PRELIMINARY SITE ASSESSMENT
F&H AUTO SALES
144 US HIGHWAY 158 W
CAMDEN COUNTY, NORTH CAROLINA
STATE PROJECT NO. 8.T020401 (R-2414B)

Prepared for:
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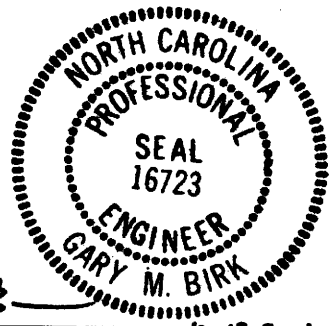

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1.0 INTRODUCTION

The NCDOT is planning improvements to U.S. Highway 158 in Camden County which will require acquiring property for new highway construction. On September 26, 2001, Solutions Industrial & Environmental Services, Inc. (Solutions-IES) submitted proposal NC01892P to the NCDOT for conducting preliminary site assessments (PSAs) on seven parcels of land sited within the planned construction area along U.S. Highway 158 in Camden, North Carolina (Figure 1). This report summarizes the results of file review and field activities conducted for one of the parcels, F & H Auto Sales (a.k.a. F & H Used Cars), located at 144 West U.S. Highway 158, Camden County, Camden, NC.

2.0 BACKGROUND

F & H Auto Sales is located at 144 West U.S. Highway 158 in Camden, NC (Figure 1). Previous investigation activities have been conducted at the site, as summarized below. Due to the extent of previous investigations, Solutions-IES' investigation was limited in extent and focused on only the portions of the property that NCDOT intends to acquire.

As shown on Figure 2, the site is located on the northwest side of U.S. Highway 158. The site is currently a used auto sales company and was formerly a Winslow Oil fuel station. Two 2,000-gallon gasoline underground storage tanks (USTs) were formerly located on the property and were permanently removed in 1994. There are currently no known USTs located at the site.

3.0 PREVIOUS INVESTIGATIONS

Solutions-IES obtained copies of previous investigation reports for the F & H Auto Sales property from the NCDOT and from the Washington regional office of the North Carolina Department of Environment and Natural Resources (NCDENR). Copies of the reports reviewed by Solutions-IES are provided in Appendix A. Based on our review of available files, an initial PSA was conducted at the site by Environmental Investigations, P.A. (EI), in February 1994 for the NCDOT. Eight soil samples were collected near the USTs and former pump island, as part of the PSA. The analytical results indicated detectable concentrations of gasoline and diesel in six of the soil samples; however, only two of the samples indicated concentrations above the NC Division of Environmental Management (NCDEM)

standards (10 mg/kg for gasoline and 40 mg/kg for diesel, in 1994). Based on these results, EI concluded that there had been a release of petroleum hydrocarbons from the USTs located on the F & H Auto Sales property. Also, since the USTs were potentially located below the groundwater table, the probability of groundwater impact was believed to be high (EI, 1994).

A subsequent Phase I Limited Site Assessment Report (LSA) was prepared for the site by Quible & Associates, P.C. (Q&A), in August 2001 (Q&A, 2001). According to the LSA, two monitoring wells were installed at the site (one near the former USTs and one near the former dispenser island). One soil sample was collected at each well location during installation, and one groundwater sample was collected from each well following completion. The results of the LSA indicated that groundwater in the vicinity of the former USTs is impacted by petroleum hydrocarbons; however, only benzene, detected at a concentration of 110 µg/L, exceeded the 15A NCAC 2 L Groundwater Quality Standard (2L Standard) by a factor greater than ten. In the LSA, Q&A requested a Low Risk Classification for the site.

4.0 FIELD ACTIVITIES

Due to the extent of previous investigation activities conducted at the site, field activities were limited to collecting and field-screening soil samples from areas within the currently proposed highway expansion area. Based on the field screening results, soil samples were not submitted for laboratory analysis. The field activities were conducted by Solutions-IES on October 12, 2001. Photographs were taken to document site conditions during the assessment activities. The site photographs are included in Appendix B.

Prior to beginning subsurface sampling, Solutions-IES personnel contacted F&H Auto Sales to notify them of the proposed sampling activities. Solutions-IES also contacted Carolina No-Cuts to identify utilities on the subject property and contracted Taylor Wiseman & Taylor of Raleigh, NC, to further evaluate the area of the site within the proposed right-of-way. No anomalous signatures or detections were noted within the proposed right-of-way that would suggest the presence of USTs or metal piping.

After clearing the utilities on the property, Solutions-IES collected subsurface samples from the proposed right-of-way area. The samples were collected at three Geoprobe® boring locations, identified as GP-1G, GP-2G, and GP-3G. The locations of the Geoprobe® borings are indicated on Figure 2.

The Geoprobe® borings were advanced to a total depth of 2.4 m (8 feet) below ground surface (bgs), which was below the water table. Continuous soil cores were collected from each boring using a Macro® Sampler. Upon removal from the ground, the cores were cut into 2-foot lengths. Soil from each 2-foot interval was further split into two identical portions. Each portion was placed in a separate resealable plastic bag. One bag was placed on ice for possible laboratory analysis, while the other bag was sealed and placed at ambient temperature for field screening with an organic vapor analyzer (OVA).

The soil samples were examined for soil type and the presence or absence of petroleum staining or odor. After a period of approximately 20 minutes, which allowed for the accumulation of volatile organic compounds (VOCs) in the headspace of the bags, each sealed bag left at ambient temperature was scanned with the OVA. A background reading was taken with the OVA prior to measuring VOC concentrations in the bags. The readings of the VOC concentrations in the headspace were then entered on the boring log along with a soil description and any indications of petroleum staining or odor (Appendix C). The results of the OVA field screenings are summarized on Table 1. Based on the field-observable indicators of petroleum contamination (i.e., staining, odor, OVA measurements above background), soil samples were not submitted for laboratory analysis.

Following completion of the soil sampling activities, the Geoprobe borings were abandoned by completely filling each boring with soil and sand.

5.0 DISCUSSION

Previous investigations conducted at the F & H Auto Sales site identified detectable concentrations of diesel and/or gasoline range petroleum hydrocarbons in soils near the USTs and fueling island at the site (EI, 1994). According to the LSA, the USTs was properly closed and removed. However, residual soil contamination may be present in the vicinity of the former USTs and fueling island.

Groundwater sampling conducted in July 2001 detected benzene in the groundwater near the former UST area at a concentration of 110 µg/L, which exceeds the 2L standard by more than 10 times. According to Q&A (2001), groundwater flow at the site may be towards the east, which would suggest that shallow groundwater beneath the proposed right-of-way may be impacted. However, available data for other sites located within one mile of the subject property indicate that groundwater most likely flows toward the west. If groundwater flow is towards the west, it is less likely that groundwater within the proposed right-of-way area is impacted.

Solutions-IES advanced three soil borings to assess subsurface conditions in the proposed right-of-way at F & H Auto Sales. Solutions-IES personnel did not notice any staining or odor in the soil samples collected from the Geoprobe borings, which was consistent with the low OVA readings (less than or equal to 3 ppm). Based on field observations and review of previous assessment activities conducted at the site, soil samples were not submitted for laboratory analysis.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This PSA was performed on behalf of the NCDOT for F & H Auto Sales located at 144 West U.S. Highway 158, Camden County, North Carolina. Based upon our file review and field observations, we offer the following conclusions:

- A historical release at the site from a former UST system was initially discovered in 1994. The former USTs were removed from the site. Soil samples collected in 1994 indicated gasoline and/or diesel petroleum hydrocarbons in the soil near the USTs and fueling island at the site. Residual soil contamination may be present at these locations. The former UST area is not located within the proposed right-of-way area; however, the fueling island is immediately adjacent to the proposed right-of-way.

- Soil samples collected in 1994 near the fueling island indicated diesel concentrations of 19 mg/kg and 28 mg/kg, which were below the action level of 40 mg/kg. Soil samples collected in the proposed right-of-way by Solutions-IES indicated OVA readings less than or equal to 3.0 ppm, which was consistent with field observations; therefore, samples were not submitted for analysis.

- Recent sampling activities conducted in August 2001 indicated that shallow groundwater near the former UST area was impacted by benzene at a concentration of 110 µg/L which exceeds the 2L Standard by more than 10 times. Groundwater flow direction at the site is not known. Depending on the groundwater flow direction, shallow groundwater (<1.5 m bgs) within the proposed right-of-way area at the site may be impacted.

7.0 REFERENCES

Environmental Investigations, P.A. (1994). Preliminary Site Assessment Report, Site 4: F&H Used Cars; Widening of US 158 from Elizabeth City to Belcross. April 1994.

Quible & Associates, P.C. (2001). Phase I Limited Site Assessment for a Former Winslow Oil Fuel Station (Currently F&H Used Cars). August 2001.