ATTACHMENT I FINANCIAL ASSURANCE DEMONSTRATION
40 CFR 146.85

DONALDSONVILLE SITE

Facility Information

Facility name: Ciel
CIEL NO.1

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Well location: Donaldsonville, Ascension, Louisiana
NAD 1927 (Louisiana South Zone) X: 2,114,245.33′; Y: 511,857.41′

BKVerde , LLC (BKVerde) is providing the financial assurance demonstration (FAD) for the Donaldsonville sequestration site project.

The FAD is prepared to account for the first planned injection well in BKVerde's Donaldsonville sequestration site with a 50-year post-injection site care period (PISC) or until criteria are met per the Louisiana Department of Natural Resources (LDNR). The FAD considers Donaldsonville sequestration site facility permits and associated Class VI drilling permits to satisfy LDNR Class VI regulations.

BKVerde has engaged IMA Financial Group, an integrated specialty insurance and bond brokerage with expertise in the natural resources sector, to serve as advisor and broker of record as we assess and secure financial assurances around the proposed injection well. Based on reviewing and considering the available financial instruments, BKVerde proposes using two instruments to fulfill the FAD requirements of the project Regulatory Review of Permit.

BKVerde intends to use a surety bond to satisfy the financial assurance requirements around the corrective action on wells in the Area of Review (AoR), injection and monitoring wells plugging, post-injection site care, and facility closure.

To satisfy the financial assurance requirements around Emergency and Remedial Response (including endangerment to the underground sources of drinking water (USDWs), BKVerde's Property & Casualty insurance program will be utilized. BKVerde procured a robust insurance program that includes Environmental coverage. BKVerde will have access to more than $250 million of Environmental limit for Class VI well requirements.

The details in this FAD and supporting documentation establish BKVerde's strategy to meet the financial assurance requirements. This instrument sufficiently addresses the estimated costs associated with operational testing and monitoring, the corrective action plan, the injection well-plugging program, PISC, facility closure, the Emergency and Remedial Response Plan (ERRP), and the endangerment of USDWs.

The FAD cost estimate for the Donaldsonville sequestration site Project is shown in **Table 1**.

Table 1. FAD Cost estimate for Activities to be covered for the Donaldsonville sequestration site project.

Cost Estimate for All Project Activities to Be Covered	
Service	**Estimated Cost (2022 USD)**
Corrective Action on Wells in the AoR	**$0**
Plugging of Injection Wells	**$197,167**
Testing & Monitoring, Post-injection Site Care and Closure	**$4,682,204**
Emergency and Remedial Response (All Scenario Cost Estimates)	**$21,092,500**
Total	**$25,971,871**

Corrective Action on Wells in AoR

The project approach for this calculation is to define the area of review (AoR), evaluate and identify both legacy and active wells within the AoR, and remediate any legacy wells that pose a leakage pathway risk. It was determined that the Donaldsonville sequestration site has one well that will need further evaluation to determine project risk currently and throughout the project timeline. This remedial action will be done outside the project's financial assurance scope while following the regulatory requirements. Therefore, the final costs to remediate will be $0, as detailed in **Table 2.**

Table 2. Corrective action on deficient well(s) in AoR for the entire Donaldsonville sequestration site project.

Corrective Action on Deficient Well(s) in AoR	
Service	**Cost in 2023 USD**
Maintenance Rig Rental (Clean Out Deficient Wells)	$0
Flush Deficient Wells	$0
Plug Deficient Wells	$0
Log Deficient Wells	$0
Total Corrective Action Costs:	**$0**

Plugging of Injection Well

The financial calculations assume plugging the Class VI injection well, Ciel No.1, and represent a cost estimate of $197,167 as of 2023, as shown in **Table 3**. Cost estimates were determined based on historical experience, internal, and third-party.

Table 3. Plugging injection well for the Donaldsonville sequestration site project.

Injection Well Plugging Cost Estimate			
Service	**Estimated Cost per well (2023 USD)**	**# of Wells**	**Total Estimated Cost (2023 USD)**
Rig Costs (casing crew, wellhead, mobilization, and daily rate)	$94,667	1	**$94,667**
Flush Well, Perform Reservoir Pressure Test, MIT, and Plug Well	$102,500	1	**$102,500**
		Total Injection Well Plugging Costs:	**$197,167**

Testing and Monitoring, PISC, and Facility Closure

PISC and facility closure cost estimates include site monitoring and periodic reassessment of the AoR, the eventual plugging of the monitoring well, and overhead and support costs for the estimated 10 years of this Project phase. The most significant element of the PISC cost relates to time-lapse seismic studies; the survey is expected to cover an area of up to 16 square miles. The project assumes a mid-year and year-10 survey in the calculations. The costs listed below include the operation and maintenance of the injection and monitor wells, time-lapse seismic survey, groundwater and soil analysis, project management, plugging of the monitoring well, and site closure of the Donaldsonville sequestration site project. The estimated cost is $4,682,204, detailed below in **Table 4**. Cost estimates were determined based on historical experience and internal and third-party pricing exercises.

Table 4. Testing and monitoring, PISC, and closure for the Donaldsonville sequestration site project.

Donaldsonville Sequestration Site Project PISC Cost Estimate			
Activity	**Cost per Event (2023 USD)**	**Number of Events over 10-year PISC period**	**Total Estimated Cost (2023 USD)**
Operation and Maintenance	$55,000	20	$1,100,000
Time Lapse Seismic (two VSPs during 10-year PISC) + Processing	$1,128,000	2	$2,256,000
Groundwater Quality Monitoring	$15,000	30	$450,000
Downhole Monitoring Logging	$20,000	20	$400,000
Project Management	$20,000	10	$200,000
		Total PISC Costs	**$4,406,000**

Site Closure Cost Estimate	
Activity	**Total Estimated Cost (2023 USD)**
Plug Monitoring Wells	$264,204
Facility Closure	$12,000
Total Site Closure Costs	**$276,204**

The values included in the FAD are based on calculations and operations from previous geologic sequestration projects. They are based on utilizing services conducted by third-party service providers. These values are subject to change throughout the project life to account for inflation of costs and changes to the project that would impact the cost estimations. If the cost estimates change, BKVerde will adjust the calculation in the financial assurance mechanism. Any adjustments will be submitted for approval by the Administrator within 30 days of the anniversary date when the original financial assurance cost estimate is submitted.

Emergency and Remedial Response (Including Endangerment to USDWs

A project risk assessment was prepared as part of the ERRP to address potential risks or events that could cause endangerment to a USDW during the construction, operation, and PISC phases of a project. The Risk Register, Risk Activity Table, and methods developed on previously submitted Class VI permits to construct were used as inputs to determine cost estimate ranges for the Emergency and Remedial Response events related to the migration of CO_2 from the Ciel facility, as shown in **Table 5**.

Tables 6 – 10 include the detailed cost estimates summarized in Table 5 for ERRP scenarios, injection and monitoring well integrity failure, equipment failure, CO2 leakage, and natural disasters, respectively.

Table 5. ERRP Cost estimates for the Donaldsonville Sequestration Site Project.

Summary of Emergency and Remedial Response Costs Estimates	
Emergency Scenario	**Estimated Cost (2023 USD)**
Intensified Groundwater Monitoring and Groundwater Remediation (Common for all ERRP Scenarios)	$5,150,000
Injection or Monitoring Well Integrity Failure	$4,930,000
Injection Well Monitoring Equipment Failure	$1,255,000
Fluid or CO_2 leakage to USDW or Surface	$1,270,000
Natural Disaster	$8,487,500
Total Emergency and Remedial Response Costs:	**$21.092.500**

Table 6. Common activities for all ERRP scenarios cost estimate for the Donaldsonville Sequestration Site Project.

Common Activities for All ERRP Scenarios	
Activity	**Estimated Cost (2023 USD)**
Intensified groundwater monitoring	$450,000
Groundwater remediation	$4,700,000
Total Costs Common Scenario Activities	**$5,150,000**

Table 7. Injection or monitoring well integrity failure cost estimate for the Donaldsonville Sequestration Site Project.

Table Well Integrity Failure Cost Estimates	
Activity	**Estimated Cost (2023 USD)**
Incident assessment and testing	$55,000
Well integrity remediation of new well	$4,875,000
Total Costs for Well Integrity Failure	**$4,930,000**

Table 8. Well-monitoring equipment failure cost estimate for the Donaldsonville Sequestration Site Project.

Injection Well Monitoring Equipment Failure Cost Estimates	
Activity	**Estimated Cost (2023 USD)**
Incident assessment and testing	$55,000
Well-monitoring equipment remediation	$1,200,000
Total Costs for Injection Well Monitoring Equipment Failure	**$1,255,000**

Table 9. Fluid or CO_2 leakage to a USDW or the surface cost estimate for the Donaldsonville Sequestration Site Project.

Fluid or CO_2 Leakage to USDW or Surface Cost Estimates	
Activity	**Estimated Cost (2023 USD)**
Incident Assessment and Testing	$90,000
Corrective Action on Leaking Legacy Well	$200,000
Geophysical Surveys to Identify Geologic Leakage Pathway	$980,000
Total Costs for Fluid or CO_2 Leakage to USDW or Surface	**$1,270,000**

Table 10. Natural Disaster Cost Estimate for Donaldsonville Sequestration Site Project.

Natural Disaster Cost Estimates	
Activity	**Estimated Cost (2023 USD)**
Incident assessment and testing	$140,000
Injection well integrity remediation	$6,718,000
Corrective action on leaking well(s)	$527,000
Geophysical surveys to identify geologic leakage pathway	$1,102,500
Total Costs for Natural Disaster	**$8,487,500**

Updates to Financial Assurance

During the active life of the project, BKVerde will review and adjust the cost estimate for inflation annually. Written updates of adjustments to the financial assurance cost estimate will be provided to the Administrator within 30 days of the anniversary date when the original financial assurance cost estimate was submitted.