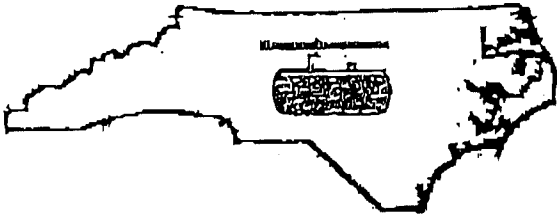


Facsimile Cover Page

NC DENR  
DIVISION OF WASTE MANAGEMENT  
UST SECTION  
1637 MAIL SERVICE CENTER  
RALEIGH NC 27699-1637  
PHONE (919) 733-8486  
FAX (919) 733-9413 OR (919) 715-1117

TO: Ethan Caldwell  
COMPANY: \_\_\_\_\_  
PHONE: 250-4088  
FAX: 250-4237

FROM: Sharon Stuard  
PHONE: 733-1320  
DATE: 10-12-09  
PAGES INCLUDING COVER PAGE: 9

## COMMENTS:

Re: TF# 7217, Roy Goodwin Property  
Ethan, I don't have GW contaminant plume maps because we only have one LSA monitor well. I am attaching the MW construction log - DTW was 15' b1s. If I can help you further, please let me know.

Sharon

**Phase I Limited Site Assessment  
Roy Goodwin Property  
11 Old Clyde Road  
Lake Junaluska, Haywood County, North Carolina**

**H&H Job No. UST-058**

**1.0 Executive Summary**

This Phase I Limited Site Assessment (LSA) report documents investigative activities at the Former Roy Goodwin Property located at 11 Old Clyde Road in Lake Junaluska, Haywood County, North Carolina. The site is approximately 0.42 acres in area and contains one building that is currently being utilized as glass window business.

According to the North Carolina Department of Environment and Natural Resources' (NCDENR) files for the site, the subject site formerly operated as service station that contained two 750-gallon gasoline underground storage tanks (UST). The tanks were last used in the late 1950's.

In 1992, as part of proposed road widening activities, the North Carolina Department of Transportation (NCDOT) conducted soil sampling and a geophysical survey at the site. The results of the geophysical survey revealed that four USTs were potentially located on-site. Soil sampling results using purge and trap Method 5030 indicated that site soils contained a petroleum hydrocarbon blend with a distillation range similar to gasoline. Soil concentrations ranged from 57 mg/kg to 200 mg/kg.

In December 1993, Delta Environmental Consultants, Inc. (Delta) completed UST closure activities at the site. The two 750-gallon gasoline USTs were removed from the ground. The other two suspected USTs could not be located. Approximately 650 gallons of liquid was removed by Holston Used Oil Recycling prior to removing the tanks. Approximately 120 tons of

impacted soils were removed during the UST removal activities and stockpiled on-site. The stockpiled soils were transported off-site for disposal in January 1994.

Four closure samples (two per tank) were collected by Delta and sent to CTE Laboratories, Inc. for analysis. The soil samples were analyzed for gasoline and diesel range total petroleum hydrocarbons (TPH-GRO and TPH-DRO) according to EPA Methods 5030 and 3550. TPH-GRO was detected at concentrations ranging from 55.5 milligrams per kilogram (mg/kg) to 14,200 mg/kg and TPH-DRO concentrations were all non-detect.

#### Land Use/Risk Characterization

The subject site qualifies as a high risk site due to the use of water supply wells for drinking water purposes in the surrounding area. The site also meets the commercial description due to the current use of the property. Three water supply wells (WSW-1 through WSW-3) were found within 1,000 ft of the source area. WSW-1 is used for drinking water purposes, and WSW-2 is no longer used and has not been abandoned. The current status of WSW-3 is unknown. Municipal water is currently available to all properties within the search radius.

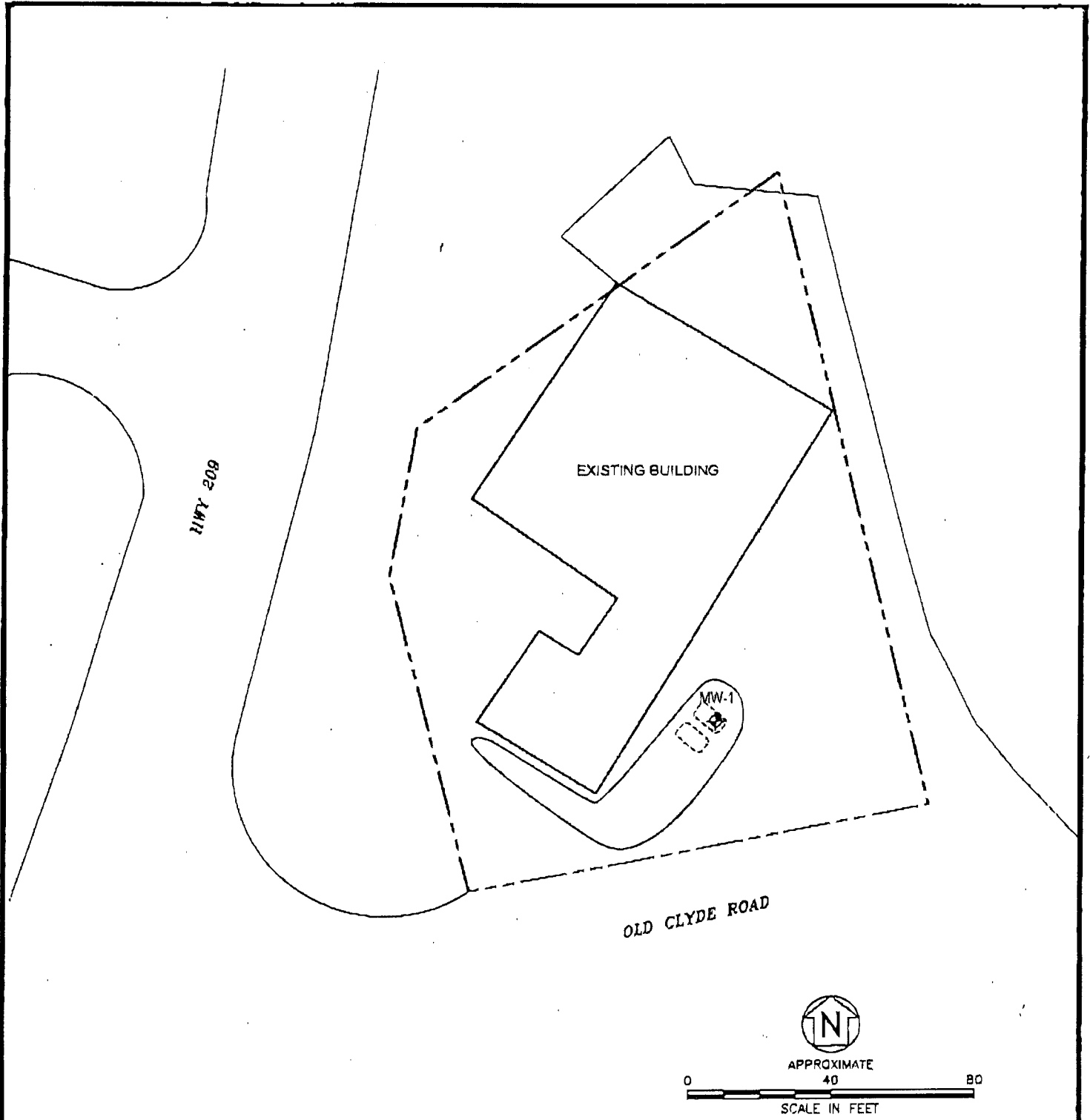
An unnamed tributary of Richland Creek is located approximately 490 ft southwest of the source area. Richland Creek is located approximately 540 ft west of the source area. Richland Creek is designated as a "Class C" surface water body. Lake Junaluska is located approximately 1,300 ft southwest of the source area.

#### LSA Sampling and Results

Based on LSA sampling in the vicinity of the two former 750-gallon gasoline USTs, thirteen target analytes were detected at concentrations that exceed the soil-to-ground water MSCCs and two target analytes were detected at concentrations exceeding the residential MSCCs. None of the detected analytes exceed commercial/industrial MSCCs. Ten target analytes were detected in the ground water sample from MW-1 above the ground water standards, but below the GCLs.


**Conclusion**

Based upon the LSA sampling results, H&H recommends a monitored natural attenuation approach for the subject site.



**LEGEND**

- PROPERTY BOUNDARY
- APPROXIMATE FORMER UST LOCATION
- APPROXIMATE UST EXCAVATION
- ⊕ MONITORING WELL LOCATION

TITLE <b>SITE MAP</b>	
PROJECT <b>ROY GOODWIN PROPERTY LAKE JUNALUSKA, NORTH CAROLINA</b>	
 <b>Hart &amp; Hickman</b> <small>A PROFESSIONAL CORPORATION</small>	
2923 South Tryon Street-Suite 100 Charlotte, North Carolina 28203 704-586-0007(p) 704-586-0373(f)	
DATE: 12-13-07	REVISION NO. 0
JOB NO: UST-058	FIGURE NO. 2

**Table 3**  
**Soil Analytical Detections**  
**Roy Goodwin-FTF# 7217**  
**Lake Junaluska, North Carolina**  
**H&H Job No. UST-058**

Area of Concern	UST Basin	NC Target Levels		
Sample ID	MW-1	Soil to GW MSCCs	Residential MSCCs	Commercial/ Industrial MSCCs
Depth (feet) Units Date Sampled	8-10 (mg/kg) October 8, 2007	(mg/kg)	(mg/kg)	(mg/kg)
<b><u>VPH/EPH</u></b>				
VPH C5-C8 Aliphatics	<b>1,600</b>	72	939	24,528
VPH C9-C12 Aliphatics	3,300	NS	NS	NS
EPH C9-C18 Aliphatics	NA	NS	NS	NS
Total C9-C18 Aliphatics	<b>3,300</b>	3,300	9,386	245,280
EPH C19-C36 Aliphatics	NA	NS	93,860	NS
EPH C11-C22 Aromatics	NA	NS	NS	NS
VPH C9-C10 Aromatics	1,300	NS	NS	NS
Total C9-C22 Aromatics	<b>1,300</b>	34	469	12,264
<b><u>VOCs (8260)</u></b>				
1,2,4-Trimethylbenzene	<b>620</b>	7.5	782	20,440
1,3,5-Trimethylbenzene	<b>190</b>	7.3	782	20,440
Ethylbenzene	<b>290</b>	4.6	1,560	40,000
Isopropylbenzene	<b>29</b>	1.7	1,564	40,880
n-Butylbenzene	<b>22</b>	4.3	626	16,350
n-Propylbenzene	<b>130</b>	1.7	626	16,350
Naphthalene	<b>200</b>	0.58	313	8,176
Total Xylenes	<b>1,270</b>	5	3,129	81,760
p-Isopropyltoluene	<b>6.4</b>	NS	NS	NS
sec-Butylbenzene	<b>9.9</b>	3.3	626	16,350
Toluene	<b>19</b>	7.3	3,200	82,000

**Notes:**

**Bold** indicates a concentration exceeding one or more action levels

EPA Method number follows parameter in parenthesis

Except for VPH/EPH, only compounds detected in at least one sample are shown

VOC = Volatile Organic Compound; NS = Not Specified

MSCC = Maximum Soil Contaminant Concentration; GW = Ground Water

VPH= Volatile Petroleum Hydrocarbons

EPH= Extractable Petroleum Hydrocarbons



# LOG OF BORING:

MW-1

Project: Ray Goodwin Property  
 Job No: UST-058  
 Location: Lake Junction, NC

Surface Elev.:  
 Top of Casing Elev.:  
 Drilling Rig/Method: DPT 6220  
 Sampling Method: DPT

Elevation, feet	Depth, feet	Sampler Graphics	USCS Symbol	Recovery %	MATERIAL DESCRIPTION (The stratification lines represent approximate boundaries. The transition may be gradual.)	SPT, Blow Counts	OVA (ppm)		WELL DIAGRAM
							BKG.	SAMP.	
0	0				Red-brown, silty clay, micaceous, dry		0.0	710K	Grout 10' sch 40 PVC riser →
5	5				Yellow-brown, silty clay micaceous, dry		0.0	710K	Best
10	10				Tan-brown, clayey silt, micaceous, some DWR, damp	(8-10) ⊗	0.0	710K	Sand 10' sch 40 PVC screen →
15	15				Brown to orange, clayey silt moist to wet		0.0	6,152	
20	20				Boring terminated @ 20'				20' well 10' screen
25	25								

Completion Depth: 20  
 Date Boring Started: 10/02/07  
 Date Boring Completed: 10/02/07  
 Engineer/Geologist: MWF  
 Drilling Contractor: SEI

Remarks: ⊗ sample depth

Revision	Drawn By	Date	Checked	Approved	File Name



# Non Residential Well Construction Record

North Carolina Department of Environment and Natural Resources - Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3393

1. WELL CONTRACTOR:  
Ralph Crater  
 Well Contractor (Individual) Name  
Subsurface Enviro. Investigations  
 Well Contractor Company Name  
 STREET ADDRESS 2155 Mocksville Hwy  
Statesville, NC 28625  
 City or Town State Zip Code  
704 876-0010  
 Area code- Phone number

2. WELL INFORMATION:  
 SITE WELL ID # (if applicable) \_\_\_\_\_  
 STATE WELL PERMIT # (if applicable) \_\_\_\_\_  
 DWQ or OTHER PERMIT # (if applicable) \_\_\_\_\_  
 WELL USE (Check Applicable Box) Monitoring  Municipal/Public   
 Industrial/Commercial  Agricultural  Recovery  Injection   
 Irrigation  Other  (list use) \_\_\_\_\_  
 DATE DRILLED 10-8-07  
 TIME COMPLETED \_\_\_\_\_ AM  PM

3. WELL LOCATION:  
 CITY: Lake Junaluska COUNTY \_\_\_\_\_  
11 Clyde Rd  
 (Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)  
 TOPOGRAPHIC / LAND SETTING:  
 Slope  Valley  Flat  Ridge  Other \_\_\_\_\_  
 (check appropriate box)  
 LATITUDE 3 \_\_\_\_\_ May be in degrees, minutes, seconds or in a decimal format  
 LONGITUDE \_\_\_\_\_  
 Latitude/longitude source:  GPS  Topographic map  
 (location of well must be shown on a USGS topo map and attached to this form if not using GPS)

4. FACILITY - is the name of the business where the well is located.  
 FACILITY ID # (if applicable) \_\_\_\_\_  
 NAME OF FACILITY: Auto Glass Co (Goodwin)  
 STREET ADDRESS 11 Clyde Rd  
 \_\_\_\_\_  
 City or Town State Zip Code  
 CONTACT PERSON Mike Crouch  
 MAILING ADDRESS 2923 S. Tryon St.  
Charlotte NC 28203  
 City or Town State Zip Code  
704 586-0007  
 Area code - Phone number

5. WELL DETAILS:  
 a. TOTAL DEPTH: 20'  
 b. DOES WELL REPLACE EXISTING WELL? YES  NO   
 c. WATER LEVEL Below Top of Casing: \_\_\_\_\_ FT.  
 (Use "+" if Above Top of Casing)

d. TOP OF CASING IS 0.0 FT. Above Land Surface  
 \*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): n/a METHOD OF TEST n/a

f. DISINFECTION: Type n/a Amount \_\_\_\_\_

g. WATER ZONES (depth):  
 From n/a To \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
 From \_\_\_\_\_ To \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_  
 From \_\_\_\_\_ To \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

6. CASING:  

From	To	Depth	Diameter	Thickness/Weight	Material
From <u>10</u>	To <u>0</u>	Fl.	<u>2</u>	<u>SCH40</u>	<u>PVC</u>
From _____	To _____	Fl.	_____	_____	_____
From _____	To _____	Fl.	_____	_____	_____

7. GROUT: 

From	To	Depth	Material	Method
From <u>8</u>	To <u>5</u>	Fl.	<u>Bentonite</u>	<u>tremie</u>
From <u>5</u>	To <u>0</u>	Fl.	<u>Portland</u>	<u>tremie</u>
From _____	To _____	Fl.	_____	_____

8. SCREEN: 

From	To	Depth	Diameter	Slot Size	Material
From <u>20</u>	To <u>10</u>	Fl.	<u>2 in.</u>	<u>010 in.</u>	<u>PVC</u>
From _____	To _____	Fl.	_____ in.	_____ in.	_____
From _____	To _____	Fl.	_____ in.	_____ in.	_____

9. SAND/GRAVEL PACK:  

From	To	Depth	Size	Material
From <u>20</u>	To <u>8</u>	Fl.	<u>10/20</u>	<u>silica sand</u>
From _____	To _____	Fl.	_____	_____
From _____	To _____	Fl.	_____	_____

10. DRILLING LOG  
 From \_\_\_\_\_ To \_\_\_\_\_ Formation Description  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

11. REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C. WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.  
Ralph Crater 10-15-07  
 SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE  
Ralph Crater  
 PRINTED NAME OF PERSON CONSTRUCTING THE WELL