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May 2, 2022

Jared Walker
Director of Carbon Removal
Marquis Carbon Injection
10000 Marquis Dr
Hennepin, IL 61327

RE: PISC and ERRP Cost Estimate

Mr. Walker,

Please find Battelle's cost estimate for post injection site care and emergency and remedial response. The costs reflected in this estimate are specific to certain situations and thus it should be used primarily as a decision-making tool. As you know, the costs shown here will also change over time due to sub-contractor cost variances mainly related to supply and demand. Let me know if you have any questions.

Respectfully,

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Detailed cost estimates

Project Task	Third Party Quote / Time	Total Cost (Dollars)
Corrective Actions in AoR		
No activity anticipated	Sensitive, Confidential, or Privileged Information	
Subtotal: Corrective Action		
		\$0
Injection Well Plugging – See Permit Section 8 for details on plugging method.		
Flush injection well with a buffer fluid	Sensitive, Confidential, or Privileged Information	
Tests to measure bottomhole reservoir pressure		
Final external mechanical integrity test to evaluate the integrity of the existing casing and cement that will remain after the well is plugged		
Plug injection well		
Cement/gel		
Plugging oversight & report preparation		
Subtotal: Injection Well Plugging		\$355,000
Post-Injection Site Care		
4 Shallow Groundwater Well Sampling & Isotope Analysis	Sensitive, Confidential, or Privileged Information	
Annular Pressure Analysis & Fluid Volume of injection well		

Project Task	Third Party Quote / Time	Total Cost (Dollars)
Annular Pressure Analysis of deep monitoring well MW-2	Sensitive, Confidential, or Privileged Information	
Injection Zone Pressure Monitoring		
Temperature Measurement of injection well, and deep monitoring well MW-2		
Fluid sampling and isotope analysis of ACZ well and deep monitoring well MW-2		
Pulsed Neutron Capture (PNC) Logging of ACZ well and deep monitor well		
Data Analysis/AoR Updated Modeling		
Microseismic Monitoring of 5 Surface Stations		
Time-Lapse 3D Surface Seismic Data of Surface		
PISC Monitoring Reports to USEPA		
Subtotal: Post-Injection Site Care		\$2,411,900
Site Closure		
Prior to plugging wells, check external integrity by temperature & PNC logging	Sensitive, Confidential, or Privileged Information	
Plug ACZ Well and Deep Monitoring Well 1		

Project Task	Third Party Quote / Time	Total Cost (Dollars)
	Sensitive, Confidential, or Privileged Information	
Plugging Oversight & Remove above ground infrastructure (e.g., wellheads and monitoring equipment)		
Time-Lapse 3D Surface Seismic Data of Surface		
Data Analysis/ Updated Modeling		
Site Closure Report to USEPA		
Subtotal: Site Closure Cost		\$1,932,600
Emergency and Remedial Response		
Implement Shutdown	Sensitive, Confidential, or Privileged Information	
Conduct Site / Cause of Emergency Review		
Mechanical Integrity Concern		
Equipment Failure		
Subsurface damage due to force majeure		
Report of Corrective Action to USEPA		
Subtotal: ERP Cost		\$7,090,300

Table 1: Detailed Cost Estimates