

TABLE 9.1

SUMMARY OF PERFORMANCE MONITORING ⁽¹⁾
 OU-3 BIOSPARGE REMEDY
 HOOKER/RUCO SITE, HICKSVILLE, NEW YORK

Phase I System			
Media	Location	Frequency	Parameters
Groundwater	MW-81, MW-82	- Background ⁽²⁾	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺²
		- Monthly for First Quarter	- Heterotrophic microorganisms annually
	- Quarterly for remainder of first 2 years of operation		
	MW-83, MW-84	- Background ⁽²⁾	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺²
		- Quarterly for first 2 years of operation	- Heterotrophic microorganisms annually
	MW-61I/D/D2, MW-87, MW-88	- Background ⁽²⁾	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺²
		- Quarterly for first year of operation	- Heterotrophic microorganisms annually
	- Semi-annual for second year		
Soil Gas	VZ-10, VZ-11	- Background ⁽²⁾	- Monitor with PID
		- Shortly after initial Air Injection	- If elevated PID reading collect sample for VOCs and methane
		- Monthly for First Quarter	
	VZ-14, VZ-15, VZ-16	- Quarterly for remainder of first 2 years of operation	
		- Semi-Annually	- VOCs and methane
Ambient Air	(4)	- Background ⁽²⁾	- Monitor with PID
		- Semi-Annually	- VOCs and methane
Liquid Supplements	Mixing Unit	- Semi-Annually	- If elevated PID reading collect sample for VOCs and methane
		- Annually for 3 years	- TOC, N, P

TABLE 9.1

SUMMARY OF PERFORMANCE MONITORING ⁽¹⁾
 OU-3 BIOSPARGE REMEDY
 HOOKER/RUCO SITE, HICKSVILLE, NEW YORK

Remainder of Middle Fence			
Media	Location	Frequency	Parameters
Groundwater	MW-85	- Background ⁽²⁾ - Quarterly for first 2 years of operation	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺² - Heterotrophic microorganisms annually
	MW-86, MW-89	- Background ⁽²⁾ - Semi-Annual	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺² - Heterotrophic microorganisms annually
Soil Gas	VZ-12	- Background ⁽²⁾ - Shortly after initial injection - Monthly for First Quarter - Quarterly for remainder of first 2 years of operation	- Monitor with PID - If elevated PID reading, collect sample for VOCs and methane
		- Semi-Annually	- VOCs and methane
Ambient Air	(4)	- Background ⁽²⁾ - Semi-Annually	- Monitor with PID - VOCs and methane
		- Semi-Annually	- If elevated PID reading collect sample for VOCs and methane
Liquid Supplements	Included in Phase I		

TABLE 9.1

SUMMARY OF PERFORMANCE MONITORING ⁽¹⁾
 OU-3 BIOSPARGE REMEDY
 HOOKER/RUCO SITE, HICKSVILLE, NEW YORK

North Fence		
Media	Location	Frequency Parameters
Groundwater	MW-70, MW-71	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺² - Heterotrophic microorganisms annually
	MW-64I/D, MW-72, MW-73, MW-74	- Background ⁽²⁾ - Monthly for First Quarter - Quarterly for remainder of first 2 years of operation
	MW-75, MW-76, MW-77, MW-78, MW-79, MW-80	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺² - Heterotrophic microorganisms annually
Soil Gas	VZ-1, VZ-2, VZ-3	- Background ⁽²⁾ - Shortly after initial injection - Monthly for First Quarter - Quarterly for remainder of first 2 years of operation
	VZ-4, VZ-5, VZ-6, VZ-7, VZ-8, VZ-9	- VOCs + TICs ⁽³⁾ , TOC, N, P, DO, ORP, pH, Temperature, Conductivity, Fe ⁺² - Heterotrophic microorganisms annually
		- Monitor with PID - If elevated PID reading, collect sample for VOCs and methane
Ambient Air	(4)	- VOCs and methane - Monitor with PID - TOC and methane
		- If elevated PID reading collect sample for TOC and methane
Liquid Supplements	Included in Phase I	

Notes:

- (1) Scope of monitoring to be evaluated after receipt of first 3 years of monitoring results.
- (2) Background monitoring will be performed at those wells associated with each segment of the biosparge injection well fences prior to initial air injection at that segment. Monitoring will be once 2 weeks before the initial injection and then daily for the first 3 days immediately prior to the initial air injection. In addition, daily monitoring of these wells for DO and ORP will occur on the first 4 days following the start of injection. Samples for VOC analyses will be collected only once.
- (3) TICs will be analyzed/reported for first sampling event of each new well and next sampling event of any existing well. If TICs are not present in a well no future analysis/reporting of TICs in such well will be performed. If TICs are present in a well, TIC analysis/reporting will continue until TICs are no longer present.
- (4) Ground Surface in vicinity of Shallow Vadose Zone Well with the highest PID reading greater than 10 above background.