Case Study: EC14

Targeting Hidden Mass with the Support Platform

SITE

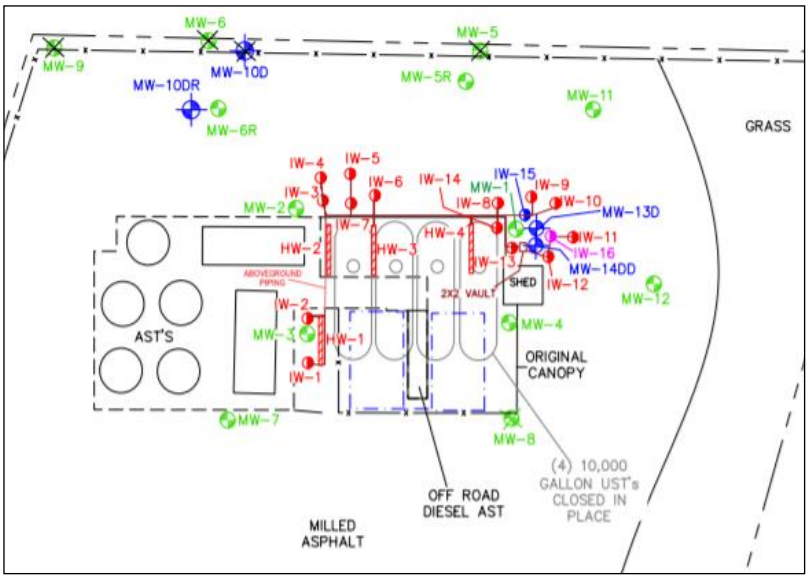
Gentry Oil, LLC (Active Bulk Fuel Storage Distribution Facility), DeLand, FL FACID:8622760

CONTAMINATION

Gasoline Range Organics in ground water

BACKGROUND

A release of gasoline fuel from a UST at this facility led to soil and groundwater contamination. The only prior remediation action taken at the site was the excavation of approximately 60 tons of soil from the tops of the USTs upon their closure. The site lithology consists of clayey sand and sandy clay. The Support Platform (SP) in conjunction with EN Rx Reagent was selected for remediation at the site upon complete site characterization.



SUMMARY OF ACTIVITIES

- Baseline sampling was performed prior to the installation of the Support Platform
- The SP began running in August of 2019 and injected EN Rx Reagent into 20 vertical and horizontal wells.
- Approximately 35,000 gallons of reagent was proposed to be injected in an around the tank vault.
- The SP system was adjusted to inject the maximum volume into the clayey lithology while avoiding surfacing.
- First quarter sampling revealed additional mass in three wells in the abandoned UST area.
- The SP customizing options allowed for targeted treatment to the desorbed areas.

Support Platform on site in a discreet location

RESULTS

Although remediation activities are still underway, the sampling results show large reductions in BTEX concentrations among the monitoring wells surrounding the UST area. The desorption that occurred during the beginning stages of injection are evident in the 12/15/2019 sampling data. The continued treatment over the next two quarters has shown reductions in all wells of 90% and greater and is now showing exceedances of only one constituent.

Monitored Wells	Sample Date	Benzene	Toulene	Ethylbenzene	Xylene	Total Reduction (%)
MW-1	8/15/2019	ND	14.3	17	115	
	12/5/2019	51.3	124	66	338	
	7/7/2020	ND	ND	ND	ND	
	10/6/2020	ND	ND	ND	9.1	**98%**
MW-2	8/15/2019	1.7	ND	1.1	5.6	
	12/5/2019	133	264	68.3	453	
	7/7/2020	ND	ND	ND	ND	
	10/6/2020	6.3	2.6	ND	4.5	**99%**
MW-3	8/15/2020	ND	29.7	10.4	249	
	12/5/2019	ND	ND	ND	ND	
	7/7/2020	ND	ND	ND	ND	
	10/6/2020	ND	5.5	ND	4.6	**97%**
MW-4	8/15/2019	ND	ND	ND	ND	
	12/5/2019	186	1590	169	1740	
	7/7/2020	ND	ND	ND	ND	
	10/6/2020	ND	ND	ND	ND	**100%**
MW-11	8/15/2020	ND	ND	ND	ND	
	12/5/2019	ND	ND	ND	ND	
	7/7/2020	31.1	ND	ND	ND	
	10/6/2020	2.6	ND	ND	ND	**92%**

ND = Non-Detect

CONCLUSION

The site treatment using the Support Platform coupled with the EN Rx Reagent has led to a large reduction of the contaminant plume and is clearly on its way to below GCTLs in all key wells. The following benefits were observed.

- SP unit allowed adjustments to be made to the injection plan when sampling data indicated more mass was present with no additional mobilization cost.
- The slow nature of both the controlled reagent and the SP unit allows for use around the tanks with no adverse effects.
- Robust amounts of reagents can be applied even in tight lithologies.
- Desorption time is incorporated into the plan.
- The engineer can control where to place the reagent in real time based on data, all from the web portal.

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