Lone Wolf Resources, LLC

# Groundwater Remediation System Installation

***Location:*** **Former Refinery**

***Oklahoma City, Oklahoma***

***Project Value:*** **$5.5 Million**



**LWR was selected as the prime contractor by a major petrochemical company to install a comprehensive groundwater remediation system. The system extends 4,400 linear feet along the property boundary and mitigates groundwater impacts from moving off-site. The system provides treatment of the impacted groundwater associated with this 362-acre former refinery. The treatment system includes air sparging, multi-phase extraction, groundwater injection, oxidizers, air strippers, and bioplug technology.**

**The treatment system equipment included: six 400 scfm catalytic oxidizers, one 4,000 scfm regenerative thermal oxidizer, thre 250 gpm stacked tray air strippers, three 25HP, 165 scfm compressors, 12 tanks with total capacity of 46,000 gallons, six 100 scfm blowers, nine 100 scfm heat exchangers, two 800 gpm bag filters, two 100 gpm bag filters, five 7.5HP transfer pumps, one 10HP transfer pump, and fine and coarse bubble diffusers.**

**As part of the bioplug portion of the work, LWR trenched and buried underground piping connecting 84 bioplug wells to three separate control buildings. LWR excavated a total of 4,700 feet of trench and installed over 10,000 feet of PVC and poly pipe. All well head completions were below grade. LWR installed 90 2,400 pound vaults to protect the well heads and control valves.**

**As part of the ASMPX and injection system, LWR trenched and buried underground piping connecting six individual treatment systems, 23 AS wells, 23 MPX wells, and 45 injection wells. LWR excavated 11,000 feet of trench and installed approximately 33,000 feet of PVC and poly pipe. Asphalt impacted material was encountered during the installation of the buried piping. A total of 1,000 cubic yards of impacted material was removed and later loaded for off-site disposal. LWR also installed an additional 110 2,400 pound vaults.**

**The site was divided by three railroad tracks. In order to convey water to and from various locations, three 200 foot directional borings were installed along with 2,000 feet of 6" HDPE pipe and 1,200 feet of 3" HDPE pipe. In addition, a fourth directional boring was installed under a state highway to provide natural gas to the bioplug area. LWR coordinated with the local officials and the railroad in order to gain access and permits and to establish all necessary safety guidelines.**

**A total of five buildings were constructed to house the treatment systems. These structures covered approximately 3,600 square feet with an additional 1,000 square feet of uncovered tank and oxidizer slabs. In addition, LWR constructed over one mile of new access roads.**

**Systems contained in each of the 11 structures were required to communicate with the centrally located PLC> Communication was established with 4,500 feet of fiber optic cable and three RF antennas. All system operations could be monitored and controlled either in the field or remotely through web access.**

**LWR worked closely with the third party design firm to propose and implement field changes and design modifications during construction.**

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