LAW
Engineering and Environmental Services

3301 Atlantic Avenue
Raleigh, North Carolina 27604
(919) 876-0416 (VOICE)
(919) 872-3253 (FAX)

FACSIMILE TRANSMITTAL SHEET

DATE: **February 11, 1997** TIME: **11:23 AM**

NUMBER OF PAGES (INCLUDING COVER SHEET): **9**

TO: **Sean Boyles**

COMPANY: **NCDEHNR**

FAX: **571-4718**

FROM: **Steve Trimberger**

COMMENTS

Attached is a copy of the letter as you requested. Blue Cross/Blue Shield is awaiting your word on this matter so that they may go ahead and place the concrete thrust blocks.

Please contact me as soon as possible.

Thanks, Steve

Ethylene glycol lines leaked on generator. No UST involved.

RKD

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

August 22, 1996

North Carolina Department of Environment, Health &
Natural Resources
Department of Environmental Management
Ground Water Section - Regional Office
3800 Barrett Drive - Suite 101
Raleigh, North Carolina 27609

Attention: Mr. Jay Zimmerman

Subject: **INVESTIGATION REPORT FOR ETHYLENE GLYCOL RELEASE**
BLUE CROSS & BLUE SHIELD OF NORTH CAROLINA
DURHAM SERVICE CENTER
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.
PROJECT NO. 30742-5-1176 TASK 105

Dear Mr. Zimmerman:

This letter is to summarize the actions taken to evaluate the release of ethylene glycol from emergency generator system located at the Blue Cross/Blue Shield (BCBS) Durham Service Center on U.S. Highway 15-501, Durham, North Carolina. As reported to you on June 28, 1996, there was a suspected release of approximately 200 gallons of ethylene glycol from an underground pipe associated with an emergency generator.

On June 28, 1996, Law Engineering and Environmental Services, Inc. (LAW) advanced hand auger probes at intervals along the length of the pipeline to attempt to locate evidence of a leak. Strong anti-freeze odors were detected in samples collected around the elbow near the radiator (see attached sketch). However, within about 20 feet downhill from the elbow only a slight odor could be detected in the soil sample. Probes taken farther downhill along the rest of the pipeline showed no visible evidence of ethylene glycol.

LAW contracted with Shamrock Environmental Corporation to excavate and investigate the pipeline. The pipe was exposed at the elbows, leaving the concrete encasement around the joints intact. In this area, discolored soils with a strong anti-freeze odor were uncovered. Excavated soils were separated based on visible staining and odor. Soils with visible staining and odor were placed in a roll-off for analysis and later disposal. As much of the stained soil was removed from the excavation as was possible without disturbing the pipe. The system was then started under no load and the pipe examined for leaks. Once the system temperature had stabilized, it was turned off and pressurized to 15 psi, which is the design maximum pressure of the generator cooling system. No visible leaks were detected, however, the system did not hold the test pressure of 15 psi.

On June 29, additional pipe was exposed from the radiator to the first joint past the elbow. The pipe joint just prior to entering the service tunnel was also exposed. No visible evidence of ethylene glycol was detected in this excavation. The pressure test was conducted again as described above. Although no leaks were observed, the system again failed to hold the pressure. Next, the concrete encasement was

removed from the joints at the elbows. The system was drained and refilled with just water. The ethylene glycol/water mixture was containerized and hauled off-site for proper disposal.

On June 30, the pipe was isolated from the system by placing blind flanges at the radiator and at the generator. Each line was then pressurized using the available water service pressure at the site. The line into the top of the radiator was pressurized to 42 psig at 10:55 a.m. and the bottom line was pressurized to 48 psig at 11:55 a.m. The pressure was removed from both lines at 1:45 p.m. Both lines held the pressure with no noticeable drop. The system was reassembled and started once again. No visible leaks were detected. The excavations were then recovered and the system placed back into normal service.

We understand BCBS's mechanical engineering consultant, Stanford White Associaties, P.L.L.C., further investigated the possible system leak and could find no evidence of leakage. The mechanical consultant also recommended that the existing elbow joints be dismantled and remade with new gaskets and properly aligned; that tie-rods be added to increase the rigidity of the system; and that new concrete thrust blocks be installed. Blue Cross/Blue Shield is in the process of scheduling implementation of these recommendations.

A composite sample of the excavated, contaminated soils was sent to the LAW's Pensacola Laboratory for TCLP analysis. The two compounds detected above the laboratory detection limits were arsenic and barium at 42.0 ug/L and 459 ug/L, respectively. Both of these are below the regulatory limits. A copy of the laboratory report is attached.

Blue Cross/Blue Shield will be closely monitoring the coolant level during the routine monthly testing of the system to ensure that no further leakage occurs. The contaminated soil encountered during excavation was removed and properly disposed of by Shamrock Environmental. Approximately one roll-off (8.7 tons) of soil was removed and disposed of at Piedmont Landfill in Kernersville, NC.

Considering the rapid rate of decomposition of ethylene glycol in the environment; that no evidence of a leak could be detected (both visually and under pressure test); and that soils which were obviously contaminated were removed during the excavation process, we request, on behalf of Blue Cross/Blue Shield, that no further action be required on this site.

We look forward to your response. If you have any questions or concerns, please do not hesitate to call us at (919) 876-0416.

Sincerely,

LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC.

Steven S. Trimberger, P.E.
Project Engineer

NORTH CAROLINA PROFESSIONAL SEAL 20243 ENGINEER STEVEN S. TRIMBERGER

William R. Mosher, P.E.
Chief Engineer

NORTH CAROLINA PROFESSIONAL SEAL 17909 ENGINEER WILLIAM R. MOSHER

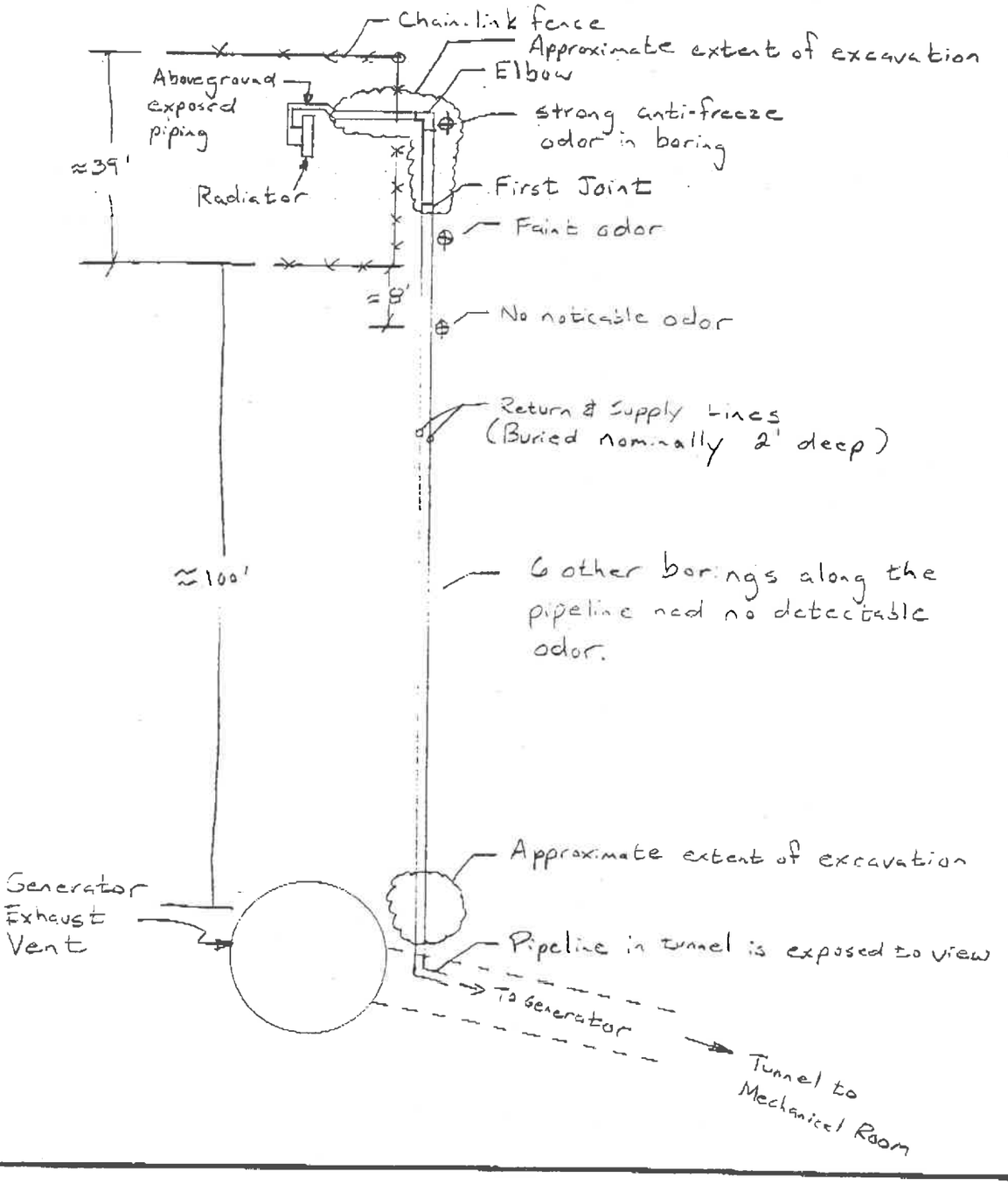
cc: File
Jerry Jones, Blue Cross/Blue Shield

Attachments: Site Sketch
Copy of Laboratory Report

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES

JOB NO. 30742-5-1176 SHEET 1 OF 1
JOB NAME Blue Cross/Blue Shield
BY SST DATE 7/1/96
CHECKED BY _____ DATE _____

NOT TO SCALE



FORM 17

LAW
ENGINEERING AND ENVIRONMENTAL SERVICES
3955 McLemore Drive
Pensacola, Florida 32514
(904) 857-0606

July 12, 1996

Mr. Jeff Ballsieper
Law Eng. & Env. Svcs., Inc.
3301 Atlantic Avenue
Raleigh, NC 27604

Subject: Chemical Analysis of Samples Received on 07/03/96
Project Number: 30742-5-1176

Dear Mr. Ballsieper:

Law Eng. & Env. National Laboratories has completed its analysis of your samples and reports the results on the following pages. These results relate only to the contents of the samples as submitted.

If further assistance is needed, please feel free to contact Kelli Silvia or myself at (904) 857-0606.

Sincerely,

LAW ENG. & ENV. SVCS. NATIONAL LABORATORIES

James M.G. Tucci
Laboratory Manager

JMGT/kas

Enclosures: Data Report
Invoice

LAW ENVIRONMENTAL NATIONAL LABORATORIES

TEST DATA REPORT

07/12/96

--- Project Information ---

Mr. Jeff Ballsieper
Law Eng & Envir Services, Inc.
3301 Atlantic Avenue
Raleigh, NC 27604

Project Name: BCBS
BCBS Project #30742-S-1176

--- Sample Information ---

Station ID: Soil Box Composite
Lab ID: AA94984
Collector: BALLSIEPER

Date Sampled: 07/02/96
Time Sampled: 10:00
Log In Date: 07/05/96
Log In Time: 09:17

--- Test Information ---

Parameter	Units	Method	Det Lim	Result	Analysis Date	Tech
623-Zero Head Space Ext S		SW1311		Done	07/08/96	TD
622-8240 Volatiles TCLP ug/L	ug/L	SW8240		_TITLE_	07/11/96	GH
Benzene	ug/L	SW8240	5.00	Not Det	07/11/96	GH
2-Butanone	ug/L	SW8240	10.0	Not Det	07/11/96	GH
Carbon tetrachloride	ug/L	SW8240	5.00	Not Det	07/11/96	GH
Chlorobenzene	ug/L	SW8240	5.00	Not Det	07/11/96	GH
Chloroform	ug/L	SW8240	5.00	Not Det	07/11/96	GH
1,2-Dichloroethane	ug/L	SW8240	5.00	Not Det	07/11/96	GH
1,1-Dichloroethene	ug/L	SW8240	5.00	Not Det	07/11/96	GH
Tetrachloroethene	ug/L	SW8240	5.00	Not Det	07/11/96	GH
Trichloroethene	ug/L	SW8240	5.00	Not Det	07/11/96	GH
Vinyl chloride	ug/L	SW8240	10.0	Not Det	07/11/96	GH
sur-1,2-Dichloroethane-d4 %R 76-114	ug/L	SW8240	0	108	07/11/96	GH
sur-Toluene-d8 %R 88-110	ug/L	SW8240	0	102	07/11/96	GH
sur-Bromofluorobenzene %R 86-115	ug/L	SW8240	0	98	07/11/96	GH
610-1311 TCLP Ext Met S		SW1311		Done	07/08/96	JG
610-3010 ICP Digest TCLP		SW3010		Done	07/09/96	JE
610-6010 Metals TCLP ug/L	ug/L	SW6010		_TITLE_	07/11/96	CH
Arsenic	ug/L	SW6010	25.0	42.0	07/11/96	CH
Barium	ug/L	SW6010	20.0	459	07/11/96	CH
Cadmium	ug/L	SW6010	5.00	Not Det	07/11/96	CH
Chromium	ug/L	SW6010	10.0	Not Det	07/11/96	CH
Lead	ug/L	SW6010	20.0	Not Det	07/11/96	CH
Selenium	ug/L	SW6010	100	Not Det	07/11/96	CH
Silver	ug/L	SW6010	15.0	Not Det	07/11/96	CH
610-7470 Mercury TCLP ug/L	ug/L	SW7470		_TITLE_	07/11/96	CT
Mercury	ug/L	SW7470	0.200	Not Det	07/11/96	CT

Remarks:

Signed: _____

James M.G. Tucci
Laboratory Manager

LAW ENVIRONMENTAL, INC.
NATIONAL LABORATORIES
7215 PINE FOREST ROAD
PENSACOLA, FLORIDA 32526
(904) 944-9772

CHAIN OF CUSTODY RECORD

05041

SAMPLING INFORMATION
NPDES NUMBER
NAME OF FACILITY:
STREET ADDRESS:

PROJECT NAME: BCBS
JOB NO.: 30742-5-1196
SAMPLERS (SIGNATURE): J Bailey
SAMPLING DATE: 7-2-96

TIME	GRAB	COMP	*SOURCE CODE	SAMPLE STATION DESCRIPTION	TOTAL NO. OF CONTAINERS	40 ml G VOA HCl	1 L G - AMBER	8 oz. G. W/M	2 oz. G. W/M	1 L G (H_2SO_4)	500 ml - AMBER	1 L. PL (HNO_3)	1 L. PL (H_2SO_4)	1L. PL (NaOH+Ascorbic Acid)	1 L. PL (Zn Acetate + NaOH)	1 L. PL	4 oz. PL W/M	250 ml PL	1 L. TEFLON	LENL LAB NO.
1000		X	SO	Soil Box Comp	2				2											AA94984
1000		X	SO	Soil Box Comp	2			2												

RELINQUISHED BY: J Bailey (SIGNATURE) — DATE / TIME: 7/2/96 1500 — RECEIVED BY: (SIGNATURE)
DATE / TIME — RELINQUISHED BY: (SIGNATURE) — RECEIVED BY LABORATORY: Linda Bentel (SIGNATURE) — DATE / TIME: 7/3/96 09:45

DISTRIBUTION: ORIGINAL AND YELLOW COPIES ACCOMPANY SAMPLE SHIPMENT TO LABORATORY. PINK COPY RETAINED BY SAMPLERS. YELLOW COPY RETAINED BY LABORATORY.

Cooler temp. 6°C

REMARKS

***SOURCE CODES**

RECOVERY WELL - RW
RCRA MONITORING WELL - MW
SOIL / SEDIMENT - SO
SLUDGE - SL
NPDES DISCHARGE - ND
DRINKING WATER - DW
HAZARDOUS WASTE - HW
SURFACE WATER - SW
NON-AQUEOUS - NA

Law Environmental, Inc.
7215 Pine Forest Road
Pensacola, Florida 32526
904/944-9772

Analytical Request Form

To: LENL

Attn: Sample Receiving

From: Law / RAC
(Branch/Company Name)

JEFF BALLSIEPER
(Dept or Name)

COC Number: 05041

Project Name: BCBS

Project Number: 30742-5-1176

Date Shipped: 7/2/96

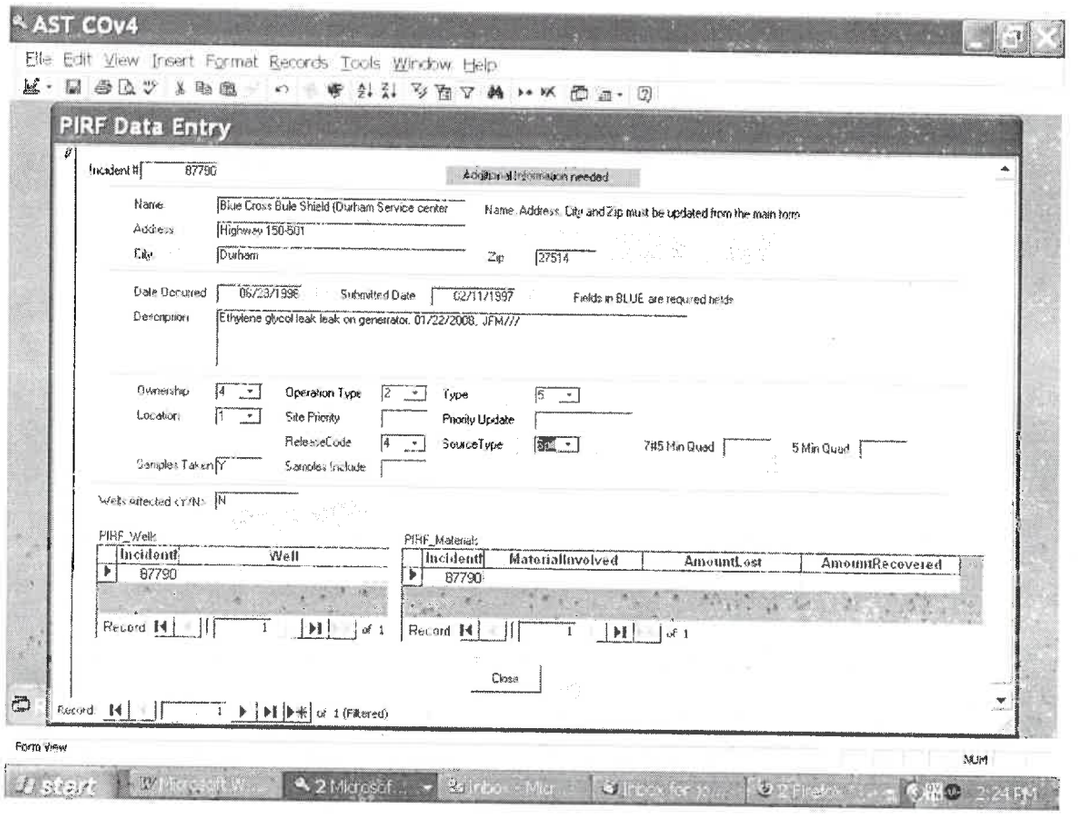
Date results requested:

Sample ID	Analysis Requested	Detection Limits Req.	Sample Type	Method
SOIL Box Comp	TCLP - METAL AND VOLATILE	Std	So	See left

Comments:

Form Data ReOrder# (Law Form# 094-00**)

** TOTAL PAGE.09 **


AST COv4
File Edit View Insert Format Records Tools Window Help
PIRF Data Entry
Incident # 87790
Additional Information needed
Name Blue Cross Bule Shield (Durham Service center
Name, Address, City and Zip must be updated from the main form
Address Highway 150-501
City Durham
Zip 27514
Date Occured 06/23/1998
Submitted Date 02/11/1997
Fields in BLUE are required fields
Description Ethylene glycol leak leak on generator. 01/22/2008. JFM//7
Ownership 4
Operation Type 2
Type 5
Location 1
Site Priority
Priority Update
ReleaseCode 4
SourceType 3
7#5 Min Quad
5 Min Quad
Samples Taken Y
Samples Include
Wells effected (Y/N) N
PIRF_Wells
IncidentN Well
87790
PIRF_Materials
IncidentN MaterialInvolved AmountLost AmountRecovered
87790
Record 1 of 1
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Record 1 of 1 (Filtered)
Form View
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2 Microsof...
Inbox - Mic...
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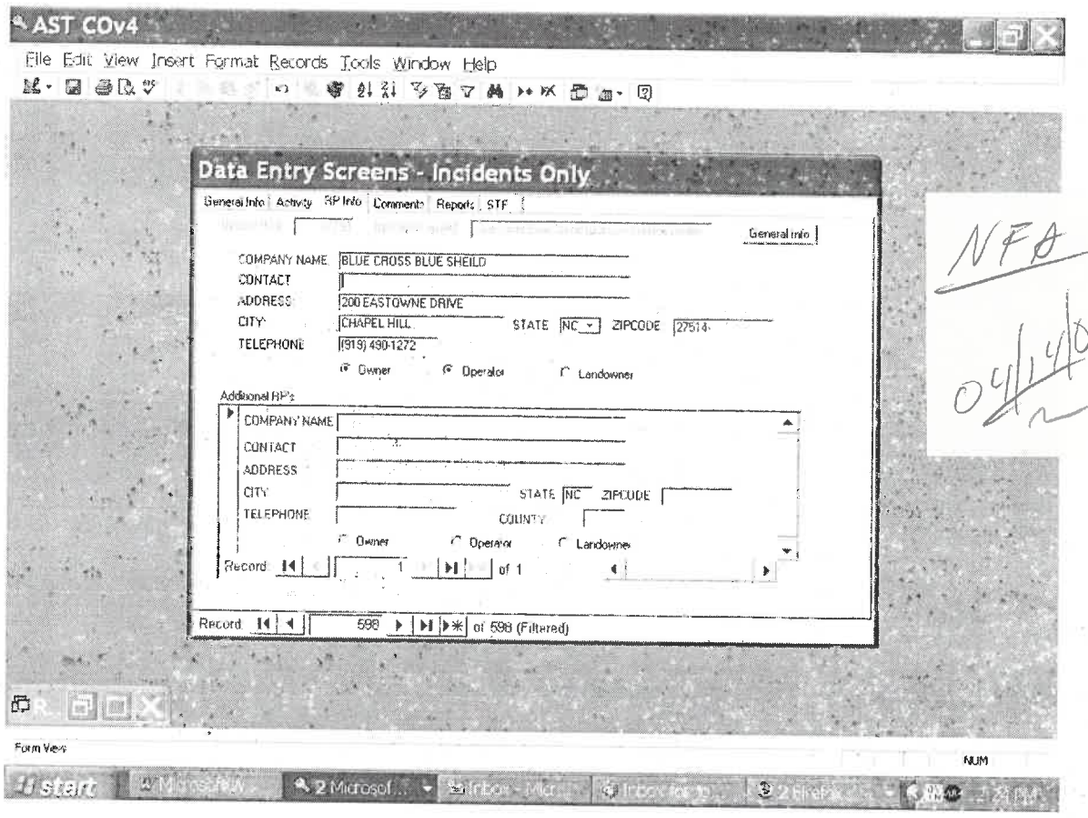
AST COv4
File Edit View Insert Format Records Tools Window Help
Data Entry Screens - Incidents Only
General Info Activity RP Info Comments Reports STF
General Info
COMPANY NAME BLUE CROSS BLUE SHEILD
CONTACT
ADDRESS 200 EASTOWNE DRIVE
CITY CHAPEL HILL
STATE NC
ZIPCODE 27514
TELEPHONE (919) 490-1272
Owner
Operator
Landowner
Additional RP's
COMPANY NAME
CONTACT
ADDRESS
CITY
STATE NC
ZIPCODE
TELEPHONE
COUNTY
Owner
Operator
Landowner
Record 1 of 1
Record 598 of 598 (Filtered)
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Inbox - Mic...
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2 Firefox
2:24 PM

MAILED

APR 17 2008

NCDENR

North Carolina Department of Environment and Natural Resources

Division of Waste Management
Underground Storage Tank Section

April 14, 2008

Mr. Jerry Sketch
Blue Cross Blue Shield
200 Eastowne Drive
Durham, NC 27514

Re: Notice of No Further Action
15A NCAC 2L .0106
Corrective Action

Blue Cross Blue Shield (Durham Service Center)
Highway 150-501
Durham, NC 27514
Durham County
Incident Number: 87790
Ranking: Low

Dear Mr. Sketch:

The Investigation Report for Ethylene Glycol Release received by the Underground Storage Tank (UST) Section, Raleigh Regional Office on February 11, 1997 has been reviewed. A review of the report indicates that soil contamination does not exceed the soil-to-groundwater maximum soil contaminant concentrations (MSCCs).

Based on information provided to date, the UST Section determines that no further action is warranted for this incident. This determination shall apply unless the UST Section later finds that the discharge or release poses an unacceptable risk or a potentially unacceptable risk to human health or the environment.

This No Further Action determination applies only to the subject incident; for any other incidents at the subject site, the responsible party must continue to address contamination as required.

If you have any questions regarding this notice, please contact me at the address or telephone number listed below.

Sincerely,

Mark R. Powers

Mark Powers
UST Section Regional Supervisor
Raleigh Regional Office

cc: **Raleigh Regional Office/JFM**– 1628 Mail Service Center, Raleigh, NC 27699 **(919) 791-4200**
Durham County Health Department
Law Engineering; 3301 Atlantic Ave., P.O. Box 18288; Raleigh, NC 27619

Incident Management Data Entry Record

Incident Information

7/7/2006 1:55:36PM

Incident Number	87790	Site Priority	20 B
Incident Name	BLUE CROSS BLUE SHIELD (DURHAM SERVICE CENTER)		
Incident Address	HIGHWAY 15-501		
Incident City/Town	DURHAM	Incident Zip	
County	Durham		
RO Contact	ER		

Responsible Party Information

RP Contact			
RP Company	BLUE CROSS BLUE SHIELD		
RP Address	200 EASTOWNE DRIVE		
RP City	CHAPEL HILL	RP State	North Carolina
RP Zip	27514		
RP Phone	919-490-1272		
Ownership Type	Private		
Operation Type	Commercial		

Contamination Information

GW Contamination (Y/N): No

Sources	Type	Wells	
Pipeline	Other	Private Well	0
		Private NonDrinking	0
		Public Well	0

Status Information

Report/Discovery Date	06/28/1996	Phase	Remediation
Notice Date		Next Due Date	
Next Action			
CSA Received	02/11/1997	CAP Type	None
CSA Approved		CAP Received	
CSA Reviewed		CAP Reviewed	
Last Modified	07/07/2006	CAP Approved	
		CAP Implemented	

Locational Information

Latitude (DMS)		Longitude (DMS)	
Latitude (DD)		Longitude (DD)	
Lat/Long QC		Quadrangle	

Comments

RELEASE OF 200 GALLONS OF ETHYLENE GLYCOL.

Incident Name: Blue Cross/Blue Shield Durham Service Center **Region/County** Raleigh/Durham

GW Incident File #: _____ **Date:** 7/7/06

NORTH CAROLINA
GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT
SITE PRIORITY RANKING FORM
(To be completed by a North Carolina Licensed Geologist/Professional Engineer or by the appropriate Regional Office)

Points Awarded

I. IMMINENT HAZARD ASSESSMENT

A. Vapor Hazard - free product in confined areas or vapor phase contamination detected at or above 20% of the lower explosive limit or at health concern levels; award 50 points total _____

B. Fire Hazard - free product subject to ignition in exposed areas such as surface water impoundments, streams, excavations, etc.; award 50 points total _____

II. EXPOSURE ASSESSMENT

A. Contaminated Water Supplies

1. Private domestic water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 10 points per well _____
2. Public or institutional water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 20 points per well _____
3. Exceedences of Class WS surface water quality standards as a result of groundwater discharge; award 20 points per surface water body impacted _____
4. Any water supply well identified above that cannot be replaced by connecting to an existing public water supply source; award additional 10 points per irreplaceable well _____

B. Threat to Uncontaminated Drinking Water Supplies

1. Private, domestic water supply located within 1500 feet down gradient of the discharge or known extent of contamination; award 10 points per well _____
2. Public or institutional water supply located within 1500 feet down gradient of the discharge or known extent of contamination; award 15 points per well _____
3. Raw surface water intake for public water supply located within 1/2 mile down gradient of the discharge or known extent of contamination; award 5 points per water supply system _____
4. Any well or intake identified in items II B. 1 or II B. 2, or II. B. 3 located within 250 feet of the discharge or known extent of contamination; award additional 20 points total (not per well or intake) _____

C. Vapor Phase Exposure

1. Contaminant vapors detected in inhabitable building(s), but levels are below 20% of the lower explosive limit and health concern levels; award 30 points total. _____

2. Contaminant vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.), but levels are below 20% of the lower explosive limit and health concern levels; award 10 points total _____

III. SOURCE ASSESSMENT

A. Uncontrolled or Unabated Contaminant Source (including dump sites, stockpiles, lagoons, contaminated soil, septic tanks, land fills, above ground storage tanks, etc.)

1. Suspected or confirmed primary source remains in active use and continues to receive raw product, wastewater or solid waste; award 30 points per source _____

2. Active use of suspected or confirmed primary source has been discontinued or source was caused by a one-time release of product or waste; however, primary or secondary source continues to release product or contaminants into the environment; award 10 points per source _____

IV. ENVIRONMENTAL VULNERABILITY ASSESSMENT

A. Vertical Contaminant Migration - Literature or well logs indicate that no confining layer is present above bedrock or within twenty feet of land surface; award 10 points total 10

B. Horizontal Contaminant Migration - Data or observations indicate that no discharge points or aquifer discontinuities exist between the discharge or known extent of contamination and the nearest down gradient drinking water supply; award 10 points total 10

C. Existing Groundwater Quality – The worst case monitoring or supply well contains contaminant levels:

1. At less than 10 times the 2L groundwater standards; award 5 points. _____

2. Between 10 and 100 times the 2L groundwater standards; award 20 points. _____

3. Greater than 100 times the 2L groundwater standards; award 40 points. _____

V. LETTER RANKING

(Put an X on the line next to all conditions that apply)

CATEGORY A (one or more of the following conditions are present)

1. One or more water supply wells are contaminated and the person using the wells are not served by an existing public water supply. _____

2. Contaminant vapors are present in confined areas at levels that pose a human health concern or an explosion hazard. _____

3. A treated surface water supply is in violation of the drinking water standards set out in rules adopted by the Commission for Health Services under G.S. 130A-315. _____

CATEGORY B (one or more of the following conditions are present)

1. One or more supply wells contaminated but the persons using the wells are served by an existing public water supply. _____

2. One or more supply wells are in use within 1500 feet of the discharge or known extent of contamination, the wells are not contaminated, and the persons using the wells are not served by an existing public water supply. ✓

3. Vapors are present in confined areas but do not currently pose a threat to human health or an explosion hazard. _____

CATEGORY C (both of the following conditions are present)

1. One or more water supply wells are present at a distance greater than 1500 feet down gradient from the discharge or known extent of contamination, and the persons using the wells are not served by a public water supply. _____

2. None of the identified wells are contaminated. _____

CATEGORY D (both of the following conditions are present)

1. One or more wells are present within 1500 feet of the discharge or known extent of contamination, but the persons using the wells are served by an existing public water supply _____

2. None of the identified wells are contaminated. _____

CATEGORY E (both of the following conditions are present)

1. Water supply well(s) are not present within 1500 feet of the discharge or known extent of contamination; and no known water supply wells are contaminated. _____

2. All persons within 1500' of the discharge or known extent of contamination are served by an existing public water supply. _____

SITE PRIORITY RANKING 2B
#/Letter