

# Sara Lee Knit Products

P.O. Box 3019  
Winston-Salem, NC 27102  
919/744-2400

April 11, 1990

RECEIVED  
N.C. Dept. NRCD

APR 16 1990

Winston-Salem  
Regional Office

Mr. Larry Lucas  
Dept. of Natural Resources & Community Development  
8025 North Point Blvd.  
Suite 100  
Winston-Salem, N.C. 27106

SUBJECT: Remedial Activities Report Stratford Road Plant

Dear Mr. Lucas:

Attached for your review and approval is the Remedial Activities Report from Aquaterra concerning the excavation of (5) - 20,000 gallon tanks, please let me know if you need additional information and if you are in agreement with the Aquaterra Report.

Sincerely,



Bryan Beeson

cc:

A. Byers  
B. Edwards  
D. Haigler  
T. Katsamas

BB/pm



# AQUATERRA

Aquaterra, Inc. • P.O. Box 50328 • Raleigh, NC 27650 • 919-839-0199

April 4, 1990

Sara Lee Knit Products  
Post Office Box 3019  
Winston-Salem, North Carolina 27012

Attention: Mr. Bryan Beeson

Reference: Remedial Activities Report  
Sara Lee Knit Products  
Winston-Salem, North Carolina  
Aquaterra Job No. 363

Dear Mr. Beeson:

Aquaterra, Inc. (Aquaterra) is pleased to submit this report concerning the remedial activities associated with the excavation which formerly contained five 20,000 gallon #5 fuel oil underground storage tanks at the Sara Lee Knit Product facility in Winston-Salem, North Carolina as shown in Figure 1. Included herein is a brief description of the remedial activities and Aquaterra's conclusions and recommendations.

If you should have any questions regarding this report, please call us.

Sincerely,

AQUATERRA, INC.

*Kirk Pollard*

Kirk Pollard  
Project Manager

*Phillip L. Rahn*  
by BDT  
Phil L. Rahn  
Senior Hydrogeologist

Peer Review By:

*Bryson D. Trexler, Jr.*

Bryson D. Trexler, Jr., Ph.D., P.G.  
Senior Hydrogeologist/Program Manager

KBP/PLR/mdy

R923-90

**REMEDIAL ACTIVITIES REPORT  
SARA LEE KNIT PRODUCTS  
WINSTON-SALEM, NORTH CAROLINA  
April 4, 1990**

**Prepared For:**

**Sara Lee Knit Products  
Winston-Salem, North Carolina**

**Prepared By:**

**Aquaterra, Inc.  
Raleigh, North Carolina**



**REMEDIAL ACTIVITIES REPORT  
SARA LEE KNIT PRODUCTS  
WINSTON-SALEM, NORTH CAROLINA  
April 4, 1990**

**1.0 Historical Background**

Sara Lee Knit Products (Sara Lee) operates a textiles facility located in Winston-Salem, North Carolina. The site is located in the Winston-Salem West 7.5 minute USGS quadrangle, as shown in Figure 1.

On January 17 and 18, 1990, a staff geologist from Aquaterra was mobilized to the site to document the excavation and removal of five underground fuel oil storage tanks at the site. In conjunction with the above activities, the geologist performed soil screening and soil sampling activities during and after the tank removal operations. Details of these activities are presented in the Aquaterra report entitled "Underground Storage Tank Excavation Program".

To summarize the findings of the investigation, the pit floor contained soils with concentrations which range between 10 mg/Kg and 21,000 mg/Kg of oil and grease (mg/Kg equals parts per million).

Based on the results, three sections of the pit contained soils that exhibited oil and grease concentrations which exceed the 100 mg/Kg clean-up levels normally enforced by the Division of Environmental Management. The areas are identified as E1, E2 and E3 as shown in Figure 3. Because the pit floor contained values of oil and grease concentrations which exceeds the State clean-up standard, a determination was made by Sara Lee to initiate a remediation program to excavate the remaining representative samples for oil and grease analysis utilizing EPA SW-846 Method 9071 to confirm the remediation effort. The remainder of this report summarizes the field activities and Aquaterra's conclusions and recommendations.

**2.0 Remedial Excavation Program**

On February 26 and 27, 1990, Aquaterra mobilized a geologist to the Sara Lee site to guide the soil excavation program and to collect representative soil samples once the excavation program was completed. Prior to excavation, each affected section was flagged by the geologist and backfill material was removed to a depth equal to the original pit floor which was approximately 12 feet in depth. Once the backfill material had been removed, the pit was ready for continued remediation activities.

In all, a total of 160 cubic yards of affected soils were removed from the pit floor and side walls of the three areas of the pit. The excavation was taken to a total depth of 16 feet below the ground surface and all removed soils were stockpiled on plastic for off-site disposal. Sufficient plastic was utilized to cover the stockpiled soils to eliminate any possible impact from run-off to the surrounding area.



Once the excavation program was completed, the geologist collected six soil samples with locations shown in Figure 4. Based on the depth of the excavation, each sample was collected utilizing the backhoe bucket. The representative soil sample was taken from the central portion of the bucket by the geologist. Utilizing new surgical gloves, each sample portion was obtained and placed in a laboratory prepared glassware.

Each sample was labeled with a tag identifying sample number, date, time, location, method of collection, analysis to be conducted, and remarks. The samples were kept in a cooler and chilled to approximately 4 degrees Celsius and transported to the analytical laboratory utilizing EPA approved chain-of-custody procedures. The samples were analyzed for oil and grease by EPA Method 9071 with results summarized in Table 1. Photocopies of the laboratory results are contained in Attachment A.

### 3.0 Conclusions and Recommendations

Based upon the field observations and laboratory results, Aquaterra has reached the following conclusions regarding in-place soils.

- o Results obtained from the six soil samples taken from the three sections of the pit effected by the use of the five underground storage tanks, indicate grossly contaminated soils have been removed and that the remaining in-place soils exhibit oil and grease value below the laboratory analytical method detection limit.

Based on the above conclusions, Aquaterra is recommending the following for the pit which previously contained five 20,000 gallon tanks.

- o Due to the analytical results, Aquaterra recommends that this site be considered as a candidate for clean closure.

A copy of this report should be forwarded to Larry Lucas of the Division of Environmental Management's Winston-Salem Regional office.



TABLE 1

Oil and Grease Laboratory Analytical Results  
Sara Lee Knit Products  
Winston-Salem, North Carolina  
Aquaterra Job No. 363

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<u>Sample ID</u>	<u>Depth (ft)</u>	<u>Date</u>	<u>Units</u>	<u>Oil and Grease Analysis</u>
PB-1	16	3-7-90	mg/Kg	BQL
PB-2	16	3-7-90	mg/Kg	BQL
PB-3	16	3-7-90	mg/Kg	BQL
PB-4	16	3-7-90	mg/Kg	BQL
PB-5	16	3-7-90	mg/Kg	BQL
PB-6	16	3-7-90	mg/Kg	BQL

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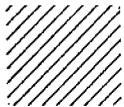
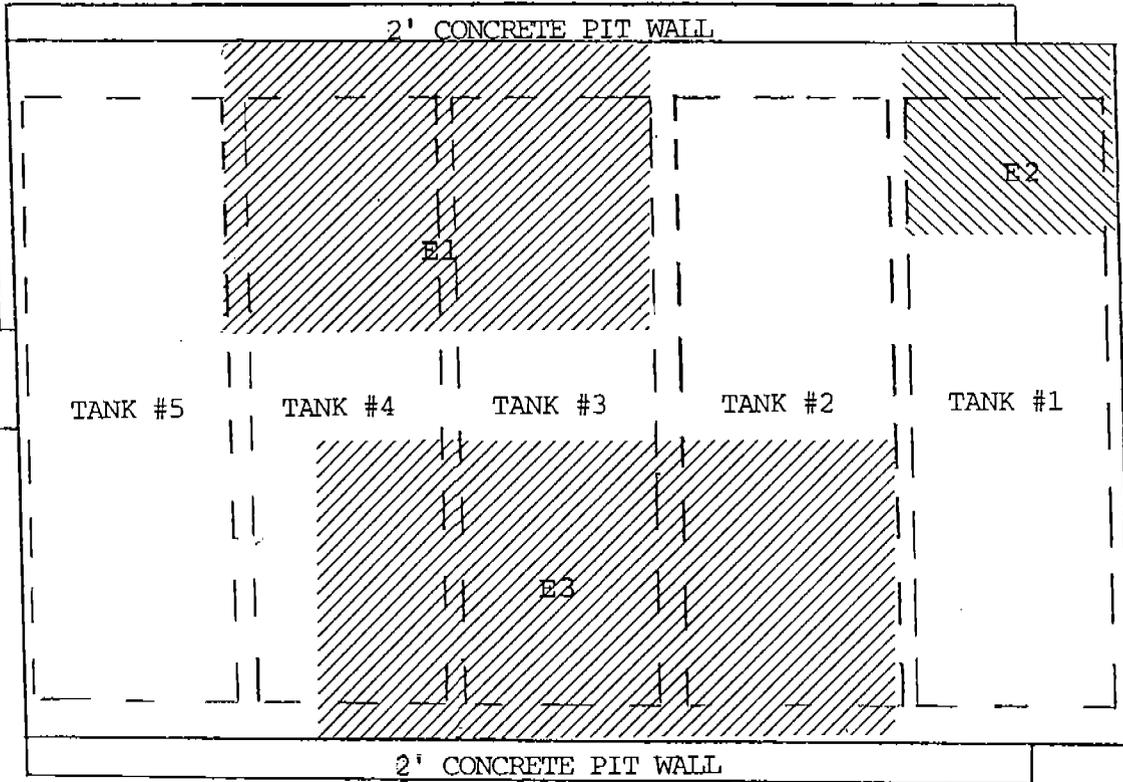
BQL = Below Quantitation Limit

Analytical Laboratory: Industrial & Environmental Analysts, Cary, North Carolina



BUILDING

CONCRETE TRANSFER TROUGH



= EXCAVATED SOILS



PROJECT:

SARA LEE  
WINSTON-SALEM, NORTH CAROLINA

TITLE:

EXCAVATION LOCATION MAP

JOB:

363

DRAWING:

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FIGURE:

2

SCALE:

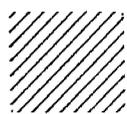
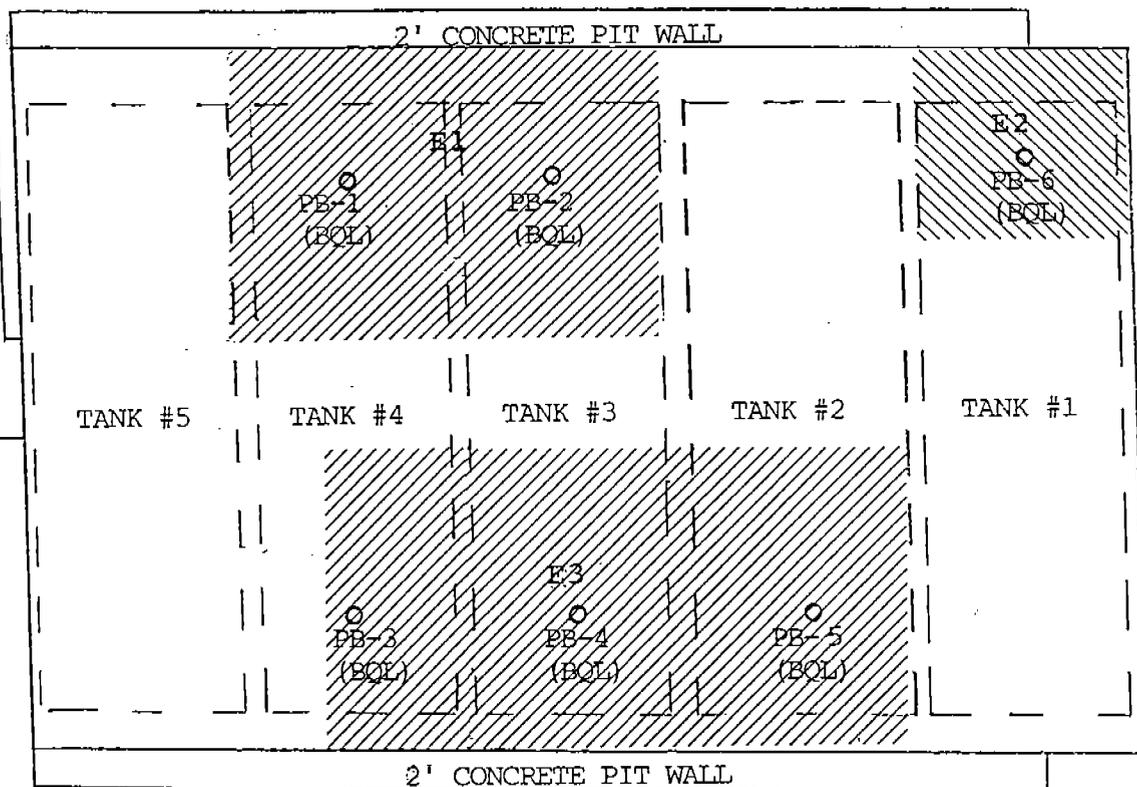
1"=10'



AQUATERRA, INC.  
RALEIGH, GREENSBORO, CHARLOTTE  
NORTH CAROLINA

BUILDING

CONCRETE TRANSFER TROUGH



= EXCAVATED SOILS



PB-1 = SOIL SAMPLE LOCATION  
(BQL) (CONCENTRATION)



PROJECT:

SARA LEE  
WINSTON-SALEM, NORTH CAROLINA

TITLE:

SOIL SAMPLE LOCATION MAP

JOB: 363

DRAWING: ---

FIGURE: 3

SCALE: 1"=10'



AQUATERRA, INC.  
RALEIGH, GREENSBORO, CHARLOTTE  
NORTH CAROLINA

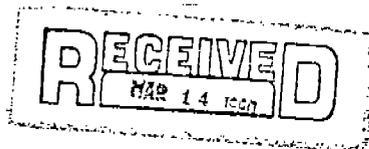


Industrial & Environmental Analysts, Inc.

P.O. Box 12846  
Research Triangle Park, North Carolina 27709  
(919) 677-0090  
FAX (919) 677-0427

March 13, 1990

Kirk Pollard  
Aquaterra, Inc.  
P.O. Box 50328  
Raleigh, NC 27650



Reference IEA Report No.: 196868  
Project I.D.: 363

Dear Mr. Pollard,

Transmitted herewith are the results of analyses on six samples submitted to our laboratory on February 28, 1990.

Please see the enclosed reports for your results.

Very truly yours,

INDUSTRIAL & ENVIRONMENTAL ANALYSTS, INC.

Linda F. Mitchell  
Director, Technical Support Services

State Certification:

Alabama - #40210	New Jersey - #67719	South Carolina - #99021
Georgia - #816	Tennessee - #00296	North Carolina - #37720
Kansas - #E-158	Virginia - #00179	#84



IEA LABORATORY RESULTS

IEA Project #: 196-868  
Client Name: Aquaterra, Inc.

Sample #	Client ID	Parameter	Results	Date Analyzed
1	PB-1	Oil & Grease	<300 mg/kg	03/07/90
2	PB-2	Oil & Grease	<300 mg/kg	03/07/90
3	PB-3	Oil & Grease	<300 mg/kg	03/07/90
4	PB-4	Oil & Grease	<300 mg/kg	03/07/90
5	PB-5	Oil & Grease	<300 mg/kg	03/07/90
6	PB-6	Oil & Grease	<300 mg/kg	03/07/90

