The Proposed Alternative

This Source Control Proposed Plan identifies Excavation, Treatment, and Offsite Disposal as the preferred alternative for addressing source contamination at the Wilcox Oil Company Superfund Site (site), Bristow, Oklahoma (Figures 1, 2 and 3). This action is limited in scope to addressing tank waste and lead additive area sources and is not the final remedy for the site (Figures 4 and 5). This action is considered an early final action for the tank waste due to the complete removal of the tank waste source material, and is considered an interim action for lead because only source material in the lead additive area is being addressed. Final site-wide remediation with respect to lead, along with other subsequent actions needed to address the threats posed by conditions at this site, will be documented in a future final site-wide decision document.

By taking this source control action early in the Superfund process, significant human health and ecological risk reduction will be accomplished through the removal of primary sources located throughout the site at or near the soil surface, specifically residential properties. In addition, further migration and environmental degradation of adjacent waterways (e.g., Sand Creek and the East Tributary), wetlands, and stream riparian areas is mitigated.

Details of the Preferred Alternative

- Estimated Present Worth cost is $4,135,294.
- Approximately 30,362 cubic yards (y3) of source material will be excavated and transported to an offsite permitted non-hazardous disposal facility. The estimated volume of tank waste is 28,093 y3 while the estimated volume in the lead additive area is 2269 y3.
- The lead additive area is identified as a characteristic waste and will be treated through Solidification/Stabilization to address the lead prior to offsite disposal.
- The excavated areas will be backfilled with clean soil from an offsite location and re-vegetated. All excavated areas will be graded for drainage and appropriate erosion controls implemented.
- The target health-based levels are 800 milligrams per kilogram lead and 0.11 mg/kg benzo(a)pyrene.
- This action addresses 3 Residential Properties, 5 migration Pathways to the Creek, and 9 Sources.

The EPA consulted with the Oklahoma Department of Environmental Quality (ODEQ), Muscogee (Creek) Nation, Cherokee Nation, and Sac and Fox Nation to coordinate review and discussion of this proposed action.

By preventing exposure, contaminant migration, and environmental degradation through removal, treatment, and offsite disposal, this alternative meets the RAOs; reduces toxicity, mobility, and volume; is permanent; and is effective in the long-term. Implementation requires standard construction equipment, utilizes commercially and readily available services, satisfies the RAOs in the least amount of time, and does not require specialized equipment. The source control action would not require long-term monitoring, site inspections, or O&M, due to the removal of contamination from the site. However, since the final risk assessment for lead has not been completed, the lead concentrations remaining after the lead interim action may not support residential use. Until a final risk assessment and final decision document are completed, the property will remain fenced and will not be used for residential purposes. This is not the final remedy for the site and contaminants will remain onsite until the final remedy is implemented; therefore, five-year reviews will be required. This alternative is compatible with current

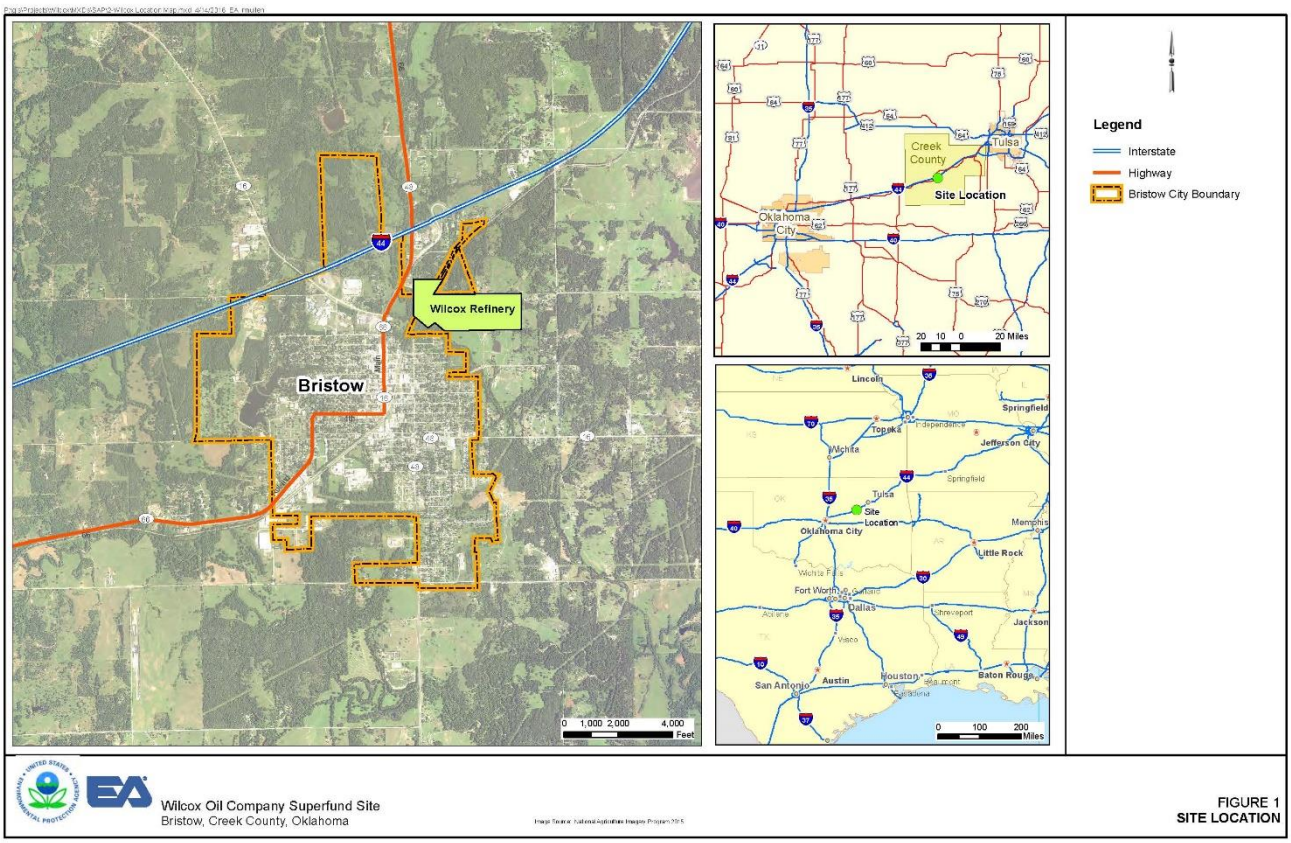
(residential, industrial, agricultural, etc) and expected future uses (residential, industrial, agricultural, etc).

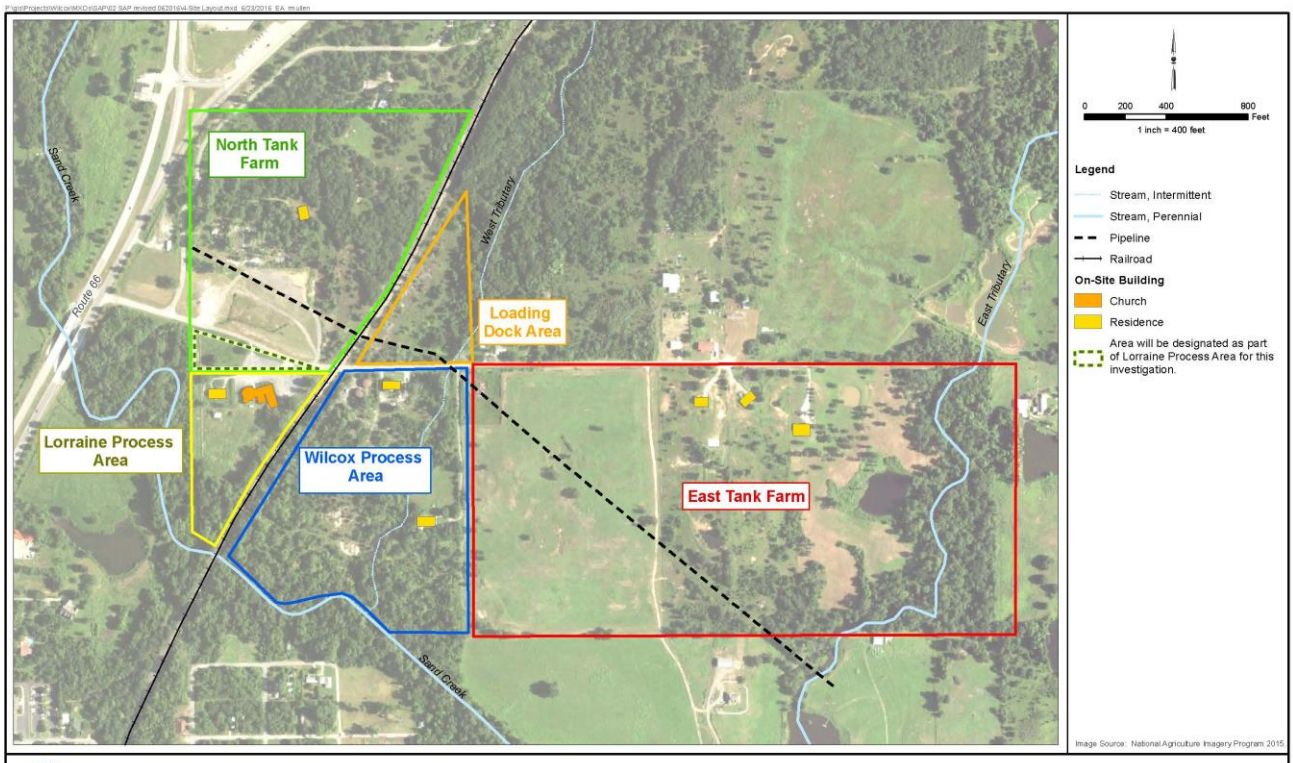
Site History and Background

The site is an abandoned and mostly demolished oil refinery located northeast of Bristow, Creek County, Oklahoma (Figure 1; EPA, 2013). Records indicate the property was used for oil refinery operations from 1915 until November 1963 (ODEQ, 1994), and consisted of two refinery process areas and two tank farm storage areas (Figure 2). Oil refining began in 1915 at the Lorraine Refinery followed by operations at the Wilcox Oil Refinery. The Wilcox Oil Company expanded when it acquired the Lorraine Refinery in 1937.

After the refinery operations ceased and most of the tanks and buildings were demolished and sold for scrap, the property was sold to private interests (ODEQ, 1994). Beginning in 1975 with the construction of a church and parsonage, private residences were constructed on six parcels of land that were part of the former refinery operations, with the most recent being constructed in 2003/2004. One of these residences is the former office/lab building associated with the refinery. As a result, there are seven residential properties located within former tank or refinery operation areas, three of which are occupied and one periodically rented. In addition, two occupied residential properties on the eastern portion of the site (East Tank Farm) use water from domestic/private wells (ODEQ, 1994).

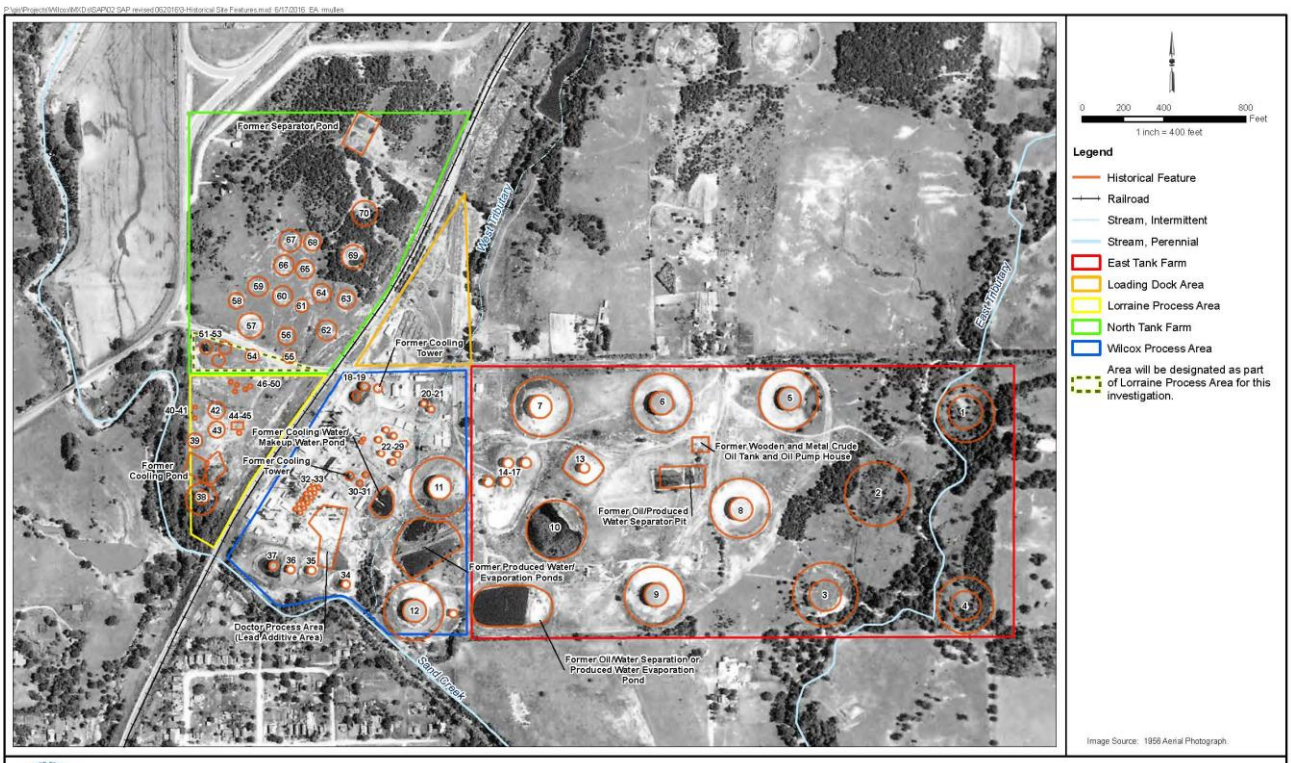
On May 24, 2013, EPA proposed the site to the National Priorities List (NPL). On December 12, 2013, the site officially became a Federal Superfund Site (EPA Identification No. OK0001010917), when it was added to the NPL.





Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

FIGURE 2
SITE LAYOUT



Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

FIGURE 3
HISTORICAL SITE FEATURES

Figure 4a: Waste material at surface.

Figure 4b: Waste material at surface.

Figure 4c: Waste material at surface.

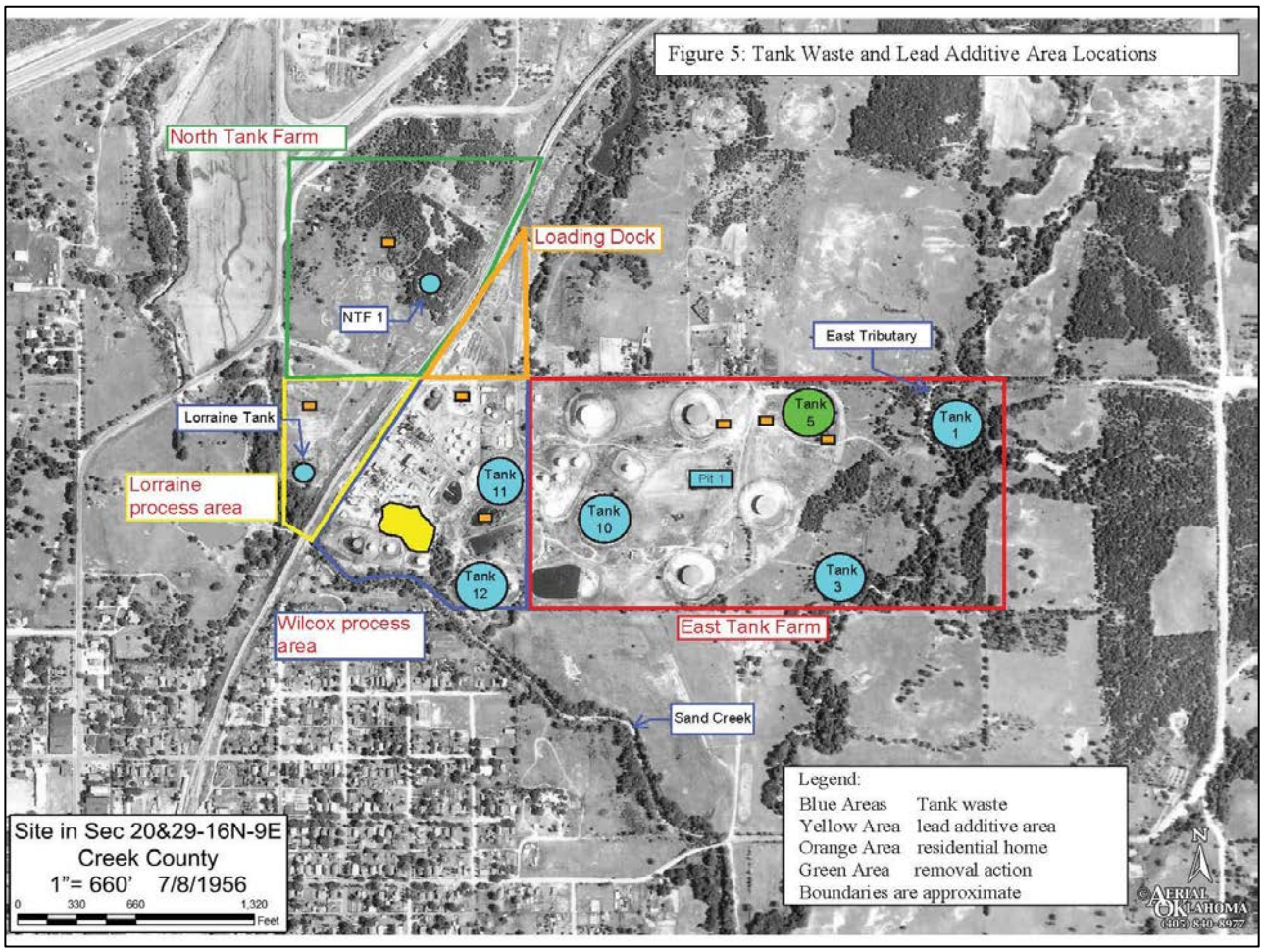



Figure 4d: Lead Sweetening Area