BORING LOG

Boring/Well Number: SMW-1	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/12/22 End Date: 09/13/22	Borehole Start Time: 1431 ☐ AM ☑ End Time: 1130 ☑ AM ☐	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 100
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1431			5	Chalky/tan Limestone/Sandstone overlain by a thin, dry, gray topsoil.	
						10	1455 - Mud up with Penetrol wetting agent and EZ-MudGold. Light brown/tan Silty Clay at 6'.	
			1510		10	15		
			1520			20	Silty clay with small mottled, dark gray and orange iron staining; becoming darker and stiffer/rigid. Hard rock at 18'. Flush hole/connection.	
			1535		15	25		
			1545		10	30	Shale, dark gray/black. Rocking drill rig.	
			1556		11	35	Trace light gray lean Clay.	
			1604		8	40	Dark gray Shale with small light gray lean Clay.	
			1623		19	45	Increase in Silt.	
			1632		9	50		
			1641		9	55	Increase in Clay.	
			1657		16	60	Dark gray with small light gray, soft Shale.	
			1705		8	65	More Clay than Shale.	
			1711		6	70	SL Silty, dark lean Clay.	
			1722		11	75		
			1740		18	80	Trace light gray lean Clay.	
				1756	16	85	Really hard.	
			0800	0840	47	90	Dark gray, clayey Shale.	
			0955		75	95	Small, moderately hard Calcite?	
			1050		55	100	SL/more Calcite?	
				1130			Total Depth = 100 ft.	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: DMW-1	Permit Number:	Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/13/22 End Date: 09/17/22	Borehole Start Time: 1445 ☐ AM ☑ End Time: ☐ AM ☐
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch	Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4 — Borehole Depth (feet): 236
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): — Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other
(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HHMM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1445			5	Ingersol Rand Cyclone TH-60. Chalky, silty, tan Limesont overlain by a light gray, clay rich topsoil.	
			1504		19	10		
						15		
			1532		28	20	Rig/bit bouncing at 18'. Dark gray, hard, brittle, fine, Shale.	
						25		
			1546		14	30	Moderately hard, brittle, shale formation. Made a few passes to clean out hole.	
						35		
			1616		30	40	Hard at 39'. As above with some light gray, soft shale.	
						45		
			1632		16	50	1/2 soft, light gray shale and 1/2 hard, brittle, fine, dark gray shale.	
						55		
					54	60	As above with less soft shale.	
						65		
			1749		72	70	Soft, medium gray clay, very plastic.	
						75		
			1801		12	80	As above w/sm.	
				1807		85	Dark gray shale with hight clay content and bits of hard calc. shale.	
			0923		98	90	Cleaning out hole.	
			1020		43	95	Dark gray, soft with increasing amounts of gray, fine, brittle shale.	
			1049		63	100	Light gray/dark gray, soft, clayey shale, small bits of brittle shale.	
			1103		14	105	Dark gray, soft shale.	
			1110		3	110	As above with trace hard bits.	
			1123		13	115	1130-1143: Cleaning hole.	
			1150		14	120	Soft, gray, clay shale with trace silty sandstone.	
			1204		14	125	Very soft, gray/dark gray, silty shale with trace calc.; organic rich.	
			1223		19	130	Fine, sandstone, tan, SL, SHLV, trace calc., pyr, moderately hard.	
			1242	1258	19	135	1258 at 138': Cleaning hole. Brittle, calc. black shale with silt stringers.	
			1409		16	140	Sandstone as above, gray/light gray, soft brittle, SL calc shale, fine.	
			1423		14	145	Black shale, non-calc., trace sandstone, off white calc., hard, brittle.	
			1436	1500	13	150	Stopped for repairs at 1500 at 150'.	
			1017	1147	16	155	Light gray/dark gray, soft shale with some tan calc. sandstone and trace calcite.	
			1216		19	160	As above with some tan microcrystaline and spiculitic limestone.	
			1232		11	165		
			1251		20	170	Very soft, rust, red clay/shale and trace fiss., silty gray shale.	
			1302		23	175		
			1322		25	180	Soft, calc. shale and black, fine, soft, brittle, silty shale; Sandstone, fine, calc. well sorted, tan, orange/yellow.	
			1345		24	185	Light gray, silty with soft shale, sticky.	
			1410		35	190	Light tan/off white, rust, fine grain, sandstone, calcareous.	
			1434		27	195	Light gray, fine grain sandstone; gray, fine, fiss, silty, brittle, shale; pyroxine, bubbles won't pop forming with acid.	
			1509		17	200	As above with more pyrite sandstone.	
			1537		76	205	Hard, clear sandstone with pyroxine, mica, calc. cement.	
			1554		85	210	As above with some soft, light gray, shale. De-sander full of very fine silt.	
			1719	1752	33	215	Very hard, brown and light gray sandstone; fine calc. and non calc. crystaline and microcrystaline limestone, tan/light brown, hard.	
			0821		51	220	As above with soft sandstone and course gravel; sandstone, white/lt gray with fines.	
			0856		35	225	Fine, light gray/off white/white, well sorted sandstone, soft to firm, not cemented.	
			0934		38	230	Sandstaone as above with some brwon, calc. and fissile, fine, silty brittle, black shale.	
			1014	1222	40	235	Light gray, with fine grain, soft shale formation; SL-shaly calc. sandstone	
					128		Very hard at 236', returns pulverized.	
							Total Depth = 236 ft.	

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Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SMW-2	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/29/22 End Date: 09/30/22	Borehole Start Time: 1502 ☐ AM ☑ End Time: 1046 ☑ AM ☐	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4"	Borehole Depth (feet): 115
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1502			10	Shaly brn-Gry chalky soil	
			1519		17	20	Cream soft chalky LS	
			1550		31	30	Gry-Drk Gry Fn sl Shly Hrd-Brtl SS	
			1600		10	40	Lt Gry-Gry Fn Hrd SS w/sm Crm crs Xln LS	
			1630		30	50	AAB w/sm sft fn SS and v/sft wht clay	
			1644		14	60	AAB w/approx 40% being gry v/sft shale	
			1701		17	65	Gry Shly Fn Frm-Sft SS Carbonaceous w/tr Wht Sft Clay	
			800	816	16	70	AAB	
			834		18	75	Gry Sft Plstic SH, Lt Gry Hrd Fn SS, Gry-Drk Gry Fn Sft SS w/Tr Brn Calc	
			846		12	80	Less Sft SH, Sm Pyr in Lt Gry Hrd SS, Drk SS AAB & more Brn Calcite	
			908		13	85	50% Crm-Bff-Brn Xln Calcite & Gry-Lt Gry Fn Frm-Hrd SS	
			916	8		90	AAB	
			924	8		95	AAB	
			948	10		100	Fn Gry Sft-Frm-Hrd SS w/ Crm-tan-Brn Xln to Mcro Xln Hrd LS & Calcite	
			1020	32		105	65% LS & Calcite AAB & SS AAB	
			1030	10		110	50% Calcite & LS & 50% Fn Shly Sticky SS	
			1037	7		115	AAB	
			1046	9			Total Depth = 115 ft.	

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BORING LOG

Boring/Well Number: DMW-2	Permit Number:	Project/Task Number: 85-K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/27/22 End Date: 09/27/22	Borehole Start Time: 1731 ☐ AM ☑ End Time: 954 ☑ AM ☐
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch	Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4" / Borehole Depth (feet): 199
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well): / Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1731			5	Shaly, dry, tan-brown soil	
				1,740	9	10	Chalky tan silty LS	
				1,747	7	15	Tan Birttle slightly chalky coarse crystalline LS	
				1,751	4	20	AAB with brown translucent calcite.	
				1,804	7	25	Dark gray shaly fine grained SS, firm-brttl w/xln calcite	
				1,814	10	30	AAB wit no clacite	
			1056		9	35	Brtl-Hrd gray- Lt Gry shly ss with free xln calcite	
			1108		12	40	AAB w/some fine hard-brtl white SS	
			1129		12	45	1/2 wht-Lt gry & 1/2 drk gry fine hrd SS, wl srtd, calc	
			1141		12	50	AAB w/some friable med grn tan SS	
			1149		8	55	Lt gry-gry, sl shly fn sft-brtl-hrd calc SS	
			1156		7	60	AAB	
			1226		8	65	Gry-Lt Gry Fn SS Brtl-Hrd, Wht V/FN Firable SS	
			1233		7	70	Gry sft-frm fine Shly SS, Wht V/fn V/sft SS	
			1250		17	75	AAB w/more soft plastic gray SH	
			1258		8	77	Lt Gry-Gry, Fn, Sl Shly, frim-Brtl, Calcareous SS	
			1304		6	80	AAB becoming more friable	
			1320		8	85	Gry-Lkt Gry-Wht Fn hrd-brtl-w/sm frm SS, free calcite and bands	
			1328		8	90	AAB w/ 35% being sft slty shly SS-Gry	
			1337		9	95	Fn-frm-Brtl w/sm Hrd & Sft SS w/sm Calcite	
			1347		10	100	AAB	
			1500		33	105	Gry w/sm Lt gry Fn Frm-Brtl-Hrd SS w/sm Buff XLN Calcite	
			1540		40	110	AAB w/sm med grn hrd-brtl Gry SS w/calc inclusions	
			1548		8	115	Tan-lt brn-crm xln-micro xln clacite & LS, gd intr xln & frac porosity	
			1357		9	120	AAB w/sm spiculitic calcite and fn frm lt gry SS	
			1734		9	125	Lt Gry-Gry Shly Fn SS w/sm Calcite-tan-buff mcro xln	
			1743		9	130	Clr-lt gry-gry fn-med sft-frm-brtl Shly Sl Calc SS	
			1753		10	135	AAB	
			1804		11	140	Shly-Gry-Clr-Fn-Med Sft-brtl w/sm hrd SS	
			735		5	145	AAB with some pyrite in the SS, trace slty SH	
			740		5	150	Lt Gry-Gry FN w/sm med frn, frm- sft SS w/sm Slty Blk SH	
			748		8	155	AAB w/sm Friable tan med grn SS	
			800		12	160	Lt Gry-Gry Fn-Med SS with some v/Fn soft Wht Clay	
			833		11	165	Tan w/sm clr fn w/sm med grn hard w/tr frm non calc-cem SS	
			841		8	170	V/Fn V/sft Lt Gry-Off Wht Shly SS w/sm SS AAB and Tr Blk Fn SH	
			848		7	175	AAB	
			854		6	180	AAB w/sm sft silty SH bands	
			916		7	185	Off-Wht-tan-Lt Gry V/FN V/sft SS w/tr Blk slty SH	
			921		5	190	Pure clear w/sm tan med uncons Sand	
			928		7	195	AAB	
			933		5	199	AAB. Hard @ 196-7'	
			954		5		AAB w/sm Med-Fn grn hrd to frm lt gry SS	
							Total Depth = 199 ft.	

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Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SMW-3	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/27/22	Borehole Start Time: 0921 ☑ AM ☐	
	End Date: 09/27/22	End Time: 1301 ☐ AM ☑	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 83
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		0921		4	5	Buff, plastic, soft calcitic Shale overlain by grayish brown, shaly, topsoil.	
			0929		4	10	As above with crystaline, tan-orange, hard-brittle Limestone.	
			0933		4	15	As above with buff Limestone and fine, hard, white Sandstone.	
			0944		4	20	Tan, crystaline-micr-crystaline and oomoidic Limestone, hard-brittle-firm.	
			0950		6	25	As above with reservoir rocks.	
			1002		12	30	As above with small soft, chalky, shaley Limestone-crm.	
			1009		7	35		
			1036		14	40	Buff, yellow, non-calc, soft, plastic Shaley with fine, shaley SS'SL calc , firm,brittle.	
			1108		24	45	Hard SL calc SS med-fine; yellow, soft, plastic gray Shale.	
			1135		27	50	Drilling fast at 46'.	
			1148		13	55	Soft-plastic gray, non-calc Shale; yellow, firm, medium hard with fine non-calc Sanstone.	
			1209		8	60	Light gray, medium grain, hard, calc Sanstone - pyr; trace white friable, fine Clay and Sandstone.	
			1220		11	65	Light gray, tan-orange, medium grain, hard-friable Sandstone with trace black and white clayey Sandstone.	
			1227		7	70	As above (more soft, gray Shale?).	
			1231		4	75	As above with small, orange-yellow, fine, firm Sandstone.	
			1253		5	80	As above with 20% white, soft, clay.	
				1301	4	85	Hard, tan, medium green Sanstone with Sm, friable. 60% fine, white clayey Sandstone.	
							Total Depth = 83 ft.	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SMW-4	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/21/22	Borehole Start Time: 1103 ☑ AM ☐	
	End Date: 09/22/22	End Time: 1055 ☑ AM ☐	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 100
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1103		1	5	Tan, soft, chalky Limestone at overlain by gray, chalky topsoil.	
			1117		13	10	Light tan/buff, soft. LS	
						15		
			1138		21	20	Fine-to-medium grain, firm-to-soft-to-brittle, grey-to-dark grey Sandstone with calcite cement.	
						25		
			1158		20	30		
						35	Hard at 36 ft.	
			1242		34	40	Small white/buff calcite and crystaline limestone.	
						45		
			1303		21	50	Sandstone with trace limestone; mostly light gray/white, fine grain, soft-brittle-hard, calcitic sandstone.	
			1312		9	55	Trace light-grey, soft, plastic shale.	
			1338		16	60	Gray-to-light gray, fine-firm-friable with small calcite.	
			1342		4	65		
			1349		7	70	Trace soft, plastic shale.	
			1357		8	75		
			1421		10	80		
			1430		10	85	Increase in plastic shale.	
			1438	1442	8	90	Dark gray, fine-brittle-friable sandstone with small calcite with gd intr xln por.	
			1031		14	95	Dark gray/light gray, soft-friable-fine sandstone; clear/tan calcite.	
			1045		10	100	Increase in calcite crystals.	
				1,055				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Page 1 of _____

Boring/Well Number: DMW-4	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/19/22 End Date: 09/20/22	Borehole Start Time: 0838 ☑ AM ☐ End Time: 1744 ☐ AM ☑	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 198
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☑ Grout ☑ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		0838			5	Off-white, firm-brittle, chalky Limestone overlain by dry, firm, chalky, topsoil.	
			0847			10		
			0907			15	Soft-hard, chalky, off-white-yellowish Limestone with smal tan calc. (crystaline) and orange Sandstone, medium green, unconsolidated.	
			0924			20	Dark gray to light gray, silty Shale; firm to soft with trace, medium hard Calcite.	
			0942			25	Hard at 24'.	
			0952			30	Thin fiss, gray-black, silty Shale, calc., firm-moderately hard. Consolidated calc., medium green with srt Sandstaone; gray/off white frost with mica, hard.	
			1003			35	Gray-dark, Shaley, firm-hard, calc., Sandstone, well sorted, fine grain.	
			1030			40	As above wih small, white, medium grain, calc. Sandstone, soft. Hard at 37', rig grinding.	
			1045			45		
			1052			50	Firm to brittle, moderately hard, light gray/white, frost cons. Calc. Sandstone, fine. Hard at 46'.	
			1116			55	Light gray/gray/off white, Sandstone, friable, calc. cem., mica, hard, brittle, thinning mud up.	
			1140			60		
			1153			65		
			1231			70	Light gray/white, hard, fine, calc, Sandstone; brittle/firm, dark, fine gram calc. Sandstone.	
			1245			75	As above with soft, light gray, plastic Shale.	
			1317			80	As above with increase in sandstone.	
			1346			85	As above with more sandstone, 1/3 clayey shale.	
			1424			90		
			1439			95	Shaley, fine, firm to hard, calc. Sandstone, gray, pcs, tan/clr, xln, calcite.	
			1517			100	1/2 calcite, 1/2 sandstone.	
			1546			105	Fine, gray/off white, firm, SL calc. Sandstone; clear/light brown, microcrystaline, coarse crystaline.	
			1647			110		
				1718		115	As above with less calcite (70/30).	
			0829			120	Rig hopping at 119' (pyrite sandstone).	
			0906			125	Hard, fine-medium grain, well sorted, dark gray/light gray, cons. Sandstone, pyrite.	
			0919			130	As above with brittle sandstone.	
			0940			135	As above with some clear/opague Limestone.	
			1017			140	No limestone.	
			1023			145	Sandstone as aboe with small-medium tan grains.	
			1032			150	Tan, fine, hard, non calc, cement sandstone; translucent, medium grain, soft/brittle, SL calc. sandstone.	
			1043			155	As above with some pyrite and mica.	
			1113			160	Soft, fine, white, friable, sandstone at 157'.	
			1125			165	Nice tan, medium-fine, cem. Sandstone; clear-light gray, soft, fine sandstone.	
			1141			170	As above. Dakota formation.	
			1155			175	Brown/tan/light gray, medium-fine, hard, friable, well sorted, non calc. sandstone.	
						180	As above with small, moderately sorted and angular grains, trace black fiss. Carb shale.	
						185	As above with small, white Clay.	
						190	White clay with small sandstone as above.	
			1310			195	White clay with dark/white, fine sandstone.	
			1328			200	As above; 80% clay, 20% sandstone.	
						205	As above; 70% clay, dar, sandstone and paleosol, dark?	
				1744		210	Firmer, more clay, less sandstone.	

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Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SMW-5	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 10/01/22	Borehole Start Time: 1452 ☐ AM ☑	
	End Date: 10/02/22	End Time: 1036 ☑ AM ☐	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 117
Drilling Method(s): Mjud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1452			5	Chalky Shaly brown Gray Topsoil	
			1500		8	10	Cream Chalky Soft LS	
			1505		5	15	AAB with some hard dense mcro xln cream LS	
			1516		11	20	AAB	
			1533		17	23	Fn- Frm-Hrd Shly Gry SS and traces of buff calcite Tr Sft Crm SS	
			1342			25	White v/Sft clay coming up	
			1545		12	30	Gry Fn Hrd-Brtl-Sft Shly SS w/ calc incl and free bff-Tan Calcite	
			1557		12	35	AAB	
			1606		9	40	Gry w/sm Wht sft-Frm Fn SS w/ few pcs of buff-tan calcite	
			1627		21	45	AAB with more calcite	
			1644		17	50	AAB, the Wht SS is v/Fn and Britl	
			1654		10	55	Lt Gry-Off Wht V/Fn brittle SS w/sm frm & trace shaly	
			1659		5	60	Lt Gry-Off Wht v/Fn SS getting harder, Tr shly .& calc Ran joint of drill string down, circulated and called it a day at 1710	
			740		6	65	Gry-Lt Gry w/sm Wht fn-v/fn frm-brtl SHLY SS	
			747		7	70	AAB w/sm being hrd	
			753		6	75	Lt Gry-Gry w/sm Wht Fn-v/Fn brtl-hrd SHLY SS, got real hard @ 71	
			802		9	80	Gry-Drk Gry Fn-v/Fn hrd Shly SS with some bff xln & micro xln calcite	
			830		28	85	Lt Gry fn-v/Fn hard calc SS with some buff mcro xln calcite	
			837		7	90	AAB, became really hard @ 87'	
			852		15	95	AAB, starting to have soft sands	
			908		16	100	Gry w/sm Drk Gry Fn-v/Fn Frm-brtl w/sm hrd SS, 40% Buff-tan mcro-xln calcite, real hard @ 98'	
			939		31	105	Gry Fn frm-hrd calc SS, 50% v/hrd bff mcro-xln Calcite	
			1023		44	110	Drilling better at 103', Gry-Drk Gry Fn Frm-Brtl SS w/sm buff-tan xln & mcro xln calcite	
			1030		7	115	AAB w/sm v/soft wht SS	
			1036		6		AAB, very hard @ 117	
							Total Depth = 117 ft.	

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BORING LOG

Boring/Well Number: SMW-6	Permit Number:		Project/Task Number: 85K-002-001
Site Name: SVP-PFI Baseline Mon. Program	Borehole Start Date: 09/30/22	Borehole Start Time: 1554 ☐ AM ☐	
	End Date: 10/01/22	End Time: 1021 ☑ AM ☐	
Environmental Contractor: Trihydro	Geologist's Name: Bill Busch		Environmental Technician's Name: N/A
Drilling Company: Peterson	Pavement Thickness (inches): N/A	Borehole Diameter (inches): 8-3/4	Borehole Depth (feet): 107
Drilling Method(s): Mud Rotary	Apparent Borehole DTW (in feet from soil moisture content):	Measured Well DTW (in feet after water recharges in well):	Other Comments:

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☑ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☑ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches/cuttings)	Time Start (HH:MM)	Time End	Duration (Drilling Rate[min])	Depth (feet)	Lithologic (Soil/Rock) Sample Descriptions (include drilling/mud comments, and other remarks)	Lithologic Symbols
Drill Cuttings	Grab samples (see drilling depth)		1554			5	Dry chalky brn-Gry soil	
			1601		7	10	Crm soft chalky LS	
			1609		8	15	Cream Sft Chalky Clay-like LS, became fatter	
			1623		14	20	AAB becoming oomoldic w/tr of amber XLN Dol*	
			1636		13	25	Gry Fn Hrd-Sft Calc SS with some Buff Xln Calcite	
			1644		8	30	Very Limy Shaly Gray Fine Hard SS with Calcite inclusions	
			1650		6	35	AAB	
			1700		10	40	AAB w/interbedded clalcite layers	
			1722		22	45	AAB 50/50 SS to Calcite, Hard	
			1728		6	50	AAB with som soft and firm gry and Lt Gry SS	
			1734		6	55	Gry - Lt Gry sft to firm Fn SS w/ sm v/small calcite inclusions	
			1740		6	60	Gry to Lt Gry Fn Btrtl to Sft Shaly SS	
			746		6	65	80% Gry-Drk Gry Fn Sft-Frm SS Off wht-Lt gry hrd Fn SS Tr Calcite Nicest sand so far	
			752		6	70	AAB, At 66' it became very hard	
			822		30	75	AAB, no observable change in rocks, plastic SH may have slowed pump	
			835		13	80	Gry-Crm sft-frm v/fn SS, 50% clay-like material	
			857		22	85	AAB	
			919		22	90	Drk Gry-Gry FN Hrd SS, Clear-buff calcite-Hrd	
			928		9	95	Drk Gry-Gry Fn Shly Sft- Frm w/sm Hrd SS, Buff-Tan hard Calcite and micro xln LS	
			934		6	100	AAB w/pyrite & calcite inclusions in SS	
			958		24	105	Gry-Drk Gry Fn Sft-Frm SS & Crs Xln and mcro xln LS & Calcite, best mix so far	
			1006		8		75% Crs Xln Ls Hrd w/sm Brtl, buff calcite, spicules, SS aab	
			1021				Total Depth = 107 ft.	

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