

**Targeted Brownfield Assessment
Oklahoma Army National Guard
Wewoka Armory
Wewoka, Oklahoma**

**ASTM E 1527-05
Phase I Environmental Site Assessment
All Appropriate Inquiry**

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Prepared by:

**Oklahoma Department of Environmental Quality
Land Protection Division
707 N. Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677
(405) 702-5100**

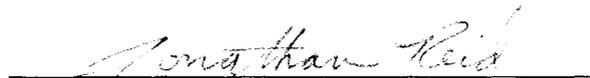
Prepared for:

The City of Wewoka
123 S Mekusukey Avenue
Wewoka, Oklahoma 74884

Prepared by:

Oklahoma Department of Environmental Quality
Land Protection Division
707 N. Robinson
P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Environmental Professionals in charge of the project:



Jonathan Reid
Environmental Programs Specialist I



Hal Cantwell
Environmental Programs Specialist IV



Rita Kottke, PhD
Environmental Programs Manager

Background and Disclaimer: The purpose of an environmental site assessment is to identify actual or potential “recognized environmental conditions” that may result in liability or land use restrictions. The ASTM Phase I Environmental Site Assessment E 1527 – 05 is the minimum standard for environmental due diligence in the commercial real estate industry and currently meets the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfields Redevelopment Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practices was undertaken to identify the “recognized environmental conditions” that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, DEQ cannot state with absolute certainty that no other potential hazardous waste sites are located in the area. In no event shall the DEQ or its employees be liable for any damages, injury, loss, cost or expense whatsoever arising in connection with the use or reliance on the information contained in this report, except as otherwise provided by law.

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1.0 Executive Summary

This Phase I Targeted Brownfield Assessment of the Wewoka Armory was performed in accordance with the ASTM E 1527-05, a guide for conducting Environmental Site Assessments. Subi John performed the site reconnaissance on June 19, 2006. Jonathan Reid performed an additional site investigation on July 18, 2006.

The site is located in the SE ¼ of Section 30, Township 8N, Range 8E, in Seminole County, Oklahoma. The site is off of the US 270 Bypass, approximately 1/2-mile west of junction SH 56, in Wewoka, Oklahoma.

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- An indoor firing range sand trap and dust residue was found to have lead contamination. Past sampling of lead in the sand trap and the rest of the indoor firing range show results of lead concentrations in need of remediation. The indoor firing range constitutes a recognized environmental condition (REC) based on the lead concentrations and its leachability.
- A floor drain is located in the middle of the firing range. This drain was mainly used to drain waste water from the washing of vehicles. The waste water drains into the septic tank located behind the armory building.
- Nine-inch square tile has been stripped out of the entrance, hallway, classrooms, and office areas. Some broken pieces of tile remain in several areas from past stripping. The DEQ sampled the tile and it tested positive for asbestos. Appropriately trained city personnel are in the process of removing all tile material in the Wewoka Armory.
- Behind the armory building there are two concrete slabs on grade southwest of the metal storage building and west of a septic tank. These two slabs are where two lateral lines extend from the septic tank below the ground. The lateral lines disperse the wastewater and allow natural processes to degrade the waste.
- Paint on several doors in the armory has peeled and is now hanging off in large chips. The paint and its peelings on the surfaces of the doors possibly contain lead. This observation and time period in which the armory building was constructed constitutes a REC at the site.
- Oil and grease buckets were once stored in the northeast corner on the ground surface of the fence line until State maintenance picked them up for disposal. These buckets contained oil and grease from the servicing of vehicles. There is no information of leaks or spills of these buckets and no visibly stained soil was found in this area.

- The boiler room may contain ACMs on the bottom of both heating units and the wrapping around the piping and elbow connections of the heating units. According to the building plan, the only known asbestos in the armory building was said to be on the bottom of the two heaters in the boiler room. Based on this information, a REC is constituted to this area of the property.
- Two empty 850-gallon mixing tanks, which appear to have not been placed in service, are located behind the armory building. These tanks are believed to be owned by Cochran Chemical Company. Another unknown storage tank was found inside the drill hall. The tank does not appear to have any contents. This tank is also believed to be owned by Cochran Chemical Company.
- Eleven 55-gallon drums were found outside along the fence line east of the armory building. Seven drums are empty and upside down. Four of the drums are upright containing approximately 2-5 gallons of standing rusty water.
- Presence of holes in the roof of the indoor firing range room and drill hall. Several puddles of rainwater collect at the floors directly below the holes in the roof. Some of the puddles contain mold.
- A can of an unknown chemical, "Training Set Chemical Agent," was found in the metal storage building.
- A few creosote log sections are located on the north central part of the property. Creosote is a mixture of chemicals used in a variety of products. Creosote is used as a preservative for the log sections at this site.
- One 5,000-gallon gasoline UST was once located on the northwest corner of the parking lot curb where it was used to refuel all the trucks. This UST was the only tank that the armory had on the property. According to Sam Cluck, a past employee of the Wewoka Armory, the UST was removed and closed out by the Oklahoma Corporation Commission (OCC). However, no records were shown in the OCC UST database of a tank ever being active or pulled at the property. This area that once contained the 5,000-gallon gasoline UST is considered a historical recognized environmental condition.

Recommendations

Based on the findings of this assessment, The DEQ recommends that additional investigation be conducted to evaluate areas of the property that may need future clean-up and remediation.

The indoor firing range (IFR) needs additional evaluation and remediation efforts on the sand trap and dust residue for lead. Peeling paint on several of the doors and metal surfaces need to be tested for lead as well. The wrapping, particularly around the elbows of the heating

unit piping, should be evaluated for ACMs. The soils in the northeast corner of the property inside the fence line should be evaluated for possible concentrations of oil and grease. Finally, the area where the 5,000-gallon gasoline UST used to be should be analyzed for possible contamination of gasoline.

2.0 Introduction

The State of Oklahoma Department of Environmental Quality (DEQ) under a Brownfield Assistance Agreement (No. VC98677601) (Ref. 1) with the U.S. Environmental Protection Agency (EPA) conducted a Targeted Brownfield Assessment of the Wewoka Armory at the request of the City of Wewoka, Oklahoma.

2.1 Purpose

The purpose of this assessment is to look at the environmental conditions within the target area and provide this information to the City of Wewoka to assist in its redevelopment planning as well as meet the All Appropriate Inquiry requirement of the Landowner liability protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, better known as Superfund – Ref. 2), as provided in the Small Business Relief and Brownfields Revitalization Act of 2002 (Public Law 107-118, Subtitle B – Ref. 3). The purpose of a Phase I Environmental Site Assessment is to identify, to the extent feasible, recognized environmental conditions in connection with the target property through a systematic review of readily available information sources and a site reconnaissance.

The DEQ is providing technical assistance to the project by evaluating the environmental condition of the property prior to the City acquiring the property. Funding for this assessment has been provided by the U.S. Environmental Protection Agency (EPA).

2.2 Detailed Scope-of-Services

The DEQ examined the current use of the property and then identified the historical uses of the property to determine if recognized environmental conditions exist. The DEQ examined historical documents, governmental databases, deed records, aerial photographs, governmental environmental files, Sanborn Fire Insurance Maps, conducted interviews with past unit members, and a site reconnaissance of the area. A good faith effort was made to identify possible environmental conditions that might affect the development of the property.

2.3 Significant Assumptions

Significant assumptions and past studies of the Oklahoma Army National Guard Armories suggest there is a possibility of lead and asbestos contamination at the Wewoka Armory. Most of the State armories, such as the Wewoka Armory, have indoor firing

ranges. These ranges usually contain concentrations of lead from past shooting activity. Since all of the armories were built before the 1970s, there is a high potential of finding asbestos containing materials (ACMs) in the armory buildings. The U.S. began banning the use of asbestos in most building products in the 1970s due to studies confirming the harmful health effects caused by exposure to airborne asbestos. ACMs may be found in the insulation wrapping of the heating pipes and/or heaters and nine-inch tiles, which were prevalent during the time the Wewoka Armory was built.

The Oklahoma Military Department verbally informed the DEQ that a significant asbestos abatement of the pipe was conducted in the 1990s, but that asbestos remains on the elbow joints. Visual inspection by the DEQ of the Wewoka Armory indicated that asbestos containing elbow joints are still present.

2.4 Limitations and Exceptions

The purpose of an environmental site assessment is to identify actual or potential “recognized environmental conditions” that may result in liability, land use restrictions, or cause delays in redevelopment. The ASTM Phase I Environmental Site Assessment E 1527 – 05 (Ref. 9) is the minimum standard for environmental due diligence in the commercial real estate industry and meets the standard for All Appropriate Inquiry under the Small Business Liability Relief and Brownfields Redevelopment Act of 2002. A diligent effort in accordance with generally accepted good commercial and customary standards and practices was undertaken to identify the “recognized environmental conditions” that might affect the redevelopment project. However, the identification of old hazardous waste sites is an evolving process; therefore, DEQ cannot state with absolute certainty that no other potential hazardous waste sites are located in the area. This assessment was conducted under constraints of time, cost, and scope and reflects a limited investigation and evaluation. It reflects the normal degree of care and skill that is ordinarily exercised by environmental professionals conducting business in this or similar localities. In no event shall the DEQ or its employees be liable for any damages, injury, loss, cost or expense whatsoever arising in connection with the use or reliance on the information contained in this report, except as otherwise provided by law.

The information in this report is based on a review of governmental records, interviews with knowledgeable residents in the community, information provided by the City of Wewoka, the Oklahoma Military Department and observations of the environmental professional. The result of this assessment, as written in this report, is valid as of the date of report. The assessment does not include sampling of soil, rock, groundwater, surface water, or air.

2.5 Special Terms and Conditions

This assessment report has been prepared for the City of Wewoka by the DEQ using EPA funding. Information about this report will be provided to the EPA for its files. This

report and the working file are public record and subject to the Oklahoma Open Records Act and the federal Freedom of Information Act.

3.0 *Site Description*

3.1 *Location and Legal Description*

The subject property is located in the SE ¼ of Section 30, Township 8N, Range 8E Indian Meridian in Seminole County, Oklahoma (Appendix A). The site is off the US 270 Bypass, approximately 1/2-mile west of junction SH 56, in Wewoka.

3.2 *Site and Vicinity General Characteristics*

Environmental Setting

The general topography of the area is shown in Figure 1 of Appendix C.

Seminole County, in the central part of Oklahoma, has an area of 404,480 acres. The North Canadian and Canadian Rivers form its north and south boundaries. Wewoka, the county seat, is located in the east-central part of the county. Topography pattern in the county is a repeating series of ridges and valleys running generally in a north-south direction. The ridges and gentle, west-facing slopes are generally underlain by sandstone, and the valleys and east-facing slopes are underlain by shale. Slopes are nearly level to steep in most of the county. The elevation of the county averages around 900 feet. Rangeland makes up about 60 percent of the county. Approximately one-half of the area is open prairie, and the other one-half is savannah (Ref. 5).

In winter the average temperature is 41 degrees Fahrenheit, and the average daily minimum temperature is 29 degrees Fahrenheit. In summer the average temperature is 80 degrees Fahrenheit, and the average daily maximum temperature is 92 degrees Fahrenheit. Of the total annual precipitation, 24 inches, or 65 percent, usually falls in April through September (Ref. 5).

The county is largely rural, and the chief enterprise is raising livestock. Oil and gas production, as well as manufacturing, contribute to the economy (Ref. 7).

Groundwater

The Nellie Bly Formation & Hogshooter Limestone underlies the subject property. The Nellie Bly Formation is mainly shale with many fine-grained sandstone and limestone beds locally in the upper portion; the thickness ranges from about 250 to about 550 feet (ft.). Underlying the Hogshooter Limestone is massive crinoidal limestone, 1 to 15 ft. in thickness. This formation is of the Missourian series of the Pennsylvanian Age.

The general yield of water underlying the subject property produces less than 25 gallons per minute. One well, approximately 1.5 miles southwest of the property, has a water level at 55 ft. below ground surface (bgs). The yield of this well is at 10 gallons per

minute. Another well, approximately 2 miles west-northwest of the property, has a water level at 40 ft. bgs. The yield of this well is at 16 gallons per minute.

Chemical quality of water is generally good underlying the subject property. These areas generally yield water containing 500 mg/L or less of dissolved solids, which is satisfactory for most uses. The presence of an undesirable constituent or excessive hardness may make the water unsuitable for some purposes (Ref. 6).

Soils

The Okemah-Bates-Prue soils are the general soils located at the subject property. These soils are deep to moderately deep, nearly level to sloping, moderately well drained to well drained loamy soils that formed under grasses in material weathered from sandstone or shale, on uplands.

There are two soil complexes that underlie the subject property. The first soil complex, Bates-Coweta Complex, underlies the northwest part of the property. This soil (2 to 5 percent slopes) is made up of very gently sloping to gently sloping soils on uplands. The moderately deep, well drained Bates soil is on side slopes, between areas of the shallow, well drained Coweta soil on ridge crests and side slopes. The Coweta soil is continuous around areas of the Bates soil.

The soil in this complex has low potential for crops and medium potential for tame pasture and hay. Shallow depth to rock is the main limitation. The soils are droughty and the production of crops and pasture in dry years is low.

Soils in this complex have medium potential for most urban uses. The moderate shrink-swell potential of the Bates soil, the shallow depth to rock of the Coweta soil, and the moderate depth to rock of the Bates soil are the main limitations for dwellings and small commercial buildings. The moderate to shallow depth to sandstone is the main limitation for septic tank absorption fields. This may be overcome by using a larger absorption area or by increasing the depth to bedrock.

The Second soil complex, Okemah silt loam complex, underlies the armory building and the southeast part of the property. This soil (1 to 3 percent slopes) is a deep, moderately well drained, very gently sloping soil on uplands. Slopes are plane or convex. Individual areas range from 5 to more than 500 acres. This soil is largely in the eastern one-third of the county.

Natural fertility and organic matter content are high. This soil ranges from slightly acid to mildly alkaline in the surface layer and grades to moderately alkaline in the lower part of the subsoil. Permeability is slow, runoff is moderate, and available water capacity is high. This soil has good tilth, but tillage is delayed because the soil is somewhat slow to dry sufficiently to be worked. The root zone is deep. This soil has a perched water table at a depth of 2 to 3 feet during winter and spring.

This soil has medium potential for urban uses. High shrink-swell potential and low strength are limitations for dwellings and small commercial buildings, but can be overcome by careful design. Slow permeability is the main limitation for septic tank absorption fields. The use of septic tank absorption fields is not satisfactory unless extensive and costly alteration of the soil is made. It is usually best to use another method of waste disposal, such as sewage lagoons (Ref. 5).

Air

The prevailing wind is from the southwest. Average wind speed is highest, at 15 miles per hour, in March (Ref. 5). During the June 19, 2006 site visit, a fairly strong crude oil odor was noticed near the pipeline located northeast of the subject property.

Surface water

The majority of the streams of the county enters from the west and generally flows eastwards to the Arkansas River. The elevation of the county averages around 900 feet. The area where the Wewoka Armory lies is in an area determined to be outside the 500-year floodplain (Ref. 8).

Heavy thunderstorms and tornadoes traverse east-central Oklahoma during the spring months. Originating in the southwest, they cause flooding and related damage throughout the state. Generally, the major flooding problems in Seminole County occur along Wewoka Creek and its tributaries. Although the floodplains of these streams are largely undeveloped, possibilities exist for future development. According to interviews with local residents, Seminole County has experienced flooding of commercial, residential, and agricultural properties around the cities of Wewoka and Seminole (Ref. 7).

Several small dams and lakes are located throughout Seminole County. Most of these structures were constructed by the Soil Conservation Service to minimize flood damages from low-frequency flooding. The Wewoka Creek drainage area totals approximately 158.2 square miles; Approximately 80 square miles of that area is controlled by 29 flood prevention dams serving drainage area that vary in size from approximately 0.75 to 13 square miles. All these dams have been designed for a 25-year frequency storm. The storage capacities of these dams and lakes range from approximately 250 to approximately 4900 acre-feet, with discharge capacities at the emergency spillways ranging from approximately 5 to 100 cubic feet per second (Ref. 7).

A flood prevention dam located outside the Wewoka corporate limits controls approximately 3.6 square miles of the 6.8-square-mile Sandy Creek drainage area. This dam also was designed to control the 25-year frequency flood (Ref. 7).

Utilities

Utility information was obtained from the Oklahoma Corporation Commission Utility Directory. Natural gas is supplied by the Oklahoma Natural Gas Company and electricity

is supplied by the Oklahoma Gas & Electricity Company. Telephone service is supplied by Southwestern Bell.

Underground features

There was once a 5,000-gallon underground storage tank (UST), containing gasoline, located next to the parking lot southwest of the armory building. Sam Cluck, past unit member of the armory, told the DEQ that the UST was removed and closed out by the Oklahoma Corporation Commission. A drain was noticed in the middle of the indoor firing range. The drain leads into a septic tank located behind the building. The out-of-use septic tank is located behind the northwest part of the building just south of the metal storage building. All sewage and waste water is dispensed into this septic tank. Two lateral lines connected to the septic tank lateral water out throughout the ground. Concrete slabs west of the septic tank location are where the lateral lines are located. No cisterns were noticed during the site visit.

Structures

Two industrial properties are located on the other side of U.S. Highway 270 south of the armory property. The Wewoka District Service Center is directly south of the armory approximately 0.10 of a mile. The second site, C&C Tank Truck Service, is approximately ¼ of a mile west northwest of the Wewoka Armory. A residence is located approximately ½ of a mile northwest of the armory. No schools or churches are located in the vicinity of the armory.

The Wewoka Armory building is constructed of red brick. The east side of the building extends north where the drill hall is located. A classroom, the boiler room, and kitchen area are west of the drill hall. South of the drill hall is where the IFR is located. The west side of the building extends westward. This part of the building contains the entrance, classrooms, office areas, supply room, and storage vault. Entry into the armory building can be found in the main entrance on the south, the west end of the building, and the northeast and southeast corners of the drill hall. Two overhead doors are located on the east end of the armory building. One is located for access into the drill hall and the other door is located for access into the IFR. Behind the west half of the armory building there is a metal storage building. This building is made out of metal materials prominently used to build sheds. The entry door to this building is on the west side.

Aboveground Storage Tanks (ASTs)

Two empty 850-gallon ASTs are located behind the armory building. The ASTs are in good condition and appear to have never been placed in service. One tank is labeled "Feed Tank – 5" and the other tank is labeled "Feed Tank – 6." These ASTs are believed to be owned by Cochran Chemical Company (Cochran) and were placed there during their short time of operational control of the property in 2004. Another storage tank was found as well lying on its side in the drill hall, which is also believed to belong to Cochran. This tank did not appear to have anything in it. Sam Cluck, retired Command Sergeant Major of the armory, mentioned that these tanks belonged to Cochran.

Landfills, Dumping, Disturbed Soil

There are no landfills, dumping, or disturbed soil at the subject property or adjoining properties. Sooner Land Management Landfill is the nearest landfill located in Seminole, OK (Ref. 16).

Impoundments

No impoundments were observed at the subject property.

Air Emissions, Wastewater Discharge

There are no air emissions coming from the subject property. However, a fairly strong crude oil odor was noticed coming from a nearby pipeline located northeast of the armory property. The property is vacant; therefore there is no ongoing waste water discharge.

Industrial Activities

There are no industrial activities on the subject property. However, there are two industrial activities found near the armory. The Wewoka District Service Center is located approximately 0.10 of a mile directly south of the armory. C & C Tank Truck Service is approximately 0.25 of a mile west-northwest of the armory. Both of these industrial facilities have or have had USTs on their property. Information of these industrial activities was obtained from the site visits and the Oklahoma Corporation Commission UST Notification Database.

Monitoring Wells

No monitoring wells were present on the property. The Oklahoma Water Resources Board well record database showed one groundwater well close to the armory. This well is located approximately 0.8 of a mile northwest of the armory in the NE ¼ of the SW ¼ of the NW ¼ of Section 30, Township 8N, Range 8E Indian Meridian. The well has a total depth of 160 ft. and the first water zone is 12 ft. Estimated yield of the well is 4 gallons per minute. The well is for domestic use (Ref. 20).

Stained Soils

No stained soils were observed at the subject property.

Seeps

No seeps of any kind were observed at the subject property.

Chemical Spills

No chemical spills were observed at the subject property. No spills were reported on the property from the Emergency Response Notification System (ERNS) database either (Ref 13).

Oil and Gas Exploration

An oil and gas pipeline connection at the east side of the fence line was noticed on the adjoining property. The general area where the subject property is located has had oil exploration in the past.

Known Groundwater or Surface Water contamination

There is no known groundwater contamination. There is no surface water on the property or the adjoining properties to have contamination.

Farm Waste

No farm waste was observed at the subject property.

Known Pesticide Misapplication

No known pesticide misapplications were observed at the site.

Discharges and Runoff from Adjacent Property Affecting the Site

No discharges and/or runoff were observed from any of the adjacent properties that would affect the subject property.

Other known or Suspected Environmental Concerns On the Site

The indoor firing range sand trap and dust residue is contaminated by lead. Past sampling has been conducted to characterize the lead concentration of this room. A statewide sampling event for lead was conducted by C.H. Guernsey & Company for the Oklahoma Army National Guard on all armories containing indoor firing ranges. This report is called the "Indoor Firing Range Lead Issues Report" (Ref. 19). Five samples were collected inside the firing range room. The following are the locations and concentrations of lead found in the room.

- 165.00 ug/ft² of lead was found at the doorway leading into the indoor firing range (IFR) from the drill floor.
- 557.20 ug/ft² of lead was found next to the south central wall of the IFR.
- 4472.00 ug/ft² of lead was found at the floor near the bullet trap.
- 3496.00 ug/ft² of lead was found at the pit below.
- 80.85 ug/ft² of lead was found next to the west wall of the storage room above the sand trap.

A copy of the Wewoka Armory section of the Indoor Firing Range Lead Issues Report can be found in Appendix F.

In March 6, 2006, the City of Wewoka brought a sample of sand from the IFR sand trap to the DEQ. The DEQ laboratory performed a total lead and TCLP (toxicity

characteristic leaching procedure) analysis of the sample. The total lead sample had a concentration of 29330 mg/kg and the TCLP sample had a concentration of 153,000 ug/L for lead. The analytical results are located in Appendix F.

On June 19, 2006, the DEQ pulled two samples of the fibrous material on the walls of the IFR, which appears to be the same material as the roof. The samples were analyzed for asbestos. No asbestos was found. Test results can be found in Appendix F.

Nine-inch square tiles used to cover the entrance, classrooms, hallways, and office rooms of the building. Most of the tile has been removed by the City of Wewoka, but there is still some pieces of tile lying around that may contain asbestos. The DEQ collected a couple of tile samples in March of 2006. Test results came back positive for asbestos in both samples. A tan piece of floor tile contained 3 percent asbestos and a piece of black mastic used to seal the tile to the ground contained 10 percent asbestos. Test results of these samples are located in Appendix F. Other asbestos containing materials (ACMs) may include the insulation on the bottom of the two heaters and wrapping around the elbow connections of the heating unit piping in the boiler room.

Peeling paint, especially on several doors of the armory building, could have some environmental concerns with concentrations of lead. Large paint chips are hanging off several doors.

The outside of the armory building has several recognized environmental conditions. According to a former National Guard member of the armory, Sam Cluck, oil and grease buckets were once stored at the northeast corner fence line until it was picked up and disposed of in Norman, OK. A few creosote treated log sections are located on the north central part of the property, which could have a localized environmental impact. There were also eleven 55-gallon drums outside near the southeast corner fence line. Seven drums are upside down with nothing in them. Four drums are upright with approximately 2-5 gallons of standing rusty rainwater. It is unknown what these drums held.

There is a can of an unknown chemical called "Training Set Chemical Agent" in the metal storage building that should be removed and properly disposed. A dangerous feature of the property includes the roof of the armory building. There are holes in the roof in the IFR and the drill hall. Parts of the roof are hanging off the roof structure or lying on the floor of each room.

Historical Recognized Environmental Conditions on the Site

Historical Recognized Environmental Conditions (HRECs) on the site consists of an area southwest of the armory building where a 5,000 gallon UST used to be. This UST used to contain gasoline to refuel all the armory vehicles. It has since been removed and closed out by the Oklahoma Corporation Commission according to Sam Cluck. However, there is no record of the UST in the Oklahoma Corporation Commission UST database.

Pipelines

A natural gas pipeline was noticed on the site visit. It was next to the fence line southwest of the armory building. All water supplies come directly from the City of Wewoka. Sewage and waste water drain to a septic tank located behind the armory building just south of the metal storage building. Two lateral lines extend from the septic tank below the ground, which filters out some of the sewage. Drainage of the site is towards the north. There is an open roof drain on the southwest side of the building and the main entrance. One storm water drain is located on the west corner of the northeast section of the armory building. A floor drain in the middle of the indoor firing range presently receives rainwater via roof leakage that drains into the septic tank behind the armory building.

Transformers/PCB Equipment

One pole-mounted transformer owned by OG&E was observed behind the north central part of the armory building. The pole-mounted transformer appears to be in good condition.

3.3 Operational History

The Wewoka Armory was built in 1965 and was managed and maintained by the Oklahoma Military Department to support the military mission of the Oklahoma Army National Guard (OKARNG). The OKARNG is a component of the United States Army and fulfills the military mission of national security (Ref. 10).

The subject property served as an armory to further the mission of the OKARNG. The Wewoka Armory operated as a center of operations for a military component of the OKARNG. It served as a training site for the component and stored those materials required by the component (Ref. 10). Over 100 enlisted members at a time served here (Appendix D).

A former unit member of the armory, Benny Wilkerson, noted that the Wewoka Armory went out of service in 1994 or the beginning of 1995. Cochran Chemical Company, a petroleum solvent processing/mixing company, took operational control of the property on July 23, 2004 (Ref. 10). However, Cochran did not have operational control of the armory for very long. According to Sam Cluck, a former employee of the armory, Cochran never fully got moved into the Armory. Cochran soon left the subject property and ever since then it has been vacant.

3.4 Current Use of the Property

There is no current use of the property, but there is a prospective tenant who wants to use the facility for its operations. This property has been abandoned and vacant for a while. According to Benny Wilkerson, the armory closed its operations in 1994 or the beginning of 1995. The building has degraded from lack of upkeep and years of weathering. Puddles of rainwater collect on the floors of the IFR and the drill hall from past roof

damage and deterioration. Some of these puddles contain mold. Various rooms are missing ceiling panels as well.

An asphalt road leads into an asphalt parking lot to the armory from Highway 270. Highway 270 is made of asphalt also. Loose gravel is spread throughout the site where the building is located. Most of this gravel is located behind the armory building where the two ASTs are located. No improvements have been made on the site from observations made from the site visit.

3.5 Adjacent Properties

Adjacent properties north, northeast, and west of the subject property are all open farmland. The adjacent property east of the armory is covered with dense forest. The adjacent land south of the subject property underlies US Highway 270. The Wewoka District Service Center is located directly south of the Wewoka Armory on the other side of US Highway 270.

3.6 Site Inspection

Site reconnaissance was performed on the following dates: June 19 and July 18 of 2006. A site reconnaissance was performed by Subi John, Rita Kottke, Angela Brunsmann and Hal Cantwell of the DEQ on June 19, 2006. Representatives of the City of Wewoka and Environmental Management, Inc. were present as well. An additional site reconnaissance was performed by Jonathan Reid on July 18, 2006. The site visits are explained in detail in Section 6.0.

4.0 User Provided Information

County Land Records Department

4.1 Title and Judicial Records

Title and judicial records were researched and reviewed on July 18, 2006. The City of Wewoka purchased 3.17 acres of farmland from Roy E. Houser and 1.83 acres of farmland from Mary E. Davis in the SW1/4 of the SE1/4 of Section 30, Township 8N, and Range 8E of the Indian Meridian on April 14, 1964. On June 23, 1964, the City of Wewoka sold the 5 acres of property to the Oklahoma Military Department. Since then, the Oklahoma Military Department has owned the property.

4.2 Environmental Liens or Activity and Use Limitations (AULs)

There are no environmental liens or activity and use limitations that are known on the subject property.

4.3 Specialized Knowledge or Experience of User

The Wewoka Armory supported the military mission of the Oklahoma Army National Guard (OKARNG). The OKARNG is a component of the United States Army and fulfills the military mission of national security (Ref. 10).

The subject property served as an armory to further the mission of the OKARNG. The Wewoka Armory operated as a center of operations for a military component of the OKARNG. It served as a training site for the component and stored those materials required by the component (Ref. 10). Over 100 enlisted members at a time served here (Appendix D).

Cochran Chemical Company (Cochran), a petroleum solvent processing/mixing company, had operational control here briefly in 2004. All Cochran equipment is now gone from the property except for two 850 gallon ASTs behind the building. An unknown storage tank lying sideways on the northeast corner of the drill room floor is also believed to be owned by Cochran. No environmental impacts from Cochran were noticed during the site visit.

4.4 Actual Knowledge of User

There is no use of the property as of right now. A company would like to take operational control of the property as soon as possible. However, this Phase I Targeted Brownfield Assessment and remedial activities must occur before this can happen. As of now, the Oklahoma Military Department has ownership of the property. The property will be given to the City of Wewoka once environmental cleanup is completed.

4.5 Commonly Known or Reasonably Ascertainable Information

The subject property is owned by the Oklahoma Military Department. The property is vacant. Lack of upkeep and weathering is shown throughout the armory. Remedial activities and remodeling of the armory will have to be performed before a new occupant can take control of the property.

4.6 Valuation Reduction for Environmental Issues

Lack of upkeep, weathering, and past operations have significantly reduced the value on the subject property. The building is in need of a new roof. The IFR and drill hall in particular, have portions of roof missing from past weathering and deterioration. Puddles of rainwater collect mold on the floors from the roof openings. Possible asbestos containing tiles in some areas and possible ACM wrapping for the heating system reduce the value of the armory. Paint peelings and chips found on several doors of the armory may contain lead, which is an environmental concern. This possible lead contamination and the already known lead contamination in the sand trap of the IFR are significant environmental concerns that reduce the value of the property. The Wewoka Armory will

be transferred, at no cost, from the Oklahoma Military Department to the City of Wewoka after the environmental issues are resolved.

4.7 Owner, Property Manager, and Occupant Information

The subject property is vacant. The Oklahoma Military Department owns the property.

4.8 Reason for Performing Phase I

The City of Wewoka has requested the DEQ to perform a Phase I Targeted Brownfield Assessment (TBA) to analyze if there are any recognized environmental conditions that need to be addressed prior to transfer of ownership. A manufacturing company would like to use the Wewoka Armory property for future operations. Before this can occur, a Phase I TBA must be conducted along with any remedial actions necessary for occupancy of the property.

5.0 Records Review

5.1 Standard Environmental Record Sources

A regulatory database search was conducted by the DEQ. This search included, at a minimum, those records and distances from the site dictated as appropriate in the ASTM standard. The DEQ performed a review of available federal and state databases to assess whether the subject property or proximate properties were listed as having environmental concerns, which could have an adverse impact on the subject property. The following provides a summary of the databases reviewed.

Federal National Priorities List (NPL) Sites within one Mile

The subject property does not have any listed NPL sites. There are no NPL sites reported within a one-mile radius of the subject property (Ref. 11).

Federal Delisted NPL site list within one-half mile

The subject property does not have any Delisted NPL sites within one-half mile (Ref. 11).

Federal Active Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Sites within one-half mile

The subject property does not have any listed CERCLIS sites. There are no CERCLIS sites reported within a 0.50-mile radius of the subject property (Ref. 12).

Federal Archived CERCLIS (NFRAP) Sites within one-half mile

The subject property does not have any listed Archived CERCLIS sites. There are no Archived CERCLIS sites reported within a 0.50-mile radius of the subject property. The Justice Landfill is the closest archived CERCLIS site to the Wewoka Armory. It is one mile south of the armory (Ref. 12).

Federal RCRA CORRACTS Facilities List within one mile

The subject property does not have any federal RCRA CORRACTS facilities within one mile (Ref. 14).

RCRA non-CORRACTS TSD Facilities List within one-half mile

The subject property does not have any RCRA non-CORRACTS TSD facilities within one-half mile (Ref. 14).

Federal RCRA Generators List (property and adjoining properties)

The subject property does not have any listed RCRIS-Large Quantity Generator (LQG) or RCRIS-Small Quantity Generator (SQG) sites. There is no RCRIS LQG or SQG sites reported at the adjoining properties either (Ref. 15).

Federal Institutional Control/Engineering control registries (property only)

There is no Institutional Control/Engineering control registries found on the property from the record search at the Seminole County Clerk's Office.

Federal ERNS list (property only)

The subject property and adjoining properties are not listed as ERNS sites (Ref. 13).

State lists of hazardous waste sites identified for investigation or Remediation (property only)

The subject property does not have any hazardous waste sites identified for investigation or remediation.

State Landfill and/or Solid Waste Disposal Sites within one-half mile

The subject property does not have any listed state landfills within one-half mile (Ref. 16). Sooner Land Management Landfill is the closest landfill located in Seminole, OK. According to the CERCLIS database, there is an archived CERCLIS site one mile south of the armory called the Justice Landfill.

State Leaking Underground Storage Tank (LUST) List within one-half Mile

There are no LUST sites within one-half mile of the subject site. The UST Notification Database maintained by the Oklahoma Corporation Commission has no LUST sites listed within one-half mile of the Wewoka Armory.

State Registered Storage Tank Lists (property and adjoining properties)

There are four UST sites within close proximity of the property. No UST sites were found on the subject property. The table below list the facilities' name and address of the UST sites. This information was obtained from the UST Notification Database maintained by the Oklahoma Corporation Commission. The OCC database did not have any information on the 5,000 gallon UST that was once located on the armory property.

Facility Name	Address
DET 1, 2120 S&S BN	State HWY 56 & U.S. HWY 270
Wewoka District Service Center	1/4 mile west of U.S. HWY 270 & State HWY 56
Seminole Nation Trading Post	Southeast side of U.S. HWY 270 State HWY 56
C & C Tank Truck Service	U.S. HWY 270, 1 mile west of State HWY 56

The DET 1, 2120 S&S BN is approximately ¼ of a mile southeast of the armory. This permanently out-of-use UST was installed in 1952. The Oklahoma Military Department was responsible for the UST. The Wewoka District Service Center contains a UST approximately 0.10 of a mile south of the armory on the other side of U.S. Highway 270. Approximately 0.4 of a mile east of State Highway 56 there is a UST site at the Seminole Nation Trading Post. C & C Tank Truck Service, located approximately ¼ of a mile west-northwest of the armory, has a diesel UST that is currently in use.

State Institutional Control/Engineering control Registries (property only)

The subject property does not have any institutional/Engineering control Registries found in the record search at the Seminole County Clerk's office.

State Voluntary Cleanup Sites and Brownfield Sites within one-half mile

The subject property does not have any State Voluntary Cleanup Sites or Brownfield Sites listed in the DEQ database within one-half mile.

5.2 Additional Environmental Record Sources

There are no additional environmental record sources other than what is provided in this Phase I Targeted Brownfield Assessment.

5.3 Physical Setting Sources

Physical Setting sources were obtained from the U.S. Geological Survey, Federal Emergency Management Association, United States Department of Agriculture Soil Conservation Service Soil Survey of Seminole County, Oklahoma, and site visits conducted on June 19 and July 18 of 2006.

5.4 Historical Use Information on the Property

The subject property is presently vacant. For a short time in 2004 Cochran Chemical Company took operational control of the property. Although, no information is available showing the company actually conducted business at this facility. Before Cochran Chemical Company took operational control on July 23, 2004, the Wewoka Armory was vacant from the time the Oklahoma Army National Guard decided to discontinue

operations. According to Benny Wilkerson, a past employee of the Wewoka Armory, the Oklahoma Army National Guard discontinued operations at the Wewoka Armory in 1994 or early 1995. From 1965 till 1994 or 1995, the Wewoka Armory was in full operation in conjunction with the Oklahoma Army National Guard. Before 1965 when the armory was built, the property was all open farmland. Aerial photographs from 1956 and 1938 show the subject property as open farmland in Appendix C.

5.5 Historical Use Information on Adjoining Properties

Aerial Photo Review

Archived aerial photographs of the subject property were reviewed at the Oklahoma Department of Libraries. The first aerial photograph reviewed was taken on July 23, 1938. The subject property at that time was open farmland. U.S. Highway 270 was not developed at that time either. A second photograph, taken on June 27, 1956, also showed the property as being open farmland. U.S. Highway 270 was not present during this time either. No development occurred on this property until the armory building was built in 1965. These aerial photographs along with 1995 and 2003 aerial photographs, containing the Wewoka Armory, can be found in Appendix C.

According to the 1938 aerial photograph, there is a building of some kind on the southeast adjoining property. However, the building is no longer there in the 1956 aerial photograph. The rest of the adjoining properties consist of open farmland in the 1938 and 1956 aerial photographs. The present aerial photograph shows a heavily forested adjoining property to the east and open farmland to the north and northwest adjoining properties. U.S. Highway adjoins the property to the south.

Zoning/Land Use Records Review

No zoning/land use records were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Wewoka Armory.

Fire Insurance Maps

The Wewoka Armory is located south of the City of Wewoka. There were no fire insurance maps made for this area.

Property Tax files

No property tax files were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Wewoka Armory.

City Directories

No city directories were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Wewoka Armory.

Building Department Records

No building department records were reviewed while conducting this Phase I Targeted Brownfield Assessment of the Wewoka Armory.

Interviews

Two past employees of the Wewoka Armory, Sam Cluck and Benny Wilkerson, were interviewed at the property. Information on the interviews is located in Section 7.3, “Interviews with Operators and Occupants of the property.”

6.0 Site Reconnaissance

6.1 Methodology and Limiting Conditions

A site meeting at the Wewoka Armory was performed on June 19, 2006. Subi John, Angela Brunzman, Rita Kottke, and Hal Cantwell met at the armory with representatives of the City of Wewoka and Environmental Management, Inc. The site reconnaissance consisted of an inspection of the armory building and its surrounding property. The indoor firing range area with the storage room upstairs (accessible by a metal step ladder), the drill room, the kitchen, the boiler room (with the heating unit), the men’s and women’s restrooms, the classrooms, and other miscellaneous rooms were inspected.

An additional site reconnaissance was performed on July 18, 2006 by Jonathan Reid. A thorough inspection of the armory building, outside area, and the metal storage building was conducted. The following observations were made from both site visits.

6.2 General Site conditions

Access to the site is controlled by a chain-linked fence. A Pole mounted transformer owned by OG&E is located behind the north central part of the armory. An Oklahoma Natural Gas pipeline is located behind the armory that runs parallel of the north fence line. A gas meter is located southwest of the armory building. No wells were observed on the site. All water comes directly from the City of Wewoka water supply. Drainage at the site is towards the north. There are two roof drains on the south side of the property (near the front entrance and the west side of the building). One roof drain was noticed on the northwest corner where the building extends north.

6.3 External observations

There were eleven 55-gallon drums observed on the east side of the property near the fence line. Seven drums were upside down with nothing in them. The other four drums were up right with approximately 2-5 gallons of standing rusty rain water. An oil and gas pipeline connection was noticed at the east side of the fence line. Two storage tanks labeled “Feed Tank” and “Pre-filler accumulator” are present on the north side of the site. The tanks are empty and open. The tanks are assumed to be owned by the previous occupant of the building, Cochran Chemical Company. A metal storage building is located behind the armory building. This building has several wooden shelves inside it. A can of an unknown chemical labeled “Training Set Chemical Agent” was noticed in the

metal storage building. A cemented area south of the metal storage building is where a septic tank is located below the ground surface. Two concrete slabs are located west of the septic tank where the lateral lines are located. On the southeast corner of the property, there is a pile of debris, old wood, and loose concrete. One other noticeable external observation was several creosote log sections observed on the north central part of the property.

6.4 Internal observations

Inside the building, there was presence of holes in the roof of the indoor firing range room and the drill hall. Rain water had pooled on the ground in areas when the roof had been damaged. The interior of the wall next to the overhead door in the indoor firing range has also been damaged towards the floor. Paint on several doors in the building have peeled in large strips and is also on the metal overhang by the front door. Floor tiles had been removed from certain parts of the building. Some housekeeping still needs to be performed to clean up the remaining tile fragments. The City of Wewoka was responsible for removing most of the floor tile (9" square tiles). Several pieces of office furniture are still present in various rooms in the building. Ceiling panels were noticed missing in several classrooms. The wrapping around the elbow connection of the heating unit is a potential asbestos containing material and has been sampled at an earlier date by the Oklahoma Military Department or its contractors. Wrapping around an "air cell" in the roof of the room facing southwest towards the on grade concrete septic tank could be a potential asbestos containing material as well (Ref. 4).

7.0 Interviews

7.1 Interviews with Past and Present Owners of the property

No interviews were conducted with past and/or present owners of the property. The property is currently vacant and is still owned by the Oklahoma Military Department. The DEQ has had several conversations regarding environmental and safety issues at the armories, with various employees of the military department. Major Merkle, Colonel Peck, and Richard Brooks were among the individuals that the DEQ has spoken with. The Oklahoma Military Department (OMD) provided a Baseline Assessment of the property to the DEQ, and the DEQ was able to review the OMD files on the indoor firing range.

7.2 Interviews with Key Site Manager

There is no key site manager of the property. Therefore, no interviews were conducted with a key site manager.

7.3 *Interviews with Operators and Occupants of the property*

An interview, on July 18, 2006, was conducted at the subject property with two former occupants of the property. Sam Cluck and Benny Wilkerson were the interviewees. These two gentlemen were once in the Oklahoma Army National Guard and served at the Wewoka Armory.

Sam Cluck is a retired Command Sergeant Major. He has seen and been a part of the armory since it was first built in 1965. Sam was the First Sergeant of the Army National Guard Unit for the Wewoka Armory. He was the Unit Administrator in charge of all the incoming enlistments, vehicles, and payrolls. Mr. Cluck served at the Wewoka Armory from 1965 until 1980 when he retired. Over 100 enlisted members were stationed here at a time serving the Oklahoma Army National Guard.

Mr. Cluck was very informative about the Wewoka Armory. The following information was attained by Sam Cluck during the walk-through of the property.

- Before 1965, the property was open farmland. Mr. Cluck said that the City of Wewoka purchased 3 acres from Roy Houser who is deceased now.
- The indoor firing range was mainly used to work on the vehicles. Minimal firing was done at the range. If there was firing going on, the only gun or rifle used was a 0.22 caliber. This room was mostly used to fix and wash all the vehicles. All vehicle wash water was drained down the drain in the middle of the IFR. This water was then collected in the septic tank behind the armory building. The armory's septic tank was cleaned out once every year.
- All sewage and waste water drain to the septic tank where it is then lateraled out below the ground. No raw sewage or waste water was connected to the City of Wewoka's sewage system.
- The boiler room was the only room with asbestos in it according to Mr. Cluck. Mr. Cluck mentioned that the building plan said that the only known asbestos in the armory building was on the bottom of the two heaters in the boiler room.
- Buckets of grease and oil from vehicle repairs were stored away from the building in the northeast corner fence line of the property. These buckets were stored here until the State maintenance department picked it up from Norman, OK. The State maintenance department picked up all waste from the armory.
- One 5,000-gallon gasoline UST was once located on the northwest corner of the parking lot curb where it was used to refuel all the trucks. This UST was the only tank that the armory had on the property. It has since been removed and closed out by the Oklahoma Corporation Commission.

- All weapons were stored in a vault located in the supply room.
- Several big washing machines and dryers were used and stored in the metal storage building located behind the armory building. These units are no longer there.
- Cochran Chemical Company never got fully moved into the property. The two empty ASTs behind the armory building are believed to be owned by Cochran Chemical Company.

Benny Wilkerson is a retired Administration Supply Technician of the Wewoka Armory. Mr. Wilkerson worked at the armory when Mr. Cluck was still there and retired in 1994. Mr. Wilkerson believes the armory went out of operation in 1994 or early 1995. He said that there were no recognized environmental conditions to be aware of. Mr. Wilkerson noted that all of the Wewoka Armory's water supply came from the City of Wewoka.

7.4 Interviews with State and/or Local Government Officials

The DEQ did meet with the City Manager, David Fugua, at the site. Although he had no first hand knowledge of operation at the site, he provided contact information for the operators/occupants. He provided information about the removal of the asbestos tile. The removal is being overseen by the City's licensed asbestos supervisor.

7.5 Interviews with Others

No interviews were conducted with anyone else except for the past employees of the Wewoka Armory, Sam Cluck and Benny Wilkerson.

8.0 Findings

This Phase I Targeted Brownfield Assessment of the Wewoka Armory was performed in accordance with the ASTM E 1527-05, a guide for conducting Environmental Site Assessments. Subi John performed the site reconnaissance on June 19, 2006. Jonathan Reid performed an additional site investigation on July 18, 2006.

The site is located in the SE ¼ of Section 30, Township 8N, Range 8E, in Seminole County, Oklahoma. The site is off of the US 270 Bypass, approximately 1/2-mile west of junction SH 56, in Wewoka, Oklahoma.

A cursory summary of findings is provided below. However, details were not included or fully developed in this section, and the report must be read in its entirety for a comprehensive understanding of the items contained herein.

- An indoor firing range sand trap and dust residue was found to have lead contamination. Past sampling of lead in the sand trap and the rest of the indoor firing range show results of lead concentrations in need of remediation. The indoor firing range constitutes a recognized environmental condition (REC) based on the lead concentrations and its leachability.
- A floor drain is located in the middle of the firing range. This drain was mainly used to drain waste water from the washing of vehicles. The waste water drains into the septic tank located behind the armory building.
- Nine-inch square tile has been stripped out of the entrance, hallway, classrooms, and office areas. Some broken pieces of tile remain in several areas from past stripping. The DEQ sampled the tile and it tested positive for asbestos. Appropriately trained city personnel are in the process of removing all tile material in the Wewoka Armory.
- Behind the armory building there are two concrete slabs on grade southwest of the metal storage building and west of a septic tank. These two slabs are where two lateral lines extend from the septic tank below the ground. The lateral lines disperse the wastewater and allow natural processes to degrade the waste.
- Paint on several doors in the armory has peeled and is now hanging off in large chips. The paint and its peelings on the surfaces of the doors possibly contain lead. This observation and time period in which the armory building was constructed constitutes a REC at the site.
- Oil and grease buckets were once stored in the northeast corner on the ground surface of the fence line until State maintenance picked them up for disposal. These buckets contained oil and grease from the servicing of vehicles. There is no information of leaks or spills of these buckets and no visibly stained soil was found in this area.
- The boiler room may contain ACMs on the bottom of both heating units and the wrapping around the piping and elbow connections of the heating units. According to the building plan, the only known asbestos in the armory building was said to be on the bottom of the two heaters in the boiler room. Based on this information, a REC is constituted to this area of the property.
- Two empty 850-gallon mixing tanks, which appear to have not been placed in service, are located behind the armory building. These tanks are believed to be owned by Cochran Chemical Company. Another unknown storage tank was found inside the drill hall. The tank does not appear to have any contents. This tank is also believed to be owned by Cochran Chemical Company.
- Eleven 55-gallon drums were found outside along the fence line east of the armory building. Seven drums are empty and upside down. Four of the drums are upright containing approximately 2-5 gallons of standing rusty water.

- Presence of holes in the roof of the indoor firing range room and drill hall. Several puddles of rainwater collect at the floors directly below the holes in the roof. Some of the puddles contain mold.
- A can of an unknown chemical, "Training Set Chemical Agent," was found in the metal storage building.
- A few creosote log sections are located on the north central part of the property. Creosote is a mixture of chemicals used in a variety of products. Creosote is used as a preservative for the log sections at this site.
- One 5,000 gallon gasoline UST was once located on the northwest corner of the parking lot curb where it was used to refuel all the trucks. This UST was the only tank that the armory had on the property. According to Sam Cluck, a past employee of the Wewoka Armory, the UST was removed and closed out by the Oklahoma Corporation Commission (OCC). However, no records were shown in the OCC UST database of a tank ever being active or pulled at the property. This area that once contained the 5,000 gallon gasoline UST is considered a historical recognized environmental condition.

9.0 Opinion

Based on the findings of this assessment, The DEQ recommends that additional investigation be conducted to evaluate areas of the property that may need future clean-up and remediation.

Areas of additional evaluation consist of the following:

- Indoor firing range and sand trap for contamination of lead.
- Peeled paint chips on several doors of the armory building for contamination of lead.
- The northeast corner of the property inside the fence line for oil and grease contamination in the soil.
- The boiler room heating units and the wrapping around the piping of the heating units (potential ACM).
- Area southwest of the armory building next to the northwest corner of the parking lot curb. This part of the property used to contain a 5,000-gallon gasoline UST that was used to refuel all the trucks.

10.0 Data Gaps

There is one data gap concerning the 5,000-gallon UST believed to have been on the property. According to Sam Cluck, there was a gasoline UST that was used to refuel the vehicles of the Wewoka Armory. Mr. Cluck mentioned that the UST was removed and closed out by the Oklahoma Corporation Commission. However, there is no record of this UST in the UST

Notification Database maintained by the Oklahoma Corporation Commission. No information has been found whether this UST was clean, closed out, or if contamination was present. According to the Oklahoma Military Department, they made a concerted effort in the 1990s to remove all USTs present in all the armories. None of this information has been provided to the DEQ.

11.0 Conclusions

A Phase I Targeted Brownfield Assessment in conformance with the scope of work and ASTM Practice E 1527-2005 was performed on the subject property. This assessment revealed recognized environmental conditions that may need additional investigation and remediation of the subject property before future occupational control can take place. The information provided in this assessment is to assist the City of Wewoka in its redevelopment planning as well as meet the All Appropriate Inquiry requirement of the Landowner liability protections under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, better known as Superfund – Ref. 2), as provided in the Small Business Relief and Brownfields Revitalization Act of 2002 (Public Law 107-118, Subtitle B – Ref. 3).

12.0 Additional Services

No additional services were provided in this Phase I Targeted Brownfield Assessment other than the lead and asbestos results of the IFR and tile given in Section 3.2, “Other known or Suspected Environmental Concerns on the Site.” In addition to the Phase I Targeted Brownfield Assessment, the DEQ will assist the city with removal of the environmental contaminants and ensure that the property is ready for redevelopment.

13.0 Deviations

No deviations and deletions from E 1527-05 were made for this Phase I site investigation.

14.0 References

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4. John, Subi and Reid, Jonathan (2006). *Field Notes for Site Reconnaissance of the Wewoka Army*, June 19, 2006 and July 18, 2006.
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13. Emergency Response Notification System: <http://www.nrc.uscg.mil/foia.html>.
14. RCRA database: http://www.epa.gov/enviro/html/rcris/rcris_query_java.html.

15. RCRA NOTIFIERS sorted by county and then city:
<http://www.deq.state.ok.us/LPDnew/HW/Notifiers/notifiersbycountycity.pdf>.
16. State Landfill site list: <http://www.deq.state.ok.us/LpDnew/swindex.html>.
17. State Hazardous Waste Sites: <http://www.deq.state.ok.us/LPDnew/hwindex.html>.
18. DEQ Dataviewer: <http://maps.scigis.com/deq%5Fwq/>.
19. Oklahoma Army National Guard. *Indoor Firing Range Lead Issues Report*. C.H. Guernsey & Company. (2004).
20. Oklahoma Water Resources board. <http://www.owrb.state.ok.us/wd/search/search.php>.

15.0 Signature(s) of Environmental Professional(s)

See page two for signatures of environmental professionals.

16.0 Environmental Professional(s) Statement

I declare that to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of this part. I have specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

17.0 Appendices

- Appendix A - Site (Vicinity) Map
- Appendix B - Site Photographs
- Appendix C - Historical Research Documentations
 - Aerial Photographs
 - Topographical Map
- Appendix D - Interview Documentation
- Appendix E - Qualification(s) of Environmental Professionals
- Appendix F - Analytical Results of Indoor Firing Range and Tile

APPENDIX A

Site (Vicinity) Map

Figure 1: Site (Vicinity) Map



APPENDIX B

Site Photographs

Date Photos Taken: June 19, 2006



Photo #1: Panoramic view of the Wewoka Armory.



Photo #2: Northeast side of armory.



Photo #3: North side of building.



Photo #4: Feed Tanks #5 and #6 behind the armory.



Photo #5: Metal storage building behind the armory. Septic tank to the south and lateral line in corner of photo.

Date Photos Taken: June 19, 2006



Photo #6: Potential ACM in the wrapping of the heating pipe.



Photo #7: Potential ACM in the wrapping of the heating pipe.



Photo #8: Southeast view of the drill hall.



Photo #9: Northwest view of the drill hall.



Photo #10: North view of the drill hall.



Photo #11: Indoor firing range with sand trap at the end of the room.

Date Photos Taken: June 19, 2006



Photo #12: Indoor firing range. Wet spot where drain is located.



Photo #13: Indoor firing range sand trap.



Photo #14: Potential ACM on wall of the indoor firing range.



Photo #15: One of the doors.



Photo #16: Another one of the doors.



Photo #17: Friable tile in one of the rooms.



Photo #18: Stripped out tile in the hallway.

Date Photos Taken: June 19, 2006



Photo #19: The supply room.



Photo #20: Missing ceiling panels in one of the classrooms.



Photo #21: Missing ceiling panels in one of the classrooms.

APPENDIX C

Historical Research Documentations
Aerial Photographs
Topographical Map

Aerial Photographs

Figure 1: 2003 Aerial Photograph



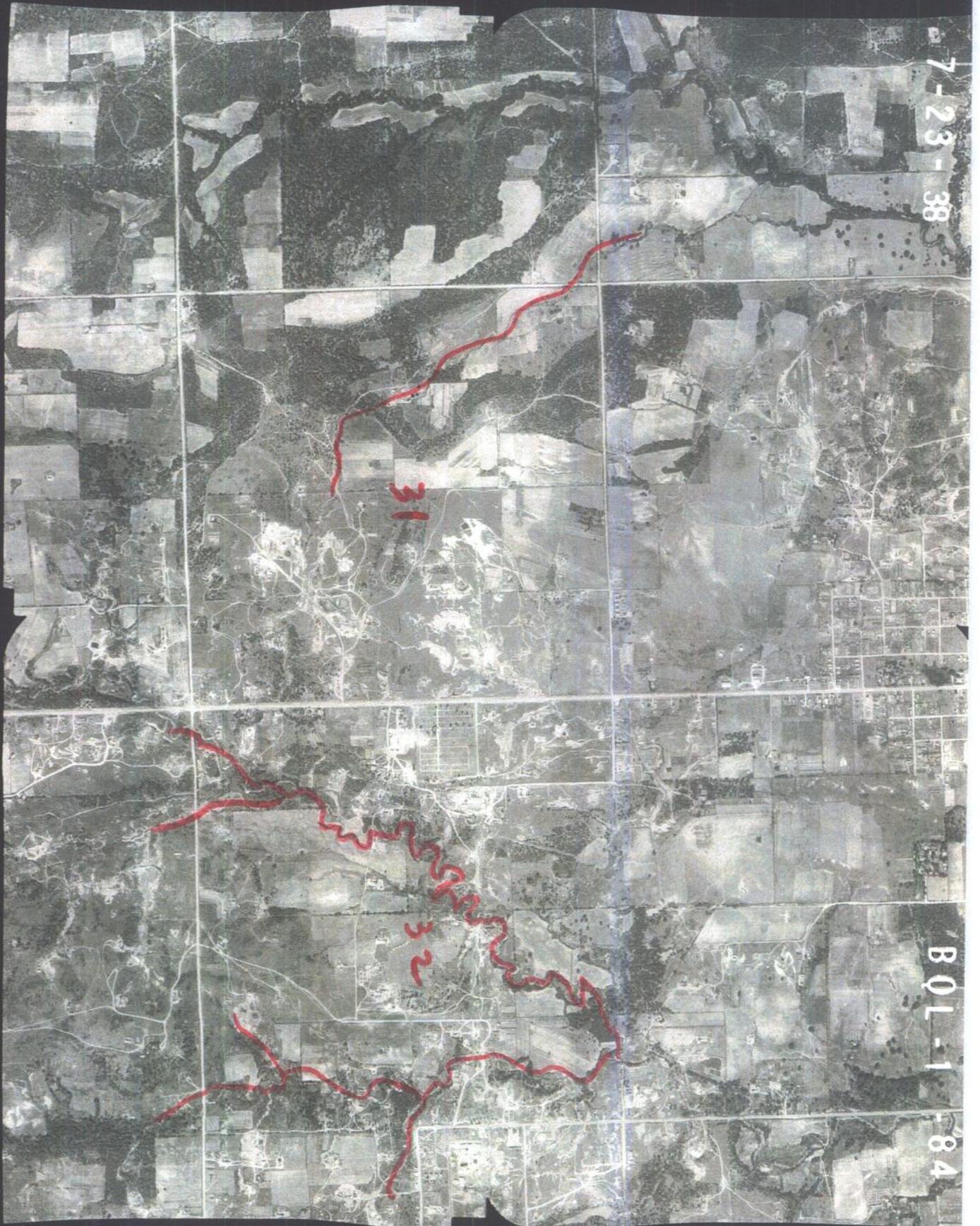
Figure 2: 1995 Aerial Photograph



Figure 3: 1956 Aerial Photograph

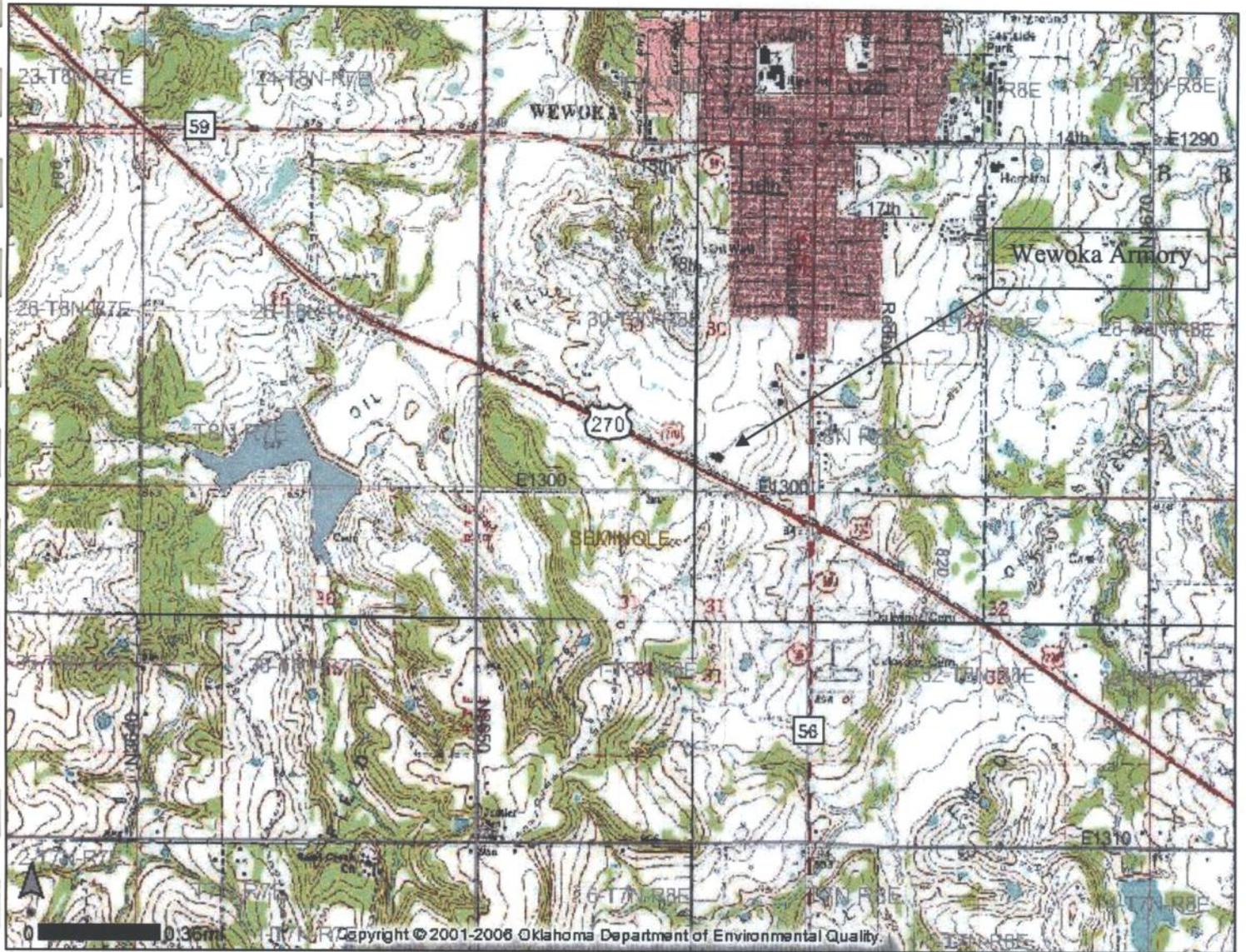


Figure 4: 1938 Aerial Photograph



Topographical Map

Figure 1: Topographical Map



APPENDIX D

Interview Documentation

July 18, 2006

Wewoka Armory Site Visit and Interview

- Met with Benny Wilkerson & Sam Cluck @ the City Hall at approximately 9:00 AM. David Fugua, City Manager of Wewoka, gave me the keys to the armory. Benny & Sam and I left City Hall to go to the armory.
- Sam Cluck was a ^{Retired} Command Sergeant Major. He was First Sergeant of the unit working for the Army National Guard. He was the Unit Administrator. Mission was in charge of all enlistments, vehicles, & payrolls.
- Noticed 9-inch tiles used to be in entrance.
- Drill Hall - over 100 enlisted members there at one time
- Two layers on overhead of two heaters for asbestos. Sam said ^{that} plan said asbestos was only on the bottom of the heaters. Sam said boiler was ~~only~~ the only room with asbestos.
- Chochran Chemical never got moved in.
- Indoor Firing Range
 - Mechanics did a lot of work on vehicles here.

July 18, 2006

- Roof has been collapsing.
- 0.22 caliber was the only gun or rifle shot in the range. Was used minimal.
- Not used much for firing at all.
- Wash water was all that was drained down the firing range drain.
- Roof damage in drill hall.
- Classroom full of desks. Roofs in classrooms missing ceiling panels.
- Supply room looks fairly well. vault in room. Weapons were kept in vault.
- Sam said it was open farmland before 1965.
- City of Newoka purchased 3 acres from Roy Houser who is deceased now - Sam Cluck.
- One 5,000 gal. gasoline tank UST was in corner of the curb (NW corner SW of Armory building). Used to refuel all the trucks. The only tank that the armory had, which now removed from the state.
- Two huge tanks from Cochran Chemical are stored here. Nothing inside →

July 18, 2006

the tanks. One says Feed Tank-5, & the right one says Feed Tank-6.

- Back northeast corner, grease & oil in buckets were stored on the NE corner fence line until time for pick-up. State Maintenance from Norman, OK picked up all waste from armory.

- Big washing machines & Dryers were stored in metal storage building located behind the armory building.

- Septic tank on NW back part of property. This was cleaned out once every year.

- Several concrete slabs (two) are where lateral lines ran west of the septic tank. They filter & discharge waste water out throughout the ground.

- The most dangerous part of the property is the collapsed roof.

- Benny said water supply was from the city of Wewoka.

July 18, 2006

- Sewage all went to the septic tank including the waste water from the washing of vehicles.
- Sam said they dug out the 5,000 gallon gasoline tank located just southwest of the building on the northwest corner of the parking lot, just on the north side of 3 curb blocks.
- UST was
- Situated on grass, a little bit of concrete gravel where it was.
- A bunch of debris, old wood, loose concrete in pile on southeast corner of the property.
- 11 55-gallon drums outside on the southeast side of property along the fence line, 7 empty ~~one~~ & upside down, 4 are up right with standing rusty water probably from rain. Approx. 2-5 gallons of water in each.
- Open field adjoining to the Northeast & North of property.
Forested area on the east adjoining property.
Open field adjoining west of property, HWY 270 south of property
- Stripped out tile in entrance, hallway, classrooms, & office areas.

July 18, 2006

County Records

- City of Wewoka purchased 3.17 acres of farmland from Roy E. Houser on April 14, 1964.
 - In the SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 30
TWP. 8N Range 8E Indian Meridian.
- Mary E. Davis sold 1.83 acres to the City of Wewoka on April 14, 1964.
- City of Wewoka sold property to the Oklahoma Military Department (5 acres) worth on June 23, 1964.
- B.F. Davis from Maud & A.B. Douglas
9-10-35 N of SW $\frac{1}{4}$ of SE $\frac{1}{4}$.
- Edmond Joshua to Roy E. ~~R~~ Houser
in 7-17-58.

Book
124
P. 322
20 acres

APPENDIX E

Qualification(s) of Environmental Professionals

Environmental Professional Qualifications

Jonathan Reid holds a Bachelor Degree in Environmental Science with an emphasis in Natural Resources and a Minor in Soil Science from Oklahoma State University. Mr. Reid has 3 years experience in environmental sampling and technical studies. He is an Environmental Programs Specialist with the Land Protection Division of the Oklahoma Department of Environmental Quality. His responsibilities include: project management of Brownfield/Voluntary Cleanup Project (VCP) sites, conducting Targeted Brownfield Assessments, and assisting other project managers on technical activities at other Brownfield/VCP and National Priorities List sites as needed.

Rita R. Kottke, Ph.D., holds a Doctorate in Environmental Science from Oklahoma State University. She is an Environmental Programs Specialist with the Land Protection Division of the Oklahoma Department of Environmental Quality. She functions as the DEQ's Brownfield Coordinator, Brownfield Cleanup Revolving Loan Fund Contact, Superfund Site Redevelopment Contact, Superfund Emergency Response Contact, Land Revitalization/Reuse Contact, and as a liaison between the state, EPA, and local communities. Her responsibilities also include acting as technical project manager at various Voluntary Cleanup and Superfund sites within the state. She has been with the agency for thirteen years, working in the Superfund and Brownfields Programs. She has 13 years experience performing site assessments of real property. She was heavily involved in the formulation of the Brownfields Program's implementing rules, the negotiation of DEQ's Brownfields Memorandum of Agreement (MOA) with EPA, and the development of the Brownfield Cleanup Revolving Loan Fund Grant Proposal.

Hal Cantwell holds a Bachelor Degree in Geography with emphasis in Physical Geography and ecological from the University of Oklahoma, and a Masters Degree in Geography with emphasis in Biogeography and Remote Sensing from the University of Oklahoma. Mr. Cantwell has 20 years experience working in the Superfund program including directing the investigation and remediation of National Priority List (NPL) sites. He has 20 years experience in performing site assessments and ten years experience in directing and supervising CERCLA Preliminary Assessments and Site Investigations with the Oklahoma Department of Environmental Quality Land Protection Site Assessment Unit. He also has six years experience performing and supervising Targeted Brownfield Assessments under the DEQ Brownfields Program.

APPENDIX F

Analytical Results of Indoor Firing Range and Tile

51.0 WEWOKA ARMORY

C.H. Guernsey & Company (GUERNSEY) surveyed the indoor firing range (IFR) at the Wewoka Armory on March 10, 2005 (Photographs 51-1 through 51-24). The IFR is approximately 75 feet long, approximately 25 feet wide, and the ceiling is approximately 30 feet high. At one end is a backstop and bullet trap. At the other end of the IFR is a rollup door. Above the backstop is room that was apparently used for storage at one time. The ventilation system within the IFR is comprised of a fan located in the ceiling and vented directly outside.

Based upon information supplied to GUERNSEY, Oklahoma Military Department (OMD) personnel collected samples from the IFR on May 10, 2004. Concentrations in the IFR ranged from 4,472 $\mu\text{g}/\text{ft}^2$ at the floor near the bullet trap to 165 $\mu\text{g}/\text{ft}^2$ at the doorway leading into the IFR from the drill floor. Because of City of Wewoka activities that are occurring on the drill floor, it will not be cleaned. Table 51-1 summarizes the laboratory results for the wipe samples.

Table 51-1
Laboratory Analysis

Sample ID #	Sample Date	Result ($\mu\text{g}/\text{sq. Ft.}$)	Lab Report ID #
NIA	5/10/2004	165.45	NIA
NIA	5/10/2004	4,472.00	NIA
NIA	5/10/2004	80.85	NIA
NIA	5/10/2004	3,496.07	NIA

Note:

NIA = No information Available

No equipment was identified for cleaning by OMD and armory personnel.

Table 51-2 provides a preliminary cost estimate to clean the equipment and/or remediate the lead contamination in the IFR. Figure 51-1 shows the approximate locations of the OMD samples.

51.1 OTHER ENVIRONMENTAL CONSIDERATIONS

Beyond the issues related to the IFR, the following environmental related issues potentially exist at the Armory:

- Asbestos containing material (ACM) is material that contains 1% or more asbestos fibers. Because of the Armory's age, there is a potential for ACM in building materials (roofing materials, floor tiles, mastic, ceiling tiles, window putty, natural gas-fired heating systems, etc);
- Lead has been used as a color carrier in paints for hundreds of years. In 1978, its use in residential paints was restricted in the United States. Because of its age, there is a potential for lead containing paints at the Armory;
- Polychlorinated biphenyls (PCB) are oils that were used in electrical equipment until their regulation in 1977. There is a potential for PCB in fluorescent lighting ballasts, capacitors, transformers and other dielectric fluid filled electrical equipment at the Armory;

- The potential for mold exists within the Armory due to a compromise of the building envelope and the presence of standing water and visible water damage;
- Chlorofluorocarbons (CFCs) are compounds used in heating, ventilation, and cooling (HVAC) systems and in fire suppression (i.e., halon) systems. The use, release and recycling of these compounds are regulated by EPA. There is a potential for CFCs to be present in the HVAC equipment and fire suppression system of the Armory;
- Mercury is a heavy metal used in thermostats, pressure gauges, and other building and process related equipment. There is a potential for mercury containing thermostats at the Armory;
- Lead, nickel, and cadmium are heavy metals used in batteries. There is a potential for heavy metal containing batteries in the emergency lighting and exit signage at the Armory; and
- Other issues may be present that were not visually evident to GUERNSEY.

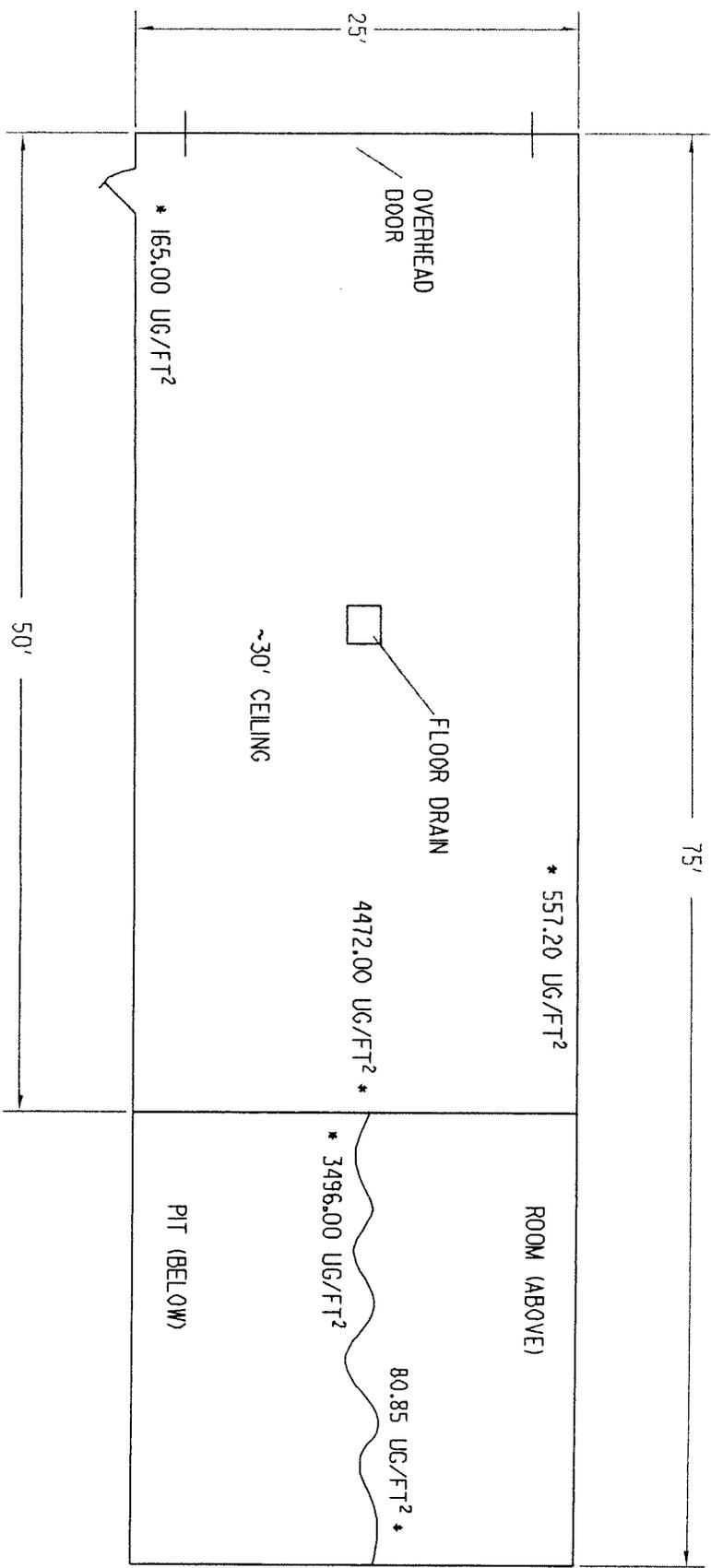
**Table 51-2
Preliminary Cost Estimate**

Equipment Cleaning Costs (a)				
Item Description	Number	Unit	Cost Per Unit	Total Cost
Total				\$0

Remediation Costs (b)				
Item Description	Number	Unit	Cost Per Unit	Total Cost
Mob/DeMob	1	Each	\$1,500	\$1,500
Stage/Clean Equipment/Components for Disposal	1	Each	\$2,500	\$2,500
Cleaning of Army Equipment (a)	N/A	N/A	N/A	\$0
Clean/Seal Firing Range surfaces	9750	ft ²	\$5	\$43,875
Clean Drill Floor	0	ft ²	\$0.10	\$0
Solidify/Stabilize Material in Bullet Trap	1250	ft ³	\$15	\$18,750
Waste Disposal (non-hazardous)	5	Ton	\$1,000	\$5,000
Total (+/- 25%)				\$71,625

Notes:

- (a) Includes the cleaning of equipment identified by OMD personnel during site visit. Please reference photographs for each item.
- (b) Includes cleaning of firing range space, drill floor, and other surfaces to <40 ug/ft².



1. ALL MEASUREMENTS ARE APPROX.
2. SAMPLE LOCATIONS ARE APPROX. & IDENTIFIED BY "*".
3. SAMPLE CONCENTRATIONS ARE IN MICROGRAMS PER SQUARE FOOT
4. SAMPLES COLLECTED BY OMD PERSONNEL 10-MAY-04
5. SEE PHOTOGRAPHS FOR REFERENCE
6. SEE INVENTORY LIST FOR DESCRIPTION OF EQUIPMENT TO BE CLE.

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by Metals

Sample Number: 393794
 Project Code: SW-SX
 Agency Number:
 Date Collected: 03/06/2006
 Time Collected:
 Date Received: 03/08/2006
 Date Completed: 03/30/2006
 Collected By: DF
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 03/30/2006

RITA KOTTKE/LPD

CC: FILE COPY

PARAMETER NAME	QUALIFIER	VALUE	UNITS	ANALYZED	METHOD
Lead, Sediment		2930	MG/KG	03/14/06	6010
Lead (TCLP)		153000	UG/L	03/30/06	6010

SOURCE: WEWOKA ARMORY
 PROGRAM:
 COUNTY: SEMINOLE CITY: WEWOKA

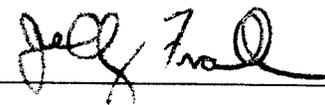
LEGAL DESCRIPTION:
 /4 /4 /4 SEC: T: R: M:

SAMPLERS COMMENTS:
 FIRING RANGE SAND TRAP; TCLP

SAMPLE RECEIVING COMMENTS:

ANALYST'S COMMENTS:

ANALYST



OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
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 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 03/30/2006

FILE COPY

CC:RITA KOTTKE/LPD

PARAMETER NAME	QUALIFIER	VALUE	UNITS	ANALYZED	METHOD
Lead, Sediment		2930	MG/KG	03/14/06	6010
Lead (TCLP)		153000	UG/L	03/30/06	6010

SOURCE: WEWOKA ARMORY
 PROGRAM:
 COUNTY: SEMINOLE CITY: WEWOKA

LEGAL DESCRIPTION:
 /4 /4 /4 SEC: T: R: M:

SAMPLERS COMMENTS:
 FIRING RANGE SAND TRAP; TCLP

SAMPLE RECEIVING COMMENTS:

ANALYST'S COMMENTS:

ANALYST

Jelly Froel



2033 Heritage Park Drive / Oklahoma City OK 73120 / (405) 755-7272 / Fax (405) 755-2058

RECEIVED

MAR 14 2006

State of OK, DEQ Land Protection
Ray Roberts
707 N. Robinson
Oklahoma City, OK 73102

Land Protection Division
Department of Environmental Quality

Re: Quantem ID 134056

Quantem appreciates the opportunity to provide analytical testing services to you. Attached are your reports and other supporting documentation for the above referenced project.

Thank you for making Quantem your lab of choice. If you have any question concerning this or other reports please feel free to contact us at 800-822-1650

We continually work to improve our service. Help us out by providing feed back on your experience at www.Quantem.com. Click on Service Survey and fill out the form. We look forward to hearing from you.

Respectfully,
Quantem Laboratories, LLC





2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Polarized Light Microscopy Asbestos Analysis Report

QuantEM Lab No. 134056	Client:	State of OK, DEQ Land Protection
Account Number: B486		Ray Roberts
Date Received: 03/09/2006		707 N. Robinson
Received By: Elizabeth Mickush		Oklahoma City, OK 73102
Date Analyzed: 03/10/2006	Project:	AB
Analyzed By: Shelly Bromley	Project Location:	N/A
Methodology: EPA 600	Project Number:	N/A

QuantEM Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)
001	DEQ FT-001	Layered	Tan Floor Tile	Asbestos Present Chrysotile 3	NA
001a			Black Mastic	Asbestos Present Chrysotile 10	Cellulose <1

Shelly Bromley
Shelly Bromley, Analyst

3/10/06
Date of Report

QuantEM is a NVLAP accredited TEM and PLM laboratory (Lab Code: 101959). This report relates only to the specific items tested. NVLAP accreditation applies only to AHERA analysis [40CFR Ch. 1 (1-1-87 ed.) Part 763, Appendix A to Subparts E and F]. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory

134056



Purchase Order

Dept of Environmental Quality
 OK DEPT OF ENVIRONMENTAL QUALITY
 SHIPPING & RECEIVING
 707 N ROBINSON
 OKLAHOMA CITY OK 73102

Vendor: 0000061157
 QUANTEM LABORATORIES LLC
 2033 HERITAGE PARK DR
 OKLAHOMA CITY OK 73120-7502

Purchase Order		Date		Revision		Page	
2929003440		08/23/2005				1	
Payment Terms		Freight Terms		Ship Via		Currency	
0 Days		Free on board at Destination		COMMON			
Buyer		Phone		Currency			
Elaine Taylor		405/702-1116		USD			
Ship To:		29203					
OK DEPT OF ENVIRONMENTAL QUALITY SHIPPING & RECEIVING 707 N ROBINSON OKLAHOMA CITY OK 73102							

Bill To: OK DEPT OF ENVIRONMENTAL QUALITY
 FINANCIAL & HUMAN RESOURCES MGMNT
 PO BOX 1677
 OKLAHOMA CITY OK 731011677

Tax Exempt? Y **Tax Exempt ID:** 738017987

Line	Sch	Item Id	Description	Quantity	UOM	PO Price	Extended Amt	Due Date
1	1	096222	Chemical laboratory services	1	0000 SUM	350 0000	350 00	08/23/2005

FREIGHT TERMS: NOT SPECIFIED
 OPEN PURCHASE ORDER FOR ASBESTOS SAMPLES
 ASBESTOS SAMPLE NIOSH 7400 METHOD. 50 UNITS FOR \$350
 THIS IS FOR PERIOD 9/30-05 THRU 9/29/06
 THIS IS A RENEWAL OF PO #292001718

Total PO Amount 350.00

COMMENTS:

FY06

QUANTEM LABS 0000061157 001
 2033 HERITAGE PARK DRIVE
 OKLAHOMA CITY, OK 73120

PROJECT: ASBESTOS SAMPLES

JUSTIFICATION: THE DEQ LAND PROTECTION DIVISION WORKS ON VARIOUS PROJECTS WHERE ASBESTOS SAMPLING IS SOMETIMES NEEDED. THE STATE ENVIRONMENTAL LABORATORY NO LONGER PROVIDES THIS SERVICE AND HAS RECOMMENDED THAT WE ARRANGE AN OPEN PURCHASE ORDER WITH A LOCAL LABORATORY FOR OUR ASBESTOS SAMPLING NEEDS. AN OPEN PURCHASE ORDER FOR 50 ASBESTOS SAMPLES IS NEEDED AT THIS TIME

(FOR AGENCY USE ONLY)

CONTACT ELAINE TAYLOR/ASD/(405)702-1116
 MARY JOHNSON/LPD/(405)702-5100

DEQ IS AN EQUAL OPPORTUNITY EMPLOYER

FUNDING: SOLID WASTE 085

PLEASE RETURN PO TO RAY ROBERTS

8/23/05

PO#2929003440

*Land Protection
 Acct #
 B486*

Authorized Signature

Elaine Taylor



2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

State of Oklahoma
DEQ Land Protection
Attn: Ray Roberts
707 N. Robinson
Oklahoma City, OK 73102

Re: Quantem ID 138567

Quantem appreciates the opportunity to provide analytical testing services to you. Attached are your reports and other supporting documentation for the above referenced project.

Thank you for making Quantem your lab of choice. If you have any question concerning this or other reports please feel free to contact us at 800-822-1650.

We continually work to improve our service. Help us out by providing feed back on your experience at www.QuanTEM.com. Click on Service Survey and fill out the form. We look forward to hearing from you.

Respectfully,
Quantem Laboratories, LLC.





2033 Heritage Park Drive / Oklahoma City, OK 73120 / (405) 755-7272 / Fax (405) 755-2058

Polarized Light Microscopy Asbestos Analysis Report

Quantem Lab No. 138567	Client:	State of Oklahoma
Account Number: B486		DEQ Land Protection
Date Received: 06/19/2006		Attn: Ray Roberts
Received By: Sandra Barnett		707 N. Robinson
Date Analyzed: 06/22/2006	Project:	Oklahoma Citv. OK 73102
Analyzed By: Shelly Bromley	Project Location:	Wewoka Armory
Methodology: EPA 600	Project Number:	Wewoka
		NA

Quantem Sample ID	Client Sample ID	Composition	Color / Description	Asbestos (%)	Non-Asbestos Fiber (%)
001	Wewoka - 1	Homogeneous	White Surfacing	Asbestos Not Present	Cellulose 5
002	Wewoka - 2	Homogeneous	Tan Surfacing	Asbestos Not Present	Cellulose 95

Shelly Bromley

 Shelly Bromley, Analyst

6/22/2006

 Date of Report

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Quantem is a NVLAP accredited TEM and PLM laboratory (Lab Code: 101959). This report relates only to the specific items tested. NVLAP accreditation applies only to AHERA analysis [40CFR Ch. 1 (1-1-87 ed.) Part 763, Appendix A to Subparts E and F]. This report may not be used to claim product endorsement by NVLAP or any other agency of the US Government. This report may not be reproduced except in full, without the written approval of the laboratory.

