: Sample Industrial Septic System

Copies to: Keith Masters

REPORT:

On August 9, 1996, Robin Hedden, Joseph Parker and I attended a meeting at Livingstone Coatings Corporation (LCC) to discuss the continued operation and upgrade of existing on site waste treatment systems. LCC is a job shop operation which coats parts with teflon type coatings. One of the coatings used at the facility has chromic acid as an active ingredient. The presence of chrome in the disposal system is an environmental concern. In attendance at the meeting was Joseph Pearce, NCDEHNR On-Site Wastewater Treatment Section, Sylvia Daniel, Mecklenburg County, Richard Gaskins, Petree Stockton, atty representing Livingstone Coatings, David Gipe, Delta Environmental, Landon Davidson, NCDEHNR Groundwater, Stephen Trammell, Livingstone Coatings, Scott Moncrief, Livingstone Coatings et al.

Prior to beginning the meeting, samples were collected from the two industrial septic tank systems presently in operation at the facility. Industrial tank #1 (IT1) receives waste from an iron phosphate application operation. The sample from IT1 was collected by personnel from Delta Environmental. This section obtained duplicate samples from Delta to be analyzed for TCLP metals. After obtaining samples from IT1, the group proceeded to industrial tank #2 (IT2). IT2 receives rinse waters from the cleaning of spray guns used to apply coatings onto

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various parts. Samples were again collected by Delta personnel and duplicate samples were again obtained to be analyzed for TCLP metals. After accessing the sampling point for IT2, it was determined by Joseph Pearce that the system had failed and that wastewater was exiting the tank prior to the movement of the wastewater through the drainfield.

After collection of the samples all parties met to discuss the facility's operation and future operating conditions. The meeting was conducted such that each group presented their concerns. At present the facility is assessing groundwater conditions under the auspices of DWQ/GW Section. The facility is planning to expand its operational area due to a fire and as a result must construct/upgrade an additional septic tanks system for domestic wastes. Due to the environmental contamination on site, a building permit to construct the proposed operational area and additional waste treatment has been withheld.

The Hazardous Waste Section (HWS) became involved with this site as part of a referral from DEHNR's, Division of Environmental Health, On-Site Wastewater Section's concern about the chromium level in IT #2. During the meeting our discussion of the site was limited to the existing waste in the two industrial waste tanks. LCC was advised that if the tanks are pumped to make repairs or modifications that the liquids/solids in the tank be properly characterized prior to disposal. LCC reported that Heritage Environmental would most likely be contacted to handle any waste removed from the tank systems. LCC was informed that further action by the HWS would most likely be dependent upon the samples collected and if the liquid inside the industrial tanks are determined to be characteristic hazardous waste.

LCC reported that they have conducted bench scale testing of its wastewater and it feels that it can meet Charlotte-Mecklenburg Utility pretreatment effluent standards. We discussed waste treatment options with the group and it was pointed out that treatment conducted on the wastewater would have to be some type of in-line process treatment to avoid TSD requirements if the wastewater was determined to be hazardous waste. We indicated to the facility that any waste treatment sludge generated from the treatment would have to be characterized and managed in an appropriate manner.

After discussing the HWS concerns, we requested a tour of the operations areas where wastewater is being generated and to explain the processes generating the wastewater. Mr. Scott Moncrief led us through a tour of the facility. The facility has six spray application booths of which

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five are operable. Mr. Moncrief reported that the coating mixture is applied by spray guns. Any product remaining in the guns is collected and reused. Empty spray guns with de minimis amounts of residual coating material is rinsed with water and discharged into IT2. Mr. Moncrief was requested to mail to the HWS MSD sheets of all coating materials used at the facility. We questioned Mr. Moncrief concerning disposal of the booth filters. He reported that the filters are handled as non-hazardous solid waste. We questioned whether any laboratory analysis had been done on the booth filters. He was unsure but indicated that he would check the company's files. Mr. Moncrief was advised to analyze the booth filters for TCLP constituents of concern if no laboratory data could be located.

Prior to coating parts they are cleaned to remove accumulated grease/oil and treated with iron phosphate to enhance the coating application. The cleaning operation is a series of five dip tanks. The tanks in series contains the following materials alkaline cleaner (Tank 1), cold H2O rinse (Tank 2), iron phosphate (Tank 3), cold H2O rinse (Tank 4) and non-chromate sealer (Tank 5). De minimis spills/drag out are discharged into IT1. The temperature of the sample collected from IT1 was above ambient temperature indicative of the waste associated with the cleaning operation.

Prior to departing the site we again met to explain our concerns with the filter media and to ensure that the facility was aware of the HWS role as it applies to existing operation. Additional investigation by the HWS is dependent upon the industrial tank wastewater samples.

Please advise should you have any questions.

DEPARTMENT OF ENVIRONMENT, HEALTH and NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION
ACTIVITY REPORT

Subject: Livingstone Coatings
NCD003172442

Location: 240 Rhyne Road

Date: 9 Aug 1996

Address: P.O. Box 668267

Time spent: 5

City: Charlotte, N.C.
28266-8267

State: NC Zip:

By Whom: Jesse Wells *JW*

Persons contacted: Mr. Scott Moncrief

Reason for visit: Sample Industrial Septic System

Copies to: Keith Masters

REPORT:

Livingstone Coatings, Charlotte: Sample two industrial septic system. Delta Environmental conducted sampling, this Office obtained duplicates. Samples to be analyzed for TCLP metals.

Activity Type: Check Most Appropriate

1. Complaint _____
2. Emergency Responce _____
3. Compliance Assistance _____
4. Remedial Action _____
5. Presentation _____
6. Training _____
7. Meeting _____
8. Other X _____

- Superfund Section
- Hazardous Waste Section
- Solid Waste Section



CHAIN OF CUSTODY RECORD

| | |
|--|---|
| Project Name: <u>LIVINGSTONE Coatings</u> Site ID # (NCD#) <u>NCD 003172442</u> Location: <u>240 Rhyne Road C NC 27-W</u> Address: <u>POB 668267 Charlotte NC 28266</u> | Sampled by: <u>Delta Environmental/ Joe Parker</u> Sampler ID <u>029</u> Telephone: <u>(104) 663-1699</u> Date Sampled: <u>August 9, 1996</u> Time Sampled: _____ |
|--|---|

Sample Types: Soil _____ Water _____ Waste Other _____

Remarks: Supernatant from two industrial septic system.

Field Sample Numbers NT-1(017697) NT-2(017699)

Relinquished by: Jesse W. Wells (Signature) Date: 8/9/96 Time: 3:00 P.M.

Received by: Donald Hall (Signature) Date: 8/12/96 Time: 8:30 AM

Relinquished by: Donald Hall (Signature) Date: 8/12/96 Time: 1:40 PM

Received by: Jayce Davis (Signature) Date: 8/17/96 Time: 1:30

Relinquished by: _____ (Signature) Date: _____ Time: _____

Received by: _____ (Signature) Date: _____ Time: _____

Results Reported: [Signature] (Signature) Date: 11/11/96 Time: _____

SOLID WASTE MANAGEMENT DIVISION

Receipt for Samples

Livingstone Coating Corp. 240 Rhyme Rd. NC-27117 POB 648267 Charlotte, NC 28266
 Name of Firm Firm Address

J. Scott Moncrief, Manager-Engineering, Research and Development
 Firm Owner, Operator, or Agent Title

| SAMPLE NUMBER | COLLECTED | | SAMPLE TYPE | | | DUPLICATE SAMPLE | | | SAMPLE LOCATION | |
|---------------|-----------|------|-------------|------|-------|------------------|------|-------|-----------------|---------|
| | DATE | TIME | WATER | SOIL | OTHER | OFRD | ACPT | RJCTD | ONSITE | OFFSITE |
| 017697 | 8/19/96 | 0948 | | | ✓ | | ✓ | | ✓ | |
| 017699 | 8/19/96 | | | | ✓ | | ✓ | | ✓ | |
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Receipt for the sample(s) described above is hereby acknowledged:

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Jesse W. Wells
 Signature of Inspector

 Signature of Firm Owner, Operator, or Agent

Waste Mgmt Specialist
 Title

 Title

Comments: DWM/HW accepted duplicate samples from facility

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-1 (017697)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road @ NC 27 W Charlotte, N.C.

Collected By J. Parker ID# 029 Date Collected 8/9/96 Time 0948

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | Comments |
|--|--|----------------------------|
| Environmental | Concentrate | |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 1</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

| TCLP Compounds | | |
|---------------------|--|-----------------|
| Inorganic Compounds | | Results(mg/l) |
| Arsenic | | <u><0.2</u> |
| Barium | | <u>0.40</u> |
| Cadmium | | <u><0.05</u> |
| Chromium | | <u><0.05</u> |
| Lead | | <u><0.10</u> |
| Mercury | | <u><0.01</u> |
| Selenium | | <u><0.05</u> |
| Silver | | <u><0.05</u> |

| Organic Chemistry | | Inorganic Chemistry | |
|--|---------------|---------------------------------------|----------------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> P&T:GC/MS | | <input type="checkbox"/> Arsenic | |
| <input type="checkbox"/> Acid:B/N Ext. | | <input type="checkbox"/> Barium | |
| <input type="checkbox"/> MTBE | | <input type="checkbox"/> Cadmium | |
| | | <input type="checkbox"/> Chloride | |
| | | <input type="checkbox"/> Chromium | |
| | | <input type="checkbox"/> Copper | |
| | | <input type="checkbox"/> Fluoride | |
| | | <input type="checkbox"/> Iron | |
| | | <input type="checkbox"/> Lead | |
| | | <input type="checkbox"/> Manganese | |
| | | <input type="checkbox"/> Mercury | |
| | | <input type="checkbox"/> Nitrate | |
| | | <input type="checkbox"/> Selenium | |
| | | <input type="checkbox"/> Silver | |
| | | <input type="checkbox"/> Sulfates | |
| | | <input type="checkbox"/> Zinc | |
| | | <input type="checkbox"/> pH | |
| | | <input type="checkbox"/> Conductivity | |
| | | <input type="checkbox"/> TDS | |
| | | <input type="checkbox"/> TOC | |

| Radiochemistry | |
|--------------------------------------|-----------------|
| Parameter | Results (PCI/l) |
| <input type="checkbox"/> Gross Alpha | |
| <input type="checkbox"/> Gross Beta | |

| Microbiology | |
|--------------|---------------------|
| Parameter | Results (Col/100ml) |
| | |
| | |

| Organic Compounds | Results(mg/l) |
|--|---------------|
| <input type="checkbox"/> benzene | |
| <input type="checkbox"/> carbon tetrachloride | |
| <input type="checkbox"/> chlordane | |
| <input type="checkbox"/> chlorobenzene | |
| <input type="checkbox"/> chloroform | |
| <input type="checkbox"/> o-cresol | |
| <input type="checkbox"/> m-cresol | |
| <input type="checkbox"/> p-cresol | |
| <input type="checkbox"/> cresol | |
| <input type="checkbox"/> 1,4-dichlorobenzene | |
| <input type="checkbox"/> 1,2-dichloroethane | |
| <input type="checkbox"/> 1,1-dichloroethylene | |
| <input type="checkbox"/> 2,4-dinitrotoluene | |
| <input type="checkbox"/> heptachlor | |
| <input type="checkbox"/> hexachlorobenzene | |
| <input type="checkbox"/> hexachlorobutadiene | |
| <input type="checkbox"/> hexachloroethane | |
| <input type="checkbox"/> methyl ethyl ketone | |
| <input type="checkbox"/> nitrobenzene | |
| <input type="checkbox"/> pentachlorophenol | |
| <input type="checkbox"/> pyridine | |
| <input type="checkbox"/> tetrachloroethylene | |
| <input type="checkbox"/> trichloroethylene | |
| <input type="checkbox"/> 2,4,5-trichlorophenol | |
| <input type="checkbox"/> 2,4,6-trichlorophenol | |
| <input type="checkbox"/> vinyl chloride | |
| <input type="checkbox"/> endrin | |
| <input type="checkbox"/> lindane | |
| <input type="checkbox"/> methoxychlor | |
| <input type="checkbox"/> toxaphene | |
| <input type="checkbox"/> 2,4-D | |
| <input type="checkbox"/> 2,4,5-TP (Silvex) | |

Date Received _____ Reported by _____
Date Extracted _____ Date Reported 012100 AUG 13 1996
Date Analyzed _____ Lab Number _____

Site Number NCD 003 172 442 Field Sample Number NT-2 (017699)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road @ NC 27 W

Collected By J. Partzer ID# 029 Date Collected 8/9/96 Time 1000

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | |
|--|--|----------------------------|
| Environmental | Concentrate | Comments |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 2</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

| TCLP Compounds | |
|---------------------|-----------------|
| Inorganic Compounds | Results(mg/l) |
| ↑ Arsenic | <u><0.3</u> |
| Barium | <u>0.25</u> |
| Cadmium | <u><0.05</u> |
| Chromium | <u>28.3</u> |
| Lead | <u><0.10</u> |
| Mercury | <u><0.01</u> |
| ↓ Selenium | <u><0.3</u> |
| ↓ Silver | <u><0.05</u> |

| Organic Chemistry | |
|--|---------------|
| Parameter | Results(mg/l) |
| <input type="checkbox"/> P&T:GC/MS | |
| <input type="checkbox"/> Acid:B/N Ext. | |
| <input type="checkbox"/> MTBE | |
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| Radiochemistry | |
|--------------------------------------|-----------------|
| Parameter | Results (PCI/l) |
| <input type="checkbox"/> Gross Alpha | |
| <input type="checkbox"/> Gross Beta | |

| Microbiology | |
|--------------|---------------------|
| Parameter | Results (Col/100ml) |
| | |
| | |
| | |

| Inorganic Chemistry | |
|---------------------------------------|----------------------|
| Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> Arsenic | |
| <input type="checkbox"/> Barium | |
| <input type="checkbox"/> Cadmium | |
| <input type="checkbox"/> Chloride | |
| <input type="checkbox"/> Chromium | |
| <input type="checkbox"/> Copper | |
| <input type="checkbox"/> Fluoride | |
| <input type="checkbox"/> Iron | |
| <input type="checkbox"/> Lead | |
| <input type="checkbox"/> Manganese | |
| <input type="checkbox"/> Mercury | |
| <input type="checkbox"/> Nitrate | |
| <input type="checkbox"/> Selenium | |
| <input type="checkbox"/> Silver | |
| <input type="checkbox"/> Sulfates | |
| <input type="checkbox"/> Zinc | |
| <input type="checkbox"/> pH | |
| <input type="checkbox"/> Conductivity | |
| <input type="checkbox"/> TDS | |
| <input type="checkbox"/> TOC | |

| Organic Compounds | Results(mg/l) |
|--|---------------|
| <input type="checkbox"/> benzene | |
| <input type="checkbox"/> carbon tetrachloride | |
| <input type="checkbox"/> chlordane | |
| <input type="checkbox"/> chlorobenzene | |
| <input type="checkbox"/> chloroform | |
| <input type="checkbox"/> o-cresol | |
| <input type="checkbox"/> m-cresol | |
| <input type="checkbox"/> p-cresol | |
| <input type="checkbox"/> cresol | |
| <input type="checkbox"/> 1,4-dichlorobenzene | |
| <input type="checkbox"/> 1,2-dichloroethane | |
| <input type="checkbox"/> 1,1-dichloroethylene | |
| <input type="checkbox"/> 2,4-dinitrotoluene | |
| <input type="checkbox"/> heptachlor | |
| <input type="checkbox"/> hexachlorobenzene | |
| <input type="checkbox"/> hexachlorobutadiene | |
| <input type="checkbox"/> hexachloroethane | |
| <input type="checkbox"/> methyl ethyl ketone | |
| <input type="checkbox"/> nitrobenzene | |
| <input type="checkbox"/> pentachlorophenol | |
| <input type="checkbox"/> pyridine | |
| <input type="checkbox"/> tetrachloroethylene | |
| <input type="checkbox"/> trichloroethylene | |
| <input type="checkbox"/> 2,4,5-trichlorophenol | |
| <input type="checkbox"/> 2,4,6-trichlorophenol | |
| <input type="checkbox"/> vinyl chloride | |
| <input type="checkbox"/> endrin | |
| <input type="checkbox"/> lindane | |
| <input type="checkbox"/> methoxychlor | |
| <input type="checkbox"/> toxaphene | |
| <input type="checkbox"/> 2,4-D | |
| <input type="checkbox"/> 2,4,5-TP (Silvex) | |

Date Received _____ Reported by _____
 Date Extracted _____ Date Reported 012101 AUG 1996
 Date Analyzed _____ Lab Number _____

- Superfund Section
- Hazardous Waste Section
- Solid Waste Section

CHAIN OF CUSTODY RECORD

| | |
|---|---|
| Project Name: <u>LIVINGSTONE Coatings</u> Site ID # (NCD#) <u>NCD 003172442</u> Location: <u>240 Rhyne Road C NC 27-W</u> Address: <u>POB 668267 Charlotte, NC 28266</u> | Sampled by: <u>Delta Environmental/ Joe Parker</u> Sampler ID <u>029</u> Telephone: <u>(704) 663-1699</u> Date Sampled: <u>August 9, 1996</u> Time Sampled: _____ |
|---|---|

Sample Types: Soil _____ Water _____ Waste _____ Other _____

Remarks: Supernatant from two industrial septic system.

Field Sample Numbers NT-1(017697) NT-2(017699) _____ _____ _____

_____ _____ _____ _____ _____

Relinquished by: Jesse W. Yellets Date: 8/9/96 Time: 3:00 P.M.
(Signature)

Received by: _____ Date: _____ Time: _____
(Signature)

Relinquished by: _____ Date: _____ Time: _____
(Signature)

Received by: _____ Date: _____ Time: _____
(Signature)

Relinquished by: _____ Date: _____ Time: _____
(Signature)

Received by: _____ Date: _____ Time: _____
(Signature)

Results Reported: _____ Date: _____ Time: _____
(Signature)

SOLID WASTE MANAGEMENT DIVISION

Receipt for Samples

Livingshore Cooking Corp. 240 Rhyme Rd. NC-27171 POB 668267 Charlotte, NC 28266
 Name of Firm Firm Address

J. Scott Moncrief, Manager-Engineering, Research and Development
 Firm Owner, Operator, or Agent Title

| SAMPLE NUMBER | COLLECTED DATE TIME | | SAMPLE TYPE WATER SOIL OTHER | | | DUPLICATE SAMPLE OFRD ACPT RJCTD | | | SAMPLE LOCATION ONSITE OFFSITE | |
|---------------|-----------------------|------|----------------------------------|--|---|--------------------------------------|---|--|----------------------------------|--|
| | | | | | | | | | | |
| 017697 | 8/9/96 | 0948 | | | ✓ | | ✓ | | ✓ | |
| 017699 | 8/9/96 | | | | ✓ | | ✓ | | ✓ | |
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Receipt for the sample(s) described above is hereby acknowledged:

Receipt/rejection of duplicate or split samples is hereby acknowledged:

Jesse W. Wells
 Signature of Inspector

Signature of Firm Owner, Operator, or Agent

Waste Mgmt Specialist
 Title

Title

Comments: DWM/HW accepted duplicate samples from facility

SAMPLE ANALYSIS REQUEST

Site Number NCD 003 172 442 Field Sample Number NT-2 (017699)

Name of Site Livingstone Coatings Corp Site Location 240 Rhyme Road @ NC 27 W

Collected By J. Parker ID# 029 Date Collected 8/9/96 Time 1000

Agency: Hazardous Waste Solid Waste Superfund

| Sample Type | | Comments |
|--|--|----------------------------|
| Environmental | Concentrate | |
| <input type="checkbox"/> Ground water (1) | <input type="checkbox"/> Solid (5) | <u>Supernatant from</u> |
| <input type="checkbox"/> Surface water (2) | <input checked="" type="checkbox"/> Liquid (6) | <u>Industrial Tank # 2</u> |
| <input type="checkbox"/> Soil (3) | <input type="checkbox"/> Sludge (7) | |
| <input type="checkbox"/> Other (4) | <input type="checkbox"/> Other (8) | |

| TCLP Compounds | |
|---------------------|--------------|
| Inorganic Compounds | Results(mg/) |
| ↑ Arsenic | _____ |
| Barium | _____ |
| Cadmium | _____ |
| Chromium | _____ |
| Lead | _____ |
| Mercury | _____ |
| Selenium | _____ |
| ↓ Silver | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

| Organic Chemistry | | Inorganic Chemistry | |
|--|---------------|---------------------------------------|----------------------|
| Parameter | Results(mg/l) | Parameter | Results(mg/l)(mg/kg) |
| <input type="checkbox"/> P&T:GC/MS | _____ | <input type="checkbox"/> Arsenic | _____ |
| <input type="checkbox"/> Acid:B/N Ext. | _____ | <input type="checkbox"/> Barium | _____ |
| <input type="checkbox"/> MTBE | _____ | <input type="checkbox"/> Cadmium | _____ |
| _____ | _____ | <input type="checkbox"/> Chloride | _____ |
| _____ | _____ | <input type="checkbox"/> Chromium | _____ |
| _____ | _____ | <input type="checkbox"/> Copper | _____ |
| _____ | _____ | <input type="checkbox"/> Fluoride | _____ |
| _____ | _____ | <input type="checkbox"/> Iron | _____ |
| _____ | _____ | <input type="checkbox"/> Lead | _____ |
| _____ | _____ | <input type="checkbox"/> Manganese | _____ |
| _____ | _____ | <input type="checkbox"/> Mercury | _____ |
| _____ | _____ | <input type="checkbox"/> Nitrate | _____ |
| _____ | _____ | <input type="checkbox"/> Selenium | _____ |
| _____ | _____ | <input type="checkbox"/> Silver | _____ |
| _____ | _____ | <input type="checkbox"/> Sulfates | _____ |
| _____ | _____ | <input type="checkbox"/> Zinc | _____ |
| _____ | _____ | <input type="checkbox"/> pH | _____ |
| _____ | _____ | <input type="checkbox"/> Conductivity | _____ |
| _____ | _____ | <input type="checkbox"/> TDS | _____ |
| _____ | _____ | <input type="checkbox"/> TOC | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

| Organic Compounds | Results(mg) |
|--|-------------|
| <input type="checkbox"/> benzene | _____ |
| <input type="checkbox"/> carbon tetrachloride | _____ |
| <input type="checkbox"/> chlordane | _____ |
| <input type="checkbox"/> chlorobenzene | _____ |
| <input type="checkbox"/> chloroform | _____ |
| <input type="checkbox"/> o-cresol | _____ |
| <input type="checkbox"/> m-cresol | _____ |
| <input type="checkbox"/> p-cresol | _____ |
| <input type="checkbox"/> cresol | _____ |
| <input type="checkbox"/> 1,4-dichlorobenzene | _____ |
| <input type="checkbox"/> 1,2-dichloroethane | _____ |
| <input type="checkbox"/> 1,1-dichloroethylene | _____ |
| <input type="checkbox"/> 2,4-dinitrotoluene | _____ |
| <input type="checkbox"/> heptachlor | _____ |
| <input type="checkbox"/> hexachlorobenzene | _____ |
| <input type="checkbox"/> hexachlorobutadiene | _____ |
| <input type="checkbox"/> hexachloroethane | _____ |
| <input type="checkbox"/> methyl ethyl ketone | _____ |
| <input type="checkbox"/> nitrobenzene | _____ |
| <input type="checkbox"/> pentachlorophenol | _____ |
| <input type="checkbox"/> pyridine | _____ |
| <input type="checkbox"/> tetrachloroethylene | _____ |
| <input type="checkbox"/> trichloroethylene | _____ |
| <input type="checkbox"/> 2,4,5-trichlorophenol | _____ |
| <input type="checkbox"/> 2,4,6-trichlorophenol | _____ |
| <input type="checkbox"/> vinyl chloride | _____ |
| <input type="checkbox"/> endrin | _____ |
| <input type="checkbox"/> lindane | _____ |
| <input type="checkbox"/> methoxychlor | _____ |
| <input type="checkbox"/> toxaphene | _____ |
| <input type="checkbox"/> 2,4-D | _____ |
| <input type="checkbox"/> 2,4,5-TP (Silvex) | _____ |
| _____ | _____ |
| _____ | _____ |

Date Received _____ Reported by _____

Date Extracted _____ Date Reported _____

Date Analyzed _____ Lab Number _____

Purpose: Enforcement and compliance with the N.C. Solid and Hazardous Waste Management Rules.

Preparation: A sample analyses request form must be completed for each type of evaluation requested (e.g., inorganic, organic, microbiology, radiochemistry). For sampling conditions which require more than one (1) container (i.e., ground or surface water) a sample label must be affixed to one of the containers. The collector must then write the site and sample number on the duplicate container.

Do not submit an analysis request form without any parameters indicated.

Equivalent measurements: $\text{ppm} = \mu\text{g}/\text{ml} = \text{mg}/\text{l} = \mu\text{g}/\text{g} = \text{mg}/\text{kg}$
 $\text{ppb} = \mu\text{g}/\text{l} = \mu\text{g}/1000\text{g} = \mu\text{g}/\text{kg}$

DEFINITIONS/INSTRUCTIONS

Site Number - A unique twelve-digit site/location identifier (i.e., the EPA identification number).

Field Sample Number - A unique six-digit sample identifier which is pre-printed on the sample label.

Name of Site - Name of facility, landfill, etc.

Site Location - City and county:

Collected By - Name and staff identification number of collector.

Date and Time Collected - Self-explanatory.

Environmental - A sample of a naturally occurring substance such as ground water, surface water, or soils which may be contaminated.

Concentrate - A sample of a waste, including but not limited to, sludges, resins, treatment effluents, or drummed wastes.

Comments - Lists details regarding sample or sample point (e.g., sample location, well number, phase separation, and/or odors).

Inorganic Chemistry - Check (✓) the desired parameters to be analyzed. If not listed, enter the element/compound in the space provided.

Organic Chemistry - Check (✓) the desired parameters to be analyzed. If not listed, enter the element/compound in the space provided.

TCLP Compounds - Check (✓) the desired parameters to be analyzed. If not listed, enter the element/compound in the space provided. TCLP can only be performed on solid or semi-solid samples. For totals of the inorganic parameters, check (✓) the corresponding parameter under Inorganic Chemistry.

Microbiology and Radiochemistry - Contact the Raleigh office prior to sampling either of these.

Distribution:

1. Send or deliver the original to the State Laboratory of Public Health.
2. The Lab then sends a copy (with results) to the Solid Waste Management Division.
3. The Solid Waste Management Division sends a copy to the field person or collector.

Disposition: This form may be destroyed in accordance with the Environmental Health, Solid and Hazardous Waste Section of the Records Disposition Schedule as published by the North Carolina Division of Archives and History

Additional forms may be ordered from: Solid Waste Management Division
Hazardous Waste Section
P.O. Box 27687
Raleigh, NC 27611

August 9, 1996

LIVINGSTONE COATING CORPORATION

Pull all agends into a cohesive plan that addresses Livingstone's environmental problems and concerns.

I. Water Supply

II. Industrial Wastewater Treatment

III. Domestic Wastewater

IV. Building Permit

V. Groundwater Incident

August 9, 1996

H. S. Trammell, President
Livingstone Coating Corporation

J.S. Moncrief, Manager-Engineering, R&D
Livingstone Coating Corporation

W.H. McNair, Partner
Livingstone Coating Corporation

R.C. Gaskins, Jr., Attorney
Petree Stockton, L.L.P.

D.W. Gipe, P.E.
Delta Environmental Consultants

S. Daniel, R.S.
Mecklenburg County Health Dept.

J. Pearce, Engineer II
NCDEHNR-DEH On-Site Wastewater

J. Wells
NCDEHNR-DSW Haz. Waste Section

L. Davidson, Hydrogeologist
NCDEHNR-DEM Water Quality Section

Livingstone Coatings.

Tri Cr⁶⁺ exempt under 40 CFR 261.4(b)(6)(i)

- 1) Tri- or Hexa valent Chrome?
- 2) Septic Tank is permitted by Co.
- 3) Only time RCRA would apply is if waste was sent outside of permitted system (ie. sludge)

PAR Laboratories, Inc.

Mailing: P.O. Box 411483

Charlotte, NC 28241-1483

Shipping: 2217 Graham Park Drive

Charlotte, NC 28273

Phone: (704) 588-8333

FAX: (704) 588-8335

Quotation For: **The State of North Carolina
Hazardous Waste Division**

Attention: **Jesse Wells**

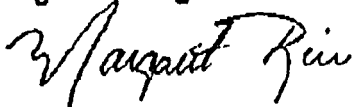
Analyses of Submitted Samples for:

TCLP Metals - \$ 200.00 per sample (2 samples)

Cr+6 and Cr+3 - \$ 42.00 per sample (1 sample)

This price includes sample bottles,
reports and 22 years of expertise.

Thank you for allowing PAR Laboratories to serve you. If you have further questions or require additional information I am personally available to speak with you.

Signed: Margaret Rice

Date: July 26, 1996

Quotation Good For: 1996

Quote #:NC.QUO

CHEM BAC Laboratories, Inc

2500 West Boulevard
Charlotte, N.C. 28208
Telephone 704-384-6381

P.
OF 28210
FA. -6382

JULY 26, 1986

JESSE WELLS
NCHNR/HAZARDOUS WASTE SECTION

RE: TESTING OF TWO SAMPLES WASTE FOR METALS

DEAR JESSE:

IN RESPONSE TO OUR TELEPHONE CONVERSATION OF 07-25-86
WE ARE SUBMITTING A QUOTATION TO TEST TWO (2) SAMPLES
TO BE SUBMITTED TO THIS LABORATORY.

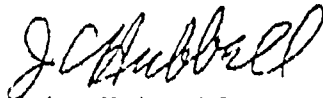
TESTING OF EACH SAMPLE WILL CONSIST OF THE FOLLOWING:

TCLP METALS-AS, BA, CD, CR(T) & (HEX), PB, HG, SE, AG

CHARGE FOR EACH SAMPLE WILL BE \$210.00.

TURNAROUND TIME WILL BE 5 DAYS FROM DATE SAMPLE RECEIVED.

Respectfully submitted,
CHEM-BAC Laboratories, Inc.



J.C. Hubbell
Supervising Chemist

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Health

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Linda C. Sewall, Director



July 24, 1996

Ms. Sylvia Daniel, Program Chief
Individual Water and Wastewater Systems
Mecklenburg County Environmental Health
Hal Marshall Service Court
700 North Tryon Street
Charlotte, NC 28202



Dear Ms. Daniel:

SUBJECT: Domestic System #3 Relocation

On July 12, 1996, we received by facsimile the septic tank sampling results for Livingstone Coating Corporation (LCC). Along with the sampling results, we received a description of wastewater fixtures discharging to each system. On July 22, 1996, we received your program's LCC files.

Based upon the information submitted, it appears that industrial process wastewater may be discharging to domestic tanks #2 and #3. Both of these tanks may receive spills or process waste waters from floor drains in industrial areas. In fact, it is implied that water for contact cooling is "seasonally" discharged to one of the floor drains connected to domestic septic tank #3. The presence of these floor drains is sufficient for these systems to be deemed industrial wastewater systems.

In addition to discharge source descriptions which characterize these systems as industrial systems, domestic tanks #2 and #3 effluent data are not indicative of domestic discharge concentrations. Domestic tank #2 effluent had a 1.01 mg/l chromium concentration, a 731 mg/l biochemical oxygen demand-five day (BOD5), and a 0.023 mg/l toluene concentration. Domestic tank #3 had a 0.16 mg/l chromium concentration, a 3220 mg/l BOD5 concentration, a 0.011 mg/l 1,1-dichloroethene concentration, and a 0.016 mg/l toluene concentration. For comparison, a typical domestic septic tank effluent concentration for chromium is 0.05 mg/l, for BOD5 is 150 mg/l, and toluene and dichloroethene concentrations are typically below typical detection levels. The explanation offered for the elevated chromium concentration from hand washing is not based on hard data. The explanation offered for the elevated BOD in domestic tank #3 may be plausible, but needs to be confirmed by measurement of the solids level in the tank. The elevated concentration of BOD in domestic tank #2, and the elevated organic compound concentrations in both tanks are not explained in any manner. The data does not confirm that only domestic wastewater enters these tanks.

Ms. Sylvia Daniel
Page 2
July 26, 1996

With respect to the industrial tanks discharges, the discharge concentrations of arsenic in industrial tank #1 and chromium in industrial tank #2 are sufficient to inhibit the ability of soil aerobes to biodegrade the organic materials. The extent of soil sorption of these elements and their complexes cannot be accurately predicted. It is possible the concentrations of arsenic and chromium, along with the organic compounds discharged, have exceeded the sorptive capabilities of the soils and are reaching subsurface aquifers at concentrations in excess of the North Carolina Administrative Code Title 15A Subchapter 2L .0202 standards. This information is being forwarded to the Groundwater Section of the Division of Water Quality.

Also, the hazardous waste toxicity characteristic concentration for chromium is 5 mg/l. The data submitted indicates Industrial Tank #2 and its drainfield may be treating and disposing of a hazardous waste. This information is being forwarded to the Hazardous Waste Section of the Division of Solid Waste.

With respect to our rules, we respectfully request copies of all subsurface disposal discharge applications, approvals and permits for this site. If your office does not have copies of these materials, then please have Livingstone Coatings provide them to you and to our office.

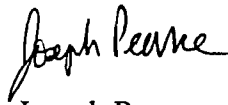
With respect to permitting the modification of Domestic Tank and System #3, North Carolina General Statute Chapter 130A Article 11 Section 130A-336(c) provides that, "Unless the Commission provides by rule, plans, and specifications for all wastewater systems designed for the collection, treatment, and disposal of industrial process wastewater shall be reviewed and approved by the Department prior to issuance of an authorization for wastewater system construction by the local health department." With the finding that Domestic Tank and System #3 is deemed an industrial process wastewater system, plans and specifications for the system modification must be reviewed and approved by our Department. Their plans and specifications must include designs to ensure groundwater standards are met, to ensure biological activity is not inhibited, and to ensure the treatment system is not a treatment, storage, and disposal facility for hazardous waste.

It is premature at this time for us to offer an enforcement recommendation. Dependent on our review of the requested information, and upon inspection of the facility, we may recommend enforcement for violation of NCGS Section 130A-336(c), 15A NCAC 18A .1961(a) and others deemed appropriate.

Ms. Sylvia Daniel
Page 3
July 26, 1996

If you have any questions concerning our review of the submitted information, then please contact us by phone at (919)715-3270, by fax at (919)715-3227, or by e-mail at <joe@deh.ehnr.state.nc.us>. We continue to offer our technical assistance to both the Mecklenburg County Health Department and LCC.

Sincerely yours,



Joseph Pearce

cc: Joe Lynn
✓ Jesse Wells
Landon Davidson
Cathy Mallast

MEMO

DATE: 7/16/96

TO: LINDA CULPEPPER

SUBJECT: LIVINGSTONE COATING

ATTACHED PLEASE FIND RECENT SUBMITTALS FOR LIVINGSTONE COATINGS. PER MY UNDERSTANDING OF HAZ. WASTE RULES, INDUSTRIAL TANK #2 IS A "TSD". Toluene C 23.7 mg/l and Cr at 26.9 mg/l on 6/24/96. Earlier data 10/28/94 + 10/31/94 show greater than 100 mg/l Cr. 10/31/94

100 mg/l Cr⁺⁶

I am not recommending permit expansion on domestic tanks, due to floor drains and chromium values. Need impetus for connection to CMUD sewer, and installation of pretreatment.

Selled in June 1994



From: Joe Pearce
(919) 715-3270

Sewer 2100 ft. away



North Carolina Department of Environment, Health, and Natural Resources



Printed on Recycled Paper

(00)



LIVINGSTONE COATING CORPORATION

P.O. Box 668267

Charlotte, NC 28266-8267

FAX MESSAGE

*Unborn
Duck*

Date: Friday, July 12, 1996

Number of pages including cover sheet: 9

To: NC-DEHNR/DEH

Mr. Joseph Pearce

Phone: (919) 715-3270

Fax phone: (919) 715-3227

CC:

From:

J. Scott Moncrief

Manager-Engineering, R & D

Phone: (704) 392-2323

Fax phone: (704) 399-4021

REMARKS: Urgent For your review Reply ASAP Please comment

Mr. Pearce:

Following is the septic tank sampling results as we discussed yesterday.

-Scott Moncrief

*Steven
Tronard*

*261.4 (ppm)
Fritch
Stewart*

*RCAH Metals
Spec. Ch.
Spec. Ch. + Truck*

Att. is also McStair

3



LIVINGSTONE COATING CORPORATION

July 12, 1996

Mr. Joseph Pearce
Environmental Engineer II
NCDEHNR-DEH On-Site Wastewater Section
P.O. Box 27687
Raleigh, NC 27611-7687

Re: Septic Tank Sampling Results

Dear Mr. Pearce:

Enclosed is a copy of Delta Environmental Consultants letter of July 11, 1996 including the test results of our three domestic and two industrial wastewater septic tanks. We trust this package provides you with enough information to verify that the domestic systems may be separated from the industrial systems for the purposes of releasing an improvement permit by Mecklenburg County Health Department.

As discussed, access was made to the #3 Domestic tank. Based on the inspection, that tank will be pumped of accumulated solids as soon as possible.

Sincerely,

J. Scott Moncrief
Manager-Engineering, Research, and Development

enclosures



JUL 12 1996



6701 Carmel Road
 Suite 200
 Charlotte, NC 28226-3901
 704-541-9890
 FAX: 704-543-4035

July 11, 1996

Livingstone Coating Corporation
 P. O. Box 668267
 Charlotte, North Carolina 28266

Attention: Mr. J. Scott Moncrief, Manager
 Engineering, Research & Development

Dom = 3
 Ind = 2

Subject: Results of Septic Tank Effluent Sampling
 Livingstone Coating Corporation
 Delta Project No. E094-011-1.0007

Dear Scott:

On June 24, 1996 Delta collected effluent samples from each of three domestic septic tanks and two industrial septic tanks. The samples from domestic septic tanks 1 & 2 and industrial septic tanks 1 & 2 were collected by lowering a disposal bailer into the water surface on the downstream end of each septic tank. The sample from domestic septic tank 3 was collected from the pipe that connects the septic tank to the leach field. The septic tank access manholes were buried and unable to be located. All samples were transferred to laboratory-supplied sample bottles and vials and cooled for shipment to Research & Analytical Laboratories, Inc., in Kernersville, North Carolina. Proper chain-of-custody procedures were maintained.

Visual observation of the samples revealed the following:

- the samples from domestic septic tanks 1 and 2 were cloudy;
- the sample from domestic septic tank 3 was black in color had a high solids content;
- the sample from industrial septic tank 1 had an oily appearing sheen on the surface; and,
- the sample from industrial septic tank 2 had a greenish hue and an oily appearing sheen on the surface.

The samples were analyzed via EPA Methods 601 and 602 for trichloroethene; 1,1 dichloroethene; 1,1,1 trichloroethane; benzene; toluene; ethylbenzene; and xylenes. The samples were also analyzed for BOD₅, COD, total phosphorous, arsenic, and chromium.

Preliminary analytical results were received from the laboratory on July 2, 1996. These results revealed elevated BOD₅ and COD in the samples collected from industrial septic tank 1 and domestic septic tank 3. As a result of the visual observations, along with the preliminary laboratory results, I requested that additional laboratory analyses be performed. Domestic septic

Providing a Competitive Edge

Livingstone Coating Corporation
Results of Septic Tank Effluent Sampling
Delta Project No. E094-011-1.0007
July 11, 1996
Page 2

tank 3 was analyzed for soluble COD to determine if the high solids content was responsible for the elevated BOD₅ and COD. Industrial septic tank 1 was analyzed for Oil & Grease to determine if the elevated levels may be associated with oils being washed off of the parts in the parts cleaning operation.

The soluble COD from domestic septic tank 3 was measured at 147 ppm. This is 97% less than the total COD of 5,790 ppm. Therefore, the elevated COD and, most likely, the BOD₅ are attributable to the high solids content of the sample. Per our discussion, to the best of your knowledge, domestic septic tank 3 has not been pumped since its installation in 1984. I recommend that the access ports for this septic tank be located and that a licensed septic tank firm be contracted to measure the solids in this tank and remove them if necessary. The effluent from a septic tank should be relatively free of solids, as was the case in domestic septic tanks 1 and 2. Following this work, it may be advisable to resample.

The Oil & Grease concentration in industrial septic tank 1 was measured at 216 ppm. This is slightly elevated, but may be understated, as the lab used a portion of the sample collected for metals analysis in a plastic container as opposed to the required glass container. Some of the oils collected in plastic containers tend to adhere to the plastic instead of remaining in the solution, resulting in potentially lower laboratory results.

A copy of the final laboratory report and chain-of-custody are attached for your review.

On July 3, 1996, I made an inspection of the Livingstone Coating facility in an attempt to determine the possibility for any cross connections between the domestic and industrial wastewater sewer lines and septic tanks. The Livingstone facility was constructed in three separate phases. The original structure (building furthest to the north) was built in 1972. Two distinct sewer drainage systems were constructed for domestic and industrial wastewater. The domestic system consists of one sewer line serving two restrooms in the northeast corner of the facility connected to domestic septic tank 1 and its associated leach field. The domestic system is currently not in use. The industrial system consists of two floor drains in the general manufacturing area and one floor drain in a room housing a parts cleaning/phosphating process in the northwest corner of the building connected to industrial septic tank 1 and its associated leach field. The two floor drains in the general manufacturing area are now located in an area used for receiving and storage of coated and uncoated parts. No manufacturing processes take place in this area. The floor drain in the parts cleaning/phosphating area is still used for its original purpose. All process water to this area is metered separately. Meter readings collected over the past two years show an average daily industrial water usage of 446 gallons per day.

The teflon plant (middle structure) was constructed in 1978. Two distinct sewer systems were constructed for domestic and industrial wastewater. These systems were not connected to the wastewater systems constructed as part of the original building. The domestic system serves two rest rooms and a coffee area in the administrative offices, an employee break area, two restrooms, and a janitorial room including a mop sink and one floor drain in the main area. These facilities are connected to domestic septic tank 2 and its associated leach field. Meter readings collected over the past two years show an average daily domestic water usage of 291 gpd. The industrial system consists of one large sink located in a small parts coating room and two large sinks attached

Livingstone Coating Corporation
Results of Septic Tank Effluent Sampling
Delta Project No. E094-011-1.0007
July 11, 1996
Page 3

to walls in the main process area. These sinks are all used for cleaning spray guns used for applying coatings. Two of these sinks are connected to large sediment traps to prevent the drain lines from becoming clogged with solids. The third sink discharges almost directly to the septic tank and does not have a sediment trap. These three sinks are connected to industrial septic tank 2 and its associated leach field. Meter readings collected over the past two years show an average daily industrial water usage of 188 gpd.

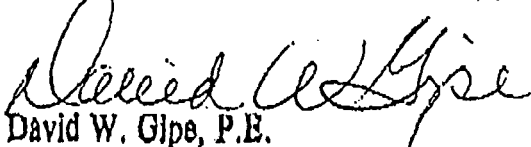
The final section of the facility (furthest south) was constructed in 1984. Only a domestic sewer system was installed to serve this addition. No connections were made to any existing domestic or industrial drainage system. The domestic system serves two new restrooms in the administrative offices, two rest rooms in the manufacturing area, a floor drain in the heat sealing room, and two floor drains in the general manufacturing area. These facilities are connected to domestic septic tank 3 and its associated leach field. The heat sealing room is a seasonal operation running less than 75 days per year. Very small amounts of water are used to cool plastic materials which have been heat sealed. The two floor drains in the manufacturing area are located in an area used for staging of parts before and after coating. No water is available or used in this area. Meter readings collected over the past two years show an average daily domestic water usage of 373 gpd.

My visual inspection of the Livingstone Coating facility and building plans reveals no indication of any cross connection between the domestic and industrial drainage systems. In addition, a close comparison of the laboratory data reveals no consistent similarities in contaminants or concentrations between adjacent systems. A comparison of domestic septic tank 1 and industrial septic tank 1 finds wide differences in BOD₅, COD, and phosphorous. A comparison of domestic septic tank 2 and industrial septic tank 2 reveals that elevated concentrations of ethylbenzene, toluene, and xylenes found in industrial septic tank 2 are not found in domestic septic tank 2. Very low concentrations of chromium found in domestic septic tanks 2 and 3 may be attributable to employees washing their hands which may be covered with coating material from spray painting operations.

In conclusion, I find no conclusive evidence of any cross connection between the domestic and industrial wastewater collection or disposal facilities at Livingstone Coating Corp. If you have any questions concerning this information, please call me at 541-9890.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.


David W. Glpe, P.E.
Project Manager

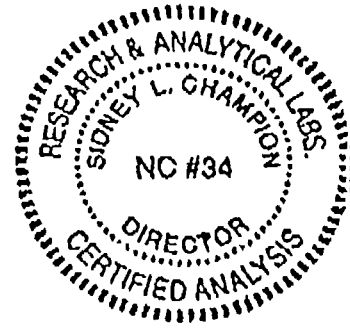
DWG/dpf

Attachments



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Chemical Analysis for Selected Parameters and Sampling Locations Identified at
Livingstone Coating Corporation (A Delta Environmental Project # E094-011-1.0020)

NOT IN USE

| I. Volatile Organics EPA Method 801/802 Parameter | Dom #1 | Dom #2 | Dom #3 |
|---|---------|---------|---------|
| | (mg/l) | (mg/l) | (mg/l) |
| Trichloroethene | <0.010 | <0.010 | <0.010 |
| 1,1-Dichloroethene | <0.010 | <0.010 | 0.011 |
| 1,1,1-Trichloroethane | <0.010 | <0.010 | <0.010 |
| Benzene | <0.010 | <0.010 | <0.010 |
| Toluene | <0.010 | 0.023 | 0.016 |
| Ethylbenzene | <0.010 | <0.010 | <0.010 |
| Total Xylenes | <0.010 | <0.010 | <0.010 |
| II. Miscellaneous Parameters | | | |
| | (mg/l) | (mg/l) | (mg/l) |
| Biological Oxygen Demand-5 | 28.0 | 731 | 3,220 |
| Chemical Oxygen Demand-HIGH | 129 | 1,050 | 5,790 |
| Phosphorus, Total | 72.6 | 58.5 | 34.2 |
| Chromium, Total | <0.005 | 1.01 | 0.180 |
| Arsenic, Total | 0.010 | <0.005 | <0.005 |
| Sample Number | 273937 | 273939 | 273941 |
| Sample Date | 6/24/96 | 6/24/96 | 6/24/96 |
| Sample Time | 1330 | 1415 | 1530 |

< = less than or below detection limits
mg/l = milligrams per liter = parts per million



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Chemical Analysis for Selected Parameters and Sampling Locations Identified at Livingstone Coating Corporation (A Delta Environmental Project # E094-011-1.0020)

| I. Volatile Organics EPA Method 601/802 Parameter | Ind #1 | Ind #2 |
|---|--------|--------|
| | (mg/l) | (mg/l) |
| Trichloroethene | <0.050 | <1.00 |
| 1,1-Dichloroethene | <0.050 | <1.00 |
| 1,1,1-Trichloroethane | <0.050 | <1.00 |
| Benzene | <0.050 | <1.00 |
| Toluene | 0.060 | 23.7 |
| Ethylbenzene | <0.050 | 7.10 |
| Total Xylenes | <0.050 | 39.6 |

→ 1 mg/l TC

| II. Miscellaneous Parameters | (mg/l) | (mg/l) |
|---------------------------------|----------------------------|--------|
| | Biological Oxygen Demand-5 | 2,790 |
| Chemical Oxygen Demand-HIGH | 4,230 | 1,030 |
| Phosphorus, Total | 1,080 | 19.4 |
| Chromium, Total | 0.112 | 28.9 |
| Arsenic, Total | 0.269 | <0.006 |

→ 5 mg/l TC

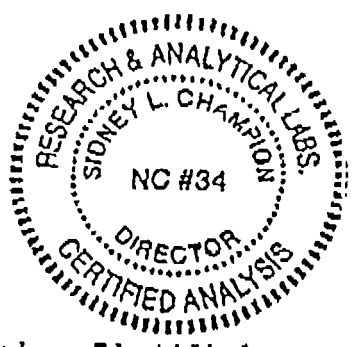
| | | |
|---------------|---------|---------|
| Sample Number | 273938 | 273940 |
| Sample Date | 6/24/96 | 6/24/96 |
| Sample Time | 1345 | 1425 |

< = less than or below detection limits
mg/l = milligrams per liter = parts per million



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Chemical Analysis for Selected Parameters and Sampling Locations Identified as Livingstone Coating Corporation (A Delta Environmental Project # E094-011-1.0020)

| Miscellaneous Parameters | Dom #1 (mg/l) | Ind #1 (mg/l) | Dom #2 (mg/l) | Ind #2 (mg/l) | Dom #3 (mg/l) |
|-----------------------------|---------------|---------------|---------------|---------------|---------------|
| Biological Oxygen Demand-5 | 28.0 | 2,790 | 731 | 398 | 3,220 |
| Chemical Oxygen Demand-HIGH | 129 | 4,230 | 1,050 | 1,030 | 5,790 |
| Chemical Oxygen Demand-Sol | NR | NR | NR | NR | 147 |
| Arsenic, Total | 0.010 | 0.289 | <0.005 | <0.005 | <0.005 |
| Chromium, Total | <0.005 | 0.112 | 1.01 | 28.9 | 0.166 |
| Phosphorus, Total | 72.6 | 1,080 | 58.5 | 19.4 | 34.2 |
| Oil & Grease | NR | 216* | NR | NR | NR |
| Sample Number | 273937 | 273938 | 273939 | 273940 | 273941 |
| Sample Date | 8/24/96 | 8/24/96 | 8/24/96 | 8/24/96 | 8/24/96 |
| Sample Time | 1330 | 1345 | 1415 | 1425 | 1630 |

- < * less than or below detection limits
- mg/l. = milligrams per liter = parts per million
- NR = Not Requested
- Sol = Soluble
- * = Sample received in a plastic container

P.O. Box 473 • 106 Short Street • Kernersville, North Carolina 27284 • 910/888-2841



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations
Phone (910) 996-2841

CHAIN OF CUSTODY RECORD

601/LIVINGST.DD5

Delta

| JOB NO. | | PROJECT NAME | | | | NO. OF CONTAINERS | WATER/WASTEWATER | | | | | | | | | | MISC. | REQUESTED ANALYSIS |
|-----------------------------|---------|----------------------|------|-----|------------------|-------------------|----------------------|------------------|---------------|---------------|-------------|------------------------------------|--------------------------|--------------------|-----------------------|-----------------------|-------|---|
| E094-011-1.0020 Livingstone | | SAMPLERS (SIGNATURE) | | | | | 2L G (BNA Herb/Pest) | 240ml Vial (NOA) | 250ml G (NOA) | 250ml P (TOX) | 1L RG (BOD) | 1L G (Phenol TSS Unpreserved oils) | 1L RG (COI Oil & Grease) | 1L RG Metals (API) | Sterile RG (Hardness) | Sterile RG (Coliform) | | |
| SAMPLE NO. | DATE | TIME | COND | WAD | STATION LOCATION | | | | | | | | | | | | | |
| Dom #1 | 6/20/06 | 1330 | X | | 273937 | 5 | | | | | | | | | | | | Coliform, BOD, COD, TOX, Metals, Atomic, Phos, Zinc |
| End #1 | | 1345 | | | 273938 | | | | | | | | | | | | | |
| Dom #2 | | 1415 | | | 273939 | | | | | | | | | | | | | |
| End #2 | | 1425 | | | 940 | | | | | | | | | | | | | |
| Dom #3 | | 1530 | | | 941 | | | | | | | | | | | | | |

| | | |
|--|-----------------------------|--------------------------|
| RELINQUISHED BY <i>Kenneth Cobb</i> | DATE/TIME <i>6/24/06</i> | RECEIVED BY <i>AW</i> |
| RELINQUISHED BY | DATE/TIME | RECEIVED BY |

REMARKS: *Results to David Gipe on file*



Mecklenburg County
Health Department

July 5, 1996

William H. McNair, Attorney at Law
Ruff, Bond, Cobb, Wade & McNair, L.L.P.
Two First Union Center
Suite 2100
Charlotte, North Carolina 28282-8283

Dear Mr. McNair:

I received your letter dated June 21, 1996 and have been working to address the issues you have raised both in your letter and during our phone conversations.

The intent of the Health Department, in the matter of Livingstone Coatings, is to insure the overall integrity of the site. In accomplishing this, outstanding environmental concerns must be considered and/or addressed. Your request to move forward with the expansion plans is being researched with respect to unresolved groundwater contamination issues with the Division of Environmental Management (DEM) and other issues raised by the Division of Environmental Health (DEH), On-Site Wastewater Program, Raleigh. Mr. Joe Pierce (DEH) has requested that we forward our files to his Raleigh office for review.

Your letter stated that you were enclosing a draft of a letter from Livingstone Coating "agreeing to pay to the County \$50,000.00 in the event there is discharge of any industrial waste in the domestic tank ..." A draft letter was not found enclosed. As I stated to you during our phone conversation, I have no experience with performance bonds or promissory notes, as I am unaware of this being covered in either the Public Health Laws or the North Carolina Administrative Code regulating private wastewater treatment systems. Upon consulting with Mable Bullock, North Carolina Attorney General's Office, I was advised not to accept such an offer in order to proceed with the processing of an Improvement Permit.

The July 9, 1996 meeting is still scheduled with Mrs. Kiser, Mrs. Bunney and me. I will promptly provide you with additional information regarding the status of your request for the building expansion as it becomes available.

Please contact me if you have questions or additional information relative to this matter.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Sylvia D. Daniel". The signature is fluid and cursive, with a large, sweeping flourish at the end.

Sylvia D. Daniel, R.S., Program Chief
Individual Water and Wastewater Systems

cc: Joe Pierce
Peter Safir, Director

Environmental Health Division

700 North Tryon Street • Suite 211 • Charlotte, North Carolina 28202-2236

Industrial Wastewater Survey

RECEIVED

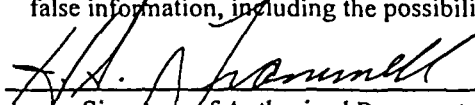
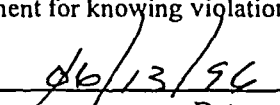
JUN 24 1996

ON-SITE WASTEWATER SECTION

| | | | | | |
|--|--|-----------------------------|--|-----------------------|-----------------------------|
| Company Name: Livingstone Coating Corporation | | | | | |
| Name of responsible person on site at the facility authorized to represent the company to the Local Health Department and the State. H.S. Trammell | | | Name of alternative on site person familiar with the day to day operations, environmental permitting requirements, monitoring, record keeping, and data management. J. S. Moncrief | | |
| Title President | | Years with firm 10 | Title Manager-Engineering R & D | | Years with firm 10 |
| Phone # (704) 392-2323 | | Fax # (704) 399-4021 | Phone # (704) 392-2323 | | Fax # (704) 399-4021 |
| Physical street address of facility Livingstone Coating Corporation 240 Rhyne Road | | | Official mailing address, if different. Note if same. Livingstone Coating Corporation P. O. Box 668267 | | |
| City Charlotte | | State NC | Zip 28214 | City Charlotte | |
| | | State NC | Zip 28266 | | |

| | | | | | |
|---|--|-----------------------------|--|----------------------|-----------------------------|
| Company's Environmental Consultant: Delta Environmental Consultants | | | | | |
| Name of Primary Professional Engineer for the Company's Environmental Consultant which is authorized to represent the company to the Local Health Department and the State. David W. Gipe | | | Name of another Professional Engineer for the Company's Environmental Consultant which is authorized to represent the company to the Local Health Department and the State. Gary M. Wisniewski | | |
| Title Industrial Unit Manager | | Years with firm 5½ | Title V.P.- Ind. Clients Div. | | Years with firm 8 |
| Phone # (704) 541-9890 | | Fax # (704) 543-4035 | Phone # (612) 486-8022 | | Fax # (612) 486-0769 |
| Mailing Address Delta Environmental Consultants 6701 Carmel Road, Suite 200 | | | Mailing address, if different. Note if same. Delta Environmental Consultants 3900 Northwoods Drive | | |
| City Charlotte | | State NC | Zip 28266 | City St. Paul | |
| | | State MN | Zip 55112 | | |

Requests for confidential treatment of information provided on this form shall be governed by North Carolina General Statute 132-1.2.

| | |
|--|---|
| This is to be signed by an authorized official of the firm. | |
| <p>I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment for knowing violations.</p> | |
|  _____ Signature of Authorized Representative listed above (seal if applicable) |  _____ Date |

Industrial Wastewater Survey

PART I, GENERAL INFORMATION: (continued)

1. Provide a brief narrative description of the type of business, manufacturing processes, or service activities your firm conducts at this site.

Plastic coating of metal parts. Metal part preparation. Generally involves removal of dirt, rust, scale and machining oils by either thermal degradation and grit blasting or solvent or detergent cleaning.

2. List the primary products produced at this facility:

Fluoropolymers, epoxy, polyester, nylon, and other coating of miscellaneous metal parts.

3. List raw materials and process additives used:

Aluminum, steel, and stainless steel parts. Epoxy, polyester, PVC, nylon and fluoropolymer powder coatings, plastisol coatings, epoxy phenolic, fluoropolymer dispersion coatings, alkaline detergents, iron phosphate coatings.

4. Are biocides added to any water discharged, if yes describe:

| | |
|-----|---|
| Yes | |
| No | x |

5. Describe weekly production schedule, including shifts worked per day, employees per shift, and primary operation during shift.

| | |
|-------------------------|--|
| Fluoropolymer Facility | 6:00 AM to 4:00 PM, 1 Shift, 10 Employees |
| Powder Coating Facility | 6:00 AM to 6:00 AM, 3 Shifts, 11 Employees/Shift |
| Maintenance | 6:00 AM to 4:00 PM, 1 Shift, 6 Employees |
| Office | 8:00 AM to 5:00 PM, 1 Shift, 11 Employees |

6. Production process is:

Check, if all continuous

Check, if all batch

If both please enter, % continuous = %

% Batch = %

| |
|---|
| |
| X |
| |

Industrial Wastewater Survey

PART I, GENERAL INFORMATION: (continued)

7. Does production vary significantly (+- 20 %) by season. Describe.

| | |
|-----|---|
| Yes | |
| No | X |

8. Are any significant (+- 20 %) changes in production that will affect wastewater discharge expected in the next 5 years. If yes, please describe.

| | |
|-----|---|
| Yes | |
| No | X |

9. List all current or proposed waste haulers. Give name, address, phone numbers, volume and materials hauled off.

Energy Resource Recovery, 5000 Gal/Year, compressor condensate
Ashland Chemical, 100 Gal/Year, spent MEK
Detrex Corp., 5 Gal/Yr, Spent 1,1,1, TCA

10. Attach a copy of laboratory analyses performed in the last year on the wastewater discharge(s) from your facilities. Summarize data on the attached Data Summary Form.

See Attachment 1

11. Attach plat showing proposed pretreatment units, piping, and disposal field.

See Attachment 2

12. Complete the Wastewater Pollutants Checklist attached to this Survey.

Attached

Industrial Wastewater Survey

PART I, GENERAL INFORMATION: (continued)

13. Do you have, or have you ever applied for, been issued, or been denied an NPDES permit to discharge to the surface waters or storm sewers of North Carolina? If yes, list all other NPDES permits, permit numbers, dates, and names used to apply for them, or reason denied.

| | | |
|--|-----|---|
| If yes: Permit , #, date, applicant name | Yes | |
| If yes: Permit , #, date, applicant name | No | X |

14. Do you have, or have you ever applied for or been issued an Industrial User Pretreatment Permit (IUP) to discharge wastewater to a sewer collection system. If yes, list all other IUP permits, permit numbers, dates, and names used to apply for them.

| | | |
|--|-----|---|
| If yes: Permit , #, date, applicant name | Yes | |
| If yes: Permit , #, date, applicant name | No | X |

15. Do you have, or have you ever applied for or been issued any other Environmental Permits (for example; air, RCRA, groundwater, stormwater, general, Non-Discharge, septic tank, etc.). If yes, list all other permits, permit numbers, dates, and names used to apply for them.

| | | |
|--|-----|---|
| If yes: Permit type, #, date, applicant name | Yes | X |
| If yes: Permit type, #, date, applicant name | No | |

See Attachment 3

16. Is a Spill Prevention Control and Countermeasure (SPCC) Plan prepared for this facility?

| | |
|-----|---|
| Yes | |
| No | X |

17. Is a Spill /Slug Control Plan prepared for this facility?

| | |
|-----|---|
| Yes | |
| No | X |

Industrial Wastewater Survey

PART I, GENERAL INFORMATION: (continued)

18. Do you have any underground storage tanks at your facility? If yes, list contents and volume of each tank.

2000 Gal.

Condensate Mixture

{ 1,710 PPM Oil & Grease
Water

Yes

X

No

19. Do you have any above ground storage tanks at your facility? If yes, for each tank, list the contents, volume, whether the tank has any spill prevention or containment devices, such as dikes, and procedures for draining any containment devices.

Yes

of Tanks

No

X

20. Provide a copy of Material Safety Data Sheets for all raw materials stored or used at the site, and all products manufactured.

See Attachment 4

-List materials expected to be discharged.

See Attachment 5

21. What is the distance from your facility to the closest municipal sanitary sewer?

Feet

2100

22. Are you preparing an application for approval for subsurface disposal of industrial process wastewater?

Yes

No

X

If yes, then all DEHNR-OSWS requirements for Review and Approval of Large Subsurface Wastewater must be met. This survey must be completed as part of the preapplication.

Industrial Wastewater Survey

PART II, Water Supply, Use, & Disposal Worksheet:

| Water Used for: | Water Source(s) | Avg. gal/day | Max. gal/day | Measured | Estimated | Disposal Method(s) | Avg. gal/day | Max. gal/day | Measured | Estimated | |
|---------------------------------------|-------------------------|--------------|--------------|----------|-----------|---------------------------|--------------|--------------|----------|-----------|--|
| | (see Source List below) | | | | | (see Disposal List below) | | | | | |
| 1. Process waters | a. Private Well | 530 | 2100 | X | | a. Septic Tank/Field | 452 | 973 | X | | |
| 2. Washdown water | b. Private Well | 98 | 150 | | X | b. Septic Tank/Field | 98 | 150 | | X | |
| 3. Water into product | c. | | | | | c. | | | | | |
| 4. Air Quality Permitted units | d. | | | | | d. | | | | | |
| 5. Domestic - toilets, drinking, cafe | Private Well | 1181 | 1500 | X | | Septic Tank/Field | 1181 | 1500 | X | | |
| 6. Cooling water, Process NON-Contact | | | | | | | | | | | |
| 7. Boiler / Cooling tower blowdown | | | | | | | | | | | |
| 8. Cooling water, HVAC | | | | | | | | | | | |
| 9. Other: | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Totals => | | 1809 | 3750 | | | Totals => | | 1731 | 2623 | | |

Typical Water Sources:

1. City / Public supply
2. Private wells, drinking
3. Groundwater remediation wells
4. Private ponds
5. Surface waters of NC, please identify
6. Include others if applicable

Possible Water Disposal Methods

1. Sanitary sewer, with pretreatment
2. Sanitary sewer, without pretreatment
3. Storm sewer
4. Surface waters of NC
5. Evaporation
6. Land applied
7. Groundwater Well
8. Septic Tank and Drainfield
9. Waste Haulers (identify)
10. Water into Product
11. Include others, if applicable

Industrial Wastewater Survey

PART III, PRETREATMENT FACILITIES:

Are there any pretreatment devices or processes used or proposed for treating wastewater before being discharged ? Check all that are present, and describe.

No pretreatment facilities => X

1. Flow equalization

Aerated equalization =>

NON-Aerated equalization =>

Total volume of equalization (million gal.) =>

| | | | | |
|--------------------------------|-----|-------------------------------------|----|-------------------------------------|
| 2. Activated Carbon | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 3.. Activated Sludge | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 4. Air Stripping | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 5. Centrifugation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 6. Chemical Precipitation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 7. Chlorination | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 10. Dissolved Air Flootation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 11. Filtration | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 12. Flocculation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 13. Grease Trap | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 14. Grit Removal | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| 15. Ion Exchange | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 16. Neutralize, pH adjust | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| 17. Other Biological Treatment | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 18. Ozonation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 20. Screening | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 21. Sedimentation | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 22. Septic Tank | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |
| 23. Silver Recovery | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 25. Spill protection | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 26. Single pass sandfilter | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 27. Recirculating Sandfilter | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 28. Effluent Filters | Yes | <input type="checkbox"/> | No | <input checked="" type="checkbox"/> |
| 29. Oil/water Separator | Yes | <input checked="" type="checkbox"/> | No | <input type="checkbox"/> |

Attach Cutsheet and Describe Below.

SUMP

WASH SYSTEM NEUTRALIZE PRIOR TO DISCHARGE

PROPOSED

List other treatment devices :

Industrial Wastewater Survey

PART IV, CATEGORICAL INFORMATION:

1. When were operations started at this facility

Facility start up date

1973

2. List all Standard Industrial Classification (SIC) codes for your facility. These may be found on State Unemployment forms, tax forms, accounting records, or from the Chamber of Commerce.

| | | |
|------|--|--|
| 3479 | | |
| | | |
| | | |

3. Has this facility ever been considered a Categorical Industrial User (CIU) as described by the Code of Federal Regulations (40 CFR)?

If yes, give complete 40 CFR number =>

No

X

4. Are any other facilities owned and/or operated by your company permitted as Categorical Industrial Users (CIUs) as described by the Code of Federal Regulations (40 CFR)?

If yes please give name(s), location, and 40 CFR number.

Yes

No

X

Industrial Wastewater Survey

PART IV, CATEGORICAL INFORMATION: (continued)

5. Check any activities listed below that are performed at your facility:

| Check below | 40 CFR# | Industrial Activity | Check below | 40 CFR# | Industrial Activity |
|--------------------------|---------|-----------------------------------|-------------------------------------|---------|--|
| <input type="checkbox"/> | 467 | Aluminum Forming | <input type="checkbox"/> | 432 | Meat products |
| <input type="checkbox"/> | 427 | Asbestos Manufacturing | <input checked="" type="checkbox"/> | 433 | Metal finishing |
| <input type="checkbox"/> | 461 | Battery Manufacturing | <input type="checkbox"/> | 464 | Metal molding and casting |
| <input type="checkbox"/> | 431 | Builders paper & board mills | <input type="checkbox"/> | 436 | Mineral mining and processing |
| <input type="checkbox"/> | 407 | Canned & preserved fruits & veg. | <input type="checkbox"/> | 471 | Nonferrous Metal, Form & Powders |
| <input type="checkbox"/> | 408 | Canned & preserved seafood | <input type="checkbox"/> | 421 | Nonferrous Metals Manufacturing |
| <input type="checkbox"/> | 458 | Carbon black Manufacturing | <input type="checkbox"/> | 414 | OCPSF, Organic Chemicals, Plastics, & Synthetic Fiber Manufacturing |
| <input type="checkbox"/> | 411 | Cement Manufacturing | <input type="checkbox"/> | 435 | Oil & gas extraction |
| <input type="checkbox"/> | 434 | Coal Mining | <input type="checkbox"/> | 440 | Ore mining and dressing |
| <input type="checkbox"/> | 465 | Coil Coating | <input type="checkbox"/> | 446 | Paint formulating |
| <input type="checkbox"/> | 468 | Copper Forming | <input type="checkbox"/> | 443 | Paving and roofing materials Mfg. |
| <input type="checkbox"/> | 405 | Dairy products processing | <input type="checkbox"/> | 455 | Pesticide Manufacturing |
| <input type="checkbox"/> | 469 | Electrical, electronic components | <input type="checkbox"/> | 419 | Petroleum Refining |
| <input type="checkbox"/> | 413 | Electroplating | <input type="checkbox"/> | 439 | Pharmaceutical Manufacturing |
| <input type="checkbox"/> | 457 | Explosives Manufacturing | <input type="checkbox"/> | 422 | Phosphate Manufacturing |
| <input type="checkbox"/> | 412 | Feedlots | <input type="checkbox"/> | 459 | Photographic supplies |
| <input type="checkbox"/> | 424 | Ferro alloy Manufacturing | <input type="checkbox"/> | 463 | Plastics molding and forming |
| <input type="checkbox"/> | 418 | Fertilizer Manufacturing | <input type="checkbox"/> | 466 | Porcelain enameling |
| <input type="checkbox"/> | 464 | Foundries, Metal Mold & Casting | <input type="checkbox"/> | 430 | Pulp, paper, and paperboard |
| <input type="checkbox"/> | 426 | Glass Manufacturing | <input type="checkbox"/> | 428 | Rubber Manufacturing |
| <input type="checkbox"/> | 406 | Grain mills | <input type="checkbox"/> | 417 | Soap & Detergent Manufacturing |
| <input type="checkbox"/> | 454 | Gum & Wood Chemicals Mfg. | <input type="checkbox"/> | 423 | Steam Electric power Generation |
| <input type="checkbox"/> | 460 | Hospitals | <input type="checkbox"/> | 409 | Sugar processing |
| <input type="checkbox"/> | 447 | Ink formulating | <input type="checkbox"/> | 410 | Textile Mills |
| <input type="checkbox"/> | 415 | Inorganic chemical Manufacturing | <input type="checkbox"/> | 429 | Timber products processing |
| <input type="checkbox"/> | 420 | Iron & Steel Manufacturing | <input type="checkbox"/> | | Others |
| <input type="checkbox"/> | 425 | Leather Tanning & Finishing | <input type="checkbox"/> | | |

Wastewater Pollutant Checklist

| Chemical Name | EPA Storet Code | Check if Present at Facility | Check if Absent at Facility | Check if Present in Discharge | Check if Absent in Discharge | Concentration in Discharge, if Known (mg/l) |
|---------------|-----------------------|------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|--|
|---------------|-----------------------|------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|--|

Acid Extractable Organics

| | | | | | | |
|----------------------------|-------|--|--|--|--|--|
| 2-Chlorophenol | 34586 | | | | | |
| 2,4-Dichlorophenol | 34601 | | | | | |
| 2,4-Dimethylphenol | 34606 | | | | | |
| 2,4-Dinitrophenol | 34616 | | | | | |
| 2-Methyl-4,6-dinitrophenol | 34657 | | | | | |
| 4-Chloro-3-methylphenol | 34452 | | | | | |
| 2-Nitrophenol | 34591 | | | | | |
| 4-Nitrophenol | 34646 | | | | | |
| Pentachlorophenol | 39032 | | | | | |
| Phenol | 34694 | | | | | |
| 2,4,6-Trichlorophenol | 34621 | | | | | |

Base Neutral Organics

| | | | | | | |
|------------------------------|-------|--|--|--|--|--|
| 1,2,4-Trichlorobenzene | 34551 | | | | | |
| 1,2-Dichlorobenzene | 34536 | | | | | |
| 1,2-Diphenylhydrazine | 34346 | | | | | |
| 1,3-Dichlorobenzene | 34566 | | | | | |
| 1,4-Dichlorobenzene | 34571 | | | | | |
| 2,4-Dinitrotoluene | 34611 | | | | | |
| 2,6-Dinitrotoluene | 34626 | | | | | |
| 2-Chloronaphthalene | 34581 | | | | | |
| 3,3-Dichlorobenzidine | 34631 | | | | | |
| 4-Bromophenyl phenyl ether | 34636 | | | | | |
| 4-Chlorophenyl phenyl ether | 34641 | | | | | |
| Acenaphthene | 03405 | | | | | |
| Acenaphthylene | 34200 | | | | | |
| Anthracene | 34220 | | | | | |
| Benzidine | 39120 | | | | | |
| Benzo (a) anthracene | 34526 | | | | | |
| Benzo (a) pyrene | 34247 | | | | | |
| Benzo (b) fluoranthene | 34230 | | | | | |
| Benzo (ghi) perylene | 34521 | | | | | |
| Benzo (k) fluoranthene | 34242 | | | | | |
| Bis(2-chloroethoxy) methane | 34278 | | | | | |
| Bis(2-chloroethyl) ether | 34273 | | | | | |
| Bis(2-chloroisopropyl) ether | 34283 | | | | | |
| Bis(2-ethylhexyl) phthalate | 39100 | | | | | |
| Butyl benzyl phthalate | 34292 | | | | | |
| Chrysene | 34320 | | | | | |
| Di-n-butyl phthalate | 39110 | | | | | |

Wastewater Pollutant Checklist

| Chemical Name | EPA Storet Code | Check if Present at Facility | Check if Absent at Facility | Check if Present in Discharge | Check if Absent in Discharge | Concentration in Discharge, if Known (mg/l) |
|---------------|-----------------------|------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|--|
|---------------|-----------------------|------------------------------------|-----------------------------------|-------------------------------------|------------------------------------|--|

Base Neutral Organics (continued)

| | | | | | | |
|----------------------------|-------|--|--|--|--|--|
| Di-n-octyl phthalate | 34596 | | | | | |
| Dibenzo (a,h) anthracene | 34556 | | | | | |
| Diethyl phthalate | 34336 | | | | | |
| Dimethyl phthalate | 34341 | | | | | |
| Fluoranthene | 34376 | | | | | |
| Fluorene | 34381 | | | | | |
| Hexachlorobenzene | 39700 | | | | | |
| Hexachlorobutadiene | 34391 | | | | | |
| Hexachlorocyclopentadiene | 34386 | | | | | |
| Hexachloroethane | 34396 | | | | | |
| Indeno(1,2,3-cd) pyrene | 34403 | | | | | |
| Isophorone | 34408 | | | | | |
| N-nitroso-di-n-propylamine | 34428 | | | | | |
| N-nitrosodimethylamine | 34438 | | | | | |
| N-nitrosodiphenylamine | 34433 | | | | | |
| Naphthalene | 34696 | | | | | |
| Nitrobenzene | 34447 | | | | | |
| Phenanthrene | 34461 | | | | | |
| Pyrene | 34469 | | | | | |

Metals

| | | | | | | |
|------------|-------|---|--|---|--|--|
| Aluminum | 01104 | | | | | |
| Antimony | 01097 | | | | | |
| Arsenic | 01002 | | | X | | |
| Beryllium | 01012 | | | | | |
| Cadmium | 01027 | | | | | |
| Chromium | 01034 | X | | X | | |
| Copper | 01042 | | | | | |
| Lead | 01051 | | | | | |
| Mercury | 71900 | | | | | |
| Molybdenum | 01062 | | | | | |
| Nickel | 01067 | | | | | |
| Selenium | 01147 | | | | | |
| Silver | 01077 | | | | | |
| Thalium | 00982 | | | | | |
| Zinc | 01092 | | | | | |

Wastewater Pollutant Checklist

| Chemical Name | EPA Storet Code | Check if Present at Facility | Check if Absent at Facility | Check if Present in Discharge | Check if Absent in Discharge | Concentration in Discharge, if Known (mg/l) |
|---------------|-----------------|------------------------------|-----------------------------|-------------------------------|------------------------------|---|
|---------------|-----------------|------------------------------|-----------------------------|-------------------------------|------------------------------|---|

Other Inorganics

| | | | | | | |
|-----------------|-------|--|--|---|--|--|
| Barium Chloride | 01007 | | | X | | |
| Cyanide | 00720 | | | | | |
| Fluoride | 00951 | | | | | |

Purgeable Volatile Organics

| | | | | | | |
|----------------------------|-------|---|--|---|--|--|
| 1,1,1-Trichloroethane | 34506 | X | | X | | |
| 1,1,2,2-Tetrachloroethane | 34516 | | | | | |
| 1,1,2-Trichloroethane | 34511 | | | | | |
| 1,1-Dichloroethane | 34496 | | | | | |
| 1,1-Dichloroethylene | 34501 | X | | X | | |
| 1,2-Dichloroethane | 34531 | | | | | |
| 1,2-Dichloropropane | 34541 | | | | | |
| 2-Chloroethyl vinyl ether | 34576 | | | | | |
| Acrolein | 34210 | | | | | |
| Acrylonitrile | 34215 | | | | | |
| Benzene | 34030 | | | | | |
| Bromodichloromethane | 32101 | | | | | |
| Bromoform | 32104 | | | | | |
| Bromomethane | 34413 | | | | | |
| Carbon tetrachloride | 32102 | | | | | |
| Chlorobenzene | 34301 | | | | | |
| Chloroethane | 34311 | | | | | |
| Chloroform | 32106 | | | | | |
| Chloromethane | 34418 | | | | | |
| cis 1,3-Dichloropropene | 34704 | | | | | |
| Dibromochloromethane | 32105 | | | | | |
| Ethylbenzene | 34371 | X | | X | | |
| Methylene chloride | 34423 | | | | | |
| Tetrachloroethylene | 34475 | | | | | |
| Toluene | 34010 | X | | X | | |
| trans 1,3-Dichloropropene | 34699 | | | | | |
| trans-1,2-Dichloroethylene | 34546 | | | | | |
| Trichloroethylene | 39180 | | | | | |
| Trichlorofluoromethane | 34488 | | | | | |
| Vinyl chloride | 39175 | | | | | |

Others

| | | | | | | |
|--------|--|---|--|---|--|--|
| Xylene | | X | | X | | |
| | | | | | | |
| | | | | | | |

Data Summary Form

| | |
|--|-------------------------------|
| | <= Facility |
| | <= County |
| | <= Specific Sample Location ! |

Lab => _____ Laboratory performing analysis => _____
 MDL => _____ Laboratory Method Detection Limits => _____
 Notes => _____ Notes => _____

| Sample ID, or Count | Date Sample Collected | Notes about Sample | Q = Flow | | | BOD | | TSS | | Ammonia |
|---------------------|-----------------------|--------------------|-------------|---------------|---------|------------------------|------|------------------------|------|------------------------|
| | | | M = Metered | E = Estimated | | Conc. Results from Lab | | Conc. Results from Lab | | Conc. Results from Lab |
| | | | | mgd | gal/day | <? | mg/l | <? | mg/l | <? |
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |
| 9 | | | | | | | | | | |
| 10 | | | | | | | | | | |
| 11 | | | | | | | | | | |
| 12 | | | | | | | | | | |
| etc | | | | | | | | | | |

| | | | | | |
|-----------------------|--|---|---|---|---|
| TNS => | Total number of samples => | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> |
| Max. value => | Maximum data value (mg/l) => | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> |
| Avg. (use 1/2 BDL) => | Average data value, Include BDL values as 1/2 detection limit => | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> | <input style="width: 100%;" type="text"/> |

Data Summary Form

| | |
|--|-------------------------------|
| | <= Facility |
| | <= County |
| | <= Specific Sample Location ! |

| | | Arsenic | Cadmium | Chromium | COD | Copper |
|---------------------|-----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Lab => | | | | | | |
| MDL => | | | | | | |
| Notes => | | | | | | |
| Sample ID, or Count | Date Sample Collected | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l |
| | | <? | <? | <? | <? | <? |
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| etc | | | | | | |

| | | | | | |
|-----------------------|--|--|--|--|--|
| TNS => | | | | | |
| Max. value => | | | | | |
| Avg. (use 1/2 BDL) => | | | | | |

Data Summary Form

| | |
|--|-------------------------------|
| | <= Facility |
| | <= County |
| | <= Specific Sample Location ! |

| | | Cyanide | Lead | Mercury | Nickel | Silver | Zinc |
|---------------------|-----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Lab => | | | | | | | |
| MDL => | | | | | | | |
| Notes => | | | | | | | |
| Sample ID, or Count | Date Sample Collected | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l |
| | | <? | <? | <? | <? | <? | <? |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| etc | | | | | | | |

| | | | | | | |
|-----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| TNS => | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Max. value => | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Avg. (use 1/2 BDL) => | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |

Data Summary Form

| | |
|--|--------------------------------------|
| | < Facility |
| | < County |
| | <= Specific Sample Location ! |

| Sample ID, or Count | Date Sample Collected | Sodium | Other = | Other = | Other = | Other = | Other = |
|---------------------|-----------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l | Conc. Results from Lab mg/l |
| | | <? | <? | <? | <? | <? | <? |
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | | | | |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| etc | | | | | | | |

| | | | | | | |
|-----------------------|--|--|--|--|--|--|
| TNS => | | | | | | |
| Max. value => | | | | | | |
| Avg. (use 1/2 BDL) => | | | | | | |

Attachment 1

DEC - 2 1994



6701 Carmel Road
Suite 200
Charlotte, NC 28226-3901
704/541-9890
FAX: 704/543-4035

November 29, 1994

RECEIVED

JUN 24 1996

Livingstone Coating Corporation
P. O. Box 668267
Charlotte, North Carolina 28266

ON-SITE WASTEWATER SECTION

Attention: Mr. J. Scott Moncrief, Manager
Engineering, Research & Development

Subject: Analytical Results
Wastewater Characterization
Livingstone Coating Corporation
Charlotte, North Carolina
Delta Project No. E094-011-1.0007

Dear Mr. Moncrief:

Attached per your request is a copy of the laboratory report and QA/QC package for the wastewater samples collected October 26, 27, 28 and 31, 1994.

If you have any questions, please call.

Sincerely,

DELTA ENVIRONMENTAL CONSULTANTS, INC.

A handwritten signature in black ink, appearing to read "David W. Gipe".

David W. Gipe, P.E.
Project Engineer

DWG/mcw

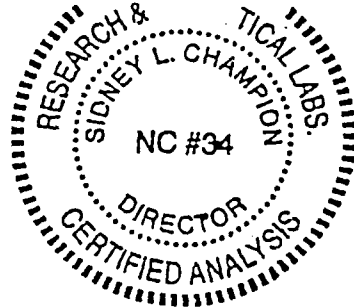
Enclosures

cc: Mr. W. Robert Cotton, Project Manager, Delta Environmental Consultants, Inc.



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



NOV 15 1994

Chemical Analysis for Selected Sampling Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

| I. | Method 824 Parameter | IND#1 (mg/l) | IND#2 (mg/l) | IND#1 (mg/l) | IND#2 (mg/l) | IND#1 (mg/l) | IND#2 (mg/l) | IND#1 (mg/l) | IND#2 (mg/l) |
|-----|---------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Methylene Chloride | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Trichlorofluoromethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,1-Dichloroethene | <0.010 | 0.332 | 0.039 | 0.342 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,1-Dichloroethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Chloroform | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Carbon Tetrachloride | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,2-Dichloropropane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Trichloroethene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Dibromochloromethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,1,2-Trichloroethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Tetrachloroethene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Chlorobenzene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Trans-1,2-Dichloroethene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,2-Dichloroethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,1,1-Trichloroethane | <0.010 | 0.100 | 0.014 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Bromodichloromethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Cis-1,3-Dichloropropene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Benzene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Trans-1,3-Dichloropropene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Bromoform | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 1,1,2,2-Tetrachloroethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Toluene | <0.010 | 3.45 | <0.010 | 367 | <0.010 | 5.24 | <0.010 | 36.6 |
| | Ethyl Benzene | <0.010 | 0.489 | <0.010 | 0.436 | <0.010 | 7.43 | <0.010 | 7.59 |
| | Chloromethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Bromomethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Vinyl Chloride | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Chloroethane | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Acetone | <0.100 | <1.00 | <0.100 | <2.00 | <0.100 | <10.0 | <0.100 | <10.0 |
| | Carbon Disulfide | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Vinyl Acetate | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 2-Butanone | <0.100 | <1.00 | <0.100 | <2.00 | <0.100 | <10.0 | <0.100 | <10.0 |
| | 4-Methyl-2-Pentanone | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | 2-Hexanone | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Styrene | <0.010 | <0.100 | <0.010 | <0.200 | <0.010 | <1.00 | <0.010 | <1.00 |
| | Total Xylenes | <0.010 | 1.53 | <0.010 | 1.43 | <0.010 | 24.3 | <0.010 | 22.9 |
| II. | Inorganic Parameters | | | | | | | | |
| | Arsenic, Total | 0.200 | <0.010 | 0.018 | <0.010 | 0.012 | <0.010 | <0.010 | <0.010 |
| | Barium, Total | 0.143 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 | <0.125 |
| | Cadmium, Total | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| | Chromium, Total | 0.044 | 16.4 | 0.012 | 44.0 | <0.010 | 102 | <0.010 | 105 |
| | Lead, Total | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 | <0.050 |
| | Mercury, Total | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 |
| | Selenium, Total | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| | Silver, Total | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 |
| | Chromium, Hexavalent | ---- | ---- | ---- | ---- | ---- | ---- | <0.020 | 100 |
| | Sample Number | 218233 | 218234 | 218366 | 218367 | 218512 | 218513 | 218648/50 | 218649/51 |
| | Sample Date | 10/28/94 | 10/28/94 | 10/27/94 | 10/27/94 | 10/28/94 | 10/28/94 | 10/31/94 | 10/31/94 |
| | Sample Time | 0903 | 0840 | 0934 | 0915 | 0822 | 0841 | 0908 | 0930 |

BDL = Below Detection Limits
mg/l = milligrams per liter = parts per million



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Analytical/Process Consultations
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CHAIN OF CUSTODY RECORD

DELTA LCC.DBS

Delta Env.

| JOB NO. | | PROJECT NAME | | | | NO. OF CONTAINERS | WATER/WASTEWATER | | | | | | | | | | MISC. | | |
|---|----------|---------------------------------|------|-------------|-----------------------------|---|------------------------|-------------------|---------------|-------------|------------|---------------------------------------|-----------------|------------------------|----------------------|----------------------|--------------------|--|---------------|
| | | LIVINGSTONE COATING CORPORATION | | | | | | | | | | | | | | | | | |
| SAMPLERS (SIGNATURE) | | | | | | | | | | | | | | | | | REQUESTED ANALYSIS | | |
| J. SCOTT MONCRIEF (704) 392-2323 <i>J. Scott Moncrief</i> 10/26/94 | | | | | | | | | | | | | | | | | | | |
| SAMPLE NO. | DATE | TIME | COMP | GRAB | STATION LOCATION | | 2L G (BVA, Herb./Pest) | 240ml Vials (VOA) | 250ml G (TOX) | 1L PG (TOC) | 1L G (BOD) | 1L PG (Phenol, Oil, Unpreserved, etc) | 1L PG (COD, NP) | 1L PG (Metals, Grease) | Sterile PG (CYANIDE) | 8 RCRA PG (Coliform) | EPA 624 Metals | | |
| I1M1025 | 10/26/94 | 9:03AM | X | | IND. #1 SUMP FROM WASH AREA | 1 | | | | | | | | | | | | | 8 RCRA Metals |
| I1V1025 | 10/26/94 | 8:55AM | X | | IND. #1 SUMP FROM WASH AREA | 3 | | | | | | | | | | | | | EPA 624 |
| I2M1025 | 10/26/94 | 8:40AM | X | | IND. #2 CLEAN OUT | 1 | | | | | | | | | | | | | 8 RCRA METALS |
| I2V1025 | 10/26/94 | 8:40AM | X | | IND. #2 CLEAN OUT | 3 | | | | | | | | | | | | | EPA 624 |
| TRIP BLANK | | | | | | 2 | | | | | | | | | | | | | |
| 218233 | | | | | | | | | | | | | | | | | | | |
| 218233 | | | | | | | | | | | | | | | | | | | |
| 218234 | | | | | | | | | | | | | | | | | | | |
| 218234 | | | | | | | | | | | | | | | | | | | |
| 218235 | | | | | | | | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE/TIME | | RECEIVED BY | | REMARKS: | | | | | | | | | | | | | |
| WPS | | 10/27/10 | | 25 SB | | DELTA ENV. CONSULTANTS DAVE GIPE (704) 541-9890 | | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE/TIME | | RECEIVED BY | | | | | | | | | | | | | | | |
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Analytical/Process Consultations
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Delta

CHAIN OF CUSTODY RECORD

DELTA LCC.DBS

| JOB NO. | PROJECT NAME | | | | | NO. OF CONTAINERS | WATER/WASTEWATER | | | | | | | | | | | MISC. | | | | | | | |
|---|---------------------------------|--|--|--|--|-------------------|------------------------|-------------------|---------------|---------------|------------------|------------|---------------------------------------|---------------------------|--------------------------|----------------------|--------|----------------|---------|-------|--------------------|--|--|--|--|
| | LIVINGSTONE COATING CORPORATION | | | | | | 2L G (BNA, Herb/Pest.) | 240ml Vials (NOA) | 250ml G (NOA) | 250ml P (NOA) | 1L PG (TOC) | 1L G (BOD) | 1L G (Phenol, TSS, Unpreserved, etc.) | 1L PG (COD, Oil & Grease) | 1L PG (Metals, Hardness) | Sterile PG (Cyanide) | B RCRA | EPA (Coliform) | EPA 624 | MEALS | REQUESTED ANALYSIS | | | | |
| SAMPLERS (SIGNATURE) | | | | | | SAMPLE NO. | DATE | TIME | COMP | GRAB | STATION LOCATION | | | | | | | | | | | | | | |
| J. SCOTT MONCRIEF (704) 392-2323 <i>J. Scott Moncrief</i> 10/27/94 | | | | | | | | | | | | | | | | | | | | | | | | | |
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|-----------------|----------------|-------------|
| RELINQUISHED BY | DATE/TIME | RECEIVED BY |
| | 10/28/94 10:25 | <i>SB</i> |
| RELINQUISHED BY | DATE/TIME | RECEIVED BY |
| | | |

REMARKS:
Delta Environmental Consultants
 DAVE GIPE
 (704) 991-0007



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations
Phone (910) 996-2841

CHAIN OF CUSTODY RECORD

DELTA LCC. DBS

DELTA

| JOB NO. | | PROJECT NAME | | | | NO. OF CONTAINERS | WATER/WASTEWATER | | | | | | | | | | | MISC. |
|---------------------------------|----------|---|------|------------------|-----------------------------|---------------------------------|------------------------|-------------------|---------------|-------------|-----------------------------------|------------------------------|---------------------------|--------------------|--------------------------------|---------------|---------|--------------------|
| SAMPLERS (SIGNATURE) | | | | | | | 2L G (BNA, Herb/Pest.) | 240ml Vials (VOA) | 250ml G (TOX) | 1L PG (TOC) | 1L G (BOD, TSS, Unpreserved, etc) | 1L PG (Phenol, Oil & Grease) | 1L PG (COD, Oil & Grease) | 1L PG (Metals, NP) | Sterile PG (Cyanide, Hardness) | B RCRA METALS | EPA 624 | REQUESTED ANALYSIS |
| SAMPLE NO. | DATE | TIME | COMP | GRAB | STATION LOCATION | | | | | | | | | | | | | |
| LIVINGSTONE COATING CORPORATION | | J. SCOTT MONCRIEF (704) 392-2323 <i>J. Scott Moncrief</i> 10/28/94 | | | | | | | | | | | | | | | | |
| IIM1027 | 10/28/94 | 8:22AM | X | | IND. #1 Sump from Wash Area | 1 | | | | | | | | | | | | B RCRA METALS |
| IV1027 | 10/28/94 | 8:17AM | | X | IND. #1 Sump from Wash Area | 3 | | | | | | | | | | | | EPA 624 |
| I2M1027 | 10/28/94 | 8:41AM | X | | IND. #2 CLEAN OUT | 1 | | | | | | | | | | | | B RCRA METALS |
| I2V1027 | 10/28/94 | 8:35AM | | X | IND. #2 CLEAN OUT | 3 | | | | | | | | | | | | EPA 624 |
| TRIP BLANK | | | | | | 2 | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE/TIME | | RECEIVED BY | | REMARKS: | | | | | | | | | | | | |
| | | 10/29/94 10:45 AM | | <i>W. Bethel</i> | | DELTA ENVIRONMENTAL CONSULTANTS | | | | | | | | | | | | |
| RELINQUISHED BY | | DATE/TIME | | RECEIVED BY | | DAVE GIPE (704) 541-9990 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |



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Phone (910) 996-2841

CHAIN OF CUSTODY RECORD

| JOB NO. | | PROJECT NAME | | | | | NO. OF CONTAINERS | WATER/WASTEWATER | | | | | | | | | | MISC. | | | |
|---------------------------------|-----------|--|------|------|------|------------------------|---|-------------------------|-------------------|---------------|-------------|------------------------------------|------------------------------|-----------------|--------------------------|----------------------|---------------|---------|--------------------|--|--|
| SAMPLERS (SIGNATURE) | | DATE | TIME | COMP | GRAB | STATION LOCATION | | 2L G (BNA, Herb./Pest.) | 240ml Vials (VOA) | 250ml G (TOX) | 1L PG (TOC) | 1L G (BOD, TSS, Unpreserved, etc.) | 1L PG (Phenol, Oil & Grease) | 1L PG (COD, NP) | 1L PG (Metals, Hardness) | Sterile PG (CYANIDE) | 8 RCRA METALS | EPA 624 | REQUESTED ANALYSIS | | |
| LIVINGSTONE COATING CORPORATION | | J. Scott Moncrief (704) 392-2323 f. Scott Moncrief 10/31/94 | | | | | | | | | | | | | | | | | | | |
| TRIP BLANK | | | | | | | 2 | | | | | | | | | | | | | | |
| I1M1028 | 10/31/94 | 9:08AM | X | | | IND. #1 WASH AREA SUMP | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | | | |
| I1V1028 | 10/31/94 | 9:05AM | | X | | IND. #1 WASH AREA SUMP | 3 | | | | | | | | | X | | | | | |
| I2M1028 | 10/31/94 | 9:30AM | X | | | IND. #2 CLEAN OUT | 1 | | | | | | | | X | | | | | | |
| I2V1028 | 10/31/94 | 9:25AM | | X | | IND. #2 CLEAN OUT | 3 | | | | | | | | X | | | | | | |
| I1C1028 | 10/31/94 | 9:09AM | X | | | IND. #1 WASH AREA SUMP | 1 | | | | | | | | | X | | | | | |
| I2C1028 | 10/31/94 | 9:31AM | X | | | IND. #2 CLEAN OUT | 1 | | | | | | | | | X | | | | | |
| RELINQUISHED BY | DATE/TIME | RECEIVED BY | | | | REMARKS: | | | | | | | | | | | | | | | |
| RELINQUISHED BY | DATE/TIME | RECEIVED BY | | | | | on 10/31/94 DELTA ENVIRONMENTAL CONSULTANTS DAVE GIPE (704) 541-9890 | | | | | | | | | | | | | | |

DEC - 2 1994



RESEARCH & ANALYTICAL
LABORATORIES, INC.

Analytical/Process Consultations

NOV 23 1994

22 November 1994

Delta Environmental Consultants
6701 Carmel Road, Suite 200
Charlotte, North Carolina 28226

Attention: Mr. David Gipe

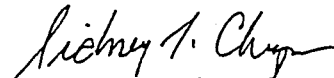
Dear Mr. Gipe:

As per your request enclosed please find the QA/QC package for the Livingstone Coating Corporation (Delta project #E094-011-1-307) samples collected from 26-31 October 1994.

If you should have any questions concerning this information please so advise.

Sincerely,

RESEARCH & ANALYTICAL LABORATORIES, INC.


Sidney L. Champion
Vice-president

SLC/jf

enclosure



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Organic Quality Control Summary

Volatile Organics

Method 624

Parameter

Method Blank

Continuing Calibration %R

| | | |
|-----------------------------|-----|-------|
| Methylene Chloride | BDL | 119.0 |
| Trichlorofluoromethane | BDL | 88.7 |
| 1,1-Dichloroethene | BDL | 86.7 |
| 1,1-Dichloroethane | BDL | 92.5 |
| Chloroform | BDL | 97.4 |
| Carbon Tetrachloride | BDL | 85.6 |
| 1,2-Dichloropropane | BDL | 115.6 |
| Trichloroethene | BDL | 102.2 |
| Dibromochloromethane | BDL | 96.6 |
| 1,1,2-Trichloroethane | BDL | 111.7 |
| Tetrachloroethene | BDL | 93.6 |
| Chlorobenzene | BDL | 107.7 |
| Trans-1,2-Dichloroethene | BDL | 105.5 |
| 1,2-Dichloroethane | BDL | 117.4 |
| 1,1,1-Trichloroethane | BDL | 91.6 |
| Bromodichloromethane | BDL | 115.3 |
| Cis-1,3-Dichloropropene | BDL | 108.7 |
| Benzene | BDL | 113.2 |
| Trans-1,3-Dichloropropene | BDL | 114.3 |
| Bromoform | BDL | 97.8 |
| 1,1,1,2,2-Tetrachloroethane | BDL | 118.8 |
| Toluene | BDL | 110.5 |
| Ethyl Benzene | BDL | 104.3 |
| Chloromethane | BDL | 103.1 |
| Bromomethane | BDL | 101.9 |
| Vinyl Chloride | BDL | 94.5 |
| Chloroethane | BDL | 109.1 |
| Acetone | BDL | 86.2 |
| Carbon Disulfide | BDL | 108.9 |
| Vinyl Acetate | BDL | 91.8 |
| 2-Butanone | BDL | 110.6 |
| 4-Methyl-2-Pentanone | BDL | 109.9 |
| 2-Hexanone | BDL | 121.0 |
| Styrene | BDL | 112.9 |
| Total Xylenes | BDL | 102.1 |

Tuning Data

| Mass | Requirement | Ref. Ion | Found | |
|------|------------------|----------|-------|------|
| 50 | 15-40% | 95 | 18.0 | Pass |
| 75 | 30-60% | 95 | 43.4 | Pass |
| 95 | 100% | 95 | 100.0 | Pass |
| 96 | 5-9% | 174 | 8.9 | Pass |
| 173 | < 2% | 95 | 0.7 | Pass |
| 174 | > 50% | 174 | 66.2 | Pass |
| 175 | 5-9% | 174 | 7.3 | Pass |
| 176 | > 95% but < 101% | 174 | 99.6 | Pass |
| 177 | 5-9% | 176 | 6.3 | Pass |

Comments:

Corresponding Samples: 218233 - 218234

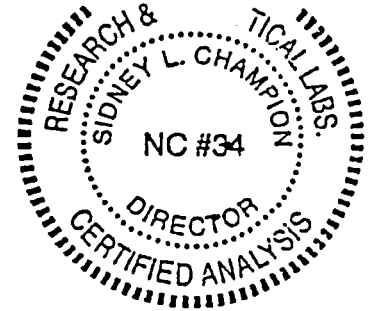
BDL = Below Detection Limit

%R = Percent Recovery



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Organic Quality Control Summary

Volatile Organics

Method 624

Parameter

Method Blank

Continuing Calibration %R

| | | |
|---------------------------|-----|-------|
| Methylene Chloride | BDL | 120.4 |
| Trichlorofluoromethane | BDL | 119.3 |
| 1,1-Dichloroethene | BDL | 93.5 |
| 1,1-Dichloroethane | BDL | 94.5 |
| Chloroform | BDL | 93.4 |
| Carbon Tetrachloride | BDL | 82.6 |
| 1,2-Dichloropropane | BDL | 100.9 |
| Trichloroethene | BDL | 86.5 |
| Dibromochloromethane | BDL | 88.0 |
| 1,1,2-Trichloroethane | BDL | 91.6 |
| Tetrachloroethene | BDL | 80.5 |
| Chlorobenzene | BDL | 98.9 |
| Trans-1,2-Dichloroethene | BDL | 103.3 |
| 1,2-Dichloroethane | BDL | 114.6 |
| 1,1,1-Trichloroethane | BDL | 91.3 |
| Bromodichloromethane | BDL | 99.4 |
| Cis-1,3-Dichloropropene | BDL | 94.3 |
| Benzene | BDL | 91.1 |
| Trans-1,3-Dichloropropene | BDL | 115.4 |
| Bromoform | BDL | 92.3 |
| 1,1,2,2-Tetrachloroethane | BDL | 111.2 |
| Toluene | BDL | 88.4 |
| Ethyl Benzene | BDL | 95.2 |
| Chloromethane | BDL | 100.4 |
| Bromomethane | BDL | 82.4 |
| Vinyl Chloride | BDL | 90.1 |
| Chloroethane | BDL | 81.8 |
| Acetone | BDL | 125.8 |
| Carbon Disulfide | BDL | 107.4 |
| Vinyl Acetate | BDL | 108.3 |
| 2-Butanone | BDL | 109.3 |
| 4-Methyl-2-Pentanone | BDL | 111.1 |
| 2-Hexanone | BDL | 106.4 |
| Styrene | BDL | 95.4 |
| Total Xylenes | BDL | 93.2 |

Tuning Data

| Mass | Requirement | Ref.Ion | Found | |
|------|--------------|---------|-------|------|
| 50 | 15-40% | 95 | 17.8 | Pass |
| 75 | 30-60% | 95 | 44.3 | Pass |
| 95 | 100% | 95 | 100.0 | Pass |
| 96 | 5-9% | 174 | 8.6 | Pass |
| 173 | <2% | 95 | 0.0 | Pass |
| 174 | >50% | 174 | 59.6 | Pass |
| 175 | 5-9% | 174 | 9.0 | Pass |
| 176 | >95%but<101% | 174 | 95.7 | Pass |
| 177 | 5-9% | 176 | 6.1 | Pass |

Comments:

Corresponding Samples: 218366 - 218367

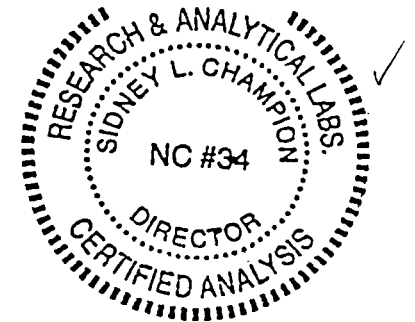
BDL = Below Detection Limit

%R = Percent Recovery



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Organic Quality Control Summary

Volatile Organics

Method 624

Parameter

Method Blank

Continuing Calibration %R

| | | |
|-----------------------------|-----|-------|
| Methylene Chloride | BDL | 114.3 |
| Trichlorofluoromethane | BDL | 105.4 |
| 1,1-Dichloroethene | BDL | 85.5 |
| 1,1-Dichloroethane | BDL | 88.4 |
| Chloroform | BDL | 100.3 |
| Carbon Tetrachloride | BDL | 99.0 |
| 1,2-Dichloropropane | BDL | 108.2 |
| Trichloroethene | BDL | 88.2 |
| Dibromochloromethane | BDL | 110.5 |
| 1,1,2-Trichloroethane | BDL | 108.6 |
| Tetrachloroethene | BDL | 77.2 |
| Chlorobenzene | BDL | 102.5 |
| Trans-1,2-Dichloroethene | BDL | 87.2 |
| 1,2-Dichloroethane | BDL | 117.0 |
| 1,1,1-Trichloroethane | BDL | 72.7 |
| Bromodichloromethane | BDL | 114.2 |
| Cis-1,3-Dichloropropene | BDL | 100.9 |
| Benzene | BDL | 90.3 |
| Trans-1,3-Dichloropropene | BDL | 118.9 |
| Bromoform | BDL | 105.5 |
| 1,1,1,2,2-Tetrachloroethane | BDL | 92.1 |
| Toluene | BDL | 95.1 |
| Ethyl Benzene | BDL | 93.7 |
| Chloromethane | BDL | 91.7 |
| Bromomethane | BDL | 84.6 |
| Vinyl Chloride | BDL | 91.4 |
| Chloroethane | BDL | 92.0 |
| Acetone | BDL | 98.0 |
| Carbon Disulfide | BDL | 73.3 |
| Vinyl Acetate | BDL | 128.0 |
| 2-Butanone | BDL | 107.6 |
| 4-Methyl-2-Pentanone | BDL | 126.2 |
| 2-Hexanone | BDL | 104.3 |
| Styrene | BDL | 104.6 |
| Total Xylenes | BDL | 87.1 |

Tuning Data

| Mass | Requirement | Ref.Ion | Found | |
|------|---------------|---------|-------|------|
| 50 | 15-40% | 95 | 18.3 | Pass |
| 75 | 30-60% | 95 | 42.7 | Pass |
| 95 | 100% | 95 | 100.0 | Pass |
| 96 | 5-9% | 174 | 8.0 | Pass |
| 173 | <2% | 95 | 0.1 | Pass |
| 174 | >50% | 174 | 57.5 | Pass |
| 175 | 5-9% | 174 | 7.5 | Pass |
| 176 | >95%but <101% | 174 | 98.7 | Pass |
| 177 | 5-9% | 176 | 6.8 | Pass |

Comments:

Corresponding Samples: 218512, 218648/50, 218649/51

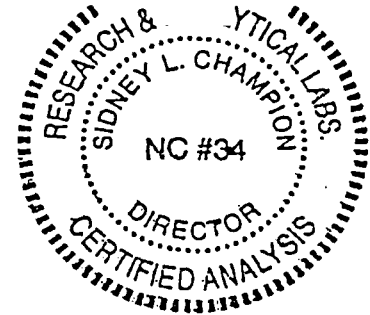
BDL = Below Detection Limit

%R = Percent Recovery



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Organic Quality Control Summary

Volatile Organics

Method 624

| <u>Parameter</u> | <u>Method Blank</u> | <u>Continuing Calibration %R</u> |
|---------------------------|---------------------|----------------------------------|
| Methylene Chloride | BDL | 101.2 |
| Trichlorofluoromethane | BDL | 100.8 |
| 1,1-Dichloroethene | BDL | 77.4 |
| 1,1-Dichloroethane | BDL | 81.6 |
| Chloroform | BDL | 83.8 |
| Carbon Tetrachloride | BDL | 77.0 |
| 1,2-Dichloropropane | BDL | 118.3 |
| Trichloroethene | BDL | 104.0 |
| Dibromochloromethane | BDL | 101.4 |
| 1,1,2-Trichloroethane | BDL | 107.5 |
| Tetrachloroethene | BDL | 84.1 |
| Chlorobenzene | BDL | 100.5 |
| Trans-1,2-Dichloroethene | BDL | 85.8 |
| 1,2-Dichloroethane | BDL | 102.6 |
| 1,1,1-Trichloroethane | BDL | 91.9 |
| Bromodichloromethane | BDL | 114.8 |
| Cis-1,3-Dichloropropene | BDL | 110.1 |
| Benzene | BDL | 115.9 |
| Trans-1,3-Dichloropropene | BDL | 105.3 |
| Bromoform | BDL | 92.1 |
| 1,1,2,2-Tetrachloroethane | BDL | 110.1 |
| Toluene | BDL | 99.6 |
| Ethyl Benzene | BDL | 100.1 |
| Chloromethane | BDL | 89.7 |
| Bromomethane | BDL | 90.1 |
| Vinyl Chloride | BDL | 82.1 |
| Chloroethane | BDL | 86.1 |
| Acetone | BDL | 96.4 |
| Carbon Disulfide | BDL | 86.4 |
| Vinyl Acetate | BDL | 90.1 |
| 2-Butanone | BDL | 96.1 |
| 4-Methyl-2-Pentanone | BDL | 103.9 |
| 2-Hexanone | BDL | 86.0 |
| Styrene | BDL | 112.4 |
| Total Xylenes | BDL | 90.6 |

Tuning Data

| <u>Mass</u> | <u>Requirement</u> | <u>Ref.Ion</u> | <u>Found</u> | |
|-------------|--------------------|----------------|--------------|------|
| 50 | 15-40% | 95 | 20.1 | Pass |
| 75 | 30-60% | 95 | 44.3 | Pass |
| 95 | 100% | 95 | 100.0 | Pass |
| 96 | 5-9% | 174 | 8.2 | Pass |
| 173 | < 2% | 95 | 0.4 | Pass |
| 174 | > 50% | 174 | 57.5 | Pass |
| 175 | 5-9% | 174 | 7.6 | Pass |
| 176 | > 95% but < 101% | 174 | 99.2 | Pass |
| 177 | 5-9% | 176 | 6.7 | Pass |

Comments:

Corresponding Samples: 218513

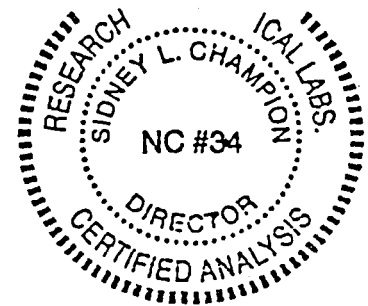
BDL = Below Detection Limit

%R = Percent Recovery



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Organic Quality Control Summary Surrogate Recovery

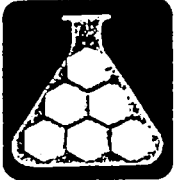
| <u>RAL</u> <u>Sample #</u> | <u>SMC 1</u> | <u>SMC 2</u> | <u>SMC 3</u> |
|-------------------------------|--------------|--------------|--------------|
| Blank 110394 | 39 | 44 | 46 |
| 218233 | 44 | 44 | 43 |
| 218234 | 46 | 44 | 49 |
| Blank 110594 | 45 | 44 | 48 |
| 218366 | 44 | 45 | 47 |
| 218367 | 55 | 46 | 46 |
| 218367 DL | 51 | 44 | 46 |
| Blank 110794 | 40 | 46 | 45 |
| 218512 | 43 | 45 | 44 |
| 218513 | 40 | 44 | 48 |
| 218513 Duplicate | 46 | 44 | 47 |
| 218648/50 | 41 | 45 | 48 |
| 218649/51 | 41 | 44 | 48 |

Limits

| | |
|------------------------------|-----------|
| SMC 1 = 1,2-Dichlorobenzene | 38 - 57 |
| SMC 2 = Toluene-d8 | 44 - 55 |
| SMC 3 = 4-Bromofluorobenzene | 43 - 57.5 |

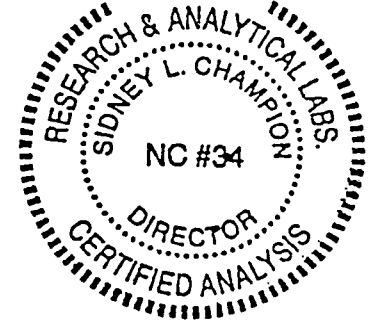
Duplicate Analyses on RAL # 218513

| <u>Parameter</u> | <u>218513</u> | <u>218513 Duplicate</u> | <u>% Difference</u> |
|------------------|---------------|-------------------------|---------------------|
| Toluene | 5.24 | 5.86 | 11 |
| Ethylbenzene | 7.43 | 8.62 | 15 |
| Xylenes, Total | 24.3 | 25.2 | 4 |



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



Quality Control Summary for Sample Locations Identified as Livingstone Coating Corporation (A DELTA Environmental Project #E094-011-1-307, 26-31 October 1994)

Inorganic Quality Control Summary

| <u>Parameter</u> | <u>ICV % R</u> | <u>CCV % R</u> | <u>Duplicate % D</u> |
|------------------|-------------------------|---|----------------------|
| Arsenic | 93.8 90.6 | 89.5 109.6 110.4 104.6 | 0 |
| Barium | 96.8 104.9 | 101.7 100.7 | 0 0 |
| Cadmium | 104.2 104.6 | 103.2 96.4 98.0 | 0 |
| Chromium | 101.3 100.0 103.3 | 97.7 97.7 100.9 103.6 100.4 | 0 2 |
| Lead | 103.8 103.0 | 100.0 97.3 96.7 | 0 0 |
| Mercury | 91.6 100.0 | 97.2 97.2 100.0 94.7 94.7 | 0 0 |
| Selenium | 95.8 | 90.8 104.0 100.0 106.4 | 0 |
| Silver | 96.6 100.9 | 99.6 99.6 99.8 | 0 0 |

Comments:

Corresponding Samples: 218233-218234; 218366-218367; 218512-218513; 218648/50-218649/51

% = Percent

ICV = Initial Calibration Verification

CCV = Continuing Calibration Verification

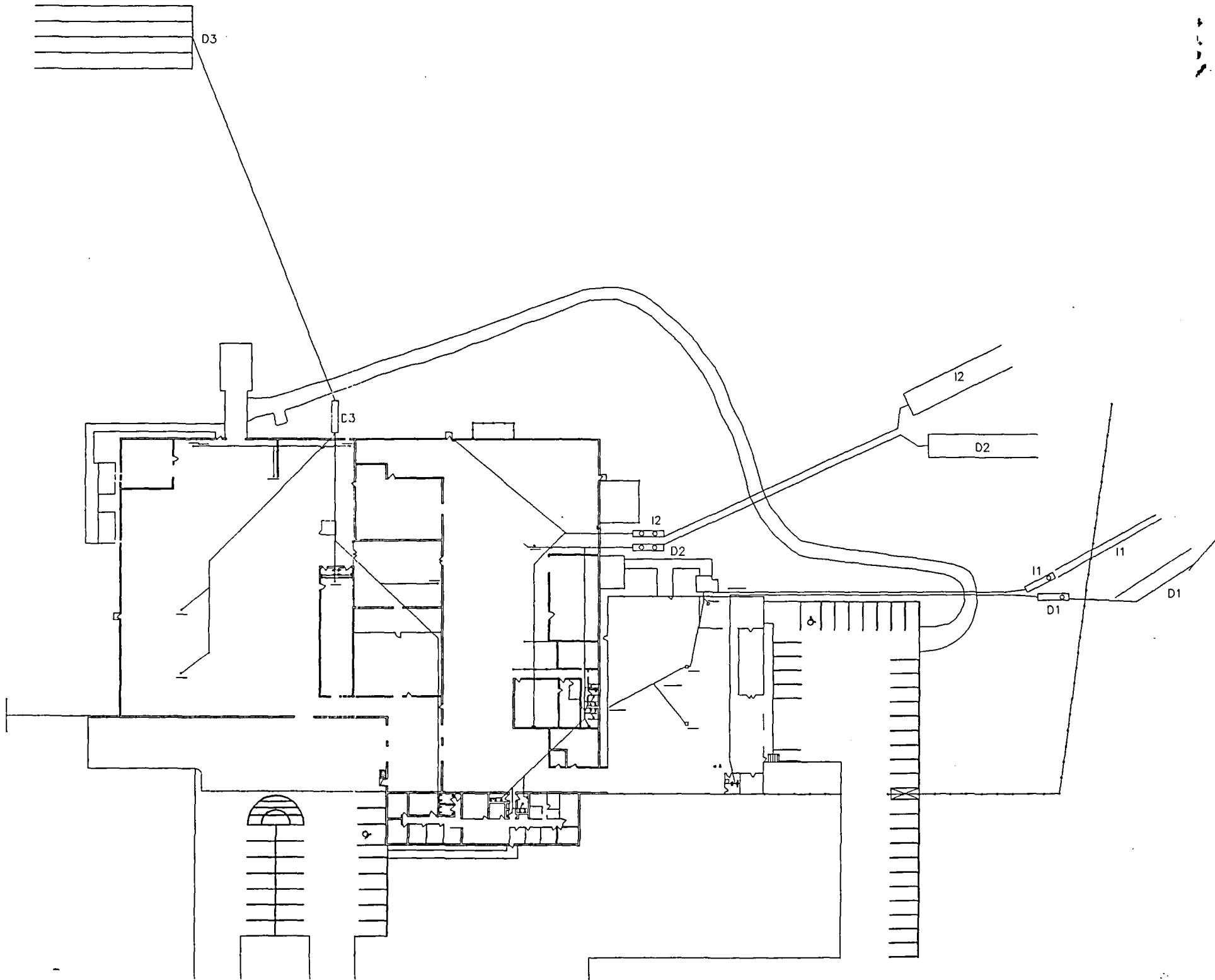
BDL = Below Detection Limit

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ON-SITE WASTEWATER SECTION

Attachment 2



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ON-SITE WASTEWATER SECTION

Attachment 3

LIVINGSTONE COATING CORPORATION

List of Permits

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Mecklenburg County Department of Environmental Health

| | | |
|-----------------------|------------|----------|
| Septic I.C.A.R. | 6703-4604 | 11/06/73 |
| Septic C. of A. | 6703-4218 | 11/07/73 |
| Septic I.C.A.R. | 6703 | 05/09/77 |
| Septic C. of A. | 6703-1832 | 09/18/78 |
| Septic I.C.A.R. | 6703-5752 | 09/15/82 |
| Septic C. of A. | 6703-5403 | 09/15/82 |
| S.I.R | 6703-7123 | 01/12/84 |
| Septic Tank Agreement | 6703-364 | 01/17/84 |
| Septic I.C.A.R. | 6703-07293 | 06/22/84 |
| Septic C. of A. | 6703-6723 | 06/26/84 |

Mecklenburg County Department of Environmental Protection

| | | |
|--------------------|------------|----------|
| Air Quality Permit | 73-021-039 | 10/21/93 |
| Air Quality Permit | 78-045-039 | 03/06/96 |
| Air Quality Permit | 78-049-039 | 11/28/94 |
| Air Quality Permit | 84-039-039 | 10/21/96 |
| Air Quality Permit | 84-041-039 | 11/28/94 |
| Air Quality Permit | 84-042-039 | 11/28/94 |

Charlotte-Mecklenburg Building Standards

| | | |
|------------------|----------|----------|
| Haz. Mat. Permit | F0459821 | 04/24/96 |
|------------------|----------|----------|

NC-Dept. of Environmental Health & Natural Resources

| | | |
|-------------------|-----------|----------|
| NPDES-Storm Water | NCG030062 | 05/28/93 |
|-------------------|-----------|----------|

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ON-SITE WASTEWATER SECTION

Attachment 4

| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|----------------------|
| 3M | Scotchkote 134 | 134 |
| 3M | Scotchkote 136 | 136 |
| 3M | Scotchkote 206N | 206N |
| 3M | Scotchkote 206P Patc | 206P |
| 3M | Scotchkote 213 | 213 |
| 3M | Scotchkote 213 | 213 Spray Grade |
| 3M | Scotchkote 213PC | 213PC |
| 3M | Scotchkote 314 | 314 |
| 3M | Scotchkote 413 | 413 |
| 3M | 3M Brand Oil Sorbent | Oil Sorbent |
| A-L Welding | Flux | 110,S-200&S-300 Flux |
| A-L Welding | Solder | 430 & 100 Aquasafe |
| A-L Welding | Acetylene | ACETYLENE |
| A-L Welding | Oxygen | OXYGEN |
| Acheson Colloid | Graphite/Isoproponol | DAG 156 |
| Acheson Colloid | PTFE/Water | Emralon 311A |
| Acheson Colloid | Resin | Emralon 311B |
| Acheson Colloid | PTFE/Water | Emralon 312 |
| Acheson Colloid | PTFE/Solvent | Emralon 314A |
| Acheson Colloid | Epoxy Resin | Emralon 314B |
| Acheson Colloid | PTFE/Water | Emralon 320A |
| Acheson Colloid | Resin/Solvent | Emralon 320B |
| Acheson Colloid | PTFE/Solvent | Emralon 329 |
| Acheson Colloid | Fluorocarbon | Emralon 333 |
| Acheson Colloid | Graphite&PTFE/Solven | Emralon 335 |
| Acheson Colloid | PTFE/Solvent | GP 1904 |
| Acheson Colloid | Molydag 254 (AC) | Molydag 254 |
| Acheson Colloid | Solvent | SB-1 |
| Acheson Colloid | Solvent | SB-2 |
| Acheson Colloid | Solvent | SB-3 |
| Allied Signal | GENETRON 12 | CFC-12 |
| Amerchem | DCO Acid Mix | DCO Acid Mix |
| Ameron | Black | 813-114 |
| Ameron | Yellow | 813-405 |
| Armitage | Gun Metal | PC-03010A |
| Ashland | Acetone | Acetone |
| Ashland | Methyl Ethyl Keytone | MEK |
| Ashland | Methyl-N 2-Pyrrolido | MNP |
| Atochem | Primer | 104-B |
| Atochem | Green MAC ES | 1994 |
| Atochem | Grey RDP 15-10 ES | 5304 |
| Atochem | Blue RDP 15-10 ES | 5377 |
| Atochem | Blue RDP 15-10 ES | 5472 |
| Atochem | Beige RDP 21 ES | 5822 |
| Atochem | Teel RDP 15-10 ES | 5823 |

MSDS Sheet Listing

Date: 06/13/96

Page: 2

| Manufacturer | Trade Name | Product Code |
|----------------|---------------------|----------------------|
| Atochem | Primer | P 204-A |
| Atochem | Nylon 11 | P 21 |
| Atochem | Nylon 11 | RDP 15-10 |
| Ausimont | Counterattack | Counterattack |
| Ausimont | Fluoropolymer Resin | ECTFE Resin |
| B.F. Goodrich | A-1103-B | A-1103-B |
| BASF | NMP | NMP |
| Bisonite Co. | Bisonite "M" | 1-0801-098110 |
| Bisonite Co. | Phenoflex Reducer | 1-0957-109810 |
| Bisonite Co. | Bisonite "M" | 100 |
| Bisonite Co. | Bisonite "M" | 102 |
| Bisonite Co. | Bisonite "M" | 108 |
| Bisonite Co. | Aeroply Kit | 17-9600-0801 |
| Bisonite Co. | Aeroply Kit | 17-9672-0801 |
| Bisonite Co. | Phenoflex Clear | 957-0 |
| Bisonite Co. | Phenoflex Green | 957-4 |
| Bisonite Co. | Aeroply "A" | 9690 |
| Bisonite Co. | Epoxy Curing Agent | F-IND-2191 |
| Bisonite Co. | Phenoflex Comp A | G8-109D |
| Bisonite Co. | Phenoflex Hardener | G8-109D |
| Boyd | CRC 2027 Tan | CRC 2027 |
| Camie-Campbell | TFE Coat | 2000-B |
| Camie-Campbell | Dry Chemical | A1000 |
| Carboline | Phenoline | 0604A1NL |
| Carboline | Phenoline | 0604B1NL |
| Carboline | Carbo Zinc 11 Base | CARBO ZINC 11 BASE |
| Carboline | Zinc Dust | CARBO ZINC 11 FILLER |
| Carboline | Thinner #26 | Thinner #26 |
| Cardinal | Steel Gray | GR02-T028 |
| Cardinal | Steel Gray | T028-GR02 |
| CertainTeed | High Temp. Blanket | HT Blanket |
| Chem Find | MEK/Toluene | MEK/TOLUENE |
| Chem-Fab | Woven Fabric | TGF |
| Cinn. Milacron | Cimperial | 1011 |
| Continental | KF Polymer | PVDF Clear |
| Continental | KF Polymer | PVDF Green |
| Continental | Levasint | Vinyl Acetate |
| Corro Therm | CT-334 | CT-334 |
| Corro Therm | CT-334 | CT-334 |
| Corro Therm | CT-511 | CT-511 |



| Manufacturer | Trade Name | Product Code |
|--------------|----------------------|----------------------|
| Crouse-Hind | Chico Sealing Comp. | Chico |
| Daikin | Neoflon FEP | NC-1500 |
| Daikin | Neoflon FEP | NC-1539 |
| Detrex | Perm-ethane | 1,1,1 |
| Dewal | Tape | 202 TAPE |
| Dewal | P/S Tape | 304 TAPE |
| Dewal | Tape | FLUOROLIN 134 |
| Dewal | Tape | FLUOROLIN 409 |
| Dewal | FST Tape | FST |
| Dewal | P/S Tape | P/S Tape |
| Dexter | DK19 Red | DK19 Red |
| Dexter | DK22-0654 | DK22-0654 |
| Dexter | EA 9470 Part A | EA 9470 Part A |
| Dexter | EA 9470 Part B | EA 9470 Part B |
| Dexter | RA-175 Primer | M00003 |
| Dexter | Blue Plastisol | PC2707 |
| Dexter | Black Plastisol | PC8703 |
| Dexter | Clear Plastisol | PD0702 |
| Dexter | Gray Plastisol | PD0780 |
| Dexter | Red Plastisol | PD6871 |
| Dexter | Black Plastisol | PD8968 |
| Dexter | S-973 | S-973 |
| Dow | Sullube 32 | 02434 |
| Dow | Heat resistant/Seala | 736 Heat Resist/Seal |
| Dow | Silicone Plus | Clear Silicon Sealan |
| Dow | Molykote 106 | Molykote 106 |
| Dow | Molykote 321R | Molykote 321R |
| Dow | Molykote 3400A | Molykote 3400A |
| Dri-Slide | Dri-Slide | Dri-Slide |
| E.I. DuPont | Gray | 420-104 |
| E.I. DuPont | One Coat Black | 420-109 |
| E.I. DuPont | Black | 420-703 |
| E.I. DuPont | Pewter | 456-186 |
| E.I. DuPont | Sparkling Black | 456-187 |
| E.I. DuPont | Black | 456-227 |
| E.I. DuPont | Pewter | 456-236 |
| E.I. DuPont | Clear | 456-300 |
| E.I. DuPont | Sparkling Clear | 456-480 |
| E.I. DuPont | Blue | 459-516 |
| E.I. DuPont | Blue | 459-780 |
| E.I. DuPont | Black | 532-1003 |
| E.I. DuPont | PFA Powder | 532-5010 |
| E.I. DuPont | Hi-Build PFA | 532-5012 |
| E.I. DuPont | PFA Powder | 532-5310 |
| E.I. DuPont | PFA HiBuild | 532-5450 |
| E.I. DuPont | Tefzel Clear | 532-6000 |
| E.I. DuPont | Tefzel Hi-Build Blk | 532-6001 |

| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|----------------------|
| E.I. DuPont | StarBlast | STARBLAST |
| E.I. DuPont | Thinner | T-8595 |
| E.I. DuPont | Thinner | T-8718 |
| E.I. DuPont | Thinner | T-8748 |
| E.I. DuPont | Thinner | T-8749 |
| E.I. DuPont | Type LZ, CLZ, RP | TEFZEL FILM |
| E.I. DuPont | Wetting Agent | VM-5418 |
| E.I. DuPont | Accelerator | VM-7799 |
| Essex Specialty | Aqualoid | 00015109 |
| Evodex | Banner Blue | 40B8-E001 |
| Evodex | Banner Blue | ML-10-158F |
| Exolon-ESK | Aluminum Oxide | Aluminum Oxide |
| Exxon | 20W-20 Oil | 212451-02451 |
| Exxon | Teresstic 100 | 376045-01180 |
| Farboil | Light Gray | 1E-3115-G |
| Farboil | Banner Blue | 1E-3661-G |
| Ferro | ASA- gray | 155E115 |
| Ferro | Gray | 156E110 |
| Ferro | Black | LZ 195-3 |
| Ferro | White | VE 223-A |
| Ferro | Gloss Black | VE 309 |
| Ferro | Black | VE 329 |
| Ferro | Blue | VE 705-A |
| Ferro | Almond Polyester | VP 2937 |
| Ferro | Flat Black | VP 314 |
| Ferro | Black | VP 317-A |
| Ferro | Black | VP 345-ZR |
| Ferro | Green | VP 611-A |
| Ferro | Orange | VP 856 |
| Ferro | Gray | VT 401-B |
| Furon/Bunnell | BP 1000 Curing Agent | BP-1000 |
| Furon/Bunnell | SA 401 Curing Agent | SA 401 |
| G Chemical | Pepcoat | Pepcoat |
| G.S. Industries | Blue Plastisol | XL-12 #294 |
| Gardner Asphalt | Roof Paint | Petroleum Hydrocarbn |
| Glidden | White | 155 W 153 |
| Glidden | High Reflect White | 155 W 174 |
| Glidden | Clear | 156 C 102 |
| Glidden | Clear | 156 C 105 |
| Glidden | Gray | 5e115 |
| Glidden | Clear | 6C102 |
| H.B. Fuller | Banner Blue | 3964-78P |
| H.B. Fuller | Polar Bear | IF-0909 |

| Manufacturer | Trade Name | Product Code |
|--------------|----------------------|-----------------|
| H.B. Fuller | Autumn White | IF-1071 |
| H.B. Fuller | Milk White | IF-1111 |
| H.B. Fuller | Canary | IF-1235 |
| H.B. Fuller | Green | IF-1681 |
| H.B. Fuller | U.S. Blue Urethane | IF-1689 |
| H.B. Fuller | Black | IF-1915 |
| H.B. Fuller | Starch White | IF-2201 |
| H.B. Fuller | Black | IF-2242 |
| H.B. Fuller | Red | IF-2324 |
| H.B. Fuller | Black Beauty | IF-2403 |
| H.B. Fuller | Black Beauty | IF-2403 |
| H.B. Fuller | Blue | IF-2566 |
| H.B. Fuller | Chrome | IF-2797 |
| H.B. Fuller | Aqua Blue | IF-2813 |
| H.B. Fuller | Baby Blue | IF-3002 |
| H.B. Fuller | Vivid Blue | IF-3004 |
| H.B. Fuller | Ink Epoxy | IF-3037 |
| H.B. Fuller | Black Texture | IF-3041 |
| H.B. Fuller | Gray | IF-3164 |
| H.B. Fuller | Len Tan | IF-3202 |
| H.B. Fuller | Gold | IF-3220 |
| H.B. Fuller | Mercedes Silver | IF-3299 |
| H.B. Fuller | Dark Tone | IF-3363 |
| H.B. Fuller | Olive Green | IF-3561 |
| H.B. Fuller | Light Mesa Brown | IF-3699 |
| H.B. Fuller | Gold Metallic | IF-3844 |
| H.B. Fuller | Yellow | IF-5070-D |
| H.B. Fuller | Black Umber Text. | IF-5160 |
| H.B. Fuller | Yellow | IF-5212 |
| H.B. Fuller | White Urethane | IF-5513 |
| H.B. Fuller | Transparent Blue | IF-5675 |
| Herberts | Black | 012-35-1-G |
| Herberts | Blue | 014-14-15-G |
| Herberts | Banner Blue | ER-7427-SG |
| Herberts | Mossy Oak | PES-7343-SG |
| Heresite | B-12 Baking Phenolic | B-12 |
| Heresite | Epoxy | CSE-6000 Part A |
| Heresite | Epoxy | CSE-6000 Part B |
| Heresite | Phenolic Coating | L-66 |
| Heresite | Phenolic Coating | P-366-G |
| Heresite | Phenolic Coating | P-403 |
| Heresite | Solvent | S-215 |
| Heresite | Solvent | S-225 |
| Heresite | Solvent | S-276 |
| Heresite | W-317 Baking Pheno. | W-317 |
| ICI | Ultralon | 38C |
| ICI | Ultralon | OC-423E |
| ICI | Brown Primer | R604 |
| ICI | Solvent | S-400 |
| ICI | T1 thru T6, T8 | T Series |
| Int'l Paint | Black | |



| Manufacturer | Trade Name | Product Code |
|----------------|--------------------|------------------|
| Int'l Paint | Brown | AM302U |
| Int'l Paint | Black Texture | AN304U |
| Int'l Paint | White | BA101U |
| Int'l Paint | Yellow | EE001U |
| Int'l Paint | Green | EK001U |
| Int'l Paint | Gray Texture | JL406U |
| Int'l Paint | Silver-Gray | JL406U |
| Int'l Paint | White | MA019U |
| Int'l Paint | White | MA048U |
| Int'l Paint | White | MA067U |
| Int'l Paint | White | MA118U |
| Int'l Paint | White | MA301U |
| Int'l Paint | Beige | MD018U |
| Int'l Paint | Biege | MD028U |
| Int'l Paint | Keller Biege | MD059U |
| Int'l Paint | Biege | MD145U |
| Int'l Paint | Red | MG002U |
| Int'l Paint | Gray | ML002U |
| Int'l Paint | Gray | ML102U |
| Int'l Paint | Bronze | MM003U |
| Int'l Paint | Black | MN101U |
| Int'l Paint | Clear | MZ001U |
| Int'l Paint | White | PA021U |
| Int'l Paint | White | PA021U |
| Int'l Paint | White | PA046U |
| Int'l Paint | White | PA107U |
| Int'l Paint | Biege | PD036U |
| Int'l Paint | Biege | PD205U |
| Int'l Paint | Biege | PD207U |
| Int'l Paint | Gray | PL112U |
| Int'l Paint | Light Tan Met. | PX120U |
| Int'l Paint | Black | UT2628 |
| Int'l Salt Co. | Salt | NaCL |
| Koppers | Vinyl | 401 |
| Koppers | Vinyl Primer | 837A |
| Lilly, Ind. | Aqualoid | 00015125 |
| Lilly, Ind. | Texture Black | 504B |
| Lilly, Ind. | Texture Black | 514B |
| Lilly, Ind. | Black Fine Texture | 514B-S |
| Loctite | Instant Adhesive | Prism 454 |
| Metalplate | Galvanized Steel | GALVANIZED STEEL |
| Mich. Chrome | Miccron Black | 455-304 |
| Mich. Chrome | Miccrosol White | E-4011 |
| Morton Thiokol | Almond | 10-1008 |
| Morton Thiokol | White | 10-1019 |
| Morton Thiokol | Alert Red | 10-4003 |
| Morton Thiokol | Red | 10-4037 |
| Morton Thiokol | Blue | 10-5017 |

| Manufacturer | Trade Name | Product Code |
|----------------|----------------------|--------------|
| Morton Thiokol | High Gloss Black | 10-7008 |
| Morton Thiokol | Flat Black | 10-7011 |
| Morton Thiokol | Vista Black | 10-7068 |
| Morton Thiokol | Gray | 10-7069 |
| Morton Thiokol | Sterling Black | 10-7076 |
| Morton Thiokol | Black | 10-7199 |
| Morton Thiokol | Colonial Ivory | 10-8013 |
| Morton Thiokol | Asphalt Black Text. | 11-7001 |
| Morton Thiokol | Dark Grey Texture | 11-7014 |
| Morton Thiokol | Belgian Blk Texture | 11-7015 |
| Morton Thiokol | Gray | 11-7056 |
| Morton Thiokol | Red | 12-4001 |
| Morton Thiokol | Mil Blue Wrinkle | 12-5003 |
| Morton Thiokol | Midnight Blue | 12-5008 |
| Morton Thiokol | Midnite Blue Wrinkle | 12-7001 |
| Morton Thiokol | Georgian Gray Wr'kle | 12-7002 |
| Morton Thiokol | Chateau Brown Wrinkl | 12-8005 |
| Morton Thiokol | Zinc Rich Gray | 13-7004 |
| Morton Thiokol | Silver | 13-9002 |
| Morton Thiokol | Silver Vein | 13-9003 |
| Morton Thiokol | Silver Texture | 13-9167 |
| Morton Thiokol | Red | 17-4001 |
| Morton Thiokol | Corvel Red | 17-4005 |
| Morton Thiokol | Blue | 17-5002 |
| Morton Thiokol | Blue Functional | 17-5004 |
| Morton Thiokol | Furniture White | 20-1007 |
| Morton Thiokol | Hi-Reflect White | 20-1012 |
| Morton Thiokol | White | 20-1027 |
| Morton Thiokol | White | 20-1103 |
| Morton Thiokol | Pale Yellow | 20-2017 |
| Morton Thiokol | Buttercup | 20-2076 |
| Morton Thiokol | Safety Yellow | 20-2078 |
| Morton Thiokol | Crimson Red | 20-4016 |
| Morton Thiokol | Royal Blue | 20-5005 |
| Morton Thiokol | Blue | 20-5014 |
| Morton Thiokol | Blue | 20-5035 |
| Morton Thiokol | Caribbean Blue | 20-5093 |
| Morton Thiokol | Green | 20-6081 |
| Morton Thiokol | Sable Black | 20-7014 |
| Morton Thiokol | Raven Black | 20-7015 |
| Morton Thiokol | Utility Gray | 20-7025 |
| Morton Thiokol | Jet Black | 20-7028 |
| Morton Thiokol | Designer Black | 20-7053 |
| Morton Thiokol | ASA 61 Gray | 20-7056 |
| Morton Thiokol | Mirror Black | 20-7137 |
| Morton Thiokol | Walnut | 20-8002 |
| Morton Thiokol | Camel | 20-8003 |
| Morton Thiokol | Beechwood | 20-8247 |
| Morton Thiokol | Sandstone | 20-8256 |
| Morton Thiokol | Flat Black Texture | 21-7001 |
| Morton Thiokol | Arc White | 22-1001 |
| Morton Thiokol | Silvermist | 23-9072 |
| Morton Thiokol | Silvermist | 23-9075 |
| Morton Thiokol | Corvel Chrome | 23-9080 |
| Morton Thiokol | Weathered Copper | 23-9178 |

| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|----------------------|
| Morton Thiokol | White | 30-1007 |
| Morton Thiokol | Dark Blue | 30-5003 |
| Morton Thiokol | Dark Blue | 30-5033 |
| Morton Thiokol | Solar Black | 30-7001 |
| Morton Thiokol | Comet Black | 30-7018 |
| Morton Thiokol | Bronze | 33-9002 |
| Morton Thiokol | Mineral Bronze | 33-9012 |
| Morton Thiokol | Blue U 1585-1 | 40-5031 |
| Morton Thiokol | Silver Gray | 40-7030 |
| Morton Thiokol | Gray U 1585-2 | 40-7044 |
| Morton Thiokol | Putty | 40-8006 |
| Morton Thiokol | Vinyl Primer | 6P-0115 |
| Morton Thiokol | White | 70-1001 |
| Morton Thiokol | Black | 70-7002 |
| Morton Thiokol | Black Nylon | 70-7002*D |
| Morton Thiokol | Black | 76-7001 |
| Morton Thiokol | Black | 76-7001*D |
| Morton Thiokol | Gray | 76-7002 |
| Morton Thiokol | White | 78-1001 |
| Morton Thiokol | Black | 78-7001 |
| Morton Thiokol | Nylon Primer | 7P-0200 |
| Morton Thiokol | Nylon Patch - Black | 7T-7002 |
| Morton Thiokol | Nylon Patch - Black | 7T-7006 |
| Morton Thiokol | Mortemp Black | 99-7003 |
| Morton Thiokol | Mortemp Grill Black | 99-7004 |
| Morton Thiokol | White 20 | DH-1001 |
| Morton Thiokol | Haze Gray 20 | DH-7001 |
| Morton Thiokol | Haze Gray 3 | DH-7002 |
| Morton Thiokol | Black 3 | DH-7004 |
| Morton Thiokol | Black 20 | DH-7005 |
| Multitherm Corp | Heat Transfer Fluid | PG-1 Heat Fluid |
| N.A. Compound | Gun Metal | |
| N.A. Compound | Mosaic Gray | HGP-812 |
| N.A. Compound | Putty | LCEN-228 |
| NW Industrial | Hearty Burgundy Wrkl | E-9130B |
| NW Industrial | Hearty Burgundy Wrkl | E-9131B |
| NW Industrial | Ink Black II | P-0117S |
| NW Industrial | Lazer Purple | P-4150B |
| NW Industrial | Golden Valentine | P-4180B |
| NW Industrial | Powder Puff White | P-7112B |
| NW Industrial | Brilliant Gold | U-5103B |
| NW Industrial | Purplescent Dbl. | U-5115B |
| NW Industrial | Super Plum | U-5127B |
| NW Industrial | Nugget Gold | U-5134B |
| Nat'l Chemical | A.S. HD Concrete Cln | HDC-150 |
| Norton Chemplas | Chemgrip Cement B | Cement Part B |
| Norton Chemplas | Chemgrip Cement | Chemgrip Cement |
| Norton Chemplas | Chemgrip Treat Agent | Chemgrip Treat Agent |
| Norton Chemplas | FEP Film, Tubing | FEP Film, Tubing |
| Norton Chemplas | PFA Film, Tubing | PFA Film, Tubing |



| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|----------------------|
| O'Brien Corp. | Silver Texture | 269-020A |
| O'Brien Corp. | Nap-Gard | 7-2500 |
| O'Brien Corp. | Copper Vein | EFB-403-A7 |
| O'Brien Corp. | Flat Black | EFB-534-S0 |
| O'Brien Corp. | Everclear | EFC-500-S9 |
| O'Brien Corp. | Lusterless Green | EFG-504-50 |
| O'Brien Corp. | Flat White 6K | EFW-500-S0 |
| O'Brien Corp. | Black Beauty | ELB-400-P9 |
| O'Brien Corp. | Frost White | ELW-407-S9 |
| O'Brien Corp. | Evergreen | PFG-500-S9 |
| O'Brien Corp. | Statuary Bronze | PFJ-407-A5 |
| O'Brien Corp. | Post Office Blue | PFK-503-S8 |
| O'Brien Corp. | Cream | PFL-500-S9 |
| O'Brien Corp. | Red Baron | PFR-400-S9 |
| O'Brien Corp. | Camel | PFT-401-S6 |
| O'Brien Corp. | White River | PFW-508-T8 |
| O'Brien Corp. | Hi Yo Silver | RFA-400-M9 |
| O'Brien Corp. | Black Ridge | RFB-505-T2 |
| O'Brien Corp. | Chicago River | RFH-521-T3 |
| O'Brien Corp. | Agean Blue | RFK-402-S8 |
| O'Brien Corp. | Yellow Submarine | RFY-505-S9 |
| O'Brien Corp. | Black Mini-Tex | UFB-400-T3 |
| O'Brien Corp. | Black Magic | UFB-515-S0 |
| O'Brien Corp. | Matte Black | UFB-551-S2 |
| O'Brien Corp. | Cal Gray | UFH-402-S9 |
| O'Brien Corp. | Charlie Brown | UFJ-505-S9 |
| O'Brien Corp. | Buttercup | UFY-503-S7 |
| O'Brien Corp. | Flamboyant Gold | UFY-555-S9 |
| O'Brien Corp. | Wild Rice | ULW-401-T1 |
| PPG | Trichloroethylene | Trichloroethylene |
| Paper Corp. | Sweeping Compound | GRITLESS OIL BASE SW |
| Patclin Chem. | Power Wash Cleaner | 314 |
| Patclin Chem. | 898-NCS | 898-NCS |
| Patclin Chem. | Iron Phosphate | 983-DF |
| Patclin Chem. | Wetting Agent Q | Wetting Agent Q |
| Pennwalt Corpor | ISOTRON (R) 22 | CFC-22 |
| Petro-Canada | Sullair SRF 1/4000 | SRF 1/4000 |
| Pioneer Powder | Flat Black | EK06-2DF |
| Plast-O-Meric | Dispersion PVC - Yel | DBX1231Y |
| Plast-O-Meric | V1084 Black | V1084BKES |
| Plast-O-Meric | Blue | V575B |
| Plast-O-Meric | Lo-Gloss Brown | V575BR |
| Plast-O-Meric | Light Gray | V575LTGYA |
| Plast-O-Meric | White | V771W |
| Plast-O-Meric | Gray | VBX1566GY |
| Plast-O-Meric | White | VX1407W |
| Plast-O-Meric | Clear | VX1422CL |

| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|------------------|
| Powder Tech.PTI | | PT-ET03-OS04 |
| Pratt & Lambert | 61 Gray | 81-2074 |
| Pratt & Lambert | Silver Flake | 81-2212 |
| Pratt & Lambert | Powderrich Gold | 84-702 |
| Pratt & Lambert | John Deere Green | 85-1713 |
| Pratt & Lambert | Energy White | 89-1404 |
| Protech | Gloss Black | E2000N3 |
| Protech | Textured Black | E2000NT2 |
| Protech | Gray | H100A3 |
| Protech | Gray | H100A8 |
| Protech | Wood-Like | H100HM1 |
| Protech | Silver Vein | H100NS1 |
| Protech | Red | H100R12 |
| Protech | Burgundy | H100R7 |
| Protech | Safety Yellow | H100Y12 |
| Protech | White | H900W1 |
| Protech | Fence Green | P1000G1 |
| Protech | Clear | P900C3 |
| Providence Chem | Light Gray | D-3662 |
| Providence Chem | Black | D-3704 |
| Reagents, Inc. | Sodium Hydroxide | Sodium Hydroxide |
| Reagents, Inc. | Toluene | Toluené |
| Reagents, Inc. | Xylene | Xylene |
| Regalite Plast. | Regalite/Ultralite | Ultralite |
| Robeco | Polyvinyl Chloride | 8 mil & 16 mil |
| Rust-o-leum | 160 Thinner | 160 |
| Rust-o-leum | Fast Dry Primers | 678 & 7086 |
| Rust-o-leum | HD Yellow Epoxy | 9347 |
| Rust-o-leum | HD Black Epoxy | 9379 |
| Rust-o-leum | 9391 White Primer | 9391 |
| Rutland Plastic | Dispersion PVC | R-703 & R-707 + |
| Rutland Plastic | Dispersion PVC | R-780 & R-968 + |
| Specco Ind. | Phast Patch | Phast Patch |
| Spraycan Spec. | Mineral bronze touch | METALLIC BRONZE |
| Spraylat | Full Gloss Brick Red | PE 94167 |
| Spraylat | Semi-Gloss Grey | PH56224 |
| Spraylat | Full Gloss Lt. Grey | PH9694 |
| Spraylat | High-Gloss Sft. Yell | PPL8382 |
| Spraylat | P.O. Blue | PPL87314 |
| Spraylat | Semi-Gloss Beige | PU 62400 |
| StanChem, Inc. | Plastisol Primer | 69X1406 |
| StanChem, Inc. | Green Plastisol | 77X-2333 |

| Manufacturer | Trade Name | Product Code |
|--------------|----------------------|--------------|
| Sterling | Plastisol | Cpd #8592 |
| Thermoclad | Patch Compound - Blk | 8-A-0 |
| Thermoclad | Vinyl Primer | AES-T-66 |
| Thermoclad | Vinyl | BDG-1V-1I2 |
| Thermoclad | Yellow | BDG-1V-3S2 |
| Thermoclad | Black | BDG-1V-8AO |
| Thermoclad | Orange | NDG-4M-2L3 |
| Tiger Drylac | RAL 9003 White Text. | 09/10960 |
| Tiger Drylac | RAL | 09/15090 |
| Tiger Drylac | RAL 5010 Blue Text. | 09/40480 |
| Tiger Drylac | RAL 4003 Pink Text. | 09/40910 |
| Tiger Drylac | RAL | 09/44660 |
| Tiger Drylac | Hybrid | 09/50560 |
| Tiger Drylac | RAL | 09/50930 |
| Tiger Drylac | RAL | 09/60660 |
| Tiger Drylac | RAL 7035 Rough Tx Gr | 09/70220 |
| Tiger Drylac | RAL | 09/7152 |
| Tiger Drylac | RAL 9005 Black Text. | 09/80250 |
| Tiger Drylac | RAL | 09/9017 |
| Tiger Drylac | Silver Hammertone | 09/90250 |
| Tiger Drylac | Aqualac Primer | 152/7004 |
| Tiger Drylac | | 19/7001 |
| Tiger Drylac | RAL 9005 Black | 19/8002 |
| Tiger Drylac | Blue | 349/40050 |
| Tiger Drylac | Glitter Silver | 49/00320 |
| Tiger Drylac | White (First Coat) | 49/1100 |
| Tiger Drylac | RAL 9003 Off White | 49/1159 |
| Tiger Drylac | | 49/2143 |
| Tiger Drylac | | 49/2149 |
| Tiger Drylac | RAL 1018 Yellow | 49/21830 |
| Tiger Drylac | | 49/30520 |
| Tiger Drylac | RAL 3020 Red | 49/31040 |
| Tiger Drylac | RAL 3000 Red | 49/3186 |
| Tiger Drylac | | 49/3190 |
| Tiger Drylac | | 49/31920 |
| Tiger Drylac | | 49/3210 |
| Tiger Drylac | RAL | 49/32270 |
| Tiger Drylac | Pink Flourescent | 49/3260 |
| Tiger Drylac | RAL 3004 Burgandy | 49/3390 |
| Tiger Drylac | RAL 5003 Blue | 49/4223 |
| Tiger Drylac | RAL 5018 Teal | 49/4235 |
| Tiger Drylac | | 49/4280 |
| Tiger Drylac | | 49/44660 |
| Tiger Drylac | RAL 6004 Green | 49/50980 |
| Tiger Drylac | | 49/52650 |
| Tiger Drylac | RAL 8011 Brown | 49/6301 |
| Tiger Drylac | RAL 8015 Brick Red | 49/6304 |
| Tiger Drylac | RAL 7037 Gray | 49/7248 |
| Tiger Drylac | | 49/72540 |
| Tiger Drylac | RAL 7002 | 49/7272 |
| Tiger Drylac | RAL 7015 Dark Gray | 49/7282 |
| Tiger Drylac | RAL 7022 Dark Gray | 49/7285 |

| Manufacturer | Trade Name | Product Code |
|----------------|------------------------|--------------------|
| Tiger Drylac | | 49/7294 |
| Tiger Drylac | RAL | 49/7351 |
| Tiger Drylac | | 49/7376 |
| Tiger Drylac | RAL 9005 | 49/8053 |
| Tiger Drylac | Low Gloss Black | 49/8072 |
| Tiger Drylac | | 49/8283 |
| Tiger Drylac | | 49/9126 |
| Tiger Drylac | | 79/3157 |
| Tiger Drylac | Gold Vein | 79/9008 |
| Tiger Drylac | | 79/9010 |
| Toagosol | | FS-175P |
| Tra-Con, Inc. | Epoxy Resin | Tra-Bond |
| Tra-Con, Inc. | Epoxy Hardener | Tra_Bond 2115 |
| Trimite | Pearl | C09097/PA8012/9 |
| Trimite | Eggshell | C09657/PA9002/3 |
| Trimite | Semigloss | C09680/PA9002/6 |
| Trimite | Semi-gloss | C09681/PA9002/6 |
| Trimite | Eggshell | C09724/PA9002/4 |
| Trimite | Dull Gloss | C09822/PA9002/8 |
| Trimite | Semi-matte | D09580/PA9002/5 |
| Trimite | Matte | D09611/PA9002/1 |
| Trimite | Satin | D09738/PA9002/4 |
| Trimite | Eggshell | D09749/PA9002/3 |
| Trimite | Low Sheen | D09876/PA9002/2 |
| Trimite | Graphite Gray Comp. | E09077/PA8012/9 |
| Trimite | Eggshell | E09204/PA8002/3 |
| Trimite | Dull Gloss | E09708/PA9002/8 |
| Trimite | Dull Gloss | F09203/PA8002/8 |
| Trimite | Matte | H09162/PA9002/1 |
| Trimite | Gloss | H09247/PA8002/9 |
| Trimite | Satin | H09270/PA9002/4 |
| Trimite | Matte Red | H09299/PA9002/1 |
| USI Chemical | Microthene Black | MC 91381 |
| USI Chemical | Microthene Black | MK 91018 |
| Union Carbide | Polyalkylene Glycol | UCON 500 |
| Union Chemical | Xylene | 11420 |
| Union Chemical | MEK | 15490 |
| Union Chemical | Mineral Spirits | AMSCO Solv 1005 |
| Union Chemical | Glycol Ether Ester | AMSCO Solv 5376 |
| Union Chemical | Methyl Ethyl Ketone | MEK |
| W C Richards | Black | WKSB-19-601 |
| Whitford Corp. | Fluoropolymer | |
| Whitford Corp. | Whitford P-92 Primer | 01384 |
| Whitford Corp. | Xylan 8390 | 01630 |
| Whitford Corp. | Xylan 1514/903 | 01778 |
| Whitford Corp. | 631/51, 631/78, 631/90 | 01828/E5985A/01798 |
| Whitford Corp. | Xylan 1010/870 | 01926 |

| Manufacturer | Trade Name | Product Code |
|----------------|----------------------|-----------------|
| Whitford Corp. | Kynar 202 | 02836/02837 |
| Whitford Corp. | Kynar 204 | 02840/02841 |
| Whitford Corp. | Kynar 205 | 02842/02843 |
| Whitford Corp. | Kynar 710/711 | 02949/02939 |
| Whitford Corp. | Whitford Xylar | 1 & P-51 Primer |
| Whitford Corp. | Xylar 101 | 101 |
| Whitford Corp. | Xylan 1010 | 1010 |
| Whitford Corp. | Xylan 1010/617 | 1010/617 |
| Whitford Corp. | Black | 1010/870 |
| Whitford Corp. | Xylan 1014/604 | 1014/604 |
| Whitford Corp. | Ultralon | 3C28 |
| Whitford Corp. | Fluoropolymer | 3C43 |
| Whitford Corp. | Fluoropolymer | 3C45 |
| Whitford Corp. | Fluoropolymer | 3C46 |
| Whitford Corp. | Quantum Basecoat | 7101/Black |
| Whitford Corp. | Quantum Midcoat | 7202/Black |
| Whitford Corp. | Quantum Topcoat | 7303/Black |
| Whitford Corp. | Xylan 8330H | 8330H |
| Whitford Corp. | Xylan 8668/Silver | 8668/Silver |
| Whitford Corp. | DCO Acid | DCO Acid |
| Whitford Corp. | Cont. Clean Coat. | E0993A |
| Whitford Corp. | Xylan 1010/RAL 7031 | E1252A |
| Whitford Corp. | Xylan 8668 White | E1305A |
| Whitford Corp. | Xylan 1020/610 | E166243E |
| Whitford Corp. | Halar 6014 ECTFE | E2080A |
| Whitford Corp. | 820 Halar 6013 | E2084B |
| Whitford Corp. | 820/Primer Halar6613 | E2087A |
| Whitford Corp. | 4310/1300 White (A) | E2642A |
| Whitford Corp. | 4310/Clear Part B | E2643A |
| Whitford Corp. | 5251/840 Black | E6813E |
| Whitford Corp. | 1052/880 Black | E6850D |
| Whitford Corp. | Xylac 4200/Matte Blk | E7024B |
| Whitford Corp. | Xylac 4200/Matte Blk | E7031A |
| Whitford Corp. | 4200/Matte Black | E7049B |
| Whitford Corp. | Xylan 5250/000 | E7067C |
| Whitford Corp. | 1840/424 Pine Green | E8105B |
| Whitford Corp. | Xylar | E8142A |
| Whitford Corp. | Xylar Green Part A | E8143A |
| Whitford Corp. | Xylar 201 Part B | E8154B |
| Whitford Corp. | 8461/834 Black | E8284B |
| Whitford Corp. | R-604 Brown Primer | E8726B |
| Whitford Corp. | Green Topcoat | E8727E |
| Whitford Corp. | 4320 White | E8945B |
| Whitford Corp. | 4320 Appliance White | EO474A |
| Whitford Corp. | 1660DF/710 Tan | EO697A |
| Whitford Corp. | Ultralon | OC-38A |
| Whitford Corp. | Fluoropolymer | OC-38C |
| Whitford Corp. | Fluoropolymer | OC-38GE |
| Whitford Corp. | Fluoropolymer | OC-38GH |
| Whitford Corp. | PTFE Coating | OC-417 |
| Whitford Corp. | Ultralon | OC-423E |
| Whitford Corp. | Xylan 1620/560 Blue | P01745 |
| Whitford Corp. | Xylan 1010/714 | P01924 |
| Whitford Corp. | Xylan 5251/840 Black | P01947 |
| Whitford Corp. | Whitford Solvent 99 | R-259900A |

| Manufacturer | Trade Name | Product Code |
|-----------------|----------------------|-------------------|
| Whitford Corp. | Solvent 99B | R259930A |
| Whitford Corp. | Ultralon Brn Primer | R604 |
| Whitford Corp. | Ultralon Solvent | S-400 |
| Whitford Corp. | Whitford Solvent 45 | Solvent 45 |
| Whitford Corp. | Whitford Solvent 65 | Solvent 65 |
| Whitford Corp. | Whitford Solvent 97 | Solvent 97 |
| Whitford Corp. | Ultralon T Topcoats | T-1 |
| Whitford Corp. | Fluoropolymer | T-2 |
| Whitford Corp. | Fluoropolymer | T-3 |
| Whitford Corp. | Fluoropolymer | T-4 |
| Whitford Corp. | Fluoropolymer | T-5 |
| Whitford Corp. | Fluoropolymer | T-6 |
| Whitford Corp. | Fluoropolymer | T-7 |
| Whitford Corp. | Fluoropolymer | T-8 |
| Wisc. Prot. Ctg | Plasite #30 Thinner | 0030T0000-01 |
| Wisc. Prot. Ctg | Plasite #71 Thinner | 0071T0000-02 |
| Wisc. Prot. Ctg | Plasite C-725 Primer | 0725P500K-03 |
| Wisc. Prot. Ctg | Plasite 3066 Tan | 3066A5400-01 |
| Wisc. Prot. Ctg | 7122-H Med. Gray | 7122H320K-02 |
| Wisc. Prot. Ctg | Plasite 9080 Lt Gray | 9080A310J-02 |
| Wynn Oil Compan | Drawing fluid | ULTRA-SYNTHET 951 |
| ZRC Products | XXX Thinner | XXX Thinner |
| ZRC Products | ZRC Liquid | ZRC Aerosol |
| ZRC Products | ZRC Liquid | ZRC Liquid |

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ON-SITE WASTEWATER SECTION

Attachment 5

MSDS Sheet Listing

Date: 06/13/96

Page: 1

| Manufacturer | Trade Name | Product Code |
|---------------|--------------------|--------------|
| Patclin Chem. | Power Wash Cleaner | 314 |
| Patclin Chem. | 898-NCS | 898-NCS |
| Patclin Chem. | Iron Phosphate | 983-DF |

Material Safety Data Sheet

may be used to comply with
SHA's Hazard Communication Standard,
CFR 1910.1200. Standard must be
consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072



IDENTITY (As Used on Label and List)
#314 Non-Etch Power Wash Cleaner

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

| | | | |
|--|--|---|---|
| Manufacturer's Name | Patclin Chemical Co., Inc. | Emergency Telephone Number | Chemtec-Day or 914-476-7000/MPSA 313-644-5626/ Night-800-424-930 |
| Address (Number, Street, City, State, and ZIP Code) | 66 Alexander Street Yonkers, N.Y. 10701 | Telephone Number for Information | 914-476-7000 |
| | | Date Prepared | 2/4/94 |
| | | Signature of Preparer (optional) | Rubin M. Operowsky |

Section II — Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | CSHA PEL | ACGIH TLV | Other Limits Recommended | % (optional) |
|---|----------|-----------------|--------------------------|--------------|
| Sodium Metasilicate | | CAS #6834-92-0 | | < 40 |
| Aromatic Petroleum Distillates | | CAS #64742-06-9 | | < 7 |
| Terpenes | | CAS #138-86-3 | | < 2 |
| Sodium Phosphate | | CAS #7758-29-4 | | < 35 |
| Lignosulfonic Acid Sodium Salts | | CAS #8061-51-6 | | < 2 |

Section III — Physical/Chemical Characteristics

| | | | |
|-----------------------------------|----------------|--|----------------|
| Boiling Point | | Specific Gravity (H₂O = 1) | |
| Vapor Pressure (mm Hg) | NOT APPLICABLE | Melting Point | |
| Relative Density (AIR = 1) | | Evaporation Rate (Butyl Acetate = 1) | NOT APPLICABLE |
| Solubility in Water | Completely | | |
| Appearance and Odor | Tan Color | | |

Section IV — Fire and Explosion Hazard Data

| | | | | | |
|---|---|-------------------------|------|------------|------------|
| Flash Point (Method Used) | None | Flammable Limits | None | LEL | UEL |
| Extinguishing Media | Use water fog, foam, alcohol foam, CO ₂ , Dry Chemical | | | | |
| Special Fire Fighting Procedures | #314 is used in a water solution and in that state, is not inflammable. | | | | |
| Special Fire and Explosion Hazards | NOT APPLICABLE | | | | |

Section V — Reactivity Data

| | | |
|-----------|----------|---------------------------------------|
| Stability | Unstable | Conditions to Avoid |
| | Stable | Avoid acid contamination and oxidants |

Incompatibility (Materials to Avoid) Avoid acids

Hazardous Decomposition or Byproducts

| | | |
|--------------------------|----------------|---------------------|
| Hazardous Polymerization | May Occur | Conditions to Avoid |
| | Will Not Occur | NOT APPLICABLE |

Section VI — Health Hazard Data

| | | | |
|--------------------|-------------|-------|------------|
| Route(s) of Entry: | Inhalation? | Skin? | Ingestion? |
|--------------------|-------------|-------|------------|

Health Hazards (Acute and Chronic) Health - 2 Reactivity - 1
 Flammability - 0 Protective Equipment - E

| | | | |
|------------------|--------|------------------|-----------------|
| Carcinogenicity: | - NTP? | IARC Monographs? | OSHA Regulated? |
|------------------|--------|------------------|-----------------|

Signs and Symptoms of Exposure Can cause slight irritation

Medical Conditions Generally Aggravated by Exposure NOT APPLICABLE

Emergency and First Aid Procedures Rinse well with water and see a doctor.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled Sweep up excess spillage and hose area with plenty of water.

Waste Disposal Method Neutralize to PH7 with dilute acid and dispose of according to federal, state and local regulations.

Precautions to Be Taken in Handling and Storing Store in cool dry area away from acids

Other Precautions NOT APPLICABLE

Section VIII — Control Measures

Respiratory Protection (Specify type) Dust mask when charging

| | | |
|-------------|----------------------|--|
| Ventilation | Local Exhaust | Provide adequate ventilation for removal of dust and at elevated temperatures for removal of mist. |
| | Mechanical (General) | Other |

Protective Gloves Rubber gloves Eye Protection Goggles

Other Protective Clothing or Equipment Rubber apron and boots

Work Hygienic Practices

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration (Non-Mandatory Form) Form Approved OMB No. 1218-0072



IDENTITY (As Used on Label and List) #983DF - Liquid Iron Phosphate

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I Manufacturer's Name: Patchin Chemical Co., Inc. Address: 66 Alexander Street, Yonkers, N.Y. 10701. Emergency Telephone Number: 914-476-7000/MESA 313-644-5626/Night-800-424-9. Telephone Number for information: 914-476-7000. Date Prepared: 1/1/93. Signature of Preparer (optional): Rubin M. Operowsky.

Section II - Hazardous Ingredients/Identity Information

Table with 5 columns: Hazardous Components (Specific Chemical Identity; Common Name(s)), OSHA PEL, ACGIH TLV, Other Limits Recommended, % (optional). Rows include Phosphoric Acid - CAS #7664-38-2 and Fluoboric Acid - CAS #16872-11-0.

Section III - Physical/Chemical Characteristics

Boiling Point, Vapor Pressure (mm Hg), Density (AIR = 1), Solubility in Water, Appearance and Odor. Values include: Specific Gravity (H2O = 1) 1.120, Vapor Pressure NOT APPLICABLE, Evaporation Rate (Butyl Acetate = 1) NOT APPLICABLE, Solubility in Water Complete.

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used) Water, Flammable Limits, LEL, UEL, Warning Media, Fire Fighting Procedures, Fire and Explosion Hazard. Values include: Fire and Explosion Hazard NOT APPLICABLE.

Section V - Reactivity Data

| | | |
|------------|----------|---------------------|
| Reactivity | Unstable | Conditions to Avoid |
| | Stable | X |

Incompatibility (Materials to Avoid) Alkaline materials, non-resistant metals can decompose to emit oxides of phosphorus.

Hazardous Decomposition or Byproducts

| | | |
|--------------------------|----------------|---------------------|
| Hazardous Polymerization | They Occur | Conditions to Avoid |
| | Will Not Occur | X |

NOT APPLICABLE

Section VI - Health Hazard Data

| | | | |
|------------------------------------|------------------|--------------------------|------------|
| Routes of Entry: | Inhalation? | Skin? | Ingestion? |
| | | | |
| Health Hazards (Acute and Chronic) | Health - 3 | Reactivity - 0 | |
| | FLAMMABILITY - 0 | Protective Equipment - C | |

Cardiotoxicity: NTP? ARC Monograph? OSHA Required?

Signs and Symptoms of Exposure Acid burns to skin and eyes - may involve both irreversible and reversible changes not severe enough to cause death or permanent injury.

Medical Conditions Generally Aggravated by Exposure

Emergency and First Aid Procedures Eyes: Acid burn- flush with water - call a physician

Skin: Acid burn - flush with water - call a physician. Inhalation: Remove from exposure call a physician.

Section VII - Precautions for Safe Handling and Use

Steps to be taken in case material is released or spilled Dilute with water and/or neutralize with alkaline material such as ash and flush to sewer.

Waste Disposal Method

Neutralize and dilute with excess water - dispose of accordingly to

Precautions to be taken in handling and storage State and local laws.

Other Precautions Always wear eye protection - make sure lines are heated to allow material flow. Use acid resistant materials. Precautions to be taken in transportation. Keep from freezing.

Section VIII - Control Measures

Respiratory Protection (Specify Type) U.S. Bureau of Mines approved gas mask and canister

| | | |
|-------------|----------------------|---------|
| Ventilation | Local Exhaust | Special |
| | Mechanical (General) | Other |

Protective Gloves

Rubber - liquid proof Eye Protection Chemical safety goggles

Other Protective Clothing or Equipment

Full cover clothing resistant to acid rubber.

Work/Hygiene Practices



Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor

Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OSHA No. 1213-0072

IDENTITY (As Used on Label and List)
Patclin #898NCS

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

| | | |
|--|--|---|
| Manufacturer's Name Patclin Chemical Co., Inc. | Emergency Telephone Number 914-476-7000/MFSA 313-644-5626/ | ChemTec-Day or Night 800-424-93 |
| Address (Number, Street, City, State, and ZIP Code) 56 Alexander Street Yonkers, N.Y. 10701 | Telephone Number for Information 914-476-7000 | |
| | Date Prepared 1/1/94 | |
| | Signature of Preparer (optional) Rubin M. Operowsky | |

Section II -- Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity, Common Name(s)) | OSHA PEL | ACGIH TLV | Other Limits Recommended | % (optional) |
|---|----------|-----------------|--------------------------|--------------|
| Polycarboxylic Acid, Alkanolamine Salt | | CAS #80584-92-5 | | 50 |
| Water | | CAS #7732-18-5 | | 50 |
| Trichandamine Salt | | CAS #102-71-6 | | |

Section III -- Physical/Chemical Characteristics

| | | | |
|--------------------------------|----------------|--|----------------|
| Boiling Point | NOT APPLICABLE | Specific Gravity (H₂O = 1) | 1.164 |
| Vapor Pressure (mm Hg.) | NOT APPLICABLE | Melting Point | |
| Vapor Density (AIR = 1) | | Evaporation Rate (Butyl Acetate = 1) | NOT APPLICABLE |
| Solubility in Water | Completely | | |
| Appearance and Odor | Dark Tan | | |

Section IV -- Fire and Explosion Hazard Data

| | | | | |
|---|--|-------------------------|-----|-----|
| Flash Point (Method Used) | N/A | Flammable Limits | LEL | UEL |
| Extinguishing Media | Use self-contained breathing apparatus | | | |
| Special Fire Fighting Procedures | NOT APPLICABLE | | | |
| Unusual Fire and Explosion Hazards | Decomposition and combustion products may be toxic | | | |

Section V -- Reactivity Data

| | | | |
|-----------|----------|---------------------|------------|
| Stability | Unstable | Conditions to Avoid | None known |
| | Stable | | |

Incompatibility (Materials to Avoid) **NOT APPLICABLE**

Hazardous Decomposition or Byproducts
Carbon Monoxide, Carbon Dioxide and Nitrogen Oxides

| | | |
|--------------------------|----------------|---------------------|
| Hazardous Polymerization | May Occur | Conditions to Avoid |
| | Will Not Occur | |

Section VI -- Health Hazard Data

Route(s) of Entry: Inhalation? Skin? Ingestion?

Health Hazards (Acute and Chronic) **NOT APPLICABLE**

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?
NOT APPLICABLE

Signs and Symptoms of Exposure
slight skin irritation - eye irritation minimal

Medical Conditions Generally Aggravated by Exposure **NOT APPLICABLE**

Emergency and First Aid Procedures
Wash skin with mild soap and water. Flush eyes with water for at least 15 minutes and see a physician.

Section VII -- Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled
Absorb onto sand or other absorbent material. Shovel into closable containers for disposal. Thoroughly flush residue with water.

Waste Disposal Method
Handle with care and avoid unnecessary personal contact. Dispose of according to local, state and federal regulations.

Precautions to Be Taken in Handling and Storage
Keep containers closed when not in use and during transport. Use only with adequate ventilation.

Other Precautions
NOT APPLICABLE

Section VIII -- Control Measures

Respiratory Protection (Specify Type)
Work in well-ventilated areas.

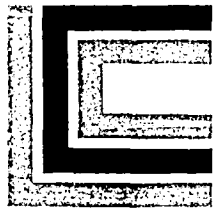
| | | |
|-------------|---------------------|---------|
| Ventilation | Local Exhaust | Special |
| | Mechanical /General | Other |

NOT APPLICABLE **NOT APPLICABLE**

Protective Gloves: Impervious gloves Eye Protection: Wear splash-proof goggles

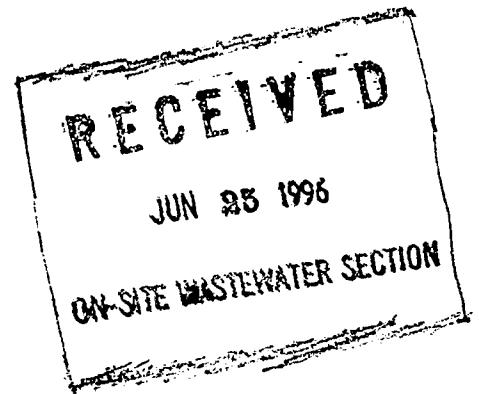
Other Protective Clothing or Equipment

Work/Hygienic Practices **NOT APPLICABLE**



LIVINGSTONE COATING CORPORATION

June 20, 1996



Toni Higgins Bunney, R.S.
Environmental Health Specialist
Mecklenburg County Health Department
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

Re: Industrial Wastewater Fax to LCC June 19 p.m., which was a copy of Joe Pearce's fax of June 14 a.m.

Dear Ms. Bunney:

The high meter readings do not indicate >10,000 gpd water use. These readings typically fall on the first reading following a weekend or holiday, representing a 3-4 day span. We have not attributed these exceptions to any one process or area as they occur in different areas of the facility. We speculate these may have been caused by unclosed or faulty plumbing fixtures or valves accidentally left open. As we discussed, Livingstone has installed procedures and locks to control the use of valves and continues to search for potential fixture problems.

The wastewater collection systems at Livingstone Coating were carefully designed and installed to assure the isolation of industrial wastewater from domestic wastewater. The industrial wastewater lines have been traced and verified as separate systems consistent with the "As Built" drawings of each plant expansion. Although diagrams of the wastewater collection systems have been provided to Mecklenburg County Health Department, we resubmit "Exploded" views of these diagrams. Disregarding routine maintenance, there have been no modifications to the wastewater collection systems. The Domestic #3 Septic System, which is the system requiring relocation of the tank for the plant modification, is fed only from the 1984 powder plant and office expansion, which generates zero industrial wastewater.

Sampling of the septic tanks by Mecklenburg County or NC-DEHNR has been discussed on several occasions beginning with a phone conversation on May 21 and meeting in our office on May 22. If further sampling of the septic tanks is required, Livingstone, again, offers to contract the sampling to a NC Certified Laboratory on an accelerated schedule, as we still have a July 8 construction start date. We have been pursuing a building permit since December 21, 1995.



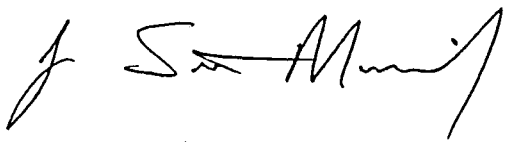
Toni H. Bunney, p. 2
June 20, 1996

The wastewater survey was mailed to you on June 13. We trust you have received and forwarded it to the proper individuals.

In summary, information addressing the concerns of Mr. Pearce have been provided to Mecklenburg County Health Department, NC-DEHNR, and others on several occasions. We provide the above information again to assure that the information is provided him. We recognize that the industrial systems need modifications or upgrading for the long term. We maintain that those needs should not continue to stand in the way of the repair/rebuilding with modification of our facilities. Again, the modification does not expand our production capabilities or the load on our septic systems.

Please confirm any further information/action required so that the permit may be issued.

Sincerely,



J. Scott Moncrief
Manager-Engineering, Research and Development

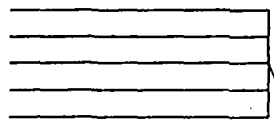
enclosures

cc: Mr. Joe Lynn
NC-DEHNR/DEH
(w/encl.)

cc: Mr. Joseph Pearce, Environmental Engineer II ✓
NC-DEHNR/DEH
(w/encl.)

cc: Mr. Richard C. Handford, Jr.
Myers & Chapman, Inc.

0, 20/96



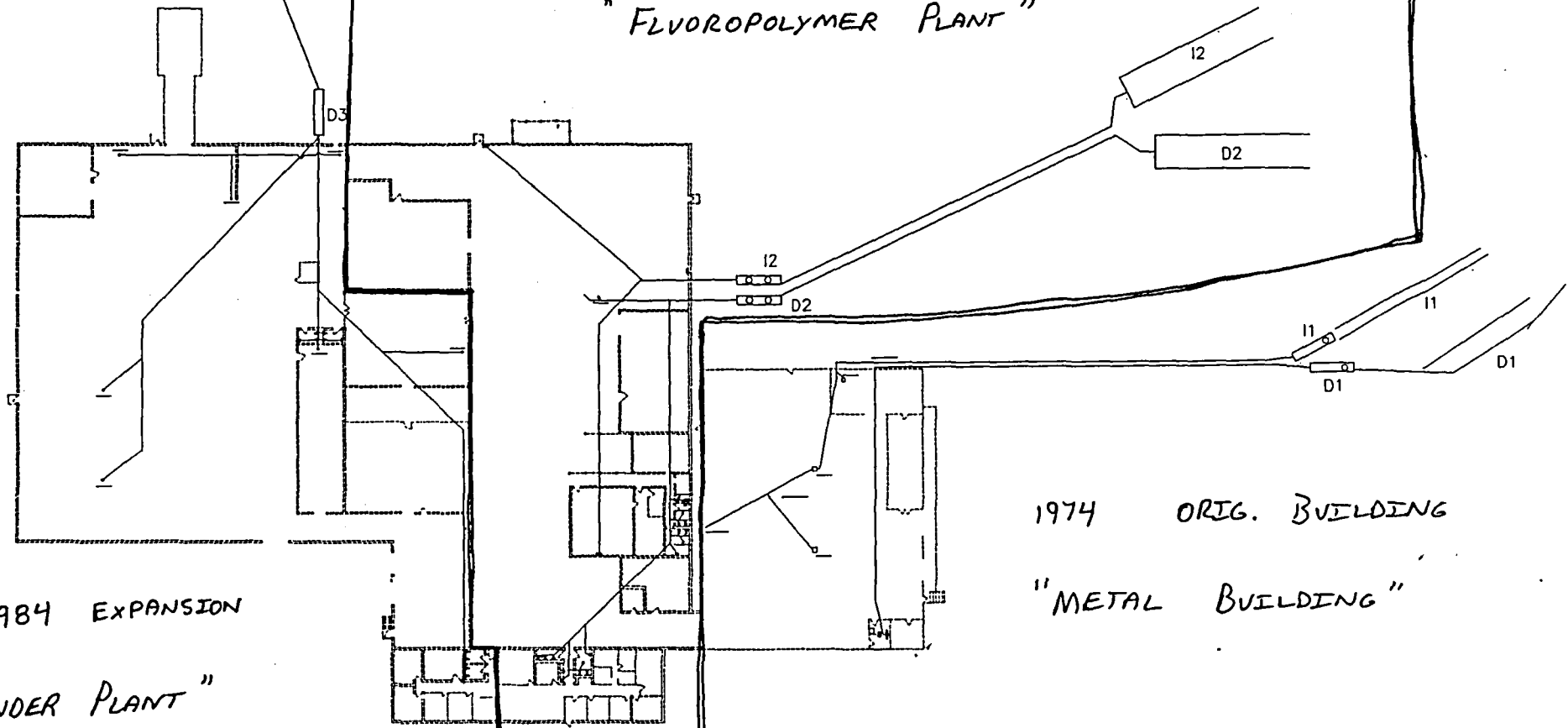
D3

Waste Collection

RECEIVED
JUN 25 1996
ON-SITE WASTEWATER SECTION

1977 EXPANSION

"FLUOROPOLYMER PLANT"



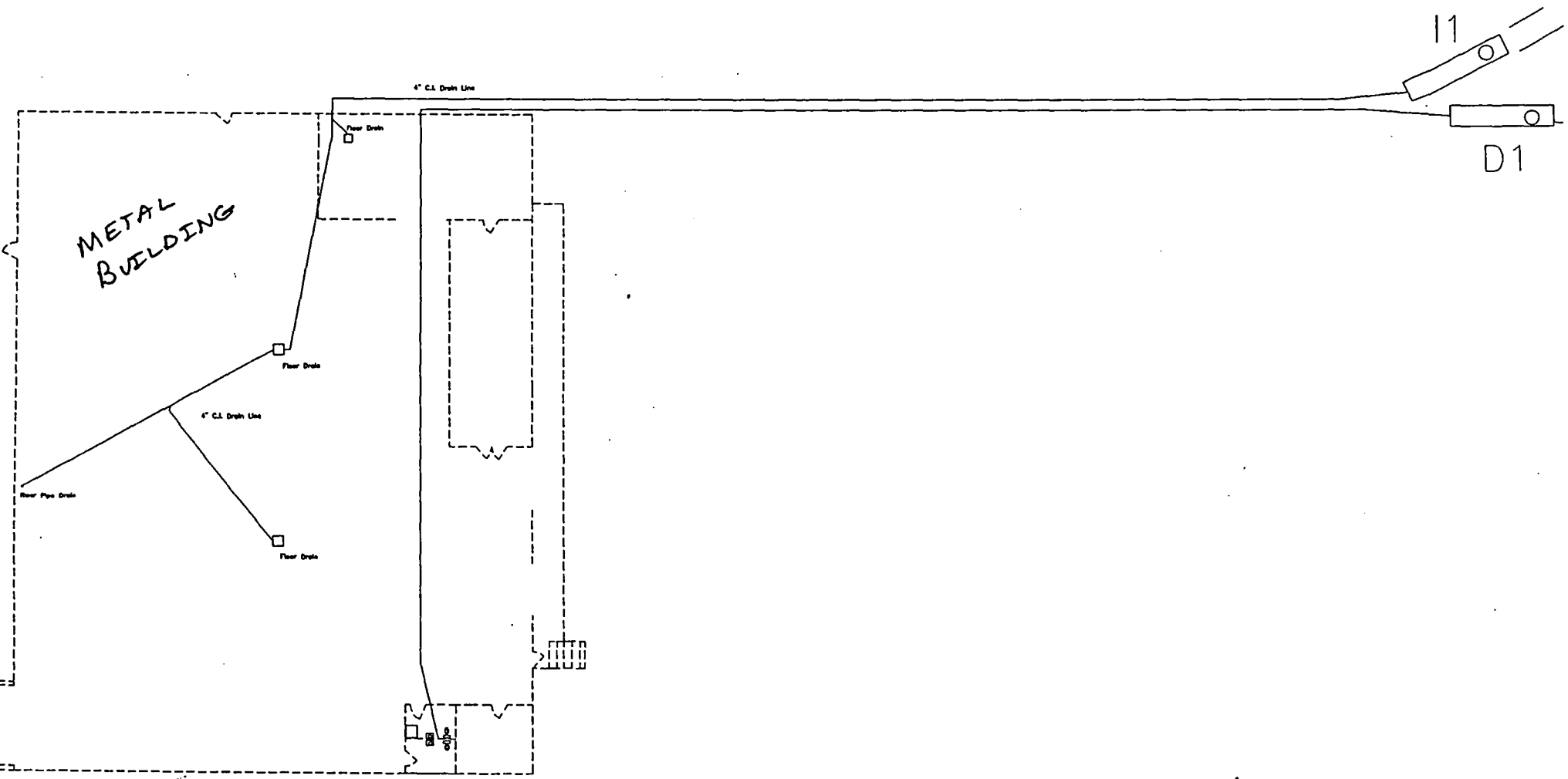
1984 EXPANSION

"POWDER PLANT"

1974 ORIG. BUILDING

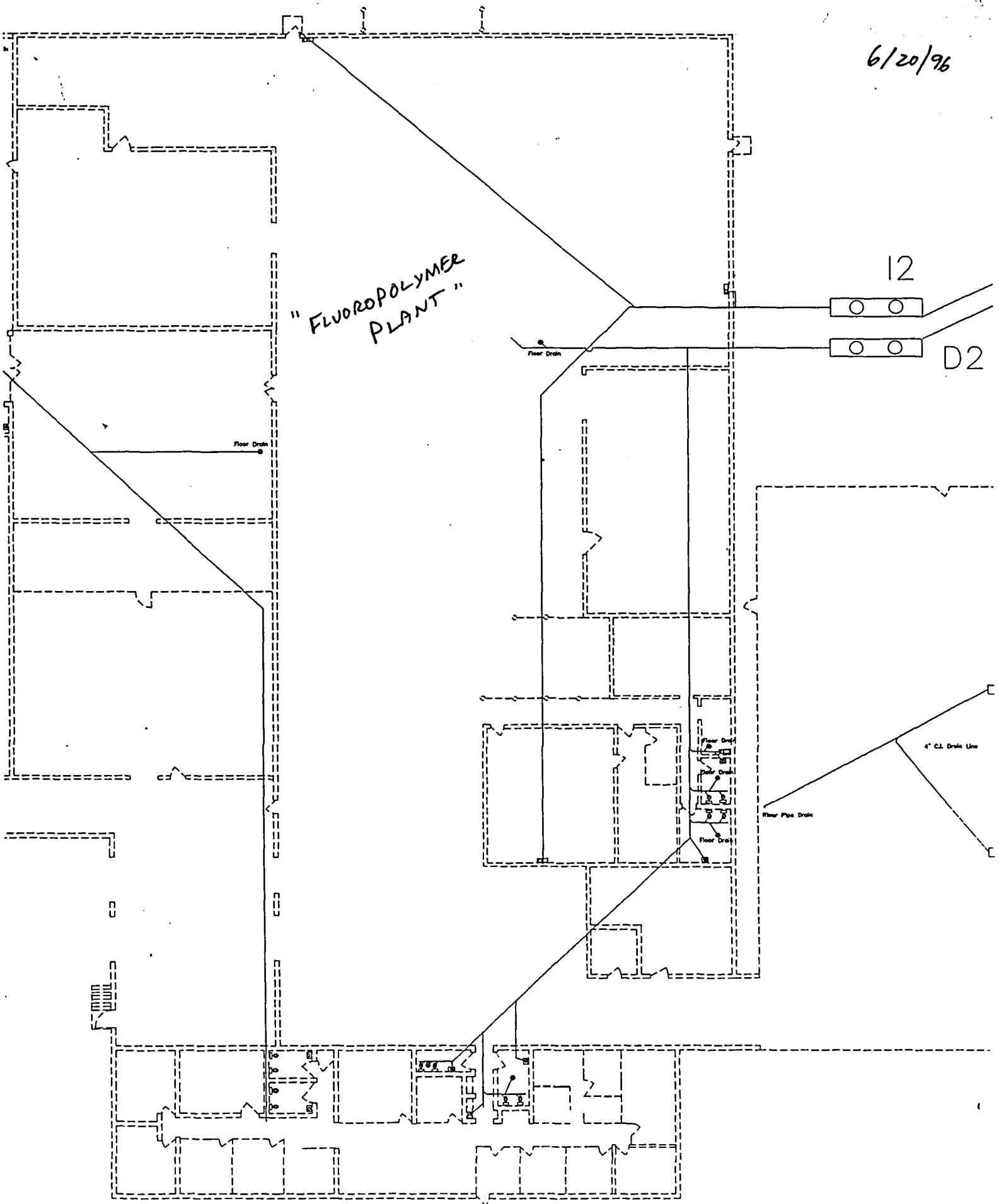
"METAL BUILDING"

6/20/96



6/20/96

"FLUOROPOLYMER PLANT"



12
D2

Floor Drain

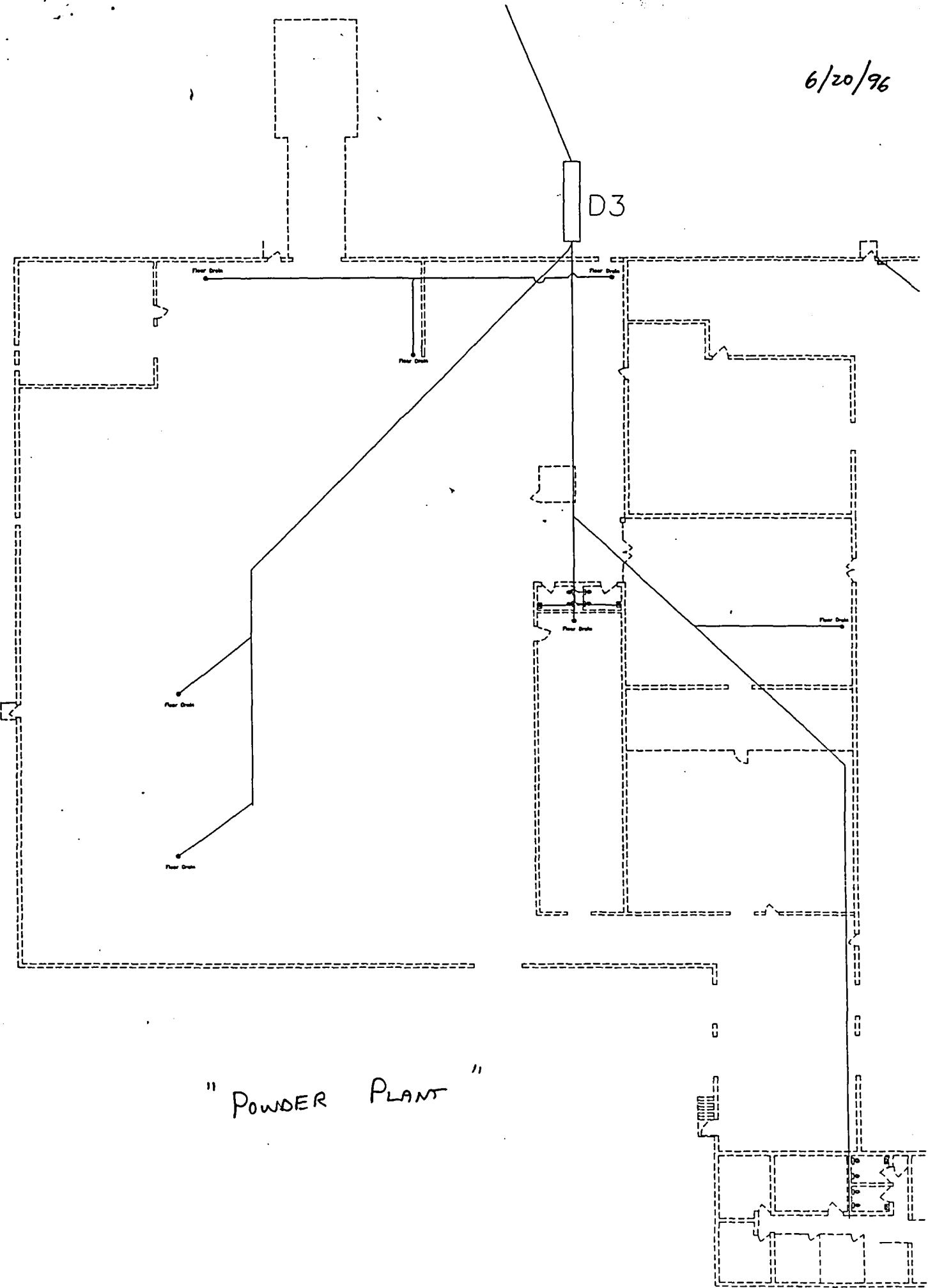
Floor Drain

Floor Drain

4\" C.I. Drain Line

Floor Pipe Drain

6/20/96



" POWDER PLANT "

C O V E R

S H E E T

FAX

To: Joe Lynn
Fax #: (704)397-5152
Subject: Livingstone Coatings
Date: June 14, 1996
Pages: 1, including this cover sheet.

COMMENTS:

In response to your 6/13/96 fax and review of the contamination site assessment, I provide the following questions and comments:

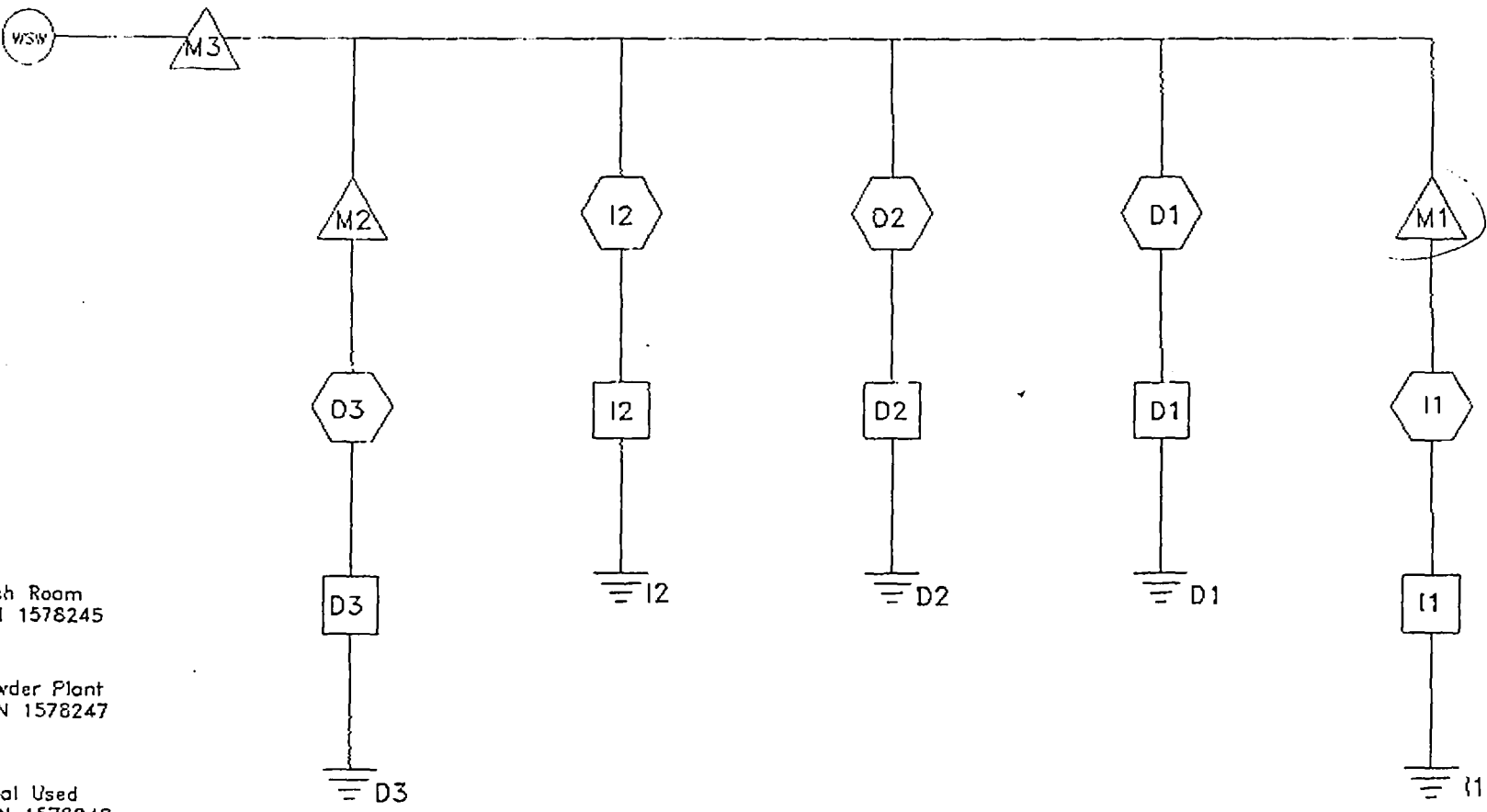
1. The meter indicates high industrial flows on some days, >10,000 gpd. Did a corresponding wastewater dump occur?
2. You and Mecklenburg County completed an inspection and were told IPWW only discharged to two fields. From the inspection is this absolutely ensured, (i.e. did you trace the lines)? From my experience, it is very difficult to trace wastewater lines at industrial facilities, and plumbers at industrial facilities often tie waste lines to the closest available line, including storm drains and domestic lines. I recommend that all septic tanks be sampled and analyzed for industrial indicator pollutants. From the information I have reviewed, industrial indicator pollutants for this facility may be BOD, COD, Total Phosphate, 1,1,1-Trichloroethane, and Trichloroethylene.
3. Until we receive survey form back from industry and data from indicator pollutant sampling, I do not recommend permitting any expansions.

If you have any questions, please feel free to call me.

From the desk of...

Joseph Pearce
Environmental Engineer II
NCDEHNR-DEH-On-Site Wastewater Section
P.O. Box 27687
Raleigh, NC 27611-7687

(919)715-3270
Fax: (919)715-3227



- M1 Wash Room
S/N 1578245
- M2 Powder Plant
S/N 1578247
- M3 Total Used
S/N 1578248

- | | | |
|---|---|--|
| <u>D3</u> | <u>D2</u> | <u>D1</u> |
| 6 water closets 2 urinals 4 lavatories 1000 gal. tank 500' leach line | 6 water closets 2 urinals 6 lavatories 1500 gal. tank 800' leach line | 2 water closets 2 lavatories 1000 gal. tank 140' case block |

- | | |
|---|---|
| <u>I2</u> | <u>I1</u> |
| 3 lavatories 1000 gal. tank 300' leach line | 5 wash tanks 1000 gal. tank 120' case block |

- LEGEND**
- Water Supply Well
 - △ Water Meter
 - ⬡ Point of Use
 - Septic Tank
 - ≡ Nitrification Field

| | |
|---|----------------------|
| LIVINGSTONE COATING CORPORATION Charlotte, NC | |
| Unless otherwise noted all dimensions are in inches. | |
| Designed By: | Issued: |
| J. S. Moncrief | N/A |
| Drawn By: | Date: |
| J. S. Moncrief | 05/02/94 |
| Scale: | Revision Date: |
| N/A | 05/31/96 |
| Drawing Name: | |
| Water Metering Diagram | |
| Drawing No.: | Sheet Revision: |
| WATRMETR.DWG | 1 of 1 A |

Livingstone Coating Corporation

Industrial
 #1

all #3
 domestic
 1984

Water Use Log

| Meter No. | 1578245 | | | 1578247 | | | 1578248 | | |
|-----------|----------|-----------|-------|----------|--------------|-------|----------|------------|-------|
| | Area | Wash Room | | Area | Powder Plant | | Area | Total Used | |
| Date | Time | Reading | Used | Time | Reading | Used | Time | Reading | Used |
| 11/30/95 | 05:30 AM | 251207 | 444 | 05:32 AM | 197016 | 441 | 05:32 AM | 698315 | 1903 |
| 12/01/95 | 05:28 AM | 251418 | 211 | 05:30 AM | 197508 | 492 | 05:30 AM | 699984 | 1669 |
| 12/04/95 | 05:30 AM | 251516 | 98 | 05:32 AM | 197912 | 404 | 05:32 AM | 701865 | 1881 |
| 12/05/95 | 05:30 AM | 252180 | 664 | 05:32 AM | 198237 | 325 | 05:32 AM | 703678 | 1813 |
| 12/06/95 | 05:30 AM | 252565 | 385 | 05:37 AM | 198610 | 373 | 05:37 AM | 705423 | 1745 |
| 12/07/95 | 06:28 AM | 253004 | 439 | 06:35 AM | 199019 | 409 | 06:35 AM | 707527 | 2104 |
| 12/08/95 | 05:25 AM | 253154 | 150 | 06:27 AM | 199300 | 281 | 06:27 AM | 708914 | 1387 |
| 12/11/95 | 05:28 AM | 253561 | 407 | 06:30 AM | 199852 | 552 | 06:30 AM | 711092 | 2178 |
| 12/12/95 | 05:38 AM | 253703 | 142 | 05:40 AM | 200241 | 389 | 05:40 AM | 712564 | 1472 |
| 12/13/95 | 05:30 AM | 253982 | 279 | 05:32 AM | 200701 | 460 | 05:32 AM | 714356 | 1792 |
| 12/14/95 | 05:32 AM | 254037 | 55 | 05:34 AM | 201150 | 449 | 05:34 AM | 715940 | 1584 |
| 12/15/95 | 05:25 AM | 254243 | 206 | 05:27 AM | 201540 | 390 | 05:27 AM | 717607 | 1667 |
| 12/18/95 | 05:20 AM | 254679 | 436 | 05:22 AM | 201970 | 430 | 05:22 AM | 719206 | 1599 |
| 12/19/95 | 05:25 AM | 255253 | 574 | 05:27 AM | 202277 | 307 | 05:27 AM | 721030 | 1824 |
| 12/20/95 | 05:23 AM | 255875 | 622 | 05:25 AM | 202797 | 520 | 05:25 AM | 723090 | 2060 |
| 12/21/95 | 05:18 AM | 256654 | 779 | 05:20 AM | 203002 | 205 | 05:20 AM | 724884 | 1794 |
| 12/26/95 | 05:30 AM | 257268 | 614 | 05:20 AM | 203447 | 445 | 05:20 AM | 727062 | 2178 |
| 12/27/95 | 05:40 AM | 257830 | 562 | 05:30 AM | 204113 | 666 | 05:30 AM | 728688 | 1626 |
| 12/28/95 | 05:30 AM | 257838 | 8 | 05:40 AM | 204618 | 505 | 05:40 AM | 729628 | 940 |
| 12/29/95 | 05:35 AM | 258853 | 1015 | 05:45 AM | 205356 | 738 | 05:45 AM | 731841 | 2213 |
| 01/02/96 | 05:20 AM | 269716 | 10863 | 05:22 AM | 207938 | 2582 | 05:22 AM | 744285 | 12444 |
| 01/03/96 | 05:22 AM | 271000 | 1284 | 05:24 AM | 208679 | 741 | 05:24 AM | 746557 | 2272 |
| 01/04/96 | 05:26 AM | 272326 | 1326 | 05:28 AM | 209291 | 612 | 05:28 AM | 748964 | 2407 |
| 01/05/96 | 05:23 AM | 272566 | 240 | 05:25 AM | 209618 | 327 | 05:25 AM | 750464 | 1500 |
| 01/08/96 | 05:00 AM | 273072 | 506 | 05:02 AM | 210065 | 447 | 05:02 AM | 751956 | 1492 |
| 01/09/96 | 05:30 AM | 273133 | 61 | 05:32 AM | 210360 | 295 | 05:32 AM | 752793 | 837 |
| 01/10/96 | 05:27 AM | 273290 | 157 | 05:29 AM | 210740 | 380 | 05:29 AM | 753607 | 814 |
| 01/11/96 | 05:20 AM | 273542 | 252 | 05:22 AM | 211245 | 505 | 05:22 AM | 754948 | 1341 |
| 01/12/96 | 05:35 AM | 274069 | 527 | 05:27 AM | 211920 | 675 | 05:27 AM | 756633 | 1685 |
| 01/15/96 | 05:54 AM | 274103 | 34 | 05:56 AM | 212732 | 812 | 05:56 AM | 758191 | 1558 |
| 01/16/96 | 05:22 AM | 274403 | 300 | 05:24 AM | 213135 | 403 | 05:24 AM | 759584 | 1393 |
| 01/17/96 | 05:19 AM | 274650 | 247 | 05:21 AM | 213523 | 388 | 05:21 AM | 760728 | 1444 |
| 01/18/96 | 05:12 AM | 274875 | 225 | 05:14 AM | 213948 | 425 | 05:14 AM | 762055 | 1327 |
| 01/19/96 | 05:27 AM | 275645 | 770 | 05:29 AM | 214510 | 562 | 05:29 AM | 763926 | 1871 |
| 01/22/96 | 05:05 AM | 276230 | 585 | 05:07 AM | 225074 | 10564 | 05:07 AM | 777322 | 13396 |
| 01/23/96 | 05:19 AM | 276592 | 362 | 05:21 AM | 225357 | 283 | 05:21 AM | 778565 | 1243 |
| 01/24/96 | 05:24 AM | 277490 | 898 | 05:26 AM | 225801 | 444 | 05:26 AM | 780486 | 1921 |
| 01/25/96 | 05:39 AM | 278096 | 606 | 05:41 AM | 226238 | 437 | 05:41 AM | 782196 | 1710 |
| 01/26/96 | 05:53 AM | 279622 | 1526 | 05:55 AM | 226768 | 530 | 05:55 AM | 784741 | 2545 |
| 01/27/96 | 05:50 AM | 280536 | 914 | 05:52 AM | 227200 | 432 | 05:52 AM | 786639 | 1898 |
| 01/29/96 | 06:01 AM | 281187 | 651 | 06:03 AM | 227552 | 352 | 06:03 AM | 788010 | 1371 |
| 01/30/96 | 07:20 AM | 281813 | 626 | 06:22 AM | 228114 | 562 | 06:22 AM | 789950 | 1940 |
| 01/31/96 | 06:35 AM | 282540 | 727 | 06:55 AM | 228562 | 448 | 06:55 AM | 791637 | 1687 |
| 02/01/96 | 06:25 AM | 283011 | 471 | 06:27 AM | 229012 | 450 | 06:27 AM | 793265 | 1628 |
| 02/02/96 | 06:30 AM | 283453 | 442 | 06:32 AM | 229458 | 446 | 06:32 AM | 794850 | 1585 |
| 02/05/96 | 11:40 AM | 283816 | 363 | 11:42 AM | 230187 | 729 | 11:42 AM | 796656 | 1806 |
| 02/06/96 | 09:15 AM | 284432 | 616 | 09:17 AM | 230580 | 393 | 09:17 AM | 798046 | 1390 |
| 02/07/96 | 05:41 AM | 285294 | 862 | 05:43 AM | 231130 | 550 | 05:43 AM | 799979 | 1933 |
| 02/08/96 | 07:15 AM | 286156 | 862 | 07:17 AM | 231679 | 549 | 07:17 AM | 801911 | 1932 |
| 02/09/96 | 05:50 AM | 286903 | 752 | 05:52 AM | 231934 | 255 | 05:52 AM | 803191 | 1280 |
| 02/12/96 | 06:15 AM | 287660 | 752 | 06:17 AM | 232189 | 255 | 06:17 AM | 804470 | 1279 |
| 02/13/96 | 07:35 AM | 291612 | 3952 | 07:37 AM | 233546 | 1357 | 07:37 AM | 811300 | 6830 |
| 02/14/96 | 06:30 AM | 292938 | 1326 | 06:32 AM | 233975 | 429 | 06:32 AM | 813615 | 2315 |
| 02/15/96 | 06:15 AM | 294255 | 1317 | 06:17 AM | 234400 | 425 | 06:17 AM | 816064 | 2449 |

Wash room = 1

number of employees
 maintenance = 6
 administration = 11

11 per shift

domo #
 half per
 Page: 1

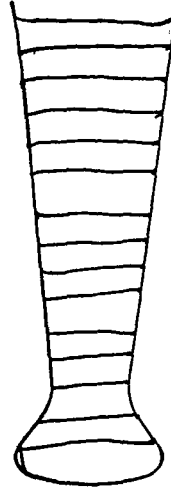
Livingstone Coating Corporation

Water Use Log

| Meter No. | 1578245 | | | 1578247 | | | 1578248 | | | |
|-----------|---------|-----------|--------|--------------|----------|--------|------------|----------|--------|---------|
| | Area | Wash Room | | Powder Plant | | | Total Used | | | |
| | | Date | Time | Reading | Used | Time | Reading | Used | Time | Reading |
| 02/16/96 | | 07:00 AM | 295669 | 1414 | 07:02 AM | 234805 | 405 | 07:02 AM | 818236 | 2172 |
| 02/19/96 | | 09:20 AM | 297860 | 2191 | 09:22 AM | 235570 | 765 | 09:22 AM | 822226 | 3990 |
| 02/20/96 | | 05:30 AM | 298426 | 566 | 05:32 AM | 235897 | 327 | 05:32 AM | 823332 | 1106 |
| 02/21/96 | | 05:38 AM | 299792 | 1366 | 09:55 AM | 236275 | 378 | 09:55 AM | 826240 | 2908 |
| 02/22/96 | | 05:26 AM | 300770 | 978 | 05:28 AM | 236695 | 420 | 05:28 AM | 827892 | 1652 |
| 02/23/96 | | 05:35 AM | 301640 | 870 | 05:35 AM | 237063 | 368 | 05:35 AM | 829762 | 1870 |
| 02/24/96 | | 09:01 AM | 302509 | 869 | 09:03 AM | 237339 | 276 | 09:03 AM | 831635 | 1873 |
| 02/26/96 | | 05:30 AM | 302678 | 169 | 05:32 AM | 237445 | 106 | 05:32 AM | 832005 | 370 |
| 02/27/96 | | 05:27 AM | 303719 | 1041 | 05:29 AM | 237896 | 451 | 05:29 AM | 833944 | 1939 |
| 02/28/96 | | 05:30 AM | 305055 | 1336 | 05:32 AM | 238139 | 243 | 05:32 AM | 836130 | 2186 |
| 02/29/96 | | 05:22 AM | 306648 | 1593 | 05:24 AM | 238571 | 432 | 05:24 AM | 838894 | 2764 |
| 03/01/96 | | 05:18 AM | 308809 | 2161 | 05:20 AM | 239011 | 440 | 05:20 AM | 841941 | 3047 |
| 03/04/96 | | 05:47 AM | 309485 | 676 | 05:49 AM | 247530 | 8519 | 05:49 AM | 854969 | 13028 |
| 03/05/96 | | 05:49 AM | 309636 | 151 | 05:51 AM | 247810 | 280 | 05:51 AM | 855869 | 900 |
| 03/06/96 | | 05:49 AM | 309990 | 354 | 05:51 AM | 248632 | 822 | 05:51 AM | 857370 | 1501 |
| 03/07/96 | | 05:40 AM | 310449 | 459 | 05:42 AM | 249072 | 440 | 05:42 AM | 859124 | 1754 |
| 03/11/96 | | 05:45 AM | 311666 | 1217 | 05:47 AM | 250135 | 1063 | 05:47 AM | 863422 | 4298 |
| 03/12/96 | | 06:00 AM | 311949 | 283 | 06:02 AM | 250579 | 444 | 06:02 AM | 864909 | 1487 |
| 03/13/96 | | 06:05 AM | 312384 | 435 | 06:07 AM | 250951 | 372 | 06:07 AM | 866361 | 1452 |
| 03/14/96 | | 06:00 AM | 312556 | 172 | 06:02 AM | 251321 | 370 | 06:02 AM | 867996 | 1635 |
| 03/15/96 | | 05:57 AM | 312859 | 303 | 05:59 AM | 252187 | 866 | 05:59 AM | 869790 | 1794 |
| 03/18/96 | | 05:55 AM | 314058 | 1199 | 05:57 AM | 252630 | 443 | 05:57 AM | 872048 | 2258 |
| 03/20/96 | | 05:53 AM | 314975 | 917 | 05:55 AM | 253367 | 737 | 05:55 AM | 875282 | 3234 |
| 03/25/96 | | 09:30 AM | 316050 | 1075 | 09:40 AM | 254346 | 1479 | 09:40 AM | 880495 | 5213 |
| 03/26/96 | | 06:30 AM | 316084 | 34 | 06:20 AM | 255790 | 944 | 06:20 AM | 882083 | 1588 |
| 03/27/96 | | 02:00 PM | 316527 | 443 | 02:15 PM | 256465 | 675 | 02:15 PM | 884732 | 2649 |
| 03/28/96 | | 07:00 AM | 316529 | 2 | 07:15 AM | 256623 | 158 | 07:15 AM | 885200 | 468 |
| 03/29/96 | | 06:40 AM | 316771 | 242 | 06:30 AM | 257074 | 451 | 06:30 AM | 886700 | 1500 |
| 04/01/96 | | 07:15 AM | 316921 | 150 | 07:25 AM | 257888 | 814 | 07:25 AM | 889037 | 2337 |
| 04/02/96 | | 06:00 AM | 317161 | 240 | 06:15 AM | 258269 | 381 | 06:15 AM | 890290 | 1253 |
| 04/03/96 | | 06:00 AM | 317283 | 122 | 06:20 AM | 258675 | 406 | 06:20 AM | 891491 | 1201 |
| 04/04/96 | | 06:00 AM | 317475 | 192 | 06:15 AM | 259082 | 407 | 06:15 AM | 892825 | 1334 |
| 04/08/96 | | 06:15 AM | 318134 | 659 | 06:25 AM | 259463 | 381 | 06:25 AM | 894315 | 1490 |
| 04/09/96 | | 06:00 AM | 318250 | 116 | 06:10 AM | 259608 | 145 | 06:10 AM | 895041 | 726 |
| 04/10/96 | | 06:00 AM | 318318 | 68 | 06:15 AM | 259841 | 233 | 06:15 AM | 896623 | 1582 |
| 04/11/96 | | 06:00 AM | 318496 | 178 | 06:15 AM | 260528 | 687 | 06:15 AM | 897123 | 500 |
| 04/12/96 | | 06:00 AM | 318497 | 1 | 06:10 AM | 261605 | 1077 | 06:10 AM | 898779 | 1656 |
| 04/15/96 | | 06:05 AM | 318497 | 0 | 06:15 AM | 262067 | 462 | 06:15 AM | 899870 | 1091 |
| 04/16/96 | | 06:00 AM | 318745 | 248 | 06:20 AM | 262446 | 379 | 06:20 AM | 900837 | 967 |
| 04/17/96 | | 06:00 AM | 318856 | 111 | 06:15 AM | 262794 | 348 | 06:15 AM | 901882 | 1045 |
| 04/18/96 | | 06:00 AM | 318856 | 0 | 06:10 AM | 263160 | 366 | 06:10 AM | 902720 | 838 |
| 04/19/96 | | 06:05 AM | 318856 | 0 | 06:15 AM | 263555 | 395 | 06:15 AM | 903543 | 823 |
| 04/22/96 | | 06:00 AM | 318919 | 63 | 06:10 AM | 263954 | 399 | 06:10 AM | 904704 | 1161 |
| 04/23/96 | | 06:00 AM | 319133 | 214 | 06:15 AM | 264375 | 421 | 06:15 AM | 905755 | 1051 |
| 04/24/96 | | 06:00 AM | 319305 | 172 | 06:10 AM | 264730 | 355 | 06:10 AM | 906695 | 940 |
| 04/25/96 | | 06:00 AM | 319365 | 60 | 06:10 AM | 265120 | 390 | 06:10 AM | 907555 | 860 |
| 04/26/96 | | 06:05 AM | 319630 | 265 | 06:15 AM | 265535 | 415 | 06:15 AM | 908840 | 1285 |
| 04/29/96 | | 06:00 AM | 319726 | 96 | 06:10 AM | 265904 | 369 | 06:10 AM | 910335 | 1495 |
| 04/30/96 | | 06:10 AM | 319835 | 109 | 06:20 AM | 266163 | 259 | 06:20 AM | 911837 | 1502 |
| 05/01/96 | | 06:00 AM | 319950 | 115 | 06:05 AM | 266547 | 384 | 06:05 AM | 912154 | 317 |
| 05/02/96 | | 06:00 AM | 319951 | 1 | 06:08 AM | 266903 | 356 | 06:08 AM | 912889 | 735 |
| 05/03/96 | | 06:00 AM | 320168 | 217 | 06:10 AM | 267303 | 400 | 06:10 AM | 913966 | 1077 |
| 05/06/96 | | 06:00 AM | 320190 | 22 | 06:10 AM | 267702 | 399 | 06:10 AM | 915026 | 1060 |
| 05/07/96 | | 06:00 AM | 320190 | 0 | 06:10 AM | 268032 | 330 | 06:10 AM | 915870 | 844 |

Chromic Acid + Teflon Coating
Goes onto stainless steel.

In Sept 68 ppm
16 ppm - E.P.
280 mg/l
170 toluene
17-111
97-7ylene.
old results
results
bad case.



Sprayed on alum. or stainless steel.
Guns cleaned with H₂O - H₂O goes into
industrial tank -

State of North Carolina
Department of Environment,
Health and Natural Resources
Mooreville Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Vivian H. Burke, Regional Manager



DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

June 10, 1994

TO: Groundwater/DEM
Mooreville Regional Office

THROUGH: Keith Masters
Compliance Unit Supervisor
Hazardous Waste Section

FROM: Jesse W. Wells
Waste Management Specialist
Hazardous Waste Section

RE: Referral of Livingstone Coatings
Rhyne Road
Charlotte, Mecklenburg County, N.C.

Attached is information regarding the subject site. After review, it has been determined that at this time, the hazardous waste regulations (RCRA) do not apply to this site. Specifically, in regards to the groundwater contamination believed to be the result of an industrial discharge to an on-site septic system. However, our review did indicate that site conditions exist which may warrant a review by your office. Consequently, we respectfully refer this site to your Section/Agency for appropriate action.

Please contact me at (704) 663-1699 if you should have any questions.

Attachment

cc: Doug Holyfield, Hazardous Waste Section Files
Central Files



State of North Carolina

Department of Justice

P. O. BOX 629

RALEIGH

27602-0629 REPLY TO: STEPHEN T. PARASCANDOLA

ENVIRONMENTAL DIVISION

(919) 733-8352

FAX (919) 733-9909

MICHAEL F. EASLEY
ATTORNEY GENERAL

May 20, 1994

VIA TELECOPIER AND REGULAR MAIL

Richard C. Gaskins, Jr., Esquire
Petree Stockton
3500 One First Union Center
301 South College Street
Charlotte, North Carolina 28202-6001

Re: Livingstone Coating Corporation

Dear Rick:

As I advised you during our recent conversation, the Division of Solid Waste Management ("Division") has reviewed the information provided by you on behalf of Livingstone Coating Corporation ("Livingstone"). As you know, this information was submitted in connection with Livingstone's request to have the Division refer jurisdiction and supervision over the contamination present at Livingstone's Rhyne Road, Charlotte facility back to the Division of Environmental Management ("DEM"). This confirms my previous oral conveyance to you of the Division's determination that the contamination at the site in question could be supervised under the auspices of one or more of DEM's programs.

Please be advised that this decision is not final in the sense that additional information and/or data may prove the Division's above-mentioned determination premature or incorrect. Nothing in this letter should be construed to limit the Division's ability to institute enforcement actions in the future against Livingstone for violations of the North Carolina Hazardous Waste Management Program ("Program"). Also, as I have explained to you, the Division does not agree with your client's contention that its treatment and disposal of "spray booth" wastes are unregulated activities, and you should instruct your client to select one or more of the following options to ensure that no further violations of the Program rules occur:

- (1) use non-hazardous waste generating materials at the facility wherever possible;

65

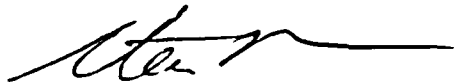
Richard C. Gaskins, Jr.
May 20, 1994
Page -2-

- (2) reuse the coatings in question within Program guidelines and cease spraying wastes into the booth(s) at the site;
- (3) properly manifest all such wastes off-site with appropriate land-ban certification; or
- (3) petition for a delisting of such wastes.

As you know, it is the Division's strong opinion that any such petition would be unsuccessful.

By separate letter, the Division will notify DEM of its determination. Please notify your client that the Division also intends to inspect the site periodically to determine compliance with all Program rules. If you have any further questions or comments regarding the above, please let me know.

Sincerely yours,



Stephen T. Parascandola
Associate Attorney General

STP/cn

cc: Jerry Rhodes
Doug Holyfield
Jesse Wells

PETREE STOCI
ATTORNEYS
3500 ONE FIRST
CHARLOTTE, NORTH CA
TELEPHONE (704) 338-5003
FAX (704) 338-5003

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|--|--------------------------------|-----------------|
| Post-It™ brand fax transmittal memo 7671 | | # of pages ▶ 11 |
| To <i>Jose Wells</i> | From <i>Steve Parascandola</i> | |
| Co. <i>F Y I & Comments</i> | Co. | |
| Dept. | Phone <i>919-733-8352</i> | |
| Fax # | Fax # | |

RICHARD C. GASKINS, JR.
(704) 338-5003

WINSTON-SALEM, N. C.

Confidential Settlement Discussion

April 8, 1994

VIA FACSIMILE

Mr. Stephen T. Parascandola
Associate Attorney General
State of North Carolina
Department of Justice
401 Oberlin Road, Room 16
Raleigh, NC 27605

Re: Livingstone Coating Corporation
NCD 003 172 442

Dear Steve:

This letter addresses the issues raised in your letter dated March 3, 1994, responding to our letter of February 15, 1994, regarding the cleanup of groundwater contamination from the septic system at Livingstone Coating Corporation ("Livingstone"). It is our understanding that you will need the information requested in your letter dated March 3, 1994, to determine whether the Groundwater Section is more appropriate than the Hazardous Waste Section to supervise the remediation of the Livingstone property.

We believe that it would be more appropriate to conduct the cleanup of the Livingstone property under the direction of the Groundwater Section rather than the Hazardous Waste Section. The situation at Livingstone is the result of past practices, which occurred before the current management operated or purchased the property. Furthermore, we believe that the past practices of Livingstone did not technically result in the generation of "hazardous waste" although it appears likely that trace amounts of various volatile compounds were discharged into the septic system. RCRA is a prospective statute that is designed to deal with ongoing activities involving hazardous waste, not the results of past practices. In comparison, CERCLA is a retrospective statute that is designed to address old problems created by, typically, defunct businesses. North Carolina's groundwater program seems to be a hybrid program designed to address groundwater problems created by past practices where the entity responsible for the problems is still viable.

Mr. Stephen T. Parascandola

April 8, 1994

Page 2

It is cumbersome to use RCRA to govern the cleanup of the Livingstone property when the RCRA program is designed to regulate the ongoing treatment, storage, and disposal of hazardous wastes and Livingstone no longer engages in any practices which invokes RCRA concerns. Livingstone currently generates little or no hazardous waste as a result of its operations, the groundwater problems are the result of past practices, and Livingstone is a small, but viable business. All practices of potential concern to the Hazardous Waste Section have been eliminated from Livingstone's operations. Furthermore, the paperwork associated with RCRA closure procedures may result in Livingstone expending its limited resources on preparing closure and post-closure plans rather than doing the cleanup.

The Groundwater Section is probably more familiar with the cleanup of contamination from a septic system than the Hazardous Waste Section. Christine DeRoller, the person most likely to be assigned to this matter if supervised by the Groundwater Section, is familiar with the issues that would arise during the cleanup of the Livingstone property and she is currently supervising several sites involving the cleanup of volatile organic compounds, including chlorinated solvents (e.g., the Lundy Financial Systems site in Charlotte and the Shelby Dyeing site in Shelby). If the ultimate concern is getting the property cleaned up, it is likely that the same cleanup goals can be reached through work supervised by the Groundwater Section as the Hazardous Waste Section.

We recognize that this matter was previously transferred from the Groundwater Section to the Hazardous Waste Section, but we believe that the matter was referred to the Hazardous Waste Section as a result of a misunderstanding of Livingstone's past and current practices. Most of the coatings used by Livingstone are water-based coatings. However, many of these water-based coatings can contain up to 20 percent of volatile organic compounds. It appears that the groundwater problems at Livingstone may have been caused by the rinsing of non-hazardous water-based compounds and washing of trace amounts of solvents into the septic system. Thus, it seems much more appropriate to conduct the cleanup of the site under the management of the Groundwater Section than the Hazardous Waste Section. This approach has the added benefit of allowing Livingstone to devote its limited resources to cleanup activities rather than the paperwork associated with RCRA.

We believe that some of the confusion over the facts in this matter arises from comments made during an inspection by Mr. Jessee W. Wells on August 22, 1993. At no time did Livingstone personnel state or mean to infer that any solvent used in cleaning spray guns was directly discharged into the septic tank via the clean out stations. Only the rinse water would have been involved. During the inspection Mr. Wells asked Mr. Trammell why the water rinse was done, Mr. Trammell informed him that he was not sure. When asked whether it was necessary, Mr. Trammell informed him that this was a "good question" and would be reviewed. If the rinse was being viewed as a possible RCRA violation by DEHNR, Mr. Trammell felt that Livingstone needed to avoid this rinse step if possible. The cleanup procedure was modified to allow the cups

Mr. Stephen T. Parascandola
April 8, 1994
Page 3

to air dry rather than rinse them with water. There has been a small increase in rework but has resulted in more buffing rather than stripping and recoating

During Mr. Wells visit there was also some discussion of whether Livingstone uses 1,1,1 trichloroethane to clean spray guns. At this time we are not aware of any information that would indicate that 1,1,1 trichloroethane was used to clean coating materials from spray guns or cups although that possibility may have been discussed. However, spray guns used to coat Invar belts with oil after Teflon coating were cleaned with 1,1,1 trichloroethane. This process did not produce a large volume of waste due to the infrequency of the operation, but the waste solvents from cleaning the oil from the spray guns were accumulated in a barrel, processed through the distiller, and reused. We are not aware of any information that would indicate that the waste solvent was ever dumped down the drain.

Responses to Questions

In order to fully respond to the issues raised in your letter, we have performed a thorough factual investigation of past practices and procedures at Livingstone. We have attempted to address all of your concerns so that you are able to make the appropriate determination on our request. In addition, we have provided some additional information that may be useful to you in making your determination. If you need any further information, please do not hesitate to call us.

Question No. 1.

Why would the "cups" in question need rinsing with water after the solvent rinse?

Response

It is our understanding that the "'cups' in question" refers to spray gun cups that were first cleaned with solvent and then, on some occasions, rinsed with water. The "cups in question" did not necessarily need rinsing with water after they were cleaned with solvents, but the cups were rinsed on some occasions with water to remove a layer of film remaining on the cups after they were cleaned with solvents. It should be noted that most of the coatings used by Livingstone are water based and that the water based coatings would not have been cleaned with solvents (other than water).

The use of solvent coatings at Livingstone is and was infrequent. Solvent based materials are less than 20 percent of Livingstone's product mix (17.2% in 1993), with the balance of the materials being water based that may or may not contain solvents. Over 85 percent (88.0% in 1993) of the solvent based materials are being sprayed in material-dedicated guns that require infrequent cleaning. In 1993, almost half of the solvent based coatings were sprayed on one job that was

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processed over a short time frame which required infrequent change over. Thus, two to four percent of the product mix of this department required cleaning with solvents other than water (1.8% in 1993). This, department is typically between 45-60% of Livingstone's total volume (56% in 1993). Thus, in 1993, only 31 gallons of coatings were used in a situation that required cleaning with solvents. Although the usage of solvent based coatings may have been slightly higher in the past, the amount of coatings requiring cleanup with solvents has always been very low.

The basic procedure for cleaning spray guns has remained virtually unchanged since Livingstone began doing teflon coating at the Rhyne Road facility in 1978. This information is based upon interviews with Livingstone's most experienced operator who has been working for Livingstone for approximately 24 years. The basic procedures for water and solvent based materials are as follows:

WATER BASE:

- 1) Without air, squeeze triggers which allows material to return through siphon tube to cup.
- 2) Pour unused material back into jug.
- 3) Run cleaning brush through tubes and nozzle tips.
- 4) Water clean nozzles.
- 5) Brush & clean up cup with water.

SOLVENT BASE:

- 1) & 2) Same
- 3) Pour some solvent in cup. The solvent chosen will depend on the constituents of the coating. Toluene would be used to rinse a toluene based coating.
- 4) Spray into booth until solvent is gone.
- 3), 4) & 5) are the same as above and involved the use of water to remove the film of material that sometimes remains on the equipment after cleaning with solvents.

As described previously, Livingstone has attempted to eliminate any possible route of solvent entry into the septic system by dedicating cups to certain types of solvent based coatings and allowing cups to air dry rather than rinsing the cups with water as described above.

Although perhaps not absolutely necessary, the practice of rinsing cups used for solvent based materials with water guaranteed that the cups were totally clean and minimized the possibility of cross-contamination of coatings. Fluoropolymer coatings are typically applied with multi-coats

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of 0.6 mil (0.0006 inch) to 1.0 mil (0.001 inch) thickness per coat. The base coats or primer would be typically applied at one half of this amount. Consequently "trash" from any source in this expensive thin film is of major concern as basic rework would require stripping and recoating. Water is effective to clean the film off the cups because most of the coatings and solvents are water soluble even if they are solvent based.

It is also important to emphasize that solvent has been removed from the spray cup prior to rinsing and consequently there is only a film residue remaining. There had been no changes in this procedure and we confirmed that at no time were solvents discharged directly to the sinks or tanks. This information has been verified by employees who began working for Livingstone as long ago as September of 1969.

In your letter you question whether rinsing the cup with water is a common practice. We are not aware of a standard industry practice, although we have attempted to determine whether there is a standard industry practice. Most spray gun manufacturers make no statement as to cleaning the reservoir cups, but we are enclosing the Craftsman and Binks instruction manual for informational purposes. Note that both call for spraying a cup of thinner or solvent and repeating as necessary until clean. It is my understanding that Mr. Trammell confirmed that cleaning the equipment by spraying a solvent was a normal practice in the industry at a meeting of Society of Plastics Industry/FluoroPolymers Division, Coatings Group on March 21-23, 1994. To the extent that an industry practice exists, it appears to be consistent with Livingstone's practice except that Livingstone appears to use less solvent than some others in the industry. However, as noted above, because Livingstone was extremely concerned about the quality of its coatings, Livingstone took the added step of rinsing out any residue with water. To characterize Livingstone's practice of rinsing cups with water to eliminate any remaining film as "questionable" or "uncommon," we feel, is incorrect.

Question No. 2

What was the ultimate disposition of the solvent used in rinsing the gun cups, including stillbottoms and other waste by-products (e.g., rags and wipes)?

Response

As noted above, most coatings used by Livingstone are not solvent based. When solvents are used, most of the diluted coating mixture is sprayed in the air in the spray booth to clean out the gun. The small amount of solvent in the coating mixture, plus the solvent used to clean the cups, evaporates as it carries the coating to a surface or as the mixture dries on the surface where the mixture is sprayed. Any solvent remaining after the coating mixture has been sprayed against the wall or filter then evaporates. Hence, whenever the walls and floors are cleaned, the only

Mr. Stephen T. Parascandola
April 8, 1994.
Page 6

substance remaining at that time is Teflon material, containing no solvents, which is recovered and shipped off-site to a landfill as a solid waste.

The only still bottoms, wipes and rags generated at Livingstone are those primarily associated with a degreasing process, which is currently a rare procedure. Over the years some "still bottoms" were accumulated from the degreasing process, particularly oils with 1,1,1 trichloroethane from the continuous belt area and the small parts area prior to the purchase of the distiller in 1988. The still bottoms from the distiller are accumulated in a 55 gallon drum. One full barrel has yet to be accumulated since the distiller was placed in service in February 1988. The rags or wipes used to wipe out the distiller have also been placed in the still bottom collection barrel.

Question No. 3

How did the facility manage the hazardous wastes generated during the spray booth cleaning process, e.g., booth coatings, overspray, filters, floor sweepings, etc.? What was the ultimate disposition of these "F" series wastes?

Response

X The spray booths are cleaned only via sweeping the booths and replacing the filters. The waste that is swept up, peeled off, and discarded and replaced, contains no solvent at the time of disposal. Nonetheless, assuming *arguendo* that there is still solvent remaining in the Teflon that is sprayed out in the spray booths, these minuscule amounts and their status as part of the materials used in the coating process would render them a nonhazardous waste. The guidance previously sent to you included the EPA's view concerning the addition of solvent as a thinner to coatings. In an EPA memo from Jacqueline W. Sales to Frank Czigler, dated April 10, 1990, it is stated that "The Agency does not recognize a distinction between paints that contain solvents and paints where solvents have been added. Therefore, thinned paint . . . that is later discarded as a waste would not be covered under the F001-F005 spent solvent listings." The material sprayed out of the spray guns during the cleaning process is simply a thinned coating. The material could be reused if it was placed into the paint container instead of being sprayed out.

Lastly, the residue that is the subject of Question No. 3 has nothing to do with the septic tank problem on the Livingstone property. The amounts of concern are minimal and these materials do not enter the septic tank. However, if the Hazardous Waste Section would prefer for Livingstone to petition for an exemption of these residues, Livingstone will prepare such a petition. Livingstone first discussed this issue with Spring Allen in 1991, and at that time, it was Livingstone's understanding that they would be informed if the Hazardous Waste Section took the position that the paint residues were a hazardous waste.



Mr. Stephen T. Parascandola
April 8, 1994
Page 7

To the extent that F-listed wastes have been generated, the wastes have been properly handled and disposed of as F002 wastes. These wastes have been handled during various points in Livingstone history by Union, Ashland, Seaboard Chemical, and Detrex. Photocopies of the shipping manifests are enclosed.

Chronology

The following chronology is being provided to you at your suggestion in addition to the foregoing responses to your questions.

| <u>Date</u> | <u>Description</u> |
|-------------|--|
| 1953 | Livingstone Coating Corporation founded. |
| 1967 | Mrs. Betty J. Livingstone became President and Chairman of Board (Mr. John Stanley Livingstone, Jr. deceased). |
| 05/09/77 | Livingstone applied to Mecklenburg County for permit to construct domestic and industrial septic systems. |
| 09/08/78 | Certificate of approval from Mecklenburg County for Septic Tank Systems with subsurface, soil absorption, effluent discharge for domestic septic tank #2 and industrial septic tank #2 systems. |
| 10/24/78 | Livingstone Coating Corporation begins doing Teflon coating operations at Rhyne Road location. |
| 10/03/84 | Livingstone prepares for implementation of RCRA by attempting to locate a facility to handle waste solvents. Ashland Chemical advises Livingstone they have a company in Emmelle, Alabama, that can handle waste solvents. |
| 11/05/84 | New Powder Plant put into operation. |
| 09/30/85 | 25 drums of spent solvent wastes removed from site to Seaboard Chemical Co. Livingstone is classified as a Hazardous Waste Generator (over 1000 Kg.). |
| 01/24/86 | Livingstone reclassified as a Small Hazardous Waste Generator. |

Mr. Stephen T. Parascandola
April 8, 1994
Page 8

- 02/06/86 Betty J. Livingstone died.
- 02/26/88 Recyclene R-2 solvent recovery system commissioned to recycle spent 1,1,1 trichloroethane to minimize waste being shipped off site.
- 02/28/89 Report of Soil and Tank Content Sampling Analysis, CHW F 6667, (Phase II Audit) received. Report shows a concentration of 19,000 ppb of TCA. Law recommends that four (4) groundwater monitoring wells be constructed in the drain field for industrial septic tank #2.
- Early 1989 After inquiries about possible sources of TCA in industrial septic tank #2, the only possible routes are identified as rinse water from cleanup of the spray gun used to apply oil to the Invar belts and possibly rinse water from cleaning coating spray guns after odd, infrequently used material. Personnel are instructed to route these waste streams to the distiller. Personnel are also instructed to reduce water usage by ceasing the practice of continually running water over the previous cup. This practice was occurring in both water and solvent based systems. (It was subsequently determined that 1,1,1 trichloroethane had never been used to clean spray guns used for odd, infrequently used materials.)
- 07/26/89 Report of Preliminary Site Contamination Assessment, CHW 7074, received from Law. Soil borings detect no constituents in septic tank #2 drain field.
- 03/21/90 Accumulation of mixed 1,1,1 trichloroethane and M.E.K. waste characterized and removed by Detrex Corp.
- 09/20/90 Mecklenburg County Department of Environmental Health samples water supply well and reports 541 ppb of 1,1,1 trichloroethane to Livingstone in early December. 1,1-dichloroethene also above 2L standards.
- 12/19/90 Notice of Violation received from Division of Environmental Management (NC DEM), requesting site assessment and copies of previous site assessment reports followed by a proposed remediation plan.
- 01/29/91 Livingstone contracts with Diamond Springs (Water to Go) for one (1) year to provide spring water for all drinking purposes as a health and safety precaution and to minimize the use of well water. Water fountains, coffee machine, ice machine, etc., disconnected from water supply well. Non-potable signs posted at water taps. Reemphasis is placed on reduction

Mr. Stephen T. Parascandola
April 8, 1994
Page 9

of water in gun cleaning procedures. (Bottled water continues to be used to this date).

- 06/10/91 Report of Site Contamination Assessment, CHW 7074A, received from Law Engineering. Report recommended that Livingstone evaluate remediation alternatives such as installing a filtering system. Periodic sampling of monitoring wells initiated.
- 06/14/91 Groundwater Section advises Livingstone that it will hold the NOV in abeyance until a determination is made as to whether Groundwater Section or the Hazardous Waste Section of the Division of Solid Waste Management will be the lead agency.
- 07/25/91 Ms. Spring D. Allen of Hazardous Waste Section inspects Livingstone facility as requested by Groundwater Section. Verbal report with Livingstone management centers around 40 C.F.R. § 262.34(c)(1) as her interpretation of this statute would not allow the distance between the solvent storage area and the distiller. Livingstone expressed concern that the local fire marshal's requirements for an unsprinkled facility mandate the distance between the solvent storage area and the distiller. No report received of Ms. Allen's visit, but she did follow up via telephone, and Livingstone made the changes requested by Ms. Allen.
- 05/14/93 1,1,1 trichloroethane degreaser shut down in response to 11/15/90 amendment to the Clean Air Act, Section 611.
- 08/22/93 Mr. Jesse W. Wells inspects Livingstone facility.
- 12/03/93 PAR Laboratories reports final analytical results for samples collected on 11/16/93 from septic tank #2. No (<1 ppb) 1,1,1 trichloroethane detected in septic tank #2.

Concluding Comments

Livingstone is a small company in a very competitive business that has tried to implement environmentally sound policies and procedures. Over the years, sometimes as a response to issues raised by DEHNR, various changes have been made, including the following:

- 1) the amount of water used to rinse spray gun cups was greatly reduced;

Mr. Stephen T. Parascandola
April 8, 1994
Page 11

- 3) the use of 1,1,1 trichloroethane in the degreaser was discontinued;
- 4) Livingstone has reemphasized the pouring of "any" excess solvent/coating mixture into original material container as dilution of the original product would be extremely small and it is not unusual to thin a coating before applying the coating; and
- 5) Most recently, Livingstone has completely eliminated the practice of rinsing spray gun cups with water after application of solvent based material. Instead, the gun cups are left out to air dry.

To say that "no" solvents were in the cup when rinsed with water would probably be in error, but the amount of solvents in the cup after cleaning with solvents would have been negligible. For purposes of the hazardous waste regulations, the cups were "RCRA empty" before they were rinsed with water.

We hope this information clarifies Livingstone's position and sufficiently addresses your inquiries. We apologize for the delay in responding to your question; however, we felt that it was essential to get the facts verified before responding to your questions. Should you have any further questions please call me, and we will promptly respond.

With best regards.

Very truly yours,



Richard C. Gaskins, Jr.

RCG/rcg
Enclosures

cc: Mr. H. Stephen Trammell
Mr. J. Scott Moncrief
Mr. William H. McNair
Mr. Shawn F. Sullivan

327-201685.0001
089\101715



State of North Carolina

Department of Justice

P. O. BOX 629

RALEIGH

27602-0629 REPLY TO: STEPHEN T. PARASCANDOLA

ENVIRONMENTAL DIVISION

(919) 733-8352

FAX (919) 733-9909

MICHAEL F. EASLEY
ATTORNEY GENERAL

May 20, 1994

VIA TELECOPIER AND REGULAR MAIL

Richard C. Gaskins, Jr., Esquire
Petree Stockton
3500 One First Union Center
301 South College Street
Charlotte, North Carolina 28202-6001

Re: Livingstone Coating Corporation

Dear Rick:

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Richard C. Gaskins, Jr.
May 20, 1994
Page -2-

- (2) reuse the coatings in question within Program guidelines and cease spraying wastes into the booth(s) at the site;
- (3) properly manifest all such wastes off-site with appropriate land-ban certification; or
- (3) petition for a delisting of such wastes.

As you know, it is the Division's strong opinion that any such petition would be unsuccessful.

By separate letter, the Division will notify DEM of its determination. Please notify your client that the Division also intends to inspect the site periodically to determine compliance with all Program rules. If you have any further questions or comments regarding the above, please let me know.

Sincerely yours,



Stephen T. Parascandola
Associate Attorney General

STP/cn

cc: Jerry Rhodes
Doug Holyfield
Jesse Wells



PETREE STOCI
ATTORNEYS
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| Post-It™ brand fax transmittal memo 7671 | | # of pages ▶ 11 |
| To <i>Steve Wells</i> | From <i>Steve Parascandola</i> | |
| Co. <i>FYI & Comments</i> | Co. | |
| Dept. | Phone <i>919-733-8352</i> | |
| Fax # | Fax # | |

RICHARD C. GASKINS, JR.
(704) 338-5003

WINSTON-SALEM, N. C.

Confidential Settlement Discussion

April 8, 1994

VIA FACSIMILE

Mr. Stephen T. Parascandola
Associate Attorney General
State of North Carolina
Department of Justice
401 Oberlin Road, Room 16
Raleigh, NC 27605

Re: Livingstone Coating Corporation
NCD 003 172 442

Dear Steve:

This letter addresses the issues raised in your letter dated March 3, 1994, responding to our letter of February 15, 1994, regarding the cleanup of groundwater contamination from the septic system at Livingstone Coating Corporation ("Livingstone"). It is our understanding that you will need the information requested in your letter dated March 3, 1994, to determine whether the Groundwater Section is more appropriate than the Hazardous Waste Section to supervise the remediation of the Livingstone property.

We believe that it would be more appropriate to conduct the cleanup of the Livingstone property under the direction of the Groundwater Section rather than the Hazardous Waste Section. The situation at Livingstone is the result of past practices, which occurred before the current management operated or purchased the property. Furthermore, we believe that the past practices of Livingstone did not technically result in the generation of "hazardous waste" although it appears likely that trace amounts of various volatile compounds were discharged into the septic system. RCRA is a prospective statute that is designed to deal with ongoing activities involving hazardous waste, not the results of past practices. In comparison, CERCLA is a retrospective statute that is designed to address old problems created by, typically, defunct businesses. North Carolina's groundwater program seems to be a hybrid program designed to address groundwater problems created by past practices where the entity responsible for the problems is still viable.

Mr. Stephen T. Parascandola
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Responses to Questions

In order to fully respond to the issues raised in your letter, we have performed a thorough factual investigation of past practices and procedures at Livingstone. We have attempted to address all of your concerns so that you are able to make the appropriate determination on our request. In addition, we have provided some additional information that may be useful to you in making your determination. If you need any further information, please do not hesitate to call us.

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As described previously, Livingstone has attempted to eliminate any possible route of solvent entry into the septic system by dedicating cups to certain types of solvent based coatings and allowing cups to air dry rather than rinsing the cups with water as described above.

Although perhaps not absolutely necessary, the practice of rinsing cups used for solvent based materials with water guaranteed that the cups were totally clean and minimized the possibility of cross-contamination of coatings. Fluoropolymer coatings are typically applied with multi-coats

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It is also important to emphasize that solvent has been removed from the spray cup prior to rinsing and consequently there is only a film residue remaining. There had been no changes in this procedure and we confirmed that at no time were solvents discharged directly to the sinks or tanks. This information has been verified by employees who began working for Livingstone as long ago as September of 1969.

In your letter you question whether rinsing the cup with water is a common practice. We are not aware of a standard industry practice, although we have attempted to determine whether there is a standard industry practice. Most spray gun manufacturers make no statement as to cleaning the reservoir cups, but we are enclosing the Craftsman and Binks instruction manual for informational purposes. Note that both call for spraying a cup of thinner or solvent and repeating as necessary until clean. It is my understanding that Mr. Trammell confirmed that cleaning the equipment by spraying a solvent was a normal practice in the industry at a meeting of Society of Plastics Industry/FluoroPolymers Division, Coatings Group on March 21-23, 1994. To the extent that an industry practice exists, it appears to be consistent with Livingstone's practice except that Livingstone appears to use less solvent than some others in the industry. However, as noted above, because Livingstone was extremely concerned about the quality of its coatings, Livingstone took the added step of rinsing out any residue with water. To characterize Livingstone's practice of rinsing cups with water to eliminate any remaining film as "questionable" or "uncommon," we feel, is incorrect.

Question No. 2

What was the ultimate disposition of the solvent used in rinsing the gun cups, including stillbottoms and other waste by-products (e.g., rags and wipes)?

Response

As noted above, most coatings used by Livingstone are not solvent based. When solvents are used, most of the diluted coating mixture is sprayed in the air in the spray booth to clean out the gun. The small amount of solvent in the coating mixture, plus the solvent used to clean the cups, evaporates as it carries the coating to a surface or as the mixture dries on the surface where the mixture is sprayed. Any solvent remaining after the coating mixture has been sprayed against the wall or filter then evaporates. Hence, whenever the walls and floors are cleaned, the only

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substance remaining at that time is Teflon material, containing no solvents, which is recovered and shipped off-site to a landfill as a solid waste.

The only still bottoms, wipes and rags generated at Livingstone are those primarily associated with a degreasing process, which is currently a rare procedure. Over the years some "still bottoms" were accumulated from the degreasing process, particularly oils with 1,1,1 trichloroethane from the continuous belt area and the small parts area prior to the purchase of the distiller in 1988. The still bottoms from the distiller are accumulated in a 55 gallon drum. One full barrel has yet to be accumulated since the distiller was placed in service in February 1988. The rags or wipes used to wipe out the distiller have also been placed in the still bottom collection barrel.

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How did the facility manage the hazardous wastes generated during the spray booth cleaning process, e.g., booth coatings, overspray, filters, floor sweepings, etc.? What was the ultimate disposition of these "F" series wastes?

Response

X The spray booths are cleaned only via sweeping the booths and replacing the filters. The waste that is swept up, peeled off, and discarded and replaced, contains no solvent at the time of disposal. Nonetheless, assuming *arguendo* that there is still solvent remaining in the Teflon that is sprayed out in the spray booths, these minuscule amounts and their status as part of the materials used in the coating process would render them a nonhazardous waste. The guidance previously sent to you included the EPA's view concerning the addition of solvent as a thinner to coatings. In an EPA memo from Jacqueline W. Sales to Frank Czigler, dated April 10, 1990, it is stated that "The Agency does not recognize a distinction between paints that contain solvents and paints where solvents have been added. Therefore, thinned paint . . . that is later discarded as a waste would not be covered under the F001-F005 spent solvent listings." The material sprayed out of the spray guns during the cleaning process is simply a thinned coating. The material could be reused if it was placed into the paint container instead of being sprayed out.

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Chronology

The following chronology is being provided to you at your suggestion in addition to the foregoing responses to your questions.

| <u>Date</u> | <u>Description</u> |
|-------------|--|
| 1953 | Livingstone Coating Corporation founded. |
| 1967 | Mrs. Betty J. Livingstone became President and Chairman of Board (Mr. John Stanley Livingstone, Jr. deceased). |
| 05/09/77 | Livingstone applied to Mecklenburg County for permit to construct domestic and industrial septic systems. |
| 09/08/78 | Certificate of approval from Mecklenburg County for Septic Tank Systems with subsurface, soil absorption, effluent discharge for domestic septic tank #2 and industrial septic tank #2 systems. |
| 10/24/78 | Livingstone Coating Corporation begins doing Teflon coating operations at Rhyne Road location. |
| 10/03/84 | Livingstone prepares for implementation of RCRA by attempting to locate a facility to handle waste solvents. Ashland Chemical advises Livingstone they have a company in Emmelle, Alabama, that can handle waste solvents. |
| 11/05/84 | New Powder Plant put into operation. |
| 09/30/85 | 25 drums of spent solvent wastes removed from site to Seaboard Chemical Co. Livingstone is classified as a Hazardous Waste Generator (over 1000 Kg.). |
| 01/24/86 | Livingstone reclassified as a Small Hazardous Waste Generator. |

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- 02/06/86 Betty J. Livingstone died.
- 02/26/88 Recyclene R-2 solvent recovery system commissioned to recycle spent 1,1,1 trichloroethane to minimize waste being shipped off site.
- 02/28/89 Report of Soil and Tank Content Sampling Analysis, CHW F 6667, (Phase II Audit) received. Report shows a concentration of 19,000 ppb of TCA. Law recommends that four (4) groundwater monitoring wells be constructed in the drain field for industrial septic tank #2.
- Early 1989 After inquiries about possible sources of TCA in industrial septic tank #2, the only possible routes are identified as rinse water from cleanup of the spray gun used to apply oil to the Invar belts and possibly rinse water from cleaning coating spray guns after odd, infrequently used material. Personnel are instructed to route these waste streams to the distiller. Personnel are also instructed to reduce water usage by ceasing the practice of continually running water over the previous cup. This practice was occurring in both water and solvent based systems. (It was subsequently determined that 1,1,1 trichloroethane had never been used to clean spray guns used for odd, infrequently used materials.)
- 07/26/89 Report of Preliminary Site Contamination Assessment, CHW 7074, received from Law. Soil borings detect no constituents in septic tank #2 drain field.
- 03/21/90 Accumulation of mixed 1,1,1 trichloroethane and M.E.K. waste characterized and removed by Detrex Corp.
- 09/20/90 Mecklenburg County Department of Environmental Health samples water supply well and reports 541 ppb of 1,1,1 trichloroethane to Livingstone in early December. 1,1-dichloroethene also above 2L standards.
- 12/19/90 Notice of Violation received from Division of Environmental Management (NC DEM), requesting site assessment and copies of previous site assessment reports followed by a proposed remediation plan.
- 01/29/91 Livingstone contracts with Diamond Springs (Water to Go) for one (1) year to provide spring water for all drinking purposes as a health and safety precaution and to minimize the use of well water. Water fountains, coffee machine, ice machine, etc., disconnected from water supply well. Non-potable signs posted at water taps. Reemphasis is placed on reduction

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of water in gun cleaning procedures. (Bottled water continues to be used to this date).

- 06/10/91 Report of Site Contamination Assessment, CHW 7074A, received from Law Engineering. Report recommended that Livingstone evaluate remediation alternatives such as installing a filtering system. Periodic sampling of monitoring wells initiated.
- 06/14/91 Groundwater Section advises Livingstone that it will hold the NOV in abeyance until a determination is made as to whether Groundwater Section or the Hazardous Waste Section of the Division of Solid Waste Management will be the lead agency.
- 07/25/91 Ms. Spring D. Allen of Hazardous Waste Section inspects Livingstone facility as requested by Groundwater Section. Verbal report with Livingstone management centers around 40 C.F.R. § 262.34(c)(1) as her interpretation of this statute would not allow the distance between the solvent storage area and the distiller. Livingstone expressed concern that the local fire marshal's requirements for an unsprinkled facility mandate the distance between the solvent storage area and the distiller. No report received of Ms. Allen's visit, but she did follow up via telephone, and Livingstone made the changes requested by Ms. Allen.
- 05/14/93 1,1,1 trichloroethane degreaser shut down in response to 11/15/90 amendment to the Clean Air Act, Section 611.
- 08/22/93 Mr. Jesse W. Wells inspects Livingstone facility.
- 12/03/93 PAR Laboratories reports final analytical results for samples collected on 11/16/93 from septic tank #2. No (<1 ppb) 1,1,1 trichloroethane detected in septic tank #2.

Concluding Comments

Livingstone is a small company in a very competitive business that has tried to implement environmentally sound policies and procedures. Over the years, sometimes as a response to issues raised by DEHNR, various changes have been made, including the following:

- 1) the amount of water used to rinse spray gun cups was greatly reduced;

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- 3) the use of 1,1,1 trichloroethane in the degreaser was discontinued;
- 4) Livingstone has reemphasized the pouring of "any" excess solvent/coating mixture into original material container as dilution of the original product would be extremely small and it is not unusual to thin a coating before applying the coating; and
- 5) Most recently, Livingstone has completely eliminated the practice of rinsing spray gun cups with water after application of solvent based material. Instead, the gun cups are left out to air dry.

To say that "no" solvents were in the cup when rinsed with water would probably be in error, but the amount of solvents in the cup after cleaning with solvents would have been negligible. For purposes of the hazardous waste regulations, the cups were "RCRA empty" before they were rinsed with water.

We hope this information clarifies Livingstone's position and sufficiently addresses your inquiries. We apologize for the delay in responding to your question; however, we felt that it was essential to get the facts verified before responding to your questions. Should you have any further questions please call me, and we will promptly respond.

With best regards.

Very truly yours,



Richard C. Gaskins, Jr.

RCG/rcg
Enclosures

cc: Mr. H. Stephen Trammell
Mr. J. Scott Moncrief
Mr. William H. McNair
Mr. Shawn F. Sullivan

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| 10/03/84 | Livingstone prepares for implementation of RCRA by attempting to locate a facility to handle waste solvents. Ashland Chemical advises Livingstone they have a company in Emmelle, Alabama, that can handle waste solvents. |
| 11/05/84 | New Powder Plant put into operation. |
| 09/30/85 | 25 drums of spent solvent wastes removed from site to Seaboard Chemical Co. Livingstone is classified as a Hazardous Waste Generator (over 1000 Kg.). |
| 01/24/86 | Livingstone reclassified as a Small Hazardous Waste Generator. |

Mr. Stephen T. Parascandola
 April 8, 1994
 Page 8

- 02/06/86 Betty J. Livingstone died.
- 02/26/88 Recyclene R-2 solvent recovery system commissioned to recycle spent 1,1,1 trichloroethane to minimize waste being shipped off site.
- 02/28/89 Report of Soil and Tank Content Sampling Analysis, CHW F 6667, (Phase II Audit) received. Report shows a concentration of 19,000 ppb of TCA. Law recommends that four (4) groundwater monitoring wells be constructed in the drain field for industrial septic tank #2.
- Early 1989 After inquiries about possible sources of TCA in industrial septic tank #2, the only possible routes are identified as rinse water from cleanup of the spray gun used to apply oil to the Invar belts and possibly rinse water from cleaning coating spray guns after odd, infrequently used material. Personnel are instructed to route these waste streams to the distiller. Personnel are also instructed to reduce water usage by ceasing the practice of continually running water over the previous cup. This practice was occurring in both water and solvent based systems. (It was subsequently determined that 1,1,1 trichloroethane had never been used to clean spray guns used for odd, infrequently used materials.)
- 07/26/89 Report of Preliminary Site Contamination Assessment, CHW 7074, received from Law. Soil borings detect no constituents in septic tank #2 drain field.
- 03/21/90 Accumulation of mixed 1,1,1 trichloroethane and M.E.K. waste characterized and removed by Detrex Corp.
- 09/20/90 Mecklenburg County Department of Environmental Health samples water supply well and reports 541 ppb of 1,1,1 trichloroethane to Livingstone in early December. 1,1-dichloroethene also above 2L standards.
- 12/19/90 Notice of Violation received from Division of Environmental Management (NC DEM), requesting site assessment and copies of previous site assessment reports followed by a proposed remediation plan.
- 01/29/91 Livingstone contracts with Diamond Springs (Water to Go) for one (1) year to provide spring water for all drinking purposes as a health and safety precaution and to minimize the use of well water. Water fountains, coffee machine, ice machine, etc., disconnected from water supply well. Non-potable signs posted at water taps. Reemphasis is placed on reduction

Mr. Stephen T. Parascandola
April 8, 1994
Page 9

- of water in gun cleaning procedures. (Bottled water continues to be used to this date).
- 06/10/91 Report of Site Contamination Assessment, CHW 7074A, received from Law Engineering. Report recommended that Livingstone evaluate remediation alternatives such as installing a filtering system. Periodic sampling of monitoring wells initiated.
- 06/14/91 Groundwater Section advises Livingstone that it will hold the NOV in abeyance until a determination is made as to whether Groundwater Section or the Hazardous Waste Section of the Division of Solid Waste Management will be the lead agency.
- 07/25/91 Ms. Spring D. Allen of Hazardous Waste Section inspects Livingstone facility as requested by Groundwater Section. Verbal report with Livingstone management centers around 40 C.F.R. § 262.34(c)(1) as her interpretation of this statute would not allow the distance between the solvent storage area and the distiller. Livingstone expressed concern that the local fire marshal's requirements for an unsprinkled facility mandate the distance between the solvent storage area and the distiller. No report received of Ms. Allen's visit, but she did follow up via telephone, and Livingstone made the changes requested by Ms. Allen.
- 05/14/93 1,1,1 trichloroethane degreaser shut down in response to 11/15/90 amendment to the Clean Air Act, Section 611.
- 08/22/93 Mr. Jesse W. Wells inspects Livingstone facility.
- 12/03/93 PAR Laboratories reports final analytical results for samples collected on 11/16/93 from septic tank #2. No (<1 ppb) 1,1,1 trichloroethane detected in septic tank #2.

Concluding Comments

Livingstone is a small company in a very competitive business that has tried to implement environmentally sound policies and procedures. Over the years, sometimes as a response to issues raised by DEHNR, various changes have been made, including the following:

- 1) the amount of water used to rinse spray gun cups was greatly reduced;

Mr. Stephen T. Parascandola
April 8, 1994
Page 11

- 3) the use of 1,1,1 trichloroethane in the degreaser was discontinued;
- 4) Livingstone has reemphasized the pouring of "any" excess solvent/coating mixture into original material container as dilution of the original product would be extremely small and it is not unusual to thin a coating before applying the coating; and
- 5) Most recently, Livingstone has completely eliminated the practice of rinsing spray gun cups with water after application of solvent based material. Instead, the gun cups are left out to air dry.

To say that "no" solvents were in the cup when rinsed with water would probably be in error, but the amount of solvents in the cup after cleaning with solvents would have been negligible. For purposes of the hazardous waste regulations, the cups were "RCRA empty" before they were rinsed with water.

We hope this information clarifies Livingstone's position and sufficiently addresses your inquiries. We apologize for the delay in responding to your question; however, we felt that it was essential to get the facts verified before responding to your questions. Should you have any further questions please call me, and we will promptly respond.

With best regards.

Very truly yours,



Richard C. Gaskins, Jr.

RCG/rcg
Enclosures

cc: Mr. H. Stephen Trammell
Mr. J. Scott Moncrief
Mr. William H. McNair
Mr. Shawn F. Sullivan

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FAX TRANSMITTAL COVER SHEET



STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES

FROM: Name: Jesse Wells
Division: _____
Section: _____

MOORESVILLE REGIONAL OFFICE
919 North Main Street
Post Office Box 950
Mooresville, North Carolina 28115

Phone 704/663-1699 FAX 704/663-6040

DATE: 2/28/94

TO: Steve Parascandola

FAX NUMBER: _____

SUBJECT: Livingstone Info

NUMBER OF PAGES (Including Cover): 7

✓

DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

February 24, 1994

Memorandum To: Mr. Keith Masters
Hazardous Waste Section
Western Area Supervisor

From: Jesse W. Wells *JWW*
Waste Management Specialist
Mooresville Regional Office

Subject: Livingstone Coatings
NCD 003 172 442
Mecklenburg County, N.C.

A review was completed on the February 15, 1994 document submitted by Mr. Richard Gaskins of Petree Stockton, L.L.P. on behalf of Livingstone Coatings. The document raises the question that the spray guns were RCRA "empty" prior to being rinsed with water and the subsequent wastewater being discharged into septic tank # 2. Based upon my site visits to the facility, which occurred on August 17 & 26, 1993 and my review of the MRO files I have the following concerns about the document:

1. Mr. Gaskins states that "it appears that very small amounts of chlorinated hydrocarbons have entered Livingstone's septic tank no. 2 over a period of years . . .". Based upon analysis of samples collected on behalf of the facility on or about January 31, 1989 the following contaminants were identified:
 - A. ethylbenzene - 16 ppm
 - B. MEK - 250 ppm
 - C. toluene - 170 ppm
 - D. TCA - 19 ppm
 - E. xylene - 97 ppm
- These are the only results of samples taken from the septic system # 2 which have been made available to me.
2. The document presents a more detailed past handling of waste solvent and disposal practices than was provided to me at the time of my visits to the facility. The document indicates that Livingstone cleaned the spray gun cups by placing a solvent into the cups and either spraying the solvent through the gun into the spray booth or dumping the solvent in a container for hazardous waste.

In a report prepared by Law Engineering, dated May 10, 1991, Mr. Steve Trammell "indicated that 111 Trichloroethane was used in small quantities to clean application brushes and guns and discharged into septic tank #2". No mention is made of the

container drum or the spraying of the cleaning solvent into the spray booth in the Law report.

During my initial visit on August 16, 1993, Mr. Trammell did not report the past collection of spent solvent into a container or of disposal into the spray booth. I recall questioning Mr. Trammell concerning the Law report. It appeared to me at that time he was unsure of past disposal practices or as to how the guns were actually handled during the cleaning process. I do not recall Mr. Trammell disputing the statement in the Law report. The February 15, 1994 document indicates that the guns were "visibly empty". I question whether the guns were allowed to dry or drain. "Visibly empty" seems to be subjective at best based upon my interviews with Mr. Trammell concerning past disposal practices.

Mr. Trammell reported that at present 111 TCA was still used to clean the guns (caps?). The gun is then wiped with paper wipes. He then indicated that the guns are then rinsed with water and the rinse is then discharged into septic tank # 2. Mr. Trammell indicated that Mr. Joe Greenway, Livingstone's Manufacturing Manager, could provide a more detailed description of how the guns are presently cleaned.

I returned to the facility on August 23, 1993 and met with both Mr. Trammell and Mr. Greenway. Mr. Greenway reported that the spray guns are segregated as to their uses (water base vs. solvent base). He indicated that MEK is now used to clean solvent application spray guns. These guns are reportedly not rinsed with water as was the reported practice in the past. To the best of my knowledge, I recall that the spent solvent is sprayed into the booth. I questioned Mr. Greenway concerning disposal of spray booth waste material. He indicated that the booths had not been cleaned and no waste had been generated from the spray booth. No collection container was noted for the collection of solvent waste.

Please advise if additional information is needed.

- Keith ✓

11-16-1991

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OTHER OFFICES
RALEIGH, N. C.
WINSTON-SALEM, N. C.

February 15, 1994

2-16-94

VIA FEDERAL EXPRESS

Mr. Stephen T. Parascandola
Associate Attorney General
State of North Carolina
Department of Justice
401 Oberlin Road, Room 16
Raleigh, NC 27605

Kid/Jesse
Review this ASAP & let's
discuss for response.
Dong

Re: Livingstone Coating Corporation
NCD 003 172 442

Dear Steve:

Enclosed are the EPA documents we discussed in our telephone conversation today. As you know, we believe that it makes more sense to handle a septic tank problem under the Groundwater Section than the Hazardous Waste Section both for legal and practical reasons. This letter outlines the legal basis for our position. For purposes of discussion, we have used the facts stipulated to in the most recent version of the AOC. However, the use of these facts is done solely for the purpose of settlement discussions and any implied admission is not intended to be an admissible in any administrative or court action.

As you know, it appears that very small amounts of chlorinated hydrocarbons have entered Livingstone's septic tank no. 2 over a period of years as a result of Livingstone's procedures for cleaning spray guns used to apply coatings. In the past, Livingstone employees may have allowed residue from rinsing the spray gun cups to go into a sink that drained into septic tank no. 2. Livingstone cleaned spray gun cups by placing a solvent in the cups and either spraying the solvent through the gun in the spray booth or dumping the solvent in a container for hazardous wastes. At this point, the cup was visibly empty and in the past the cups were sometimes rinsed out with water. (It is my understanding that the practice of rinsing the cups with water has been discontinued.)

The North Carolina Hazardous Waste Management Rules exempt from regulation all residues of hazardous waste in empty containers. Rule .0006-14, 40 C.F.R. § 261.7. The text of § 261.7

Mr. Stephen T. Parascandola
February 15, 1994
Page 2

specifically states that "any hazardous waste remaining in either (i) an empty container . . . as defined in paragraph (b) of this section, is not subject to regulation under parts 261 through 265, or part 268, 270 or 124 of this chapter or the notification requirements of Section 3010 of RCRA." In 40 C.F.R. § 261.7(b)(1), a container is deemed empty if "(i) [a]ll wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and (ii) [n]o more than 2.5 cm (1 inch) of residue remain on the bottom on the container"

We are not aware of any cases or agency decisions interpreting section 261.7, but we have located some EPA guidance documents on the subject. (As we mentioned to you, we obtained the EPA guidance documents through a FOIA request and we did not receive the response to the FOIA request until today.) The guidance documents, which are attached, indicate that the washwaters and the dislodged residue resulting from the cleaning of containers rendered "empty" are exempted from regulation as a hazardous waste by 40 C.F.R. § 261.7. Furthermore, any resulting washwater and residue do not have to undergo a characteristic analysis after being removed from the container.

It appears that Livingstone's practice of cleaning out the spray gun containers with a solvent renders the spray gun containers empty, and any subsequent cleaning of the containers with water is thereby exempted from regulation as a hazardous waste. Thus, any solvent residue entering the septic tank was by definition not a hazardous waste, and it is our understanding that the septic tank should not be regulated as a hazardous waste disposal unit.

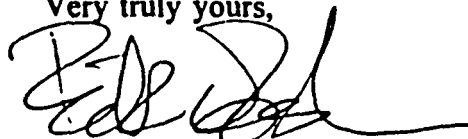
As a practical matter, it would be extremely burdensome and difficult for a small company such as Livingstone Coating to survive a full blown RCRA cleanup, as outlined in the proposed AOC. We believe that a cleanup under the 2L Regulations may be faster and more efficient, which will allow Livingstone to concentrate its small resources on doing the investigation and cleanup rather than jumping through all of the technical requirements of RCRA.

We understand that the letter conveying a revised version of the AOC to Livingstone requires that they sign the revised AOC this week. Based upon our discussion today, it is my impression that considering this new issue, the deadlines in the cover letter will not be strictly enforced. Nonetheless, we would appreciate it if you could speak with the appropriate people in the Hazardous Waste Section to determine whether they agree that it would be more appropriate for Livingstone to do the cleanup under the direction of the Groundwater Section and advise us of the results of your discussions as soon as possible. We understand that it may be possible for you to get back to us tomorrow afternoon. I will be available in the afternoon and you can speak with Shawn Sullivan if you need to contact us while I am out of the office.

Mr. Stephen T. Parascandola
February 15, 1994
Page 3

We look forward to hearing from you.

Very truly yours,



Richard C. Gaskins, Jr.

RCG/rcg
Enclosures

cc: Mr. H. Stephen Trammell (w/encls.)
Mr. William H. McNair (w/encls.)
Mr. J. Scott Moncrief (w/encls.)
Mr. Shawn F. Sullivan

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 10 1990

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Richard G. Stoll
Freedman, Levy, Kroll, and Simonds
1050 Connecticut Ave. NW
Washington, DC 20036-5366

Dear Mr. Stoll:

This letter responds to your January 15, 1990, request for a regulatory interpretation of 40 CFR 261.7, as it applies to washwaters resulting from the steam-spraying of "empty" tank cars. It is our understanding that "steam-spraying" involves the use of water only, and not additional solvents.

You are correct in your interpretation that the provision found at 40 CFR 261.7, governing residues of hazardous waste remaining in an empty container, applies to such residues when they are removed by steam-spraying. Section 261.7 does exempt the resulting washwaters from RCRA Subtitle C, including the requirement for determining whether a solid waste exhibits a hazardous characteristic under Part 261 Subpart C.

It should also be noted that the exemption at 40 CFR 261.7 applies only to "empty" containers, as defined in that section. If the steam-spraying is conducted on a container that is not empty, or is done in order to render a container empty, the residues are not exempted by 40 CFR 261.7, but rather are fully subject to RCRA Subtitle C.

I should also note that this regulatory interpretation applies only to Federal regulations. The appropriate State regulatory agency may have regulations that are more stringent or that may otherwise differ from Federal regulations. I strongly encourage you to seek such regulatory determinations from the appropriate State agencies.

Sincerely,

A handwritten signature in cursive script, appearing to read "Sylvia K. Lowrance".

Sylvia K. Lowrance
Director
Office of Solid Waste

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Scope & Application of F001-5 listings
* Solvent + Rag issue

MAY 20 1987

* See 3rd pg for EPA H.Q. stance on solvent/rag issue

Mr. Frank Czigler
Environmental Department
S & W Waste Inc.
115 Jacobus Avenue
South Kearny, New Jersey 07032

Dear Mr. Czigler:

This letter responds to your request for assistance on identifying whether certain solvents are covered under the F001 through F005 hazardous waste listings, and for clarification on the applicability of the land disposal restrictions final rule (51 FR 40572, November 7, 1986). I apologize for the delay in responding to your correspondence. After the new regulations were promulgated the Agency received numerous requests for guidance.

Each of the questions raised in your letter is restated below and followed by the appropriate response.

1. "Since the December 31, 1985 definition of the EPA waste types F001 through F005, the following solvents have been added to the listing but are not listed in table CCWE-CONSTITUENT IN WASTE EXTRACT (F.R./Vol.51, No. 216/11-7-86/Page 40642):

- 1,1,2-Trichloroethane
- 2-Ethoxyethanol
- 2-Nitropropane
- Benzene.

If these solvents are to be included in the list of wastes restricted from land disposal, what maximum concentrations in waste extract are the treatment standards expressed as?"

-- The November 7, 1986 final rule does not include treatment standards for these four newly listed F001 through F005 spent solvents. Provisions under RCRA section 3004(g)(4) require the Agency to make a determination within 6 months whether to subject newly listed hazardous wastes to the land disposal prohibitions. However, the statute does not impose an automatic prohibition if the Agency misses the deadline.

EPA expects to make land disposal restriction determinations

| | | | | | | | |
|---------|---------|---------|--|--|--|--|--|
| JOL | WA-562B | WA-562B | | | | | |
| SURNAME | Fortune | Sales | | | | | |
| DATE | 5-18-87 | 5-2-87 | | | | | |

WA-562B/B, For file/Tonya/rm S249/382-4770/5-15-87/DISK BF:2:1

pertaining to these solvent wastes in association with the scheduled listed wastes (51 FR 19300, May 29, 1986).

2. "Are wastes generated by laboratories as a result of analytical and research work, where the listed solvents are used for their solvent properties, (e.g., solvents used in liquid chromatography, rinsing paraffin off tissue culture slides, in ion exchange columns, in layer separation, in distillation, as final step of organic synthesis, in re-crystallization, etc.) regulated?"

-- Yes. Under the approach promulgated in the final rule, F001-F005 listed solvents are subject to the land disposal restrictions. If an analytical or research laboratory generates these restricted wastes, the wastes must be managed in accordance with 40 CFR Part 268. In order for a solvent waste to be covered by the F001-F005 spent solvent listings the waste must be generated as a result of the solvent being used for its "solvent" properties, that is, its ability to solubilize (dissolve) or mobilize other constituents (e.g. solvents used in degreasing, cleaning, fabric scouring, as diluents, extractants, reaction and synthesis media). In the case of solvent mixtures, the mixture must contain, before use, a total of ten percent or more (by volume) of one or more of the solvents listed in F001, F002, F004, or F005. Wastes that meet these criteria are covered by the spent solvent listings and as such, are subject to the November 7, 1986 final rule.

*Spent
1502*

3. "Are rags contaminated with listed solvents that were used for their solvent properties (e.g., in clean-up work) excluded from F001 through F005 listing and/or the November 8th regulations? This same question was posed to the RCRA-Hot Line, and the following answer was received:

"If the solvents are poured onto the surface to be cleaned, then the contaminated rags used in the clean-up fall into the F001 through F005 listing. If the solvents are poured onto the rags that are to be used in the clean-up, then the resultant dirty rags DO NOT fall into the F001 through F005 listing."

-- Technically, the interpretation of the regulations that you received from the RCRA Hotline is correct. The F001-F005 solvent listing includes certain halogenated and non-halogenated solvents when spent. A solvent is considered spent when it has been used and is no longer fit for use without being re-generated, reclaimed, or otherwise reprocessed. Therefore, when solvents are applied to a surface or machinery (and used for their solvent properties), then cleaned-off with rags, the solvents are spent and the contaminated rags are covered by the

P01-P005 listing. When solvents are applied directly to a rag prior to use, the solvent at that time is not spent and the rags are not covered by the spent solvent listing.

As a practical matter, however, in each of these scenarios, the contaminated rags would be basically identical in constituent make-up and would pose similar hazards. Furthermore, land disposal facilities (which are ultimately responsible for verifying that only wastes meeting the treatment standards are land disposed) would not be able to distinguish between rags used to cleanup spent solvents from other rags contaminated with solvent. As a result, these facilities may choose not to accept rags contaminated with solvents unless they meet the treatment standards. In light of these considerations, we recommend that any rags contaminated with listed solvents be managed as hazardous wastes.

EPA HQ stance on Rags
4. "Are dry cleaning filters used to separate solid fines out of the P001 through P005 listed solvents exempted?"

-- No. If P001 through P005 listed solvents are treated using dry cleaning filters to separate out solid fines, the resultant waste filters are also P001-P005 hazardous waste. In accordance with the "derived from" rule (40 CFR 261.3(c)(2)(1)), any solid waste generated from treatment, storage, or disposal of a hazardous waste is a hazardous waste. Thus, used filters from the treatment of spent solvents is designated as an P001-P005 waste and is subject to the land disposal restrictions.

5. "Does the process of thinning a paint for its subsequent use in the painting of a surface remove the paint from a non-P001 through P005 category (as being a commercial product) to being an P001 through P005 waste (due to solvent having been used as a diluent) if a part of the thinned paint is later disposed of as a waste?"

-- Process wastes containing solvents where the solvent is an ingredient in the formulation of a product are not covered by the spent solvent listings. In this specific case, the addition of solvent to a paint product constitutes the formulation of a modified paint product. The Agency does not recognize a distinction between paints that contain solvents and paint where solvents have been added. Therefore, thinned paint (as described in the above case) that is later discarded as a waste would not be covered under the P001-P005 spent solvent listings.

6. "Need clarification regarding the P003 solvent listing:

(a) Are we to understand the phrase, "...All spent solvent mixtures/blends containing, before use, ONLY the above spent non-halogenated solvents..." as listed under the P003 hazardous waste number listing (In P.R./Vol.

50, No.251/Tuesday 12-31-83/Page 53319) to mean that the solvent mixture must consist (before use) 100% of one or more of the non-halogenated solvents (as listed in F.R. under P003 listing). In other words, if there is any non-P003 solvent, (i.e., ethanol, mineral spirits), or other contaminant (i.e., water, oil, etc.) in the solvent mixture/blend (before use), then the waste effluent of the process would not fall under the P003 listing."

-- In order for a waste to meet the criteria of an P003 spent solvent mixture/blend it must include, before use, only solvent constituents listed under the P003 hazardous waste code, or must contain, before use, one or more of the P003 non-halogenated solvents and a total of ten percent or more of solvent constituents covered under Hazardous Waste numbers P001, P002, P004, and P005. Therefore, as you correctly stated, if the solvent mixture/blend contains (before use) other solvents such as ethanol, or mineral spirits, the spent solvent would not be considered a listed waste, in particular an P003 waste. However, the Agency does not intend to exclude such mixture from regulation where non-P003 constituents are present as contaminants in the virgin products.

(b) "As we understand it, if a solvent mixture/blend is used for its solvent properties (e.g., in cleaning out a reactor) and it is made up (before use) of less than 10 percent P001, P002, P004, and P005 solvent constituents and greater than 90 percent but less than 100 percent P003 listed solvent(s), then the resultant waste does not fall into any of the P001 through P005 hazardous waste listing(s). Is the above a correctly interpreted example?"

-- Your interpretation of the solvent mixture provisions as they apply to the scenario described in the above question is correct. If a solvent mixture/blend (before use) contains P003 listed solvents and P001, P002, P004, and P005 solvent constituents, it would not constitute a listed hazardous waste (unless the total of all P001, P002, P004, and P005 constituents meet the ten percent threshold). Although such waste streams are not listed wastes, these solvents may be regulated under RCRA if they exhibit one or more of the characteristics of hazardous waste (i.e., corrosivity, ignitability, EP toxicity or reactivity).

(c) "An often asked question by our clients is described in the following example. Please indicate whether it exhibits a correct interpretation of the D001 characteristic waste type in light of the newly defined P003 listing.

A batch reactor vessel is used in a production process. After each batch, the reactor must be thoroughly cleaned out with pure xylene. As a resource recovery/conservation measure, the clean-out effluent ("contaminated xylene") is regenerated by distillation. The

regenerated xylene is re-used as reactor cleaning stock, and the still bottoms residue must be disposed of as a hazardous waste, classified as EPA WASTE TYPE D001 according to the generator, since it exhibits characteristics of EPA-ignitability."

According to the information provided in your example, the xylene is used solely for the purpose of cleaning out the batch reactor vessel and is not a reactant or ingredient in a production process. As such, the pure xylene has been used for its solvent properties and would be considered an F003 spent solvent when it can no longer be used without further processing. Still bottoms generated from the distillation of the spent xylene also would be designated as an F003 solvent waste in accordance with the listing description, not as EPA Hazardous Waste No. D001.

7. "RCRA Hot-Line gave us the following example. Are they correct?"

- (a) "A paint reactor is cleaned out between batches with 100 percent xylene. The resulting solution is pumped into a holding tank in which the solids settle out. According to the RCRA Hot-Line, the solids do not fall into any of the F001 through F005 waste listings because the xylene is still considered 100 percent technical grade and is to be re-used after the solids are removed. If the bottom sludge/solids are found to exhibit characteristics of EPA-ignitability would they be correctly classified as D001 waste? When is the xylene considered contaminated or spent? If it is considered contaminated after the first "wash out", and used for subsequent washes, should the resultant sludge be classified as an F001 through F005 listed waste or a D001 characteristic waste?"

-- The example described above is an incorrect interpretation of the F001-F005 spent solvent listing. Regardless of whether the bottom sludge/solids removed from the holding tank exhibit the characteristic of ignitability, such wastes would be incorrectly classified as EPA Hazardous Waste No. D001. The pure xylene would become "contaminated" when it comes in contact with the paint or other impurities. Therefore, the xylene would be considered contaminated after its use during the first "wash-out" of the paint reactor. As mentioned in earlier responses, such solvents would be considered spent when they are no longer used without being regenerated, reclaimed, or otherwise reprocessed. Thus, the contaminated xylene placed into the holding tank would constitute an F001-F005 "spent" solvent because the xylene is regenerated by allowing the solids to settle out. The bottom sludge/solids accumulated and removed from the settling unit also would constitute an F001-F005 listed waste based on the "derived from" rule (40 CFR 261.3(c)(2)(1)).

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"If the tank is washed with a mixture of 90 percent xylene 10 percent mineral spirits, is the resulting sludge an F001 through F005 listed waste?"

If the solvent mixture/blend used to clean out the paint stor contained; before use, 90 percent xylene and 10 percent mineral spirits, the spent solvent waste would not meet the criteria of a listed hazardous waste (on the basis described re under question 6(a)). The resulting bottom sludge/solids would be correctly classified as a D001 hazardous waste if they exhibit the characteristic of ignitability.

"As specified in 40 CFR 261.32, "...solvent washes and sludges ..." resulting from ink formulation are properly classified as EPA waste type K086. Does this K086 classification hold true in light of the most recent definition of the F001 through F005 hazardous waste listings? If a waste meets both waste category requirements, that of a waste from a specific source and also that of an F001 through F005 - non specific source, which waste classification takes precedence?"

In cases where tubs and equipment used in ink formulation are washed by solvents, and the solvents used in the washes are included under the F001-F005 listings, the resultant solvent-wash wastes are considered hazardous wastes under the applicable solvent listings, as well as, the K086 listing (as indicated in the January 12, 1981, Background Document). Such wastes must be managed in accordance with the RCRA regulations applicable to both waste classifications. In consideration of the November 7, 1986, final rule, these solvent-wash wastes would be subject to the prohibitions and would be required to meet the applicable treatment standards prior to disposal in a Subtitle C facility.

I hope this information adequately addresses your concerns. Please feel free to contact William Fortune, of my staff at (202) 75-6715, if you have further questions on this matter.

Sincerely,

Jacqueline W. Sales, Chief
Regulation Development Section

Kent

FEB 16 1994

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RICHARD C. GASKINS, JR.
(704) 338-5003

February 15, 1994

2-16-94

VIA FEDERAL EXPRESS

Mr. Stephen T. Parascandola
Associate Attorney General
State of North Carolina
Department of Justice
401 Oberlin Road, Room 16
Raleigh, NC 27605

Kent/Jesse
Review this ASAP & let's
decide on response.
Derry

Re: Livingstone Coating Corporation
NCD 003 172 442

Dear Steve:

Enclosed are the EPA documents we discussed in our telephone conversation today. As you know, we believe that it makes more sense to handle a septic tank problem under the Groundwater Section than the Hazardous Waste Section both for legal and practical reasons. This letter outlines the legal basis for our position. For purposes of discussion, we have used the facts stipulated to in the most recent version of the AOC. However, the use of these facts is done solely for the purpose of settlement discussions and any implied admission is not intended to be an admissible in any administrative or court action.

As you know, it appears that very small amounts of chlorinated hydrocarbons have entered Livingstone's septic tank no. 2 over a period of years as a result of Livingstone's procedures for cleaning spray guns used to apply coatings. In the past, Livingstone employees may have allowed residue from rinsing the spray gun cups to go into a sink that drained into septic tank no. 2. Livingstone cleaned spray gun cups by placing a solvent in the cups and either spraying the solvent through the gun in the spray booth or dumping the solvent in a container for hazardous wastes. At this point, the cup was visibly empty and in the past the cups were sometimes rinsed out with water. (It is my understanding that the practice of rinsing the cups with water has been discontinued.)

The North Carolina Hazardous Waste Management Rules exempt from regulation all residues of hazardous waste in empty containers. Rule .0006-14, 40 C.F.R. § 261.7. The text of § 261.7

Mr. Stephen T. Parascandola
February 15, 1994
Page 2

specifically states that "any hazardous waste remaining in either (i) an empty container . . . as defined in paragraph (b) of this section, is not subject to regulation under parts 261 through 265, or part 268, 270 or 124 of this chapter or the notification requirements of Section 3010 of RCRA." In 40 C.F.R. § 261.7(b)(1), a container is deemed empty if "(i) [a]ll wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and (ii) [n]o more than 2.5 cm (1 inch) of residue remain on the bottom on the container"

We are not aware of any cases or agency decisions interpreting section 261.7, but we have located some EPA guidance documents on the subject. (As we mentioned to you, we obtained the EPA guidance documents through a FOIA request and we did not receive the response to the FOIA request until today.) The guidance documents, which are attached, indicate that the washwaters and the dislodged residue resulting from the cleaning of containers rendered "empty" are exempted from regulation as a hazardous waste by 40 C.F.R. § 261.7. Furthermore, any resulting washwater and residue do not have to undergo a characteristic analysis after being removed from the container.

It appears that Livingstone's practice of cleaning out the spray gun containers with a solvent renders the spray gun containers empty, and any subsequent cleaning of the containers with water is thereby exempted from regulation as a hazardous waste. Thus, any solvent residue entering the septic tank was by definition not a hazardous waste, and it is our understanding that the septic tank should not be regulated as a hazardous waste disposal unit.

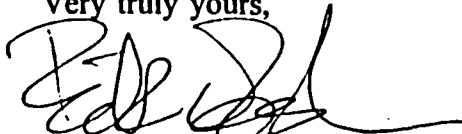
As a practical matter, it would be extremely burdensome and difficult for a small company such as Livingstone Coating to survive a full blown RCRA cleanup, as outlined in the proposed AOC. We believe that a cleanup under the 2L Regulations may be faster and more efficient, which will allow Livingstone to concentrate its small resources on doing the investigation and cleanup rather than jumping through all of the technical requirements of RCRA.

We understand that the letter conveying a revised version of the AOC to Livingstone requires that they sign the revised AOC this week. Based upon our discussion today, it is my impression that considering this new issue, the deadlines in the cover letter will not be strictly enforced. Nonetheless, we would appreciate it if you could speak with the appropriate people in the Hazardous Waste Section to determine whether they agree that it would be more appropriate for Livingstone to do the cleanup under the direction of the Groundwater Section and advise us of the results of your discussions as soon as possible. We understand that it may be possible for you to get back to us tomorrow afternoon. I will be available in the afternoon and you can speak with Shawn Sullivan if you need to contact us while I am out of the office.

Mr. Stephen T. Parascandola
February 15, 1994
Page 3

We look forward to hearing from you.

Very truly yours,



Richard C. Gaskins, Jr.

RCG/rcg
Enclosures

cc: Mr. H. Stephen Trammell (w/encls.)
Mr. William H. McNair (w/encls.)
Mr. J. Scott Moncrief (w/encls.)
Mr. Shawn F. Sullivan

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 10 1990

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

Richard G. Stoll
Freedman, Levy, Kroll, and Simonds
1050 Connecticut Ave. NW
Washington, DC 20036-5366

Dear Mr. Stoll:

This letter responds to your January 15, 1990, request for a regulatory interpretation of 40 CFR 261.7, as it applies to washwaters resulting from the steam-spraying of "empty" tank cars. It is our understanding that "steam-spraying" involves the use of water only, and not additional solvents.

You are correct in your interpretation that the provision found at 40 CFR 261.7, governing residues of hazardous waste remaining in an empty container, applies to such residues when they are removed by steam-spraying. Section 261.7 does exempt the resulting washwaters from RCRA Subtitle C, including the requirement for determining whether a solid waste exhibits a hazardous characteristic under Part 261 Subpart C.

It should also be noted that the exemption at 40 CFR 261.7 applies only to "empty" containers, as defined in that section. If the steam-spraying is conducted on a container that is not empty, or is done in order to render a container empty, the residues are not exempted by 40 CFR 261.7, but rather are fully subject to RCRA Subtitle C.

I should also note that this regulatory interpretation applies only to Federal regulations. The appropriate State regulatory agency may have regulations that are more stringent or that may otherwise differ from Federal regulations. I strongly encourage you to seek such regulatory determinations from the appropriate State agencies.

Sincerely,

Sylvia K. Lowrance
Director
Office of Solid Waste

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Scope & Application of F001-5 listings
* Solvent + Rag issue

MAY 20 1987

* See 3rd pg for EPA H.Q. stance on solvent/rag issue

Mr. Frank Czigler
Environmental Department
S & W Waste Inc.
115 Jacobus Avenue
South Kearny, New Jersey 07032

Dear Mr. Czigler:

This letter responds to your request for assistance on identifying whether certain solvents are covered under the F001 through F005 hazardous waste listings, and for clarification on the applicability of the land disposal restrictions final rule (51 FR 40572, November 7, 1986). I apologize for the delay in responding to your correspondence. After the new regulations were promulgated the Agency received numerous requests for guidance.

Each of the questions raised in your letter is restated below and followed by the appropriate response.

1. "Since the December 31, 1985 definition of the EPA waste types F001 through F005, the following solvents have been added to the listing but are not listed in table CCWE-CONSTITUENT IN WASTE EXTRACT (F.R./Vol.51, No. 216/11-7-86/Page 40642):

- 1,1,2-Trichloroethane
- 2-Ethoxyethanol
- 2-Nitropropane
- Benzene.

If these solvents are to be included in the list of wastes restricted from land disposal, what maximum concentrations in waste extract are the treatment standards expressed as?"

-- The November 7, 1986 final rule does not include treatment standards for these four newly listed F001 through F005 spent solvents. Provisions under RCRA section 3004(g)(4) require the Agency to make a determination within 6 months whether to subject newly listed hazardous wastes to the land disposal prohibitions. However, the statute does not impose an automatic prohibition if the Agency misses the deadline.

EPA expects to make land disposal restriction determinations

| | | | | | | | |
|---------|---------|---------|--|--|--|--|--|
| JOL | WA-5620 | WA-562B | | | | | |
| SURNAME | Fotima | Sales | | | | | |
| DATE | 5-18-87 | 5-21-87 | | | | | |

WH-562B/B, Fortima/Sales/Tomya/RS248/382-4770/5-15-87/DISK BP:2:1

pertaining to these solvent wastes in association with the scheduled listed wastes (51 FR 19300, May 28, 1986).

2. "Are wastes generated by laboratories as a result of analytical and research work, where the listed solvents are used for their solvent properties, (e.g., solvents used in liquid chromatography, rinsing paraffin off tissue culture slides, in ion exchange columns, in layer separation, in distillation, as final step of organic synthesis, in re-crystallization, etc.) regulated?"

-- Yes. Under the approach promulgated in the final rule, F001-F005 listed solvents are subject to the land disposal restrictions. If an analytical or research laboratory generates these restricted wastes, the wastes must be managed in accordance with 40 CFR Part 268. In order for a solvent waste to be covered by the F001-F005 spent solvent listings the waste must be generated as a result of the solvent being used for its "solvent" properties, that is, its ability to solubilize (dissolve) or mobilize other constituents (e.g. solvents used in degreasing, cleaning, fabric scouring; as diluents, extractants, reaction and synthesis media). In the case of solvent mixtures, the mixture must contain, before use, a total of ten percent or more (by volume) of one or more of the solvents listed in F001, F002, F004, or F005. Wastes that meet these criteria are covered by the spent solvent listings and as such, are subject to the November 7, 1986 final rule.

*Spent
solvent
issue*

3. "Are rags contaminated with listed solvents that were used for their solvent properties (e.g., in clean-up work) excluded from F001 through F005 listing and/or the November 8th regulations? This same question was posed to the RCRA-Hot Line, and the following answer was received:

"If the solvents are poured onto the surface to be cleaned, then the contaminated rags used in the clean-up fall into the F001 through F005 listing. If the solvents are poured onto the rags that are to be used in the clean-up, then the resultant dirty rags DO NOT fall into the F001 through F005 listing."

-- Technically, the interpretation of the regulations that you received from the RCRA Hotline is correct. The F001-F005 solvent listing includes certain halogenated and non-halogenated solvents when spent. A solvent is considered spent when it has been used and is no longer fit for use without being re-generated, reclaimed, or otherwise reprocessed. Therefore, when solvents are applied to a surface or machinery (and used for their solvent properties), then cleaned-off with rags, the solvents are spent and the contaminated rags are covered by the

P01-F005 listing. When solvents are applied directly to a rag prior to use, the solvent at that time is not spent and the rags are not covered by the spent solvent listing.

As a practical matter, however, in each of these scenarios, the contaminated rags would be basically identical in constituent make-up and would pose similar hazards. Furthermore, land disposal facilities (which are ultimately responsible for verifying that only wastes meeting the treatment standards are land disposed) would not be able to distinguish between rags used to cleanup spent solvents from other rags contaminated with solvent. As a result, these facilities may choose not to accept rags contaminated with solvents unless they meet the treatment standards. In light of these considerations, we recommend that any rags contaminated with listed solvents be managed as hazardous wastes.

EPA HQ stance on Rags
4. "Are dry cleaning filters used to separate solid fines out of the P001 through P005 listed solvents exempted?"

-- No. If P001 through P005 listed solvents are treated using dry cleaning filters to separate out solid fines, the resultant waste filters are also P001-P005 hazardous waste. In accordance with the "derived from" rule (40 CFR 261.3(c)(2)(1)), any solid waste generated from treatment, storage, or disposal of a hazardous waste is a hazardous waste. Thus, used filters from the treatment of spent solvents is designated as an P001-P005 waste and is subject to the land disposal restrictions.

5. "Does the process of thinning a paint for its subsequent use in the painting of a surface remove the paint from a non-P001 through P005 category (as being a commercial product) to being an P001 through P005 waste (due to solvent having been used as a diluent) if a part of the thinned paint is later disposed of as a waste?"

-- Process wastes containing solvents where the solvent is an ingredient in the formulation of a product are not covered by the spent solvent listings. In this specific case, the addition of solvent to a paint product constitutes the formulation of a modified paint product. The Agency does not recognize a distinction between paints that contain solvents and paint where solvents have been added. Therefore, thinned paint (as described in the above case) that is later discarded as a waste would not be covered under the P001-P005 spent solvent listings.

6. "Need clarification regarding the P003 solvent listing:

(a) Are we to understand the phrase, "...All spent solvent mixtures/blends containing, before use, ONLY the above spent non-halogenated solvents..." as listed under the P003 hazardous waste number listing (In F.R./Vol.

50, No.251/Tuesday 12-31-85/Page 53319) to mean that the solvent mixture must consist (before use) 100% of one or more of the non-halogenated solvents (as listed in F.R. under P003 listing). In other words, if there is any non-P003 solvent, (i.e., ethanol, mineral spirits), or other contaminant (i.e., water, oil, etc.) in the solvent mixture/blend (before use), then the waste effluent of the process would not fall under the P003 listing."

-- In order for a waste to meet the criteria of an P003 spent solvent mixture/blend it must include, before use, only solvent constituents listed under the P003 hazardous waste code, or must contain, before use, one or more of the P003 non-halogenated solvents and a total of ten percent or more of solvent constituents covered under Hazardous Waste numbers P001, P002, P004, and P005. Therefore, as you correctly stated, if the solvent mixture/blend contains (before use) other solvents such as ethanol, or mineral spirits, the spent solvent would not be considered a listed waste, in particular an P003 waste. However, the Agency does not intend to exclude such mixture from regulation where non-P003 constituents are present as contaminants in the virgin products.

(b) "As we understand it, if a solvent mixture/blend is used for its solvent properties (e.g., in cleaning out a reactor) and it is made up (before use) of less than 10 percent P001, P002, P004, and P005 solvent constituents and greater than 90 percent but less than 100 percent P003 listed solvent(s), then the resultant waste does not fall into any of the P001 through P005 hazardous waste listing(s). Is the above a correctly interpreted example?"

-- Your interpretation of the solvent mixture provisions as they apply to the scenario described in the above question is correct. If a solvent mixture/blend (before use) contains P003 listed solvents and P001, P002, P004, and P005 solvent constituents, it would not constitute a listed hazardous waste (unless the total of all P001, P002, P004, and P005 constituents meet the ten percent threshold). Although such waste streams are not listed wastes, these solvents may be regulated under RCRA if they exhibit one or more of the characteristics of hazardous waste (i.e., corrosivity, ignitability, EP toxicity or reactivity).

(c) "An often asked question by our clients is described in the following example. Please indicate whether it exhibits a correct interpretation of the D001 characteristic waste type in light of the newly defined P003 listing.

A batch reactor vessel is used in a production process. After each batch, the reactor must be thoroughly cleaned out with pure xylene. As a resource recovery/conservation measure, the clean-out effluent ("contaminated xylene") is regenerated by distillation. The

regenerated xylene is re-used as reactor cleaning stock, and the still bottoms residue must be disposed of as a hazardous waste, classified as EPA WASTE TYPE D001 according to the generator, since it exhibits characteristics of EPA-ignitability."

According to the information provided in your example, the xylene is used solely for the purpose of cleaning out the batch reactor vessel and is not a reactant or ingredient in a production process. As such, the pure xylene has been used for its solvent properties and would be considered an F003 spent solvent when it can no longer be used without further processing. Still bottoms generated from the distillation of the spent xylene also would be designated as an F003 solvent waste in accordance with the listing description, not as EPA Hazardous Waste No. D001.

7. "RCRA Hot-Line gave us the following example. Are they correct?"

- (a) "A paint reactor is cleaned out between batches with 100 percent xylene. The resulting solution is pumped into a holding tank in which the solids settle out. According to the RCRA Hot-Line, the solids do not fall into any of the F001 through F005 waste listings because the xylene is still considered 100 percent technical grade and is to be re-used after the solids are removed. If the bottom sludge/solids are found to exhibit characteristics of EPA-ignitability would they be correctly classified as D001 waste? When is the xylene considered contaminated or spent? If it is considered contaminated after the first "wash out", and used for subsequent washes, should the resultant sludge be classified as an F001 through F005 listed waste or a D001 characteristic waste?"

-- The example described above is an incorrect interpretation of the F001-F005 spent solvent listing. Regardless of whether the bottom sludge/solids removed from the holding tank exhibit the characteristic of ignitability, such wastes would be incorrectly classified as EPA Hazardous Waste No. D001. The pure xylene would become "contaminated" when it comes in contact with the paint or other impurities. Therefore, the xylene would be considered contaminated after its use during the first "wash-out" of the paint reactor. As mentioned in earlier responses, such solvents would be considered spent when they are no longer used without being regenerated, reclaimed, or otherwise reprocessed. Thus, the contaminated xylene placed into the holding tank would constitute an F001-F005 "spent" solvent because the xylene is regenerated by allowing the solids to settle out. The bottom sludge/solids accumulated and removed from the settling unit also would constitute an F001-F005 listed waste based on the "derived from" rule (40 CFR 261.3(c)(2)(1)).

b) "If the tank is washed with a mixture of 90 percent xylene 10 percent mineral spirits, is the resulting sludge an F001 through F005 listed waste?"

-- If the solvent mixture/blend used to clean out the paint reactor contained, before use, 90 percent xylene and 10 percent mineral spirits, the spent solvent waste would not meet the criteria of a listed hazardous waste (on the basis described above under question 6(a)). The resulting bottom sludge/solids would be correctly classified as a D001 hazardous waste if they exhibit the characteristic of ignitability.

8. "As specified in 40 CFR 261.32, "...solvent washes and sludges ..." resulting from ink formulation are properly classified as EPA waste type K086. Does this K086 classification hold true in light of the most recent definition of the F001 through F005 hazardous waste listings? If a waste meets both waste category requirements, that of a waste from a specific source and also that of an F001 through F005 - non specific source, which waste classification takes precedence?"

-- In cases where tubs and equipment used in ink formulation are washed by solvents, and the solvents used in the washes are included under the F001-F005 listings, the resultant solvent-wash wastes are considered hazardous wastes under the applicable spent solvent listings, as well as, the K086 listing (as indicated in the January 12, 1981, Background Document). Such wastes must be managed in accordance with the RCRA regulations applicable to both waste classifications. In consideration of the November 7, 1986, final rule, these solvent-wash wastes would be subject to the prohibitions and would be required to meet the applicable treatment standards prior to disposal in a Subtitle C facility.

I hope this information adequately addresses your concerns. Please feel free to contact William Fortune, of my staff at (202) 475-6715, if you have further questions on this matter.

Sincerely,

Jacqueline W. Sales, Chief
Regulation Development Section



State of North Carolina
Department of Environment, Health, and Natural Resources

512 North Salisbury Street • Raleigh, North Carolina 27604

Division of Solid Waste Management

James B. Hunt, Jr., Governor

(919) 733-2178

Jonathan B. Howes, Secretary

February 1, 1994

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. H. Stephen Trammell, President
Livingstone Coatings, Corp.
240 Rhyne Road
P.O. Box 668267
Charlotte, North Carolina 28266

RE: Administrative Order on Consent
Livingstone Coatings, Corp.
NCD 003 172 442

Dear Mr. Trammell:

I have enclosed two originals of an Administrative Order on Consent concerning the subject site for your review. This has been revised based on the submittal by Richard Gaskins, Jr. on your behalf dated December 21, 1993, and generally incorporates most of Mr. Gaskins' comments.

The Administrative Order on Consent should be executed by you, with both originals returned to this office within fourteen (14) days of receipt. If you have any further questions, please contact R. Douglas Holyfield, Branch Head, Waste Management Branch, at (919) 733-2178.

Sincerely,

A handwritten signature in cursive script that reads "Jerome H. Rhodes".

Jerome H. Rhodes, Chief
Hazardous Waste Section

Enclosures: Administrative Order on Consent (2 originals)

cc: Doug Holyfield
Jesse Wells
Steve Parascandola, Esq.
Mooresville Regional Office

or to address the contamination at the Site as described herein.

5. Livingstone is a small quantity generator of hazardous waste and operates a facility located at 240 Rhyne Road, in Mecklenburg County, North Carolina. At some point, small quantities of hazardous waste were discharged into the Unit. Livingstone is a person as defined in N.C.G.S. 130A-290(22) and 15A NCAC 13A .0002.
6. Livingstone applies industrial coatings to molds, textile cylinders, and automotive parts (windshield wiper arms). Two types of coatings are applied at the facility consisting of electrostatic powder coating and an industrial teflon coating. Teflon primer and teflon are applied using spray guns. Small amounts of hazardous waste are generated from the teflon coating process. At one point, the facility used 1,1,1-trichloroethane to clean the teflon spray guns. Water that was used to rinse the teflon spray guns after they were cleaned with 1,1,1-trichloroethane was reportedly discharged to the Unit on some occasions. These discharges, which contained 1,1,1-trichloroethane, were reported to have ceased in 1989 or earlier. Beginning in May 1988, the facility distilled the 1,1,1-trichloroethane waste in an on-site distillation unit, and in 1989 the facility reportedly ceased rinsing parts with water that had been cleaned with 1,1,1-trichloroethane.
7. In response to a Notice Of Violation ("NOV") dated December 19, 1990, issued to Livingstone by the Division of Environmental Management, Ground Water Section, and subsequently held in abeyance by the Ground Water Section, a partial site assessment was completed. The NOV was issued due to the presence of 1,1,1-trichloroethane in an on-site water supply well. At present the facility is using bottled water as a water source.

The assessment resulted in the construction of six monitoring wells in and around suspected areas of contamination. Primary contaminants identified were 1,1-dichloroethene, 1,1-dichloroethane, and 1,2-dichloroethane and 1,1,1-trichloroethane. The highest levels of contaminants were identified in monitoring well #5, which is adjacent to the Unit. In 1989, analysis of a sample collected from the Unit indicated the presence of 16,000 ppb ethylbenzene, 250,000 ppb methyl ethyl ketone, 170,000 ppb toluene, 19,000 ppb 1,1,1-trichloroethane, and 97,000 ppb xylene.

8. 40 CFR Part 264, codified at 15A NCAC 13A .0009, contains standards and requirements applicable to owners and/or operators of hazardous waste management facilities.
9. 40 CFR § 261.2(b), codified at 15A NCAC 13A .0006, states in part that materials are solid wastes if they are abandoned by being:

(1) Disposed of; or

- ✓
- (2) Burned or incinerated; or
 - (3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.
10. N.C.G.S. 130A-290(a)(6) defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.
 11. Disposal of 1,1,1-trichloroethane used as a solvent into the Unit constitutes disposal of solid waste as defined by N.C.G.S. 130A-290(a)(6).
 12. 40 CFR § 261.3(a), codified at 15A NCAC 13A .0006, states in part that a solid waste, as defined in Section 261.2, is a hazardous waste if it meets any of the following criteria:
 - i. It exhibits any of the characteristics of hazardous waste identified in Subpart C.
 - ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20 and 260.22 of this Chapter.
 13. 40 CFR § 261.31, codified at 15A NCAC 13A .0006, states that the following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under Sections 260.20 and 260.22 and listed in Appendix IX. F001 hazardous waste are the following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
 14. 1,1,1-trichloroethane solvent waste is listed hazardous waste number F001.
 15. On August 23, 1993, Mr. Jesse Wells, Waste Management Specialist with the Division, visited the Site. Mr. Wells met with Mr. Joe Greenway, Production Manager for Livingstone, to discuss current waste generation, production cleanup processes and past disposal practices. Based upon the above and the aforesaid Site visit, Mr. Wells was of the opinion that Livingstone's past operations violated 15A NCAC 13A .0009(a),

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at least to the extent that 1,1,1-trichloroethane waste was discharged into the Unit.

Order

William Meyer has determined that this AOC is in the furtherance of the public interest and, with the consent and cooperation of Livingstone, hereby orders the following action:

1. In conducting its operations at the Site, Livingstone shall abide by all terms and conditions of continued operation set forth in this AOC, and shall henceforth comply with all requirements contained in the Act and Rules.
2. Within sixty (60) days of the Effective Date of this AOC, Livingstone shall submit \$25,000.00 in administrative penalty by check or money order, payable to the Division of Solid Waste Management, mailed to Jerome H. Rhodes, Section Chief, Hazardous Waste Section, Division of Solid Waste Management, P.O. Box 27687, Raleigh, North Carolina 27611-7687.
3. Comply with 15A NCAC 13A .0009(a). Livingstone shall not treat, store, or dispose of hazardous waste except in compliance with the standards set forth in this rule, and only after having received a permit from the Division as required by 15A NCAC 13A .0013(b).

Note: 40 CFR § 264.3, codified at 15A NCAC 13A .0009, states that an owner or operator of an interim status facility must comply with the regulations specified in Part 265 of this Chapter in lieu of the regulations in this Part until final administrative disposition of his permit application is made. Although not eligible for interim status, Livingstone must comply with all applicable regulations in 40 CFR Part 265, including but not limited to the following:

- a. Comply with 40 CFR § 265.31, codified at 15A NCAC 13A .0010. Livingstone shall maintain and operate the Site in such a way as to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- b. Comply with the provisions of 40 CFR §§ 265.90 through 265.94, codified at 15A NCAC 13A .0010, by performing the following actions:
 - 1) Within thirty (30) calendar days of the Effective Date of this AOC, Livingstone must submit to the Division a ground water monitoring plan. This plan must include, at a minimum, the following items:

- a) the boring logs, well construction records/diagrams, and water levels from the existing ground water monitoring and water supply wells. The plan should include a table noting the measuring point elevations, well depth, and screen interval elevations for all wells.
- b) a description of the Site, local, and regional hydrogeologic conditions.
- c) Site map(s) with the location of buildings, property boundaries, existing monitoring wells, supply wells, septic tanks, drain lines and fields, and topography.
- d) the construction design for any proposed wells including depth and screened interval.
- e) the sample collection and analysis procedures to be utilized in sampling of ground water quality monitoring wells. A guidance document is enclosed to assist in the development of a Sampling and Analysis Plan.
- f) a schedule for the collection and analysis of ground water samples on a quarterly basis. The monitoring program should include a minimum of one up-gradient and a three down-gradient wells. The quarterly sampling schedule must include the following:

| <u>Well #</u> | <u>Sample Collection Date</u> (specify month) | <u>Parameter List</u> |
|---------------|--|---|
| 1 | | { endrin, lindane, methoxychlor, toxaphene, 2,4-D, 2,4,5-TP silvex, radium, gross alpha, gross beta}*, [arsenic, barium, cadmium, chromium, fluoride, lead, mercury, nitrate, selenium, silver, chloride, iron, manganese, phenols, sodium, sulfate, volatile and semi-volatile organic compounds, Ph, specific conductance, TOC, TOX]**, ground-water surface elevation. |

* These parameters must be analyzed for a minimum of two (2) consecutive quarterly ground water sampling events. Based on the results of these events,

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Livingstone may petition the Hazardous Waste Section to modify the parameters.

** These parameters must be analyzed for a minimum of four (4) consecutive quarterly ground water sampling events. Based on the results of these events, Livingstone may petition the Hazardous Waste Section to modify the parameters.

NOTE: This office must be notified 10 working days prior to the first sample collection date.

Analytical results of ground water samples must be submitted to this office within 45 days of the ground water monitoring event.

g) a ground water assessment plan as described in 40 CFR § 265.93(d)(3) & (4), codified at 15A NCAC 13A .0010. The assessment plan shall include plans to:

i. define the extent of ground water contamination;

ii. define preferred ground water flow directions caused by features, including but not limited to, fractures, geologic contacts, or other pumping influences;

iii. determine variations in ground water flow by measuring water levels in all on-Site monitoring wells monthly for one (1) year.

2) Within thirty (30) days of submittal of the ground water monitoring plan, Livingstone must initiate the implementation of the assessment plan including identifying and/or installing monitoring wells in accordance with Condition b.1)f).

3) Within sixty (60) calendar days of the Effective Date of this AOC, Livingstone must initiate the quarterly ground water sampling schedule.

4. Comply with 40 CFR § 265.112(a), codified at 15A NCAC 13A .0010. Within one hundred twenty (120) days of the Effective Date of this AOC, Livingstone shall have a written closure plan for all disposal unit(s) at the Site and shall submit six (6) copies of this plan to the Division for approval. Livingstone shall keep a copy of the closure plan and all revisions to the plan at the facility until closure is completed and certified in accordance with Section 265.115.

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This plan must identify the steps necessary to completely close the Unit. The closure plan must include, at least:

- a. A description of how the Unit will be closed in accordance with Section 265.111;
 - b. A description of how final closure of the Unit will be conducted in accordance with Section 265.111. The description must identify the maximum extent of the operation which will be unclosed during the active life for the facility;
 - c. An estimate of the maximum inventory of hazardous wastes ever on-Site over the active life of the facility and a detailed description of the methods to be used during closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of off-Site hazardous waste management unit(s) to be used, if applicable;
 - d. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard;
 - e. A detailed description of other activities necessary during the closure period to ensure that closure satisfies the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; and
 - f. A schedule for closure of the Site. The schedule must include, at a minimum, the total time required to close and the time required for intervening closure activities which will allow tracking of the progress of closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)
5. Comply with 40 CFR § 265.118(a), codified at 15A NCAC 13A .0010. Within one hundred twenty (120) days of the Effective Date of this AOC, Livingstone shall have a written post-closure plan which meets the requirements of paragraph (c) of Section 265.118 and shall submit six (6) copies of this plan

to the Division for approval.

6. Comply with 40 CFR § 265.142(a), codified at 15A NCAC 13A .0010. Livingstone shall have a detailed written estimate, in current dollars, of the cost of closing the Unit in accordance with the requirements in Sections 265.111 through 265.115 and applicable closure requirements of Sections 265.178, 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.281, and 265.404.
7. Comply with 40 CFR §§ 265.143, codified at 15A NCAC 13A .0010, and 265.145, codified at 15A NCAC 13A .0010. Within thirty (30) days from submittal of the closure and post-closure plans, Livingstone shall demonstrate financial assurance for closure and post-closure in accordance with the requirements of these sections. Should Livingstone fail to complete closure within one hundred and eighty (180) days of approval by the Division of its closure plan, Livingstone shall at that time immediately demonstrate liability coverage in accordance with 40 CFR § 265.147, codified at 15A NCAC 13A .0010(h).
8. Comply with 40 CFR § 165.144(a), codified at 15A NCAC 13A .0010. Livingstone shall have a detailed written estimate in current dollars of the annual cost of post-closure monitoring and maintenance of the Unit in accordance with the applicable post-closure regulations in Sections 265.117, 265.180, 265.228, 265.258, 265.280, and 265.310.
9. Comply with 40 CFR § 270.10(a), codified at 15A NCAC 13A .0013. Within forty-five (45) days of the Effective Date of this AOC, Livingstone shall complete, sign, and submit Part A of the permit application for the Unit to the Division as described in this section and Sections 270.70 through 270.73.
10. Livingstone may continue to use the Unit for the disposal of non-hazardous waste during and after closure of the Unit as a hazardous waste unit. Livingstone shall quarterly submit to the Division, along with any other required results, a certification that no hazardous wastes are being disposed of in the Unit.

Delay in Performance

If any event occurs which causes delay in the achievement of the requirements of this AOC, Livingstone shall have the burden of proving that the delay was caused by circumstances beyond its reasonable control, which could not have been overcome by due diligence. Livingstone shall promptly notify the Division orally and shall within seven (7) calendar days of oral notification to the Division notify the Division in writing of the anticipated

length and cause of the delay, and the timetable by which it intends to implement these measures. If the parties agree that the delay has been or will be caused by circumstances beyond the reasonable control of Livingstone the time for performance hereunder shall be extended for a period equal to the delay resulting from such circumstances.

Livingstone shall adopt all reasonable measures to avoid or minimize delay. Failure to comply with the above notice requirements shall constitute a waiver of the right of Livingstone to request an extension of time for performance under this AOC. Increased costs of performance of the terms of this AOC or changed economic circumstances shall not be considered circumstances beyond the control of Livingstone. In the event that the parties cannot agree that any delay in the achievement of the requirements of this AOC, including the failure to submit any report or document, has been or will be caused by circumstances beyond the reasonable control of Livingstone, the dispute shall be resolved in accordance with the provision of the "Dispute Resolution" section of this AOC.

DISPUTE RESOLUTION

If Livingstone objects to any Division notice of disapproval or decision made pursuant to this AOC, it shall notify the Division in writing of its objections within fourteen (14) calendar days of receipt of the decision. The Division and Livingstone shall then have an additional fourteen (14) calendar days from receipt by the Division of the notification of objection to reach agreement. If agreement cannot be reached on any issue within this fourteen (14) calendar day period, the Division shall immediately provide a written statement of its decision to Livingstone. If Livingstone cannot abide by the Division's decision, the AOC shall be terminated and the Division shall pursue all enforcement activities it deems necessary.

The Effective Date of this AOC shall be the date on which it is executed on behalf of Livingstone by a duly authorized representative thereof.

This AOC is hereby entered into on the ___ day of _____, 1994.

DIVISION OF SOLID WASTE MANAGEMENT
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH
AND NATURAL RESOURCES

By: _____
William Meyer, Division Director
Division of Solid Waste Management

LIVINGSTONE COATINGS CORP.

By: _____
Stephen Trammell
President

✓

North Carolina Department of Environment, Health
and Natural Resources
Division of Solid Waste Management
Hazardous Waste Section

In Re: Livingstone Coatings, Corp.)
 NCD 003 172 442)
 ADMINISTRATIVE ORDER
 ON CONSENT
 Docket # 93-400

In order to resolve a dispute and to avoid protracted litigation, Livingstone Coatings, Corp. ("Livingstone") and the Department of Environment, Health and Natural Resources ("DEHNR") of the State of North Carolina, acting through its Division of Solid Waste Management ("Division"), enter into this Administrative Order on Consent ("AOC").

The purpose of this AOC is to address conditions in and around Livingstone's facility located in Mecklenburg County, North Carolina (the "Site"), in a manner consistent with the state and federal hazardous waste laws and rules. This dispute involves the application of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. 6901 et seq., and the Solid Waste Management Act ("Act") contained in Chapter 130A of the North Carolina General Statutes and the rules promulgated thereunder and codified in Subchapter 13A of Title 15A of the North Carolina Administrative Code, 15A NCAC 13A (the "Rules").

STIPULATIONS AND FINDINGS OF FACT

1. DEHNR is empowered to implement and compel compliance with the standards for generation, transportation, treatment, storage and disposal of solid waste pursuant to RCRA. Mr. William Meyer, Division Director, has been delegated those responsibilities.
2. On December 18, 1980, the Division was authorized to operate the State RCRA Hazardous Waste Management Program under the Act and Rules.
3. The Division has jurisdiction under RCRA, the Act and Rules to require corrective action to address hazardous waste constituents in the tank, soil and ground water at the Site.
4. By entering into this AOC, Livingstone does not admit any violation of the Act, Rules, RCRA, or any other federal or state law.
5. Livingstone is a small quantity generator of hazardous waste and operated a disposal facility located at 240 Rhyne Road, in Mecklenburg County, North Carolina. Livingstone is a person as defined in N.C.G.S. 130A-290(22) and 15A NCAC 13A .0002.
6. Livingstone applies industrial coatings to molds, textile

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cylinders, and automotive parts (windshield wiper arms). Two types of coatings are applied at the facility consisting of electrostatic powder coating and an industrial teflon coating. Hazardous waste is primarily generated from the teflon coating process. Teflon primer and teflon are applied using spray guns. Prior to July of 1991, the facility used 1,1,1-trichloroethane to clean the teflon spray guns. The cleanup waste was reportedly discharged to an on-site septic tank system (septic tank #2). The disposal of 1,1,1-trichloroethane into the septic system was reported to have ceased in 1989. After 1989, the facility distilled the 1,1,1-trichloroethane waste in an on-site distillation unit.

7. In response to a Notice Of Violation ("NOV") dated December 19, 1990, issued to Livingstone by the Division of Environmental Management, Ground Water Section, a partial site assessment was completed. The NOV was issued due to the presence of 1,1,1-trichloroethane in an on-site water supply well. At present the facility is using bottled water as a water source.

The assessment resulted in the construction of five monitoring wells in and around suspected areas of contamination. Primary contaminants identified were 1,1-dichloroethene, 1,1-dichloroethane, and 1,2-dichloroethane and 1,1,1-trichloroethane. The highest levels of contaminants were identified in monitoring well #5, which is adjacent to septic tank #2. A sample was also collected from septic tank #2. Sample analysis results revealed the presence of 16,000 ppb ethylbenzene, 250,000 ppb methyl ethyl ketone, 170,000 ppb toluene, 19,000 ppb 1,1,1-trichloroethane, and 97,000 ppb xylene.

8. 40 CFR Part 264, codified at 15A NCAC 13A .0009, contains standards and requirements applicable to owners and/or operators of hazardous waste management facilities.
9. 40 CFR § 261.2(b), codified at 15A NCAC 13A .0006, states in part that materials are solid wastes if they are abandoned by being:
 - (1) Disposed of; or
 - (2) Burned or incinerated; or
 - (3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.
10. N.C.G.S. 130A-290(a)(6), defines "Disposal" as the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or

discharged into any waters, including groundwaters.

11. The disposal of 1,1,1-trichloroethane into septic tank #2 resulting in contaminated soil and ground water constitutes disposal of solid waste as defined by N.C.G.S. 130A-290(a)(6).
12. 40 CFR § 261.3(a), codified at 15A NCAC 13A .0006, states in part that a solid waste, as defined in Section 261.2, is a hazardous waste if:
 - (2) It meets any of the following criteria:
 - i. It exhibits any of the characteristics of hazardous waste identified in Subpart C.
 - ii. It is listed in Subpart D and has not been excluded from the lists in Subpart D under Sections 260.20 and 260.22 of this Chapter.
13. 40 CFR § 261.31, codified at 15A NCAC 13A .0006, states that the following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under Sections 260.20 and 260.22 and listed in Appendix IX. F001 hazardous waste are the following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
14. 1,1,1-trichloroethane (and its degradation products) that has contaminated the soil and ground water at the Site is listed hazardous waste number F001.
15. On August 23, 1993, Mr. Jesse Wells, Waste Management Specialist with the Division, visited the Site. Mr. Wells met with Mr. Joe Greenway, Production Manager, for Livingstone, to discuss current waste generation, production cleanup processes and past disposal practices. Based upon the above and the aforesaid Site visit, Mr. Wells determined that Livingstone was in violation of 15A NCAC 13A .0009(a) since it improperly disposed of 1,1,1-trichloroethane into its septic tank #2.

Order

William Meyer has determined that this Order is in the furtherance of the public interest and, with the consent and cooperation of Livingstone, hereby orders the following action:

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1. In conducting its operations at the Site, Livingstone shall abide by all terms and conditions of continued operation set forth in this AOC, and shall henceforth comply with all requirements contained in the Act and Rules.
 2. Within sixty (60) days of the Effective Date of this AOC, Livingstone shall submit \$25,000.00 in administrative penalty by check or money order, payable to the Division of Solid Waste Management, mailed to Jerome H. Rhodes, Section Chief, Hazardous Waste Section, Division of Solid Waste Management, P.O. Box 27687, Raleigh, North Carolina 27611-7687.
 3. Comply with 15A NCAC 13A .0009(a). Livingstone, shall not treat, store, or dispose of hazardous waste except in compliance with the standards set forth in this rule, and only after having received a permit from the Division as required by 15A NCAC 13A .0013(b).

Note: 40 CFR § 264.3, codified at 15A NCAC 13A .0009, states that an owner or operator of an interim status facility must comply with the regulations specified in Part 265 of this Chapter in lieu of the regulations in this Part until final administrative disposition of his permit application is made. Although not eligible for interim status, Livingstone must comply with all applicable regulations in 40 CFR Part 265, including but not limited to the following:

- I. Comply with 40 CFR § 265.31, codified at 15A NCAC 13A .0010. Livingstone shall maintain and operate the Site in such a way as to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.
- II. Comply with the provisions of 40 CFR §§ 265.90 through 265.94, codified at 15A NCAC 13A .0010, by performing the following actions:
 - A. Within thirty (30) calendar days of the Effective Date of this AOC, Livingstone must submit to the Division a ground water monitoring plan. This plan must include, at a minimum, the following items:
 1. the boring logs, well construction records/diagrams, and water levels from the existing ground water monitoring and water supply wells. The plan should include a table noting the measuring point elevations, well depth, and screen interval elevations for all wells.

2. a description of the Site, local, and regional hydrogeologic conditions.
3. Site map(s) with the location of buildings, property boundaries, existing monitoring wells, supply wells, septic tanks, drain lines and fields, and topography.
4. the construction design for any proposed wells including depth and screened interval.
5. the sample collection and analysis procedures to be utilized in sampling of ground water quality monitoring wells. A guidance document is enclosed to assist in the development of a Sampling and Analysis Plan.
6. a schedule for the collection and analysis of ground water samples on a quarterly basis. The monitoring program should include a minimum of one up-gradient and a three down-gradient wells. The quarterly sampling schedule must include the following:

| <u>Well #</u> | <u>Sample Collection Date</u> (specify month) | <u>Parameter List</u> |
|---------------|--|--|
| 1 | | {endrin, lindane, methoxychlor, toxaphene, 2,4-D, 2,4,5-TP silvex, radium, gross alpha, gross beta}*, [arsenic, barium, cadmium, chromium, fluoride, lead, mercury, nitrate, selenium, silver, chloride, iron, manganese, phenols, sodium, sulfate, volatile and semi-volatile organic compounds, Ph, specific conductance, TOC, TOX]**, ground-water surface elevation. |

* These parameters must be analyzed for a minimum of two (2) consecutive quarterly ground water sampling events. Based on the results of these events, Livingstone may petition the Hazardous Waste Section to modify the parameters.

** These parameters must be analyzed for a minimum of four (4) consecutive quarterly ground water sampling events. Based on the results of these events, Livingstone may petition the Hazardous Waste Section to modify the parameters.

NOTE: This office must be notified 10 working days prior to the first sample collection date.

Analytical results of ground water samples must be submitted to this office within 15 days of receipt from the laboratory.

7. a ground water assessment plan as described in 40 CFR § 265.93(d)(3) & (4), codified at 15A NCAC 13A .0010. The assessment plan shall include plans to:
 - a. define the extent of ground water contamination;
 - b. define preferred ground water flow directions caused by features, including but not limited to, fractures, geologic contacts, or other pumping influences;
 - c. determine variations in ground water flow by measuring water levels in all on-Site monitoring wells monthly for one (1) year.

B. Upon submittal of the ground water monitoring plan, Livingstone must initiate the implementation of the assessment plan including identifying and/or installing monitoring wells in accordance with Condition II.A.6.

C. Within sixty (60) calendar days of the Effective Date of this AOC, Livingstone must initiate the quarterly ground water sampling schedule.

III. Comply with 40 CFR § 265.112(a), codified at 15A NCAC 13A .0010. Within 60 days of the Effective Date of this AOC, Livingstone shall have a written closure plan for all disposal unit(s) at the Site and shall submit six (6) copies of this plan to the Division for approval. Livingstone shall keep a copy of the closure plan and all revisions to the plan at the facility until closure is completed and certified in accordance with Section 265.115. This plan must identify the steps necessary to completely close the facility. The closure plan must include, at least:

- i. A description of how each hazardous waste management unit at the facility will be closed in accordance with Section 265.111;

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- ii. A description of how final closure of the facility will be conducted in accordance with Section 265.111. The description must identify the maximum extent of the operation which will be unclosed during the active life for the facility;
 - iii. An estimate of the maximum inventory of hazardous wastes ever on-Site over the active life of the facility and a detailed description of the methods to be used during closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of off-Site hazardous waste management unit(s) to be used, if applicable;
 - iv. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard;
 - v. A detailed description of other activities necessary during the closure period to ensure that closure satisfies the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and run-off control; and
 - vi. A schedule for closure of the Site. The schedule must include, at a minimum, the total time required to close and the time required for intervening closure activities which will allow tracking of the progress of closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)
- IV. Comply with 40 CFR § 265.118(a), codified at 15A NCAC 13A .0010. Within sixty (60) days of the Effective Date of this AOC, Livingstone shall have a written post-closure plan which meets the requirements of paragraph (c) of Section 265.118 and shall submit six (6) copies of this plan to the Division for approval.

- V. Comply with 40 CFR § 265.142(a), codified at 15A NCAC 13A .0010. Livingstone shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in Sections 265.111 through 265.115 and applicable closure requirements of Sections 265.178, 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.281, and 265.404.
- VI. Comply with 40 CFR §§ 265.143, codified at 15A NCAC 13A .0010, and 265.145, codified at 15A NCAC 13A .0010. Within sixty (60) days from submittal of the closure and post-closure plans, Livingstone shall demonstrate financial assurance for closure and post-closure in accordance with the requirements of these sections. Should Livingstone fail to complete closure within one hundred and eighty (180) days of approval by the Division of its closure plan, Livingstone shall at that time immediately demonstrate liability coverage in accordance with 40 CFR § 265.147, codified at 15A NCAC 13A .0010(h).
- VII. Comply with 40 CFR § 165.144(a), codified at 15A NCAC 13A .0010. Livingstone shall have a detailed written estimate in current dollars of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in Sections 265.117, 265.180, 265.228, 265.258, 265.280, and 265.310.
4. Comply with 40 CFR § 270.10(a), codified at 15A NCAC 13A .0013. Within forty-five (45) days of the Effective Date of this AOC, Livingstone shall complete, sign, and submit Part A of the permit application to the Division as described in this section and Sections 270.70 through 270.73.

Delay in Performance

If any event occurs which causes delay in the achievement of the requirements of this AOC, Livingstone shall have the burden of proving that the delay was caused by circumstances beyond its reasonable control, which could not have been overcome by due diligence. Livingstone shall promptly notify the Division orally and shall within seven (7) calendar days of oral notification to the Division notify the Division in writing of the anticipated length and cause of the delay, and the timetable by which it intends to implement these measures. If the parties agree that the delay has been or will be caused by circumstances beyond the reasonable control of Livingstone the time for performance hereunder shall be extended for a period equal to the delay resulting from such circumstances.

Livingstone shall adopt all reasonable measures to avoid or

minimize delay. Failure to comply with the notice requirements of this section shall constitute a waiver of the right of Livingstone to request an extension of time for performance under this AOC. Increased costs of performance of the terms of this AOC or changed economic circumstances shall not be considered circumstances beyond the control of Livingstone. In the event that the parties cannot agree that any delay in the achievement of the requirements of this AOC, including the failure to submit any report or document, has been or will be caused by circumstances beyond the reasonable control of Livingstone, the dispute shall be resolved in accordance with the provision of the "Dispute Resolution" Section of this AOC.

DISPUTE RESOLUTION

If Livingstone objects to any Division notice of disapproval or decision made pursuant to this AOC, it shall notify the Division in writing of its objections within fourteen (14) calendar days of receipt of the decision. The Division and Livingstone shall then have an additional fourteen (14) calendar days from receipt by the Division of the notification of objection to reach agreement. If agreement cannot be reached on any issue within this fourteen (14) calendar day period, the Division shall immediately provide a written statement of its decision to Livingstone. If Livingstone cannot abide by the Division's decision, the AOC shall be terminated and the Division shall pursue all enforcement activities it deems necessary.

The Effective Date of this AOC shall be the date on which it is executed on behalf of Livingstone by a duly authorized representative thereof.

This AOC is hereby entered into on the ___ day of _____, 1993.

DIVISION OF SOLID WASTE MANAGEMENT
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT, HEALTH
AND NATURAL RESOURCES

By: _____
William Meyer, Division Director
Division of Solid Waste Management

LIVINGSTONE COATINGS CORP.

By: _____
Stephen Trammell
President

✓

HAZARDOUS WASTE SECTION
DIVISION OF SOLID WASTE MANAGEMENT

MEETING WITH

NAME Livingstone Coatings, Corp ADDRESS Charlotte, NC
DATE 12-7-93 EPA ID NUMBER NC003172442 DOCKET NUMBER 93-400

| ATTENDING | REPRESENTING & PHONE NUMBER |
|-------------------|--|
| Linda Culpepper | NC Hazardous Waste Section (919) 733-2178 |
| Jesse Wells | " " " " " " " |
| Ding Holyfield | " " " " " " " |
| Jerry Phadras | " " " " " " |
| Steve Pascandola | NC Attorney General's office 733-8352 |
| Shawn F. Sullivan | Petree stockton rep.ing Livingstone Coatings |
| Rick Caskins | " " 704-335-5013 |
| H.S. Trammell | Livingstone Coatings Corp 704-332-2312 |
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506.

Region IV CM&E Form - Side A

EPA ID: N C D 0 0 3 1 7 2 4 4 2

Submitted by: _____ Date: _____
Entered by: _____ Date: _____

Facility Name: LIVINGSTONE COATINGS City: Charlotte

EVALUATION DATA: New: Change: _____ Delete: _____ (_____ : Required)

Agency: S Date: 08 / 30 / 93 Type: CEI Control Number Data Entry Personnel _____

Person: 025 Reason:

Coverage Areas: (E: Evaluated NE: Not Evaluated NA: Not Applic. D:Del.)

| Generators | |
|------------|--------------------------|
| GER | <input type="checkbox"/> |
| GGR | <input type="checkbox"/> |
| GLB | <input type="checkbox"/> |
| GSQ | <input type="checkbox"/> |
| GMR | <input type="checkbox"/> |
| GOR | <input type="checkbox"/> |
| GPT | <input type="checkbox"/> |
| GRR | <input type="checkbox"/> |
| GSC | <input type="checkbox"/> |

| Transporters | |
|--------------|--------------------------|
| TGR | <input type="checkbox"/> |
| TMR | <input type="checkbox"/> |
| TOR | <input type="checkbox"/> |
| TRR | <input type="checkbox"/> |
| TWD | <input type="checkbox"/> |

| TSD'S | | | | | |
|-------|--------------------------|-----|--------------------------|-----|--------------------------|
| DCH | <input type="checkbox"/> | DLB | <input type="checkbox"/> | DPB | <input type="checkbox"/> |
| DCL | <input type="checkbox"/> | DLF | <input type="checkbox"/> | DPP | <input type="checkbox"/> |
| DCP | <input type="checkbox"/> | DLT | <input type="checkbox"/> | DSI | <input type="checkbox"/> |
| DFR | <input type="checkbox"/> | DMC | <input type="checkbox"/> | DTR | <input type="checkbox"/> |
| DGS | <input type="checkbox"/> | DMR | <input type="checkbox"/> | DTT | <input type="checkbox"/> |
| DGW | <input type="checkbox"/> | DOR | <input type="checkbox"/> | DWP | <input type="checkbox"/> |
| DIN | <input type="checkbox"/> | DOT | <input type="checkbox"/> | | |

Compliance Schedule (TSD, Gen., Trans.)
FEA CAS

Evaluation Comments: (72) 1: See Attached Memos. - Compliance Order Pending
2: _____

VIOLATION DATA: New: _____ Change: _____ Delete: _____

Agency: Type: Date (mdy) Determined: / / Class:

Priority: Branch: Person: Seq. Number (Data Entry)

Return to Compliance: / / Scheduled Actual

Reg. Type: Reg. Description (30): _____

Comment (72): _____

Agency: Type: Date (mdy) Determined: / / Class:

Priority: Branch: Person: Seq. Number (Data Entry)

Return to Compliance: / / Scheduled Actual

Reg. Type: Reg. Description (30): _____

Comment (72): _____

Agency: Type: Date (mdy) Determined: / / Class:

Priority: Branch: Person: Seq. Number (Data Entry)

Return to Compliance: / / Scheduled Actual

Reg. Type: Reg. Description (30): _____

Comment (72): _____

Continue violation data on Side B if necessary -

1-1 Joe Greenway Manufacturing Manager ▽

Washing of Spray

= 3 types of Teflon - (one water borne * majority)
& solvent based Teflons ⇒ DuPont material = license applicators
Put coating on & ship back to customers
Teflon wears off = break coating down. (Re work)

Textile cylinders / new cylinders.

Screen Spray III PCS = 5 Clean sand then coated ⇒
filters are the same!

Spray Purification
CAMU

Powder Coating Fine

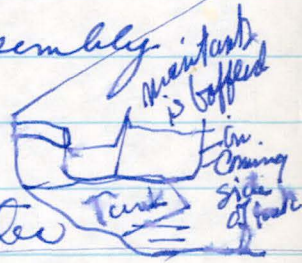
windshield wiper blade holder.

Clean^{FE} phosphate par.]

Ship parts out to assembly.
one product.

Alkaline + water / FE / PHO / Hot rinse

10% Chrome
Solvent water



Drip Pad
Vapor Degreaser (May 1993)
Clean-out

And then powder coat!

MEK = Used to clean solvent

Segregated Spray Guns ⇒ Solvent

Primer = One Top coat

Water base & rinse in two sinks.

1991

Do not put down
drain!

Cleaning &

[Catch in Pads & Recycle in distillation] alkaline

[Do not use vapor degreaser - III, TCA]

1805
1991 = 153
1958
1990 = 775
180
775

PETREE STOCKTON, L.L.P.
ATTORNEYS AT LAW

1001 WEST FOURTH STREET
WINSTON-SALEM, NORTH CAROLINA 27101-2400
(910) 607-7300 FAX (910) 607-7500

3500 ONE FIRST UNION CENTER
CHARLOTTE, NORTH CAROLINA 28202-6001
(704) 338-5000 FAX (704) 338-5125

4101 LAKE BOONE TRAIL, SUITE 400
RALEIGH, NORTH CAROLINA 27607-6519
(919) 420-1700 FAX (919) 420-1800

RICHARD C. GASKINS, JR.
(704) 338-5003

November 16, 1993

Mr. Doug Holyfield
Branch Head, Waste Management Branch
State of North Carolina, Department
of Environment, Health & Natural Resources
P.O. Box 27687
Raleigh, NC 27611-7687

Re: Livingstone Coating Corporation
NCD 003 172 442

Dear Doug:

Thank you for agreeing to reschedule the meeting to discuss the Administrative Order on Consent proposed to Livingstone Coating Corporation. It is my understanding that we will meet at 1 p.m. on Tuesday, December 7, 1993, at your office in Raleigh. Steve Trammell and I will be attending the meeting on behalf of Livingstone Coating. I assume that you, Judy Bullock and possibly others will be attending the meeting on behalf of the Division of Solid Waste Management.

I hope that we can get this matter resolved in a speedy and efficient manner. However, based upon our conversation today, it is my understanding that the Division of Solid Waste Management will not take any action with respect to Livingstone Coating Corporation prior to the meeting.

I am looking forward to meeting with you on December 7.

Mr. Doug Holyfield
November 16, 1993
Page 2

With best regards.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Richard C. Gaskins, Jr.', written in a cursive style.

Richard C. Gaskins, Jr.

RCGjr/jmm

cc: Mr. H. Stephen Trammell
Judith R. Bullock, Esq.
Mr. Jesse W. Wells

089:201685.00001
089\86147

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

ACTIVITY REPORT

SUBJECT: Livingston Coatings

LOCATION: Rhyne Rd, Mecklenburg Co.

DATE: August 23, 1993

ADDRESS:

TIME SPENT: 2 hours

CITY: Charlotte

STATE: N.C.

ZIP:

BY WHOM: Jesse W. Wells

PERSONS CONTACTED: Mr. Joe Greenway & Mr. Steve Trammell

REASON FOR VISIT: Discuss present waste generation and production
clean up methods.

COPIES TO: Mr. Keith Masters

REPORT:

WHO: Livingston Coating Corp.

WHAT: Discuss waste generation & clean up procedure

WHEN: August 23, 1993

WHERE: Rhyne Rd., Charlotte, Mecklenburg County, N.C.

WHY: To determine potential RCRA violations and also to discuss
potential RCRA closure of on site septic system.

SUMMARY: More detailed report will be generated

ACTIVITY TYPE: CHECK MOST APPROPRIATE

- | | |
|-------------------------|-----------------|
| 1. COMPLAINT | 5. PRESENTATION |
| 2. SPILL | 6. TRAINING |
| 3. TECHNICAL ASSISTANCE | 7. OTHER |
| 4. MEETING | X |

MEMO

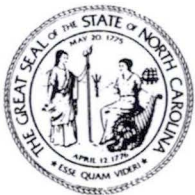
DATE: 11-16-93

TO: Terry / Judy / Keith / **Tessa** / Linda

SUBJECT: Livingstone Landings

The 11-29-93 meeting has been cancelled
& rescheduled for 12-7-93 at 1:00.
This was requested due to scheduling conflicts
of their attorney Rick Caskins (704-338-5003)

From: *Dory*



North Carolina Department of Environment,
Health, and Natural Resources



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DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

ACTIVITY REPORT

SUBJECT: Livingston Coatings

LOCATION: Rhyne Rd, Mecklenburg Co.

DATE: August 23, 1993

ADDRESS: TIME SPENT: 2 hours

CITY: Charlotte

STATE: N.C.

ZIP:

BY WHOM: Jesse W. Wells

PERSONS CONTACTED: Mr. Joe Greenway & Mr. Steve Trammell

REASON FOR VISIT: Discuss present waste generation and production
clean up methods.

COPIES TO: Mr. Keith Masters

REPORT:

WHO: Livingston Coating Corp.

WHAT: Discuss waste generation & clean up procedure

WHEN: August 23, 1993

WHERE: Rhyne Rd., Charlotte, Mecklenburg County, N.C.

WHY: To determine potential RCRA violations and also to discuss
potential RCRA closure of on site septic system.

SUMMARY: More detailed report will be generated

ACTIVITY TYPE: CHECK MOST APPROPRIATE

- | | |
|-------------------------|-----------------|
| 1. COMPLAINT | 5. PRESENTATION |
| 2. SPILL | 6. TRAINING |
| 3. TECHNICAL ASSISTANCE | 7. OTHER |
| 4. MEETING | X |

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Solid Waste Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary



November 2, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. H. Stephen Trammell, President
Livingstone Coatings, Corp.
240 Rhyne Road
P.O. Box 668267
Charlotte, North Carolina 28266

RE: Administrative Order on Consent
Livingstone Coatings, Corp.
NCD 003 172 442

Dear Mr. Trammell:

I have enclosed two originals of an Administrative Order on Consent concerning the subject site for your review.

The Administrative Order on Consent should be executed by you, with both originals returned to this office within fourteen (14) days of receipt. If the Administrative Order on Consent is not signed within the specified time frame, then a Compliance Order with Administrative Penalty (in which each violation could be assessed at \$25,000.00) will be issued. If you desire to schedule an informal conference to discuss the Administrative Order on Consent, please contact R. Douglas Holyfield, Branch Head, Waste Management Branch, at (919) 733-2178.

Sincerely,

Jerome H. Rhodes, Chief
Hazardous Waste Section

Enclosures: Administrative Order on Consent (2 originals)

cc: Doug Holyfield
Jesse Wells ✓
Attorney General Staff
Mooresville Regional Office

✓

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

ACTIVITY REPORT

SUBJECT: Livingstone Coatings, Inc.

LOCATION: Rhyne Road

DATE: August 16, 1993

ADDRESS: P.O. Box 668267

TIME SPENT: 3 Hours

CITY: Charlotte

STATE: N.C.

ZIP: 28266

BY WHOM: Jesse W. Wells

PERSONS CONTACTED: Mr. H. Stephen Trammell, President

REASON FOR VISIT: Determine Status of Groundwater Contamination
Incident

COPIES TO: Mr. Keith Masters

REPORT:

WHO: Livingstone Coatings

WHERE: Rhyne Road at N.C. Hwy 27, near Paw Creek, Mecklenburg
County, N.C.

WHEN: August 16, 1993

WHAT: Discuss source of potential GW contamination and review
present waste streams. Discuss past waste streams and
disposal practices.

SUMMARY:

1. Type of Facility: Industrial coatings are applied at the site.
Two types of coatings are applied: electrostatic powder coating
and industrial teflon coating.
2. Primary contaminant identified in GW is 111 Trichloroethane.
3. The facility disposes of industrial process waste into two
septic tank systems. One system collects rinse water from 5 stage
wash systems. The wash system consist of acid/alkaline solutions
and water rinses with pH adjustment prior to discharge to the
septic system. The other waste system designated septic tank #2
was determined to have been used to collect waste from the teflon
coating operation. A Law Engineering report dated May 10, 1991
indicates that Mr. Steve Trammell reported that 111 Trichloroethane

✓

was used in small quantities for cleaning spray guns with a subsequent discharge into septic tank #2. Reportedly, this practice has ceased. One monitor well constructed adjacent to septic tank #2 indicated the presence of 111 Trichloroethane and related degradation products. Mr. Trammel reported that 111 Tri is still used to clean the spray guns. The material is then wiped with paper wipes. He did indicate that once the guns have been cleaned and wiped, they are rinsed out in the sink with water and this rinse is discharged to the number 2 septic tank.

4. Mr. Trammell did not know how the wipes were being disposed. I contacted him on Aug. 17, 1993 and he indicated that he would discuss the disposal of the wipes with his manufacturing manager, Mr. Joe Greenway. I also requested that he question Mr. Greenway concerning the clean up procedure for the teflon spray guns.

5. The septic tank systems were approved by Mecklenburg County. The MRO WQ files indicate that a non-discharge permit was never issued by the State. In discussion with Mr. Kim Colson, MRO WQ Staff, the jurisdiction for the septic system now lies with Mecklenburg County.

6. Based upon information reviewed in the MRO GW files the most likely source of contamination is septic tank system #2. Based upon the Law Engineering report dated May 10, 1991, F002 solvent waste has been discharged into the septic system.

Please advise of what actions would be most appropriate in addressing this site as far as a RCRA disposal facility and what actions need to be taken to address groundwater remediation issues. If any questions, please advise.

ATTACHMENT: Page six, Law Engineering Report, May 10, 1991

ACTIVITY TYPE: CHECK MOST APPROPRIATE

- | | |
|-------------------------|-----------------|
| 1. COMPLAINT | 5. PRESENTATION |
| 2. SPILL | 6. TRAINING |
| 3. TECHNICAL ASSISTANCE | 7. OTHER |
| 4. MEETING | X |

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DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

ACTIVITY REPORT

SUBJECT: Livingstone Coatings Corporation, SQG, NCD 003172442

LOCATION: 240 Rhyne Rd. Mecklenburg Co. DATE: August 30, 1993

ADDRESS: P.O. Box 668267 TIME SPENT: 4 Hours

CITY: Charlotte STATE: N.C. ZIP: 28266

BY WHOM: Jesse W. Wells

PERSONS CONTACTED: Joe Greenway & Stephen Trammell

REASON FOR VISIT: Discuss present waste generation, production
cleanup processes and past disposal practices.

COPIES TO: Mr. Keith Masters

REPORT:

On August 23, 1993 I met with Mr. Joe Greenway, Production Manager, Livingstone Coatings Corporation to discuss present waste generation, production cleanup processes and past disposal practices. This site was referred to the Hazardous Waste Section by the DEM\GW Section due to the presence of 111 trichloroethane (TCA) in the groundwater on site.

This facility applies industrial coatings to molds, textile cylinders, and automotive parts (windshield wiper arms). Two types of coatings are applied at the facility consisting of electrostatic powder coating and an industrial teflon coating. Hazardous waste is primarily generated from the teflon coating process. Teflon primer and teflon is applied using spray guns. Prior to a visit to the facility by Ms. Spring Allen on or about July of 1991 the facility used TCA to clean the teflon spray guns. In a Law Engineering Report dated May 10, 1991 Mr. Steve Trammell acknowledged that TCA was used in small quantities to clean spray guns used in the teflon application process. The cleanup waste was reportedly discharged to an on site septic tank system (septic tank #2). The disposal of TCA into the septic system was reported to have ceased in 1989. After 1989, the facility distilled the TCA waste in an on site distillation unit.

In response to a NOV dated December 19, 1990 issued to the facility by the DEM\GW Section a partial site assessment was completed. The notice was issued due to the presence of TCA in an on-site water

supply well. At present the facility is using bottled water as a water source.

The assessment resulted in the construction of five monitor wells in- and around suspected areas of contamination. Primary contaminants identified were 1,1 Dichloroethene, 1,1 Dichloroethane and 1,2 Dichloroethane and TCA. These contaminants can be considered by-products of the degradation of TCA. The highest levels of contaminants were identified in MW5. MW5 is located adjacent of septic tank #2, which is suspected of receiving spent solvent waste in the past. Only minor contamination was identified in the leach field area of septic tank #2. Copies of the Law reports are available in the MRO. In addition to well samples, a sample was collected from septic tank # 2. The analysis indicated the presence of the following contaminants as a result of sampling conducted on or about January 31, 1989:

1. ethylbenzene - 16,000 ppb
2. MEK - 250,000 ppb
3. toluene - 170,000 ppb
4. TCA - 19,000 ppb
5. xylene - 97,000 ppb

I have attached a copy of a facility map outlining the location of the septic tank and associated monitor wells. Also attached is a copy of the latest water quality results from the monitor wells collected during 1991.

In my discussions with facility personnel they do not deny the fact that contaminants are contained within the septic tank but they do question whether the tank is the primary source.

Based upon a review of the DEM\GW Livingstone Coating file and the two site visit, it appears that the contamination most likely occurred from RCRA related activities. The information available to date appears to indicate that the contamination has not migrated off site. The facility has apparently changed its mode of operation to prevent additional contamination. However, two on site septic systems are still being utilized for the disposal of industrial waste water due to the lack of sanitary sewage facility's within close proximity to the facility.

Please advise on what action you feel will be appropriate in bringing this facility into RCRA compliance. If additional information, is desired please contact me.

ACTIVITY TYPE: CHECK MOST APPROPRIATE

- | | |
|-------------------------|--------------------------|
| 1. COMPLAINT | 5. PRESENTATION |
| 2. SPILL | 6. TRAINING |
| 3. TECHNICAL ASSISTANCE | 7. OTHER DEM\GW Referral |
| 4. MEETING | X |

TABLE 3

WATER QUALITY TEST RESULTS
 Livingstone Coating Corporation
 Rhyne Road
 Mecklenburg County, North Carolina
 LAW JOB NO. CHW 7074A

| Sampling Dates | Water** | Well Number | | | | | | Rinse | Trip | NCDEM |
|-------------------------|-------------|-------------|---------|---------|---------|--------|--------|---------|---------|---------|
| | Supply Well | MW-1 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 | Blank | Blank | MCL (1) |
| 9/20/90 | | 1/25/91 | 1/25/91 | 1/25/91 | 1/25/91 | 4/9/91 | 4/9/91 | 1/25/91 | 1/25/91 | |
| <u>ORGANICS (ug/l)*</u> | | | | | | | | | | |
| 1,1-Dichloroethane | ND | ND | ND | 31 | ND | 16 | 10 | ND | ND | NS |
| 1,1,1-Trichloroethane | 541 | ND | ND | 60 | ND | 380 | 16 | ND | ND | 200 |
| Xylenes (Total) | ND | ND | ND | 9 | ND | ND | ND | ND | ND | 400 |
| 1,1-Dichloroethene | 207 | ND | ND | 80 | ND | 230 | 14 | ND | ND | 7 |
| 1,2-Dichloroethane | ND | ND | ND | ND | ND | 41 | ND | ND | ND | 0.38 |
| Chloroform | ND | ND | ND | ND | ND | ND | ND | 8 | ND | 0.19 |

NOTES:

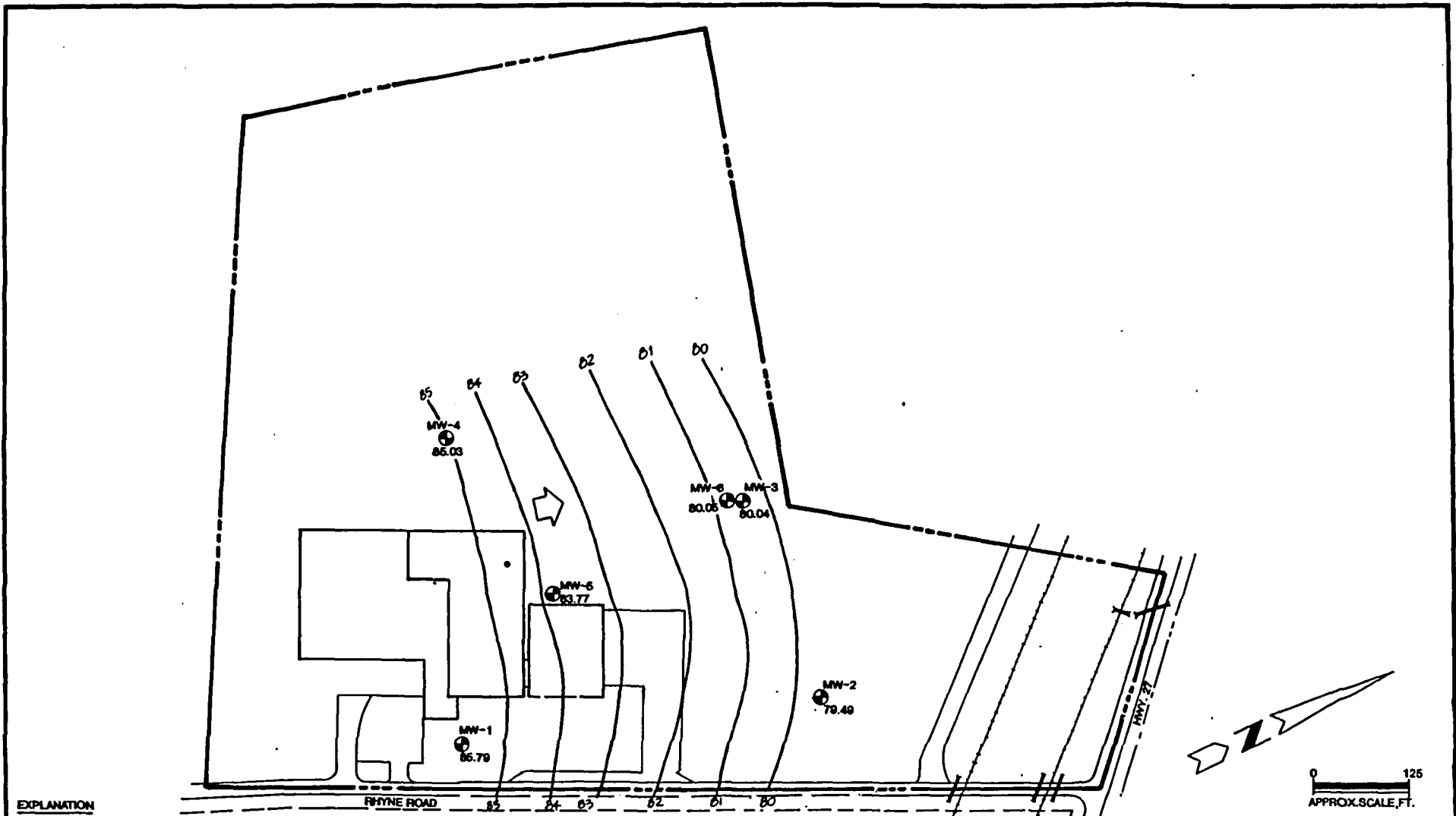
(1) NCDEM MCL = North Carolina Division of Environmental Management maximum contaminant level

NS = No standard has been established

ND = Not Detected

*The parameters/constituents listed are those detected during laboratory analyses. See Appendix C for detailed laboratory results.

**The water supply well was sampled and tested by others.

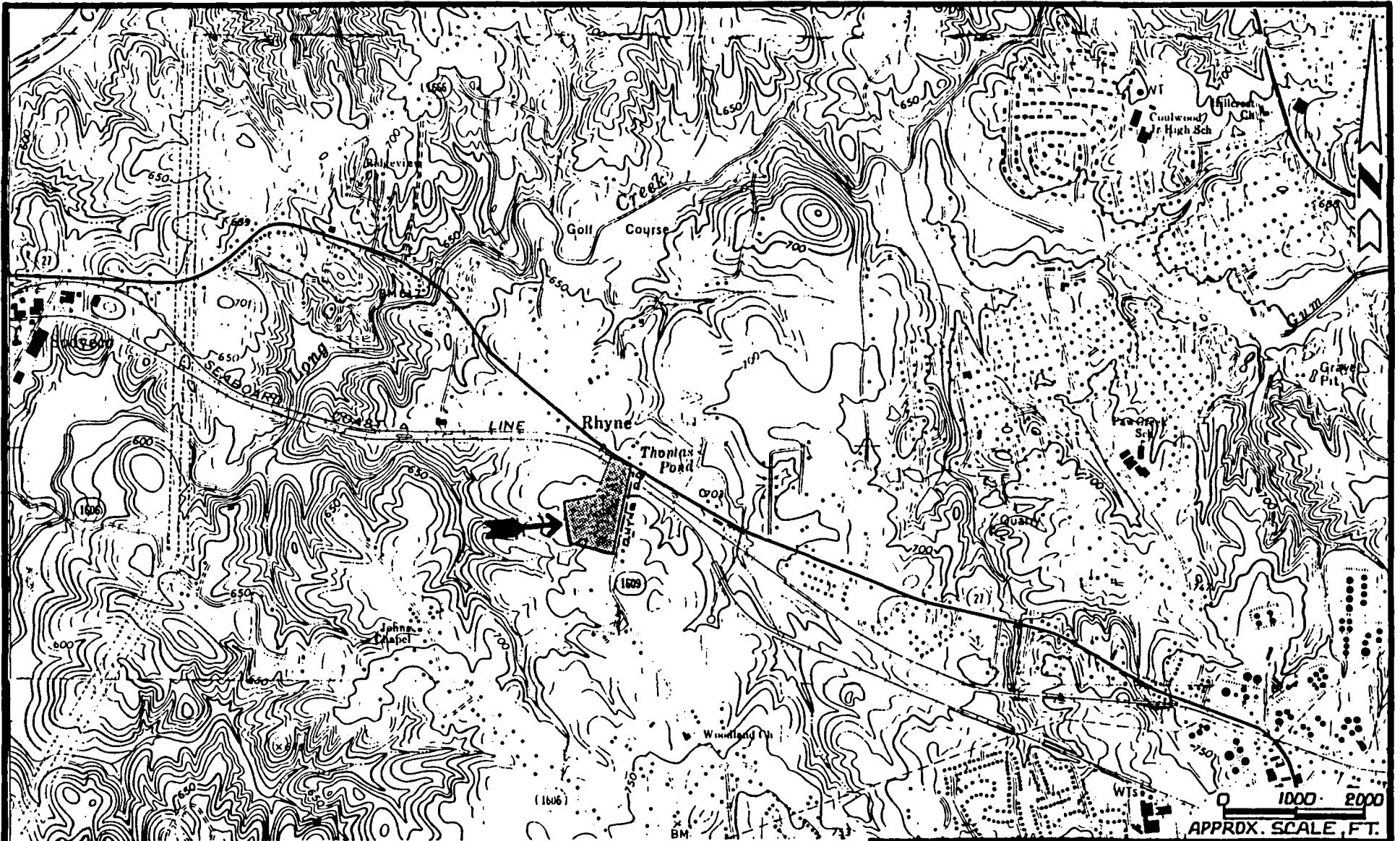


EXPLANATION

- APPROX. SITE BOUNDARY
- ⊕ APPROXIMATE MONITORING WELL LOCATION
- APPROXIMATE LOCATION OF WATER SUPPLY WELL
- GROUND-WATER FLOW DIRECTION

NOTE: GROUND WATER ELEVATIONS MEASURED ON APRIL 18, 1981
 REF.: TOPOGRAPHIC SITE PLAN PREPARED BY SALINE & SIDES; DATED 11-29-83

| | |
|---|----------|
| LAW ENGINEERING CHARLOTTE, NORTH CAROLINA | |
| GROUND WATER CONTOUR MAP LIVINGSTONE COATING CORPORATION MECKLENBURG COUNTY, NORTH CAROLINA | |
| JOB NO. - CHW 7074A | FIGURE 3 |



EXPLANATION

■ APPROX. SITE LOCATION

REF.: U.S.G.S. 7 1/2 MIN. TOPOGRAPHIC MAP, MOUNTAIN ISLAND LAKE, N.C., DATED 1969.



**LAW ENGINEERING
CHARLOTTE, NORTH CAROLINA**

**SITE LOCATION
LIVINGSTONE COATING CORPORATION
MECKLENBURG COUNTY, NORTH CAROLINA**

JOB NO. CHW 7074A

FIGURE 1

✓

DEPARTMENT OF ENVIRONMENT, HEALTH, AND NATURAL RESOURCES
DIVISION OF SOLID WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

ACTIVITY REPORT

SUBJECT: Livingstone Coatings, Inc.

LOCATION: Rhyne Road

DATE: August 16, 1993

ADDRESS: P.O. Box 668267

TIME SPENT: 3 Hours

CITY: Charlotte

STATE: N.C.

ZIP: 28266

BY WHOM: Jesse W. Wells

PERSONS CONTACTED: Mr. H. Stephen Trammell, President

REASON FOR VISIT: Determine Status of Groundwater Contamination Incident

COPIES TO: Mr. Keith Masters

REPORT:

WHO: Livingstone Coatings

WHERE: Rhyne Road at N.C. Hwy 27, near Paw Creek, Mecklenburg County, N.C.

WHEN: August 16, 1993

WHAT: Discuss source of potential GW contamination and review present waste streams. Discuss past waste streams and disposal practices.

SUMMARY:

1. Type of Facility: Industrial coatings are applied at the site. Two types of coatings are applied: electrostatic powder coating and industrial teflon coating.
2. Primary contaminant identified in GW is 111 Trichloroethane.
3. The facility disposes of industrial process waste into two septic tank systems. One system collects rinse water from 5 stage wash systems. The wash system consist of acid/alkaline solutions and water rinses with pH adjustment prior to discharge to the septic system. The other waste system designated septic tank #2 was determined to have been used to collect waste from the teflon coating operation. A Law Engineering report dated May 10, 1991 indicates that Mr. Steve Trammell reported that 111 Trichloroethane was used in small quantities for cleaning spray guns with a

subsequent discharge into septic tank #2. Reportedly, this practice has ceased. One monitor well constructed adjacent to septic tank #2 indicated the presence of 111 Trichloroethane and related degradation products. Mr. Trammel reported that 111 Tri is still used to clean the spray guns. The material is then wiped with paper wipes. He did indicate that once the guns have been cleaned and wiped, they are rinsed out in the sink with water and this rinse is discharged to the number 2 septic tank.

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5. The septic tank systems were approved by Mecklenburg County. The MRO WQ files indicate that a non-discharge permit was never issued by the State. In discussion with Mr. Kim Colson, MRO WQ Staff, the jurisdiction for the septic system now lies with Mecklenburg County.

6. Based upon information reviewed in the MRO GW files the most likely source of contamination is septic tank system #2. Based upon the Law Engineering report dated May 10, 1991, F002 solvent waste has been discharged into the septic system.

Please advise of what actions would be most appropriate in addressing this site as far as a RCRA disposal facility and what actions need to be taken to address groundwater remediation issues. If any questions, please advise.

ATTACHMENT: Page six, Law Engineering Report, May 10, 1991

ACTIVITY TYPE: CHECK MOST APPROPRIATE

- | | |
|-------------------------|-----------------|
| 1. COMPLAINT | 5. PRESENTATION |
| 2. SPILL | 6. TRAINING |
| 3. TECHNICAL ASSISTANCE | 7. OTHER |
| 4. MEETING | X |

CHEMICAL ANALYSIS OF GROUND-WATER SAMPLES

Analytical results of the six groundwater samples and the quality assurance blanks are included in Appendix C, with a summary presented in Table 3. No volatile organic compounds were present above the detection limit in monitoring wells MW-1, MW-2 and MW-4. MW-4 was also tested for base neutral and acid extractable compounds and none were present. Ground-water samples from well MW-3 (shallow) and the adjacent well MW-6 (deep) contained concentration levels of 1,1-Dichloroethane, 1,1-Dichloroethene and 1,1,1-Trichloroethane ranging from 10 to 80 parts per billion (ppb). MW-3 also detected total xylenes at a concentration level of 9 ppb. The ground-water sample from MW-5 contained 1,1,1-Trichloroethane, 1,1-Dichloroethane, 1,1-Dichloroethene and 1,2-Dichloroethane at concentration levels of 380 ppb, 16 ppb, 230 ppb and 41 ppb, respectively.

COMMENTS AND RECOMMENDATIONS

The North Carolina Division of Environmental Management maximum contaminant level (ground water standard) for 1,1,1-Trichloroethane is 200 ppb. The detected levels of this constituent in the water supply well and MW-5 exceed the ground-water standard. The detected levels of 1,1-Dichloroethene in MW-3, MW-5, MW-6 and the water supply well exceed the ground-water standard of 7 ppb. The detected level of 1,2-Dichloroethane (41 ppb) in MW-5 exceeds the ground-water standard of 0.38 ppb. The total xylene concentration detected in MW-3 is well below the ground-water standard. When no standard has been established for a compound, as in the case of 1,1-Dichloroethane, the ground-water standard is 0 ppb.

Due to the nature of the contaminants at the site, monitoring wells MW-2, MW-3 and MW-4 were extended to auger refusal and MW-1 and MW-6 were drilled into rock. MW-5 was located adjacent to an industrial waste septic tank and was terminated at a shallow depth due to its proximity to a suspected source of contamination. The volatile organic compounds detected at the site have a specific gravity greater than water, hence are referred to as "sinkers". The boundary between soil and rock would likely be the first horizontal pathway for these compounds to travel in the ground water. MW-1, the background well, was drilled into rock to determine if any of the compounds detected onsite could have migrated from an offsite source. MW-6 was drilled into rock to determine if the shallow ground-water contamination detected in MW-3 located in the septic tank leach field was indicative of higher concentration levels at a deeper depth, as would be expected.

From a discussion with Law Environmental National Laboratories (LENL), in Kennesaw, Georgia, 1,1-Dichloroethane, 1,1-Dichloroethene and 1,2-Dichloroethane are by-products of the breakdown of 1,1,1-Trichloroethane. Mr. Steve Trammell, president of Livingstone Coating Corporation, indicated that 1,1,1-Trichloroethane was used in small quantities to clean application brushes and guns and discharged into septic tank #2 (Figure 2) up until approximately two years ago when the practice was stopped. Since then, 1,1,1-Trichloroethane is

Livingstone Coating Corporation

Law Job No. CHW 7074A

May 10, 1991

used and recycled onsite.

Analytical results from MW-1 indicate that it is unlikely that the ground-water contamination at the site is being influenced by an offsite source. Based on the test results from MW-2 and MW-4, it appears the ground-water contamination has not migrated in these directions.

The septic tank leach field (Figure 2) was initially suspected as the source of ground-water contamination. However, based on the results obtained from MW-3 and MW-6, it appears the leach field is contributing a relatively minor amount to the contamination onsite.

In an effort to explore conditions at the septic tank, MW-5 was drilled adjacent to septic tank #2. The results obtained from the chemical analysis of the ground-water sample from MW-5 detected concentration levels in the range of those detected in the water supply well by the State. Leakage from the tank or lines may have been the initial source of contamination. By the time the contaminants reached the drain field, concentration levels had been reduced significantly. The proximity of the water supply well to the septic tank and the associated water pump is apparently pulling the contamination towards the well and perhaps even working to keep the contamination localized to this area. The water supply well casing could also be acting as a pathway for the contaminants to travel along.

We recommend that the sludge be removed from the base of the septic tank and disposed of properly. Even though the contaminants are no longer discharged into the septic tank, any remaining sludge in the tank could be a contributing source of contaminants. We also recommend that the septic tank and associated lines be inspected for leakage.

No chemical analyses were performed on the soils in this study; however, minor organic vapors (1.2 to 61 ppm) were detected in borings MW-3, MW-4 and MW-5. The soils in the vicinity of MW-3, the boring with the highest OVA readings, were assessed in July, 1989, by Law Engineering (Law Job No. CHW 7074, report dated July 26, 1989). Soil samples were obtained at approximately 8 feet from three borings drilled in this area and analyzed for volatile organic compounds (EPA method 8240). No compounds were present above the detection limit. It does not appear that the soils in this area are a significant source of contamination. We recommend that the soils in the vicinity of the septic tank be sampled and analyzed at selected locations to determine what impact the septic tank operation has had on the surrounding soils.

Joe Hack of the Mecklenburg County EPA was contacted on January 18, 1991 and indicated that water supply wells located at 317, 325, 438, 452 and 460 Rhyne Road and Carters Lumber on Highway 27 were sampled and tested for the presence of volatile organic compounds. None were detected at any of these locations.

Based on the data obtained during this assessment, it appears the majority of the ground-water contamination is localized in the vicinity of the water supply well and MW-5. We recommend that Livingstone Coating evaluate remediation

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|--|--------------|------------|--------------|
| Post-It™ brand fax transmittal memo 7871 | | # of pages | 2 |
| To | JESSE WELLS | From | DETE DOORN |
| Co. | HWS | Co. | HWS |
| Dept. | EHR | Phone # | 733-2178 |
| Fax # | 704/463-6040 | Fax # | 919/715-3605 |

LAW ENGINEER

Livingstone Coating Corporation

Law Job No. CHW 7074A

May 10, 1991

alternatives such as installing a filtering system onto the water supply well that would filter out the organic compounds prior to the water being used onsite. We also recommend that the existing monitoring wells be sampled and analyzed periodically to verify and document that the concentration levels of the contaminants are being reduced and that the contamination has not migrated towards MW-1, MW-2 and MW-4.

QUALIFICATION

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessments and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site and project information, and the data obtained during the soil and groundwater sampling for chemical analysis. The generalized subsurface conditions utilized in our evaluation have been based on interpolation of subsurface data between the borings.

We appreciate the opportunity to provide our environmental related services on this project. Please contact us if any questions arise concerning this report or when we may be of further service.

Sincerely,

LAW ENGINEERING

Debra L. Muldoon

Debra L. Muldoon
Project Geologist

Christopher L. Corbitt

Christopher L. Corbitt, P.G.
Manager, Environmental Services

Robert E. Smith, Jr., P.E.

Robert E. Smith, Jr., P.E.
Chief Engineer

DLM/CLC/RES:cth
Attachments