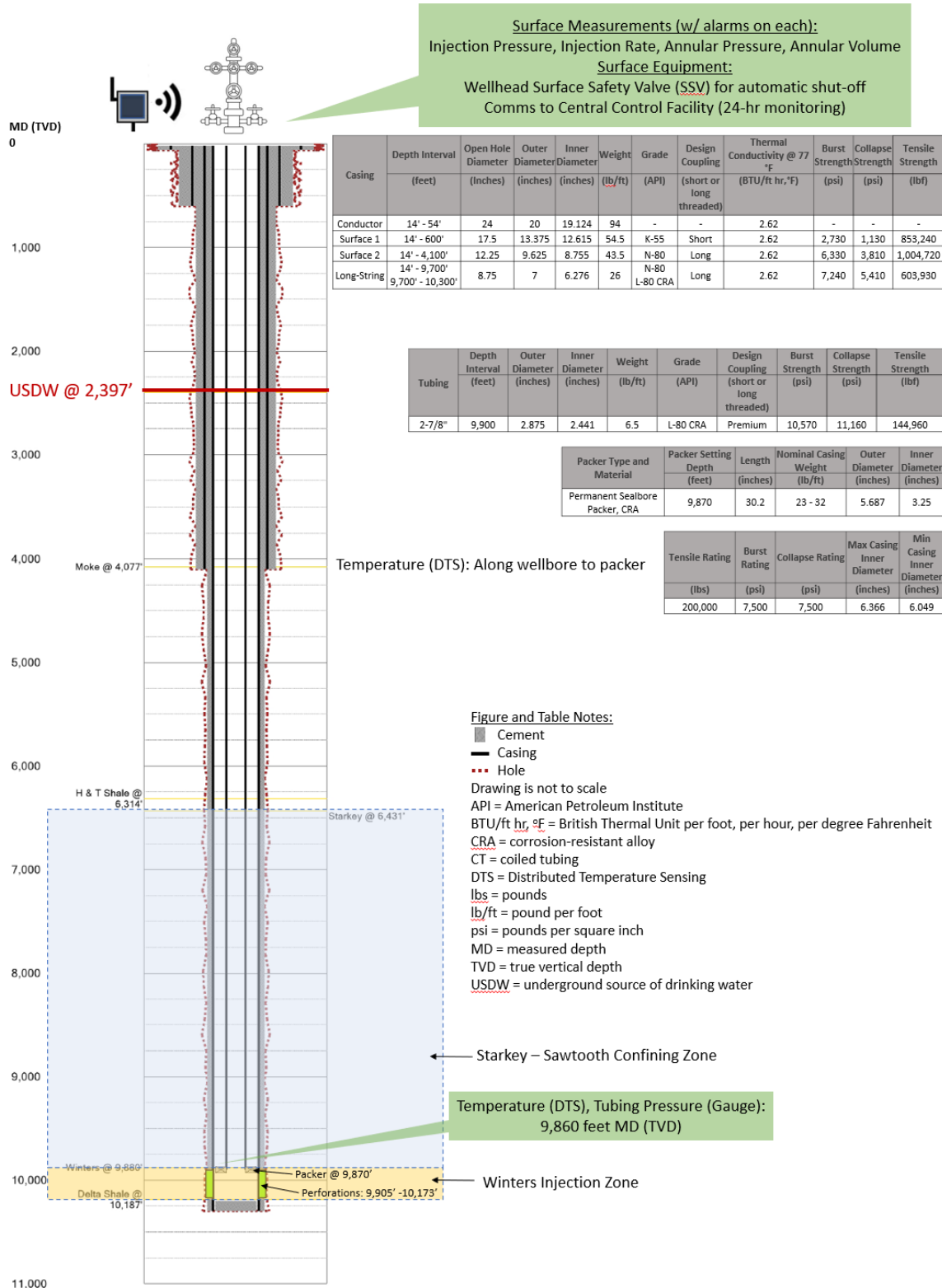


APPENDIX 5: INJECTION AND MONITORING WELL SCHEMATICS CTV II

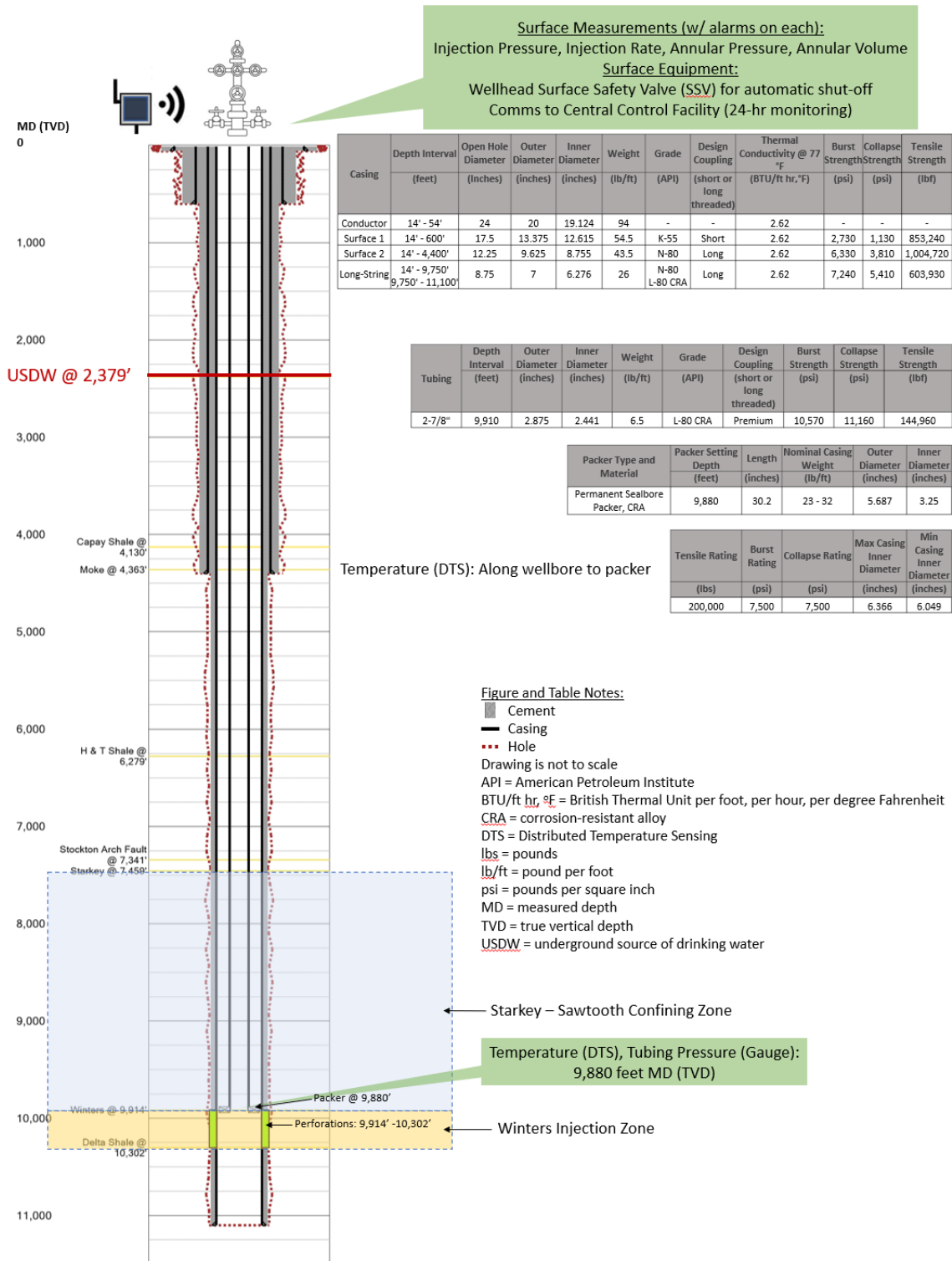
The following schematics (Figures 5-1 through 5-30) provide depictions of the proposed injection and monitoring wells associated with the CTV II project. This includes the well construction details and the type and location of monitoring equipment within the wellbore and relative to the geologic storage complex. Perforations and gross monitoring intervals have been indicated. For wells that have not yet been drilled, actual completion and monitoring intervals will be confirmed during the pre-operations phase of the project.

Additionally, schematics of the proposed abandonment configurations of all injection and monitoring wells show proposed cement plug depths to ensure confinement and non-endangerment of underground sources of drinking water (USDWs). Cement plug descriptions have been provided in tabular format.



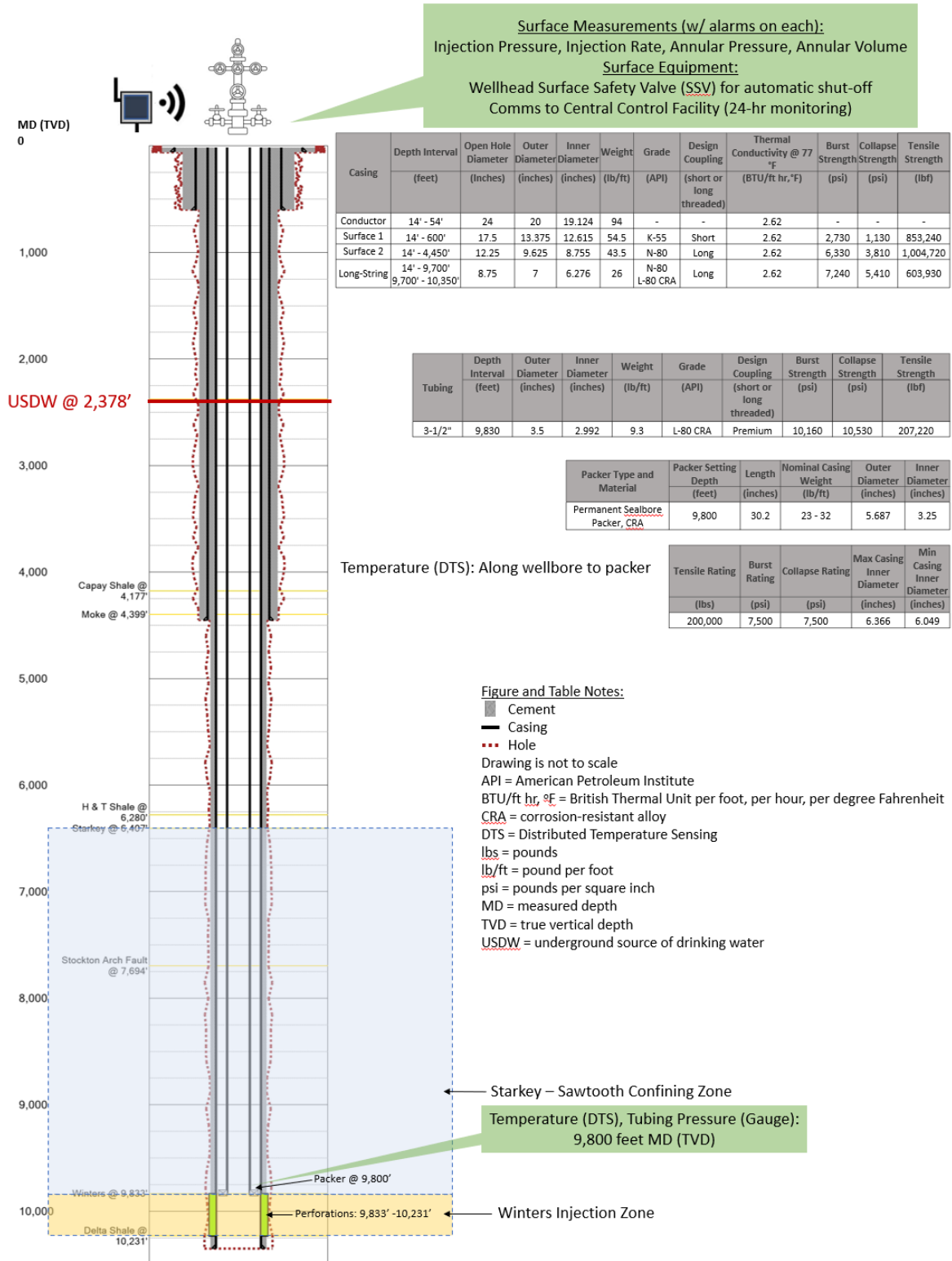
UI-INJ-1, Proposed CO₂ Injection Schematic

Figure 5-1. UI-INJ-1, Proposed CO₂ Injection Schematic.



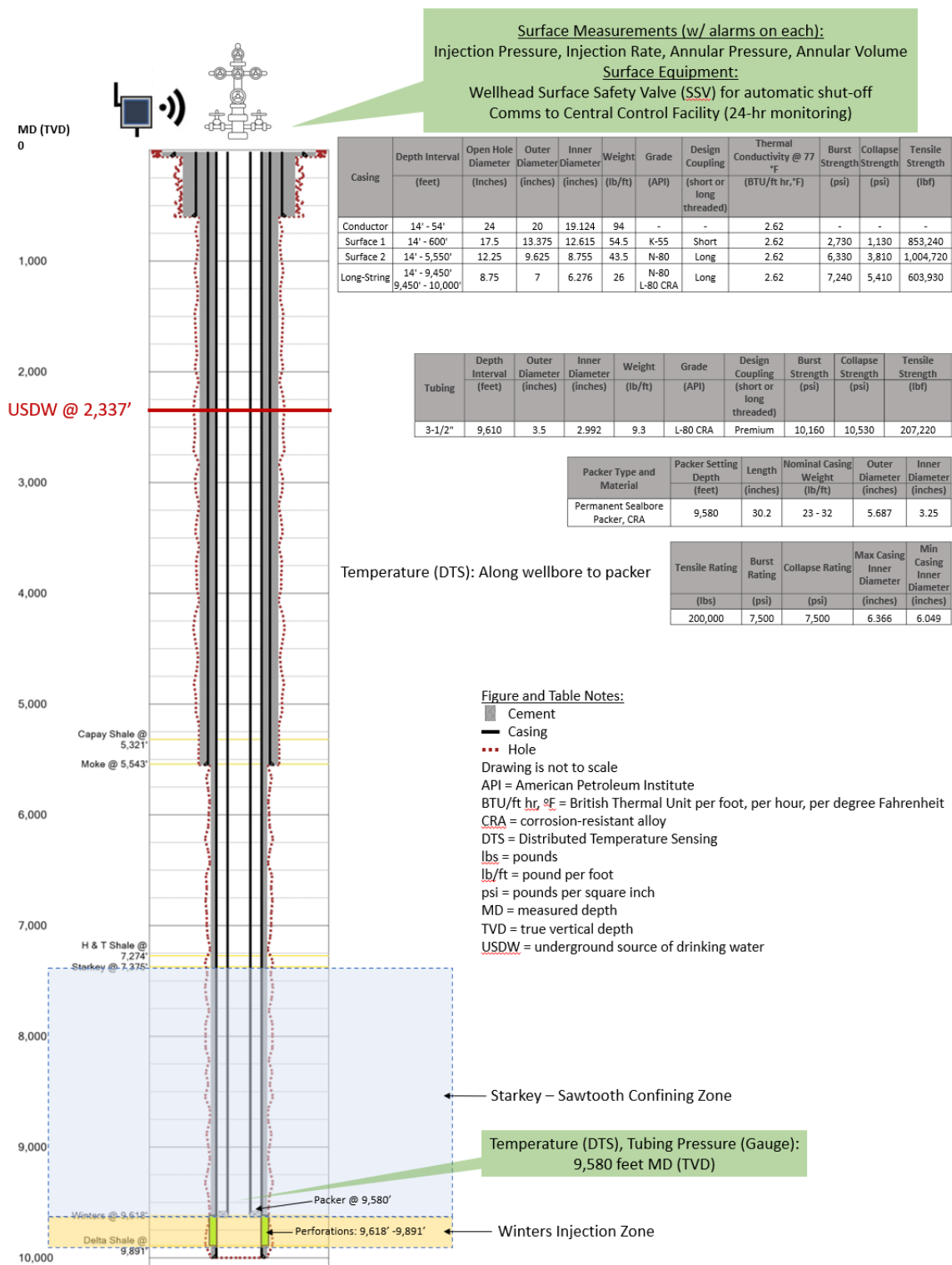
UI-INJ-2, Proposed CO₂ Injection Schematic

Figure 5-2. UI-INJ-2, Proposed CO₂ Injection Schematic.



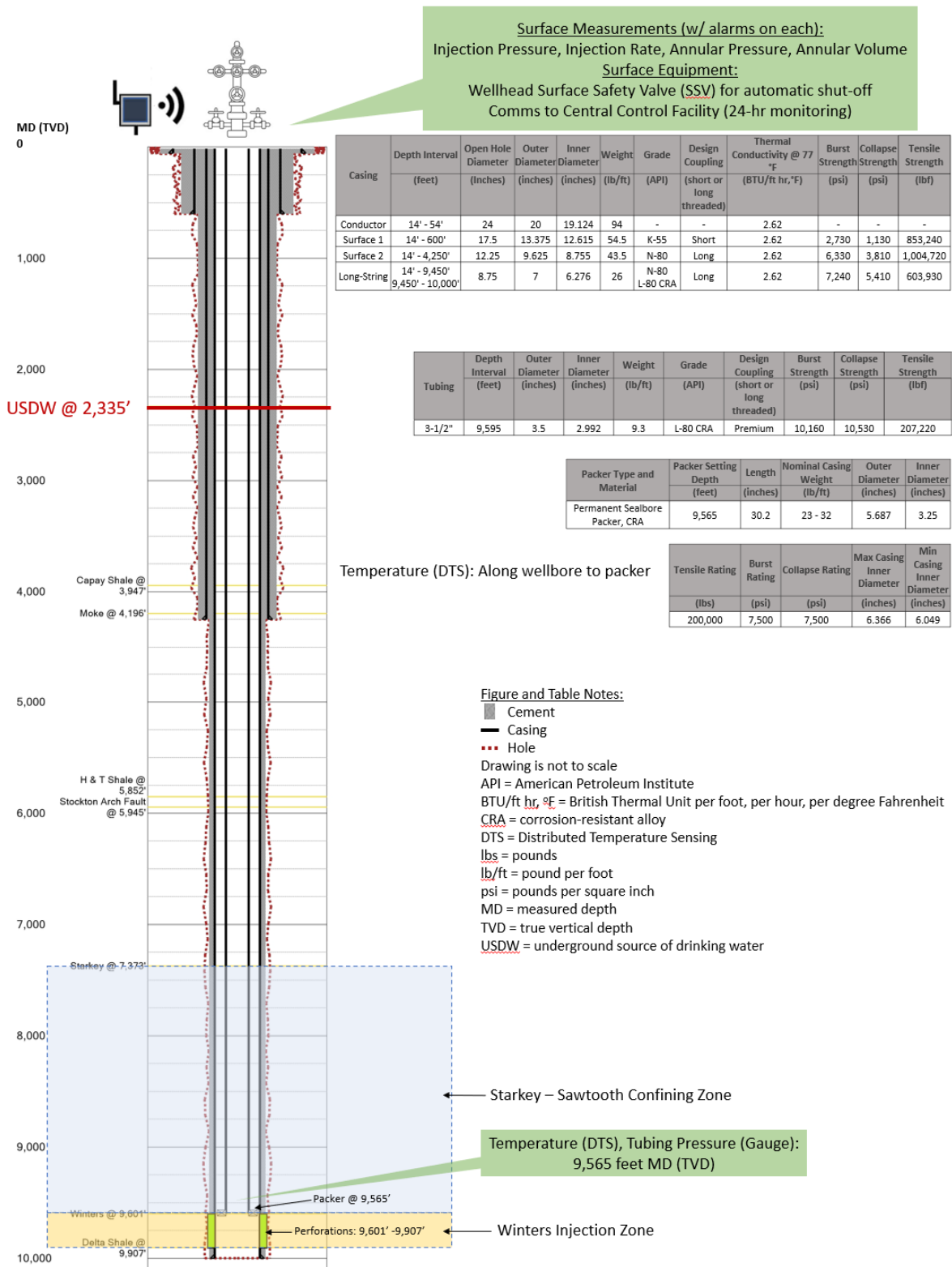
UI-INJ-3, Proposed CO₂ Injection Schematic

Figure 5-3. UI-INJ-3, Proposed CO₂ Injection Schematic.



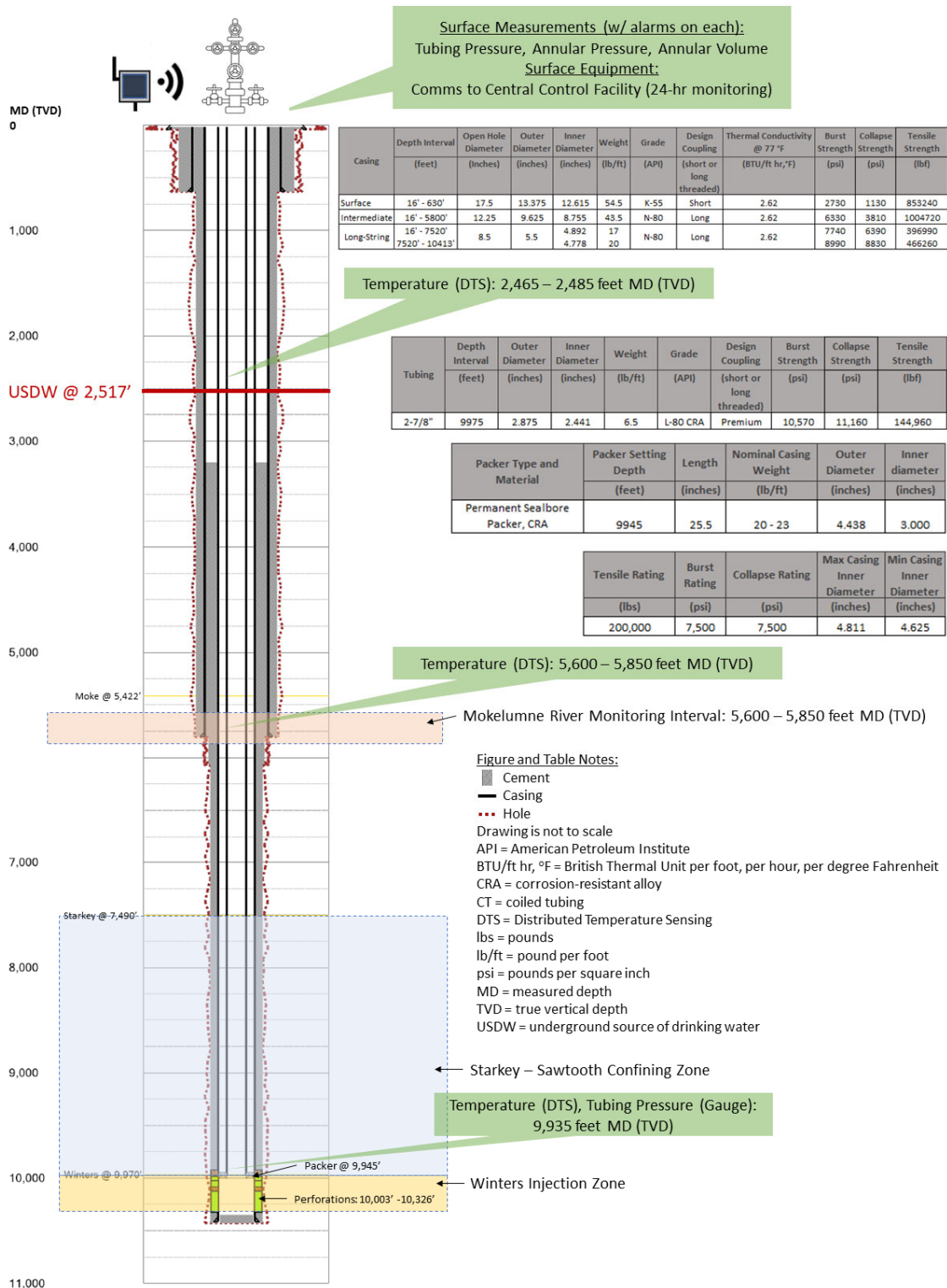
UI-INJ-4, Proposed CO₂ Injection Schematic

Figure 5-4. UI-INJ-4, Proposed CO₂ Injection Schematic.



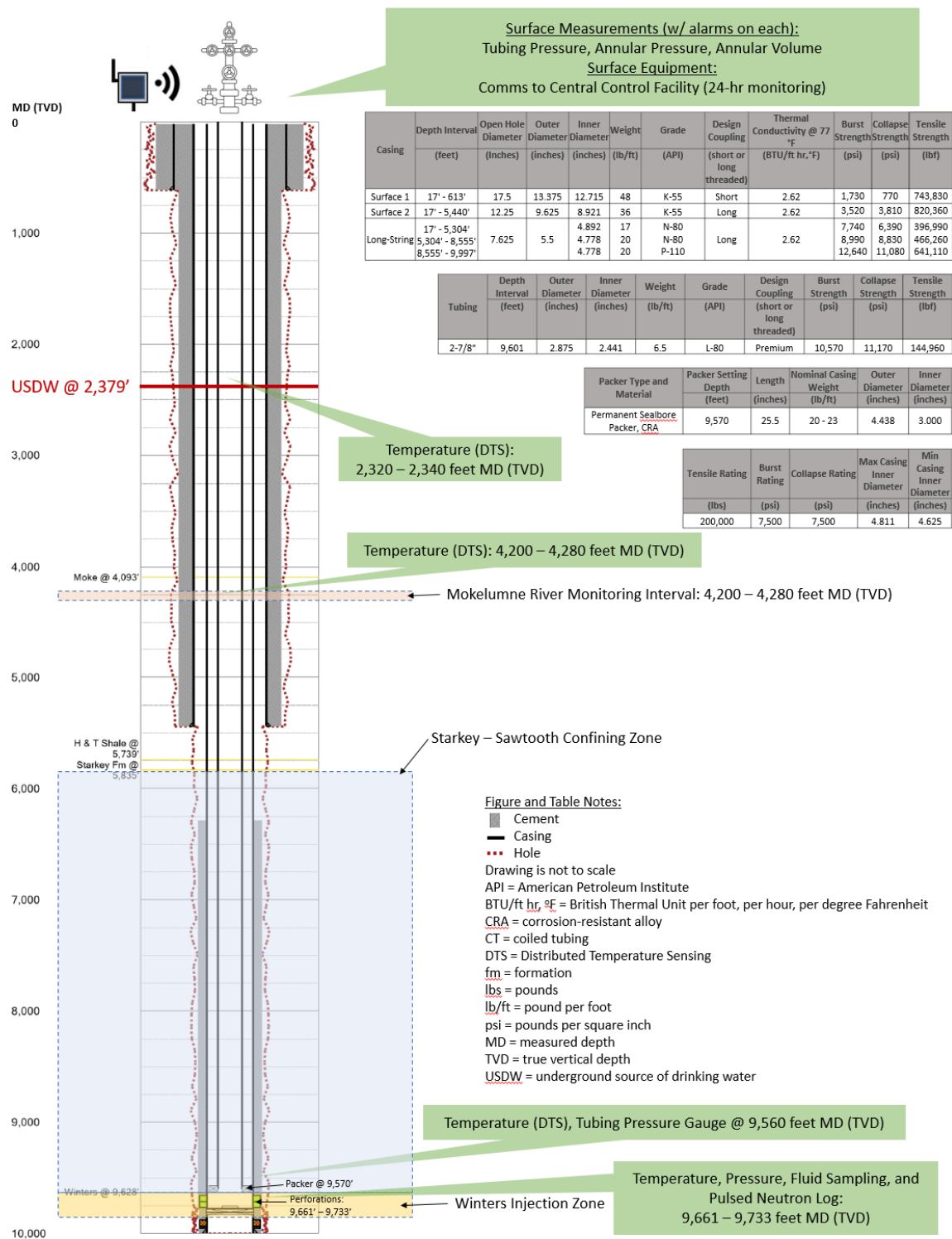
UI-INJ-5, Proposed CO₂ Injection Schematic

Figure 5-5. UI-INJ-5, Proposed CO₂ Injection Schematic.



Cement specifications: 5-1/2" cemented with 1,147 ft³ 1:1 Pozmix, 2% Gel, 0.75% CFR-2, 0.1% HR-7 and 311 ft³ Class 'G' with 0.75% CFR-2, 0.1% HR-7

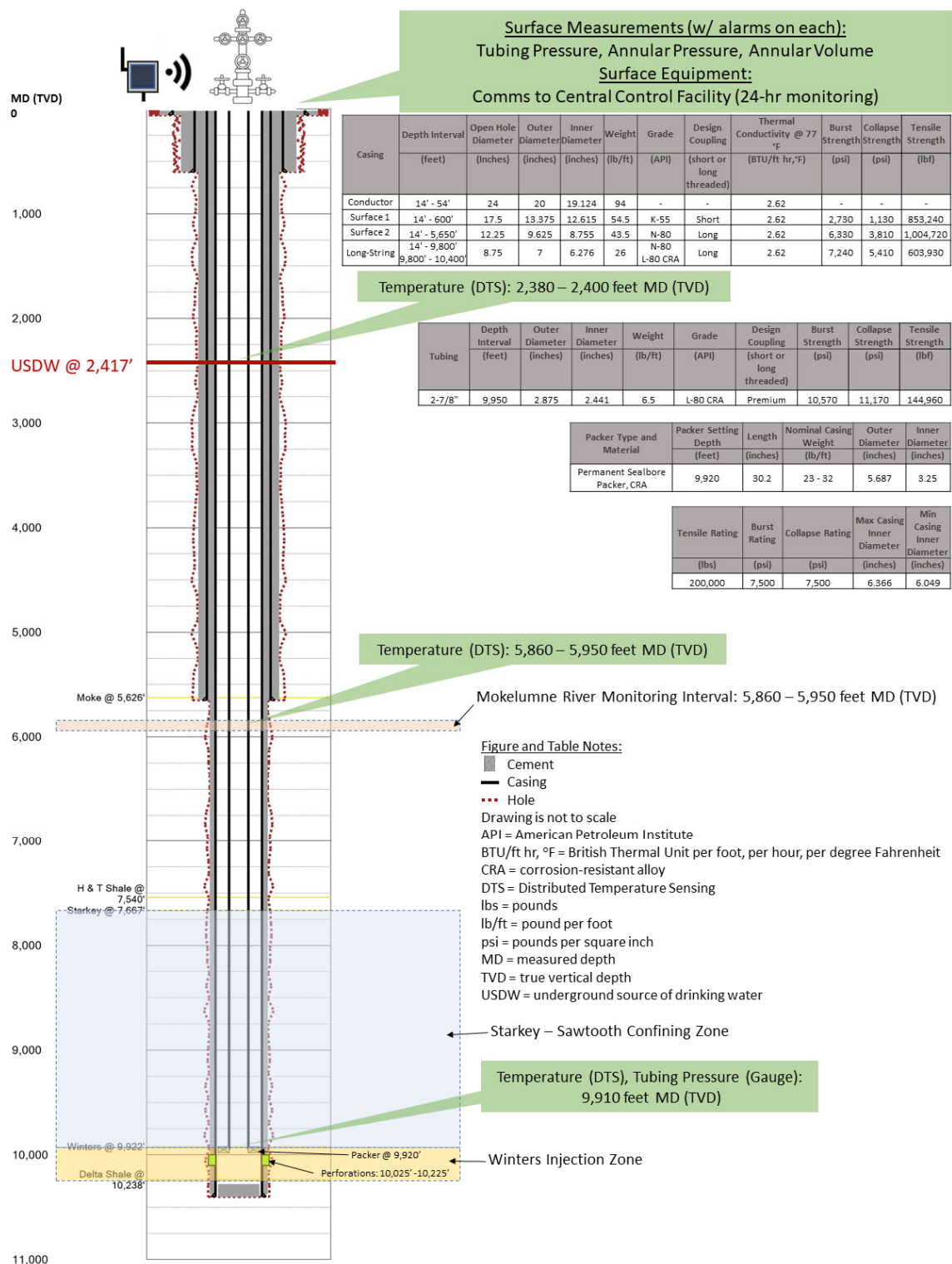
Figure 5-6. Yamada Brothers 2, Proposed Injection Zone Monitoring Schematic.



Sonol Securities 4, Proposed Injection Zone Monitoring Schematic

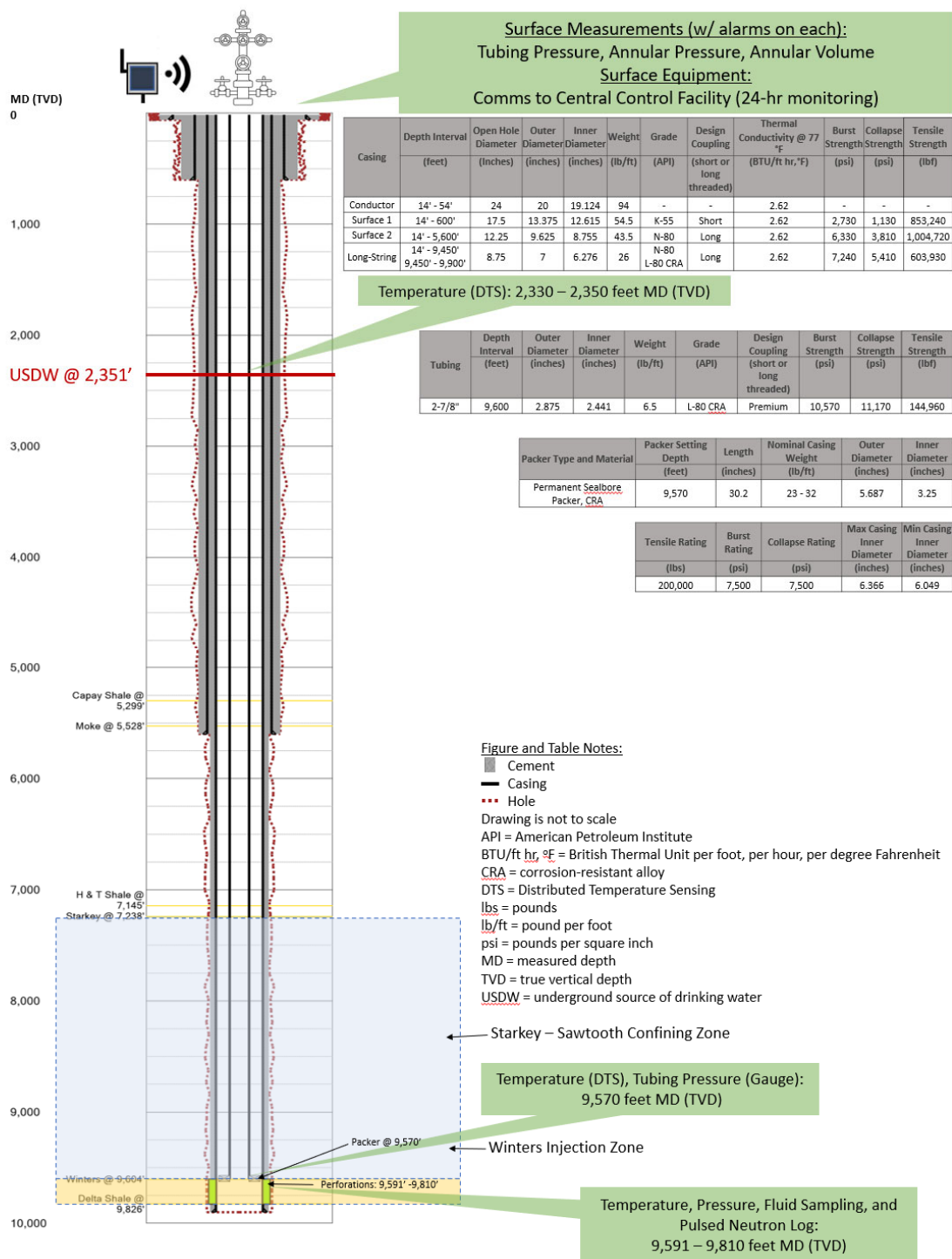
Cement specifications: 5-1/2" cemented with 217 sacks neat cement premixed with 0.75% CFR-2, 0.01% HR-7 and 343 sacks neat cement premixed with 0.75% CFR-2, 0.02% HR-7

Figure 5-7. Sonol Securities 4, Proposed Injection Zone Monitoring Schematic.



Cement specifications: 5-1/2" cemented with a Portland cement volume required to fill the annulus from the casing shoe to surface

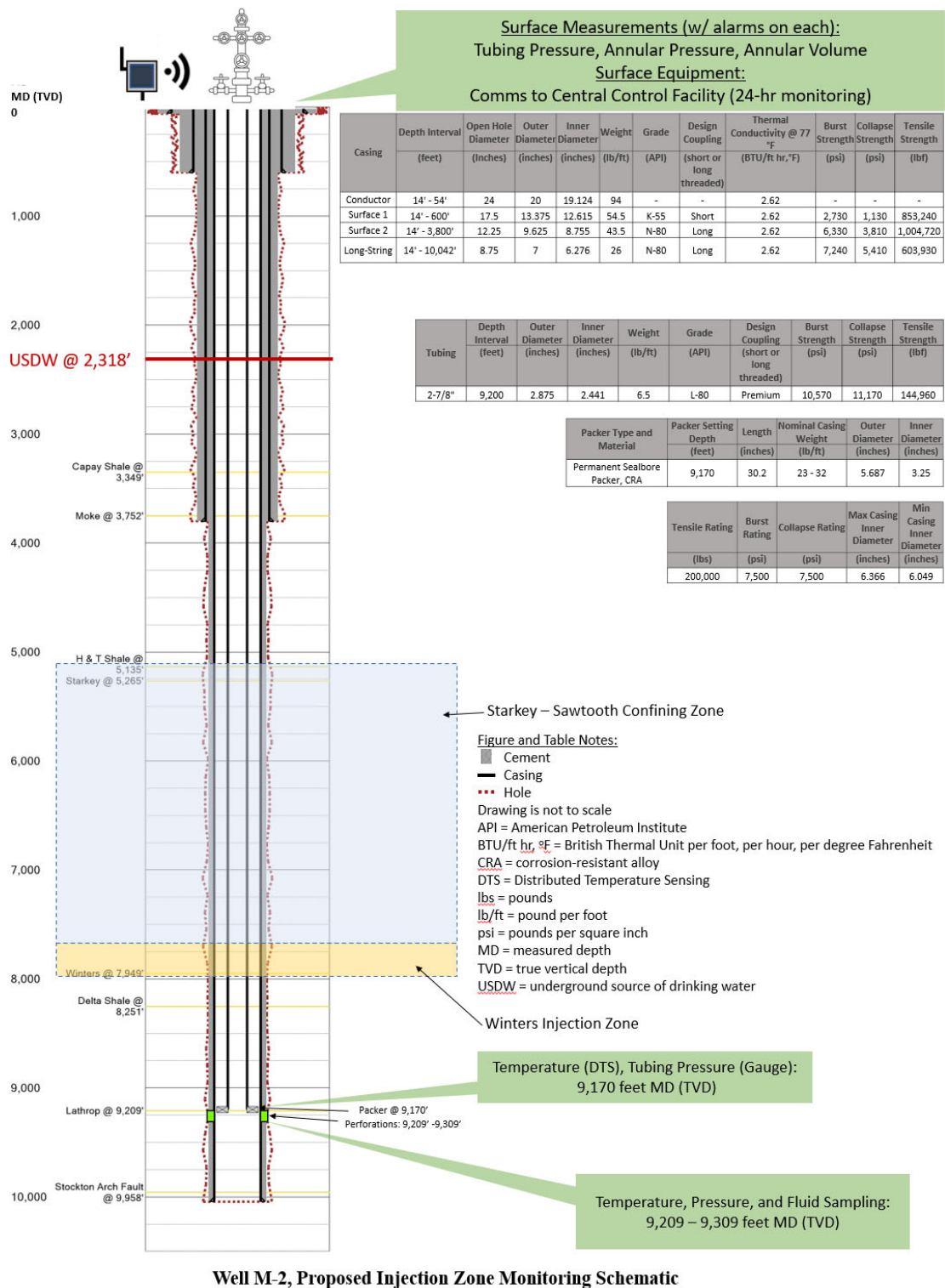
Figure 5-8. Well M-1, Proposed Injection Zone Monitoring Schematic.



Well M-3, Proposed Injection Zone Monitoring Schematic

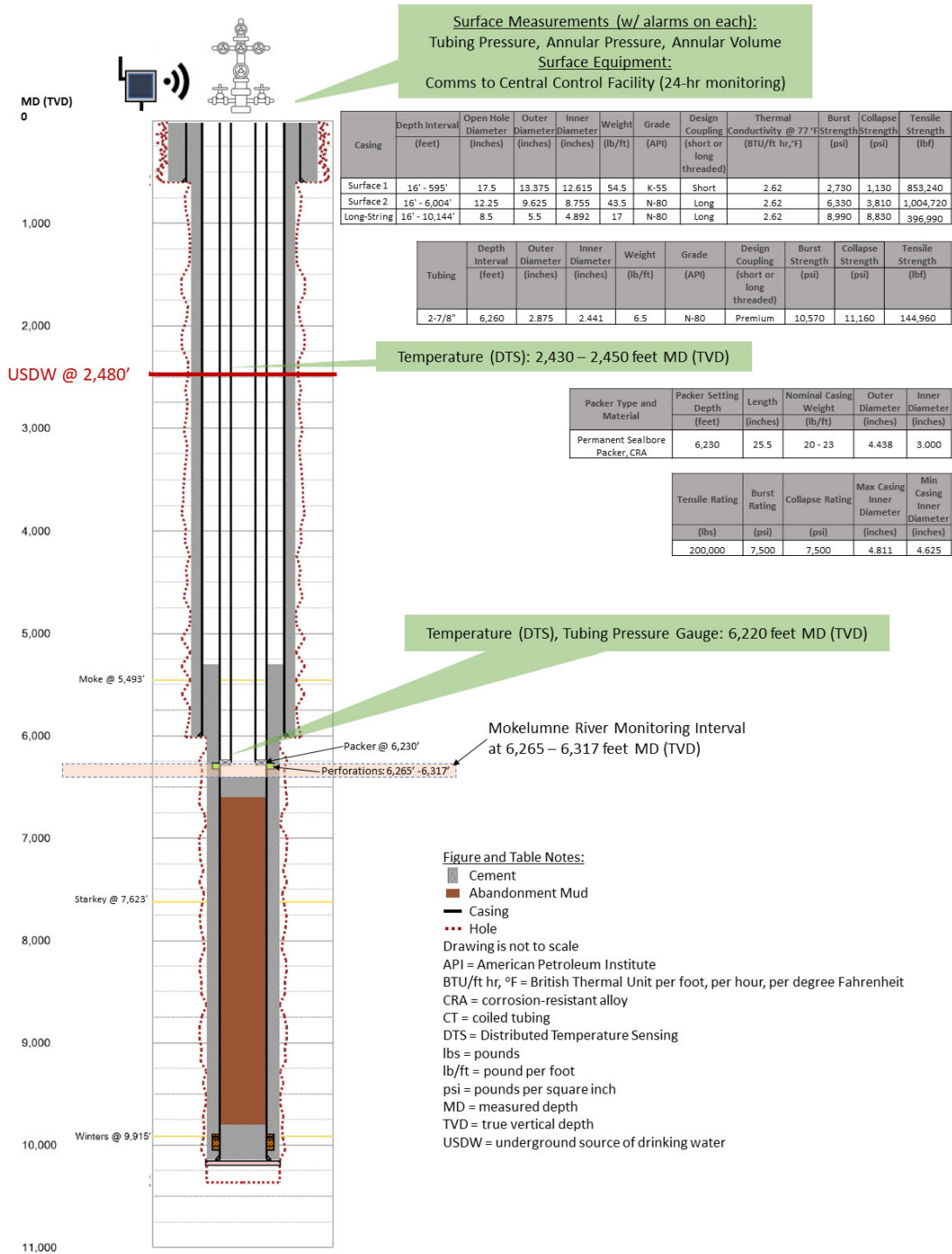
Cement specifications: 5-1/2" cemented with a Portland cement volume required to fill the annulus from the casing shoe to surface

Figure 5-9. M-3, Proposed Injection Zone Monitoring Schematic.



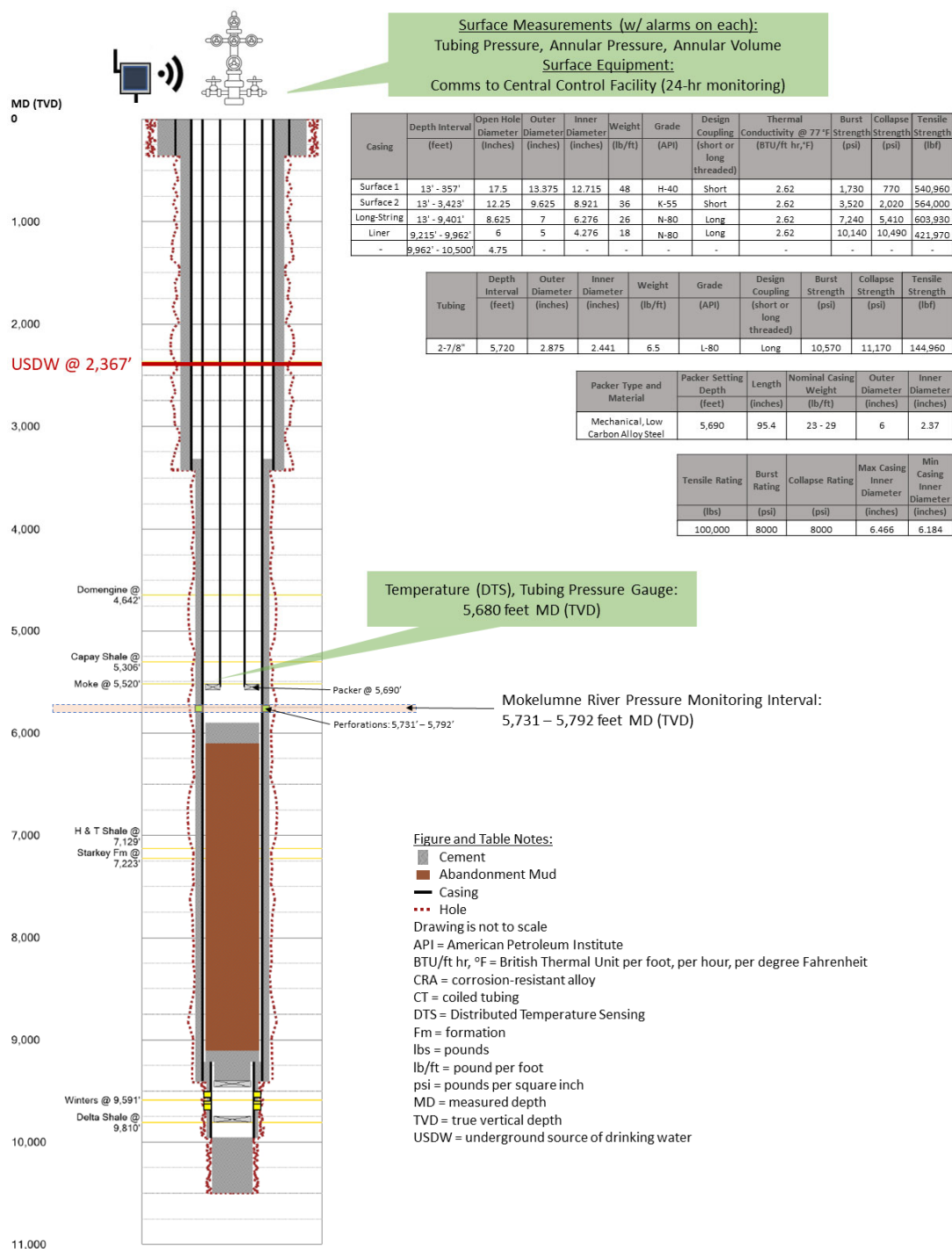
Cement specifications: 5-1/2" cemented with a Portland cement volume required to fill the annulus from the casing shoe to surface

Figure 5-10. M-2, Proposed Eastern Fault Block Monitoring Schematic.



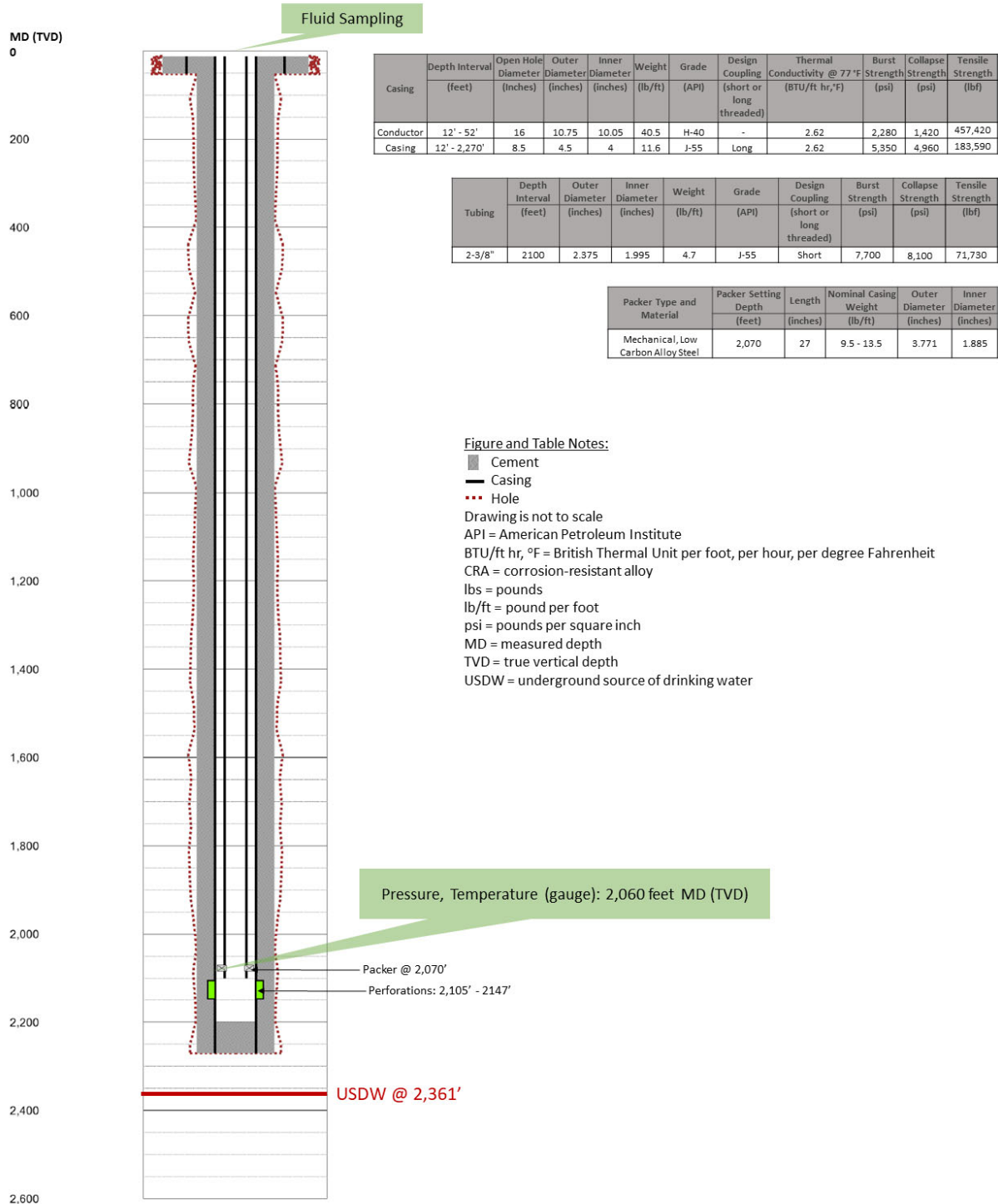
Cement specifications: 9-5/8" cemented with 700 ft³ 1:1 Pozmix with 3% gel and 370 ft³ Class 'G' premixed with 0.75% friction reducer; 5-1/2" cemented with 392 ft³ 1:1 Pozmix with 4% gel, 0.75% CFR2, and 0.4% HR7 and 270 ft³ Class 'G' premixed with 0.75% CFR2 and 0.4% HR7

Figure 5-11. Phillips Yamada Bros 1, Proposed Above Zone Monitoring Schematic.



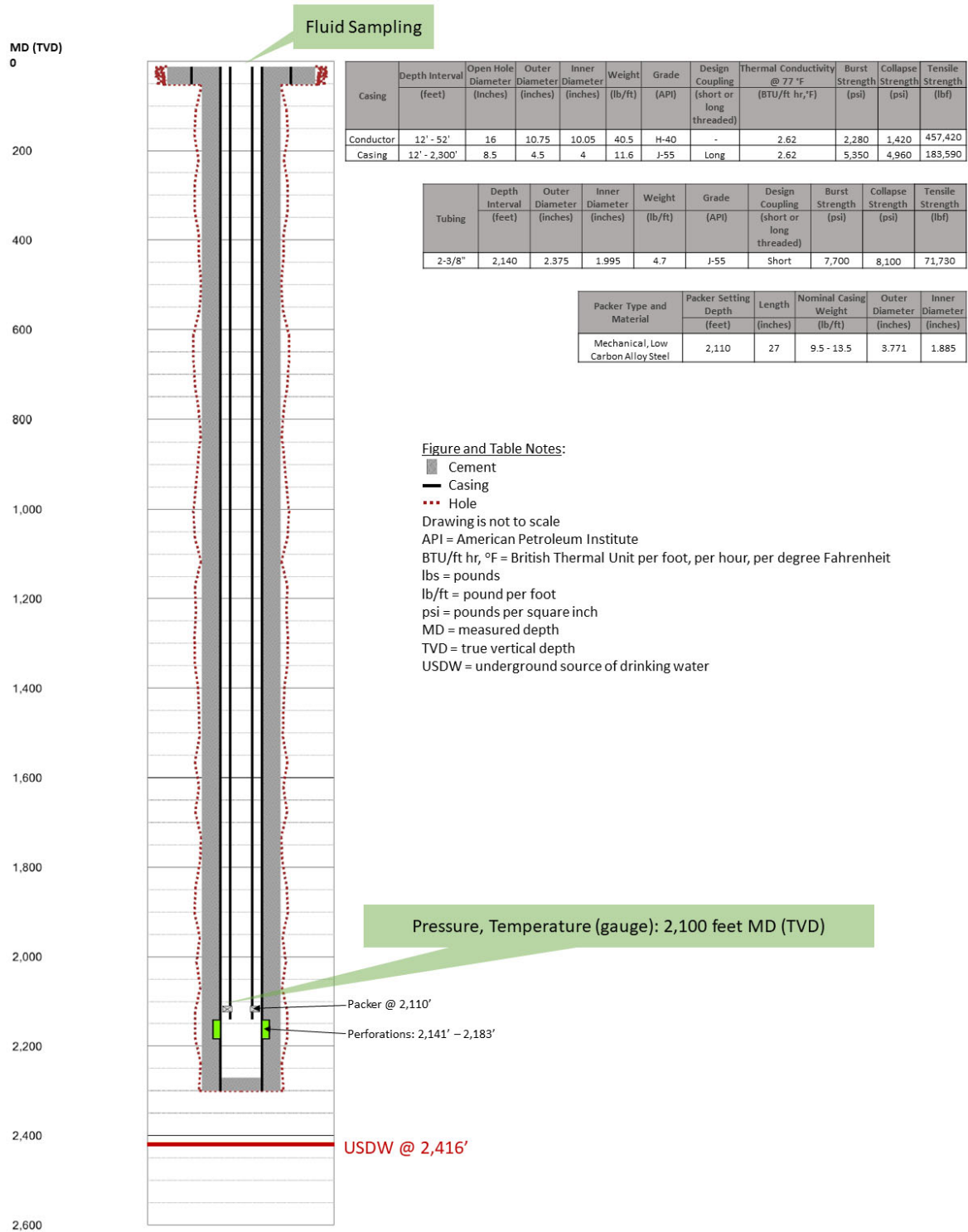
Cement specifications: 7" cemented with 350 sacks neat cement premixed with 0.1% CFR-2 and 0.2% HR-7 and 380 sacks neat cement premixed with 0.1% CFR-2 and 0.2% HR-7; 5" cemented with 63 sacks neat cement premixed with 1% CFR-2 and 0.25% HR-7.

Figure 5-12. Sonol Securities 2, Proposed Above Zone Monitoring Schematic.



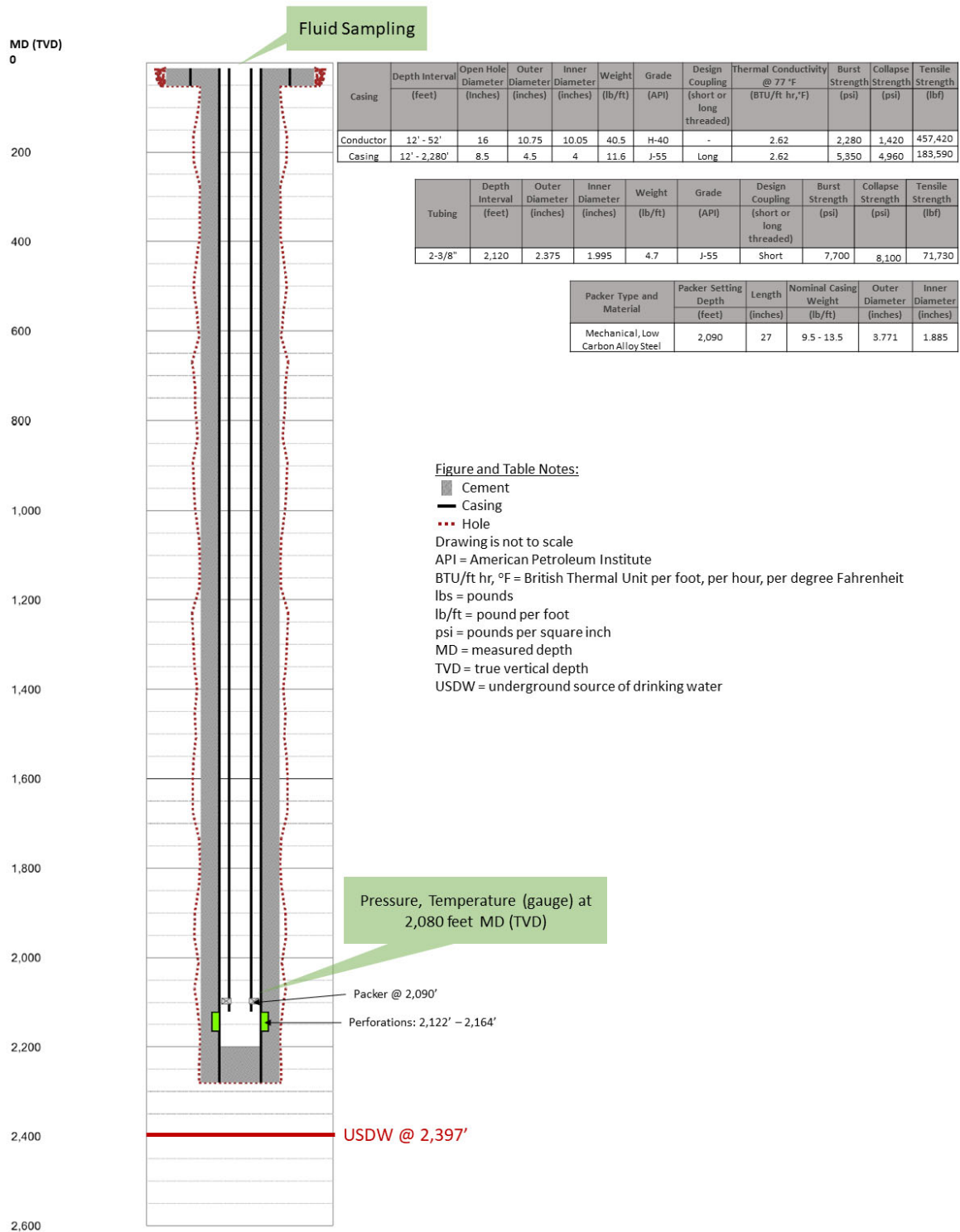
USDW Monitoring Well – USDW-1, Proposed Monitoring Schematic

Figure 5-13. USDW Monitoring Well – US-1, Proposed Monitoring Schematic.



USDW Monitoring Well – USDW-2, Proposed Monitoring Schematic

Figure 5-14. USDW Monitoring Well – US-2, Proposed Monitoring Schematic.



USDW Monitoring Well – USDW-3, Proposed Monitoring Schematic

Figure 5-15. USDW Monitoring Well – US-3, Proposed Monitoring Schematic.

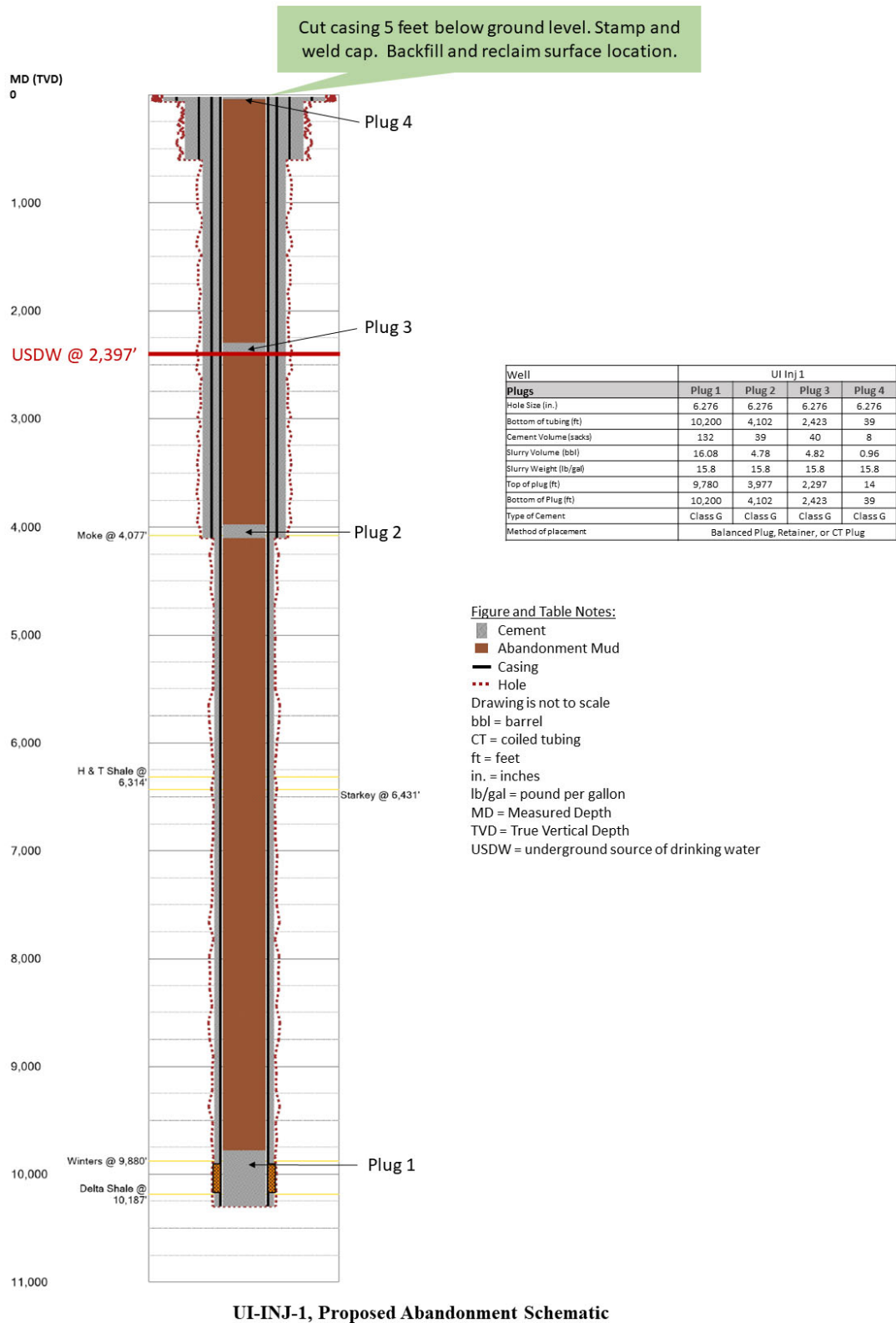


Figure 5-16. UI-INJ-1, Proposed Abandonment Schematic.

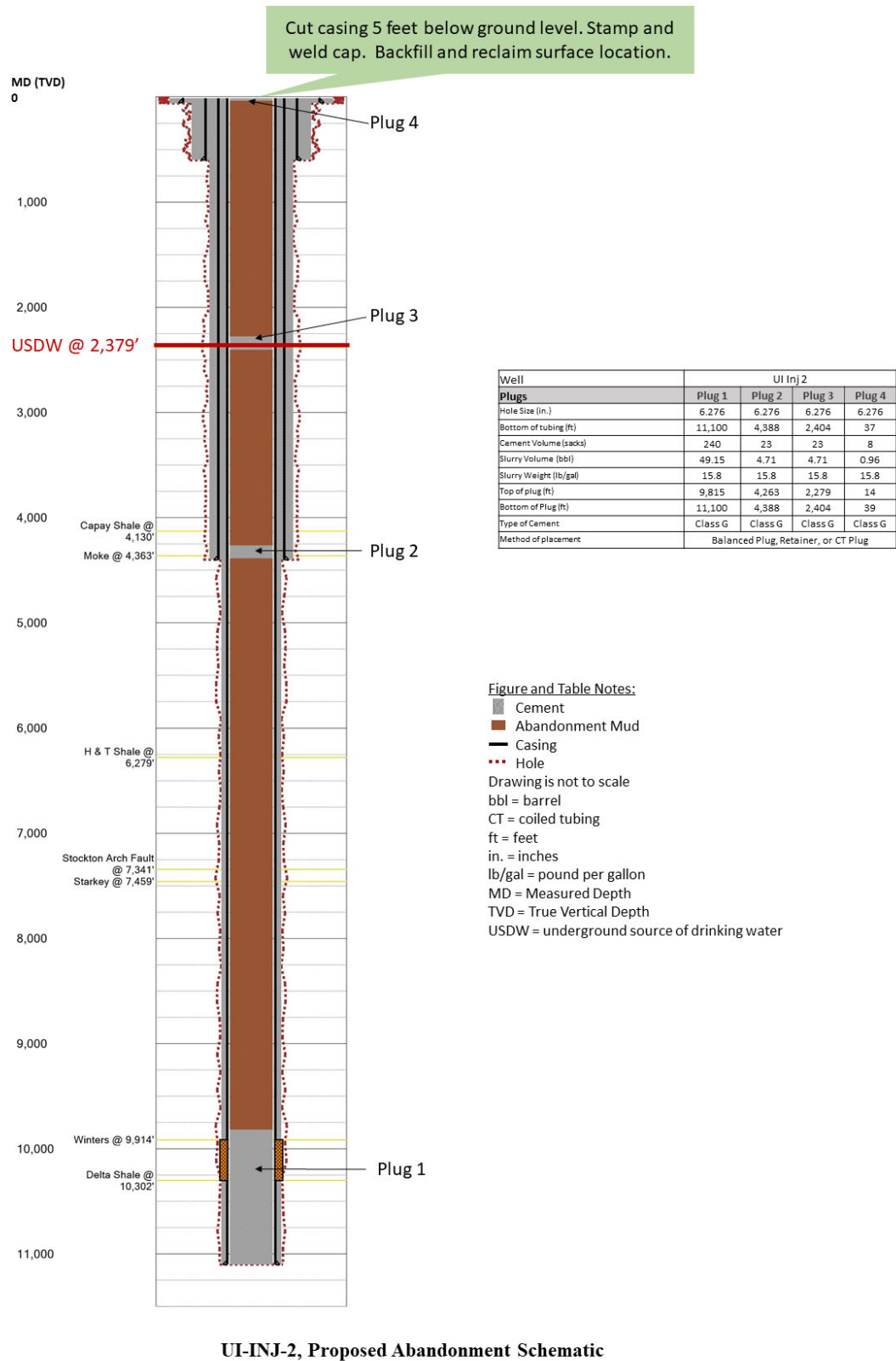
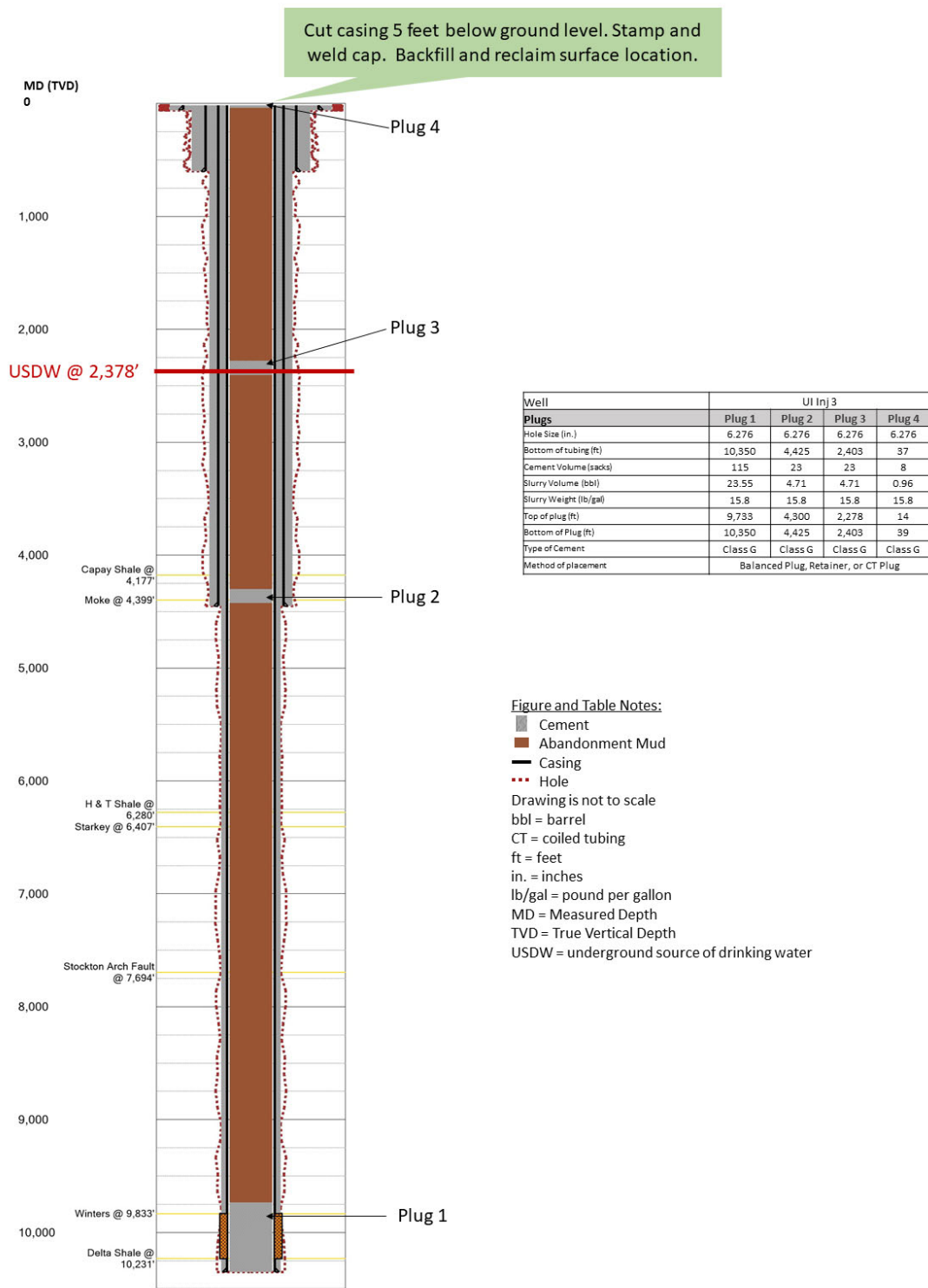
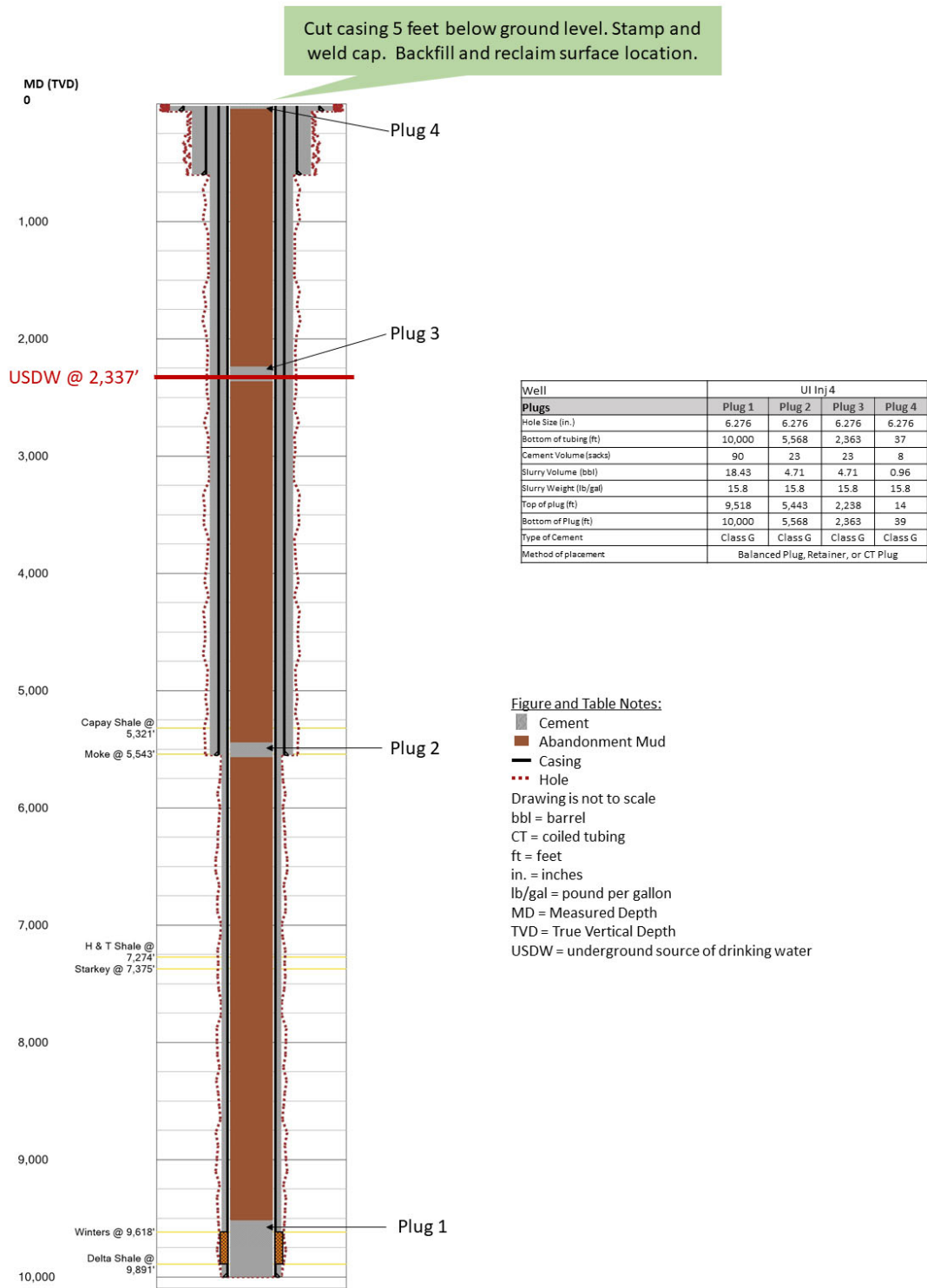


Figure 5-17. UI-INJ-2, Proposed Abandonment Schematic.



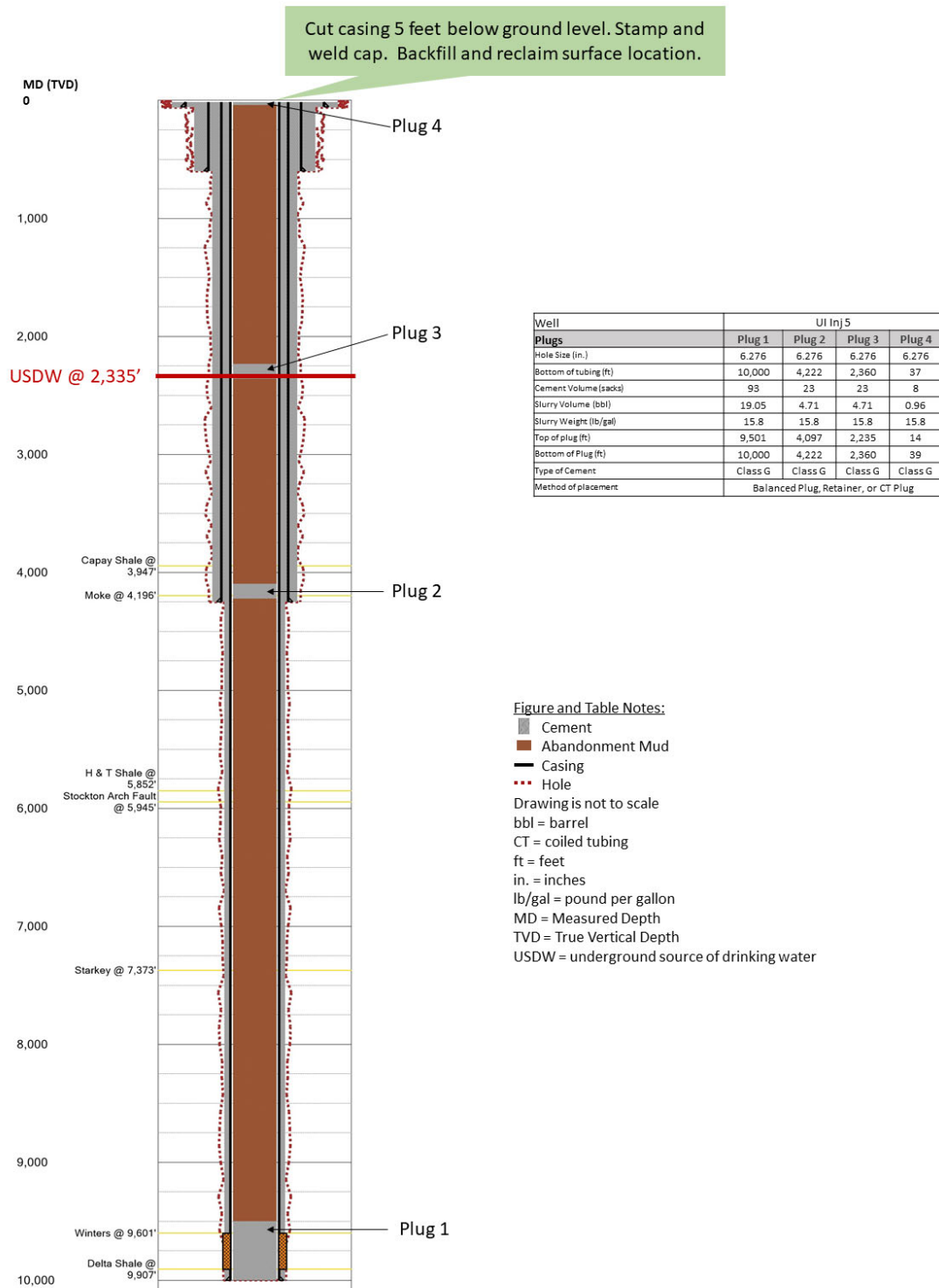
UI-INJ-3, Proposed Abandonment Schematic

Figure 5-18 UI-INJ-3, Proposed Abandonment Schematic.



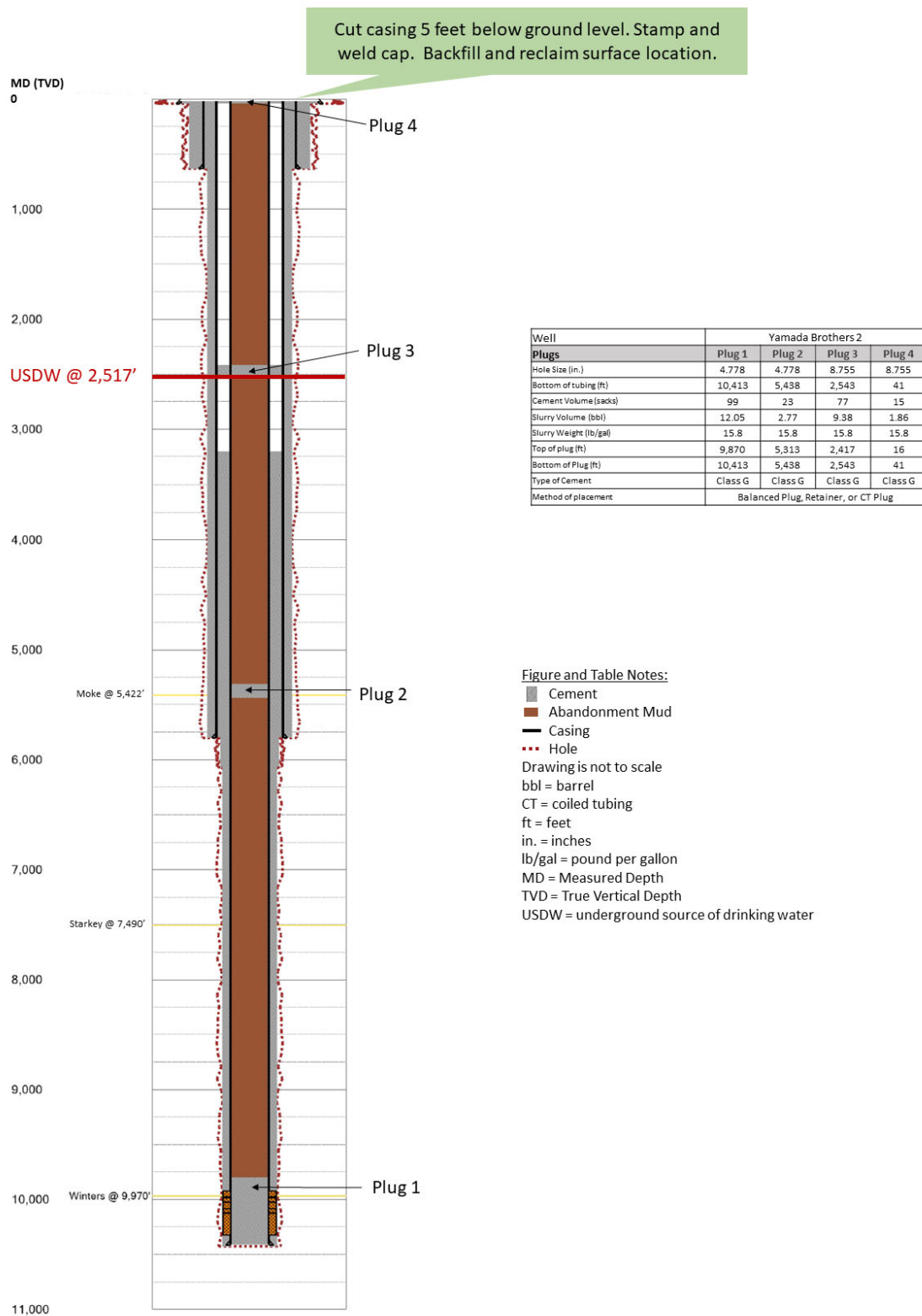
UI-INJ-4, Proposed Abandonment Schematic

Figure 5-19. UI-INJ-4, Proposed Abandonment Schematic.



UI-INJ-5, Proposed Abandonment Schematic

Figure 5-20. UI-INJ-5, Proposed Abandonment Schematic.



Yamada Brothers 2, Proposed Abandonment Schematic

Figure 5-21. Yamada Brothers 2, Proposed Abandonment Schematic.

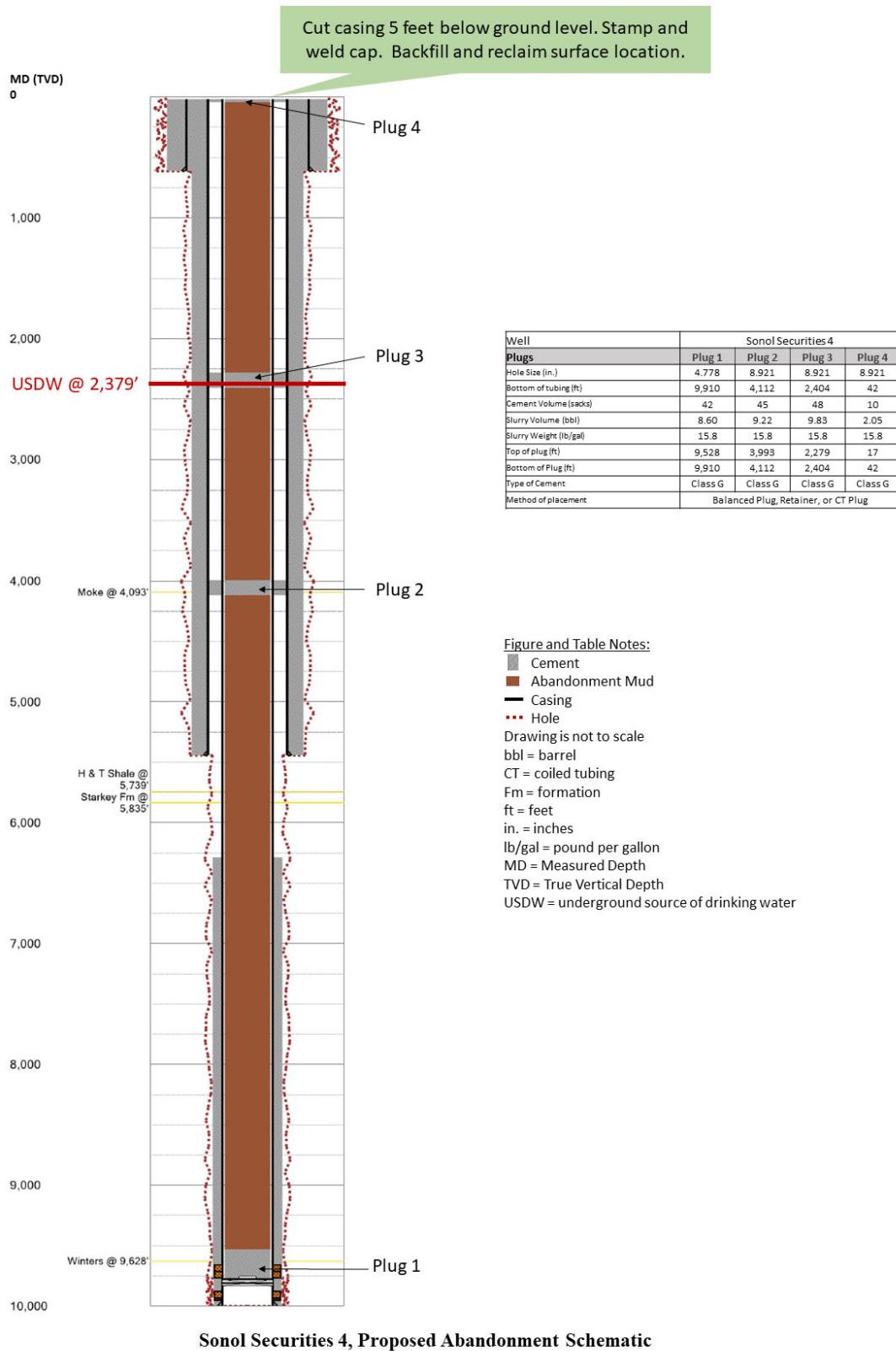
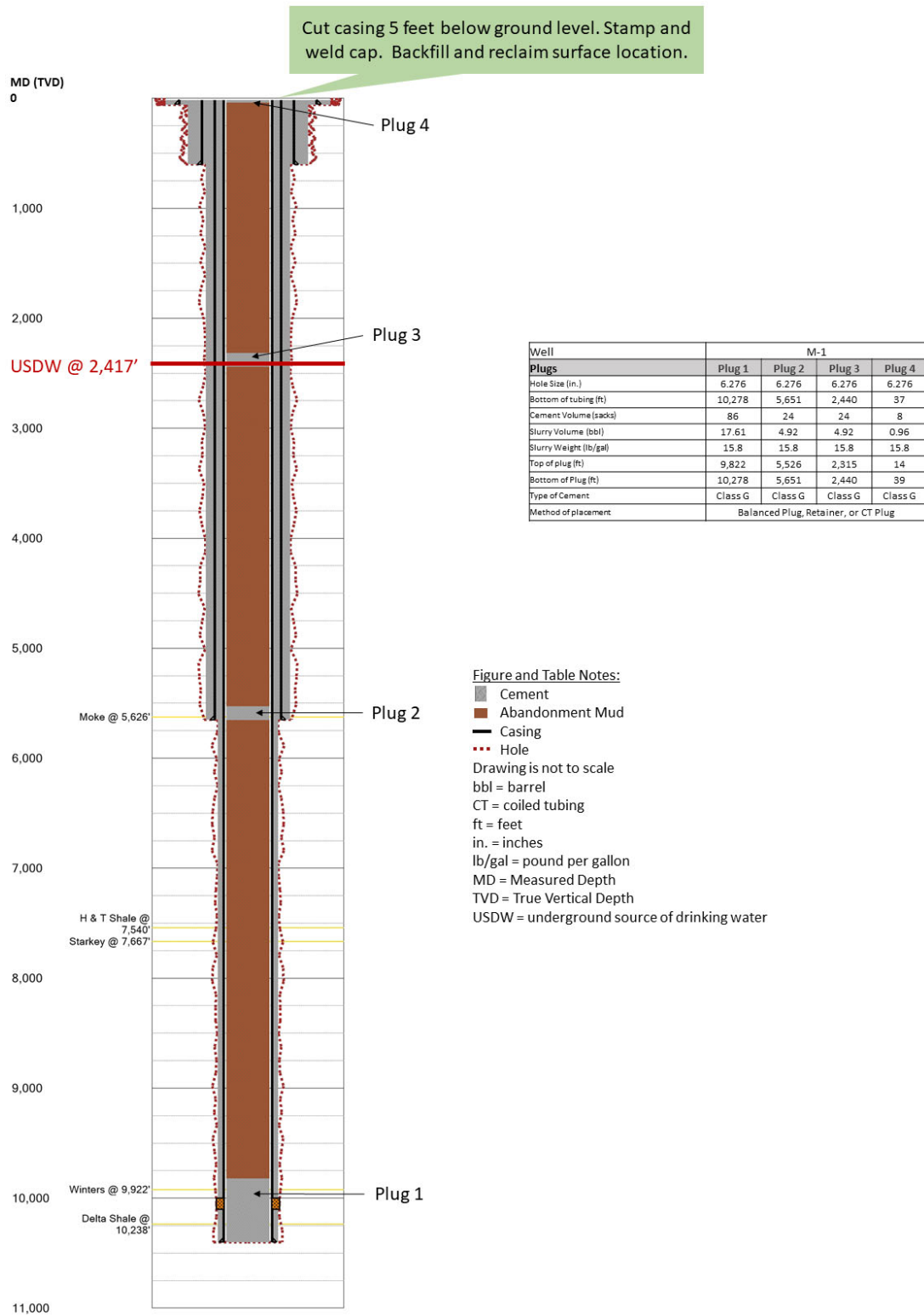
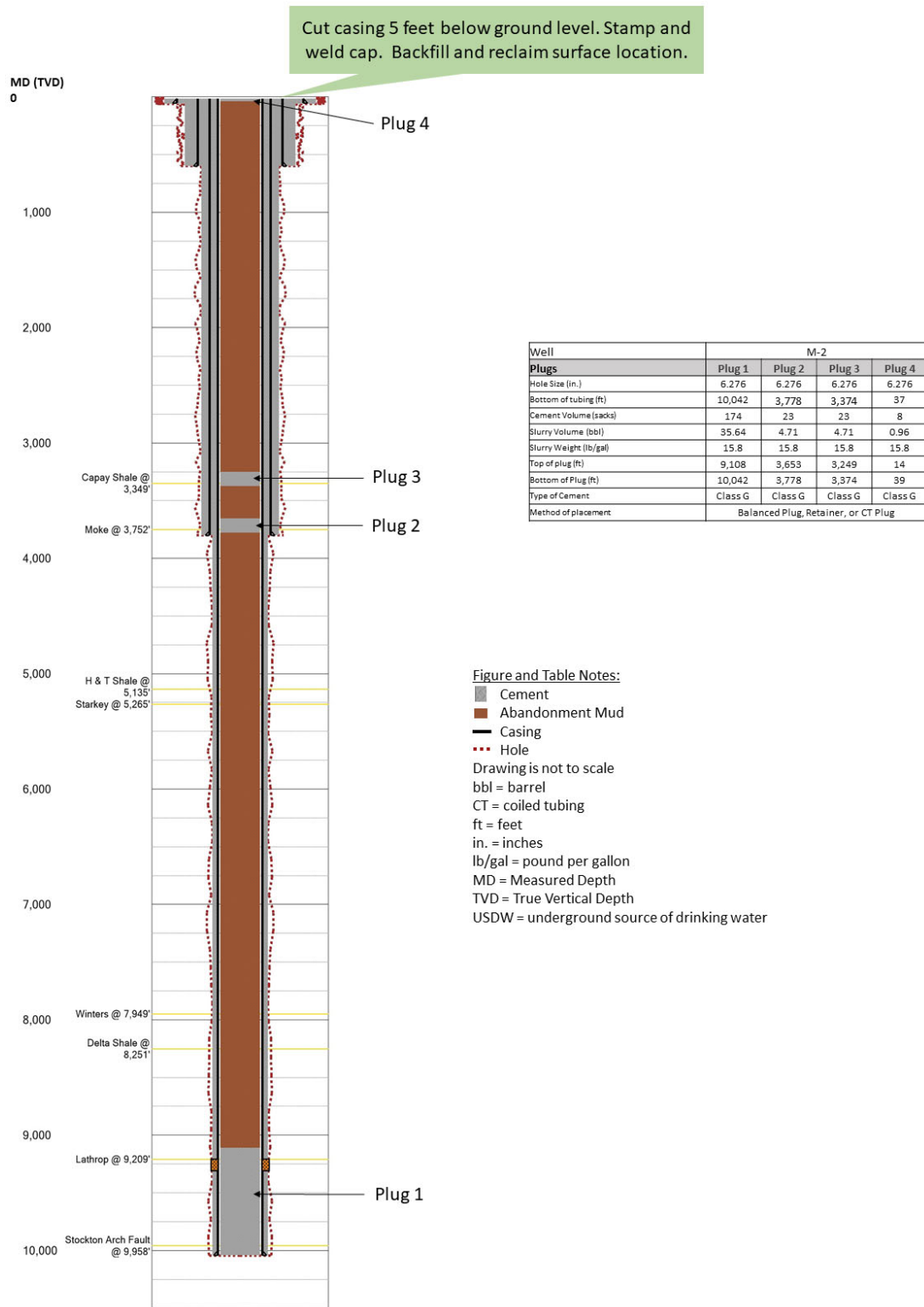


Figure 5-22. Well Sonol Securities 4, Proposed Abandonment Schematic.



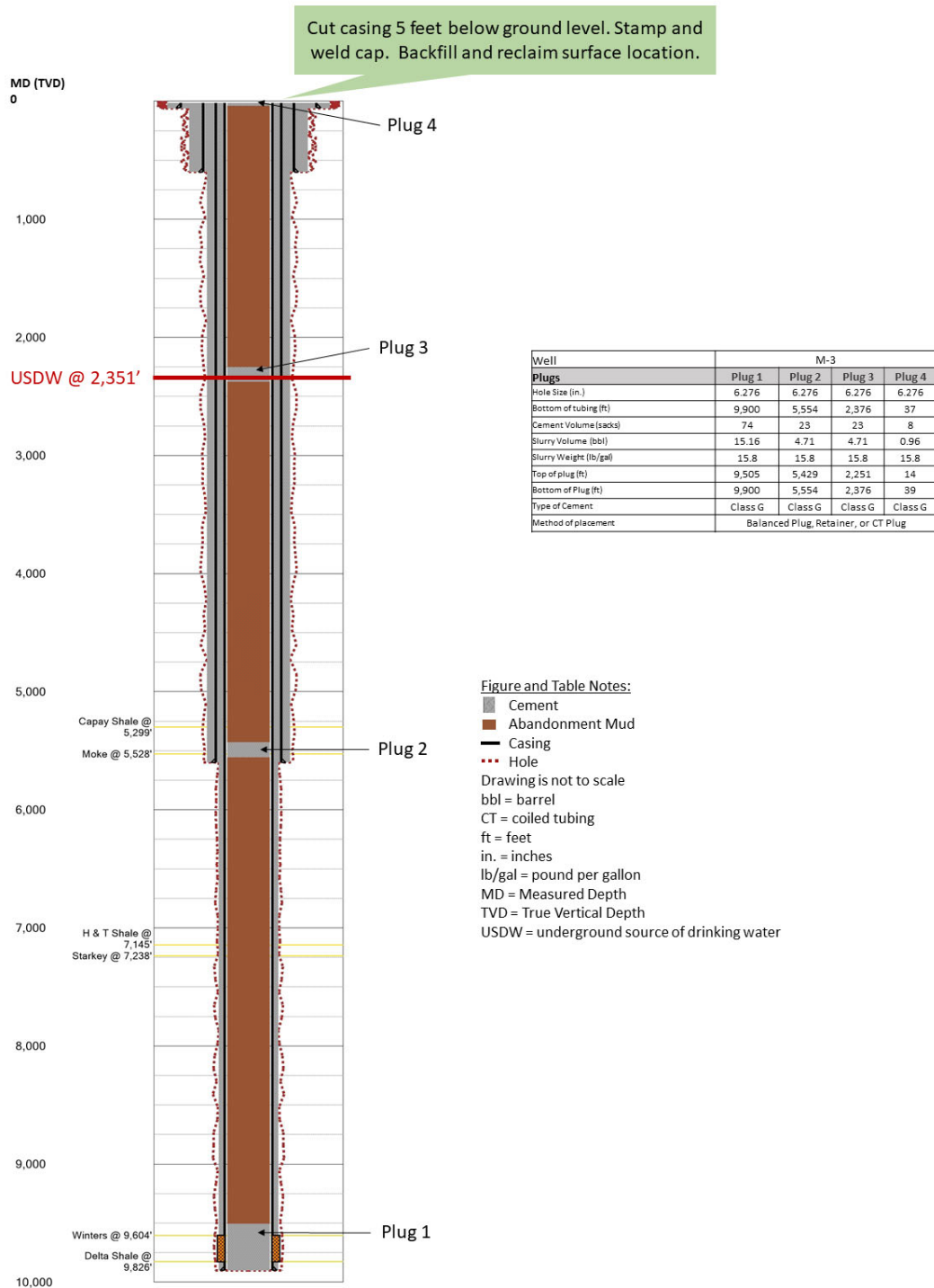
Well M-1, Proposed Abandonment Schematic

Figure 5-23. Well M-1, Proposed Abandonment Schematic.



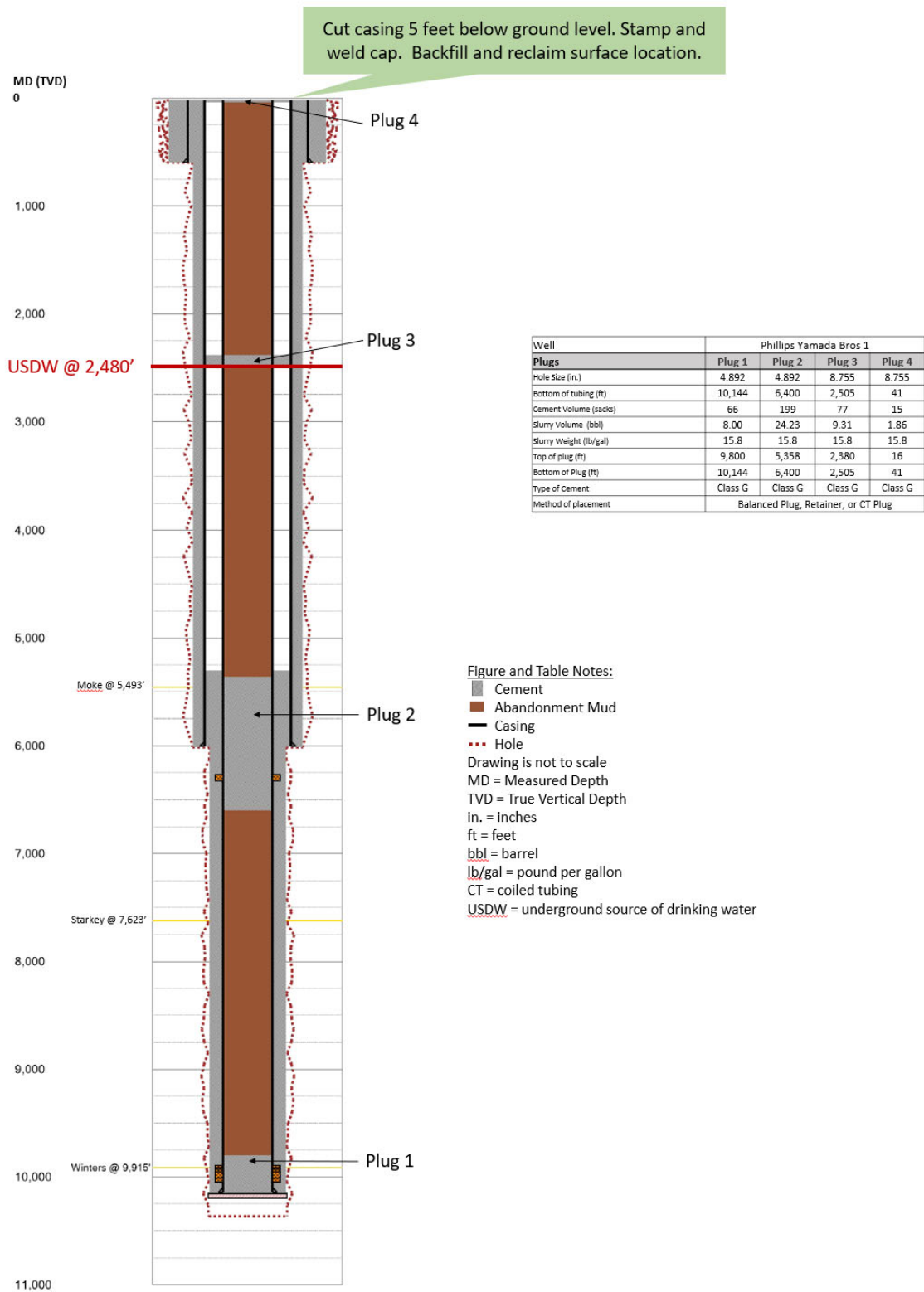
Well M-2, Proposed Abandonment Schematic

Figure 5-24. Well M-2, Proposed Abandonment Schematic.



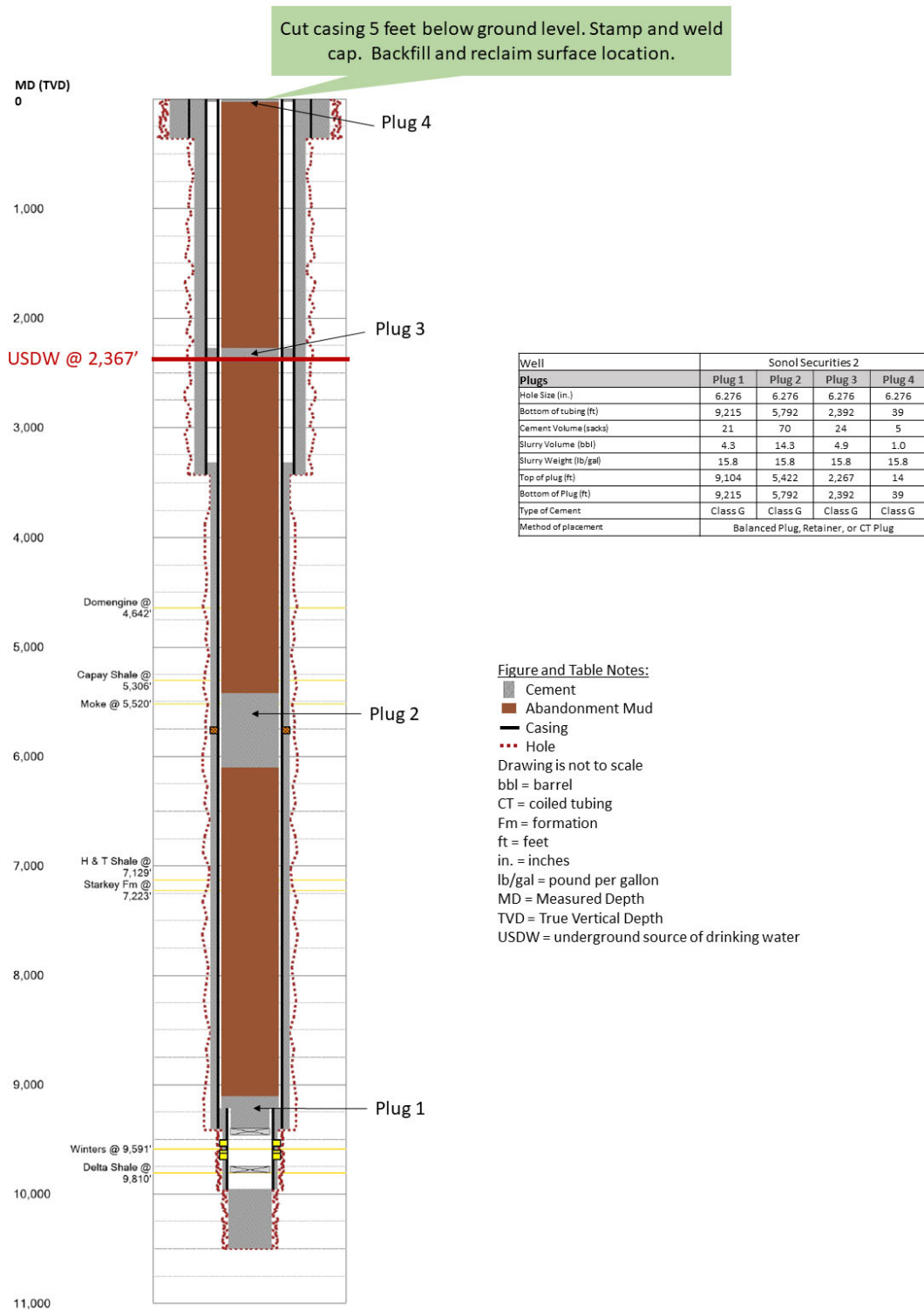
Well M-3, Proposed Abandonment Schematic

Figure 5-25. Well M-3, Proposed Abandonment Schematic.



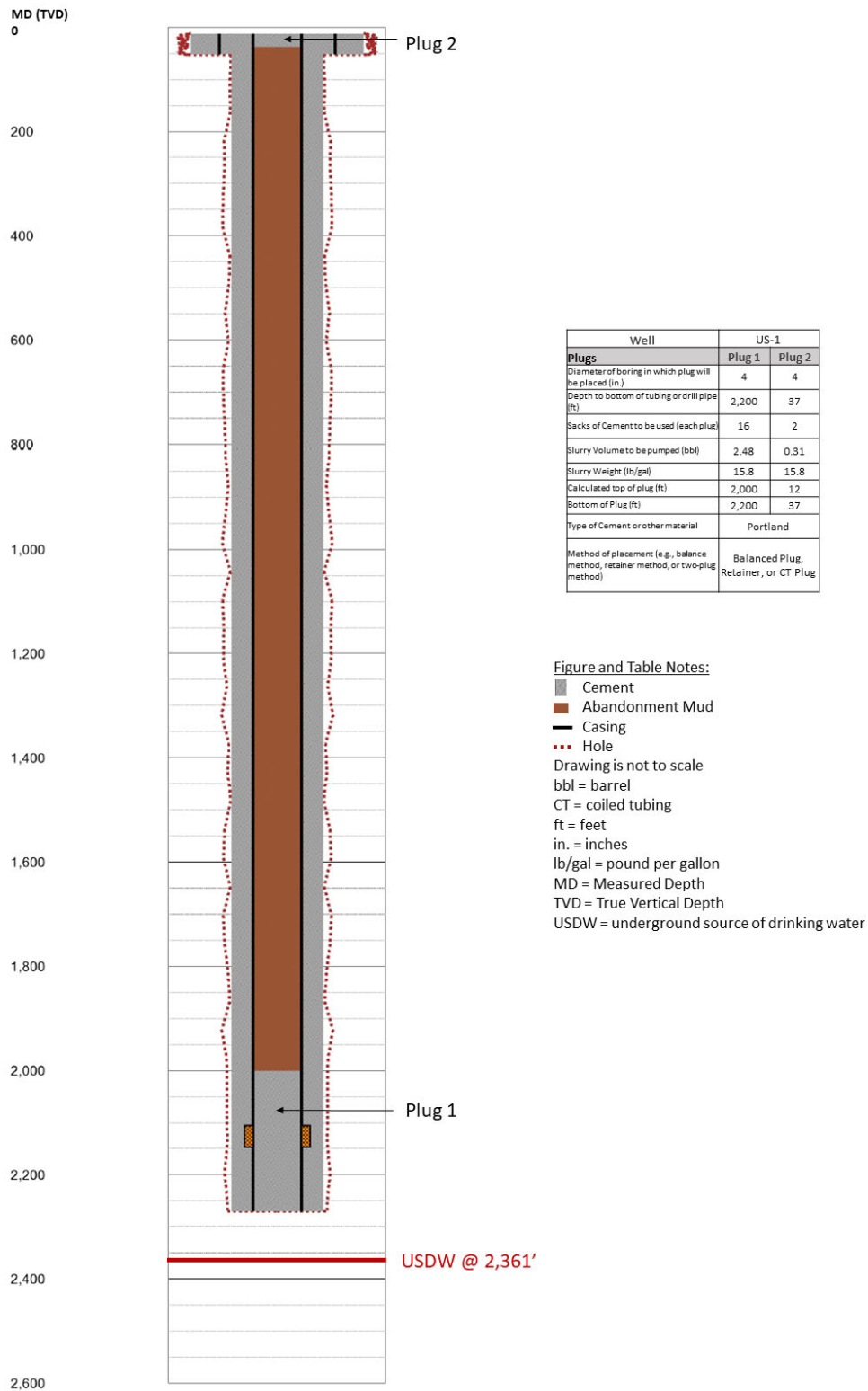
Phillips Yamada Bros 1, Proposed Abandonment Schematic

Figure 5-26. Phillips Yamada Bros 1, Proposed Abandonment Schematic.



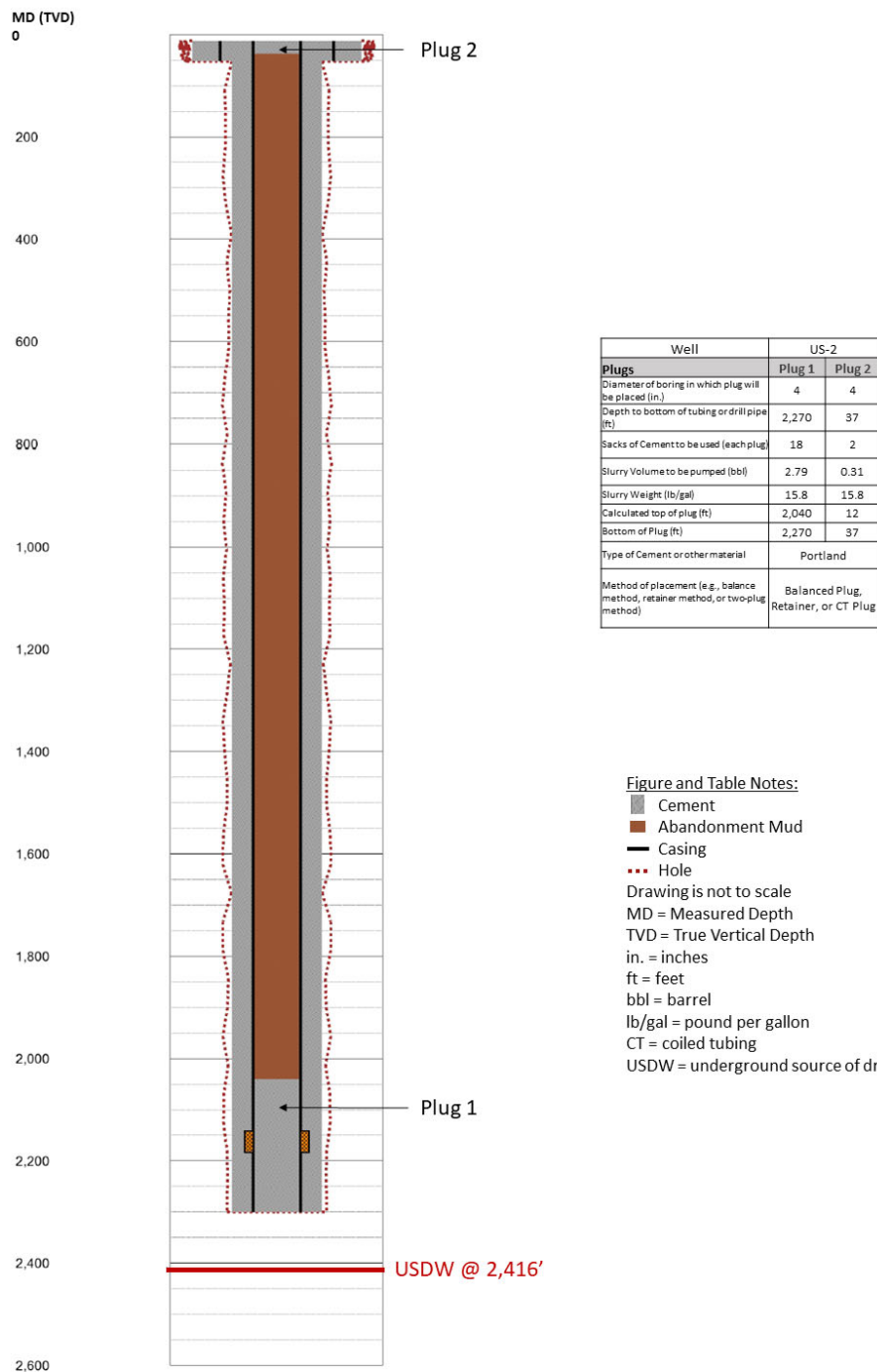
Sonol Securities 2, Proposed Abandonment Schematic

Figure 5-27. Sonol Securities 2, Proposed Abandonment Schematic.



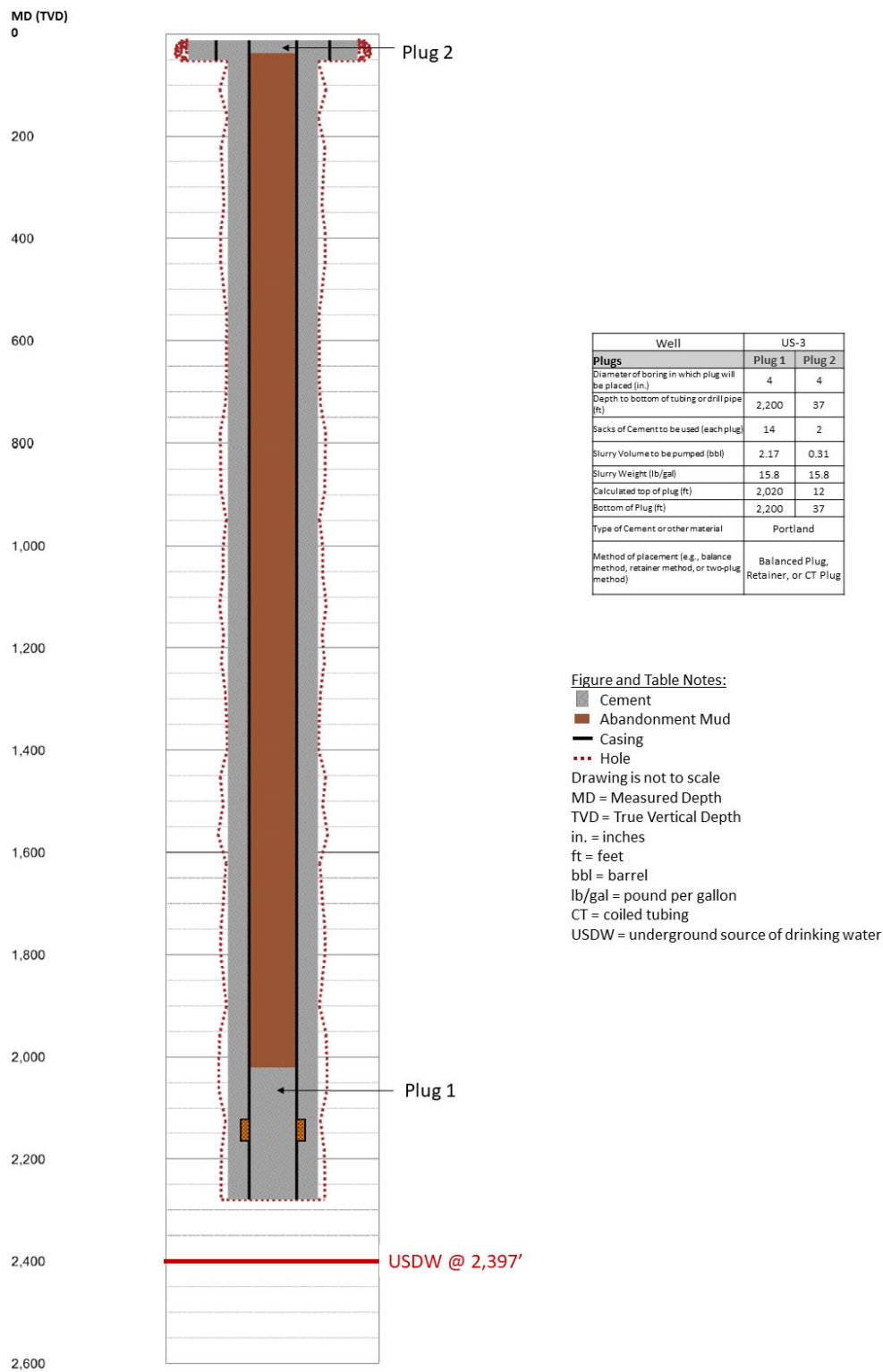
USDW Monitoring Well – USDW-1, Proposed Abandonment Schematic

Figure 5-28. USDW Monitoring Well – USDW-1, Proposed Abandonment Schematic.



USDW Monitoring Well – USDW-2, Proposed Abandonment Schematic

Figure 5-29. USDW Monitoring Well – USDW-2, Proposed Abandonment Schematic.



USDW Monitoring Well – USDW-3, Proposed Abandonment Schematic

Figure 5-30. USDW Monitoring Well – USDW-3, Proposed Abandonment Schematic.