



LAUREL ENVIRONMENTAL ASSOCIATES, LTD.

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Month 00, 2010

Mr. Client
Acme Communities
123 ABC Street
Any Town, New York 11111-1111

RE: Tank Closure Summary Report for the property known as 123 ABC Street, Any Town,
New York
LEA Project # 10-000

Dear Mr. Client,

As you are aware, *Laurel Environmental Associates, Ltd.*, was retained by Acme Communities to coordinate and oversee the removal and/or abandonment of fuel oil storage tanks located throughout community. The subject property includes three contiguous irregular shaped parcels with a combined footprint of approximately 57 acres. The property is improved with 376 manufactured home sites and an associated leasing/management office combined with the parks recreational center. Each manufactured home is situated on an individual Suffolk County Tax Lot within the Town of Southampton, New York.

The subject site is serviced with potable water from the Suffolk County Water Authority and with electricity by LIPA. The subject site is not serviced with municipal sewers and sanitary waste is handled by individual cesspools for each home. The majority of homes, 289, were heated by #2 fuel oil stored within 275-gallon aboveground or underground storage tanks. Over 87 homes were previously heated by propane or electric heating units, either originally constructed as such or upgraded throughout the years by Anonymous employees. These homes were inspected by **LEA** to confirm the absence of former or current above or underground storage tanks. A previous count of 348 homes heated by underground fuel oil tanks was verbally estimated and confirmed later at a count of 288 by **LEA** and Acme staff after visual inspections were completed at each homestead. No action was taken other than a visual confirmation of site conditions at these 76 homes. Twelve homes were already being serviced with a Granby® aboveground storage tanks and no additional work was conducted at these sites.

During the month of August all homes/tenants previously heated by oil were offered the opportunity to convert to propane heating units or to be supplied with new 275-gallon aboveground storage tanks. During the months of September and October, all homes previously serviced with underground storage tanks were converted by Propane Gas Company for propane; of City, New York and Tank Installers of Village, New York for the new aboveground tanks. The new tanks, manufactured by Granby Industries, are the Ecogard®, a 12-gauge 275-gallon double bottom tank equipped with a float leak detector that indicates if the first layer of the double bottom has been compromised and comes with a 15 year warranty.

LEA notified Mr. County Engineer of the Suffolk County Department of Health Services (631-854-5555 Mr.Engineer@suffolkcountyny.gov) and Mr. State Engineer of the New York State Department of Environmental Conservation (NYSDEC) (631-444-5555 Mr.Engineer@gw.dec.state.ny.us), and the Town of Southampton, of the pending tank removals and to confirm that the tanks are unregulated. Tanks under the capacity of 1,100-gallons and located on individual tax lots are considered unregulated by state, county and local regulations. *LEA* also informed the agencies of start dates should any of the agencies wish to witness and confirm the level of work being conducted. No agency representative choose to attend the removals; however *LEA* kept the agencies updated as the work progressed.

The New York State One-Call Center was notified and each address (lot) had a markout completed, including two renewal markouts, so a representative was on-site almost daily for confirmatory markouts on an ‘as needed’ basis. Anonymous staff conducted private markouts of buried sanitary systems and other possible voids that could be dangerous to workers and could be damaged by the heavy machinery used throughout the project.

LEA staff Geologists and field technicians conducted inspections, oversight, field screening and sampling of all work. *LEA*’s full-time Geologists and Environmental Scientists are all OSHA HAZWOPER Licensed (Hazardous Waste Operations and Emergency Response Standard). *LEA*’s subcontractor, Excavator Company of Hamlet, New York, conducted the removals using a backhoe and mini-excavator. The majority of usable product remaining in the underground tanks were pumped into the replacement tanks by the tank installers. All pump-able residual oils were pumped via a vac-truck supplied by Waste Oil Company, of Township, New York. A communal total of 21,543-gallons of residual oil was pumped from the 288 tanks involved within the scope of work, though individual manifests were obtained for each home. A total of 244 tanks were removed from the premises, fourteen of which were aboveground storage tanks and twenty-five were constructed of fiberglass.

After the tanks were removed and inspected for obvious signs of pitting, perforations and general condition, the tanks were transported to the staging area located just southeast of the recreational

center. There, on a staging of plastic, the tanks were cut, cleaned, crushed, and placed into roll-offs for transport and disposal by a metal scavenger. Tank residues, including all sludges and oil absorbent pads were placed into 55-gallon DOT approved drums, transported and disposed by Anonymous. The majority of tanks were found to be 275-gallon steel, though some were single wall fiberglass of capacities up to 550-gallons, the bulk were laid horizontally and found free of pitting and corrosion.

An on-site checklist for each site was prepared by the field Geologist indicating tank size, location, condition, equipment, as well as PID readings, soil conditions, weather, etc. In addition, photographs were taken; 1) before and after the removals, 2) of the tank, 3) and the tank excavation.

LEA's subcontractor Tank Foam Company, conducted the foam abandonments of underground storage tanks that could not be removed due to the inherent dangers of buried electrical lines or concrete block cesspools in close proximity to the underground storage tank or its position in relation to a home, giving rise to potential property damage. *LEA* conducted soil borings using a hand auger to a minimum depth of 5 feet below grade, which is well below the average depth of the typical tank grave of three feet found on the majority of removed tanks, and in close proximity to each of the planned abandoned tanks (within two feet of the tank sidewall) prior to the actual abandonment to confirm that the tank had not leaked. Foam was inserted under high pressure via the fill port until all void spaces were sealed. Tanks with remote fills were accessed by hand by Tank Foam Company employees and then the foam was inserted via the bung. A total of fifty-one tanks were abandoned in place with an approved inert foam.

Soils types encountered during the removals and abandonments were found to be medium grade course light brown sands from six inches to three feet below grade. At four feet below grade, sands were mixed with silts and fines, almost clay-like in texture. Due to the fairly shallow depth of the tank graves and the horizontal installation of the majority of tanks, groundwater was not encountered during the removals.

Soils were field screened using a Photoionization Detector (PID) equipped with a 10.6 eV bulb , as well as by visual and olfactory methods. The PID was calibrated with an isobutylene, an inert gas that gives a response equivalent to 100 parts per million of benzene, prior to the start of daily activities. Field screening activities included placement of soil into a Ziploc® baggie and allowing to thermo-stabilize prior to obtaining a reading with the PID. Soil samples from tank graves with small confined areas of slight to no discoloration, but with low PID readings, were placed into laboratory approved containers, stored on ice and hand delivered to *York Analytical Laboratories*, of Stratford CT.

Samples were analyzed using USEPA Methods 8021 and 8270, reporting for NYSDEC STARs parameters for volatile organic compounds and semi-volatile organic compounds, respectively. Analytical results indicated that all samples were either non-detectable for all compounds analyzed or found to contain trace to low levels of semi-volatile organic compounds well below the NYSDEC TAGM Recommended Soil Cleanup Objectives. No further action is warranted for these sites.

Typically, the tank graves should never be backfilled without agency inspection and approval if contamination is encountered. However, based on telephone conversations with the regulatory agencies and in consideration of the large number of elderly tenants within the community, it was determined and approved that all tank graves would be backfilled for safety purposes only, regardless of soil conditions. If contamination was encountered, the tank grave was lined with poly sheeting prior to backfill.

The NYSDEC Spills Hotline was notified if contamination was encountered. Accordingly, the following thirteen Spills were activated for the subject property:

#000 Spill #1111111
**#000 Spill #1111111
**#000 Spill #1111111

Mr. State Engineer of the NYSDEC was notified prior to the remediation of the abovementioned spill sites. On Month 00, 2010, *LEA*'s subcontractor, Excavator Company removed and isolated the clean backfill material and then proceeded to excavate impacted soils until clean margins were reached. Soils were field screened continuously during this removal process and a subsequent endpoint sample was collected for confirmatory lab analysis using USEPA Methods 8021 and 8270 STARs, as described previously.

**Groundwater was encountered during the remedial process of the tank graves from the units known as #000 at nine feet below grade and #000 at seven feet below grade. Mr. State Engineer of the NYSDEC was notified prior to the remediation of the abovementioned spill sites and was on-site to witness the remedial corrective action on units #000 and #000. The site known as #000 was backfilled prior to Mr. Engineer's arrival the following day, Month 00, 2010. *LEA* staff had planned and were prepared to re-excavate the tank grave, including the disconnection of two newly installed propane tanks, for Mr. Engineer to visually inspect the on-site soil and groundwater conditions. However, Mr. Engineer only required a soil boring be conducted directly through the former tank location in his presence, so he could conduct field screening. No floating product, sheen, or odor was detected in the underlying groundwater from either site. Mr. Engineer did not require laboratory analysis of the endpoint samples collected from #000 and #000. However, *LEA* choose to submit endpoint samples from these locations for confirmatory analysis, which found either non-detectable for STARs compounds or well below NYSDEC TAGM Recommended Soil Cleanup Objectives for volatile organic compounds and semi-volatile organic compounds.

The majority of the spills were caused either by over-fills or by loose pipe fittings. Only three tanks were found to have been in poor enough condition to cause a spill. Laboratory analysis of all endpoint samples were non-detectable for STARs compounds or with trace to low levels of volatile organic compounds and semi-volatile organic compounds well below NYSDEC TAGM Recommended Soil Cleanup Objectives.

Impacted soils were transported to the staging area on a layer of poly sheeting and covered nightly during the remedial phase. An estimated 54 yards of soils were removed collectively from the Spill sites. The impacted soils were loaded, transported on two tri-axle trucks and disposed of at an approved facility on Month 00, 2010. Final destination for contaminated #2 fuel oil soils is Clean Earth of Carteret, New Jersey.

A review of the file regarding #00, Historical Spill #11-1111 and conversations with Mr. Engineer, the NYSDEC is not requiring additional work or monitoring and is in the process of removing this spill from active status. Once the spill is officially removed from active status, *LEA* will proceed with the abandonment of the monitoring well installed by others, following all NYSDEC protocols.

Based on work conducted throughout the months of September and October 2010, *LEA* has determined and has verbal confirmation from the NYSDEC that no further investigation, study or remedial corrective action is required or necessary at the subject property. All underground storage tanks have been either removed or properly abandoned in place in full accordance with state, county and local regulations. Spill sites have been affectively remediated and no further action is required. Please do not hesitate to contact me at 631-673-0612 ext 202, or at csullivan@laurelenv.com should you have any questions or require further clarification.

Respectfully submitted,

Carla M. Sullivan
Senior Geologist
Vice President
Laurel Environmental Associates, Ltd.

Attachments: Lab Analysis