August 22, 2015

XX

RE: 275-Gallon #2 Fuel Oil Aboveground Storage Tank (AST) Inspection

Dear XX:

Phoenix Consulting, LLC (Phoenix) inspected the aboveground heating oil tank at the referenced property on August 19, 2015. The AST is a standard 12-gauge single-wall steel tank with a storage capacity of 275 gallons. It is located in the basement along the north wall between the furnace and water heater. The dwelling was constructed in 1998 and the tank is original to the house. The AST and area around the tank system were inspected visually for evidence of leaks or overfills. In addition, the installation/setup was assessed for possible problems that could result in tank failure or oil loss. See enclosed inspection sheet.

The tank system was first inspected for indications of product loss associated with leaks or fuel deliveries. With the exception of a slight oil drip around the bottom bung where the fitting for the oil supply line connects to the tank, no oil staining was observed on the tank exterior or piping. No oil staining or petroleum odors were evident outside by the fill and vent pipes. No dead or stressed vegetation was found around the fill or vent, which would be indicative of past delivery spills or tank overfills.

The mechanical setup was then inspected for possible problems that could result in tank failure and or oil loss. The tank is supported by four 1.25" steel legs and resting on two untreated wood boards. The boards are in direct contact with the concrete basement floor. The floor is not damp and the boards appear solid. The AST is plumb east to west but leaning slightly north toward the basement wall. The AST looked stable overall and while the basement was dry at the time of the inspection, a working sump was noted in the southeast corner suggesting water entry is possible. Moisture should be a consideration as it pertains to the stability of the tank since it could affect the integrity of the untreated boards. Periodic inspection is recommended to ensure the boards are not rotting and remain sound. The fill is constructed of 2-inch steel pipe and properly fitted with a scully cap. The vent is constructed of 1.25-inch steel pipe, drains freely back to the tank and is properly capped with a screened vent cap. The vent cap was clear of debris and functioning properly at the time of the inspection. Proper venting is important, especially during fuel delivery since an AST can rupture due to over pressurization if the vent is clogged. The cap should be periodically inspected for clogging caused by insect activity or other obstructions. The AST is located in close proximity to the furnace and the length of the copper oil-supply line is minimal (less than 5 feet). The short piping run is good but both the line and the oil filter are vulnerable to accidental breakage and could be snapped off the tank if stepped on or struck sharply. Care should be taken if any activity occurs near the supply line.

The tank is equipped with two fill gauges but neither one are working. The AST contained approximately 37.5 inches of oil, about 245 gallons, at the time of the inspection. While a working oil gauge is not necessary during fuel delivery, a fuel gauge is a critical component of the tank system and should function properly.

The tank system appeared to be in good condition overall and the setup was consistent with a 1998 installation.

General Recommendations

Ideally the vent and fill pipe would be the same diameter to minimize the risk of over pressurization during filling. The existing setup appears to be functioning properly but routine inspections of the vent cap are recommended to make sure it remains free of debris (insect, ice, etc.). Although a minimal length, the oil supply line and oil filter are susceptible to accidental breakage and care should be taken when activity occurs near the line. Periodic inspection of the wooden support is recommended to make sure the boards are solid and the tank is not shifting.

Action Items

While limited to a few small oil drops, the leak around the bottom bung should be inspected by a qualified service technician to verify the integrity of the fitting and its connection to the tank.

The fill gauge installed in the east bung should be replaced with a working gauge.

Notice of Disclaimer

The inspection was limited to accessible portions of the tank exterior and system components on August 19, 2015. In no way does this inspection provide an opinion about the life expectancy of the AST or system components. No metallurgical assessment was made regarding steel thickness, corrosion, integrity of welds or pipe fittings. All petroleum storage tanks can fail if not maintained properly. A pre-delivery inspection by the fuel provider is always recommended.

If you have questions or need additional information, please contact the undersigned directly at (610) 291-8596.

Respectfully submitted,
PHOENIX CONSULTING, L.L.C.

Bryan Fallucca
Sr. Environmental Scientist

enclosure

Photo 1: View looking south from the north side yard. The AST is located in the basement along the north wall. The vent and fill pipe are located behind the AC condenser.

Photo 2: The AST is located between the furnace and the electric water heater. It is a standard indoor 12-gauge single-wall steel tank with a storage capacity of 275 gallons.

Photo 3: The tank is plumb east to west but leaning slightly north toward the basement wall.

Photo 4: With the exception of a slight oil drip around the bottom bung where the fitting for the oil supply line connects to the tank, no oil staining was observed on the tank exterior or piping.

Photo 5: The connecting fitting was covered with oil (sheen on glove and brass).

Photo 6: Confirmation that the dark droplets visible in photo 4 beneath the 90 and around the bung are oil; red dye is visible on the absorbent cloth. While limited to a few droplets, the leak around the bottom bung should be inspected by a qualified service technician to verify the integrity of the fitting and its connection to the tank.

Photo 7: The AST was checked for fuel volume and water through the east bung. No water was detected in the tank, which contained about 245 gallons of oil. The fill gauge is not working and should be replaced.

Photo 8: Oil supply line and filter. Some older staining was visible under the filter and likely related to routine service. No leaks were visible around the filter housing. Both the copper line and the filter are vulnerable to accidental breakage and could be snapped off the tank if stepped on or struck sharply. Care should be taken if any activity occurs near the supply line.

Photo 9: Two-inch diameter oil fill with scully cap (right side of photo) and 1.25-inch diameter vent with screened cap (left side of photo). Both pipes drain freely back to the tank.

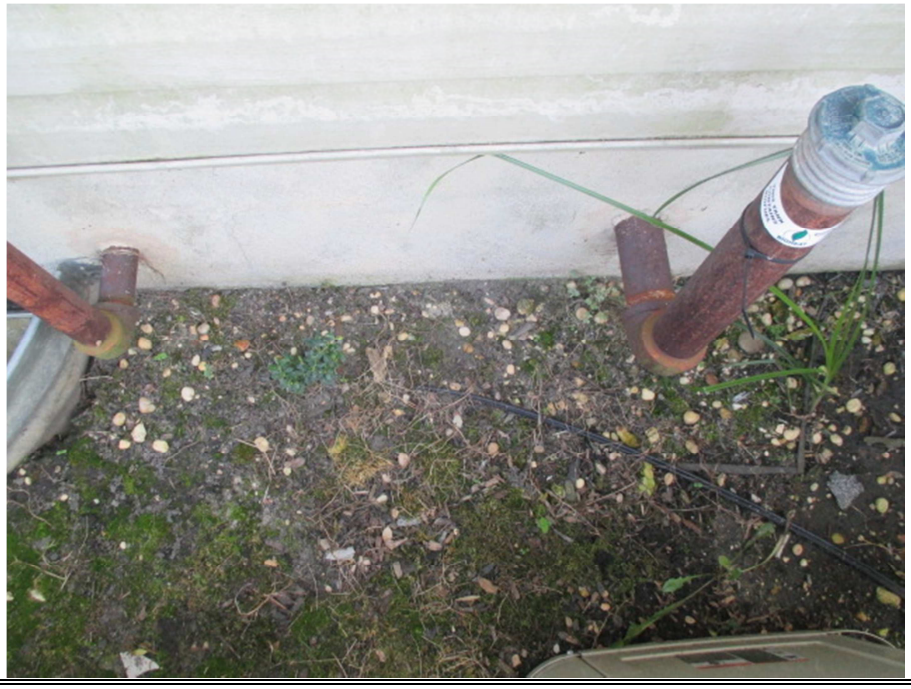

Photo 10: No oil staining or petroleum odors were evident outside by the fill and vent pipes. No dead or stressed vegetation indicative of past delivery spills or tank overfills was found around the fill or vent.