Appendix 3A
Soil augering descriptions: land type Pediment

W. de Neef

Auger T1	Coordinates 492260 / 5043110	Surface 35% limestone coverage at surface. Sized stones at surface around 5 m, some larger up to 20 m	

0-0.22 m Loam, 10YR 4/3 (d), 25% stones in soil (limestone)
0.22-0.45 m Loam with some ground limestone, 2.5Y 7/4, Stoniness soil 50%
0.45 m End of auger, soil too hard

Auger T2	Coordinates 492454 / 5043160	Surface	Slope angle 4%

0-0.34 m Loam, 10YR 2/3,
0.34-0.60 m Loam, 10YR 5/4, Small gravel 10%
0.60-0.75 m Loam with 50% gritty frs., 10YR 7/6
0.75 m Solid bedrock

Auger T3	Coordinates 492156 / 5043349	Surface 60% stone sized slightly larger than 10-25 m	Slope angle 3%

0-0.24 m Loam, 10YR 3/4, effervescences
0.24 m End of auger, soil too stony

Auger T4	Coordinates 492083 / 5043507	Surface	

0-0.30 m Loam, 7.5YR 4/4
0.30-0.45 m Loam mixed with pink gritty material, 2.5YR 5/6
0.45 m End of auger, bedrock

Auger T5	Coordinates 492006 / 5043645	Surface Some large stones (20-30 m) + smaller stones	

0-0.38 m Loam, 7.5YR 4/4
0.38-0.54 m Transitional layer, loam, 7.5YR 4/4 (M)
0.54-0.65 m Loam, gritty, 5YR 4/4, effervescences

Auger T6	Coordinates 491946 / 5043785	Surface	

0-0.34 m Loam, no inclusions, 7.5YR 4/4
0.34-0.46 m Transition from topsoil to rock, loam with light pink limestone grit, 10YR 3/3
0.46 m End of auger: bedrock

Auger T7	Coordinates 491872 / 5043927	Surface	

0-0.18 m Loam, 10YR 2/2 (m), effervescences
0.18-0.52 m Loam, 10YR 3/2
0.52-0.68 m Loam, 10YR 5/4, effervescences
0.68-0.75 m Loam with pinkish white lime inclusions, 10YR 5.4

Auger T8	Coordinates 491783 / 5044105	Surface No stones at surface, topsoil effervescences	

0-0.40 m Loam, 10YR 5/5 (d)
0.40-0.68 m Loam, 10YR 5/4
0.68-0.76 m Loam mixed with limestone
0.76 m End of auger: bedrock

Auger T9	Coordinates 491713 / 5044270	Surface An occasional stone at the surface	

0-0.45 m Loam, 10YR 5/3
0.45-0.75 m Gritty loam, 10YR 4/3 (m), upper part clayey with limestone intrusions
0.75-0.86 m Limestone-bedrock transition
0.86 m End of auger: bedrock

Auger T10	Coordinates 491622 / 5044465	Surface No stones at the surface, topsoil effervescences	

0-0.45 m Loam, 10YR 5/3 (d)
0.45-1.12 m Loam with lime concretions, looks like pure loess, 10YR 4/6
1.12-1.26 m Loam, mixed with some limestone particles, 10YR 4/3. Layer of loess on limestone weathering layer?
1.26 m End of auger: bedrock

Auger T11	Coordinates 491539 / 5044600	Surface Stones at the surface, max 10x10, very sparse. Topsoil effervescences	

0-0.33 m Loam, 10YR 3/2-4/2
0.33-0.49 m Loam, 10YR 4/3, somewhat lighter and grittier than top soil
0.49 m End of auger: bedrock

Auger T12	Coordinates 491462 / 5044746	Surface Large stones at the surface, max 30-20 m. Topsoil effervescences	

0-0.50 m Loam, 10YR 5/5, lower down getting somewhat lighter
0.50-0.73 m Loam with grit, 10YR 4/3
0.73 m End of auger, bedrock

Auger T13	Coordinates 491389 / 5044870	Surface 15-20% stones at the surface, 15x15 m, some larger ones. Topsoil effervescences	

0-0.50 m Loam, grittier lower down, 10YR 5/3
0.50-0.78 m Loam, with grit, 10YR 4/3
0.78 m End of auger: bedrock

Auger T14	Coordinates 491 317 / 5045024	Surface 10-15% stones at the surface 15x15 m, some larger ones. Topsoil effervescences	

0-0.40 m Loam, 10YR 4/3
0.40-0.77 m Loam with limestone grit, very compact, from 10YR 4/3 to 10YR 5/4
0.77 m End of auger: loam layer was too dense. Increase of grit indicates that bedrock is close

Auger T15	Coordinates 491230 / 5045133	Surface No stones at the surface, grown with grass	

0-0.40 m Loam, 10YR 5/3
0.40-1.54 m Pure loess, 10YR 5/4
1.54-1.87 m Sandy loam with limestone grit, 2.5Y 8/4
1.87 m End of auger, soil too hard. Bedrock probably near.

Appendix 3B
Soil augering descriptions: land type Lowland Ridge

W. de Neef

Auger T16	Coordinates 489942 / 5047888	Surface Partly grown with grass, 30 m from northern cliff of Lake Džarylgač	The lake cliff is approx. 6 m high. The soil is very thick here, bedrock was not reached

0-0.45 m Loam, effervescences, 10YR 4/3
0.45-1.12 m Loam, very dry, effervescences, 10YR 5/4
1.12-1.78 m Loam, effervescences, 10YR 5/4
1.78-1.92 m Loam, effervescences, 10YR 6/4

Auger T17	Coordinates 489881 / 5048164	Surface In barley field surface not visible	

0-0.45 m Loam, effervescences lightly, 10YR 6/4-5/4 (pure loess), darker patches 10YR 4/4
0.45-0.95 m Loam (loess), effervescences lightly, 10YR 5/4
0.95 m End of auger: loam too compact to continue

Auger T18	Coordinates 489768 / 5048164	Surface North of a dirt road, on top of a local ridge. Slope dips slightly to the north. Surface is sandy and lighter than previous locations	

0-0.21 m Loam (loess), 10YR 4/4
0.21-0.70 m Loam, 10YR 5/4
0.70-0.80 m Loam with lime concretions, 10YR 6/4
0.80 m End of auger: loam too compact to continue

Auger T19	Coordinates 489720 / 5048238	Surface	

0-0.54 m Loam, 10YR 4/3
0.54-0.70 m Loam (loess), 7.5YR 5/4
0.70 m End of auger: bedrock

Auger T20	Coordinates 489617 / 5048373	Surface	

0-0.55 m Loam mixed with small lime stones (1.5 x 1.5 m), 10YR 3/3
0.55-0.67 m Loam with whitish limestone grit, 10YR 4/3 and 10YR 5/4
0.67 m End of auger: bedrock

Auger T21	Coordinates 489527 / 5048614	Surface	

0-0.50 m Loam mixed with lime stones, effervescences, 10YR 4/3
0.50 m End of auger: bedrock

Auger T22	Coordinates 489400 / 5048795	Surface Limestone bedrock with grit and some grassy patches	Bedrock at surface

0 m Bedrock and limestone grit

Auger T23	Coordinates 489324 / 5048936	Surface 40% of the surface covered with limestones	

0-0.25 m Loam with limestone grit, 10YR 4/2
0.25 m End of auger: bedrock

Auger T24	Coordinates 489222 / 5049091	Surface Surface covered with limestones	

0-0.15 m Loam with limestone grit, effervescences, 10YR 4/3
0.15 m End of auger: bedrock

Auger T25	Coordinates 489082 / 5049343	Surface	

0-0.20 m Loam (loess) without limestone inclusions, effervescences, 10YR 3/3
0.20 m End of auger: bedrock

Auger T26	Coordinates 488940 / 5049543	Surface Almond trees on flat upper part of coastal ridge. Hardly any stones at surface	

0-0.40 m Loam without limestone inclusions, effervescences, 10YR 3/3
0.40-0.80 m Loam (loess), 10YR 5/4
0.80 -1.12 m Loam with white calcite particles, 10YR 6/6
1.12 m End of auger: bedrock

Auger T27	Coordinates 488832 / 5049752	Surface No stones at surface	

0-0.33 m Loam, no inclusions, effervescences, 10YR 3/3
0.33-0.47 m Loam with limestone grit, effervescences, 10YR 5/4
0.47 m End of auger: bedrock

Auger T28	Coordinates 488701 / 5050019	Surface	

0-0.33 m Loam, no inclusions, 10YR 3/3
0.33 m End of auger, bedrock

Auger T29	Coordinates 488573 / 5050213	Surface 40 m from Black Sea coastal cliff. No stones at surface. Soil at cliff is several meters thick	

0-0.37 m Loam, no limestone inclusions, 10YR 3/2
0.37-0.70 m Loam with limestone grit, 10YR 5/4
0.70 m End of auger: bedrock

Appendix 3C
Augerings at locations with geological observations

W. de Neef

Auger G1 (Hill 12)	Coordinates 489510 / 5039030	Surface No stones at surface	

Auger conducted at an extension of the plateau, with valleys on both sides. The beginning of the valley has a saucer-shape with shallow overflows from various directions that merge, creating a convex break of slope in the length profile as the factual start of the valley. Interpretation: Chernozem soil in loess

0-0.55 m	Loam, 10YR 3/1 (d). 0-40 m was decalcified
0.55-1 m	Loam, 10YR 6/4 (d)
1-2 m	Same, with spots and veins of lime
2 m	End of auger because soil was hard and information was sufficient

Auger G2 (Hill 7)	Coordinates 488688 / 5041385	Surface Grown hillside	

Between Quarries 1 and 2, 14 m from a quarry with a loess deposit.

0-0.26 m	Loam, 10YR 3/2
0.26-1.08 m	Loam, 10YR 5/4
1.08 m	End of auger: bedrock

Auger G3 (Hill 7)	Coordinates 488684 / 5041380	Surface Grown hillside	

0-0.25 m	Loam, 10YR 4/3
0.25-0.65 m	Loam with limestone particles, 10YR 5/4
0.65 m	End of auger: bedrock

Auger G4 (Hill 7)	Coordinates 488685 / 5041369	Surface Grown hillside	

Auger conducted between G1 and G2.

0-0.50 m	Loam, 10YR 3/2. Transition is very gradual via 10YR 5/4 to the next layer
0.50-1.35 m	Loam, 10YR 5/6
1.35 m	End of auger: limestone bedrock

Auger G5 (Hill 7)	Coordinates 488679 / 5041363	Surface Grown hillside	

Auger conducted in the loess quarry, 2.5 m below the original hillside surface.

0-0.35 m	Loam, 10YR 4/4
0.35 m	End of auger: bedrock

Auger G6	Coordinates 481636 / 5040614	Surface Ploughed field, lot of limestone grit and bigger pieces, 7.5YR 6/6	

0-0.01 m	Loam, 7.5YR 5/4 (d), effervescences
0.01-0.30 m	Loam, 7.5YR 5/4
0.30 m	End of auger: bedrock

Auger G7	Coordinates 461587 / 5040626	Surface Ploughed field red soil, only few bigger lime stones (15 x 15 m)	

0-0.47 m	Loam, 7.5YR 3/2 (m), effervescences, no lime inclusions
0.47-0.59 m	Loam, 7.5YR 4/3
0.59-0.66 m	Loam mixed with limestone grit, 7.5YR 4/3
0.66 m	End of auger, close to bedrock

Auger G8	Coordinates 481715 / 5040636	Surface Ploughed field, dark soil	

0-0.42 m	Loam with limestone grit, 10YR 4/3, effervescences
0.42-0.68 m	Same, mixed with white limestone
0.68-0.96 m	Loam with grit, 7.5-10YR 5/4
0.96-1.02 m	Loam with grit (more than previous), 10YR 5/4
1.02 m	End of auger: bedrock