

Pedon 31

Pedon: 31  
Soil Survey Number S83-FN-275-001  
Location: Chile  
Physiography: terracettes in  
Slope: 1% plane  
Precipitation: 205 cm  
Air Temperature: Ann: 13 Summ: Win:  
Drainage: Well drained  
Particle Size Control Section: \_\_\_\_\_

NSSL Pedon Number: 83P0481  
Print Date: 04/28/00  
Sample Date: 01/83  
Parent Material: ejecta-ash material  
Elevation: 17 m MSL  
Permeability: Moderately rapid

Land Use: Pasture land and native pasture

Classification: \_\_\_\_\_

Diagnostic Horizons: \_\_\_\_\_

Moisture Regime: \_\_\_\_\_

0-39 cm dry; 39-200 cm sl. moist. 1/7/83. field reaction by Universal Indicator test strips.

-- 0 to 4 cm; brown to dark brown (10YR 4/3) dry silt loam and very dark grayish brown (10YR 3/2) moist silt loam; strong medium and coarse granular structure; , friable, weakly smeary, slightly sticky, slightly plastic; many very fine and fine roots; many very fine and fine interstitial pores; strongly acid (pH=5.3); abrupt smooth boundary. 83P2246

-- 4 to 27 cm; brown to dark brown (10YR 4/3) dry silt loam and very dark brown (10YR 2/2) moist silt loam; moderate very coarse granular structure parting to weak coarse subangular blocky; , friable, moderately smeary, slightly sticky, slightly plastic; many very fine and few medium roots; many very fine and fine interstitial pores; strongly acid (pH=5.3); abrupt smooth boundary. 83P2247

-- 27 to 39 cm; brown (10YR 5/3) dry silt loam and dark yellowish brown (10YR 7/4) moist silt loam; weak coarse prismatic structure; , very firm, moderately smeary, slightly sticky, slightly plastic; common very fine and few medium roots; common coarse tubular and common very fine tubular pores; few fine cylindrical insects casts; medium acid (pH=5.7); 1 percent pebbles ejecta; clear smooth boundary. 83P2248

-- 39 to 73 cm; dark brown (7.5YR 3/4) moist silt loam; weak coarse prismatic structure parting to moderate medium and coarse subangular blocky; , very firm, moderately smeary, slightly sticky, slightly plastic; common very fine roots; many very fine tubular and few fine tubular pores; few fine cylindrical insects casts; medium acid (pH=5.7); 1 percent pebbles ejecta; clear smooth boundary. 83P2249

-- 73 to 98 cm; dark brown (10YR 3/3) moist silt loam; moderate coarse prismatic structure parting to weak medium subangular blocky; , friable, moderately smeary, slightly sticky, slightly plastic; few very fine roots; many fine and medium tubular pores; patchy skeletans (sand or silt) in root channels and/or pores; medium acid (pH=5.7); 1 percent pebbles ejecta; gradual smooth boundary. 83P2250

-- 98 to 160 cm; dark yellowish brown (10YR 7/4) moist silt loam; massive; , friable, moderately smeary, slightly sticky, slightly plastic; few very fine roots; many fine and medium tubular pores; patchy skeletans (sand or silt) in root channels and/or pores; medium acid (pH=5.7); clear irregular boundary.

--160 to 200 cm; dark yellowish brown (10YR 4/4) moist silt loam; massive; , firm, moderately smeary, sticky, slightly plastic; few very fine roots; many very fine and fine tubular and many medium tubular pores; discontinuous clay films; medium acid (pH=5.7). A few thin seams and masses of uncoated fine sand. 83P2253

Pedon 31

S83FN-275-001 *** PRIMARY CHARACTERIZATION DATA ***																				
-1-- -2-- -3-- -4-- -5-- -6-- -7-- -8-- -9-- -10- -11- -12- -13- -14- -15- -16- -17- -18- -19- -20-																				
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(- - -TOTAL - - -) (- -CLAY- -) (- -SILT- -) (- - - - -SAND- - - - -) (-COARSE FRACTIONS(MM) -) (>2MM)																				
SAMPLE NO.	DEPTH (CM)	HORIZON	CLAY LT	SILT .002	SAND .05	FINE LT	CO3 LT	FINE .002	COARSE .02	VF .05	F .10	M .25	C .5	VC 1	2	5	20	.1- PCT OF	75 WHOLE	
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(- - - - - PCT OF <2MM (3A1) - - - - -) (- - - - - PCT OF <75MM(3B1) - - - - -) SOIL																				
83P2246S	0- 4		10.4	68.8	20.8			44.4	24.4	10.5	5.1	2.2	2.7	0.3	TR	--	--	10	--	
83P2247S	4- 27		5.9	72.7	21.4			45.1	27.6	13.7	5.4	1.2	0.9	0.2	TR	TR	--	8	--	
83P2248S	27- 39		1.0	56.1	42.9			30.4	25.7	21.5	14.2	4.6	1.9	0.7	TR	--	--	21	--	
83P2249S	39- 73		--	42.7	57.3			17.7	25.0	24.9	21.7	6.7	3.1	0.9	TR	--	--	32	--	
83P2250S	73- 98		3.6	36.7	59.7			17.4	19.3	20.9	21.6	10.4	5.7	1.1	TR	TR	--	39	--	
83P2251S	98-129		4.7	35.0	60.3			16.7	18.3	21.8	20.8	10.9	6.2	0.6	TR	--	--	38	--	
83P2252S	129-160		2.2	29.0	68.8			13.5	15.5	24.9	24.3	11.6	6.6	1.4	TR	--	--	44	--	
83P2253S	160-200		3.7	46.9	49.4			27.7	19.2	11.4	8.9	7.0	10.1	12.0	TR	--	--	38	--	
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DEPTH (CM)	ORGN C	TOTAL N	EXTR P	TOTAL S	(- - DITH-CIT - -) (RATIO/CLAY) (ATTERBERG) (- BULK DENSITY -) COLE (- - -WATER CONTENT - -) WRD															
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EXTRACTABLE 15 - LIMITS - FIELD 1/3 OVEN WHOLE FIELD 1/10 1/3 15 WHOLE																				
FE AL MN CEC BAR LL PI MOIST BAR DRY SOIL MOIST BAR BAR BAR BAR 4C1																				
PCT <2MM PPM <- PERCENT OF <2MM --> PCT <0.4MM <- - G/CC - - -> CM/CM <- - -PCT OF <2MM - -> CM/CM																				
0- 4	12.4	1.076			3.2	1.9			3.97	4.38									36.9	
4- 27	8.61	0.668			3.8	2.3			5.37	5.78			0.70	0.81	0.050			55.5	29.4	0.15
27- 39	4.03	0.302			4.6	2.0			22.00	44.10			0.68	0.80	0.056				27.9	
39- 73	2.43				4.9	1.8							0.87	0.87					24.9	
73- 98	1.07				5.1	1.6			3.89	12.67			0.74	0.84	0.043			54.5	24.0	0.07
98-129	0.91				4.9	1.7			2.62	9.49			0.84	0.96	0.046			54.0	22.9	0.08
129-160	0.72				4.1	1.3			5.68	21.36			0.80	0.93	0.051			57.0	21.4	0.08
160-200	1.69				4.6	1.7			6.57	16.54			0.90	1.09	0.066			60.8	26.2	
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-1-- -2-- -3-- -4-- -5-- -6-- -7-- -8-- -9-- -10- -11- -12- -13- -14- -15- -16- -17- -18- -19- -20-																				
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(- NH4OAC EXTRACTABLE BASES -) ACID- EXTR (- - - -CEC - - -) AL -BASE SAT- CO3 AS RES. COND. (- - - -PH - - -)																				
DEPTH (CM)	CA	MG	NA	K	SUM	ITY	AL	SUM	NH4-	BASES	SAT	SUM	NH4	CACO3	OHMS	MMHOS NAF CACL2 H2O				
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5B5a 5B5a 5B5a 5B5a BASES 6H5a 6G9a 5A3a 5A8b 5A3b 5G1 5C3 5C1 6E1g 8E1 /CM /CM .01M																				
<- - - - -MEQ / 100 G - - - - -> <- - - - -PCT - - - - ->																				
0- 4	11.4	3.0	0.8	0.6	15.8	47.5	0.3	63.3	41.3	16.1	2	25	38			10.4	5.2	5.6		
4- 27	1.7	0.2	0.1	0.1	2.1	49.5	1.3	51.6	31.7	3.4	38	4	7			10.9	4.8	5.2		
27- 39	0.9	0.1	0.1	--	1.1	39.7	TR	40.8	22.0			3	5			11.1	5.4	5.7		
39- 73	3.4	0.4	0.1	0.1	4.0	31.2	TR	35.2	18.6			11	22			10.7	5.6	5.9		
73- 98	2.5	0.7	TR	--	3.2	23.6	--	26.8	14.0			12	23			10.6	5.8	6.1		
98-129	2.9	0.8	--	--	3.7	22.4	--	26.1	12.3			14	30			10.4	5.8	6.2		
129-160	2.3	0.7	TR	--	3.0	23.7	TR	26.7	12.5			11	24			10.6	5.8	6.2		
160-200	1.5	0.3	--	--	1.8	33.2	0.1	35.0	24.3	1.9	5	5	7			10.8	5.7	5.9		



	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	-12-	-13-	-14-	-15-	-16-	-17-	-18-	-19-	-20-							
CLAY MINERALOGY (<.002mm)																											
SAMPLE	FRACT < - - - X-RAY - - - >			THERMAL - - - >							ELEMENTAL - - - >							EGME INTER									
NUMBER	ION < - - - 7A2i - - - >			> - DTA - - >			TGA - - >		SiO2 AL2O3 Fe2O3 MgO CaO K2O Na2O < - - >		RETN PRETA		7C3 - - - >		7D2 TION												
NUMBER	< - - >			peak size - - - >			Percent - - - >		Percent - - - >		Percent - - - >		Percent - - - >		Percent - - - >												
83P2247	TCLY	VR 1	NX 6														6.3	0.2									
83P2248	TCLY	GI 1	VR 1	NX 6														5.7									
83P2250	TCLY	GI 2	KK 1	VR 1	NX 6	GI13		KK 2														10.2	0.1				
83P2253	TCLY	KK 1	GI 1	NX 6														9.7	0.2								

	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	-11-	-12-	-13-	-14-	-15-	-16-	-17-	-18-	-19-	-20-		
SAND - SILT MINERALOGY (2.0-0.002mm)																						
SAMPLE	FRACT < - - - X-RAY - - - >			THERMAL - - - >							OPTICAL - - - >							INTER				
NUMBER	ION < - - - 7A2i - - - >			> - DTA - - >			TGA - - >		TOT RE< - - - >		GRAIN COUNT - - - >		7B1a - - - >		7B1a - - - >		TION					
NUMBER	< - - >			Peak Size - - - >			Percent - - - >		Percent - - - >		Percent - - - >		Percent - - - >		Percent - - - >		Percent - - - >					
83P2248	VFS										OT96 GS 4 Gatr											

FRACTION INTERPRETATION:  
 TCLY Total Clay, <0.002mm                      VFS Very Fine Sand, 0.05-0.10mm

MINERAL INTERPRETATION:  
 VR vermiculite                      NX n-crystalline                      GA glass aggreg                      GI gibbsite                      OT other                      GS glass  
 KK kaolinite

RELATIVE PEAK SIZE:    5 Very Large    4 Large    3 Medium    2 Small    1 Very Small    6 No Peaks