

# M-D Building Products (Oklahoma City)

(September 7, 2016)

**Location:** The Site is located at 4041 North Santa Fe Avenue, Oklahoma City, Oklahoma.

**Background:** The site was developed in the 1930s and 1940s and was for the most part a dairy farm. M-D Building Products began operating on the property in the early 1950s. On May 5, 2000, M-D entered into the Voluntary Cleanup Program. Since then, multiple soil borings and monitoring wells have been installed and sampled for volatile organic compounds (VOCs) and hydrocarbons. Several rounds of 3-D Microemulsion (3DMe) have been injected in injection wells and infiltration galleries on the property to treat the groundwater. Semi-annual groundwater sampling is being conducted.

There is a West Plume and a Northeast Plume at the site with chlorinated solvents in the shallow groundwater. There is also a deep groundwater plume with chlorinated solvents.

**Air:** There are no known air quality issues.

**Soil:** A total of sixty-five soil borings were hand-augered or drilled on and down-gradient of the site. Elevated vapor readings (100 to 700 ppm) were identified in many of the soil samples collected from the interval just above the water table. Areas identified correlated with the locations of known petroleum hydrocarbon and VOC plumes in shallow groundwater and areas where free-phase petroleum product was identified in groundwater. A risk assessment has been conducted on the soil and its complete pathways on the property.

**Surface Water:** A creek located approximately 100 feet northeast of the Northeast Plume area, has been sampled several times for VOCs. No VOCs were found in the creek.

**Groundwater:** Shallow groundwater is perched within alluvial sediments consisting primarily of clay, silt, and fine sand on top of an erosional bedrock surface of the Kingman Siltstone. Shallow groundwater is under unconfined conditions, and where present, generally flows in a semi-radial pattern toward the north, but also flows toward the west and northwest (at the western and northwestern part of the site) and to the east and northeast (at the eastern and northeastern part of the site). Shallow groundwater depths range from 2 to 15 feet below ground surface (bgs).

The environmental impacts to shallow groundwater can generally be described by the configuration of petroleum hydrocarbon and chlorinated VOC contaminant plumes. The West Plume emanates from the west side of the site building and extends west and northwest from the property. The Northeast Plume emanates primarily from the northeast corner of the building.

Groundwater is present under confined conditions in the deep aquifer (Garber-Wellington Aquifer). Groundwater depths in the deep aquifer range from 50 to 65 feet below ground surface and flow is to the west-northwest.

**Private/Public Wells:** No private or public wells are affected.

**Vapor Intrusion to Indoor Air:** Vapor intrusion has not been evaluated n at the M-D property. DEQ collected indoor air samples at two nearby properties to the northeast (The Stamp Store located at 121 NE 40<sup>th</sup> Street and Cimarron Wholesale located at 125 NE 40<sup>th</sup> Street). Air results in both properties were below residential and industrial action levels for the contaminants of concern.

**Key Questions:**

- **Have all known groundwater contaminant plumes been adequately evaluated and delineated?** Qualified no. The plumes to the west and northeast still need to be delineated.
- **Has the site been sampled for an adequate list of analytes?**  
Yes. VOCs and hydrocarbons are the analytes that have been sampled.
- **Does soil or waste need to be cleaned up?**  
From past evaluations of the site, there are areas of soil contamination. Soil will have to be evaluated again after groundwater issues are resolved.
- **Has the surface water been sampled?** Yes. A creek, which is located approximately 100 feet northeast of the Northeast Plume area, has been sampled several times for chlorinated solvents. No chlorinated solvents were found in the creek.
- **Has soil at the site been cleaned up to levels protective of groundwater?** Soil contamination is restricted where groundwater is contaminated and where groundwater level fluctuates in the soil.