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Plan revision date: 10/31/24

INJECTION WELL PLUGGING PLAN

40 CFR §146.92

South Texas Sequestration

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*Injection Well Plugging Plan for South Texas Sequestration Project (Kleberg Hub)
Permit Number: R06-TX-0015*

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Appendix B: Example of CO₂ Resistant Cement Formulation for Plug and Abandonment. ... 66

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1.0 Facility Information

Facility name: South Texas Sequestration Project (Kleberg Hub)
Well Names: Becerra_CCS_01_01, Becerra_CCS_01_02,
Becerra_CCS_02_01, Becerra_CCS_02_02, Garcias_CCS_01_01,
Garcias_CCS_01_02

Facility contacts: [REDACTED], Project Manager
5 Greenway Plaza, Suite 110 Houston, TX 77046
713-840-3012; michael_stacey@oxy.com

Well location: Kleberg County, Texas

WELL_NAME	LAT_NAD27	LONG_NAD27
Becerra_CCS_01_01	[REDACTED]	[REDACTED]
Becerra_CCS_01_02	[REDACTED]	[REDACTED]
Becerra_CCS_02_01	[REDACTED]	[REDACTED]
Becerra_CCS_02_02	[REDACTED]	[REDACTED]
Garcias_CCS_01_01	[REDACTED]	[REDACTED]
Garcias_CCS_01_02	[REDACTED]	[REDACTED]

Pursuant 40 CFR §146.92, this Injection Well Plugging Plan describes the actions the Kleberg Sequestration Hub, LLC (1PointFive), will take to plug and abandon the Becerra_CCS_01_01, Becerra_CCS_01_02, Becerra_CCS_02_01, Becerra_CCS_02_02, Garcias_CCS_01_01, and Garcias_CCS_01_02 CO₂ injector wells. This plan also describes the proposed abandonment of the monitoring wells, water production wells, and water disposal wells in Appendix A.

When the injection period is completed, the project will proceed to plug and abandon the injection wells.

The plugging procedure and materials will be designed to prevent any unwanted fluid movement, resist the corrosive aspects of carbon dioxide (CO₂) with water mixtures, and protect any underground sources of drinking water (USDWs).

Kleberg Sequestration Hub, LLC (1PointFive), will notify the Underground Injection Control (UIC) Program Director in writing at least 60 days before plugging operations start. If there are changes required to the plug plugging plan, the project team will provide a revised program to the UIC Director for review and approval, per 40 CFR §146.92(c).

The project will submit a plugging report to the UIC Director within 60 days after plugging each well and will comply with the requirements in 40 CFR §146.92(d).

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2.0 General Tests and Measures Before Plugging and Abandoning CO₂ Injector Wells

Pursuant to 40 CFR §146.92(a), the project will perform the following activities prior to plugging each well.

1. Bottomhole pressure (BHP) measurements will be taken using the installed downhole gauges. In case the gauges are not functioning properly, the Kleberg Hub will run downhole pressure gauges during the plug and abandon (P&A) process of the well.
2. After injection has ceased, the well will be flushed with a kill/buffer fluid. A minimum of three tubing volumes will be injected without exceeding the fracture pressure.
3. An annular pressure test will be performed to assess internal mechanical integrity before the tubing and packer are removed from the well.
4. The project will evaluate the external mechanical integrity and condition of the casing using one of the methods described in Section 3.
5. If a loss of mechanical integrity is discovered, the well will be repaired before proceeding further with the plugging operations.
6. All casing in this well will have been cemented to the surface at the time of construction and will not be retrievable at abandonment.
7. A cement retainer will be used to squeeze and isolate the perforated section to prevent flowback of formation fluids that could contaminate the plug. The balanced-plug placement method will be used for the additional cement plugs planned.
8. Heavy gel mud (██████ ppg) will be left between cement plugs.
9. All casing strings will be cut off at least 5 ft below the surface and plow line.
10. A blanking plate with the required permit information will be welded on top of the cutoff casing.

The procedures set forth above and elsewhere in this Plugging Plan are preliminary, based on assumptions made at the time of this permit application, and subject to change based on actual well conditions and other technical considerations to be determined at the time of well plugging. Any necessary revisions to the well plugging plan to address any new information collected during logging, testing, and completion of the well will be made after these activities have been completed. The final plugging plan will be submitted to the Underground Injection Control (UIC) Program Director.

3.0 Planned External Mechanical Integrity Test(s)

The Kleberg Sequestration Hub, LLC (1PointFive), will conduct at least one of the tests listed below to verify external mechanical integrity prior to plugging each injection well as required by 40 CFR §146.92(a):

- a. Pulse neutron log
- b. Noise log

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- c. DTS (Distributed Temperature Sensing)/DAS (Distributed Acoustic Sensing) survey
- d. Temperature log.

4.0 Information on Plugs

Kleberg Sequestration Hub, LLC (1PointFive), will use the materials and methods noted in Tables PLG-1CO2 through PLG-6 to plug the CO₂ injector wells. The volume and depth of the plug or plugs will depend on the final geology and downhole conditions of the well as assessed during construction. The cement(s) formulated for plugging will be compatible with the CO₂ stream. The cement formulation and required certification documents will be submitted to the Environmental Protection Agency (EPA) Underground Injection Control (UIC) Program Director as well as Texas regulators with the well plugging plan. Kleberg Sequestration Hub, LLC (1PointFive) will report the wet density and retain duplicate samples of the cement used for each plug.

An example of CO₂-resistant cement formulation is provided in Appendix B.

4.1 Becerra_CCS_01_01 Plug and Abandonment Details

Table PLG-1: Becerra_CCS_01_01 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

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Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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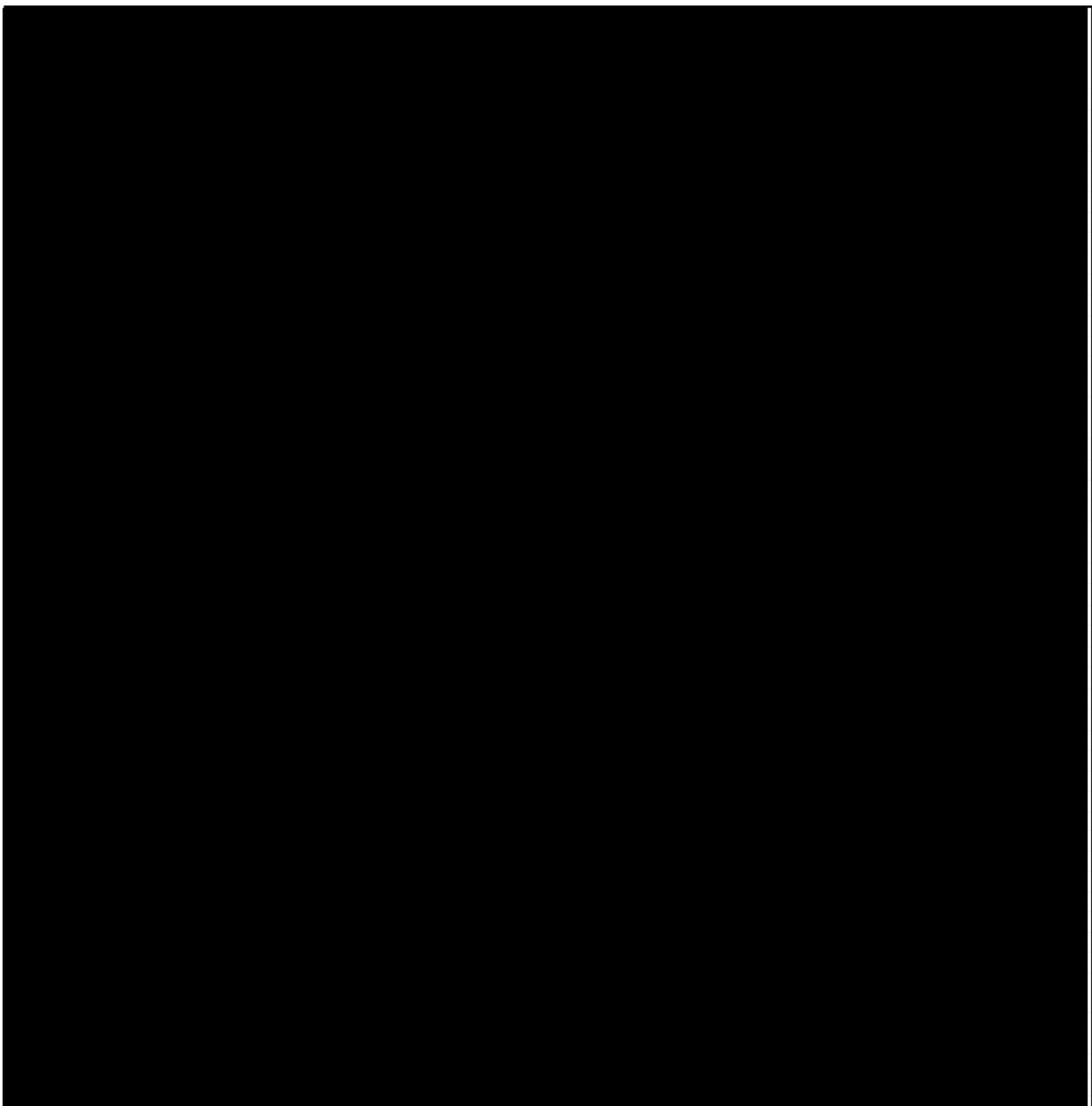


Figure PLG-1: Becerra_CCS_01_01 injection well plug schematic.

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4.2 Becerra CCS_01_02 Plug and Abandonment Details

Table PLG-2: Becerra CCS_01_02 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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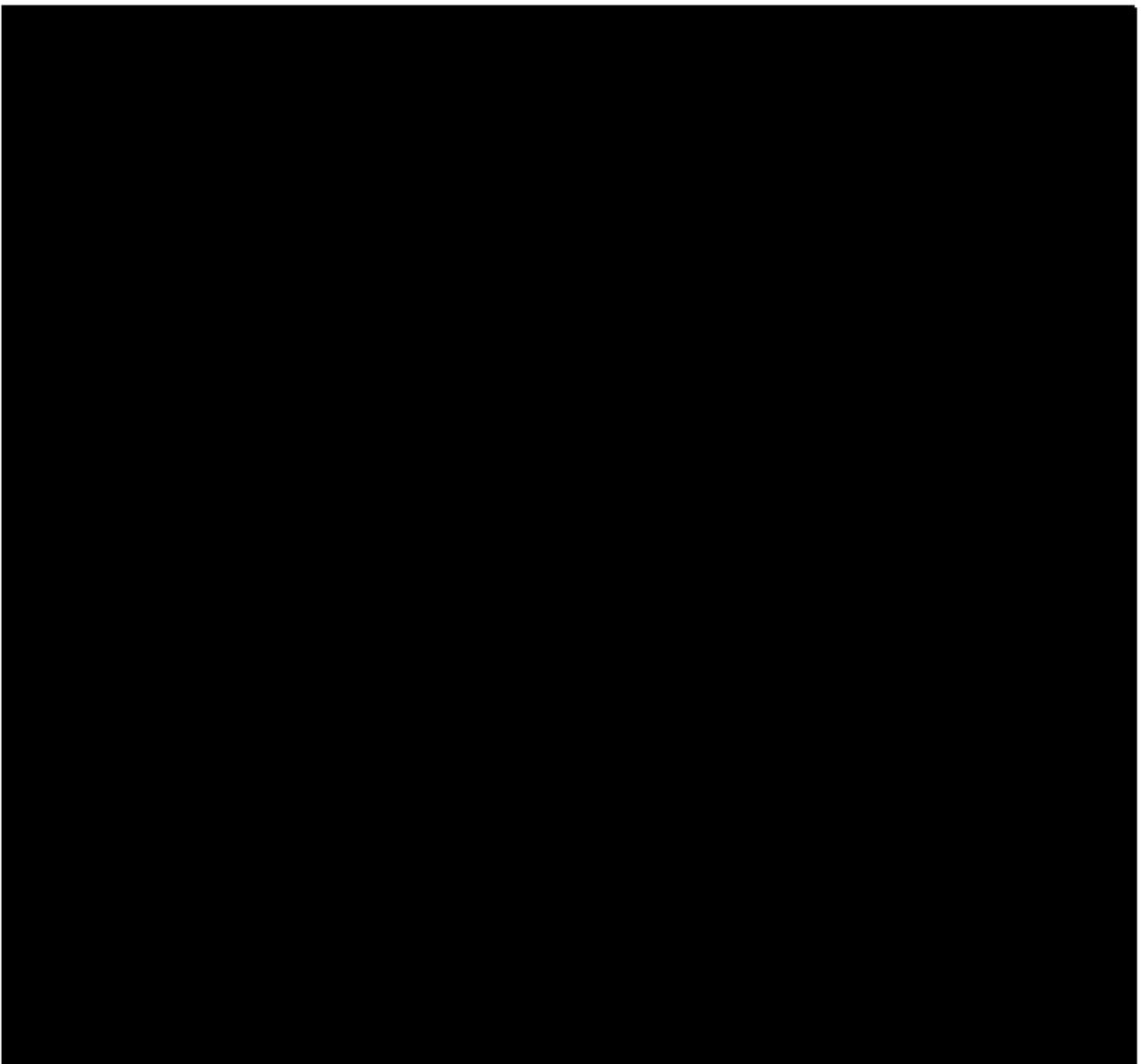


Figure PLG-2: Becerra_CCS_01_02 injection well plug schematic.

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4.3 Becerra_CCS_02_01 Plug and Abandonment Details

Table PLG-3: Becerra_CCS_02_01 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield ft ³ /sx

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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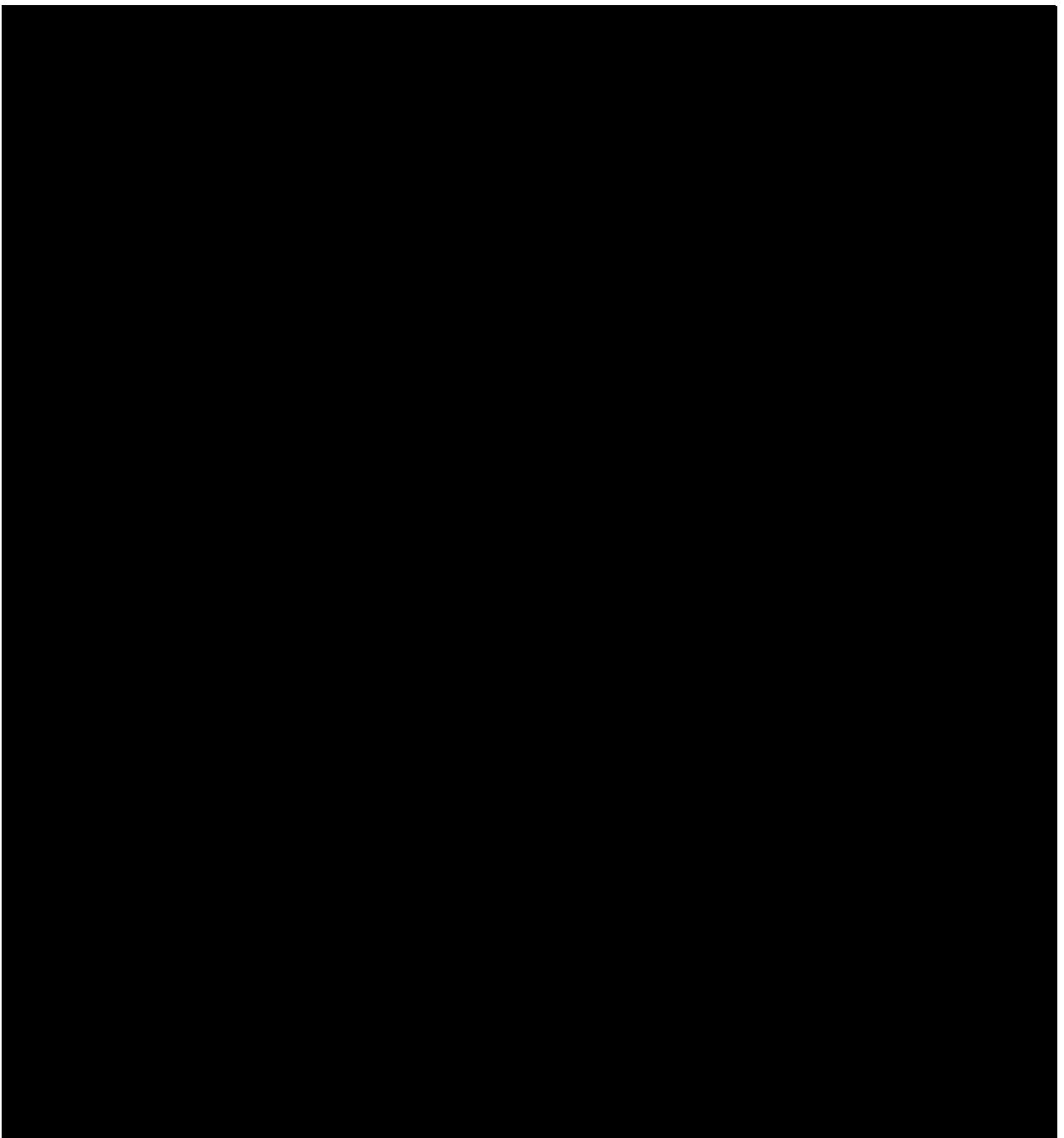


Figure PLG-3: Becerra_CCS_02_01 injection well plug schematic.

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4.4 Becerra_CCS_02_02 Plug and Abandonment Details

Table PLG-4: Becerra_CCS_02_02 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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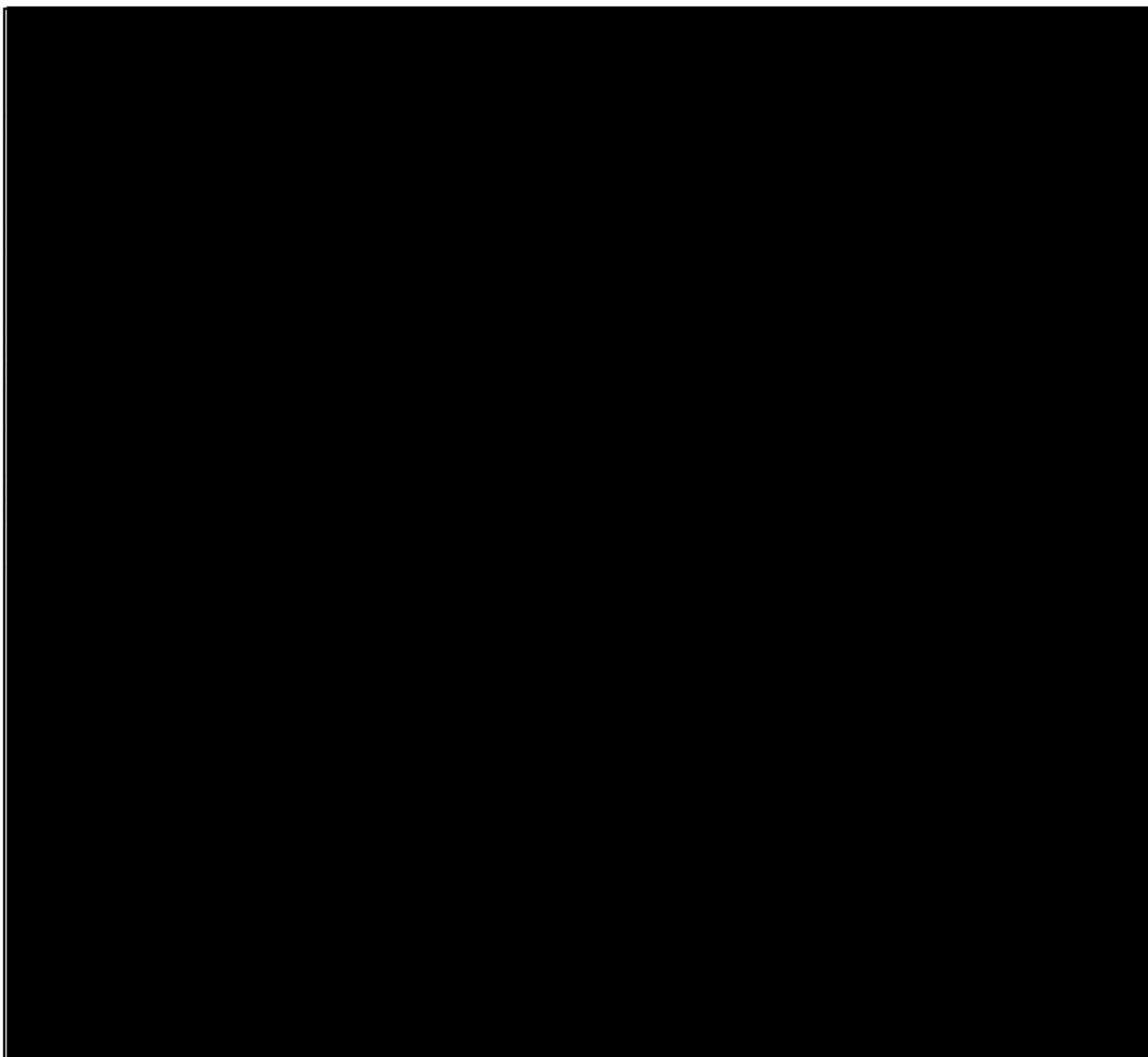


Figure PLG-4: Becerra_CCS_02_02 injection well plug schematic.

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4.5 Garcias_CCS_01_01 Plug and Abandonment Details

Table PLG-5: Garcias_CCS_01_01 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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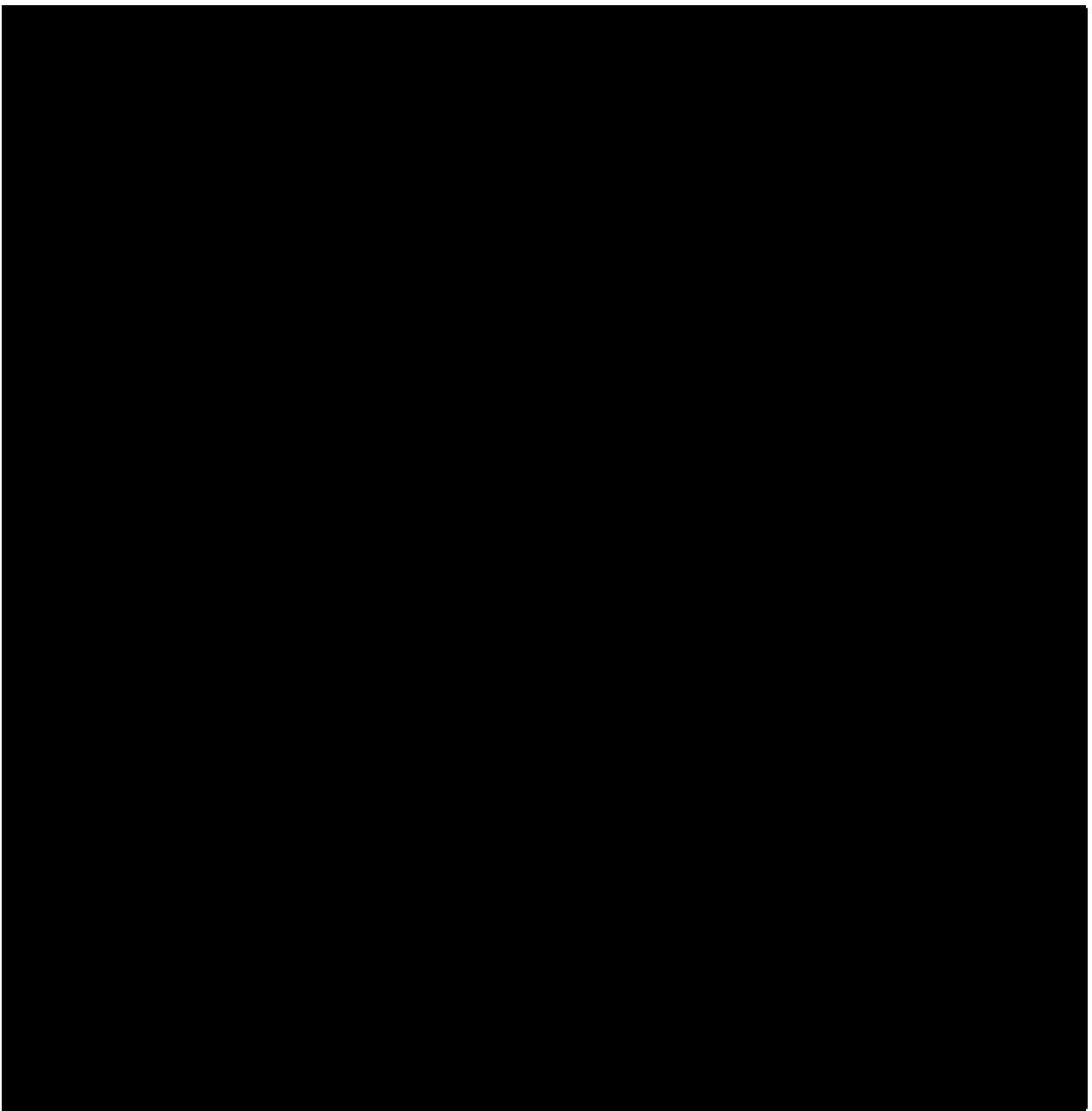


Figure PLG-5: Garcias_CCS_01_01 injection well plug schematic.

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4.6 Garcias_CCS_01_02 Plug and Abandonment Details

Table PLG-6: Garcias_CCS_01_02 cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

Notes:

- All plug depths will be adjusted after the well is drilled and completed.
- The plugging procedure will be updated as required by the EPA and Texas regulators.
- Formation tops will be adjusted after running open-hole electric logs.

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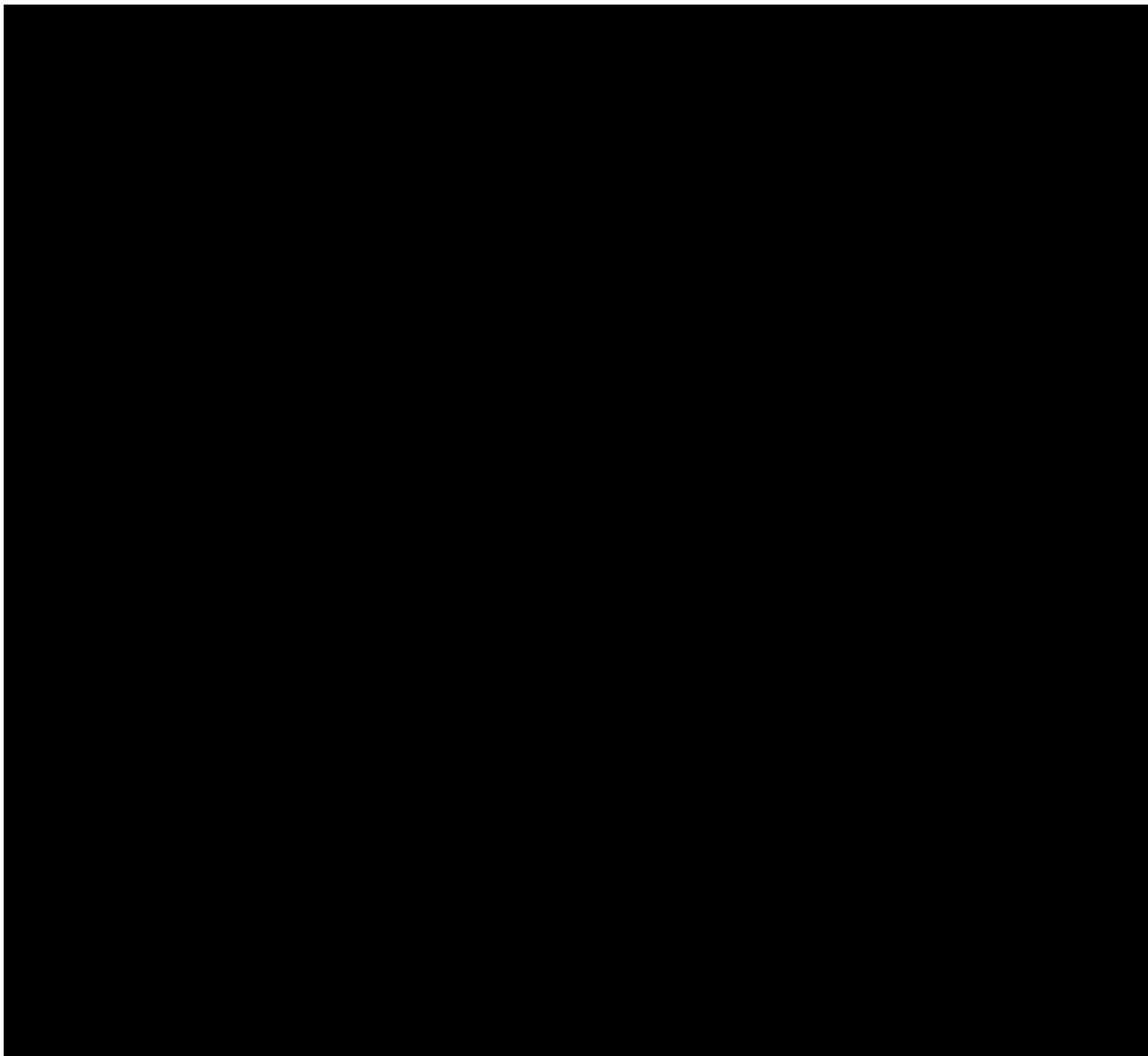


Figure PLG-6: Garcias_CCS_01_02 injection well plug schematic.

5.0 Narrative Description of Plugging Procedures for CO₂ Injector Wells

5.1 Notifications, Permits, and Inspections

In compliance with 40 CFR 146.92(c), the Kleberg Sequestration Hub, LLC, will notify the regulatory agency at least 60 days before plugging the well and provide an updated Injection Well Plugging Plan, if applicable.

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5.2 Becerra CCS_01_01 Plugging Procedure

1. Move the rig onto the Becerra CCS_01_01 site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above in section PLG-3.0 Planned External Mechanical Integrity Test(s) for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the blowout preventers (BOPs).
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at █ ft.
11. Trip in hole with the work string and cement retainer to the top of plug #1 at █ ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.

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12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing [REDACTED].
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging

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operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

5.3 *Becerra_CCS_01_02 Plugging Procedure*

1. Move the rig onto the *Becerra_CCS_01_02* site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at █ ft.

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11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED]. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED]. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED]. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED]. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED]. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations (5,700-6,250 ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set [REDACTED] balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing [REDACTED]
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

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The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

5.4 Becerra_CCS_02_01 Plugging Procedure

1. Move the rig onto the Becerra_CCS_02_01 site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at [REDACTED]

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11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED]. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED]. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED]. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED]. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Trip in hole with the work string and cement retainer to the top of plug #3 at 8,025 ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED]. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW [REDACTED]. Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

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The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

5.5 Becerra_CCS_02_02 Plugging Procedure

1. Move the rig onto the Becerra_CCS_02_02 site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at █ ft.

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11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Plug #3: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
16. Plug #4: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
17. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
19. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
20. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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5.6 Garcias_CCS_01_01 Plugging Procedure

1. Move the rig onto the Garcias_CCS_01_01 site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.

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12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging

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operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

5.6 Garcias_CCS_01_02 Plugging Procedure

1. Move the rig onto the Garcias_CCS_01_02 site and rig up (RU). All CO₂ pipelines will be marked and noted by the rig supervisor prior to moving in.
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge, perform a DTS survey through the fiber optic cable installed alongside the casing, and calculate the kill fluid density. If the fiber optic cables are not functioning, skip this step and proceed with the methods described above for mechanical integrity evaluation after the tubing is pulled.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at █ ft.

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11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Plug #3: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
16. Plug #4: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
17. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
19. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
20. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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Appendix A: Monitoring, Water Production, Water Disposal and USDW Well P&A

The proposed plugging and abandonment procedures and schematics for [REDACTED]

[REDACTED]

A.1 [REDACTED]

Table PLG-7: [REDACTED] cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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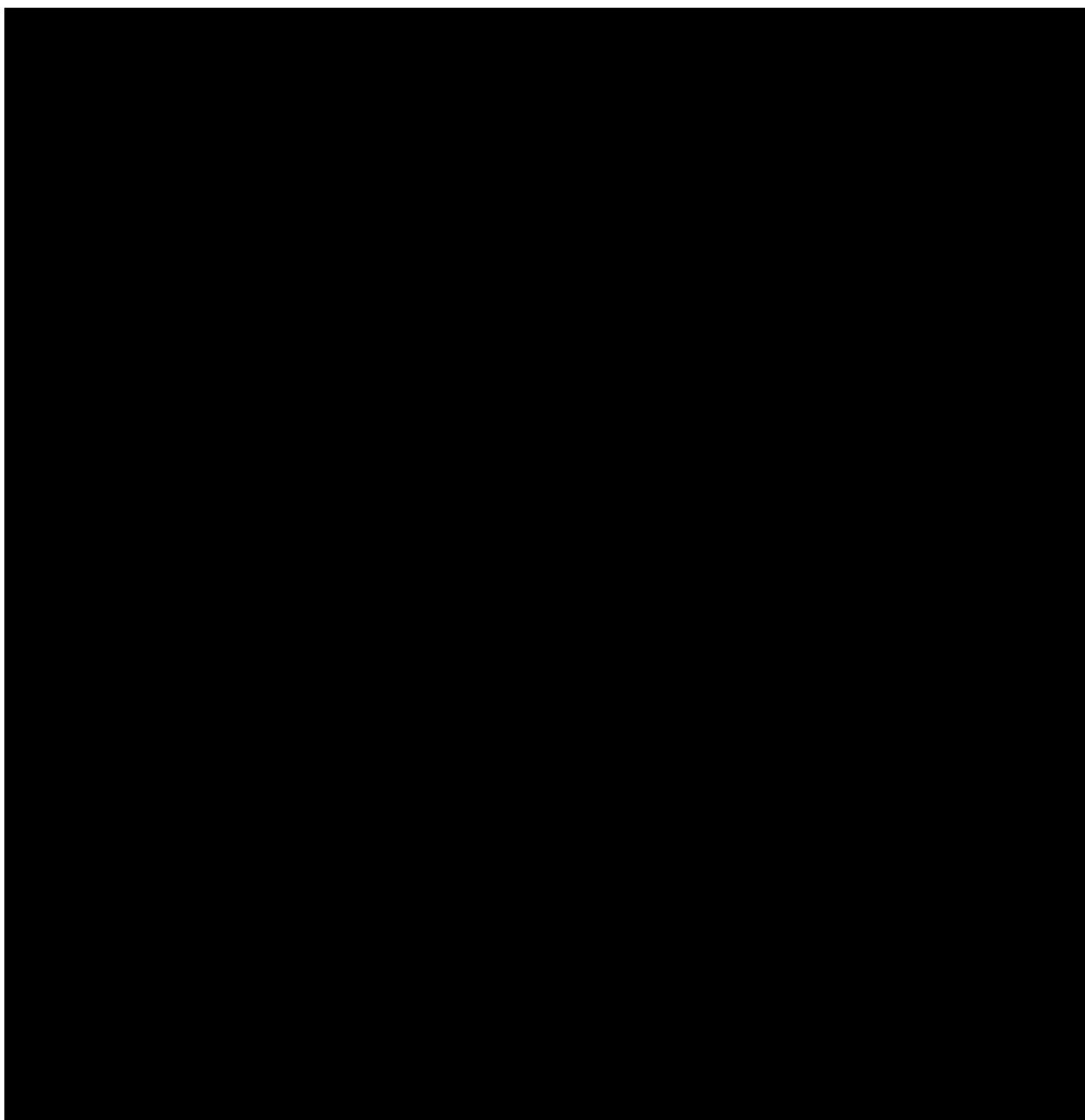


Figure PLG-7: [REDACTED] plug design and schematic.

Plugging Procedure

1. Move the rig onto the [REDACTED] site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP

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measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.

5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.

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15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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A.2 **Details**

Table PLG-8: **██████████** cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████	██████████

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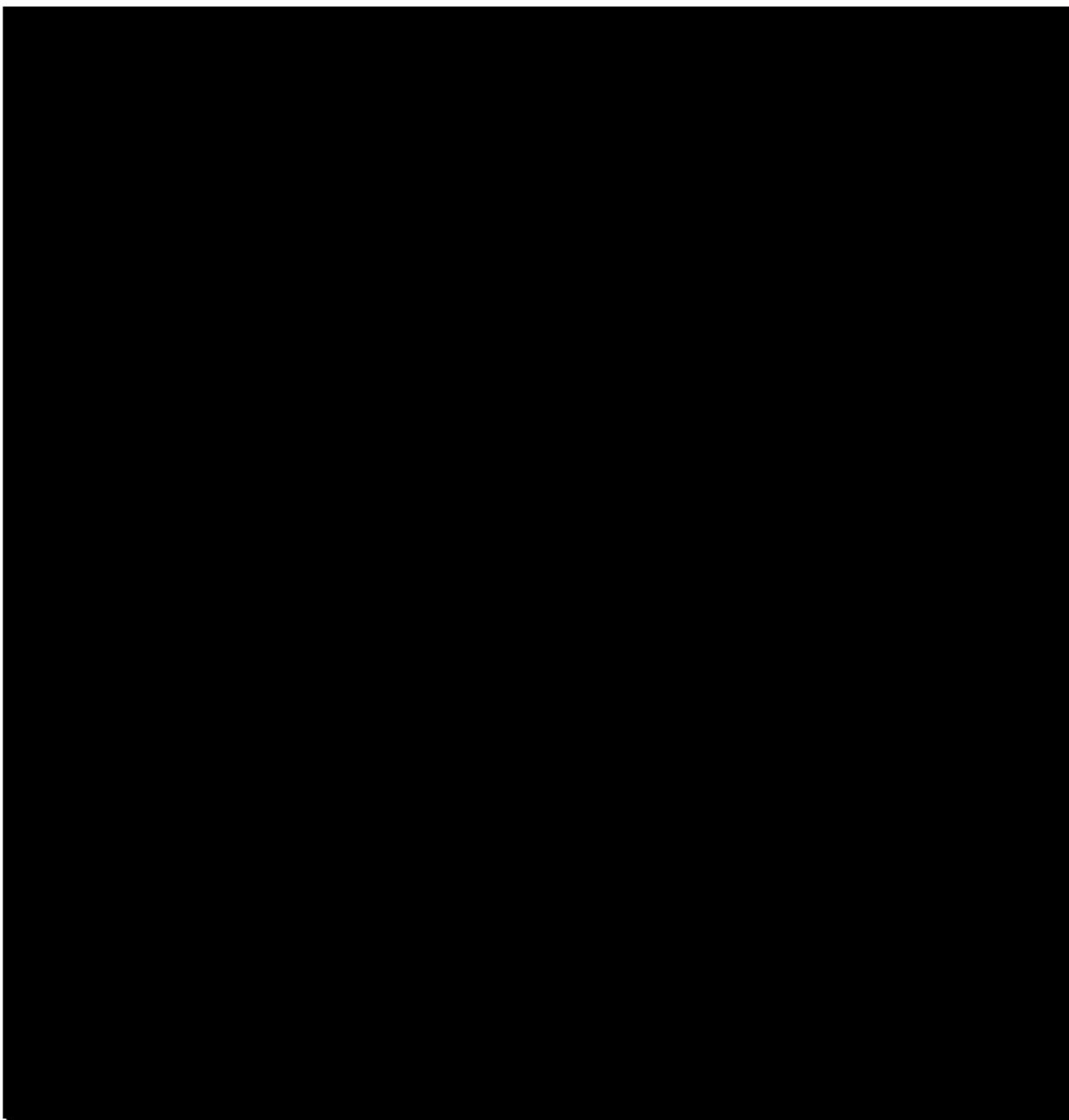


Figure PLG-8: [REDACTED] plug design and schematic.

Plugging Procedure

1. Move the rig onto the [REDACTED] site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP

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measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.

5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.

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15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #4: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
18. Plug #5: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
19. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
21. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
22. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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A.3. [REDACTED] Details

Table PLG-9: [REDACTED] cement plug information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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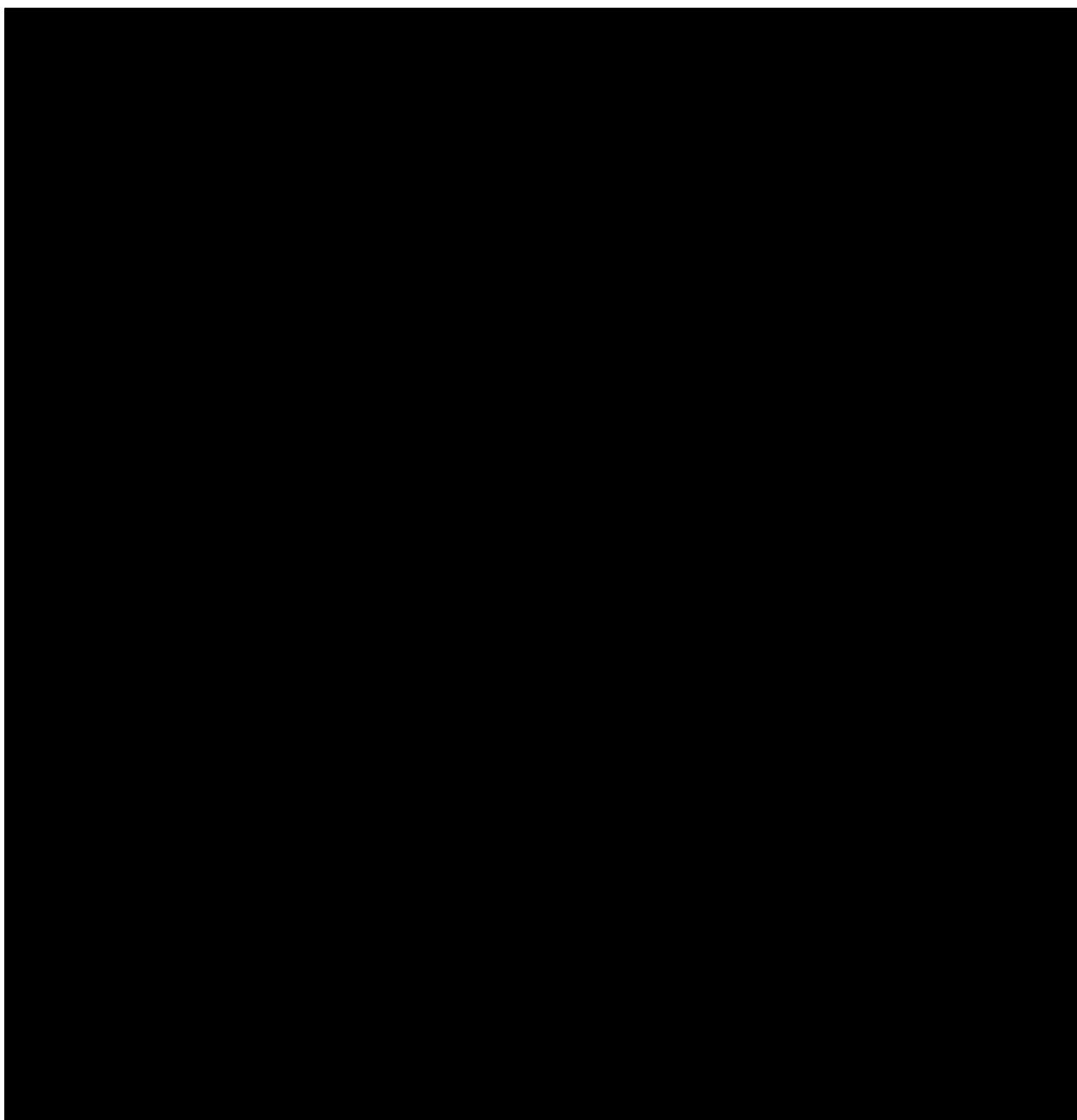


Figure PLG-9: [REDACTED] plug design and schematic.

Plugging Procedure

1. Move the rig onto the [REDACTED] site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density.

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4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

10. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
11. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
12. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer

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and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.

15. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Trip in hole with the work string and cement retainer to the top of plug #4 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
18. Plug #4: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
19. Plug #5: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
20. Plug #6: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the two-stage cementing tool ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug.
21. Plug #7: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
22. Plug #8: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
23. Plug #9: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
24. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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A.4 Garcias IZM 01 Details

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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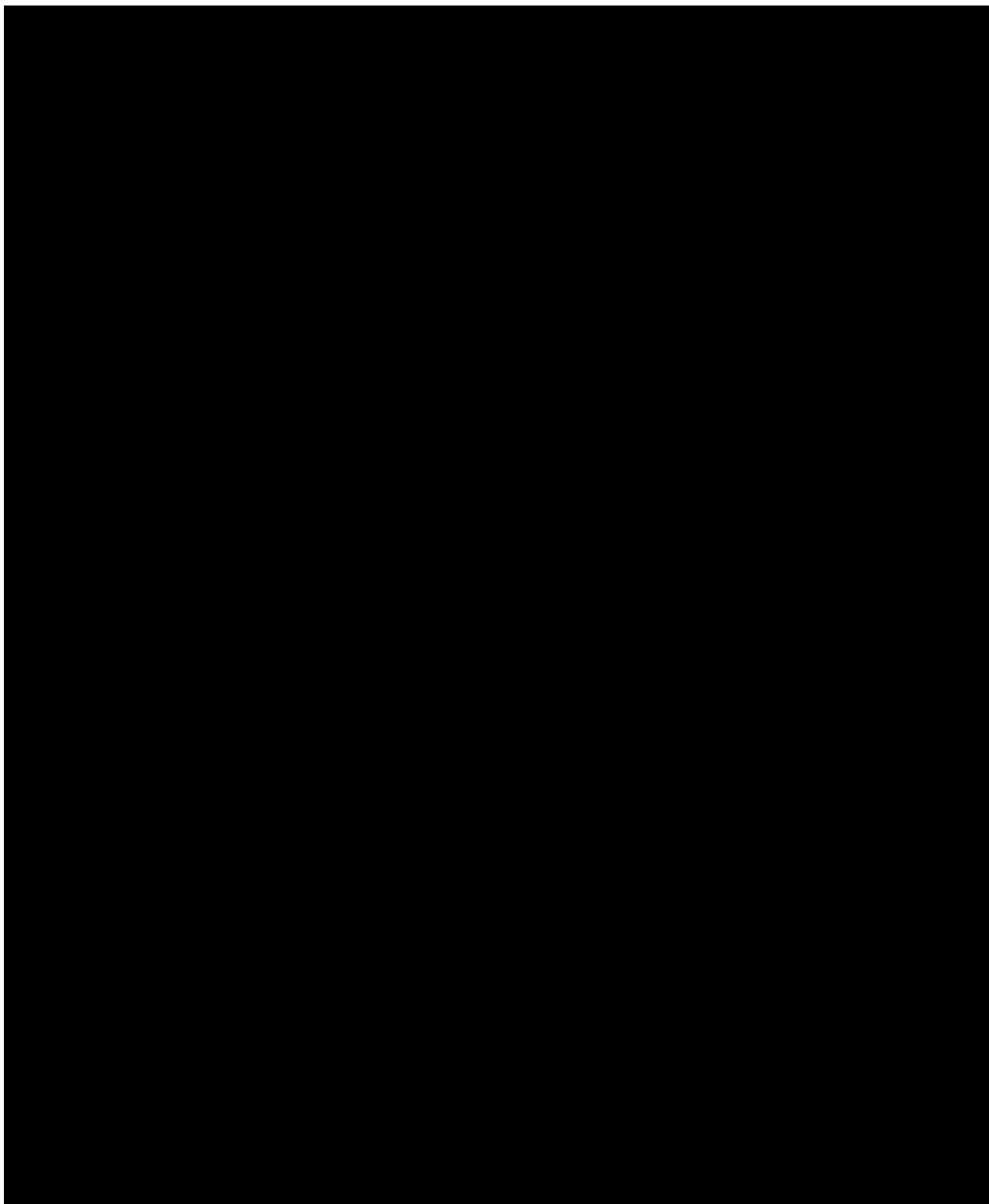


Figure PLG-10: Garcias IZM 01 current schematic.

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Table PLG-10: Garcias IZM 01 [REDACTED] **Cement Plug Information.**

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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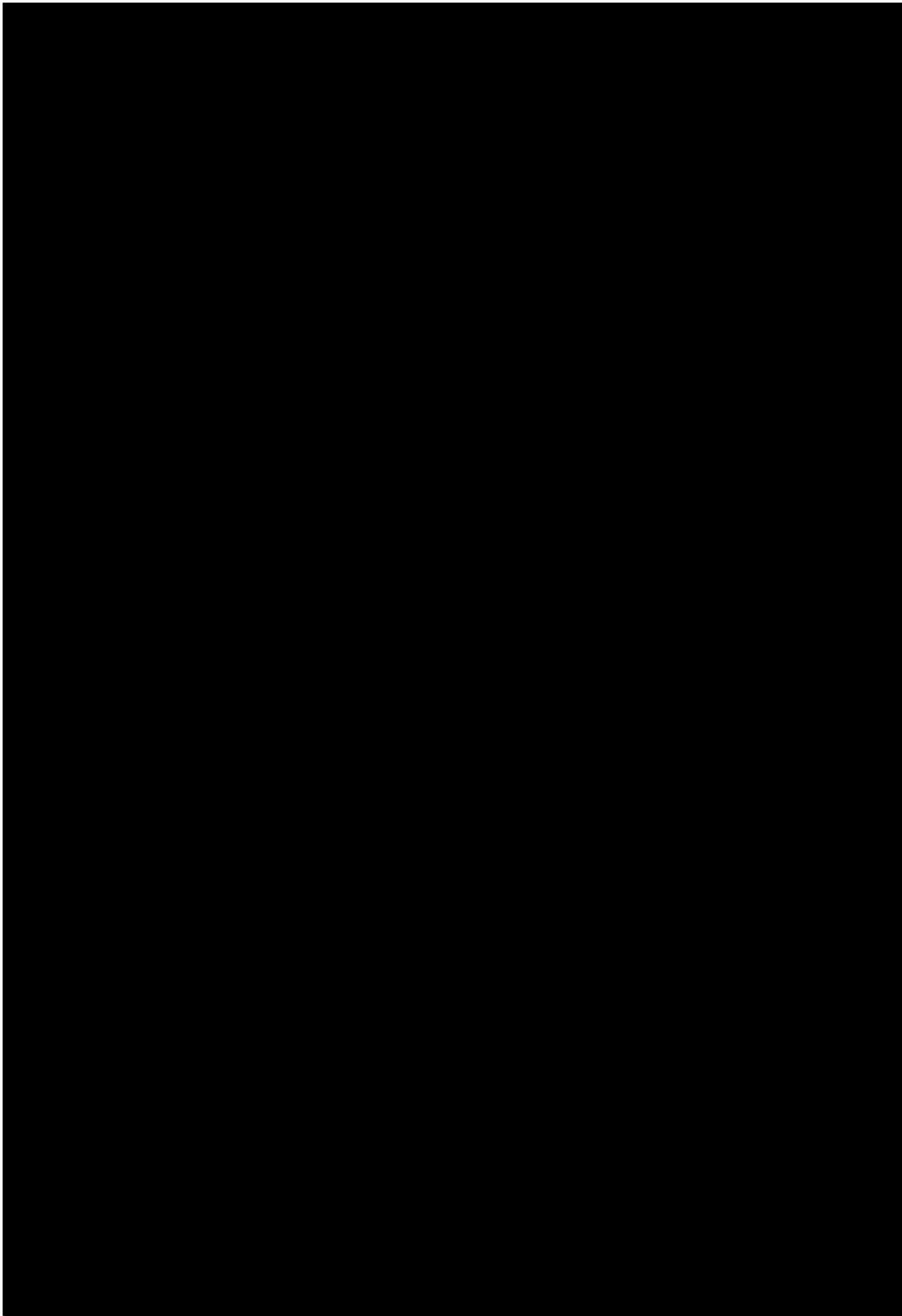


Figure PLG-11: Garcias IZM 01 [REDACTED] plug design and schematic.

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Plugging procedure

1. Move the rig onto the Garcias IZM 01 site and rig up (RU).
2. Conduct and document a safety meeting.
3. Test the pump and surface lines to 5,000 psi. Test the casing to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

4. If the casing is controlled, then nipple up the BOPs.
5. Pick up the work string and trip in hole with the bit to drill out the composite bridge plugs (CBPs) and condition the wellbore.
6. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

7. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
8. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
9. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
10. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
11. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
12. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
13. Trip in hole with the work string and cement retainer to the top of plug #3 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.

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14. Plug #3: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Trip in hole with the work string and cement retainer to the top of plug #4 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
16. Plug #4: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
17. Plug #5: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull up out of the hole.
18. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
19. Lay down the work string. Rig down all equipment and move out.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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A.5 [REDACTED] **Details**

Table PLG- 11: [REDACTED] Cement Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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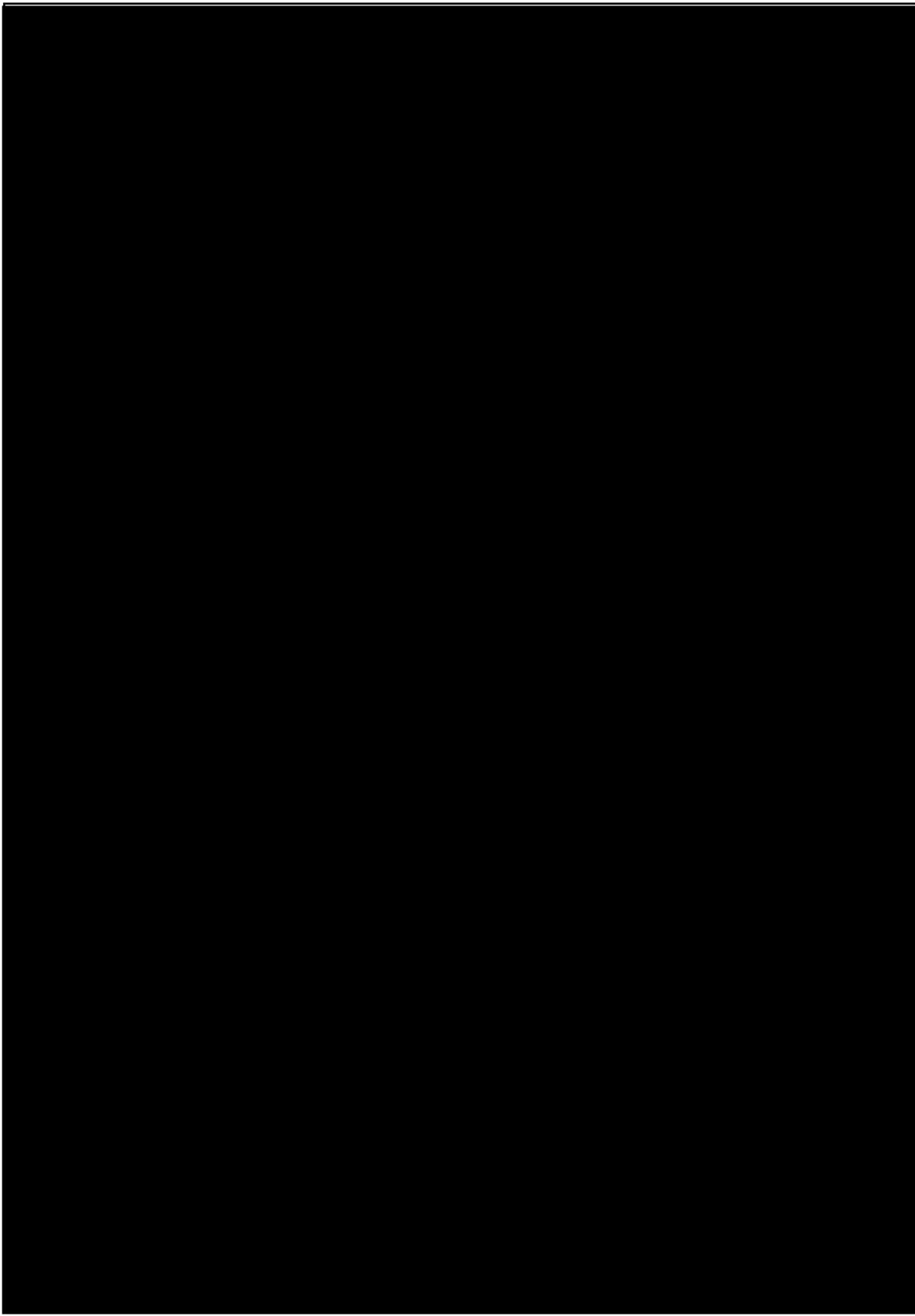


Figure PLG-12: [REDACTED] plug design and schematic.

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Plugging Procedure

1. Move the rig onto the [REDACTED] site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density
4. Test the pump and surface lines to 5,000 psi.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.
7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.
9. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
10. Plug #1: Mix and pump [REDACTED] ppg Class G cement slurry to squeeze and seal the perforations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg Class G cement slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
11. Plug #2: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe [REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
12. Plug #3: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.
13. Plug #4: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).
14. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

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The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

A.6 Becerra IZM 01 (Temporary Status IZM) Details

The Becerra IZM 01 will be used [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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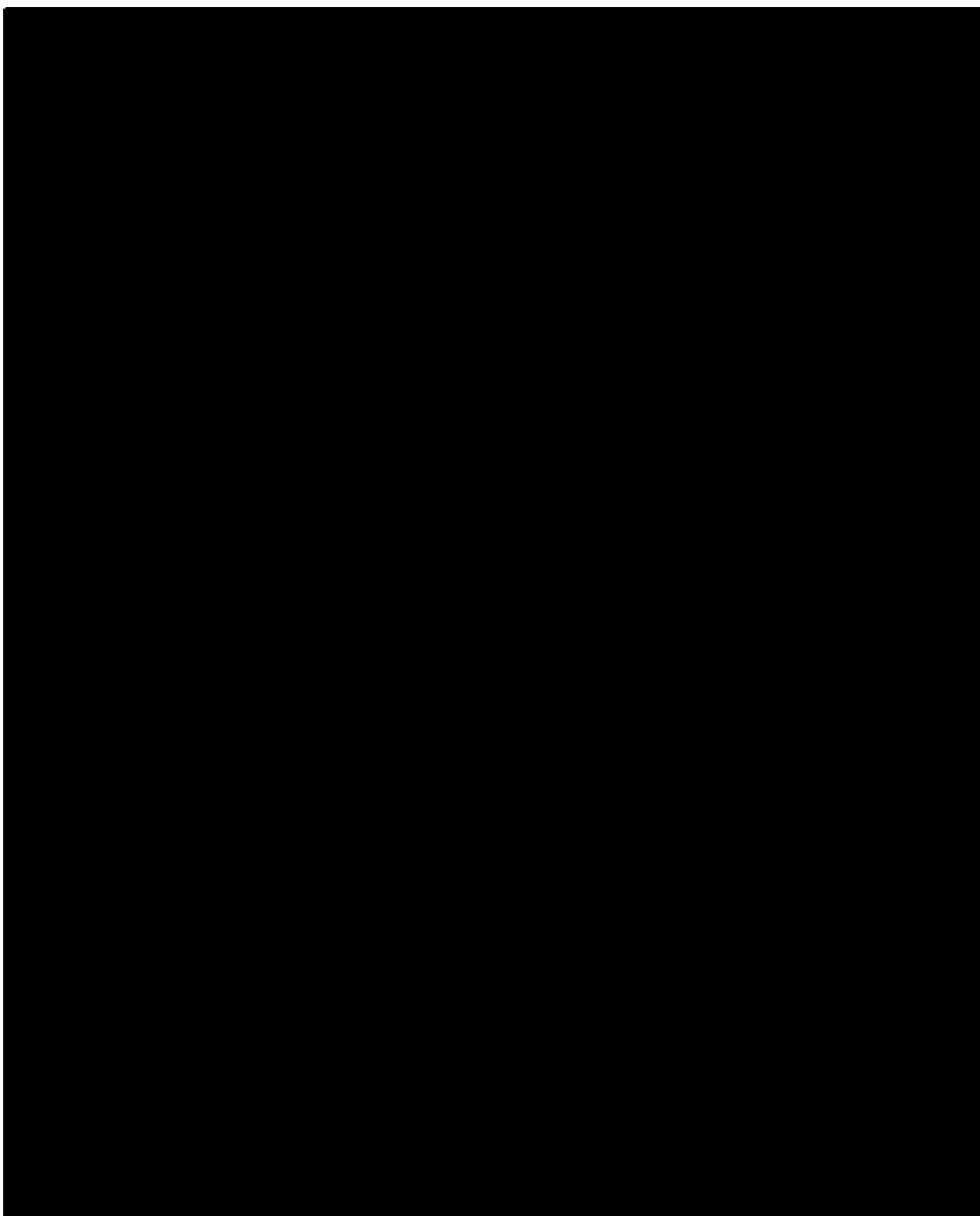


Figure PLG-13: Becerra IZM 01 schematic.

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Table PLG-12: Becerra IZM 01 (Temporary Status IZM) Cement Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)

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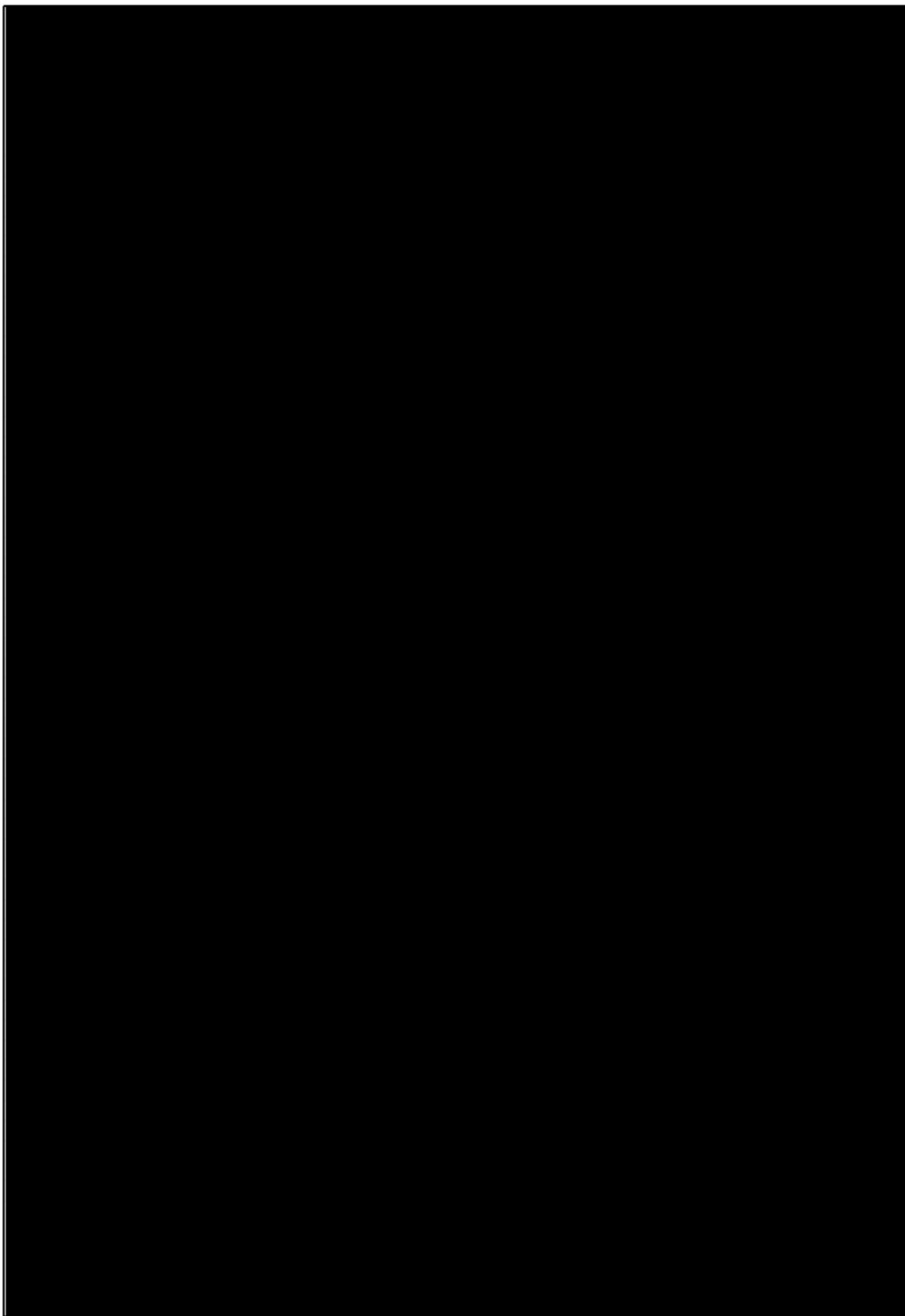


Figure PLG-14: Becerra IZM 01/ [REDACTED] plug design and schematic.

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Plugging Procedure

1. Move the rig onto the Becerra IZM 01 site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density.
4. Test the pump and surface lines to 5,000 psi. Fill the tubing and flush the well with at least three times the tubing volume of kill/buffer fluid with the density determined using the BHP measurement. It may be necessary to bleed off occasionally to remove all air from the system. Monitor the tubing and annular pressure continuously.
5. If both the casing and tubing are controlled, then nipple up the BOPs.
6. Pull out of the hole and lay down tubing, cable, and sensors.
7. Pick up the work string and trip in hole with the bit to condition the wellbore.
8. Pull out of the hole and rig up the logging unit. Confirm external mechanical integrity by running one of the tests listed below:
 - a. Pulse neutron log
 - b. Noise log
 - c. Temperature log
 - d. DTS/DAS temperature survey (no need for logging unit)

Rig down the logging unit.

9. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
10. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
11. Plug #1: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
12. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.
13. Trip in hole with the work string and cement retainer to the top of plug #2 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.
14. Plug #2: Mix and pump [REDACTED] ppg CO₂-resistant slurry to squeeze and seal the perforations in the injection zone of the Frio formations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg CO₂-resistant slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.
15. Plug #3: Set a balanced plug with [REDACTED] ppg CO₂-resistant slurry to cover the Anahuac formations ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull up out of the hole.

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16. Set a cast iron bridge plug (CIBP) at [REDACTED] ft.

17. Lay down the work string. Rig down all equipment and move out.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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A.7 [REDACTED] Details

Table PLG-13: [REDACTED] Cement Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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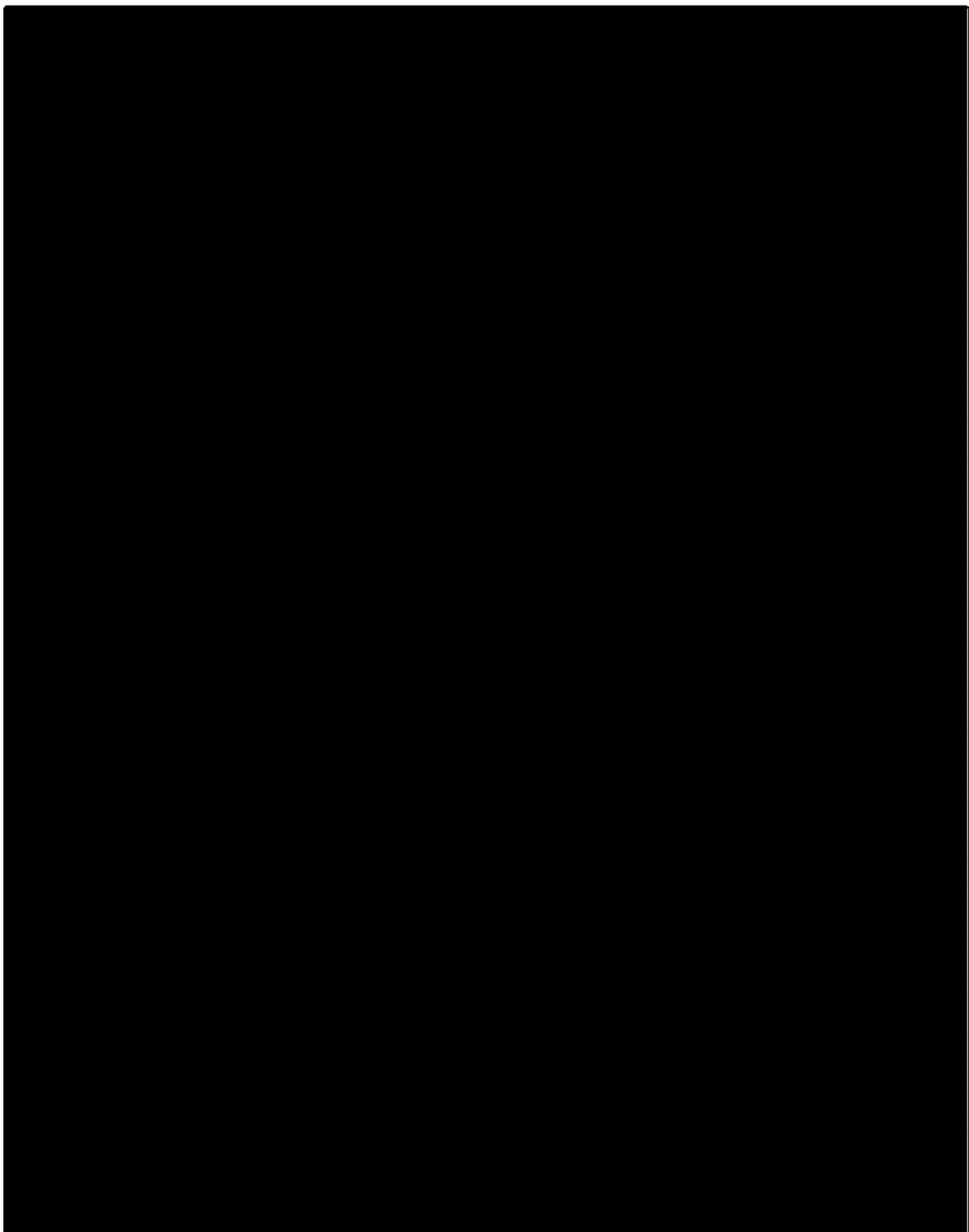


Figure PLG-15: [REDACTED] plug design and schematic.

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Plugging Procedure

1. Move the rig onto the [REDACTED] site and rig up (RU).
2. Conduct and document a safety meeting.
3. Record the BHP from the downhole gauge and calculate the kill fluid density
4. Test the pump and surface lines to 5,000 psi.
5. Test the casing annulus to 500 psi and monitor for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

Note: If a failure in the long-string casing is identified, the Kleberg Hub will prepare a plan to repair the well before it is plugged and abandoned.

6. If both the casing and tubing are controlled, then nipple up the BOPs.

7. Pull out of the hole and lay down tubing, packer, cable, and sensors.

Contingency: If unable to release the tubing and retrieve the packer, rig up a lubricator and slickline and set a plug in the lower profile nipple below the packer. Rig up an electric line and make a cut on the tubing string just above the packer. The cut must be made at least 5–10 ft above the packer. Circulate with kill mud. Then pull the work string out of the hole and proceed recovering the packer with the work string. If problems are noted, update the cement remediation plan. A cement retainer will be used to force the cement in case the packer cannot be removed.

8. Pick up the work string and trip in hole with the bit to condition the wellbore.

9. Trip in hole with the work string and cement retainer to the top of plug #1 at [REDACTED] ft. Circulate the well, set the retainer, and perform an injectivity test. Rig up equipment for cementing operations.

10. Plug #1: Mix and pump [REDACTED] ppg Class G cement slurry to squeeze and seal the perforations from [REDACTED] ft. Disconnect from the retainer and check the flow. Spot [REDACTED] ppg Class G cement slurry on top of the cement retainer. Pull up above the plug and circulate heavy mud [REDACTED] ppg. Pull up out of the hole.

11. Plug #2: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the surface casing shoe ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.

12. Plug #3: Set a balanced plug with [REDACTED] ppg Class G cement slurry to cover the base of the USDW ([REDACTED] ft). Pull up above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.

13. Plug #4: Set a balanced plug with [REDACTED] ppg Class G cement slurry to isolate the top of the surface casing ([REDACTED] ft).

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14. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

A.8 [REDACTED] **Details**

Table PLG- 14: [REDACTED] Cement Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

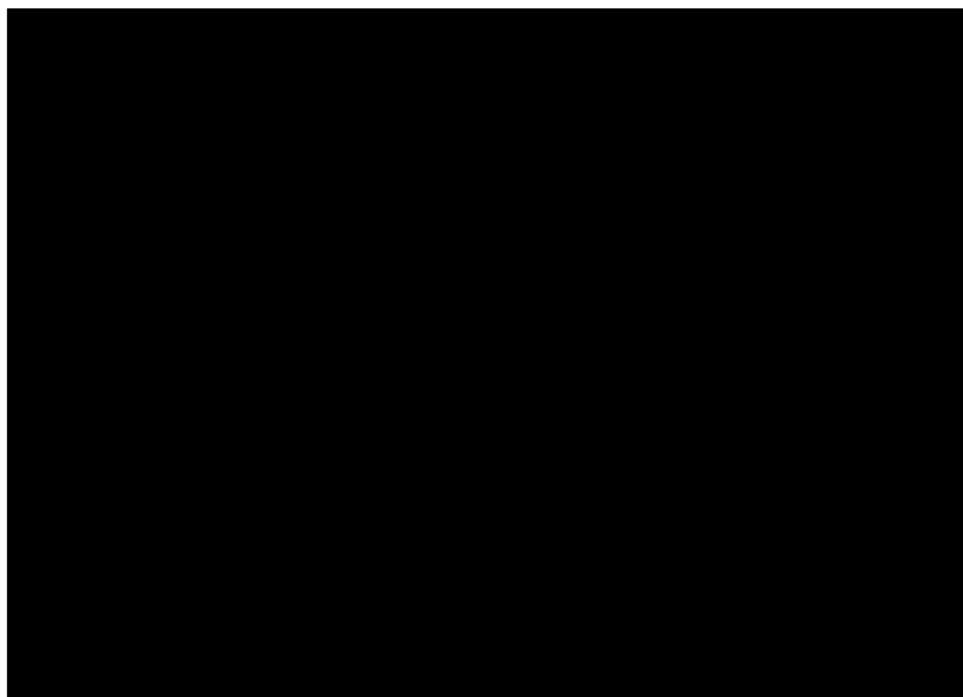


Figure PLG-16: [REDACTED] cement plug information.

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Plugging procedure

1. Move in rig onto [REDACTED] site and rig up.
2. Conduct and document a safety meeting.
3. Record the surface pressure.
4. Test the pump and surface lines to 5,000 psi.
5. Kill the well if necessary.
6. Pull out of the hole and lay down tubing and pump.
7. Trip in hole with the work string to [REDACTED] ft.
8. Plug #1: Set a balanced plug with [REDACTED] ppg Class A or C cement slurry [REDACTED] ft.
9. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

A.9 [REDACTED] Details

Table PLG-15: [REDACTED] Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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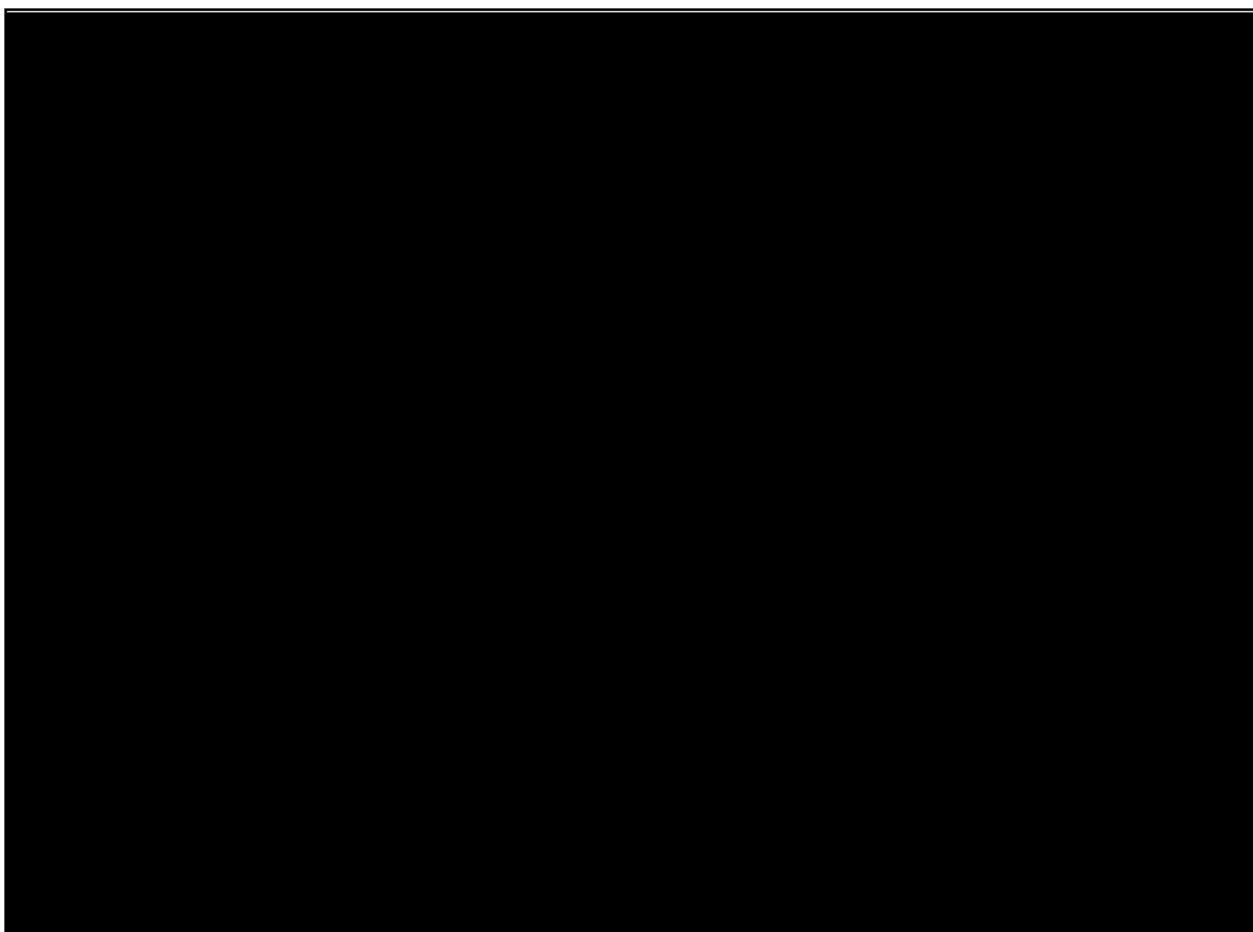


Figure PLG-17: [REDACTED] cement plug information.

Plugging procedure:

1. Move in rig onto [REDACTED] site and rig up.
2. Conduct and document a safety meeting.
3. Record the surface pressure.
4. Test the pump and surface lines to 5,000 psi.
5. Kill the well if necessary.
6. Pull out of the hole and lay down tubing and pump.
7. Trip in hole with the work string to [REDACTED] ft.
8. Plug #1: Set a balanced plug with [REDACTED] ppg Class A or C cement slurry [REDACTED] ft.
9. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful

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plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

A.10 [REDACTED] *Details*

Table PLG-16: [REDACTED] **Cement Plug Information.**

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

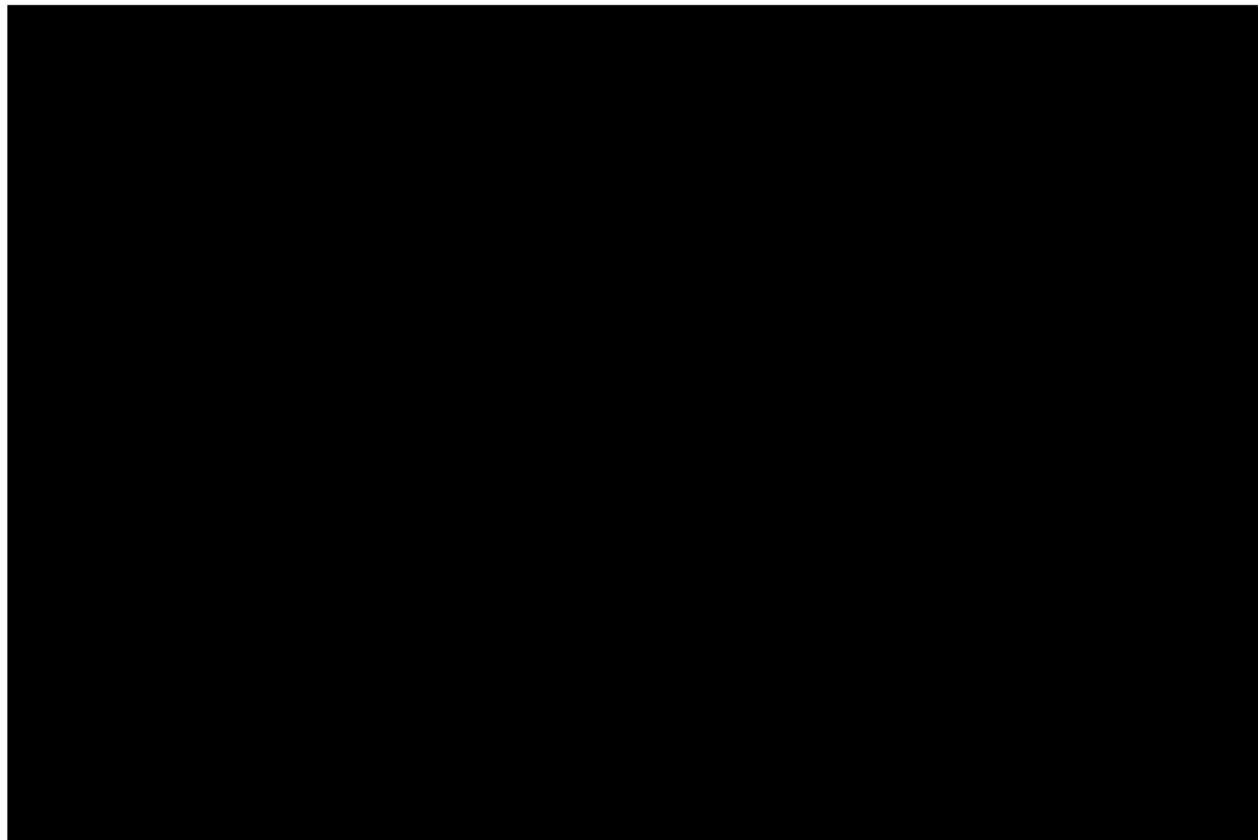


Figure PLG-18: [REDACTED] cement plug information.

Plugging Procedure

1. Move in rig onto [REDACTED] site and rig up.
2. Conduct and document a safety meeting.

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3. Record the surface pressure.
4. Test the pump and surface lines to 5,000 psi.
5. Kill the well if necessary.
6. Pull out of the hole and lay down tubing and pump.
7. Trip in hole with the work string to [REDACTED] ft.
8. Plug #1: Set a balanced plug with [REDACTED] ppg Class A or C cement slurry [REDACTED] ft.
9. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

A.11 [REDACTED] Details

Table PLG-17: [REDACTED] Plug Information.

Plug No.	Type Slurry	ID (in.)	Placement Method	Depth top (ft)	Depth bottom (ft)	Density (ppg)	Sacks	Excess (%)	Yield (ft ³ /sx)
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

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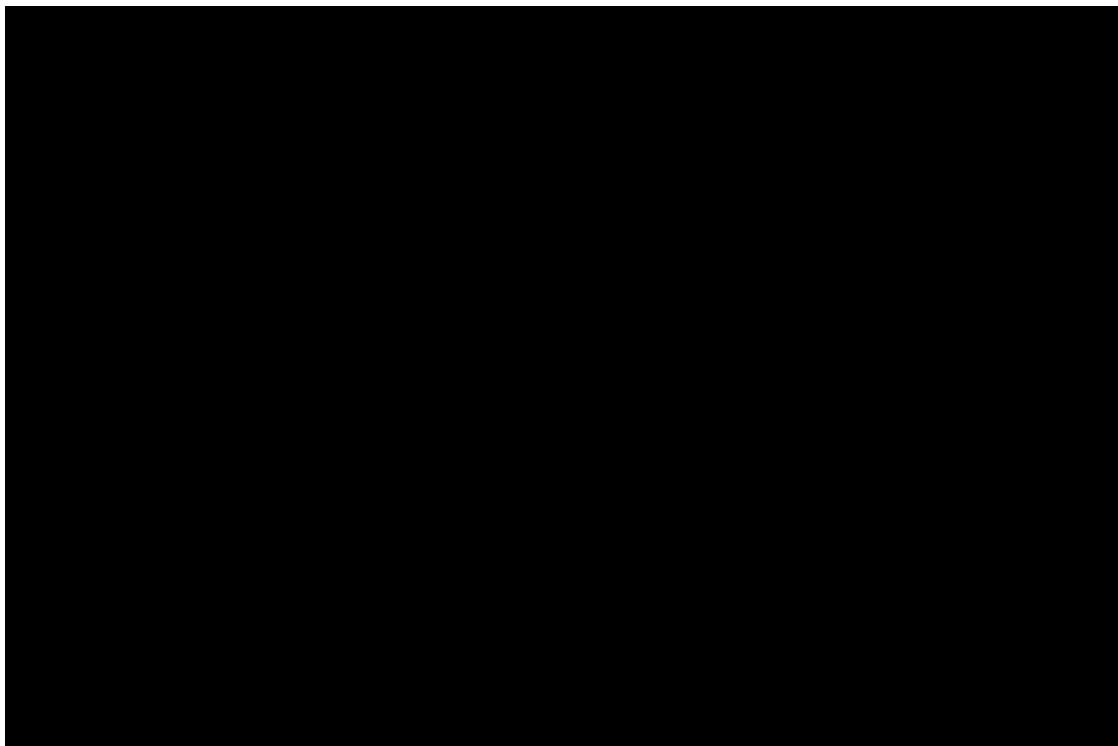


Figure PLG-19: [REDACTED] cement plug information.

Plugging Procedure

1. Move in rig onto [REDACTED] site and rig up.
2. Conduct and document a safety meeting.
3. Record the surface pressure.
4. Test the pump and surface lines to 5,000 psi.
5. Kill the well if necessary.
6. Pull out of the hole and lay down tubing and pump.
7. Trip in hole with the work string to [REDACTED] ft.
8. Plug #1: Set a balanced plug with [REDACTED] ppg Class A or C cement slurry [REDACTED] t.
9. Lay down the work string. Rig down all equipment and move out. Cut the casing 5 ft below the ground. Clean the cellar so a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary based on operational and technical conditions in the well at the time to complete a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

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Appendix B: Example of CO₂ Resistant Cement Formulation for Plug and Abandonment.



Figure PLG-20: Example CO₂-resistant cement formulation for plug and abandonment. Additives such as WellLife and Microbond M may not be required for abandonment plugs.