

Classification: Lithic Dystrachrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 353 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 36 N., R. 33 W., sec. 25, SE1/4NW1/4.
Forest: Kootenai National Forest.
Area: Pete Creek, Yaak Ranger District.
Described by/Date: Louis Kuennen; October 29, 1976.
Parent Material: Volcanic ash over weathered Belt bedrock.
Geology/Bedrock: pC Belt sedimentary-Prichard Formation.
Landform/Topography: Scoured ridge top.
Habitat Type/Vegetation: Psme/Caru.
Precipitation: 34 inches Infiltration:
Aspect: 270 degrees Permeability:
Elevation: 4500 feet Percolation:
Slope: 10 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: Monserud picked a mosaic for HT--a rock outcrop and an adjacent draw. The draw is WRC/Clun and the R.O. is DF/Caruds are actually very weak. Mottles are few in IIA2, and common in IIA22 and IIB2.

PEDON DESCRIPTION

01/02 1-0 inches.

A2 disc.

B21 0-10 inches. Very gravelly silt loam; dark yellowish brown (10YR 4/4) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 60 percent angular gravels by volume; many very fine and fine roots throughout horizon; common to many fine interstitial voids between coarse fragments; slightly acid--pH 6.2; gradual, wavy boundary.

B22 10-20 inches. Very gravelly silt loam; light olive brown (2.5Y 5/4) dry; weak fine granular structure; soft, friable, slightly sticky, nonplastic consistence; 75 percent gravels by volume; common fine to medium roots throughout horizon; slightly acid pH--6.2.

C & R 20+ inches. Broken Rock.

Unnamed Gravelly Silt Loam 76-MT-14025
KoYa 5

Classification: Andic Dystrochrept, sandy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 36 N., R. 31 W., sec. 5, SW1/4NE1/4.
Forest: Kootenai National Forest.
Area: Bunker Hill, Yaak Ranger District.
Described by/Date: Louis Kuennen; October 29, 1976.
Parent Material: Volcanic ash over continental till.
Geology/Bedrock: pC Belt sedimentary-Ravalli Group.
Landform/Topography: Steep glaciated landscape.
Habitat Type/Vegetation: Psme/Libo/Caru; Psme, Pico, Laoc; Spbe, Aruv, Libo, Amal, Syal, Pamy, Vamy; Frvi, Hial, Arco; Caru, Cage.
Precipitation: 28 inches Infiltration:
Aspect: 225 degrees Permeability:
Elevation: 4000 feet Percolation:
Slope: 13 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: The IIB2 is so weak you have to stretch your imagination a little to see it. Soil is very hard to dig but the peds are actually very weak. Mottles are few in IIA2, and common in IIA22 and IIB2.

PEDON DESCRIPTION

01/02 1-0 inches.

A2 0-1/2 inches. Gravelly silt loam; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 15 percent gravels by volume.

B2 1/2-9 inches. Gravelly silt loam; light yellowish brown (10YR 6/4) dry; weak very fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 20 percent gravels by volume; common to many very fine and fine, common fine and medium roots throughout horizon; common to many fine and medium continuous tubular pores; slightly acid--pH 6.5; abrupt, wavy boundary.

IIA21 9-18 inches. Very gravelly loamy fine sand; light gray (2.5Y 7/2) dry; weak medium subangular blocky structure; firm, slightly hard, nonsticky, nonplastic consistence; 45 percent gravels by volume; common fine and medium roots throughout horizon; common fine vesicular and tubular pores; slightly acid--pH 6.2; gradual, wavy boundary.

IIA22 18-29 inches. Very gravelly loamy fine sand; white (2.5Y 8/2) dry; weak medium subangular blocky structure; very firm, hard, nonsticky, nonplastic consistence; 45 percent gravels by volume; few to common fine, common fine and medium roots throughout horizon; common fine vesicular and tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

IIB2 29-40 inches. Very gravelly loamy fine sand; white (2.5Y 8/2) dry; weak medium subangular blocky structure; very firm, hard, nonsticky, nonplastic consistence; 50 percent gravels by volume; few to common fine and medium roots throughout horizon; common very fine and fine vesicular and tubular pores; slightly acid--pH 6.5; clear, wavy boundary.

IIC 40+66 inches. Very gravelly loamy fine sand; light gray (2.5Y 7/2) dry; massive structure; firm, hard, nonsticky, nonplastic consistence; 55 percent gravels by volume; few coarse roots throughout horizon; few medium vesicular pores; slightly acid--pH 6.2.

Unnamed Gravelly Silt Loam 76-MT-14026
KoYa 6

Classification: Andeptic Dystrochrept, coarse-loamy, mixed, frigid.
Map Symbol: LT 103 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 35 N., R. 34 W., sec. 11, NE1/4SW1/4.

Forest: Kootenai National Forest.

Area: N.F. Meadow Cr., Yaak Ranger District.

Described by/Date: Louis Kuennen; October 29, 1976.

Parent Material: Volcanic ash over fluvial-glaciofluvial deposits.

Geology/Bedrock:

Landform/Topography: Alluvial fan.

Habitat Type/Vegetation: WH/Clun: Psme, Tshe, Laoc, Pico, Pimo, Thpl; Chum;
Vior, Pyun, Clun.

Precipitation: 56 inches

Infiltration:

Aspect: 240 degrees

Permeability:

Elevation: 4300 feet

Percolation:

Slope: 5 degrees

Drainage:

Erosion:

Soil Temp. at 50 cm:

Stoniness:

Litter Type:

Remarks: B2t is comprised of alternating bands of clay accumulation. Bedrock on hillslope is massive and intrusive (metadiorite). Origin of sand in profile is probably pCp based on sericite present. The plot is located just at the slope break, with 60% sideslope above and the plot being on an old flood plain. Good site.

PEDON DESCRIPTION

01/02 2-0 inches.

A2 Disc. Silt loam; 0 percent gravels.

B21 0-8 inches. Silt loam; yellowish brown (10YR 5/4) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 5 percent gravels by volume; many very fine and fine, common to many fine and medium roots throughout horizon; common to many fine and medium continuous tubular pores; medium acid--pH 6.0; clear, wavy boundary.

B22 8-20 inches. Silt loam; yellowish brown (10YR 5/6) moist; weak fine granular structure; soft, friable, slightly sticky, nonplastic consistence; 5 percent gravels by volume; common to many fine, common medium and coarse roots throughout horizon; common to many fine continuous tubular pores; medium acid--pH 6.0; abrupt, wavy boundary.

IIA2 20-24 inches. Loamy fine sand; light brownish gray (2.5Y 6/2) moist; weak medium single grain structure; firm, slightly hard, nonsticky, nonplastic consistence; 10 percent gravels by volume; common fine roots throughout horizon; very strongly acid--pH 5.0; clear, wavy boundary.

IIB2t 24-40 inches. Fine sandy loam; light yellowish brown (2.5Y 6/4) dry; weak medium subangular blocky structure; firm, slightly hard, slightly sticky, slightly plastic consistence; 15 percent gravels by volume; common fine and medium roots throughout horizon; very strongly acid--pH 5.0.

IIC 40+ inches. Light olive brown (2.5Y 5/6) moist; very strongly acid--pH 5.0.

Unnamed Gravelly Silt Loam 76-MT-14041
KoTr 1

Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 33 N., R. 30 W., sec. 23, SW1/4SE1/4.
Forest: Kootenai National Forest.
Area: Lower Pine Creek, Troy Ranger District.
Described by/Date: Louis Kuennen; October 29, 1976.
Parent Material: Volcanic ash over continental till mixed with colluvium.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Steep toeslope.
Habitat Type/Vegetation: DF/Phma:

<u>Precipitation</u> :	33 inches	<u>Infiltration</u> :	
<u>Aspect</u> :	140 degrees	<u>Permeability</u> :	
<u>Elevation</u> :	2850 feet	<u>Percolation</u> :	
<u>Slope</u> :	18 percent	<u>Drainage</u> :	
<u>Erosion</u> :		<u>Soil Temp. at 50 cm</u> :	
<u>Stoniness</u> :		<u>Litter Type</u> :	

Remarks: Loess is so highly mixed with colluvial rock that it is hard to recognize. Majority of rock in surface B are angular. All the rock below are rounded.

PEDON DESCRIPTION

01/02 1-0 inches.

A2 Disc.

B21 0-6 inches. Very gravelly silt loam; yellowish brown (10YR 5/4) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent angular gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common fine and medium continuous tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

B22 6-12 inches. Very gravelly silt loam; light olive brown (2.5Y 5/4) dry; weak fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent angular gravels by volume; common to many fine and medium roots, common coarse roots throughout horizon; common coarse continuous tubular pores; slightly acid--pH 6.5; abrupt, wavy boundary.

IIA2 12-24 inches. Very gravelly loamy fine sand; light brownish gray (2.5Y 6/2) dry; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky, slightly plastic consistence; 40 percent rounded gravels by volume; few to common fine and medium roots between peds; common fine and medium vesicular and tubular pores; neutral acid--pH 7.2; clear, wavy boundary.

IIB2 24-34 inches. Very gravelly loamy fine sand; light brownish gray (2.5Y 6/2) dry; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky, slightly plastic consistence; 40 percent rounded gravels by volume; few coarse roots throughout horizon; common fine and medium vesicular and tubular pores; mildly alkaline acid--pH 7.5; clear, wavy boundary.

IIC 34+ inches. Very gravelly loamy fine sand; light brownish gray (2.5 6.2) dry; massive structure; slightly hard, fir, slightly sticky, slightly plastic consistence; 45 percent rounded gravels by volume; few very fine and fine roots between peds; few to common medium vesicular pores; mildly alkaline acid--pH 7.7.

Unnamed Gravelly Silt Loam 76-MT-14042
KoTr 2

Classification: Andic Dystrachrept, coarse-loamy over loamy-skeletal, mixed.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 31 N., R. 33 W., sec. 4, SW1/4SE1/4.
Forest: Kootenai National Forest.
Area: Brush Creek, Troy Ranger District.
Described by/Date: Louis Kuennen; November 1, 1976.
Parent Material: Volcanic ash over residual material.
Geology/Bedrock: pC Belt sedimentary-Libby Formation.
Landform/Topography: Very steep erosional lands.
Habitat Type/Vegetation: Psme/Phma:

<u>Precipitation:</u> 66 inches	<u>Infiltration:</u>
<u>Aspect:</u> 135 degrees	<u>Permeability:</u>
<u>Elevation:</u> 4350 feet	<u>Percolation:</u>
<u>Slope:</u> 65 percent	<u>Drainage:</u>
<u>Erosion:</u>	<u>Soil Temp. at 50 cm:</u>
<u>Stoniness:</u>	<u>Litter Type:</u>

Remarks: Profile is deeply weathered. Rock are angular and flaggy. Only clay buildup occurs on underside of rock.

PEDON DESCRIPTION

01/02 1-0 inches.

A2 disc.

B2 0-13 inches. Very gravelly sandy loam; brown (10YR 5/3) to brown (10YR 4/3) dry; weak fine granular structure; soft, friable, slightly sticky, nonplastic consistence; 75 percent angular gravels by volume; common to many very fine and fine, common medium roots throughout horizon; many fine and medium continuous tubular pores; neutral acid--pH 6.8; clear, wavy boundary.

IIA2 13-20 inches. Very gravelly loamy sand; yellowish brown (10YR 5/4) dry; weak medium subangular blocky structure; soft, friable, nonsticky, nonplastic consistence; 85 percent angular gravels by volume; common to many very fine and fine, common medium roots throughout horizon; few to common fine continuous tubular pores; neutral acid--pH 7.0; gradual, wavy boundary.

IIB2 20-60 inches. Very gravelly loamy sand; light yellowish brown (10YR 6/4) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 85 percent gravels by volume; few to common fine and medium roots

throughout horizon; common to fine and medium discontinuous tubular pores; neutral acid--pH 7.0; clear, wavy boundary.

IIC 60+ inches. Very gravelly loamy sand; very pale brown (10YR 7/3) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 90 percent gravels by volume; few to common fine roots throughout horizon; few to common fine discontinuous tubular pores; neutral acid--pH 7.0.

Unnamed Gravelly Silt Loam 76-MT-14043
KoTr 3

Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 33 N., R. 33 W., sec. 35, SE1/4SE1/4SE.
Forest: Kootenai National Forest.
Area: Studebaker Draw, Troy Ranger District.
Described by/Date: Louis Kuennen; November 1, 1976.
Parent Material: Ash over continental till mixed with residual material.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Steep glaciated slope.
Habitat Type/Vegetation: Thpl/Clun;

<u>Precipitation:</u> 50 inches	<u>Infiltration:</u>
<u>Aspect:</u> 135 degrees	<u>Permeability:</u>
<u>Elevation:</u> 4000 feet	<u>Percolation:</u>
<u>Slope:</u> 53 percent	<u>Drainage:</u>
<u>Erosion:</u>	<u>Soil Temp. at 50 cm:</u>
<u>Stoniness:</u>	<u>Litter Type:</u>

Remarks:

PEDON DESCRIPTION

01/02 2-0 inches.

A2 Disc. Silt loam. Light gray (10YR 7/1) dry, grayish brown (10YR 5/2) moist; weak, very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; neutral acid--pH 6.6.

B2 0-8 inches. Very gravelly silt loam; yellowish brown (10YR 5/4) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; common to many very fine and fine, common medium roots throughout horizon; common to many fine and medium continuous tubular pores; 35 percent gravels by volume; medium acid--pH 6.0; abrupt, wavy boundary.

IIAB 8-15 inches. Very gravelly sandy loam; light yellowish brown (2.5Y 6/4) dry; weak medium subangular blocky structure; firm, slightly hard, slightly sticky, slightly plastic consistence; 40 percent gravels by volume; few to common fine roots throughout horizon; common fine vesicular and tubular pores; strongly acid--pH 5.5; gradual, wavy boundary.

IIB21 15-21 inches. Very gravelly sandy loam; light brownish gray (2.5Y 6/2) dry; moderate medium subangular blocky structure; firm, slightly hard, slightly sticky, slightly plastic consistence; 45 percent gravels by volume;

few to common fine and medium roots throughout horizon; few to common fine vesicular and tubular pores; medium acid--pH 6.0; gradual, irregular boundary.

IIB22 21-34 inches. Very gravelly sandy loam; light yellowish brown (2.5Y 6/4) dry; moderate medium subangular blocky structure; firm, hard, slightly sticky, slightly plastic consistence; 45 percent gravels by volume; few to common fine and medium roots throughout horizon; few to common fine vesicular and tubular pores; medium acid--pH 5.8; clear, wavy boundary.

IIC 34+ inches. Very gravelly sandy loam; light brownish gray (2.5Y 6/2) dry; massive structure; firm, hard, slightly sticky, slightly plastic consistence; 50 percent gravels by volume; few fine roots between peds; few very fine vesicular pores; slightly acid--pH 6.5.

Unnamed Gravelly Silt Loam 76-MT-14045
KoTr 5

Classification: Andic Dystrachrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 106 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 30 N., R. 34 W., sec .15, NW1/4NW1/4.
Forest: Kootenai National Forest.
Area: Carr Draw, Troy Ranger District.
Described by/Date: Louis Kuennen; November 4, 1976.
Parent Material: Volcanic ash over glaciofluvial deposits.
Geology/Bedrock: Adjacent hillslope bedrock pC Belt sedimentary Ravalli Group.
Landform/Topography: Stream terrace.
Habitat Type/Vegetation: WH/Clun: Tshe, Thpl, Abgr, Psme; Vior, Pamy, Pyun.

<u>Precipitation:</u> 45 inches	<u>Infiltration:</u>
<u>Aspect:</u> 40 degrees	<u>Permeability:</u>
<u>Elevation:</u> 3200 feet	<u>Percolation:</u>
<u>Slope:</u> 80 percent	<u>Drainage:</u>
<u>Erosion:</u>	<u>Soil Temp. at 50 cm:</u>
<u>Stoniness:</u>	<u>Litter Type:</u>

Remarks: Slope is scarp face of glacial outwash terrace. B22 has had mixing with IIA2.

PEDON DESCRIPTION

01/02

A2 Disc. Very gravelly silt loam; dark yellowish brown (10YR 4/4) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent gravels by volume; common to many very fine and fine, common medium roots throughout horizon; common to many fine continuous tubular pores; slightly acid--pH 6.2.

B21 0-10 inches. Very gravelly silt loam; light brownish gray (2.5Y 5/6) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 50 percent gravels by volume; common fine, few to common medium roots throughout horizon; many fine continuous tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

B22 10-24 inches. Very gravelly fine sandy loam; light brownish gray (2.5Y 6/2) moist; weak fine crumb structure; soft, friable, slightly sticky, slightly plastic consistence; 55 percent gravels by volume; common fine, few to common medium roots throughout horizon; many fine continuous tubular pores; strongly acid--pH 5.5; abrupt, wavy boundary.

IIA2 24-36 inches. Very gravelly loamy fine sand; light brownish gray (2.5Y 6/2) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 70 percent gravels by volume; few to common fine and medium roots throughout horizon; medium acid--pH 6.0; gradual, wavy boundary.

IIAB 36-50 inches. Very gravelly loamy fine sand; light brownish gray (2.5Y 6/2) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 75 percent gravels by volume; few to common coarse roots throughout horizon; strongly acid--pH 5.5.

Unnamed Gravelly Silt Loam 76-MT-14051
KoLi 1

Classification: Lithic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 353 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 30 N., R. 30 W., sec. 28, NE1/4NW1/4.
Forest: Kootenai National Forest.
Area: Swede Divide, Libby Ranger District.
Described by/Date: Louis Kuennen/November 5, 1976.
Parent Material: Shallow continental till over bedrock.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Moderately steep upper slope.
Habitat Type/Vegetation: Psme/Phma: Psme, Laoc, Pipo; Aruv, Bere, Phma, Amal,
Rogy, Syal; Frve; Caru.
Precipitation: 26.5 inches Infiltration:
Aspect: 295 degrees Permeability:
Elevation: 4000 feet Percolation:
Slope: Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks:

PEDON DESCRIPTION

O1/O2 1-0 inches. Duff.

A2 0-1/2 inches. Very gravelly very fine sandy loam; grayish brown (10YR 5/2) to dark grayish brown (10YR 4/2) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 40-50 percent gravels by volume; many very fine and fine, common medium roots throughout horizon; common fine and medium continuous tubular pores; medium acid--pH 6.0; clear, wavy boundary.

B21 1/2-6 inches. Very gravelly silt loam; brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent gravels by volume; many very fine and fine, common medium roots throughout horizon; common fine and medium continuous tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

B22 6-12 inches. Very gravelly silt loam; light yellowish brown (10YR 6/4) moist; weak fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent gravels by volume; common to many fine, common medium roots throughout horizon; few to common fine continuous tubular pores; medium acid--pH 6.0; clear, wavy boundary.

IIA2 12-20 inches. Extremely gravelly fine sandy loam; light gray (10YR 7/2) dry; moderate medium subangular structure; slightly hard, firm, slightly

sticky, slightly plastic consistence; 70 percent gravels by volume; few to common medium and coarse roots throughout horizon; few fine discontinuous tubular pores; strongly acid--pH 5.5; abrupt, wavy boundary.

R more than inches. Rock.

Unnamed Gravelly Silt Loam 76-MT-14052
KoLi 2

Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 (322) Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 28 N., R. 31 W., sec. 27, NE1/4SW1/4.
Forest: Kootenai National Forest.
Area: Little Cherry, Libby Ranger District.
Described by/Date: Louis Kuennen/October 28, 1976.
Parent Material: Volcanic ash over dense continental till.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Rolling till plain.
Habitat Type/Vegetation: Abgr, Thpl, Psme, Laoc, Abla, Pimo.

<u>Precipitation:</u> 54.5 inches	<u>Infiltration:</u>
<u>Aspect:</u> 330 degrees	× <u>Permeability:</u>
<u>Elevation:</u> 4200 feet	<u>Percolation:</u>
<u>Slope:</u>	<u>Drainage:</u>
<u>Erosion:</u>	<u>Soil Temp. at 50 cm:</u>
<u>Stoniness:</u>	<u>Litter Type:</u>

Remarks: Rock in till mostly pCp with scattered pCru. Most of the rock below IIA2 is strongly weathered. Suspect IIC and possibly IIB23 are forming from an old weathered surface.

PEDON DESCRIPTION

01/02 2-0 inches. Duff.

A2 0- 1/2 inches. Silt loam; light brownish gray (10YR 6/2) to very dark grayish brown (10YR 3/2) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic; consistence; 5 percent gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common to many very fine and fine continuous tubular pores; medium acid--pH 6.0; abrupt, wavy boundary.

B21 1/2-6 inches. Silt loam; dark yellowish brown (10YR 4/4) dry; weak fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 5 percent gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common to many very fine and fine continuous tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

B22 6-24 inches. Silt loam; yellowish brown (10YR 5/8) moist; weak fine granular structure; soft, friable, slightly sticky, nonplastic consistence; 10 percent gravels by volume; common to many very fine and fine, common medium

roots throughout horizon; common to many fine continuous tubular pores; medium acid--pH 5.8; abrupt, wavy boundary.

IIA21 24-34 inches. Very gravelly sandy loam; very pale brown (10YR 7/3) moist; moderate medium subangular blocky structure; firm, hard, slightly sticky, slightly plastic consistence; 40 percent gravels by volume; few to common fine, few medium roots throughout horizon; common very fine and fine vesicular and tubular pores; strongly acid--pH 5.5; gradual, wavy boundary.

IIA22 34-44 inches. Very gravelly sandy loam; very pale brown (10YR 7/4) to yellow (10YR 7/6) moist; moderate medium subangular blocky structure; firm, very hard, slightly sticky, slightly plastic consistence; 40 percent gravels by volume; few to common fine, few medium roots throughout horizon; few to common fine vesicular and tubular pores; very strongly acid--pH 5.0; clear, wavy boundary.

IIB21 44-52 inches. Very gravelly heavy sandy loam; very pale brown (10YR 8/4) to strong brown (7.5YR 5/8) moist; strong coarse angular blocky structure; very firm, very hard, slightly sticky, slightly plastic consistence; few thin clay films on ped faces; 35 percent gravels by volume; few fine and medium roots between peds; few to common fine vesicular and tubular pores; very strongly acid--pH 5.0; clear, wavy boundary.

IIB22 52-66 inches. Gravelly loam; very pale brown (10YR 8/4) to strong brown (7.5YR 5/8) moist; strong coarse angular blocky structure; very firm, very hard, slightly sticky, slightly plastic consistence; common moderately thick clay films on ped faces and in pores; 30 percent gravels by volume; few fine and medium roots between peds; few to common fine vesicular and tubular pores; very strongly acid--pH 5.0; gradual, wavy boundary.

IIB23 66-80 inches. Gravelly loam; reddish brown (7.5YR 6/6) to yellow (10YR 7/6) moist; very firm, extremely hard, slightly sticky, slightly plastic consistence; few thin clay films on ped faces; 30 percent gravels by volume; few very fine and fine roots between peds; few to common fine vesicular and tubular pores; very strongly acid--pH 5.0; clear, wavy boundary.

IIC 80-100 inches. Gravelly loam; strong brown (7.5YR 5/8) to yellow (10YR 7/6) moist; very firm, extremely hard, slightly sticky, slightly plastic consistence; very fine and fine roots present between peds; few fine vesicular pores; very strongly acid--pH 5.0.

Unnamed Gravelly Silt Loam 76-MT-14053
KoLi 3

Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 31 N., R. 31 W., sec. 3, NW1/4NW1/4
Forest: Kootenai National Forest.
Area: Bull Creek, Libby Ranger District.
Described by/Date: Louis Kuennen/November 2, 1976.
Parent Material: Loess over continental till.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Glaciated lower slope.
Habitat Type/Vegetation: Psme/Phma: Psme, Pipo, Laoc, Pimo; Phma, Cesa, Amal,
Aruv, Syal, Rogy, Ceve, Hodi, Bere; Frvi, Arco; Caru, Cage.
Precipitation: 25.5 inches Infiltration:
Aspect: 120 degrees, southeast Permeability:
Elevation: 3200 feet Percolation:
Slope: 40 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: About 1/2 of rock in profile are highly weathered, most are subangular to subrounded.

PEDON DESCRIPTION

01/02 1-0 inches. Duff.

A2 Disc. Gravelly silt loam; very dark gray (10YR 3/1) moist to pale brown (10YR 6/3) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 30 percent gravels by volume; many very fine and fine, common medium roots throughout horizon; common to many fine and medium continuous tubular pores; neutral--pH 7.0; abrupt, wavy boundary.

B2 0-10 inches. Gravelly silt loam; yellowish brown (10YR 5/4) dry; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 30 percent gravels by volume; few to common fine and medium roots throughout horizon; common fine vesicular and tubular pores; neutral--pH 7.0; abrupt, wavy boundary.

IIAB 10-22 inches. Very gravelly heavy sandy loam; pale yellow (2.5Y 8/4) dry; strong medium subangular blocky structure; very firm, hard, slightly sticky, slightly plastic consistence; few to common fine and medium roots; common fine vesicular and tubular pores; 40 percent gravels by volume; medium acid--pH 5.7; gradual, wavy boundary.

IIB2 22-50 inches. Very gravelly loam; pale yellow (2.5Y 7/4) dry; strong medium subangular blocky structure; very firm, very hard, slightly sticky, slightly plastic consistence; yellowish brown (10YR 5/4), few thin clay films on ped faces; 40 percent gravels by volume; few fine roots between peds; few very fine and fine vesicular pores; medium acid--pH 6.0; clear, wavy boundary.

IIC 50+ inches. Very gravelly sandy loam; pale yellow (2.5Y 7/4) to light yellowish brown (2.5Y 6/4) moist; massive structure; firm, hard, slightly sticky, slightly plastic consistence; 45 percent gravels by volume; few fine roots between peds; few very fine and fine vesicular pores; medium acid--pH 6.0.

Unnamed Gravelly Silt Loam 76-MT-14054
KoLi 4

Classification: Typic Glossoboralf, loamy-skeletal, mixed, frigid.
Map Symbol: LT 322 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 32 N., R. 31 W., sec. 9, NE1/4SW1/4.
Forest: Kootenai National Forest.
Area: Pipe Creek, Carrigan area, Libby Ranger District.
Described by/Date: Louis Kuennen/November 2, 1976.
Parent Material: Glacial till over bedrock.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Moderately steep glaciated landscape.
Habitat Type/Vegetation: Tshe/Clun: Psme, Pimo, Thpl, Tshe, Abla, Abgr, Laoc;
Tabr, VAC, PYRs, Chum, Libo, Pamy; Vior, Xete, Clun.
Precipitation: 31 inches Infiltration:
Aspect: 335 degrees Permeability:
Elevation: 4000 feet Percolation:
Slope: 16 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks:

PEDON DESCRIPTION

01/02 2-0 inches. Duff.

A2 Disc. Silt loam; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence.

B2 0-20 inches. Gravelly silt loam; yellowish brown (10YR 5/6) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 20 percent gravels by volume; many very fine and fine, common medium roots throughout horizon; common to many fine and medium continuous tubular pores; neutral--pH 7.0; abrupt, wavy boundary.

IIA2 20-27 inches. Very gravelly loam; very pale brown (10YR 7/4) moist; moderate medium subangular blocky structure; hard, very firm, slightly sticky, slightly plastic consistence; 35 percent gravels by volume; few to common fine, few medium roots throughout horizon; common fine vesicular and tubular pores; very strongly acid--pH 5.0; gradual, wavy boundary.

IIAB 27-40 inches. Very gravelly loam; pale yellow (2.5Y 7/4) moist; moderate medium subangular blocky structure; hard, very firm, slightly sticky,

slightly plastic consistence; 40 percent gravels by volume; few to common fine, few medium roots throughout horizon; common fine vesicular and tubular pores; very strongly acid--pH 4.8; clear, wavy boundary.

IIB2t 40-50 inches. Very gravelly clay loam; yellowish brown (10YR 5/8) to very dark grayish brown (10YR 3/2) moist; strong medium subangular blocky structure; very hard, very firm, sticky, plastic consistence; 45 percent gravels by volume; few fine and coarse roots between peds; few to common fine vesicular and tubular pores; very strongly acid--pH 4.8; clear, wavy boundary.

IIC 50+ inches. Very gravelly loam; olive yellow (2.5Y 6/6) to dark grayish brown (2.5Y 4/2) moist; strong coarse angular blocky structure; very hard, very firm, slightly sticky, slightly plastic consistence; 50 percent gravels by volume; few very fine and fine roots between peds; few to common very fine and fine vesicular pores; very strongly acid--pH 5.0.

Unnamed Gravelly Silt Loam 76-MT-14055
KoLi 5

Classification: Andic Cryochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 32 N., R. 32 W., sec. 5, SE1/4NW1/4.
Forest: Kootenai National Forest.
Area: Upper Seventeenmile, Libby Ranger District.
Described by/Date: Louis Kuennen/November 2, 1976.
Parent Material: Volcanic ash over continental glacial till.
Geology/Bedrock: pC Belt sedimentary-Wallace Formation.
Landform/Topography: Upper slopes.
Habitat Type/Vegetation: SAF/Clun/Xete: Abla, Psme, Laoc, Thpl; VAC, Pamy, PYR; Vior, Xete, Clun.
Precipitation: 46 inches Infiltration:
Aspect: 155 degrees Permeability:
Elevation: 4800 feet Percolation:
Slope: 47 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: Can't tell where IIB2 ends. Think around 60". Many of rocks are highly weathered.

PEDON DESCRIPTION

01/02 2 1/2-0 inches. Duff.

A2 Disc. Dark brown (7.5YR 4/4) moist; medium acid--pH 6.0.

B2 0-12 inches. Gravelly silt loam; dark yellowish brown (10YR 4/4) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 15 percent gravels by volume; many very fine and fine, common medium roots throughout horizon; common to many fine and medium continuous tubular pores; slightly acid--pH 6.2; abrupt, wavy boundary.

IIA2 12-14 inches. Very gravelly sandy loam; light yellowish brown (2.5Y 6/4) dry; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic consistence; 35 percent gravel by volume; few to common very fine and fine, few medium roots throughout horizon; common fine vesicular and tubular pores; medium acid--pH 6.0; clear, wavy boundary.

IIAB 14-30 inches. Very gravelly loam; pale yellow (2.5Y 7/4) dry; strong medium subangular blocky structure; hard, very firm, slightly sticky, slightly

plastic consistence; 40 percent gravels by volume; few to common fine, few medium roots throughout horizon; common fine vesicular and tubular pores; very strongly acid--pH 5.0; gradual, irregular boundary.

IIB21 30-45 inches. Very gravelly loam; pale yellow (2.5Y 7/4) dry; strong medium subangular blocky structure; very hard, very firm, slightly sticky, slightly plastic consistence; 40 percent gravels by volume; few to common fine roots throughout horizon; few fine vesicular and tubular pores; strongly acid--pH 5.5; gradual, wavy boundary.

IIB22 45-60 inches. Very gravelly loam; pale yellow (2.5Y 7/4) to light olive brown (2.5Y 5/6) dry; massive structure; very hard, very firm, slightly sticky, slightly plastic consistence; 45 percent gravels by volume; few to common fine and medium roots between peds; few very fine and fine vesicular pores; strongly acid--pH 5.5; clear, wavy boundary.

IIC 60-85 inches. 50 percent gravels by volume.

Unnamed Gravelly Silt Loam 76-MT-14072
KoCa 2

Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 351 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 28 N., R. 31 W., sec. 30, NW1/4SW1/4.
Forest: Kootenai National Forest.
Area: North Branch Dry Cr., Cabinet Ranger District.
Described by/Date: Louis Kuennen/November 4, 1976.
Parent Material: Volcanic ash over compact glacial till.
Geology/Bedrock: pC Belt sedimentary-Ravalli Formation.
Landform/Topography: Very steep mountain slope.
Habitat Type/Vegetation: Tshe/Clun: Tshe, Thpl, Psme, Abgr; Rupa, Pamy, Chum,
Libo; Xete, Vior, Gatr, Atfi.
Precipitation: 46 inches Infiltration:
Aspect: 90 degrees Permeability:
Elevation: 3140 feet Percolation:
Slope: 70 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: IIC may be III--indicated by stronger weathering of rock in this horizon and the much stronger pinkish rust color.

PEDON DESCRIPTION

01/02 1-0 inches.

A2 0-1/2 inches. Gravelly silt loam; light gray (10YR 7/2) to pale brown (10YR 6/3) moist; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 15 percent gravels by volume; many very fine and fine, common to many medium roots; medium acid--pH 6.0; abrupt, wavy boundary.

B21 1/2-12 inches. Gravelly silt loam; dark yellowish brown (10YR 4/4) moist; weak very fine crumb structure; soft, very friable, slightly sticky, nonplastic consistence; 20 percent gravels by volume; many very fine and fine, common to many medium roots; common to many fine and medium continuous tubular pores; slightly acid--pH 6.2; gradual, wavy boundary.

B22 12-30 inches. Gravelly silt loam; dark yellowish brown (10YR 4/4) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 20 percent gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common to many fine continuous tubular pores; neutral acid--pH 6.7; clear, wavy boundary.

B3 30-48 inches. Very gravelly silt loam; yellowish brown (10YR 5/4) moist; weak fine crumb structure; soft, friable, slightly sticky, nonplastic consistence; 45 percent gravels by volume; common to many very fine and fine, common medium roots throughout horizon; common fine continuous tubular pores; medium acid--pH 6.0; abrupt, wavy boundary.

IIA2 48-60 inches. Very gravelly fine sandy loam; very pale brown (10YR 7/3) moist; common mottles; moderate medium subangular blocky structure; hard, firm, slightly sticky, slightly plastic consistence; 60 percent gravels by volume; few to common fine roots throughout horizon; common fine vesicular and tubular pores; strongly acid--pH 5.5; gradual, wavy boundary.

IIAB 60-76 inches. Very gravelly fine sandy loam; pale yellow (2.5Y 7/4) moist; common mottles; moderate coarse subangular blocky structure; very hard, very firm, slightly sticky, slightly plastic consistence; 60 percent gravels by volume; few to common fine roots throughout horizon; few to common fine vesicular and tubular pores; strongly acid--pH 5.5; clear, wavy boundary.

IIC 76-88 inches. Very gravelly fine sandy loam; brownish yellow (10YR 6/6) moist; strong coarse subangular blocky structure; very hard, very firm, slightly sticky, slightly plastic consistence; 60 percent gravels by volume; few very fine and fine roots between peds; few very fine and fine vesicular pores; medium acid--pH 5.8.

Unnamed Gravelly Silt Loam 76-MT-14073
KoCa 3

Classification:

Map Symbol: LT 570

Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 24 N., R. 31 W., sec. 11, SW1/4NW1/4.

Forest: Kootenai National Forest.

Area: 20 Odd Creek, Cabinet Ranger District.

Described by/Date: Louis Kuennen/November 4, 1976.

Parent Material: Weathered granite.

Geology/Bedrock: Kg-Cretaceous, hornblende quartz monzonite and granodiorite.

Landform/Topography: Steep erosional slope.

Habitat Type/Vegetation: Psme/Phma/Caru: Psme, Pipo; Phma, Hodi, Aruv, Bere; Frvi; Caru.

Precipitation: 42 inches

Aspect: 195 degrees

Elevation: 3700 feet

Slope: 58 percent

Erosion:

Stoniness:

Infiltration:

Permeability:

Percolation:

Drainage:

Soil Temp. at 50 cm:

Litter Type:

Remarks:

PEDON DESCRIPTION

01/02 1-0 inches.

B2 0-7 inches. Very gravelly sandy loam; dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, friable, slightly sticky, slightly plastic consistence; 50 percent gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common to many fine and medium continuous tubular pores; neutral acid--pH 7.0; abrupt, wavy boundary.

IIA2 7-24 inches. Very gravelly sand; light brownish gray (2.5Y 6/2) to very pale brown (10YR 8/3) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 65 percent gravels by volume; common to many very fine and fine, common medium roots throughout horizon; neutral acid--pH 6.8; clear, wavy boundary.

IIB2 24-40 inches. Very gravelly sand; pale yellow (2.5Y 7/4) to light gray (10YR 7/2) moist; single grain structure; loose, loose, nonsticky, nonplastic consistence; 70 percent gravels by volume; common very fine and fine, few to common medium roots throughout horizon; neutral acid--pH 6.8; clear, wavy boundary.

IIC 40-60 inches. Very gravelly sand; pale yellow (2.5Y 7/4) to light gray (10YR 7/2) moist; single grain structure; loose, loose, nonsticky, nonplastic consistence; 70 percent gravels by volume; neutral acid--pH 7.0.

Unnamed Gravelly Silt Loam 76-MT-14074
KoCa 4

Classification: Andic Dystrochrept, sandy-skeletal, mixed, frigid.
Map Symbol: LT 552 Lab Analysis: Chem

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 24 N., R. 29 W., sec. 27, NW1/4SW1/4.
Forest: Kootenai National Forest.
Area: Happy Gulch, Cabinet Ranger District.
Described by/Date: Louis Kuennen; November 4, 1976.
Parent Material: Volcanic ash over residual Belt rock with some alpine till.
Geology/Bedrock: pC Belt sedimentary-Snowslip Formation.
Landform/Topography: Very steep erosional slope.
Habitat Type/Vegetation: Tshe/Clun: Psme, Thp1, Tshe, Laoc, Pimo, Tsme; Tabr,
Pamy, PYR, Pyas, Libo; Vior.
Precipitation: 49 inches Infiltration:
Aspect: 1 degree Permeability:
Elevation: 4200 feet Percolation:
Slope: 67 percent Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: Soil material loose. Appears to be old terrace.

PEDON DESCRIPTION

01/02 2-0 inches.

B21 0-6 inches. Very gravelly silt loam; dark yellowish brown (10YR 3/4) moist; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic consistence; 50 percent gravels by volume; many very fine and fine, common to many medium roots throughout horizon; common to many fine and medium continuous tubular pores; slightly acid--pH 6.2; clear, wavy boundary.

B22 6-12 inches. Very gravelly silt loam; dark yellowish brown (10YR 3/4) moist; weak very fine granular structure; soft, friable, nonsticky, nonplastic consistence; 50 percent gravels by volume; common to many very fine and fine, common medium roots throughout horizon; common fine continuous tubular pores; slightly acid--pH 6.5; abrupt, wavy boundary.

IIA2 12-30 inches. Extremely gravelly loamy sand; light yellowish brown (2.5Y 6/4) dry; single grain structure; loose, loose, nonsticky, nonplastic consistence; 70 percent gravels by volume; common very fine and fine roots throughout horizon; slightly acid--pH 6.2; clear, wavy boundary.

IIB2 30-50 inches. Extremely gravelly sandy loam; grayish brown (2.5Y 5/2) dry; single grain structure; loose, loose, nonsticky, nonplastic; 80 percent gravels by volume; few very fine and fine, common medium roots throughout horizon; roots; slightly acid--pH 6.5.

Classification:
Map Symbol: LT 520

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 31 N., R. 30 W., sec. 14, SE1/4

Forest: Kootenai National Forest

Area: Rainy Creek, Libby Ranger District

Described by /Date:

Parent Material: Pyroxenite and argillitic limestone

Geology/Bedrock: pC Wallace

Landform/Topography: Sidehill

Habitat Type/Vegetation: Psme/Phma: Laoc, Psme, Pico, Acgl; Ceve, ROS,
Phma, Amal, Shca, Aruv; Arco, Frvi, Rupa; Caru.

Precipitation: 25 inches

Aspect: E, 90 degrees

Elevation: 3400'

Slope: 15 to 20%

Erosion:

Stoniness:

Infiltration:

Permeability:

Percolation:

Drainage:

Soil Temp. at 50 cm:

Litter Type:

Remarks: A1 is dark-colored, ash-influenced loess but it is mixed with sands. IIB1 layer is composed of broken, igneous rock about 1 ft thick. It is rotten and is weathering into sand. IIB2 horizon fluctuates between soil and bedrock. It is weathering to coarse sand and flakes of mica. IIC has sand grains that are green, yellow and red in color.

PEDON DESCRIPTION

01/02 1-0 inches.

A1 0-9 inches. Fine sandy loam; dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, friable, nonsticky, slightly plastic; less than 5 percent gravels by volume; many very fine and fine, common medium, many coarse roots; slightly acid to neutral--pH 6.5-6.7; clear, smooth boundary.

IIB1 9-18 inches. Extremely gravelly coarse sandy loam; olive (5Y 4/4) moist; weak fine subangular blocky structure; soft, friable, nonsticky, nonplastic; 85 percent gravels by volume; common very fine and fine, many medium, common coarse roots; slightly acid to neutral pH-- 6.5-6.7; clear, wavy boundary.

IIB2 18-40 inches. Sandy loam; olive gray (5Y 4/2) moist; moderate medium

subangular blocky structure; soft, friable, nonsticky, nonplastic; 25 percent gravels by volume; few fine, medium, and coarse roots; slightly acid to neutral--pH 6.5-6.7; gradual, wavy boundary.

IIC 40+ inches. Sandy loam; dark yellowish brown (10YR 4/4) matrix, moist with red and yellow specs; loose, friable; no rocks; few medium and coarse roots; slightly acid to neutral--pH 6.5-6.7.

Pedon: Unnamed Sandy Loam 84-MT-27116 (Rainy Creek)

Date: August 1984

Sample No.	Horizon	Depth cm	pH paste	EC*10 ³ mahos/cm	% Water at Saturation	Available P ppm	Sesquioxides				Spodic
							Di-Citrate Fe	Extract Al	Pyrophosphate Fe	Extract Al	
1	O1/O2	2.5- 0	NS	NS	NS	NS					
2	A1	0- 23	7.13	0.36	39.0	80.0					
3	I1B1	23- 51	6.60	0.17	24.0	27.0					
4	I1B2	51-100	6.35	0.14	24.0	23.6					
	I1C	100+	6.57	0.12	27.0	15.1					

Sample No.	Exchangeable Ions				Ext. Acidity	CEC	Base	OM	OC	N	C:N	Soil	NaF pH
	Ca	Mg	Na	K	H		Saturation					Fraction	
	meq/100 gms						%		%		ratio		
1	NS	NS	NS	NS	NS	NS	78	NS	NS	NS	17	NS	NS
2	10.80	3.29	0.02	0.59	4.28	14.1	87	0.31	0.18	0.009	20	0.60	8.00
3	10.12	1.43	0.02	0.23	1.84	7.3	89	0.35	0.20	0.008	25	0.82	7.96
4	16.91	2.54	0.04	0.22	2.47	10.2	91	0.18	0.11	0.004	27	0.75	7.89

Remarks: Cations and CEC's were leached with 10X acidified NaCl.
CEC's and TKN's were run on the Technicon Autoanalyzer.
Cations were run on the ICP.
Sum of cations/sum of cations + H = BSP
NS - no sample

Analysis by: Mike Fritts

Pedon: Unnamed Sandy Loam 84-MT-27116 (Rainy Creek)

Date: August 1984

Depth	Particle Size Distribution (mm)								Gravel & Stone		Textural Classes
	VCS	CS	NS	FS	VFS	TS	TSi	TC	>2 mm		
	2-1.0	1-0.5	0.5-0.25	0.25-0.1	0.1-0.05	2-0.05	0.05-0.002	<0.002	wt.	vol.	
cm	%										
2.5- 0	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
0 - 23	4.43	14.74	11.70	15.77	9.46	56.10	36.21	7.69	29		Sandy loam
23- 51	11.23	31.10	17.81	20.65	8.26	89.05	7.07	3.88	40		Coarse sand
51-100	10.60	27.42	16.92	22.14	9.36	86.44	9.86	3.70	18		Loamy coarse sand
100+	8.04	19.76	15.07	29.39	13.00	85.27	11.55	3.18	25		Loamy coarse sand

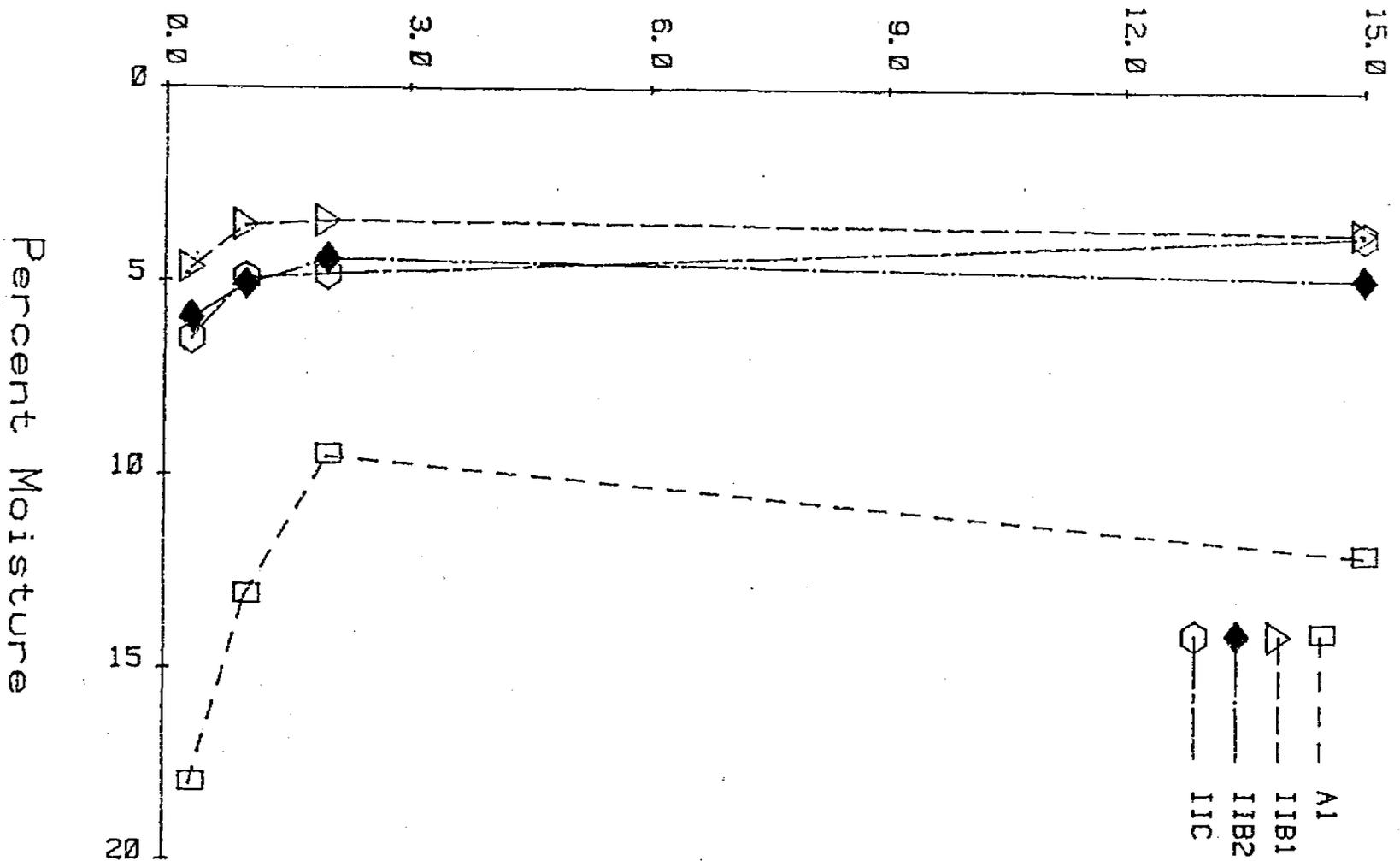
Depth	Silt Size Distribution (mm)			Bulk Density		Water Content		Liquid	Plastic	Plastic
	CoSi	Msi	Fsi	Clod	Core	1/3	15	Limit	Limit	Index
	0.05-0.02	0.02-0.005	0.005-0.002			Bar	Bar			
cm	%			g/cc		%		%		
2.5- 0										
0- 23										
23- 51										
51-100										
100+										

2.5- 0
0- 23
23- 51
51-100
100+

Remarks: Samples were run by the centrifuge method, 5 % sodium hexametaphosphate added, sonnified, no carbonates removed.
NS - no sample

Analysis by: Maynard Fosberg

Water Potential (-Bars)



Classification: Andic Dystrochrept, loamy-skeletal, mixed, frigid.
Map Symbol: LT 352 Lab Analysis: Phys.

GENERAL SITE CHARACTERISTICS

Location: Lincoln County, Montana; T. 35 N., R. 33 W., sec. 12, W1/2.
Forest: Kootenai National Forest.
Area: Gus Creek, Yaak District. CEFES project.
Described by /Date: Marci Gerhardt and Gary Bustamente; Sept. 9, 1984.
Parent Material: Argillitic limestone and alternating siltite and quartzite./
Geology/Bedrock: Sedimentary Prichard and Wallace Formations.
Landform/Topography: Mid sideslope
Habitat Type/Vegetation: Tshe/Clun: Pien, Pico, Psme, Thoc, Pimo, Abgr, Laoc;
 Vamy, Spbe, Libo, Chum, Aruv, Shca, Pamy; Pyas.
Precipitation: Infiltration:
Aspect: W Permeability:
Elevation: Percolation:
Slope: 18% Drainage:
Erosion: Soil Temp. at 50 cm:
Stoniness: Litter Type:

Remarks: Soil has extremely high glacial till content in the gravel, cobble, and stone range. Ash is mixed with rock in the B22. No evidence of water accumulation. Soil is very dry to 30".

PEDON DESCRIPTION

O1/O2 0-2 1/2 inches. Duff.

A2 0-1 inches. Silt loam; dark yellowish brown (10YR 3/4) moist, brown (10YR 5/3) dry; weak fine granular structure; 0-5 percent gravels by volume; many very fine and fine, common medium, few coarse roots; medium acid--pH 6.0; abrupt, wavy boundary.

B21 1-10 inches. Silt loam; dark yellowish brown (10YR 3/6) moist, brownish yellow (10YR 6/6) dry; weak fine granular structure; soft, very friable, nonsticky, nonplastic; 0-15 percent gravels by volume; many very fine, fine and medium, common coarse roots; slightly acid--pH 6.5; clear, wavy boundary.

B22 10-18 inches. Extremely gravelly silt loam; dark yellowish brown (10YR 4/6) moist, brownish yellow (10YR 6/6) dry; weak fine granular structure; soft, friable, nonsticky, nonplastic; 70-80 percent subrounded gravel and cobble by volume; many fine, common medium, few coarse roots; slightly acid--pH 6.5; clear, wavy boundary.

B&C 18-26 inches. Extremely gravelly silt loam; dark yellowish brown (10YR 3/6) moist, light yellowish brown (10YR 6/4) dry; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; 70-80 percent subrounded gravel and cobble by volume; common medium, few coarse roots; slightly acid--pH 6.5; abrupt, smooth boundary.

IIC 26-36 inches. Extremely gravelly silt loam to extremely gravelly fine sandy loam; olive brown (2.5Y 4/4) moist, light yellowish brown (2.5Y 6/4) dry; massive structure; slightly hard, slightly firm, sticky, slightly plastic; 65-70 percent gravel and cobble by volume; few medium and coarse roots; slightly acid--pH 6.5.

Pedon: Unnamed Gravelly Silt Loam B4-MT-27117 (Gus Creek)

Date: December 1984

Depth	Particle Size Distribution (mm)							Gravel & Stone		Textural Classes
	VCS	CS	MS	FS	VFS	TS	TSi	TC	>2 mm wt. vol.	
2-1.0	1-0.5	0.5-0.25	0.25-0.1	0.1-0.05	2-0.05	0.05-0.002	<0.002			
in.										
2.5-0	NS	NS	NS	NS	NS	NS	NS	NS		NS
0-1	NS	NS	NS	NS	NS	NS	NS	NS		NS
1-10	1.83	3.16	2.14	5.46	12.25	24.85	70.80	4.35	36	Gr. silt loam
10-18	1.28	2.23	1.77	5.64	12.94	23.86	73.14	3.00	43	Gr. silt loam
18-26	1.36	2.86	2.25	8.61	12.29	27.37	68.83	3.81	51	V. gr. silt loam
26-36	5.08	9.99	6.09	11.90	14.61	47.66	51.30	1.03	62	V. gr. silt loam

Depth	Silt Size Distribution (mm)			Bulk Density		Water Content		Liquid	Plastic	Plastic
	CoSi	Msi	Fsi	Clod	Core	1/3	15	Limit	Limit	Index
	0.05-0.02	0.02-0.005	0.005-0.002			Bar	Bar			
in.						g/cc				
2.5-0										
0-1										
1-10										
10-18										
18-26										
26-36										

Remarks: Samples were run by the centrifuge method, 5% sodium hexametaphosphate added, sonified, and no carbonates removed.
NS - no sample

Analysis by: Maynard Fosberg/Bob Blank

Classification: Andic Dystrochrept, loamy-skeletal, mixed/frigid
Map Symbol: LT 552 Lab Analysis: Phys

GENERAL SITE CHARACTERISTICS

Location: Sanders County, Montana; T. 26 N., R. 32 W., sec. 27, SW1/4SW1/4.

Forest: Kootenai National Forest.

Area: McKay T.S. Unit 17, Cabinet Ranger District. CEFES project.

Described by /Date: Louis Kuennen and Dave Atkins; Sept. 19, 1987.

Parent Material: Sedimentary siltites.

Geology/Bedrock: St. Regis Formation.

Landform/Topography: Hillside.

Habitat Type/Vegetation: GF/Libo (Pfister) and GF/Coop (Steele): Psme, Pipo
Asgr, Laoc; Rupa, Bere, Syal, Amal, Rogy, Acgl,
Cooc, Adbi, Stst, Clun; Caru.

Precipitation: 38 inches

Infiltration: Rapid

Aspect: WSW

Permeability:

Elevation: 2540'

Percolation:

Slope: 30-35%

Drainage: well

Erosion:

Soil Temp. at 50 cm:

Stoniness:

Litter Type:

Remarks: Most of gravel in B22 is pea size with occasional larger rock. B23 has lots of mixing of loess with the lower horizon as a result of root tipping. Suspect Lake Missoula deposits scattered throughout flatter portion of stand. Pea gravel associated with deraining of Lake.

PEDON DESCRIPTION

O1 1-0 inches. Duff.

A1 0-1 inch. Very gravelly silt loam; dark brown (7.5YR 4/4) moist, grayish brown (10YR 5/2) dry; weak fine granular structure; soft, friable, slightly sticky, nonplastic; 60 percent gravel by volume; many very fine, fine and medium, common coarse roots; neutral--pH 7.0; clear, wavy boundary.

B21 1-8 inches. Very gravelly silt loam; dark brown (7.5YR 4/4) moist; weak fine granular structure; soft, friable, nonsticky, nonplastic; 60 percent gravel by volume; many very fine, fine, and medium, common coarse roots; medium acid--pH 6.5; gradual, wavy boundary.

B22 8-15 inches. Very gravelly sandy loam; brownish yellow (10YR 6/6) dry; weak fine granular structure; soft, firm, nonsticky, nonplastic; 65 percent gravel by volume; many very fine, fine common medium, coarse roots; medium acid--pH 6.5; gradual, wavy boundary.

B23 15-24 inches. Extremely gravelly loamy sand: brownish yellow (10YR 6/6) dry, very pale brown (10YR 7/4); weak medium subangular blocky structure; slightly hard, firm, nonsticky, nonplastic; 85 percent gravel and 5 percent cobble by volume; few very fine, fine, and medium roots; few fine discontinuous pores; medium acid--pH 6.5; gradual, wavy boundary.

C 24-32 inches. Extremely gravelly loamy sand; loose single grain structure; hard, firm, nonsticky, nonplastic; 90 percent gravel and 5 percent cobble by volume; few very fine, fine medium roots.

Pedon: Unnamed Very Gravelly Silt Loam B4-MT-4526 (McKay upper)

Date: December 1984

Depth	Particle Size Distribution (mm)							Gravel & Stone		Textural Classes
	VCS 2-1.0	CS 1-0.5	MS 0.5-0.25	FS 0.25-0.1	VFS 0.1-0.05	TS 2-0.05	TSi 0.05-0.002	TC <0.002	>2 mm wt. vol.	
cm	%							%		
1-0	NS	NS	NS	NS	NS	NS	NS	NS		NS
0-1	9.22	7.26	6.51	12.29	8.87	44.14	54.32	1.54	73	V. gr. silt loam
1-8	8.16	7.63	7.56	13.08	9.40	45.84	53.17	0.99	71	V. gr. silt loam
8-15	12.49	9.94	7.57	14.12	9.15	53.27	47.78	0.00	66	V. gr. sandy loam
15-24	13.70	12.23	12.17	19.52	9.12	66.75	33.93	0.00	71	V. gr. co. sandy loam
24-32	11.85	9.89	10.12	21.24	13.88	66.98	33.25	0.00	86	Ext. gr. sandy loam

Depth	Silt Size Distribution (mm)			Bulk Density		Water Content		Liquid	Plastic	Plastic
	CoSi 0.05-0.02	Msi 0.02-0.005	Fsi 0.005-0.002	Clod	Core	1/3 Bar	15 Bar	Limit	Limit	Index
cm	%			g/cc		%		%		
1-0										
0-1										
1-8										
8-15										
15-24	24-32									
24-32										

Remarks: Samples were run by the centrifuge method, 5% sodium hexametaphosphate added, sonified, and no carbonates removed.
NS - no sample

Analysis by: Maynard Fosberg/Bob Blank

Unnamed Gravelly Silt Loam 86-MT-4525

Classification: Typic Glossborolf, fine-silty.

Map Symbol: LT 112

Lab Analysis: Phys.

GENERAL SITE CHARACTERISTICS

Location: Sanders County, Montana; T. 26 N., R. 32 W., sec. 27, SW1/4SW1/4.

Forest: Kootenai National Forest.

Area: McKay T.S. Unit 17, Cabinet Ranger District. CEFES project.

Described by /Date: Louis Kuennen and Dave Atkins; September 19, 1984.

Parent Material: Lake Missoula sediments.

Geology/Bedrock:

Landform/Topography: Sloping terrace.

Habitat Type/Vegetation: Thpl/Clun: Psme, Pipo, Abgr, Laoc, Thpl, Pico; Syal, Rogy, Amal, Bere; Clun, Cooc, Libo, Adbi, Ptaq; Cage, Agropyron sp.

Precipitation: 38 inches

Infiltration: Rapid

Aspect: W

Permeability:

Elevation: 2500'

Percolation:

Slope: 10/20%

Drainage: well

Erosion:

Soil Temp. at 50 cm:

Stoniness:

Litter Type:

Remarks: IIIC weakly cemented; roots stop at contact between this layer and one above. IIB2 has more roots than horizon above or below it. Roots in Lake Missoula deposit are only along ped faces. Rock in upper horizons result of colluvial action or outwash eddies.

PEDON DESCRIPTIONS

O1 1-0 inches. Duff.

A1 0-1 inches. Silt Loam; light yellowish brown (10YR 6/4) dry; weak very fine granular structure; soft, very friable, slightly sticky, nonplastic; 15 percent angular gravels by volume; many very fine and fine roots; many very fine and fine continuous pores; wavy, discontinuous boundary.

B1r 1-9 inches. Silt loam; dark yellowish brown (10YR 4/4) moist, light yellowish brown (10YR 6/4) dry; weak friable granular structure; soft, friable, slightly sticky, nonplastic; 5 percent angular gravels by volume; many very fine, fine and medium, common coarse roots; many very fine and fine, common medium and coarse continuous random roots, common coarse pores; neutral--pH 7.0; abrupt, wavy boundary.

IIA21 9-13 inches. Silty clay loam; very pale brown (10YR 7/3) dry-70%, pale brown (10YR 6/3) dry-30%; moderate medium subangular blocky structure; hard, firm, slightly sticky, slightly plastic; less than 2 percent gravels by

volume; common very fine, few fine and medium roots; common very fine, few fine continuous random pores; slightly acid--pH 6.5; gradual, irregular boundary.

IIA22 13-17 inches. Silty clay loam; very pale brown (10YR 7/3) dry-60%, yellowish brown (10YR 5/4) dry-40%; moderate medium subangular blocky structure; hard, fine, sticky, plastic; very few, thin, clay films line tubular or interstitial pores; less than 1 percent gravels by volume; few very fine and fine roots; few very fine and fine constricted random pores; slightly acid--pH 6.5; gradual, irregular boundary.

IIB2 17-22 inches. Silty clay loam; reddish brown (5YR 5/4) dry-80%, pinkish gray (7.5YR 7/2) dry-20%; strong coarse angular blocky structure; very hard, very firm, very sticky, very plastic; few thin clay films line tubular or interstitial pores, organic staining; less than 1 percent gravels by volume; few very fine and fine coarse roots; few very fine and fine constricted random pores; very strongly acid--pH 5.0; gradual, irregular boundary.

IIC 22-26 inches. Silty clay loam; white (10YR 8/1) dry-40%, light brown (7.5YR 7/2) dry-60%; strong coarse angular blocky structure; very hard, firm, sticky, plastic; less than 1 percent gravels by volume; few very fine and fine roots; discontinuous, random, vesicular pores; extremely acid--pH 4.5; abrupt, wavy boundary.

IIIC 26-34+ inches. Extremely gravelly loamy sand; single grain structure; loose, loose, nonsticky, nonplastic; 80 percent gravels by volume; no roots; strongly acid--pH 5.5.

Pedon: Unnamed Gravelly Silt Loam 84-MT-4525 (McKay lower)

Date: December 1984

Depth	Particle Size Distribution (mm)							Gravel & Stone		Textural Classes	
	VCS	CS	MS	FS	VFS	TS	TSi	TC	>2 mm		
	2-1.0	1-0.5	0.5-0.25	0.25-0.1	0.1-0.05	2-0.05	0.05-0.002	<0.002	wt.	vol.	
cm	%							%			
1-0	NS	NS	NS	NS	NS	NS	NS	NS			NS
0-1	NS	NS	NS	NS	NS	NS	NS	NS			NS
1-9	0.23	1.09	1.54	4.81	8.41	16.08	73.99	9.93	48		Gr. silt loam
9-13	0.29	0.42	0.46	2.66	6.29	10.12	74.37	15.51	53		V. gr. silt loam
13-17	0.14	0.17	0.19	1.39	6.21	8.11	66.39	25.50	42		Gr. silt loam
17-22	0.04	0.19	0.18	1.12	3.61	5.14	50.83	44.03	41		Gr. silty clay
22-26	0.16	0.05	0.12	0.73	2.29	3.36	71.89	24.75	43		Gr. silt loam
26-34	1.16	1.75	9.53	41.43	15.19	69.06	27.56	3.38	85		Ext. gr. fine sandy loam

Depth	Silt Size Distribution (mm)			Bulk Density		Water Content		Liquid	Plastic	Plastic
	CoSi	Msi	Fsi	Clod	Core	1/3	15	Limit	Limit	Index
	0.05-0.02	0.02-0.005	0.005-0.002			Bar	Bar			
cm	%			g/cc		%		%		
1-0										
0-1										
1-9										
9-13										
13-17										
17-22										
22-26										
26-34										

1-0
0-1
1-9
9-13
13-17
17-22
22-26
26-34

Remarks: Samples were run by the centrifuge method, 5% sodium hexametaphosphate added, sonified, and no carbonates removed.
NS - no sample

Analysis by: Maynard Fosberg/Bob Blank