



ATTACHMENT F

Post Injection Site Care & Site Closure Plan

Gulf Coast Sequestration, LLC (G1037)

Project Minerva, Cameron Parish

Minerva South CCS Well Nos. 001 & 002

EPA Project Id: R06-LA-0002

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FACILITY INFORMATION

Facility Name:	Minerva Facility
Injection Wells:	Minerva South CCS Well No. 001 (MS CCS 1) Minerva South CCS Well No. 002 (MS CCS 2)
Facility Contact:	David Cook, CEO 5599 San Felipe St., Ste. 1450, Houston, Texas 77056 (713) 419-6808; dcook@gcscarbon.com
Well Locations:	Sec 3, T12S, R13W, Cameron Parish, Louisiana MS CCS 1 (NAD 1927) Surface: 30° 02' 34.10"N, 93° 40' 20.63"W Bottom-Hole: 30° 02' 34.10"N, 93° 40' 20.63"W MS CCS 2 (NAD 1927) Surface: 30° 02' 33.84"N, 93° 40' 20.48"W Bottom-Hole: 30° 02' 13.74"N, 93° 40' 42.07"W

1 INTRODUCTION

This Post-Injection Site Care (PISC) and Site Closure plan describes the activities that Gulf Coast Sequestration, LLC (GCS) will perform to meet the requirements of Louisiana Administrative Code (LAC), Title 43, Chapter XVII, Section 3633.A (LAC 43:XVII §3633.A) of the Class VI UIC Regulations. GCS will monitor groundwater quality and track the position of the carbon dioxide (CO₂) plume and associated pressure front for 50 years, or fewer if CO₂ plume stabilization is demonstrated to be reached sooner. GCS will not cease post-injection monitoring until a demonstration of non-endangerment of underground sources of drinking water (USDW) has been approved by the Louisiana Department of Conservation and Energy (C&E) Secretary (C&E Secretary) pursuant to LAC 43:XVII §3633.A.2.b. Following approval for site closure, GCS will plug all monitoring wells, restore the site to its original condition, and submit through the GCS-C&E intranet site and the United States Environmental Protection Agency (USEPA) Geologic Sequestration Data Tool (GSDT) a notice of intent for site closure and a site closure report, and notify the C&E Secretary (LAC 43:XVII.3633.A.4).

2 PRE-INJECTION AND PREDICTED POST-INJECTION PRESSURE DIFFERENTIAL

The delineated Area of Review (AoR) represents a composite boundary influenced by both the characteristics of the pressure front and the distribution of the CO₂ plume at such time that they no longer endanger the USDW.

Based on the modeling of the pressure front as part of the AoR delineation, pressure at the injection wells is expected to stabilize within 1 year after injection ceases (Year 31) (Table F.2-1). Additional information on the projected post-injection pressure declines and differentials is presented in the Area of Review and Corrective Action Plan (Attachment A).



The modeled pressures over time in the completion intervals of the injection wells, Minerva South CCS Well No. 001 (MS CCS 1) and Minerva South CCS Well No. 002 (MS CCS 2), are presented in Table F.2-2. Figure F.2-1 graphs the pressure trend in the top perforated cell per completion interval over the project life and through the 50-year PISC period (Year 80). In both injection wells, Completion Interval 1 will be utilized from Year 0 to Year 17, and Completion Interval 2 from Year 18 to Year 30. In Table F.2-2, the change in pressure (ΔP) (Column B-A) between the initial pressure (A) prior to injection and the pressure at the end of injection (B) demonstrates the maximum pressure rise in each completion interval. The change in pressure (ΔP) (Column C-A) between the initial pressure (A) prior to injection and the pressure at Year 31 (C) (one year after injection ceases in all intervals) demonstrates the rapid reduction in pressure. Since ΔP (Column C-A) at Year 31 is less than the threshold pressure, there is no longer a pressure front impacting the AoR.

At the end of the 50-year PISC period (D), the change in pressure from the beginning of injection (A) to AoR stabilization (D) is between 1 to 8 psi (D-A) in the completion intervals of each injection well, indicating that all completion intervals have returned to near initial reservoir pressures. Though Figure F.2-1 indicates this will occur as soon as Year 40 for all completion intervals.

Injection limits will be based on the fracture pressure of the storage reservoir and final pressure post-injection will target the initial reservoir pressure measured prior to the start of injection. Table F.2-3 presents the peak modeled pressures within each completion interval of the injection wells compared against the estimated fracture pressure and induced seismicity pressure. As shown in Table F.2-3, the peak injection pressures are significantly smaller than the estimated fracturing and induced seismicity pressures.

Additional information on the projected post-injection pressure declines and differentials is presented in the permit application and AoR and Corrective Action Plan (Attachment A).

3 PREDICTED POSITION OF THE CO₂ PLUME AND ASSOCIATED PRESSURE FRONT AT SITE CLOSURE

Per 43:XVII §3633.A.1.b.ii, GCS must demonstrate the predicted position of the carbon dioxide plume and associated pressure front at site closure as demonstrated in the AoR evaluation required under §3615.B.3.a, which describes the delineation requirements for the AoR boundary. The AoR boundary is established by predicting the projected lateral and vertical migration of the carbon dioxide plume and formation fluids in the subsurface from the commencement of injection activities until:

- the plume movement ceases,
- pressure differentials sufficient to cause the movement of injected fluids or formation fluids into a USDW are no longer present, or
- the end of a fixed time period as determined by the C&E Secretary.

In the following sections, GCS outlines the methodology used to determine when non-endangerment of the USDW can be established and when the Site Closure can occur.



3.1 ESTABLISHING NON-ENDANGERMENT OF THE USDW

To demonstrate the non-endangerment of USDW as outlined in the AoR regulations (§3615.B.3.a) and the PISC and Site Closure regulations (§3633.A.1.b.ii), GCS undertook the following actions:

1. Established the cessation of CO₂ plume movement using a System Stability Index (SSI) to define the AoR boundary.
2. Assessed the potential for endangerment of the USDW within the defined AoR boundary.

3.1.1 CO₂ Plume Stabilization

As described in Section 4.2 (Stability Determination) of the Area of Review and Corrective Action Plan (Attachment A), GCS developed a System Stability Index (SSI) to establish a timeframe for stabilization of the CO₂ Plume. The SSI quantifies how the CO₂ plume evolves over time, transitioning from active migration to stability, and provides a numerical basis for defining the cessation of CO₂ plume movement.

Figure F.3-1 presents the components of the SSI— centroid velocity, plume areal extent, free CO₂ mass, trapped CO₂ mass, and the total system— graphed as the rate of change (%) over time (years). The declining SSI values mark progression from dynamic behavior toward equilibrium. The following stability regime thresholds were defined as:

- **Dynamic Interval (SSI > 10%):** Plume is still migrating significantly, in its active evolution phase.
- **Transitional Interval (3% ≤ SSI ≤ 10%):** Plume migration is slowing down, but not yet steady. Minor mass or velocity changes continue.
- **Near Steady-State Interval (3% ≥ SSI > 1%):** Plume migration slows; derivatives are nearly zero; changes are minimal but not entirely negligible.
- **Numerical Steady-State Interval (SSI ≤ 1%):** The rate of change and acceleration are within the noise floor; changes are negligible or operationally insignificant.

The SSI stability year is defined as the first timestep in which SSI ≤ 1% and remains in the numerical steady state interval for at least three consecutive timesteps. Model outputs indicate that the reservoir reaches near steady state behavior by 75 years and achieves the SSI stability by 115 years (Table F.3-1). These milestones correspond to the points where the first derivatives (rates of change) and second derivatives (accelerations of change) of all evaluated variables, centroid velocity, CO₂ mass, and areal plume extent, approach zero (Figure F.3-1).

Table F.3-2 demonstrates that the SSI method aligns with the CO₂ plume growth in terms of acreage from Year 0 (start of injection) to Year 115 (Near Steady State Equilibrium). Figure F.3-2 shows the predicted extent of the plume over the operational life of the project until the SSI stability year (Year 115), which along with the maximum extent of the pressure front, establishes the boundary of the AoR. Since the pressure front dissipates at Year 31, only the



maximum extent of the pressure front during operational period is depicted.

3.1.2 Non-Endangerment Criteria

With the AoR boundary established, GCS assessed the region for potential endangerment of Underground Sources of Drinking Water (USDW). Endangerment risks may arise from both artificial pathways (such as proposed injection wells or legacy oil and gas wells) and natural pathways (including faults and fractures).

To demonstrate the non-endangerment of the USDW, the following criteria must be met:

- Proper plugging or corrective action for artificial pathways.
- Evidence of pressure dissipation below the threshold pressure within the Injection Zone.
- Confirmation of CO₂ containment within the proposed Injection Zone along both natural and artificial pathways.

Artificial Pathways

The only artificial pathways within the delineated AoR are the two proposed injection wells (MS CCS 1 and MC CCS 2). The injection wells will be sufficiently cased, cemented, and monitored to prevent upward migration of CO₂. Monitoring efforts to ensure both internal and external integrity will commence in Year 0 and continue until approximately Year 33 when the wells are planned to be plugged, as specified in the Plugging and Abandonment Plan (Attachment E). Once plugged, GCS will be able to establish non-endangerment of the USDW along these artificial pathways.

Pressure Dissipation

As established in Section 2 (Pre-Injection and Predicted Post-Injection Pressure Differential), pressure at the proposed injection wells (MS CCS 1 and MS CCS 2) is expected to stabilize within 1 year after injection ceases (Year 31). GCS will continue pressure monitoring of the two proposed injection wells for two additional years to ensure that pressure adequately dissipates and returns to below threshold pressure levels.

Natural Pathways

There are three known natural pathways, or faults, that intersect the Injection Zone within the delineated AoR: Fault F02, Fault 3, and Fault 13 (Figure F.3-2). However, only Fault F02 and Fault 3 extend across the Upper Confining Zone (Anahuac Formation) and could provide a potential pathway for upward fluid migration. GCS contends that although there is faulting across the Upper Confining Zone, the sealing nature of the shale within the Anahuac Formation will provide a sufficient barrier for potential migration and contain CO₂ to the Injection Zone.

Fault 02 and Fault 3 will be exposed to the CO₂ plume and pressure front throughout the operational life of Project Minerva. The Testing and Monitoring Plan (Attachment D) outlines indirect and microseismic monitoring measures that will be employed to ensure containment and non-endangerment of the USDW. The Post-Injection Monitoring Plan



(Section 4) proposes to continue microseismic monitoring until ~Year 33, upon confirmation of pressure dissipation, with indirect monitoring continuing until site closure.

3.2 ESTABLISHING PISC DURATION AND SITE CLOSURE

Per LAC 43:XVII §3633.A.2.a-d, GCS must monitor Project Minera following the cessation of injection to show the position of the carbon dioxide plume and pressure front and demonstrate that USDWs are not being endangered. The monitoring period must continue for at least 50 years, or until GCS can demonstrate the geologic sequestration project no longer poses and endangerment to USDWs.

Based on the details provided in Section 3.1.2 (Non-Endangerment Criteria), GCS contends that 50 years is a sufficient duration for the post-injection site care timeframe (LAC 43:XVII §3633.A.1.b.v). Table F.3-3 provides a summary of how the non-endangerment criteria will be met and defense of site closure in Year 80.

4 POST-INJECTION MONITORING PLAN

Performing indirect and direct monitoring of the injection and above confining zone as described in the following sections during the post-injection phase will meet the requirements of LAC 43:XVII §3633. The results of all post-injection phase testing and monitoring will be submitted annually through the USEPA Geologic Sequestration Data Tool (GSDT) and to the C&E Secretary within 90 days of the anniversary date of final injection, as described under Section 4.3, Schedule for Submitting Post-Injection Monitoring Results, of this plan.

GCS will conduct monitoring to ensure that the CO₂ plume and associated pressure front behave as expected during the post-injection phase. GCS will utilize the following wells to conduct post-injection monitoring:

- Injection wells, MS CCS 1 and MC CCS 2;
- Above confining zone monitoring wells:
 - Minerva South USDW Well No. 001 (MS USDW 1),
 - Minerva South USDW Well No. 002 (MS USDW 2), and
 - Minerva South USDW Well No. 003 (MS USDW 3) – (Proposed, location to be determined);
- In-zone monitoring well, Minerva South In-Zone Well No. 001 (MS IZ 1).

The monitoring well locations, the type of technology used, and the monitoring methods are presented in Table F.4-1. Locations of the monitoring wells are portrayed in Figure F.4-1.

The above confining zone monitoring summary is provided as Table F.4-2 and includes groundwater monitoring and fluid movement monitoring. The direct and indirect monitoring methods to track the CO₂ plume and the associated pressure front are provided as Table F.4-3 and include pressure monitoring, logging, and 2D seismic surveys. More detailed information about the monitoring methods and quality assurance are located in Testing and



Monitoring Plan (Attachment D) and QASP (Attachment D, Appendix D-I), respectively.

4.1 MONITORING ABOVE THE CONFINING ZONE

GCS plans to conduct above confining zone monitoring in the post-injection phase as described in Table F.4-2. This table presents the monitoring methods, locations, and frequencies for monitoring above the confining zone. Table F.4.1-1 identifies the parameters to be monitored, and the analytical methods GCS will employ.

GCS will continue to utilize DTS on the injection wells (MS CCS 1 and MS CCS 2) as above confining zone monitoring of the Miocene Sands immediately above the Confining Zone (Anahuac Formation). The injection wells will continuously monitor temperature above the confining zone using DTS fiber optic cables until the wells are plugged and abandoned (~Year 33).

Groundwater sampling will occur once every 5 years (up to 45 days before the anniversary of authorization of injection) during the post-injection timeframe) from the above confining zone monitoring wells. If monitoring data deviates significantly from predicted/average values in a way that cannot be explained, more frequent sampling intervals may be chosen.

GCS will monitor groundwater conditions using low-flow sampling techniques. Groundwater sampling materials and collection procedures are described in the QASP. The planned analytical parameters and methods for fluid sampling are described in Table F.4.1-1. Further information regarding detection limits and precision is shown in Table D.I.9.4-1 of the Quality Assurance and Surveillance Plan (Attachment D, Appendix D-I).

4.2 CARBON DIOXIDE PLUME AND PRESSURE FRONT TRACKING

GCS will employ direct and indirect methods to track the extent of the carbon dioxide plume and the presence or absence of elevated pressure. Table F.4-3 presents the methods that GCS will use to monitor the pressure and CO₂ plume, including the activities, locations, and frequencies GCS will employ.

4.2.1 Pressure Extent

GCS will conduct pressure monitoring within the injection zone until it is sufficiently demonstrated that the pressure in the zone has returned to the initial bottom-hole pressure. The injection wells, MS CCS 1 and MS CCS 2, will be equipped with downhole pressure gauges that will monitor for pressure influence from injection during the operational life of Project Minerva. A monthly reading will be recorded from MS CCS 1 and MS CCS 2 until it is established that pressure in the zone dissipates below the threshold bottom-hole pressure. As discussed in Section 2.0, this is modeled to occur 1 year after the cessation of injection, and GCS commits to monitor pressure for 2 additional years.

4.2.2 CO₂ Plume Extent

GCS will monitor the leading edge of the CO₂ plume by conducting indirect monitoring using 2D seismic surveys and Pulse Neutron logging (Table F.4-3).

Information regarding 2D seismic surveys and Pulse Neutron logging, their selection for this



project, as well as specifications on their instrumentation, can be found in the Testing and Monitoring Plan (Attachment D). If monitoring data deviates significantly from predicted/average values in a way that cannot be explained, more frequent sampling intervals may be chosen. Additionally, the monitoring results will be used to support, upgrade, or improve computational modeling to provide a non-endangerment demonstration.

2D Seismic Surveys

During the 30-year operational life of the project, GCS proposes implementing 2D seismic surveying to track the extent of the CO₂ plume, as described in the Testing and Monitoring Plan (Attachment D). GCS proposes utilizing the time-lapse 2D seismic data collected during the Testing and Monitoring period to continue monitoring during the 50-year post-injection surveillance period.

Figure F.3-1 depicts the established seismic lines over the CO₂ plume extent from Year 30 to Year 115 when it reaches stabilization. The mobile edge of the plume continues to progress to the west and northwest, while the southern, eastern, and northern edge remain stable.

To monitor the mobile edge of the plume, GCS proposes to perform 2D Seismic Surveys along the highlighted survey lines depicted in Figure F.3-1. GCS will optimize the implementation of 2D seismic throughout the life of the project as seismic data is collected, analyzed and used to improve the reservoir simulation model. Optimizations may include shortening or lengthening seismic lines in certain orientations, adding additional seismic lines or modifying the frequency of 2D seismic acquisition.

GCS will perform 2D seismic survey prior to the end of injection, and three times during the 50-year post-injection surveillance period: once at Year 40, Year 60, and Year 80. These monitoring events were selected based on the modeled progression of the plume defined in Table F.3-2 and on the anticipated decline in the change in size of the modeled plume. If there are significant anomalies or deviations of the CO₂ migration path that cannot be resolved using 2D seismic surveys, GCS will explore alternate technologies to track the plume.

Pulse Neutron Logging

GSC will conduct time-lapsed PN logging at MS IZ 1 to monitor for CO₂ saturation in the perforated interval. MS IZ 1 is beyond the edge of the modeled stabilized CO₂ plume, PN logging of MS IZ 1 will be conducted every five years during the 50-year post-injection surveillance period.

4.3 MECHANICAL INTEGRITY MONITORING AND MICROSEISMIC

Internal and external mechanical integrity testing for MS CCS 1 and MS CCS 2 will proceed per LAC 43:XVII §3627.A.3 until the wells are plugged and abandoned (~Year 33). Since MS IZ 1 lies outside the delineated Area of Review (AoR) and will not be perforated, its external wellbore integrity is not expected to be affected by the CO₂ plume and pressure front. GCS



will perform cement bond and temperature logging to validate this assumption throughout the project's operational life. During the post-injection site care period, logging will align with the pulse neutron logging schedule, occurring every five years.

Additionally, GCS will continue microseismic monitoring using downhole geophones and accelerometers in MS IZ 1, concluding when pressure dissipation is confirmed (~Year 33).

5 SCHEDULE FOR SUBMITTING POST-INJECTION MONITORING RESULTS

All post-injection site care monitoring data and monitoring results collected using the methods described above will be submitted to EPA and the C&E Secretary in annual reports submitted within 90 days following the anniversary date on which injection ceases. The reports will contain information and data generated during the reporting period, i.e. well-based monitoring data, sample analysis, and the results from updated site models.

5.1 ALTERNATIVE POST-INJECTION SITE CARE TIMEFRAME

An alternative post-injection timeframe is not currently being considered. GCS will conduct post-injection monitoring for 50 years following the cessation of injection operations (Year 80). Throughout the project, GCS will collect data pursuant to LAC43: XVII 3633.A.2 to track the CO₂ plume evolution and update the computational simulation result. GCS will propose an alternative shorter PISC timeframe if, at any point of the project, GCS can demonstrate, based on monitoring and other site-specific data, that the project does not pose an endangerment to any USDWs before the end of the 50-year timeframe, per LAC43: XVII 3633.A.3.

5.2 PLAN RE-EVALUATION

GCS will continue to re-evaluate and update the AoR delineation modeling pursuant to LAC 43:XVII §3615.B.3.a and §3625.A.10. If any of the information on which the PISC and Site Closure Plan was based on changes significantly, GCS will modify and resubmit the plan for the C&E Secretary's approval within 30 days of such change (LAC 43:XVII §3633.A.1.c).

Prior to cessation of injection, GCS will evaluate the PISC and Site Closure Plan and submit to the C&E Secretary for approval: an amended PISC and Site Closure Plan or a demonstration that no amendment is needed (LAC 43:XVII §3633.A.1.c).

6 NON-ENDANGERMENT DEMONSTRATION CRITERIA

Prior to approval of the end of the post-injection phase, GCS will submit a demonstration of non-endangerment of USDWs to the C&E Secretary (LAC 43:XVII §3633.A.2.b and LAC 43:XVII §3633.A.2.c).

GCS will issue a report to the C&E Secretary. This report will make a demonstration of USDW non-endangerment based on the evaluation of the site monitoring data used in conjunction with the project's computational model. The report will detail how the non-endangerment demonstration evaluation uses site-specific conditions to confirm and demonstrate non-



endangerment. The report will include all relevant monitoring data and interpretations upon which the non-endangerment demonstration is based, model documentation and all supporting data, and any other information necessary for the C&E Secretary to review the analysis. The report will include the following sections: Introduction and Overview

A summary of relevant background information will be provided, including the operational history of Project Minerva, the date of the non-endangerment demonstration relative to the post-injection period outlined in this PISC and Site Closure Plan, and a general overview of how monitoring and modeling results will be used together to support a demonstration of USDW non-endangerment.

6.1 SUMMARY OF EXISTING MONITORING DATA

A summary of all previous monitoring data collected at Project Minerva, pursuant to the Testing and Monitoring Plan and this PISC Plan, including data collected during the injection and post-injection phases of the project, will be submitted to help demonstrate non-endangerment. Data submittals will be in a format acceptable to the C&E Secretary (LAC 43:XVII §3629.A.5), and will include a narrative explanation of monitoring activities, including the dates of all monitoring events, changes to the monitoring program over time, and an explanation of all monitoring infrastructure that has existed at the site. Data will be compared with baseline data collected during site characterization in satisfaction of LAC 43:XVII §3607.C.2.e and LAC 43:XVII §3617.B.4.c.

6.2 SUMMARY OF COMPUTATIONAL MODELING HISTORY

The results of computational modeling used for AoR delineation and for demonstration of an alternative PISC timeframe will be compared to monitoring data collected during the operational and PISC periods. The data will include time-lapse temperature, pressure, ground water analysis, passive seismic, and geophysical surveys (i.e., logging, operating-phase VSP, and 2D surface seismic surveys) used to update the computational model and to monitor the site.

Data generated during the PISC period will be used to help show that the computational model accurately represents the storage site and can be used as a proxy to determine the plume's properties and size. The operator will demonstrate this degree of accuracy by comparing the monitoring data obtained during the PISC period against the model's predicted properties (i.e., plume location, rate of movement, and pressure decay). Statistical methods will be employed to correlate the data and confirm the model's ability to accurately represent the storage site.

The validation of the computational model with the large volume of available data will be a significant element to support the non-endangerment demonstration. Further, the validation of the complete model over the areas, and at the points where direct data collection has taken place will help to ensure confidence in the model for those areas where surface infrastructure preclude geophysical data collection and where direct monitoring wells cannot be placed.



6.3 EVALUATION OF RESERVOIR PRESSURE

GCS will utilize monthly measurements of pressure via downhole pressure gauges. The collected data will be used to update its predictions of the development of the pressure front. GCS will provide the predicted timeframe for pressure decline within the injection zone, and/or the timeframe for pressure decline to pre-injection pressures, such that formation fluids may not be forced into any USDWs.

6.4 EVALUATION OF CARBON DIOXIDE PLUME

2D seismic survey will be performed prior to cessation of injection (Year 30). Once the PISC period commences, 2D seismic surveys will be performed 3 additional times in 20-year increments: Year 40, Year 60, Year 80. These dates were selected based on the change in acreage of the CO₂ plume over time depicted in Table F.3-2.

Pulse Neutron logging will be performed in MS IZ 1 every 5 years following cessation of injection to monitor CO₂ saturation changes in subsurface reservoirs. These data measurements will be used as history matching data for future versions of the dynamic model. After calibration (history matching) the model will be used to update its predictions of the development of the CO₂ plumes.

6.5 EVALUATION OF POTENTIAL CONDUITS FOR FLUID MOVEMENT

As demonstrated in the AoR and Corrective Action Plan (Attachment A), there are no known artificial penetrations in the delineated AoR to serve as potential conduits for vertical fluid migration.

Within 0.25 miles of the delineated AoR, two artificial penetrations were identified—SN 224951 (Map ID 1) and SN 185606 (Map ID 4)—which are depicted in Figure F.3-2. Appendix A-II (Migration Potential Assessment) of the AoR and Corrective Action Plan (Attachment A) includes summaries of each pathway's CO₂ migration potential assessment.

Throughout the project's operational lifespan, GCS will undertake ongoing monitoring per the Testing and Monitoring Plan (Attachment D). GCS will employ operating adjustments, such as rate and volume redistribution, to avoid inclusion of additional artificial penetrations into the delineated AoR. GCS will continue to re-evaluate and update the AoR delineation modeling pursuant to LAC 43:XVII §3615.B.3.a and §3625.A.10. Required updates to the Testing and Monitoring, Corrective Action, PISC, and Financial Assurance plans will be submitted accordingly.

The in-zone monitoring well that penetrates the Confining Zone will be plugged in a manner that will not allow fluid movement into USDWs. Final demonstration will be made so that natural and artificial conduits will not allow fluid migration from the storage reservoir.

7 SITE CLOSURE PLAN

GCS will conduct site closure activities to meet the requirements of LAC 43:XVII §3633.A.5 as described below. GCS will submit a final Site Closure Plan, via the GSDT, and notify the C&E Secretary in writing at least 120 days prior to its intent to close the site. Once the



permitting agency has approved closure of the site, GCS will plug the monitoring wells and submit a site closure report, which will be retained by GCS for at least 10 years, to the C&E Secretary within 90 days after site closure. The activities, as described below, represent the planned activities based on information provided to C&E. The actual Site Closure Plan may employ different methods and procedures. A final Site Closure Plan will be submitted to the C&E Secretary for approval with the notification of the intent to close the site.

7.1 PLUGGING MONITORING WELLS

After the C&E Secretary has authorized site closure, GCS will plug all monitoring wells in a manner which will not allow movement of injection or formation fluids that endanger the USDW (LAC 43:XVII §3633.A.5).

The proposed plugging plans and schematics for the in-zone monitoring well, MS IZ 1, are provided in Appendix F-I. MS IZ 1 will be plugged with specialized CO₂ compatible cement to isolate the injection zone. Class H cement (with additives) will be utilized for the surface, USDW, and top of well plugs. Table F.6.1-1 details the In Zone Monitoring Well Cement and Cement Additives. The specialized CO₂ compatible cement specification sheet is provided in Appendix F-I.

The proposed plugging plans and schematics for the above confining zone monitoring wells, MS USDW 1 and MS USDW 2, are provided in Appendix F-II. MS USDW 1 and MS USDW 2 will be drilled after the injection wells are constructed but before injection begins. However, MS USDW 3 will be drilled within the AoR after injection commences, following data collection indicating the plume and pressure front directions. GCS will amend the PISC to include the proposed plugging plans and schematics for MS USDW 3 once the timing, location, and installation of the monitoring well is determined in coordination with C&E.

Prior to site closure, GCS will submit Form UIC-17 (or its replacement), Injection Well Work Permit application, to C&E to plug each of the monitoring wells. A detailed plugging and abandonment plan along with the other required documents will be submitted for approval with the work permit.

7.2 SITE CLOSURE REPORT

A site closure report will be prepared and submitted within 90 days following site closure, documenting the following:

- Plugging of the monitoring wells (and the injection wells if they have not previously been plugged),
- Location of sealed injection wells on a plat of survey that has been submitted to the local zoning authority,
- Notifications to state and local authorities as required at LAC 43:XVII §3633.A.6.b),
- Records regarding the nature, composition, and volume of the injected CO₂, and
- Post-injection monitoring records.



GCS will record a notation to the property's deed on which the injection well was located that will indicate the following:

- That the property was used for carbon dioxide sequestration,
- The name of the local agency to which a plat of survey with injection well locations was submitted,
- The volume of fluid injected,
- The formation into which the fluid was injected, and
- The period over which the injection occurred.

The site closure report will be submitted to the permitting agency and maintained by GCS for a period of 10 years following site closure. Additionally, the owner or operator will maintain the records collected during the post-injection period for a period of 10 years.