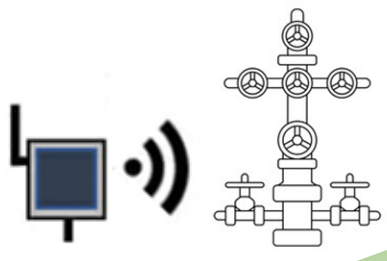
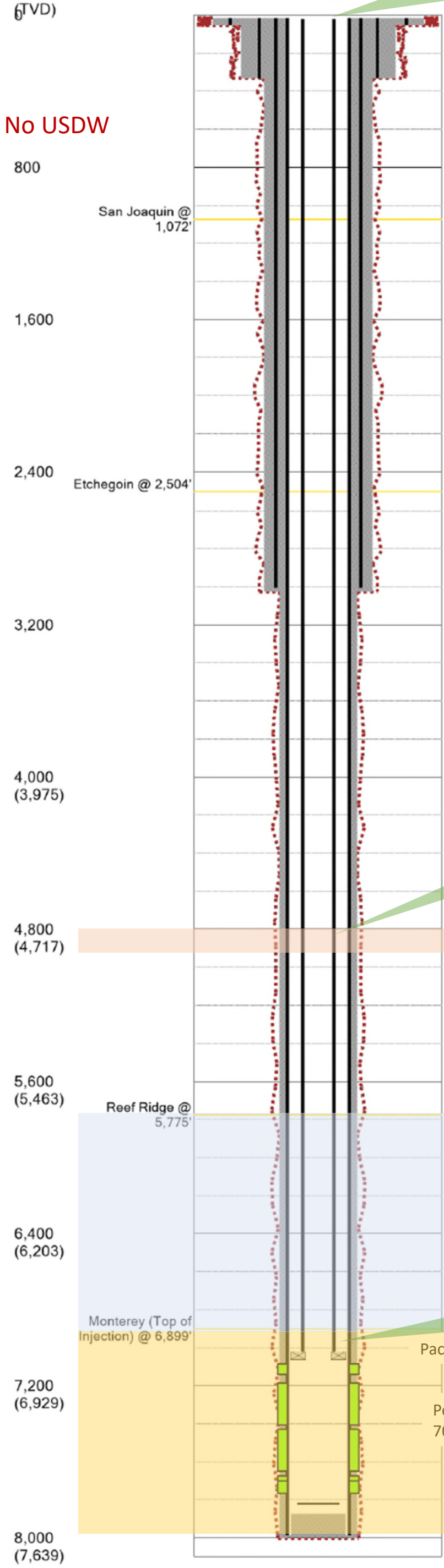


Surface Measurements (w/ alarms on each):
Injection Pressure, Injection Temperature, Injection Rate, Annular Pressure, Annular Volume
Surface Equipment:
Wellhead Surface Safety Valve (SSV) for automatic shut-off
Comms to Central Control Facility (24-hr monitoring)



Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	14' - 54'	24	20	19.124	94	-	-	2.62	-	
Surface	14' - 331'	17.5	13.375	12.715	48	H-40	Short	2.62	1730	770
Intermediate	14' - 3006'	12.25	9.625	8.835	40	K-55	Long	2.62	3950	2570
Long-String	14' - 79' 79' - 5028' 5028' - 6618' 6618' - 7988'	8.5	7	6.276 6.366 6.276 6.276	26 23 26 26	N-80 K-55 K-55 N-80	Long	2.62	7240 4360 4980 7240	5410 3270 4320 5410

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
4-1/2"	7050'	4.5"	4"	11.6	L-80 CRA	Premium	7780	6350

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Permanent Sealbore Packer, CRA	7020'	30.3	26 - 32	5.875"	4.00"

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.276	6.095

Temperature (DTS) @ 4866' – 4891'

Etchegoin Monitoring Interval, 4866' – 4891'

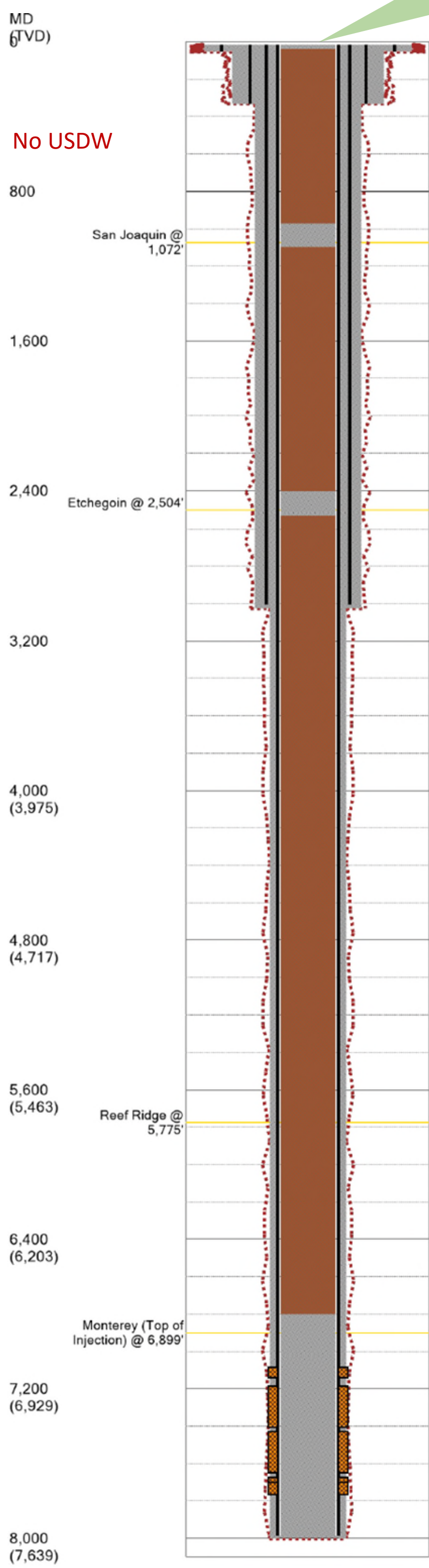
Reef Ridge Confining Layer

Temperature (DTS), Injection Pressure Gauge @ 7010'

26R Injection Zone

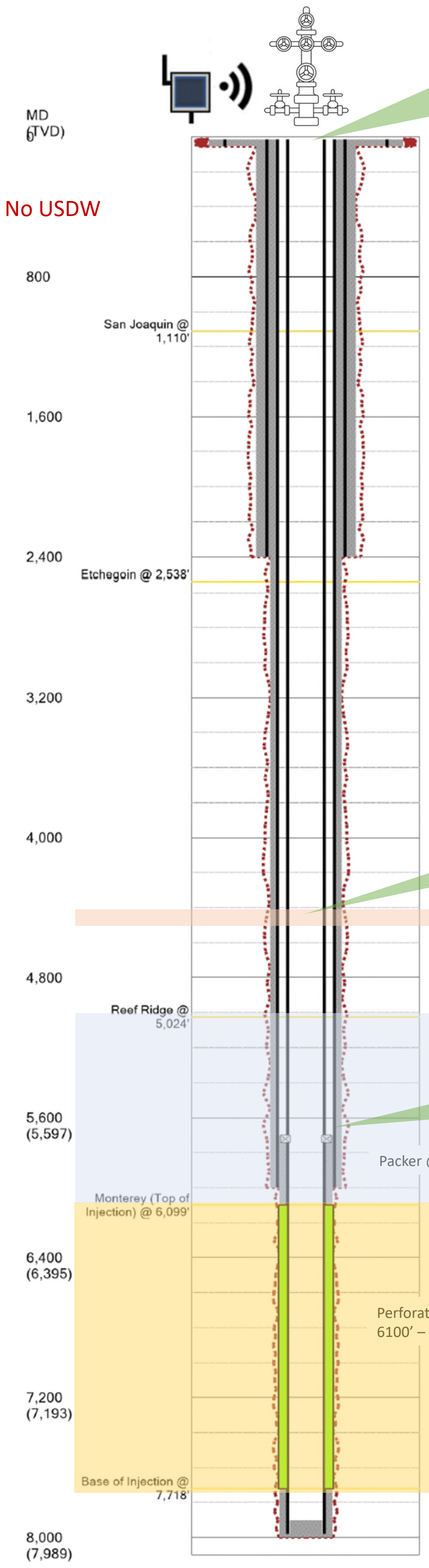
Figure 1. Injection Well 373-35R, CO_2 Injection Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	373-35R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	6.276	6.366	6.366	6.276
Bottom of tubing (ft)	7871	2529	1097	39
Cement Volume (sacks)	201	25	25	5
Slurry Volume (bbl)	41.17	5.12	5.12	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	6799	2404	972	14
Bottom of Plug (ft)	7871	2529	1097	39
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 2. Injection Well 373-35R, Abandonment Schematic



Surface Measurements (w/ alarms on each):
Injection Pressure, Injection Temperature, Injection Rate, Annular Pressure, Annular Volume
Surface Equipment:
Wellhead Surface Safety Valve (SSV) for automatic shut-off
Comms to Central Control Facility (24-hr monitoring)

Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	14' - 54'	24	20	19.124	94	-	-	2.62	-	-
Surface	14' - 2400'	12.25	9.625	8.835	40	L-80	Long	2.62	5750	3090
Long-String	14' - 5600' 5600' - 6000'	8.75	7	6.276	26	L-80 L-80 CRA	Long	2.62	7240	5410
Liner	5700' - 7980'	6.5	4.5	3.92	13.5	L-80 CRA	Long	2.62	9020	8540

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
4-1/2"	5700'	4.5"	4"	11.6	L-80 CRA	Premium	7780	6350

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Sealbore Packer, CRA	5700	30.3	26 - 32	5.875"	4.00"

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.276	6.095

Temperature (DTS) @ 4344' – 4369'

Etchegoin Monitoring Interval, 4344' – 4369'

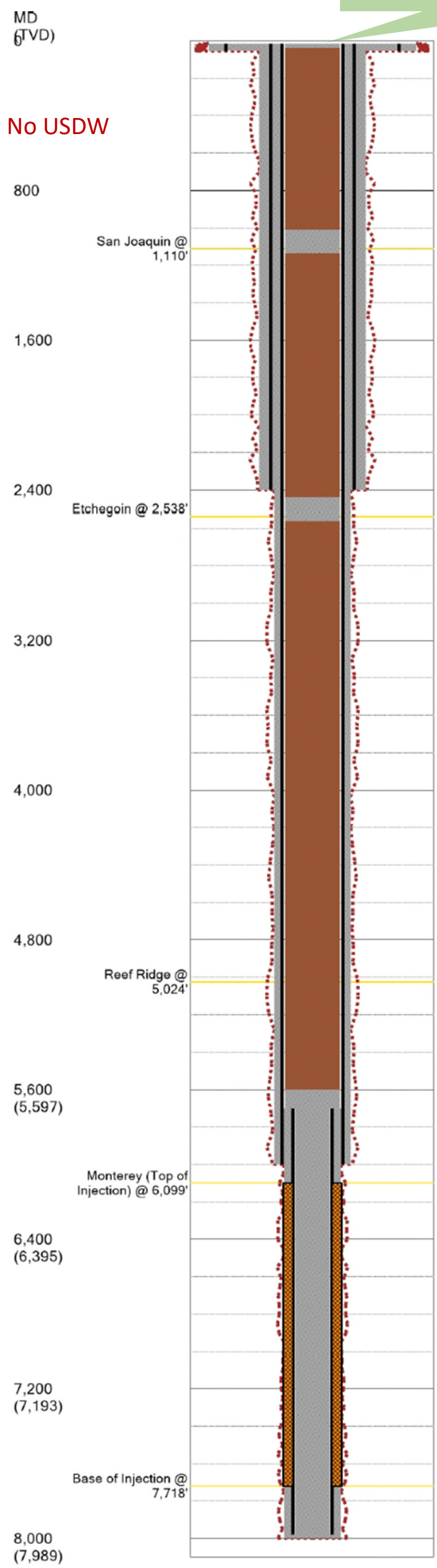
Temperature (DTS), Injection Pressure Gauge @ 5690'

Reef Ridge Confining Layer

26R Injection Zone

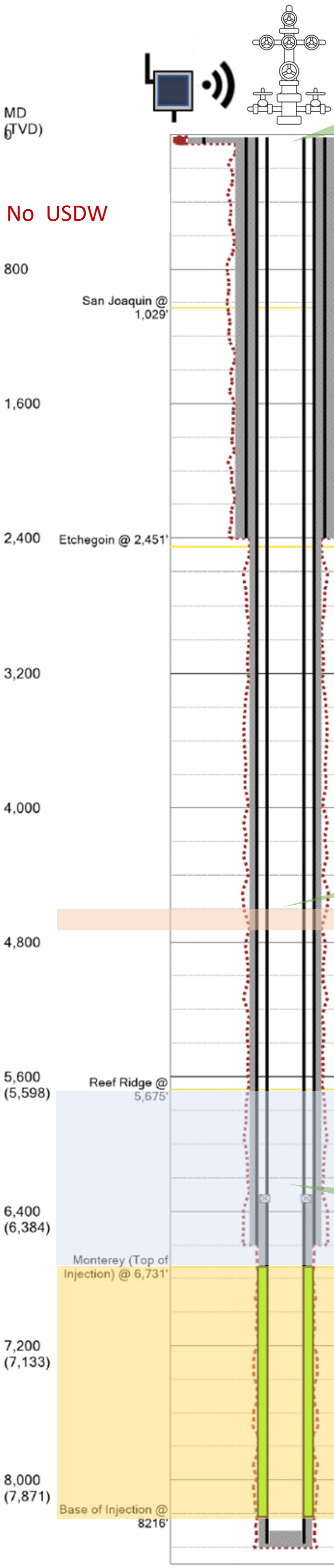
Figure 3. Injection Well 345C-36R, CO_2 Injection Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	345C-36R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	3.92	6.276	6.276	6.276
Bottom of tubing (ft)	7900	2563	1135	39
Cement Volume (sacks)	168	24	24	5
Slurry Volume (bbl)	34.41	4.92	4.92	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	5600	2438	1010	14
Bottom of Plug (ft)	7900	2563	1135	39
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 4. Injection Well 345C-36R, Abandonment Schematic



Surface Measurements (w/ alarms on each):
Injection Pressure, Injection Temperature, Injection Rate, Annular Pressure, Annular Volume
Surface Equipment:
Wellhead Surface Safety Valve (SSV) for automatic shut-off
Comms to Central Control Facility (24-hr monitoring)

Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	14' - 54'	24	20	19.124	94	-	-	2.62	-	-
Surface	14' - 2400'	12.25	9.625	8.835	40	L-80	Long	2.62	5750	3090
Long-String	14' - 6200' 6200' - 6600'	8.75	7	6.276	26	L-80 L-80 CRA	Long	2.62	7240	5410
Liner	6300' - 8380'	6.5	4.5	3.92	13.5	L-80 CRA	Long	2.62	9020	8540

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
4-1/2"	6300'	4.5"	4"	11.6	L-80 CRA	Premium	7780	6350

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Sealbore Packer, CRA	6300	30.3	26 - 32	5.875"	4.00"

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.276	6.095

Temperature (DTS) @ 4703' – 4743'

Etchegoin Monitoring Interval, 4703' – 4743'

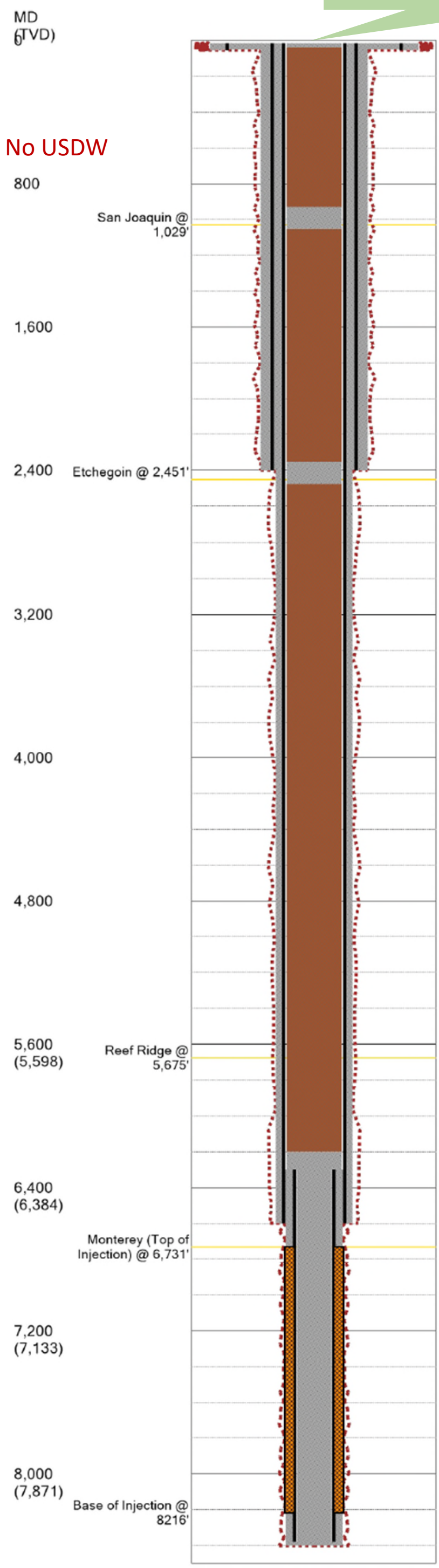
Reef Ridge Confining Layer

Temperature (DTS), Injection Pressure Gauge @ 6290'

26R Injection Zone

Figure 5. Injection Well 363C-27R, CO_2 Injection Schematic

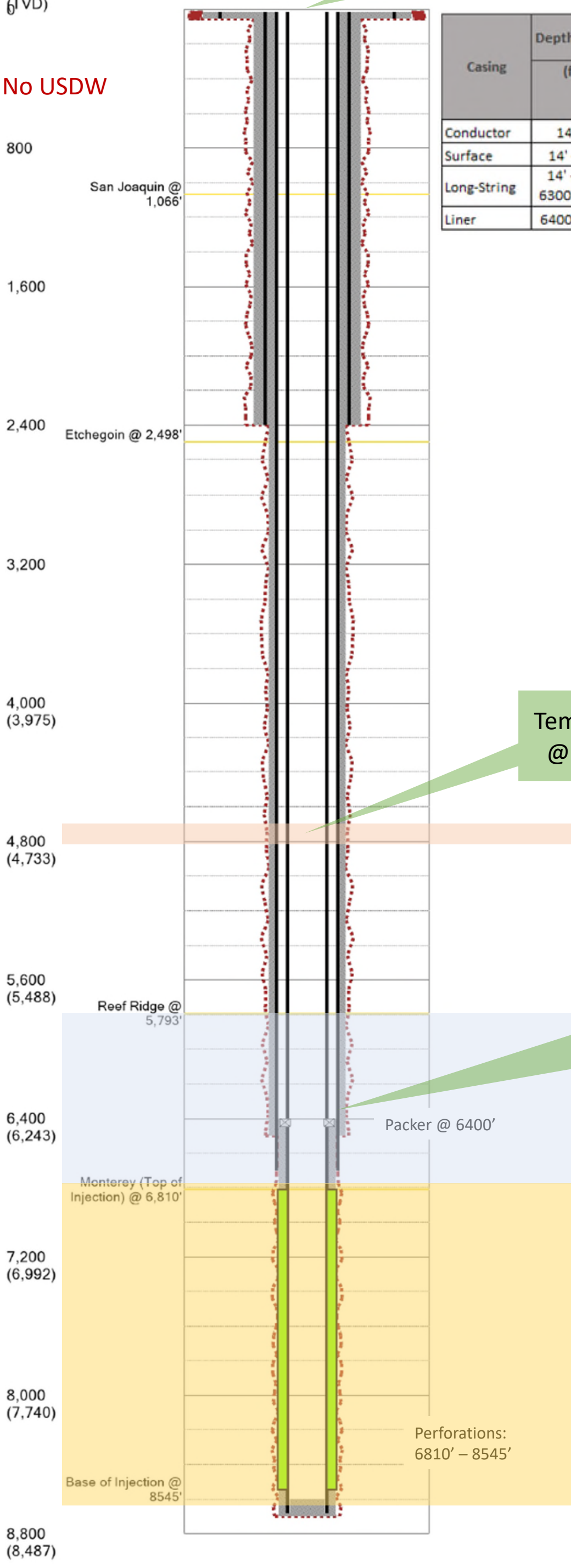
Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	363C-27R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	3.92	6.276	6.276	6.276
Bottom of tubing (ft)	8300	2476	1054	39
Cement Volume (sacks)	154	24	24	5
Slurry Volume (bbl)	31.54	4.92	4.92	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	6200	2351	929	14
Bottom of Plug (ft)	8300	2476	1054	39
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 6. Injection Well 363C-27R, Abandonment Schematic

Surface Measurements (w/ alarms on each):
Injection Pressure, Injection Temperature, Injection Rate, Annular Pressure, Annular Volume
Surface Equipment:
Wellhead Surface Safety Valve (SSV) for automatic shut-off
Comms to Central Control Facility (24-hr monitoring)



Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	14' - 54'	24	20	19.124	94	-	-	2.62	-	-
Surface	14' - 2400'	12.25	9.625	8.835	40	L-80	Long	2.62	5750	3090
Long-String	14' - 6300' 6300' - 6700'	8.75	7	6.276	26	L-80 L-80 CRA	Long	2.62	7240	5410
Liner	6400' - 8680'	6.5	4.5	3.92	13.5	L-80 CRA	Long	2.62	9020	8540

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
4-1/2"	6400'	4.5"	4"	11.6	L-80 CRA	Premium	7780	6350

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Sealbore Packer, CRA	6400	30.3	26 - 32	5.875"	4.00"

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.276	6.095

Temperature (DTS) @ 4782' – 4810'

Etchegoin Monitoring Interval, 4782' – 4810'

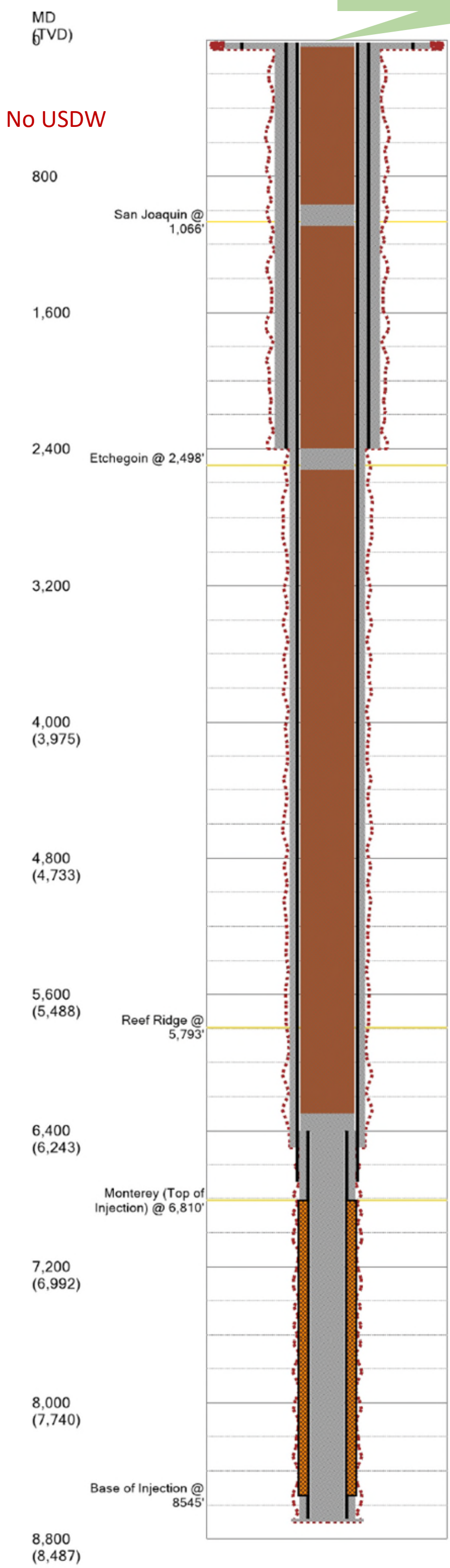
Temperature (DTS), Injection Pressure Gauge @ 6390'

Reef Ridge Confining Layer

26R Injection Zone

Figure 7. Injection Well 353XC-35R, CO_2 Injection Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	353XC-35R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	3.92	6.276	6.276	6.276
Bottom of tubing (ft)	8600	2523	1091	39
Cement Volume (sacks)	168	24	24	5
Slurry Volume (bbl)	34.41	4.92	4.92	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	6300	2398	966	14
Bottom of Plug (ft)	8600	2523	1091	39
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 8. Injection Well 353XC-35R, Abandonment Schematic

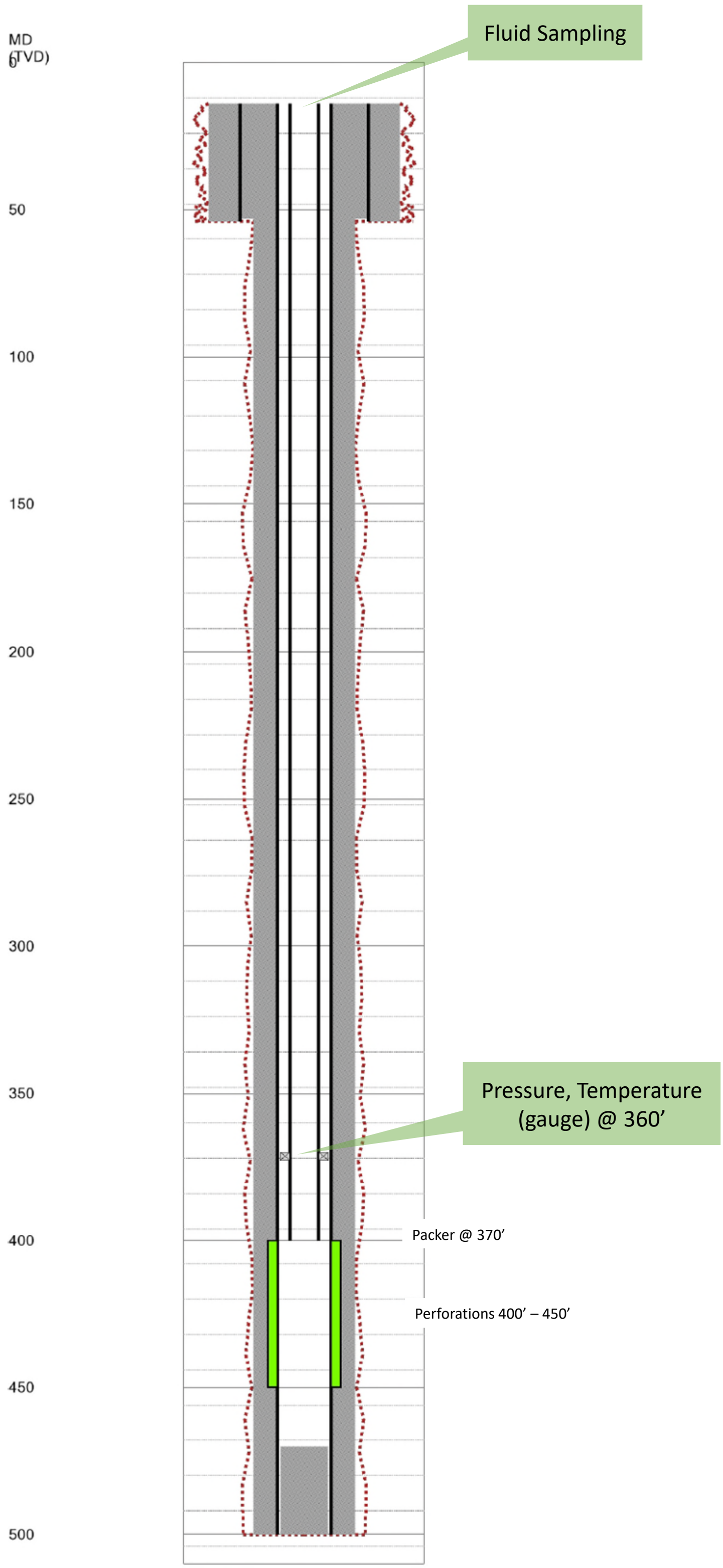


Figure 9. Shallow Monitoring Well – Proposed Monitoring Schematic

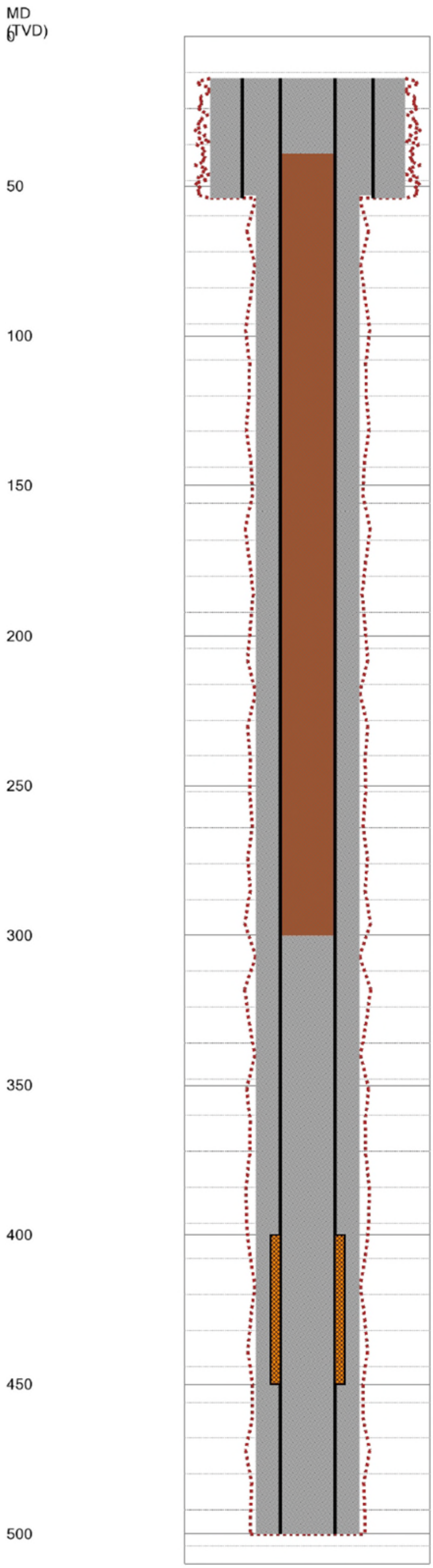
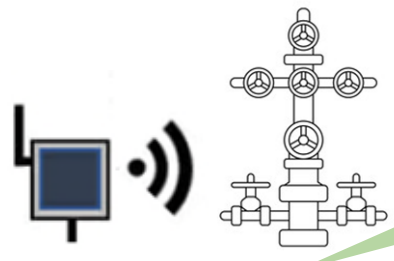
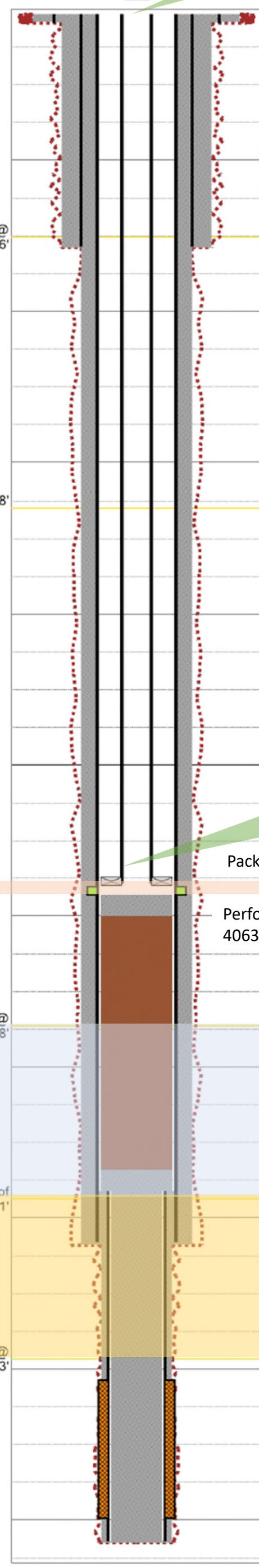


Figure 10. Shallow Monitoring Well – Proposed Abandonment Schematic



Surface Measurements (w/ alarms on each):
Tubing Pressure, Annular Pressure, Annular Volume
Surface Equipment:
Comms to Central Control Facility (24-hr monitoring)



Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	23' - 63'	20	20	19.124	94	-	-	2.62	-	-
Surface	23' - 1100'	14.5	10.75	10.05	40.5	J-55	Short	2.62	3130	1580
Intermediate	23' - 5711'	10.75	7.625	6.875	29.7	N-80	Long	2.62	6890	4790
Liner	5474' - 7101'	6.75	5.5	4.892	17	N-80	Long	2.62	7740	6390

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
2-7/8"	4050'	2.875	2.441	6.5	L-80	Premium	10,570	11,170

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Mechanical, Low Carbon Alloy Steel	4020'	95.4	23 - 29	6	2.37

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
100,000	8000	8000	6.466	6.184

Temperature (DTS),
Tubing Pressure (Gauge)
@ 4010'

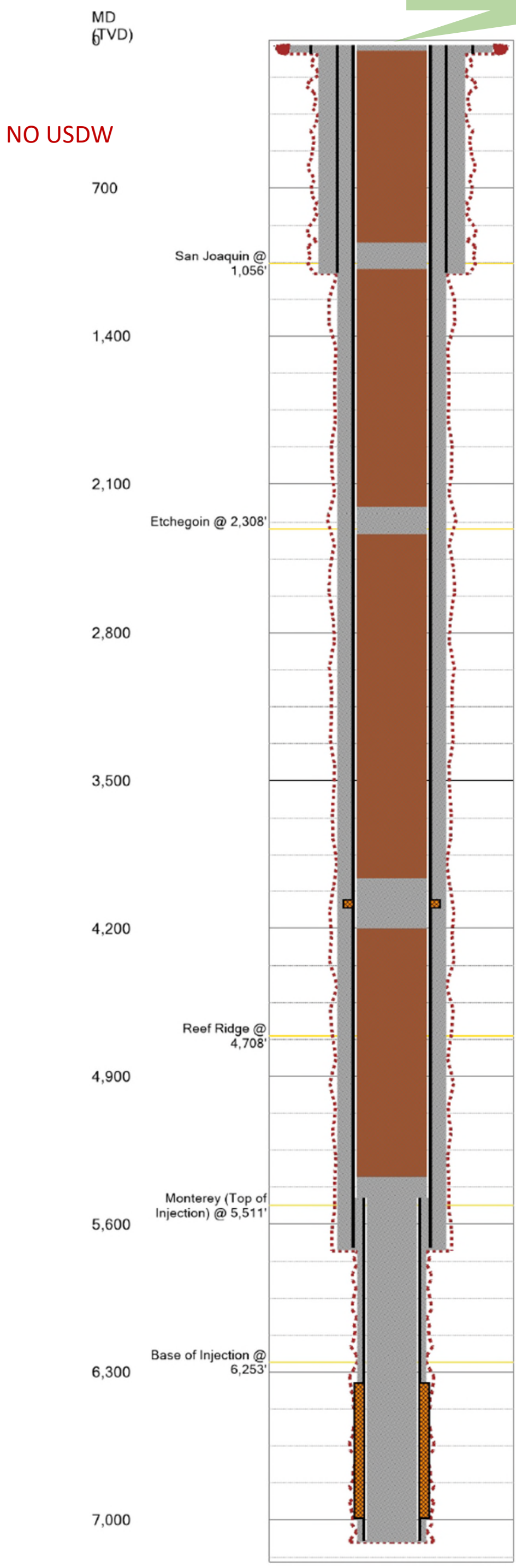
Etchegoin Monitoring Interval,
4063' – 4087'

Reef Ridge Confining Layer

26R Injection Zone

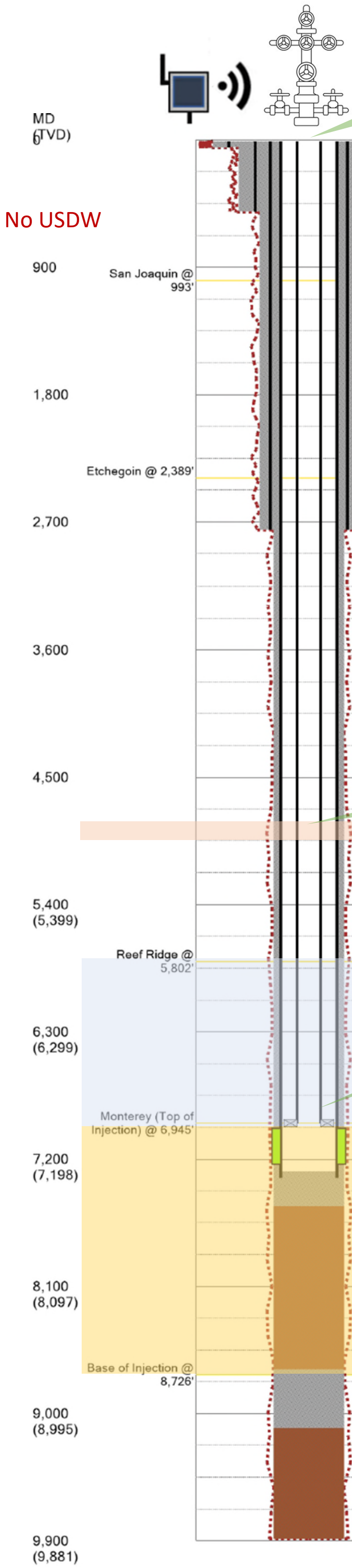
Figure 11. Etchegoin Monitoring Well 355X-26R, Monitoring Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	355X-26R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	6.875	6.875	6.875	6.875
Bottom of tubing (ft)	4100	2333	1081	48
Cement Volume (sacks)	31	29	29	6
Slurry Volume (bbl)	6.35	5.94	5.94	1.23
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	3962	2208	956	23
Bottom of Plug (ft)	4100	2333	1081	48
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 12. Etchegoin Monitoring Well 355X-26R, Abandonment Schematic



Surface Measurements (w/ alarms on each):
Tubing Pressure, Annular Pressure, Annular Volume
Surface Equipment:
Comms to Central Control Facility (24-hr monitoring)

Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	12' - 52'	24	20	19.124	94	-	-	2.62	-	-
Surface	12' - 506'	17.5	13.375	12.615	54.5	K-55	Short	2.62	2730	1130
Intermediate	12' - 2757'	12.25	9.625	8.835	40	K-55	Long	2.62	3950	2570
Long-String	12' - 38' 38' - 5318' 5318' - 7333'	8.75	7	6.276 6.366 6.276	26 23 26	K-55	Long	2.62	4980 4360 4980	4320 3270 4320

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
2-7/8"	6950'	2.875	2.441	6.5	L-80 CRA	Premium	10,570	11,170

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Permanent Sealbore Packer, CRA	6920'	30.2	23 - 32	5.687	3.25

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.366	6.049

Temperature (DTS) @ 4788' – 4811'

Etchegoin Monitoring Interval, 4788' – 4811'

Temperature (DTS), Tubing Pressure (Gauge) @ 6910'

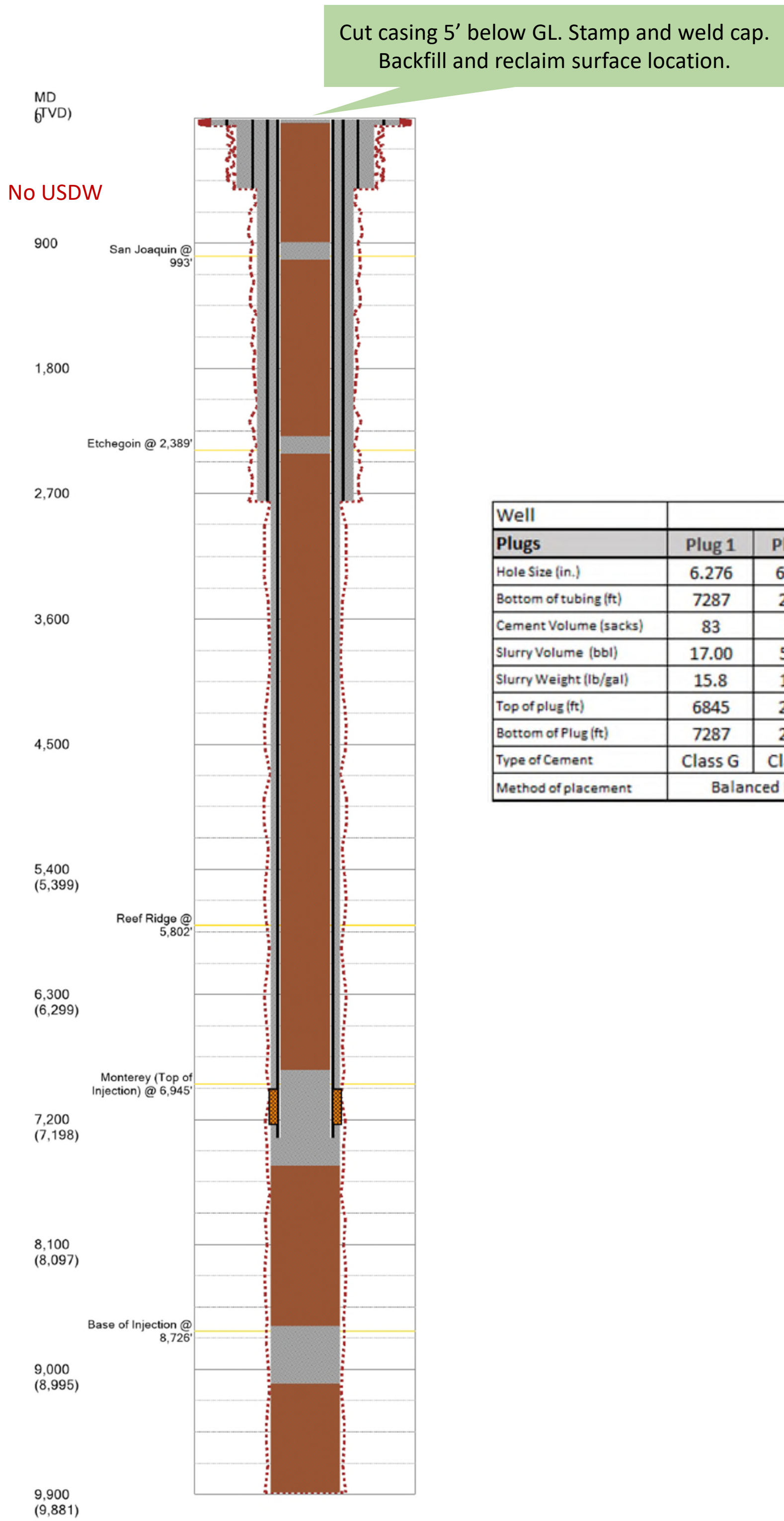
Reef Ridge Confining Layer

Packer @ 6920'

Perforations 6981' – 7237'

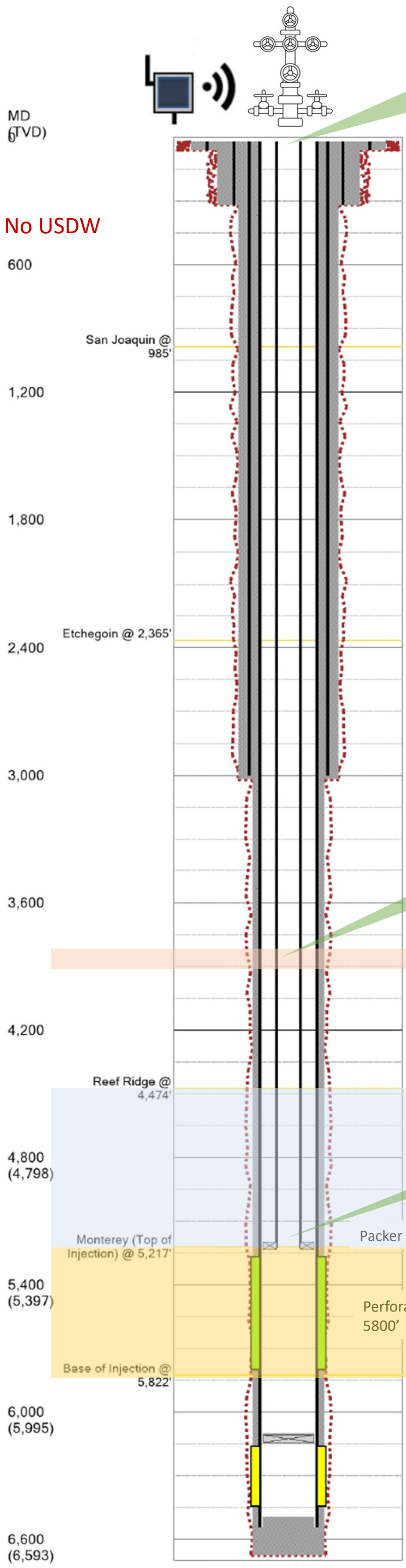
26R Injection Zone

Figure 13. 26R Monitoring Well 341-27R, Monitoring Schematic



Well	341-27R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	6.276	6.366	6.366	6.276
Bottom of tubing (ft)	7287	2414	1018	37
Cement Volume (sacks)	83	25	25	5
Slurry Volume (bbl)	17.00	5.12	5.12	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	6845	2289	893	12
Bottom of Plug (ft)	7287	2414	1018	37
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 14. 26R Monitoring Well 341-27R, Abandonment Schematic



Surface Measurements (w/ alarms on each):
Tubing Pressure, Annular Pressure, Annular Volume
Surface Equipment:
Comms to Central Control Facility (24-hr monitoring)

Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	20' - 60'	24	20	19.124	94	-	-	2.62	-	-
Surface	20' - 318'	17.5	13.375	12.715	48	H-40	Short	2.62	1730	770
Intermediate	20' - 3002'	12.25	9.625	8.835	40	K-55	Long	2.62	3950	2570
Long-String	12' - 80' 80' - 5112' 5112' - 6542'	8.75	7	6.276 6.366 6.276	26 23 26	K-55	Long	2.62	4980 4360 4980	4320 3270 4320

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
2-7/8"	5228'	2.875	2.441	6.5	L-80 CRA	Premium	10,570	11,170

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Permanent Sealbore Packer, CRA	5198'	30.2	23 - 32	5.687	3.25

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.366	6.049

Temperature (DTS) @ 3961' - 3987'

Etchegoin Monitoring Interval, 3961' - 3987'

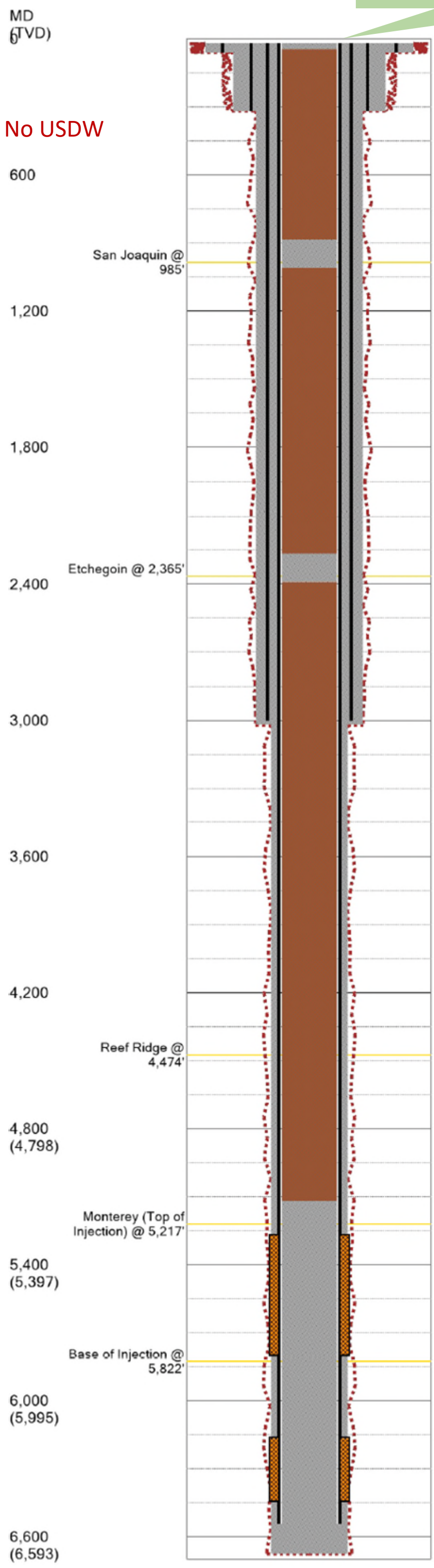
Temperature (DTS), Tubing Pressure Gauge @ 5188'

Reef Ridge Confining Layer

26R Injection Zone

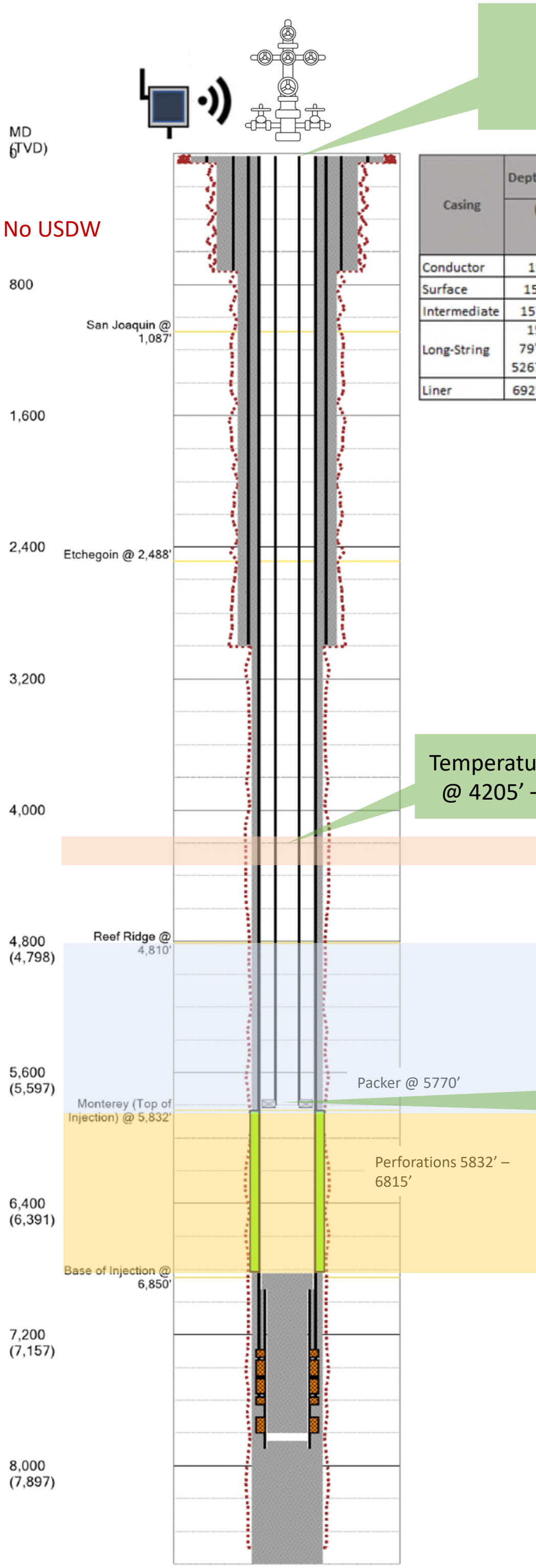
Figure 15. 26R Monitoring Well 328-25R, Monitoring Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	328-25R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	6.276	6.366	6.366	6.276
Bottom of tubing (ft)	6496	2390	1010	45
Cement Volume (sacks)	258	25	25	5
Slurry Volume (bbl)	52.84	5.12	5.12	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	5117	2265	885	20
Bottom of Plug (ft)	6496	2390	1010	45
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 16. 26R Monitoring Well 328-25R, Abandonment Schematic



Surface Measurements (w/ alarms on each):
Tubing Pressure, Annular Pressure, Annular Volume
Surface Equipment:
Comms to Central Control Facility (24-hr monitoring)

Casing	Depth Interval (feet)	Open Hole Diameter (Inches)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Thermal Conductivity @ 77 °F (BTU/ft hr,°F)	Burst Strength (psi)	Collapse Strength (psi)
Conductor	15' - 55'	24	20	19.124	94	-	-	2.62	-	-
Surface	15' - 718'	17.5	13.375	12.715	48	H-40	Short	2.62	1730	770
Intermediate	15' - 2990'	12.25	9.625	8.835	40	N-80	Long	2.62	5750	3090
Long-String	15' - 79' 79' - 5267' 5267' - 7600'	8.75	7	6.276 6.366 6.276	26 23 26	K-55	Long	2.62	4980 4360 4980	4320 3270 4320
Liner	6925' - 7899'	8.75	5.5	4.778	20	K-55	Long	2.62	5320	4910

Tubing	Depth Interval (feet)	Outer Diameter (inches)	Inner Diameter (inches)	Weight (lb/ft)	Grade (API)	Design Coupling (short or long threaded)	Burst Strength (psi)	Collapse Strength (psi)
2-7/8"	5,800	2.875	2.441	6.5	L-80 CRA	Premium	10,570	11,170

Packer Type and Material	Packer Setting Depth (feet)	Length (inches)	Nominal Casing Weight (lb/ft)	Outer Diameter (inches)	Inner diameter (inches)
Permanent Sealbore Packer, CRA	5770	30.2	23 - 32	5.687	3.25

Tensile Rating (lbs)	Burst Rating (psi)	Collapse Rating (psi)	Max Casing Inner Diameter (inches)	Min Casing Inner Diameter (inches)
200,000	7,500	7,500	6.366	6.049

Temperature (DTS) @ 4205' – 4226'

Etchegoin Monitoring Interval, 4205' – 4226'

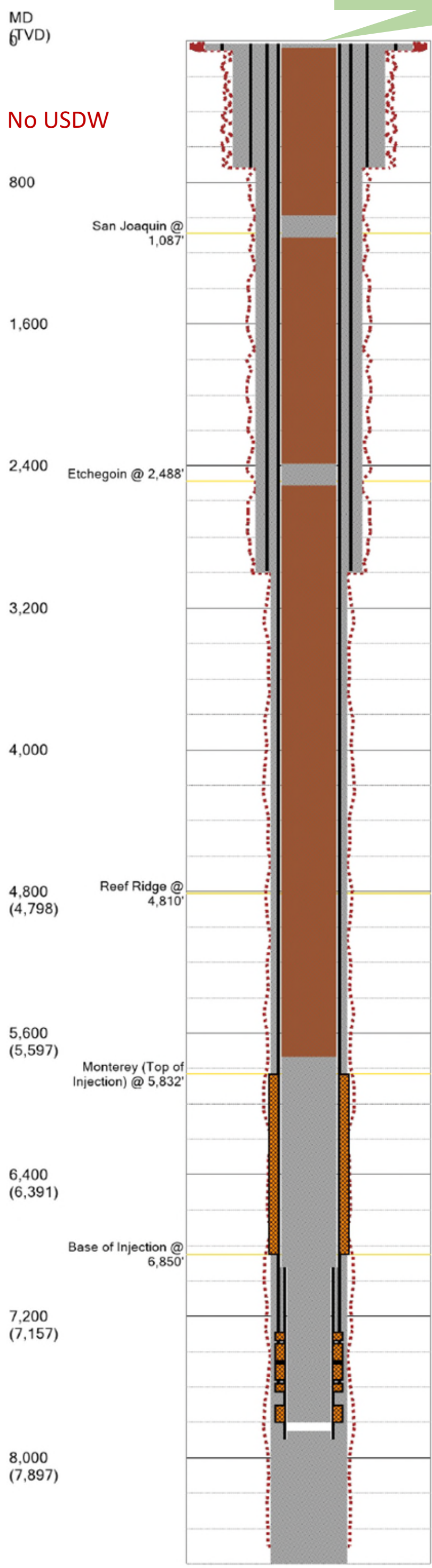
Reef Ridge Confining Layer

Temperature (DTS), Tubing Pressure Gauge @ 5760'

26R Injection Zone

Figure 17. 26R Monitoring Well 376-36R, Monitoring Schematic

Cut casing 5' below GL. Stamp and weld cap. Backfill and reclaim surface location.



Well	376-36R			
Plugs	**Plug 1**	**Plug 2**	**Plug 3**	**Plug 4**
Hole Size (in.)	6.276	6.366	6.366	6.276
Bottom of tubing (ft)	6860	2513	1112	40
Cement Volume (sacks)	211	25	25	5
Slurry Volume (bbl)	43.21	5.12	5.12	1.02
Slurry Weight (lb/gal)	15.8	15.8	15.8	15.8
Top of plug (ft)	5732	2388	987	15
Bottom of Plug (ft)	6860	2513	1112	40
Type of Cement	Class G	Class G	Class G	Class G
Method of placement	Balanced Plug, Retainer, or CT Plug			

Figure 18. 26R Monitoring Well 376-36R, Abandonment Schematic