



Internship - Creek Run L.L.C. Environmental Engineering

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Internship Summary

Creek Run is a full service environmental consulting firm which focuses on petroleum-related issues. R. Jason Lenz founded and formed Creek Run in 1993 as a company committed to finding cost effective solutions for all environmental compliance issues and environmental technology standards. Creek Run conducts annual OSHA training and is devoted to today's environmental issues including:

- Tank Management
- Site Investigation
- Soil and Groundwater Remediation
- Regulatory Compliance Services
- Excess Liability Trust Fund

Working full-time from June 6 through December 15, 2005, I logged a total of 1134.25 hours with the majority of them being billable to clients' accounts.

Surveying



Often during the well repairs, the PVC casing would have to be either cut off or raised. The elevations of each well casing are used to create groundwater flow maps of the site area. Every time that a site is sampled, the depth to water is measured inside each well. This value corresponds to that wells elevation in order to figure the groundwater contour. Within my first few weeks of employment, I was trained on surveying techniques, both manually and with a laser. Surveying manually requires two people whereas using a laser only requires one and is in turn, much more accurate and efficient.

Quarterly Monitoring Sampling and Reports

After well repairs were completed, quarterly monitoring (QM) sampling and reports became my most frequent task. Most regulatory agencies require periodic sampling of groundwater monitoring well networks during site investigation and corrective action activities, usually on a quarterly basis. Since accurate groundwater monitoring data is vital for eventually obtaining closure (NFA), every groundwater monitoring event must be conducted in a manner that ensures validity of the results.



Static water levels, well depths, and free product thicknesses are measured using a Solinst® Model 122 Interface Probe.



Measuring dissolved oxygen (DO) levels inside the monitoring wells with the DO probe.

Creek Run currently conducts groundwater monitoring at over 30 facilities in conjunction with on-going investigation and remedial programs. This includes monitoring active and former Underground Storage Tank (UST) sites, Aboveground Storage Tank (AST) bulk plants, and related facilities. Monitoring activities include precise measurement of static water levels and free product thickness in wells, collection of groundwater samples for field testing and laboratory analysis, and documentation of the physical condition of monitoring wells and protective covers. Sampling parameters include volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), poly-nuclear aromatic hydrocarbons (PAHs), heavy metals, and monitored natural attenuation (MNA) indicator parameters (dissolved oxygen, nitrate, sulfate, ferrous iron, oxidation/reduction potential, and hydrogen sulfide).



Filling up water samples in Middletown, Indiana



A Phase I Site in Muncie, Indiana

PowerPoint Presentations

In order to help our clients visually document the history of their site, I prepared several PowerPoint presentations for petroleum-affected sites. These could then be presented to the client.



A Phase I Environmental Site Assessment (ESA), typically required by a potential buyer or lender prior to conclusion of a transfer of ownership, is conducted to identify areas of potential environmental concern at a commercial property. My duties related to the Phase I ESA were mostly along the lines of gathering information together to present to the project manager who then used that information to write the report.

Remediation System Work

Due to the advanced technology, constant operation, and heavy duty machinery inside each of these remediation systems, it is vital to keep them clean and in good working order at all times. Each system is visited about once per week to change filters, take water samples, and make any necessary repairs.



A remediation system in Warsaw, Indiana

The worst day ever...



Management decided that the already in-place compacted gravel base should be replaced with a concrete subfloor. It became our job to manually dig up and remove the cemented gravel.

Did I mention that it was in the high 90s that day?



Remediation System Installed August 24, 2005

Mission Statement

"Our mission is to serve our clients in a professional and dedicated manner by helping them to navigate the environmental regulatory process. We will practice strong environmental stewardship in our actions, in our thoughts and in our hearts. This mission is not one of activism but of caretaking for the environment within the regulatory process."



Creek Run Personnel

Well Repair and Decommissioning

The repair of monitoring and extraction wells was carried out at 22 different sites. Repairs are typically done after normal wear and tear such as freezing and thawing cycles over the winter months or snow plows running over the cover slamming into anything that might be protruding above the pavement level. Other circumstances that may cause the need for repairs is when a client does improvements to their site.



Manhole cover removed and set aside



Concrete layer placed over casing filled with bentonite



Completed well decommissioning

Well decommissioning occurred when a site had been awarded a No Further Action (NFA) from IDEM, or if outlying monitoring wells at a site had contaminants of concern (COC's) which had been under the IDEM action levels for four or more consecutive quarters.

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For further information

Please contact: jeffmiller@taylor.edu. More information on this and related projects can be found at www.creekrunllc.com.

