

December 2, 1971
Preliminary Copy
University of Idaho
Soil Conservation Service

Palouse Silt Loam 69 Ida 0517 (Modal)

General Site Characteristics

Location -- Benewah County, Idaho; 440 feet east and 700 feet north of the west $\frac{1}{2}$ corner section 34, T. 45 N., R. 5 W., photo 4V-15; described -- October 16, 1969, by J. Chugg, E. Moore, and M. Fosberg; topography -- rolling loess plain, smooth, 6 percent slope; aspect -- south; elevation -- 2,600 feet; parent material -- loess; climate -- mean annual precipitation is approximately 21 inches; drainage -- well; vegetation or use -- cultivated field, stubble (not plowed under); classification -- Pachic Ultic Haploxeroll, fine, silty, mixed, mesic.

Typifying Pedon

Ap 0-10 inches. Dark grayish brown (10YR 4/2) silt loam, very dark brown (10YR 2/2) moist; moderate, fine granular structure; soft, friable, slightly sticky and slightly plastic; plentiful very fine roots; common fine and very fine pores; abrupt wavy boundary.

A3 10-17 inches. Grayish brown (10YR 5/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure that separates to weak medium subangular blocky; soft, friable, slightly sticky and slightly plastic; plentiful very fine roots; common fine, very fine and micro pores and few coarse pores; clear wavy boundary.

B1 17-24 inches. Grayish brown (10YR 5/2) silt loam, dark brown (10YR 3/3) moist; weak, medium prismatic structure that separates to weak medium subangular blocky; soft, friable, slightly sticky and slightly plastic; plentiful very fine roots; common fine, very fine and micro pores and few coarse pores; clear wavy boundary.

B21t 24-36 inches. Brown (10YR 5/3) silt loam, dark yellowish brown (10YR 3/4) moist; moderate coarse prismatic structure; slightly hard, friable, slightly sticky and slightly plastic; plentiful fine roots; common fine, very fine and micro pores, and few coarse pores; thin patchy clay films on vertical and horizontal surfaces and in pores; two continuous clay bands, $\frac{1}{2}$ inch thick band (29 inches below surface) 1 inch thick band (32 inches below surface); many iron and manganese concretions; distinct silt coat on vertical worm or root channels; clear wavy boundary.

B22 36-50 inches. Brown (10YR 5/3) silt loam, dark brown or brown (10YR 4/3) moist; moderate medium prismatic structure that separates to

moderate fine subangular blocky; slightly hard, friable, slightly sticky and slightly plastic, common coarse, fine, very fine and micro pores; thin patchy clay films on vertical and horizontal surfaces and in pores, thin clay band; common iron and manganese concretions; 3/4 inch rounded basalt gravel; thin silt coat; gradual wavy boundary.

B23 50-68 inches. Yellowish brown (10YR 5/4) silt loam, dark brown or brown (10YR 4/3) moist; moderate, fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common coarse, micro, fine, and very fine pores; continuous clay films on vertical and horizontal surfaces and in pores; many fine to coarse iron and manganese concretions; some silt coats on ped surfaces; abrupt wavy boundary.

B3 68-96 inches. Pale brown (10YR 6/3) silt loam, moderate, coarse platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine pores; many fine iron-manganese concretions.

Chemical characterization and physical analysis of profile

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Palouse Silt Loam

No.	Horizon	Depth in.	pH Paste	pH 1:5	ECx10 ³	Saturation extract me/1000 gms soil								
						Ca	Mg	Na	K	CO ₃	HCO ₃	Cl	SO ₄	
1	Ap	0-10	6.00	6.38	0.53									
2	A3	10-17	6.48	6.70	0.25									
3	B1	17-24	6.60	6.80	0.34									
4	B21t	24-36	6.75	6.95	0.28									
5	B22	36-50	6.80	7.05	0.24									
6	B23	50-68	6.90	7.20	0.28									
7	B3	68-96	Not Sampled											

Exchangeable ions me/100 gms					C.E.C. me/100	Base Sat. %	Gyp. %	CaCO ₃ %	E.S.P.	C %	O.M. %	N %	C:N	Pw at sat.	Soil:Rx Ratio
Ca	Mg	Na	K	H											
2.00	2.60	0.10	1.75	4.61	23.90	58.32				2.39	4.12	0.188	12.71	51.0	None
1.90	3.13	0.10	1.40	3.48	22.91	65.23				1.37	2.34	0.130	10.54	58.0	None
1.75	3.75	0.15	0.95	2.73	19.12	70.74				1.00	1.73	0.089	11.24	48.5	None
1.90	5.00	0.15	0.60	2.16	20.22	77.98				0.36	0.63	0.045	8.00	50.0	None
5.75	5.83	0.25	0.50	1.88	23.51	86.77				0.19	0.32	0.031	6.13	47.0	None
7.00	7.08	0.40	0.36	2.26	24.60	86.78				0.13	0.23	0.024	5.42	44.5	None

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No.	Particle size distribution (mm) (percent)							Gravel & Stone, etc.		Texture Class
	VCS 2-1.0	CS 1-0.5	MS 0.5-0.25	FS 0.25-0.05	VFS 0.1-0.05	TS 0.05-0.002	TSi 0.05-0.002	TC <0.002	>2mm	
0-10	0.00	0.09	0.12	1.04	6.51	7.77	70.26	21.97	None	Silt Loam
10-17	0.05	0.08	0.07	0.76	6.83	7.79	70.84	21.37	None	Silt Loam
17-24	0.08	0.07	0.12	1.18	6.92	8.38	73.14	18.48	None	Silt Loam
24-36	0.05	0.08	0.07	0.78	5.74	6.72	71.04	22.24	None	Silt Loam
36-50	0.07	0.08	0.08	0.43	5.99	6.66	75.12	18.23	None	Silt Loam
50-68	0.04	0.19	0.20	0.91	6.48	7.82	67.35	24.83	None	Silt Loam

68-96 not sampled

REMARKS:

Centrifuge Method
 Calgon Added
 Finished 1-4 November 8, 1971
 4-6 November 16, 1971

No.	CSi	MSi	FSi
0-10	33.32	31.76	4.55
10-17	34.16	31.96	4.73
17-24	36.19	31.73	5.22
24-36	37.59	28.93	4.52
36-50	41.73	29.91	3.48
50-68	38.89	24.25	4.21
68-96	not sampled		

Bulk Density
 g/cc
 —
 1.17
 1.28
 1.62
 1.60
 1.64
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