

PISC Time Period Years	10				
Testing and Monitoring Cost					
	Ground Water Sampling	Ground Water Report Generation	Deep Well Sampling Oversight & Report	Deep Well Sample Collection	Wire Line Logs
Professional Fees	\$ 2,725	\$ 3,730	\$ 11,120	\$ 40,000	\$ 50,000
KEI Equipment & Expenses	\$ 2,171	\$ 75	\$ 2,438		
Laboratory Fees	\$ 4,642		\$ 3,174		
Waste Disposal	\$ 173				
Workover Rig Mobilization					\$ 80,000
Cost Per Event	\$ 9,711	\$ 3,805	\$ 16,732	\$ 40,000	\$ 130,000

Annual Testing & Monitoring Cost		Number Events/Yr	Cost/Year
Ground Water Sample 1 Event	\$ 13,516	4	\$ 54,064
Deep Well Sample 1 Event	\$ 56,732	4	\$ 226,928
Wire Ling Logs	\$ 130,000	2	\$ 260,000
Total Cost/Yr			\$ 540,992
Cost for PISC period			\$ 5,409,920
Periodic Testing		Number Events/PISC	Cost
Seismic Evaluation 16 sq mile area			\$ 1,058,000
Plume Area Seismic Cost		1	\$ 2,116,000
Total PISC T&M Costs			\$ 7,525,920

Injection Well Plugging		
Plug #	Item	Cost per well
1-3	Schlumberger CO2 Resistant Concrete (includes pumping) (2 Days)	\$ 351,010
4-9	Class H Cement Plug (includes pumping) (1 day)	\$ 32,427
	Workover rig mob	\$ 10,000
	Rig time 7 days/3,500 per day	\$ 24,500
	BOP	\$ 2,000
	Work String	\$ 7,000
	Power Tongs	\$ 5,000
	De Mob rig	\$ 10,000
	Total Cost	\$ 441,937
	Total Cost (2 injection)	\$ 883,874

Total Financial Responsibility Costs	
Injection Well Plugging	\$ 883,874
PISC and Site Closure	
Monitor Well Plugging	\$ 1,081,728
Site Remediation	\$ 777,000
PISC Testing & Monitoring	\$ 7,525,920
Total Cost	\$ 9,384,648
Emergency and Remedial Response	\$ 9,378,796
Total Cost	\$ 19,647,318
Escalation 2021 to 2023	\$ 24,595,553
Well O&M during injection Period	\$ 8,037,536
Well O&M during PISC	\$ 2,588,640
<b>Total Financial Responsibility</b>	<b>\$ 35,221,729</b>

Note: Inflation value was determined using the PPI (Producer Price Index) 21311 Drilling Oil and Gas wells and 213112 Support activities for oil and gas. The individual codes were then averaged to generate the overall value for the previous total.

Reference <https://www.bls.gov/ppi/databases/>

Inflation Calculation	
Mar. 2021 PPI 213112	180.5
Feb. 2023 PPI 213112	215.5
Value Change	1.19
Average Value	1.25

Well Site Remediation	
Item	Cost per Pad
Removal of pad material, replacment with topsoil and final grading	\$ 129,500

Confinement Monitoring Well Plugging	
Item	Cost
Class H Cement Plug (inlcudes pumping) (1 day)	\$ 32,427
Workover rig mob	\$ 10,000
Rig time 5 days/3,500 per day	\$ 17,500
BOP	\$ 2,000
Work String	\$ 7,000
Power Tongs	\$ 5,000
De Mob rig	\$ 10,000
Total Cost	\$ 83,927
Total Cost (2 Wells)	\$ 167,854

Ground Water Monitoring Well Plugging	
Item	Cost
Crew Mobilization	\$ 1,500
Cement and Materials	\$ 1,000
Site cleanup	\$ 500
Total Cost	\$ 3,000
Total Cost (10 Wells)	\$ 30,000

O & M - Injection Well	
Item	Annualized Cost
Wellhead Greasing (1/yr)	\$ 4,000
Pressure MIT (1/yr)	\$ 2,000
Temperature/Noise MIT (1/5yr)	\$ 2,000
Painting (1/yr)	\$ 1,500
Lease Road/Pad Maintenance (1/yr)	\$ 1,000
Gauge Calibration / Testing (1/yr)	\$ 1,500
Site Electric/Data	\$ 1,200
Site Data Shack	\$ 1,200
Spinner, PFO (1/3yr)	\$ 13,333

index) for NAICS codes  
 and gas operations. The  
 escalation factor applied to

PN Log	\$	50,000
On Call General support (1/month)	\$	18,000
CO2 Alarm Checks/Cali (1/yr)	\$	1,500
DTS MIT Interpretation (1/yr)	\$	1,500
Downhole Gauge Calibration (1/yr)	\$	20,000
Valves (8) Rebuild (1/10 yr)	\$	5,000
Total Annual Cost (2 wells)	\$	247,467

Mar. 2021 PPI 21311	310.2
Feb. 2023 PPI 21311	406.3
Value Change	1.31

Formation Monitoring Well Plugging		
Plug #	Item	Cost per well
1-3	Schlumberger CO2 Resistant Concrete (includes pumping) (2 Days)	\$ 351,010
4-9	Class H Cement Plug (includes pumping) (1 day)	\$ 32,427
	Workover rig mob	\$ 10,000
	Rig time 7 days/3,500 per day	\$ 24,500
	BOP	\$ 2,000
	Work String	\$ 7,000
	Power Tongs	\$ 5,000
	De Mob rig	\$ 10,000
	Total Cost	\$ 441,937
	Total Cost (2 Wells)	\$ 883,874

O & M - Shallow Monitor Well	
Item	Annualized Cost
Pressure MIT (1/5yr)	\$ 1,200
Temperature/Noise MIT (1/5yr)	\$ 2,000
Painting (1/yr)	\$ 1,500
Lease Road/Pad Maintenance (1/yr)	\$ 1,000
Gauge Calibration / Testing (1/yr)	\$ 1,500
Site Electric/Data	\$ 1,200
Site Data Shack	\$ 1,200
Fluid Sampling (1/yr)	\$ 56,732
Total Annual Cost (2 wells)	\$ 132,664

O & M - Deep Monitor Well	
Item	Annualized Cost
Wellhead Greasing (1/yr)	\$ 4,000
Pressure MIT (1/5yr)	\$ 1,200

Temperature/Noise MIT (1/5yr)	\$ 2,000
Painting (1/yr)	\$ 1,500
Lease Road/Pad Maintenance (1/yr)	\$ 1,000
Gauge Calibration / Testing (1/yr)	\$ 1,500
Site Electric/Data	\$ 1,200
Site Data Shack	\$ 1,200
PN Log	\$ 50,000
On Call General support (1/month)	\$ 18,000
CO2 Alarm Checks/Cali (1/yr)	\$ 1,500
Fluid Sampling (1/yr)	\$ 56,732
Valves (8) Rebuild (1/10 yr)	\$ 5,000
Total Annual Cost (2 Wells)	\$ 289,664

USDW Remediation Cost Estimate		
Item	Cost	Note
Planning and Permitting	\$ 798,000	
Leak Investigation / Hydrogeological Study	\$ 1,994,200	10 wells install and Sample
Well Installation & Modifications	\$ 1,126,025	4 extraction wells install, injection well convert
Extraction Pumps - 10 GPM/well, 2400 Ft, 40 GPM total	\$ 819,700	4 Ext. pumps install and electric service
Injection Water Source	\$ 307,200	4 water wells w/ pumps; inj. Pump and electric service
Extraction Fluid Treatment (40 GPM, Adsorption - 2 yrs	\$ 245,970	Treatment system & media change outs
Site Improvement - Office / Treatment Buildings	\$ 774,850	Elec Svc, treatment trailer, office trailer, fencing
Excavation Wor - Remediation System Install	\$ 131,560	Trenching to wells for water and elec. Piping
Operations, Maintenance, Monitoring of Remed. System	\$ 1,353,158	2.25 Yrs O&M
System Decommissioning - Site Restoration	\$ 265,000	Removal
Total	\$ 7,815,663	
20% Contingency	\$ 9,378,796	