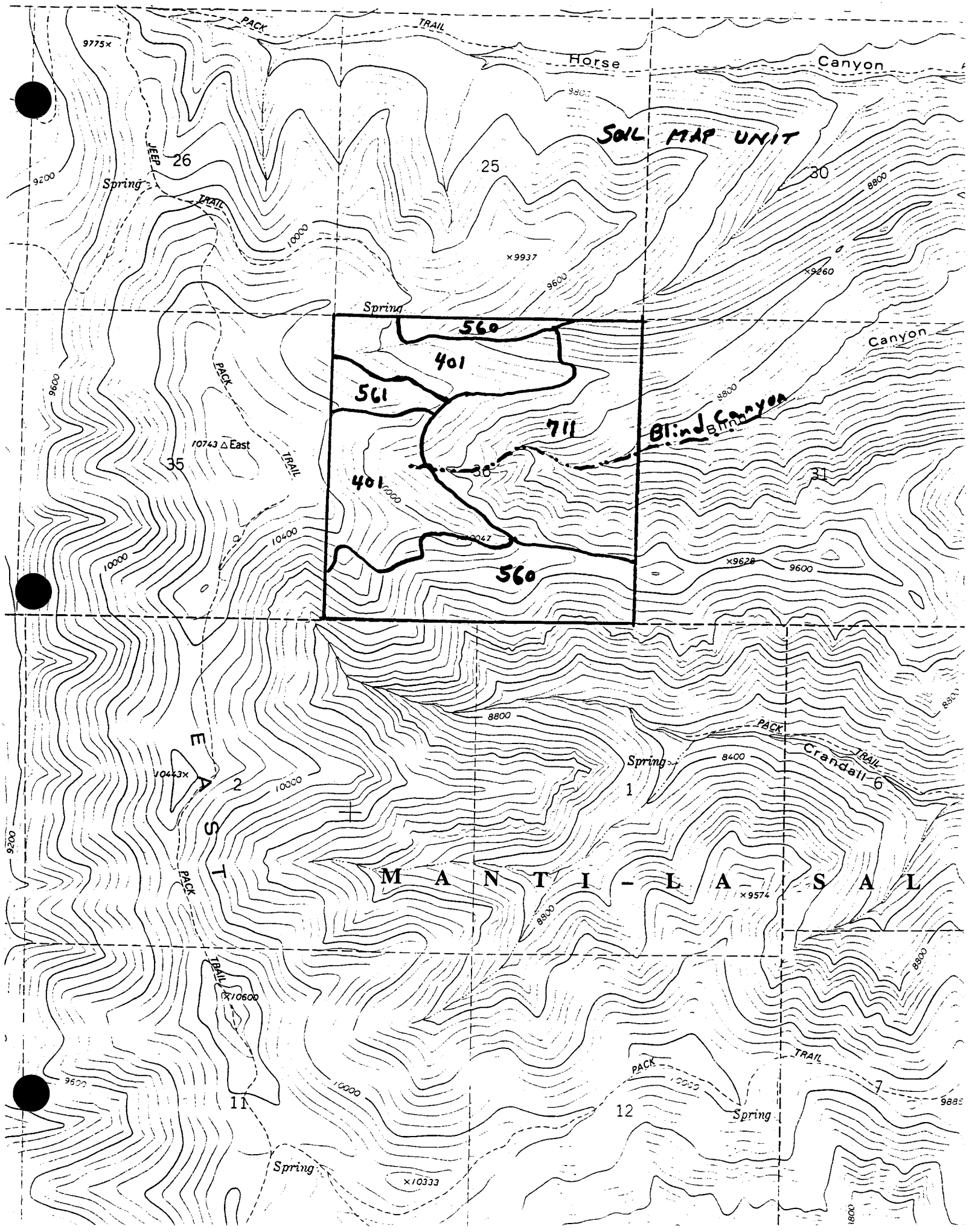
APPENDIX 7-27

MANTI-LASAL NATIONAL FOREST SOIL DATA


SOIL MAP UNIT
560
401
561
711
401
560
Blind Canyon
Horse
Canyon
Canyon
PACK
TRAIL
JEEP
Spring
East
M A N T I - L A S A L
Crandall
26
25
30
35
36
31
2
1
11
12
7
6
9775×
9937
9260
9628
9574
10743 △ East
10443×
10600
10333
10047
9200
9600
9800
10000
10400
8800
8400
9885

SOIL MAP UNIT NO. 401

MAP UNIT NAME: ~~MERINO~~ ADEL - ~~ADEL~~ MERINO COMPLEX; 8 TO 60% SLOPES

MAP UNIT SETTING

Landform: RIDGES AND THE ADJACENT SIDESLOPES OF STEEP MOUNTAIN SLOPES
Geology (parent material): SANDSTONE AND SHALE
Broad vegetative type: GRASSES, FORBS, MOUNTAIN BIG SAGEBRUSH
WESTERN CONEFOWER, TALL LARKSPUR, SCATTERED ASPEN CLONES
Elevation range: 8,600 to 11,000 feet
Climatic factors (mean annual):
Precipitation: 25 to 30 inches
Air temperature: 32 to 38 degrees F.
Freeze-free period: 20 to 30 days

COMPOSITION

40 percent: ~~MERINO~~ ADEL FAMILY SOILS
40 percent: ~~ADEL FAMILY~~ MERINO FAMILY SOILS
percent:
20 percent contrasting inclusions of shallow soils over shale, clayey soils, and moderately deep soils.

~~MERINO~~ ADEL FAMILY SOIL

Taxonomic classification: PACHIC CRYOBOROLL, FINE-LOAMY, MIXED.
Parent materials: MIXED SHALE AND SANDSTONE
Landscape position: CONCAVE LOWER MOUNTAIN STEEP SLOPES
Slope range: 30 to 60 percent
Vegetative community type: Tall Forb

Reference soil profile characteristics:

0 to 42 inches: ~~LOAM~~ VERY DARK GRAYISH BROWN LOAM
42 to 50 inches: ~~SILT LOAM~~ BROWN SILT LOAM
to inches:
to inches:
to inches:
to inches:

Depth class: DEEP
Drainage class: WELL DRAINED
Saturated hydraulic conductivity (permeability): MODERATE
Available water capacity: HIGH
Hydrologic group: B
Potential rooting depth: ~~50~~ 40-60 inches
Surface rock fragments: 0 TO 15 PERCENT
Runoff: MODERATE
Soil erodibility: MODERATE
Erosion hazard (exposed soil): ~~WATER:~~ HIGH, ~~WIND: LOW~~
~~AASHTO classification: A-4~~
~~Potential for mass movement~~:

SOIL MAP UNIT NO. 401

~~ADEL~~ MERINO FAMILY SOIL

Taxonomic classification: LITHIC CRYORTHENT, LOAMY-SKELETAL, MIXED (nonacid)
Parent materials: SANDSTONE
Landscape position: CONVEX, ~~CONCAVE SIDESLOPES BELOW~~ RIDGE TOPS AND UPPER SLOPES
Slope range: 8 to 60 percent
Vegetative community type: Forb - grass

Reference soil profile characteristics:

0 to 5 inches: ~~CBV-L~~ BROWN VERY COBBLY LOAM
5 to 12 inches: ~~CBV-L~~ LIGHT YELLOWISH BROWN VERY COBBLY LOAM
12 to + inches: ~~WB~~ WEATHERED SANDSTONE BEDROCK
___ to ___ inches:
___ to ___ inches:
___ to ___ inches:

Depth class: SHALLOW
Drainage class: SOMEWHAT EXCESSIVELY
Saturated hydraulic conductivity (permeability):
Available water capacity: low
Hydrologic group: C
Potential rooting depth: 12-20 inches
Surface rock fragments: 20 TO 50 PERCENT
Runoff: ~~SLOW~~ MEDIUM TO RAPID
Soil erodibility: LOW TO MODERATE
Erosion hazard (exposed soil): ~~LOW~~ MODERATE
~~AASHTO classification:~~
~~Potential for mass movement~~:

_____ FAMILY SOIL

Taxonomic classification:
Parent materials:
Landscape position:
Slope range: ___ to ___ percent
Vegetative community type:

Reference soil profile characteristics:

___ to ___ inches:
___ to ___ inches:
___ to ___ inches:
___ to ___ inches:
___ to ___ inches:
___ to ___ inches:

Depth class:
Drainage class:
Saturated hydraulic conductivity (permeability):
Available water capacity:
Hydrologic group:

SOIL MAP UNIT NO. 560

MAP UNIT NAME: GREYBACK FAMILIES COMPLEX; 5 TO 50% SLOPES

MAP UNIT SETTING

Landform: SLOPING TO STEEP MOUNTAINSIDES
Geology (parent material):
Broad vegetative type: ASPEN
Elevation range: 8,500 to 10,000 feet
Climatic factors (mean annual):
Precipitation: 25 to 30 inches
Air temperature: 34 to 38 degrees F.
Freeze-free period: 40 to 80 days

COMPOSITION

45 percent: CLAYBURN FAMILY SOILS
45 percent: GREYBACK FAMILY SOILS
percent:
10 percent contrasting inclusions, of soils with steeper slopes, clayey soils, and soils less than 20 inches deep.

CLAYBURN FAMILY SOIL

Taxonomic classification: ARGIC PACHIC CRYOBOROLLS, FI-LO, MIXED.
Parent materials: LIMESTONE AND SHALE
Landscape position: SHORT CONVEX SLOPES
Slope range: 5 to 40 percent
Vegetative community type: ASPEN-TALL FORB

Reference soil profile characteristics:

0 to 9 inches: DARK BROWN LOAM
9 to 28 inches: DARK BROWN CLAY LOAM
28 to 60 inches: VERY PALE BROWN VERY COBBLY LOAM
to inches:
to inches:
to inches:

Depth class: DEEP
Drainage class: WELL DRAINED
Saturated hydraulic conductivity (permeability): HIGH
Available water capacity: ~~6 TO 8 INCHES~~ MODERATE
Hydrologic group: B
Potential rooting depth: 60 inches
Surface rock fragments: 0 to 10 PERCENT
Runoff: ~~SLOW~~ MODERATE
Soil erodibility: MODERATE
Erosion hazard (exposed soil): MODERATE
~~AASHTO classification: A-6~~
~~Potential for mass movement:~~

SOIL MAP UNIT NO. 560

GREYBACK FAMILY SOIL

Taxonomic classification: TYPIC CRYOBOROLLS, LO-SK, MIXED.
Parent materials: LIMESTONE AND SHALE
Landscape position: CONVEX MOUNTAIN SIDES
Slope range: 30 to 50 percent
Vegetative community type: ASPEN-SNOWBERRY, ASPEN-TALL FORB

Reference soil profile characteristics:

0	to	11	inches:	VERY DARK GRAYISH BROWN COBBLY LOAM
11	to	33	inches:	VERY PALE BROWN VERY COBBLY LOAM
33	to	60	inches:	LIGHT YELLOWISH BRWON VERY COBBLY LOAM
	to		inches:	
	to		inches:	
	to		inches:	

Depth class: DEEP (40 TO 60 INCHES) AND VERY DEEP (MORE THAN 60 INCHES)
Drainage class: WELL DRAINED
Saturated hydraulic conductivity (permeability): HIGH
Available water capacity: ~~4 TO 6 INCHES~~ MODERATE
Hydrologic group: B
Potential rooting depth: 60 inches OR MORE
Surface rock fragments: 10 TO 40 PERCENT
Runoff: MEDIUM
Soil erodibility: LOW TO MODERATE
Erosion hazard (exposed soil): MODERATE
~~AASHTO classification: A-6~~
~~Potential for mass movement:~~

SOIL MAP UNIT NO. 561

MAP UNIT NAME: CLAYBURN - FAIM - BEHANIN FAMILIES COMPLEX;

5 TO 40% SLOPES

MAP UNIT SETTING

Landform: RIDGES AND MOUNTAINSIDES
Geology (parent material): SANDSTONE, SHALE, LIMESTONE, COLLUVIUM
Broad vegetative type:
Elevation range: 8,400 to 10,300 feet
Climatic factors (mean annual):
Precipitation: 25 to 30 inches
Air temperature: 34 to 38 degrees F.
Freeze-free period: 40 to 80 days

COMPOSITION

55 percent: CLAYBURN FAMILY
20 percent: FAIM FAMILY
15 percent: BEHANIN FAMILY
10 percent contrasting inclusions.

CLAYBURN FAMILY SOIL

Taxonomic classification: ARGIC PACHIC CRYOBOROLLS, FI-LO, MIXED.
Parent materials: SANDSTONE, SHALE, LIMESTONE, COLLUVIUM
Landscape position: CONVEX
Slope range: 5 to 40 percent
Vegetative community type: Aspen-Tall forb and Aspen-snowberry

Reference soil profile characteristics:

0 to 9 inches: DARK BROWN LOAM
9 to 28 inches: DARK BROWN CLAY LOAM
28 to 60 inches: VERY PALE BROWN VERY COBBLY LOAM
to inches:
to inches:
to inches:

Depth class: DEEP
Drainage class: WELL-DRAINED
Saturated hydraulic conductivity (permeability): MODERATE
Available water capacity: ~~8 TO 10 INCHES~~ HIGH
Hydrologic group: B
Potential rooting depth: 60 inches
Surface rock fragments: 5 TO 15 PERCENT
Runoff: MEDIUM
Soil erodibility: MODERATE
Erosion hazard (exposed soil): LOW TO MODERATE
~~AASHTO classification: A-6~~
~~Potential for mass movement~~:

SOIL MAP UNIT NO. 561

FAIM FAMILY SOIL

Taxonomic classification: ARGIC PACHIC CRYOBOROLLS, FINE, MONT.
Parent materials: SHALE, SANDSTONE, LIMESTONE, COLLUVIUM
Landscape position: CONCAVE
Slope range: 5 to 20 percent
Vegetative community type: ASPEN-TALL FORB

Reference soil profile characteristics:

0	to	8	inches:	DARK GRAYISH BROWN CLAY LOAM
8	to	30	inches:	BROWN CLAY
30	to	42	inches:	BROWN CLAY LOAM
42	to	60	inches:	PALE BROWN LOAM
	to		inches:	
	to		inches:	

Depth class: DEEP (40 TO 60 INCHES)
Drainage class: MODERATELY WELL DRAINED
Saturated hydraulic conductivity (permeability): MODERATELY LOW
Available water capacity: 7 TO 9 INCHES
Hydrologic group: C
Potential rooting depth: 60 inches
Surface rock fragments: 0 TO 10 PERCENT
Runoff: MEDIUM
Soil erodibility: MODERATE
Erosion hazard (exposed soil): LOW TO MODERATE
~~AASHTO classification: A-7~~
~~Potential for mass movement~~:

BEHANIN FAMILY SOIL

Taxonomic classification: PACHIC CRYOBOROLLS, LO-SK, MIXED
Parent materials: SANDSTONE, SHALE
Landscape position: CONVEX
Slope range: 10 to 30 percent
Vegetative community type: ASPEN-SNOWBERRY, ASPEN-TALL FORB

Reference soil profile characteristics:

0	to	13	inches:	DARK BROWN LOAM
13	to	25	inches:	DARK BROWN VERY STONY LOAM
25	to	31	inches:	LIGHT GRAY EXTREMELY STONY LOAM
31	to	45	inches:	VERY PALE BROWN EXTREMELY STONY CLAY LOAM
45	to	+	inches:	FRACTURED AND WEATHERED SANDSTONE AND SHALE
	to		inches:	

Depth class: DEEP (40 TO 60 INCHES)
Drainage class: WELL DRAINED
Saturated hydraulic conductivity (permeability): MODERATE
Available water capacity: ~~4 TO 6 INCHES (LOW)~~ LOW TO MODERATE
Hydrologic group: B
Potential rooting depth: 60 inches

Surface rock fragments: 5 TO 20 PERCENT
Runoff: SLOW
Soil erodibility: MODERATE
Erosion hazard (exposed soil): LOW TO MODERATE
~~AASHTO classification: A-4~~
~~Potential for mass movement~~:

SOIL MAP UNIT NO. 711

MAP UNIT NAME: BUNDO - LUCKY STAR - ADEL COMPLEX; 30 TO 70% SLOPES

MAP UNIT SETTING

Landform: NORTHERLY EXPROSURES OF MOUNTAIN SLOPES
Geology (parent material): COLLUVIUM AND ALLUVIUM FROM SANDSTONE.
Broad vegetative type: SPRUCE, FIR, ASPEN, GRASSES, SNOWBERRY, FORBS.
Elevation range: 8,200 to 11,000 feet
Climatic factors (mean annual):
Precipitation: 25 to 30 inches
Air temperature: 32 to 38 degrees F.
Freeze-free period: 10 to 30 days

COMPOSITION

50 percent: BUNDO FAMILY
20 percent: LUCK STAR FAMILY
20 percent: ADEL FAMILY
10 percent contrasting inclusions.

BUNDO FAMILY SOIL

Taxonomic classification: TYPIC PALEBORALF, LO-SK, MIXED.
Parent materials: SANDSTONE
Landscape position: CONVEX SLOPES
Slope range: 40 to 70 percent
Vegetative community type: SPRUCE - FIR

Reference soil profile characteristics:

3 to 0 inches: ORGANIC - BROWN
0 to 6 inches: COBBLY FINE SANDY LOAM 25%
6 to 50 inches: VERY COBBLY FINE SANDY LOAM 15-20% 12-15% PALE BROWN
50 to 60 inches: YELLOWISH BROWN VERY COBBLY LOAM
to inches:
to inches:

Depth class: DEEP
Drainage class: SOMEWHAT EXCESSIVE
Saturated hydraulic conductivity (permeability): LOW
Available water capacity: ~~.08 TO .12 INCHES~~ MODERATE
Hydrologic group: A
Potential rooting depth: 60 inches
Surface rock fragments: 5% GRAVEL, 2% COBBLE, 2% STONE
Runoff: SLOW
Soil erodibility: MODERATE
Erosion hazard (exposed soil): ~~WATER EROSION:~~ MODERATE
~~AASHTO classification: A-4~~
~~Potential for mass movement:~~

SOIL MAP UNIT NO. 711

LUCKY STAR FAMILY SOIL

Taxonomic classification: BORALFIC CRYOBOROLL, LO-SK, MIXED.
Parent materials: COLLUVIUM FROM SANDSTONE AND SHALE
Landscape position: CONVEX SLOPE
Slope range: 30 to 60 percent
Vegetative community type: SPRUCE-FIR, ASPEN (USUALLY MIXED FIR AND ASPEN)

Reference soil profile characteristics:

0 to 15 inches: DARK GRAYISH BROWN COBBLY LOAM 25%
15 to 38 inches: VERY COBBLY ~~VERY~~ FINE SANDY LOAM 20%
38 to 57 inches: ~~CBX-CL~~ BROWN EXTREMELY COBBLY CLAY LOAM
to inches: PALE BROWN
to inches:
to inches:

Depth class: DEEP
Drainage class: SOMEWHAT EXCESSIVE
Saturated hydraulic conductivity (permeability): ~~LOW~~ MODERATE
Available water capacity: MODERATE
Hydrologic group: B
Potential rooting depth: ~~57~~ 40 TO 60 inches
Surface rock fragments: ~~5% GRAVEL, 2% COBBLE~~ 5 TO 20 PERCENT
Runoff: SLOW TO MEDIUM
Soil erodibility: LOW
Erosion hazard (exposed soil): MODERATE TO HIGH
~~AASHTO classification: A-2~~
~~Potential for mass movement:~~

ADEL FAMILY SOIL

Taxonomic classification: PACHIC CRYOBOROLL, LO-SK, MIXED.
Parent materials: SANDSTONE, SHALE, LIMESTONE, COLLUVIUM
Landscape position: CONCAVE
Slope range: 30 to 60 percent
Vegetative community type: ASPEN

Reference soil profile characteristics:

0 to 42 inches: ~~LOAM~~ DARK BROWN LOAM
42 to 50 inches: ~~SILTY LOAM~~ BROWN SILT LOAM
to inches:
to inches:
to inches:
to inches:

Depth class: DEEP
Drainage class: WELL DRAINED
Saturated hydraulic conductivity (permeability): LOW
Available water capacity: HIGH
Hydrologic group: B
Potential rooting depth: ~~50~~ 40 TO 60 inches
Surface rock fragments: 5 TO 10 PERCENT
Runoff: LOW TO MODERATE
Soil erodibility: MODERATE
Erosion hazard (exposed soil): MODERATE TO HIGH