

Property/Activities Summary

Norfolk Southern Car Works
Lenoir City, TN

- 95 +/- -acre property has been an industrial location since the Bass Foundry and Machine Shops were constructed in 1893.
- Site was later acquired by the Southern Railroad and used to construct boxcars, wooden sided coal cars, and cabooses. Two steel foundries, a gray-iron and a brass foundry were located on the site.
- Lenoir City Car Works, Inc. operated a nonferrous foundry at the above location from the 1940's until the facility closed on July 31, 1985. During its operation period, Lenoir City Car Works produced brass alloy journal bearings for railroad cars by reprocessing used scrap journal bearings.
- Slag was dumped in piles, which were periodically leveled off and covered with soil until all onsite disposal activities were terminated in 1974.
- Primary pollutant is foundry slag containing lead and some arsenic.
- Current owner is Southern Regional Industrial Realty, Inc. a subsidiary of Norfolk Southern Corporation
- Norfolk Southern has owned the site since the 1940's. S
- Primary concentrations of lead occur near the foundry-building site with levels as high as 41,000-ppm. This level is not indicative of the entire site; however levels in the 12,000-ppm to 1,500-ppm are not uncommon through approximately 70% of the site.
- Lead is contained in foundry sand at depths of 6' in approximately 10% of the site, 2'-4' in 50%, and less than 2' in approximately 10% of the site. The greater depths of sand (not necessarily higher concentrations) are located in drainage areas and low areas of the site.
- 2004 Lenoir City received an EPA Brownfield Assessment Grant to conduct assessment activities on the site.
- City obtains real estate appraisal (\$748,500 for 99.8 acres)
- City in fall of '04 met with Norfolk Southern representative in Atlanta to discuss possible acquisition of site by City. Favorable discussion but no specific position proposed by NS.
- 2005 Norfolk Southern entered into agreement with ERS to assume liability responsibility of the site and obtain no further action from TDEC
- ERS submitted plans to TDEC that involves demolition of remaining structures and placing demolition over center portion of site and capping (Figure 4).
- ERS's proposal, in opinion of community and consulting engineers, renders most of the site unsuitable for development.
- TDEC has not approved work plan and strategy.
- City desires to acquire site, construct speculative buildings and develop as an industrial park focusing on rail related manufacturing



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Remediation
4th Floor L&C Annex
401 Church Street
Nashville, Tennessee 37243-1538

August 15, 2006

Joshua A. Bloom
General Counsel and Executive Vice President
Environmental Risk Solutions, LLC
26 Woodoaks Drive
San Rafael, CA 94903

Subject: Lenoir Car Works, Site Number 53503

Dear Mr. Bloom,

As you know we have been negotiating with ERS to develop a remedy for the Lenoir Car Works site. It is our intent to have a remedy that is consistent with the intended, zoned, and restricted future industrial use of the property. Constituents of concern at the Lenoir Car Works site include lead and arsenic. These constituents will not biodegrade or otherwise attenuate over time and, unless removed, will remain at the site forever. The remedy must be effective into the future, provide an ongoing protective barrier to exposure to the lead and arsenic at the site, and the remedy must provide long-term integrity for a containment system and therefore not have to be torn out for industrial use to be implemented. Any remedy that would not be protective in the future or that would have to be torn out prior to industrial reuse would not be approved.

You asked about precedence. Lenoir Car Works site has a characteristic hazardous lead waste disposed on the property based on TCLP testing. Two sites that addressed a characteristic hazardous lead waste include Ross Metals Federal Superfund Site and the Isabella lead chamber acid plant. The Ross Metals Federal Superfund site included, among other things: excavation of contaminated soil and slag, stabilization/fixation of contaminated soils and slag, offsite disposal of the stabilized material, filling the excavations with clean soil, and establishing vegetation. At the Isabella Chamber acid plant an engineered cap including extensive subgrade work, geosynthetic clay liner, drainage layer, 18-inch protective soil barrier and 6 inch vegetative layer was constructed.

Another site, which was not tested for TCLP, was the Norfolk Southern Railroad Coster Shop site, Sandblast Sand Disposal Area. The Record of Decision for this site required that a two foot clay cap would be constructed in accordance with the U.S. EPA Guidance Document: Design and Construction of RCRA/CERCLA Final Covers, EPA/625/4-91/025 of May 1991. This included a clay cap a minimum of two-feet thick, with a permeability of 1×10^{-7} cm/sec or less. In order to meet these specifications, the clay material from several potential borrow sources were tested for compaction in accordance with ASTM D 698; grain size distribution by method ASTM D 422; and hydraulic conductivity in accordance with method ASTM D 5084. Based upon these test results, it was determined that the soil utilized to construct the cap needed to be compacted to a minimum of 95% of the ASTM D 698 results in order to meet the permeability requirement of 10^{-7} cm/sec. During the course of the project the soil characteristics changed slightly, subsequent testing determined that this material required a compaction of 98% to achieve the permeability requirements. This site did not have a specific redevelopment plan at the time of the Record of Decision; however, the site is intended for industrial reuse.

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If your representatives desire to review Department files, the files are open and your representatives may make an appointment and review the files. To make an appointment to review Division of Remediation files, please call (615) 532-0900.

Tennessee Department of Environment and Conservation's statute and regulations are on the Internet and may be accessed through the Department's web site. The Department's web site may be found at <http://state.tn.us/environment/>.

Your e-mail dealt with compaction of the clay layer. The compaction requirements for the minimum 18-inch clay layer remain as follows:

1. Soils must be tested prior to placement.
2. Soils may be placed in less than or equal to 8" lifts loose.
3. Compaction must be done by a sheeps foot method and preferably a sheep foot with vibration.
4. Compaction must meet 95% of the maximum dry density.
5. Compaction must adhere to ASTM D698 standards and testing requirements.
6. Testing shall be done by an independent Geotechnical testing company.

Further, material consolidated under the cap and/or other fill placed under the cover shall also be compacted to 95% of the maximum dry density. Compaction must adhere to ASTM D698 standards and testing requirements and an independent Geotechnical testing company shall verify compaction.

To move this site forward, ERS shall submit six copies of the proposed remedial action plan detailing what ERS proposes to do at the Lenoir Car Works site to the Tennessee Department of Environment and Conservation, Division of Remediation, 4th Floor L&C Annex, 401 Church Street, Nashville, Tennessee 37243 on or before **September 25, 2006**.

This proposed remedial action plan shall specify what ERS proposes to do to remediate the former Lenoir Car Works State Superfund Site and where those actions will take place at the site. This plan shall be complete and include any and all activities associated with the remediation including but not necessarily limited to the following. Said plan shall include sufficient detail and specifications to exactly define work, specifications, and standards proposed for the site. This work plan shall provide the specifications and sampling results of the cover material. The plan shall include detailed proposal for confirmation sampling, operation and maintenance, and land use controls. This proposed remedial action plan shall also include a listing of all permits and standards for those permits that would be required if the work were not performed under the permit exclusion in TCA 68-212-222. This includes any applicable permit and requirements under the Water Quality Control Act, Air Pollution Control Act, Solid Waste Management Act, Hazardous Waste Management Act and any other applicable statute and corresponding regulations. The work plan shall be in sufficient detail that a reviewer can verify that permit standards will be met.

With the proposed remedial action plan, submit a signed and certified statement from a third party, Tennessee licensed engineer that the proposed work is appropriate for and consistent with (1) current and future protection of human health and the environment and (2) future industrial land use. Further, said certification shall specify that the remedy, as proposed, would not have to be removed for future industrial development.

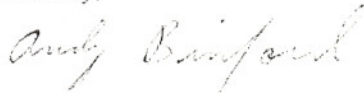
Upon receipt of what we consider an appropriate proposed remedial action plan, an opportunity for public comment on the plan will be provided. Concurrent with public comment, we will also request review from other appropriate TDEC Divisions. If the remedy is deemed appropriate, following public comment and review from other TDEC Divisions, the Division of Remediation will issue a Record of Decision. Following issuance of the Record of Decision, remedial design in Rule 1200-1-13-10, remedial action under Rule 1200-1-13-11, final operation and maintenance under Rule 1200-1-13-12, and other appropriate regulatory requirements shall apply.

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Failure to submit this remedial action plan or certification on or before **September 25, 2006** or submittal of what TDEC deems an inadequate remedial action plan would result in TDEC re-evaluating options for addressing this site including, but not limited to, requesting the EPA address the site.

I may be reached at (615) 532-0911 or by e-mail at Andy.Binford@state.tn.us if you have questions.

Sincerely,



Andy Binford, Assistant Director
Division of Remediation

Xc: Sharon Jacobs, Bone McAllester Norton PLLC
Kevin Iler, ERS
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received
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