

## C. SOIL STUDIES



## C.1 IMAGE PROCESSING

Since there exists a close relationship between geomorphological land features and soils, the present study has also adopted a soil-landform relationship approach. For this purpose, on-screen digitization of geomorphological land units of the study area was done in Google Earth using the following steps:

- Conversion of shape file to KML file of the study area in Arc map
- Launching KML file of the study area in Google Earth
- Preparation of Google map at an eye altitude of 1,000 ft
- Visual image interpretation in Google 3D mode and delineation of geomorphological land units (as per the criteria set by Land Resources Mapping Project (LRMP))

## C.2 PRELIMINARY FINDINGS OF IMAGE PROCESSING

Along with soils and landforms, another important factor, which is important both in terms of soil characteristic feature and its suitability for different land use purpose, is the climate. Temperature is a major component of climate, and, in the Nepali context, it can greatly be explained by elevation (Nayava 1983). Since the terms of reference (TOR) has stated that soil observations should be done vertically at each 200 m distance, an elevation map of the study area at 200 m interval was prepared using DEM generated from topographic contours and spot heights. The study area falls within the following elevation classes:

- Less than 1000 m above mean sea level (m asl);
- 1000 – 1200 m asl;
- 1200 – 1400 m asl;
- 1400 – 1600 m asl;
- More than 1600 m asl

Besides, the TOR also states that soil observations be made horizontally at each 2 km distance. In the mountainous terrain, this horizontal spatial distance does not seem to be appropriate with regards to the occurrence of types of soils. A geomorphological land unit map of the study area was also prepared. Hence the elevation map was superimposed on the geomorphological land unit map of the study area. The present study has taken into consideration the geomorphological land features and the temperature (as determined by elevation).

The study area consists of 13 Village Development Committees (VDCs) and one municipality of Baitadi district and 12 VDCs of Dachula district. Both these districts are located in the middle mountain physiographic region. Hence, at the vertical level, elevation be the set criteria and, at the horizontal level, the landforms will be the major criteria with the ultimate objective of capturing both the climatic and soil variations that exist in the study area. Table 1 presents a brief description of the identified geomorphological land units, their elevation range and associated soil characteristics in each of the land units identified.

Table 1: Geo-morphological units, elevation range and soil characteristics

Geomorphological land units	Elevation range (m asl)	Associated soil characteristics
River Channel	< 1000	Water, sand and gravels
Recent alluvial plains	< 1000	Coarse Loamy Ustifluvents, Fluvaquents, Haplustepts
Alluvial fans	< 1000	Sandy, coarse loamy Haplustepts,
Ancient alluvial terraces	< 1000	Coarse loamy, fine loamy HaplustalFs, RhodustalFs, Haplustepts
Cultivated terraces on moderately steep hill slopes	– 1800	Coarse loamy, sandy, typic, rhodic aquic, Haplustepts, Hapludept, Haplumbrept
Non cultivated (forested) moderately steep to steep hill slopes	– 1800	Skeletal, coarse sandy, Loamy Haplustepts, Hapludept, Haplumbrept and orthents
Steep to very steep forested hill slopes	– 1800	Coarse sandy Lithic and paralithic subgroups of Haplustepts, Hapludept, and ustortents

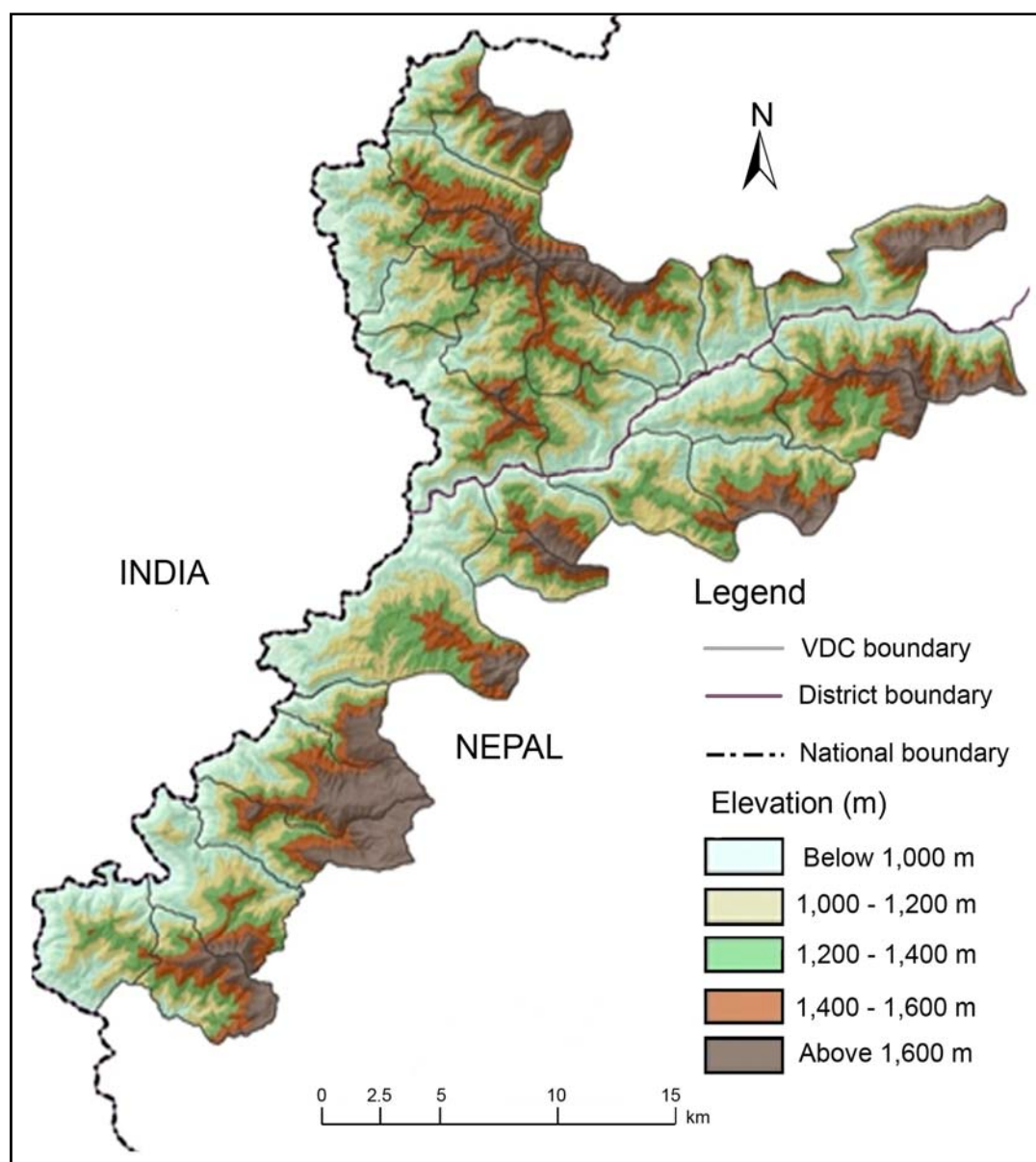
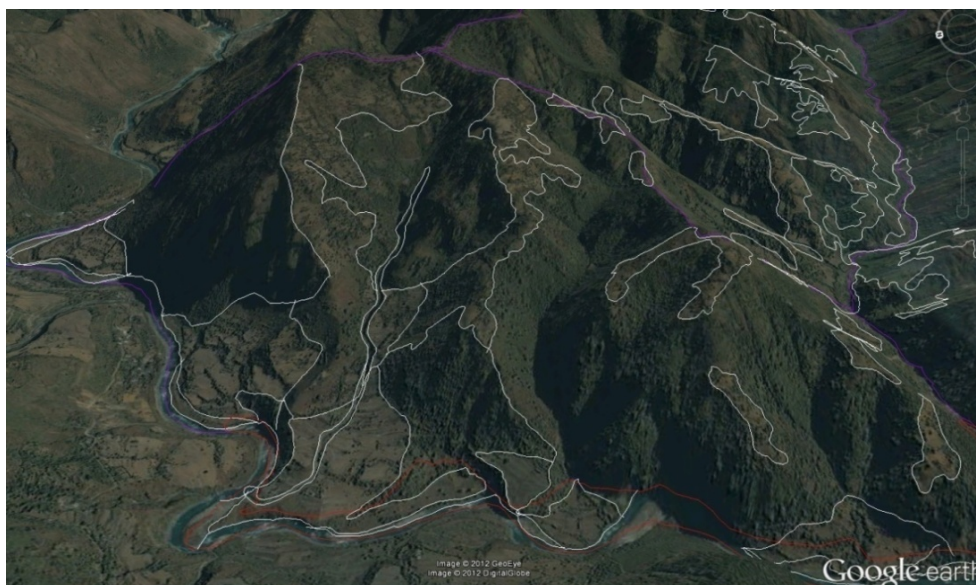


Figure 1: Elevation map of project VDCs



An example of the delineation of these geomorphological land units in a small portion of the project area is shown in Figure 2.



**Figure 2: Image interpretation to demarcate geomorphological land units**

Each of the VDCs has all these geomorphological land units with, of course, different degrees of coverage. The recent alluvial plains, alluvial fans and the ancient river terraces (old alluvium) are generally located below 1000 m above mean sea level and hence have generally hot subtropical type of climate. Cultivated terraces on moderately sloping mountainous terrain cover a wide range of elevation with climate ranging from subtropical to warm temperate and cool temperate. Cultivation in the study area occurs in these four land units. The remaining two land units are mostly under forest with different degrees of density and canopy.

The map thus prepared forms a sound base map for conducting soil survey work.

### **C.3 SAMPLING DESIGN**

The soil study for the project was carried out on the basis of soil-landform relationship. Furthermore, the climatic variable was also included in the study, which is an important factor to determine the soil characteristic feature including its suitability for different land use purposes. In Nepal, elevation has strong correlation with the spatial distribution of temperature; hence, elevation was considered as another important criterion to explain the landforms.

The soil sample sites were determined (a) by delineating the landforms and land units in the base map as per criteria set by the LRMP, considering the slope degree class and aspect of the slopes, (b) distribution of the elevation was also considered as the TOR has specified. An elevation class map was prepared with an interval of 200 m starting from 800 – 1800 m. This elevation map was superimposed on the landform map to locate the sites for collection of soil samples. The base map was produced for field utilization.

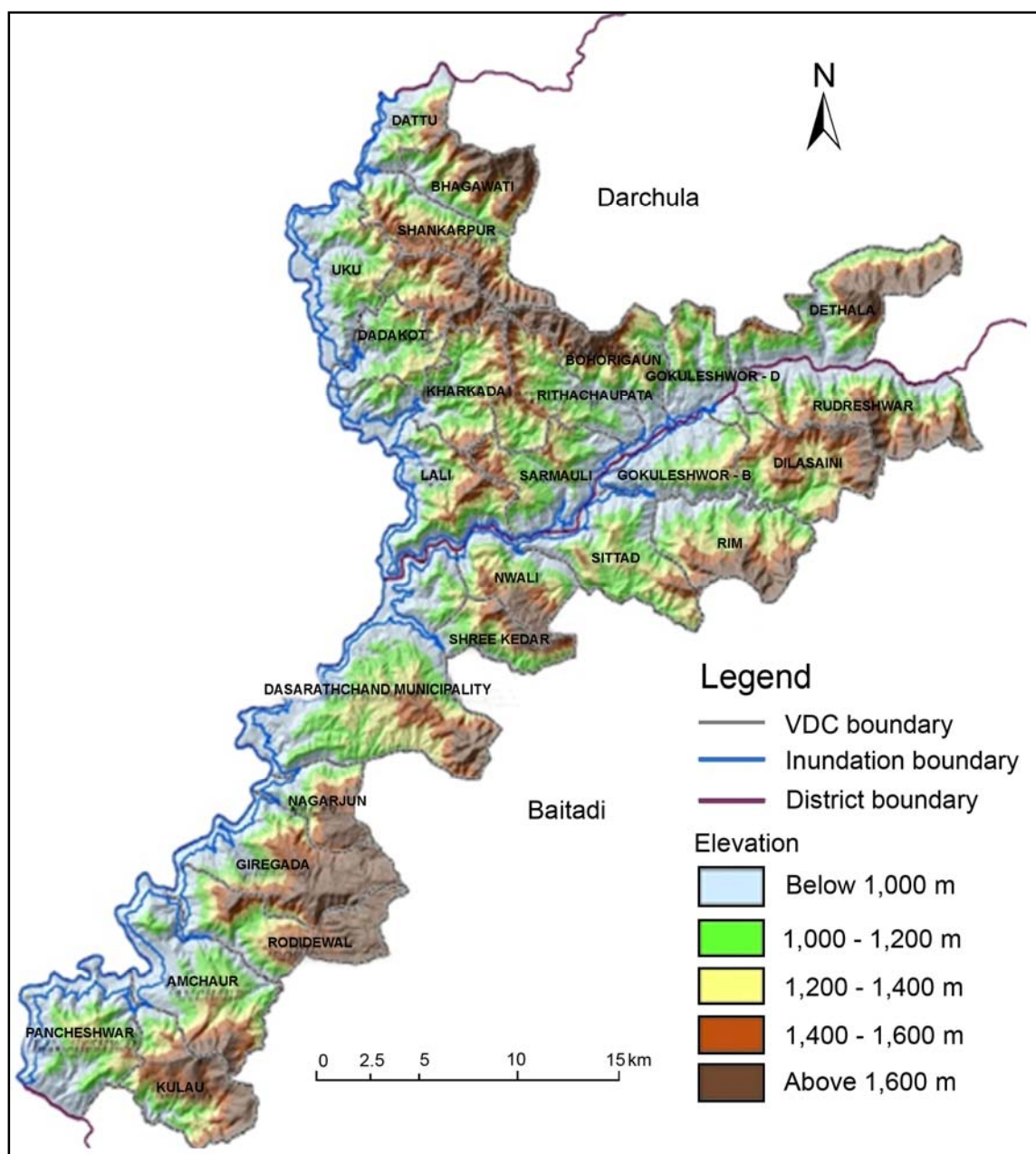


Figure 3: Elevation and slope maps of the project area

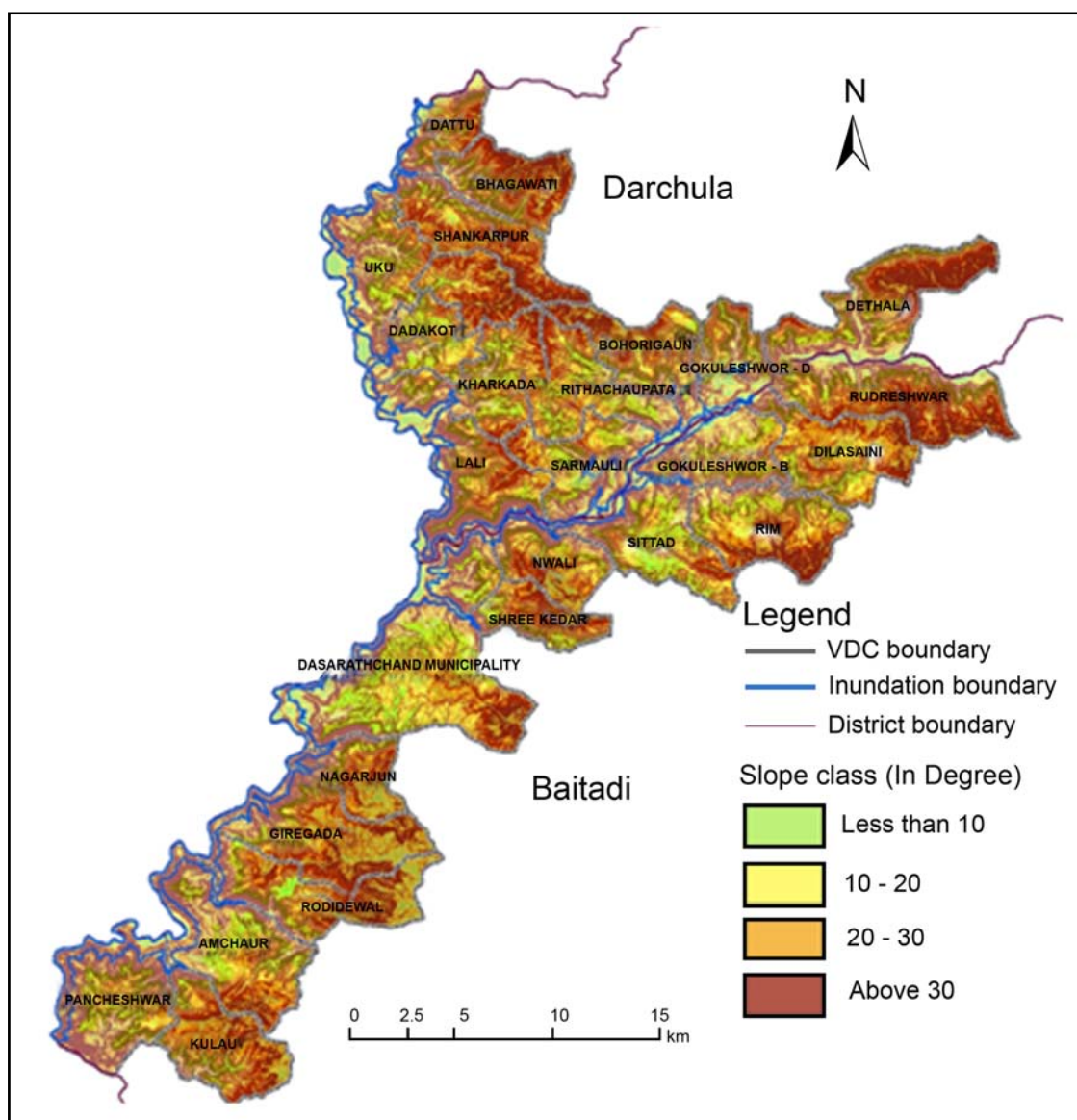
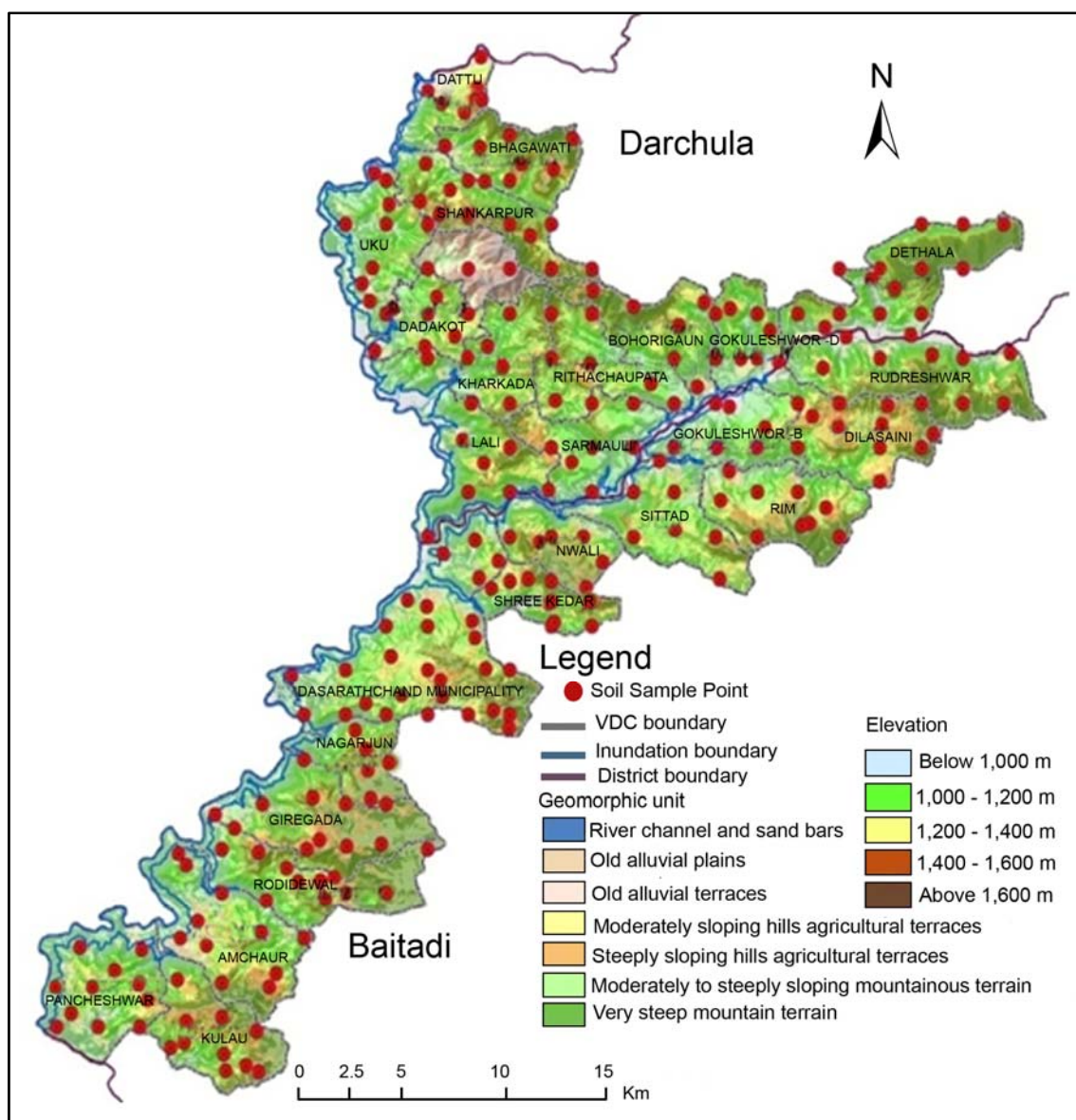


Figure 4: Geomorphology/ Terrain map





**Figure 5: Soil sample points in DEMP study area**

Five types of geomorphic units (landforms) were identified in the DEMP study area on which about 262 soil profile samples, (P) and 424 soil surface samples (S) were allocated. From each profile samples a maximum of 3 including 1 surface sample were collected depending upon the depth of the soil profile, Table 2. 262 soil profiles will have 786 soil samples with the assumption that from each profile along with the surface soil, two subsoil samples will be collected from different depths. These samples along with 424 surface samples collected from varying land units and elevations classes will total about 1200 samples and this more or less equals the number of samples specified in the TOR. However, we should also accept the fact that in each profile there may not necessarily be three samples each. Whatever it may be, this design of sampling seems appropriate to capture different soils that occur in the study area. Table 2 depicts the distribution of soil samples (P- profile and S - surface) in different landforms.

**Table 2: Distribution of soil samples (P- profile and S - surface) in different landforms**

Terrain	<1000		1000-1200		1200-1400		1400-1600		>1600		Total	
	P	S	P	S	P	S	P	S	P	S	P	S
Gently rolling old alluvial terraces	2	4									2	4
Agricultural terraces on gently sloping mountainous terrain	13	30	13	30	13	30	13	30	13	30	65	150
Agricultural terraces on moderately sloping mountainous terrain	13	30	13	30	13	30	13	30	13	30	65	150
moderately to steeply sloping mountainous terrain (forest)	13	16	13	16	13	16	13	16	13	16	65	80
Steeply to very steeply sloping mountainous terrain (forest)	13	8	13	8	13	8	13	8	13	8	65	40
Total	54	88	52	84	52	84	52	84	52	84	262	424

#### C.4 SOIL SAMPLING

Soil samples were collected as per the design stated above from all 25 study VDCs and 1 municipality in the DEMP study area. The collected soil samples were analyzed for the following parameters:

- Particle size distribution and textural class
- Soil reaction (pH)
- Total Nitrogen (N)
- Organic Carbon (OC)
- Available Phosphorus (P)
- Available Potassium (K)

The subsurface soil samples were analysed only for particle size distribution texture and the soil reaction pH. Soil sampling was carried out with an aim to prepare a soil map of the DEMP study area which can provide a sound basis for identifying and delineating suitability for different land use purpose as specified in the TOR of DEMP.

#### C.5 SOIL SURVEY FIELDWORK

Before proceeding for field work, the entire map interpretation work and sampling framework was presented and thoroughly discussed in the Technical Advisory Group meeting held on August 28, 2012 in the project office and was endorsed by the TAG meeting. The field soil survey work was conducted based on the procedure and framework discussed with and approved by TAG. In what follows is a description of the activities conducted in the field.

##### Human Resources and Training

A group of 9 field technicians were appointed for the execution of the work. Additionally, 9 field assistants were also appointed to assist the field technician in field. Two-day training on the soil sampling procedures was organized in Hotel Api, Gothalapani, Baitadi on 27-28 September 2012 in which the field technicians were trained by the concerned soil scientist on the processes and procedures to collect the soil sample such as getting to the appropriate sample locations, handling the tools, sample collection, labeling and sample protection for each profile and surface sample types. Furthermore, the field technicians were also trained to fill the sample site description special checklist. The trainees were instructed to follow the

field topographical maps to get closer to the sample site and then get assistance from the GPS to locate the sample sites. Special session was organized to train the field technician on GPS usage.

The training was followed by field demonstration of sampling procedures in all 5 forms of land forms and for both profile and surface sample types in and around Gothalapani.

After completion of the training, the teams, aided with necessary sampling equipments and other field accessories, were mobilized to their respective field area for sample collection

### Sampling Tools and Accessories

Each sampling team was provided with following sampling equipment and necessary field accessories prior to mobilization for field sampling:

- 1:25000 scale detailed topographical map
- GARMIN Etrex GPS (to collect the geodetic information of the sampling points)
- One-meter long auger (principal tool to dig and collect soil samples for both surface and profile samples)
- A spade (to collect soil from the vertically sloped landforms)
- A spatula (to collect and pour soil samples into collection bag)
- Transparent plastic bags for sample placement and polythene bags for extra protection
- Red permanent marker (to label soil sample bags)
- Umbrella
- Torch Light
- Stationery
- Medicines

### Mobilization of sampling team and field work

The sampling team was grouped into nine teams; each team included a field technician and a field assistant. Each team was allocated a minimum of two and a maximum of three VDCs, Table 3. After the completion of training on September 28, 2012, the groups mobilized to the field for the soil sample collection. The soil sampling works was completed on October 14, 2012. The Table 3 depicts the profile (P) as well as surface(S) in each of the VDCs surveyed.

**Table 3: Groups for execution of soil sampling works**

SN	Team	VDCs	Number of samples
1	Team 1	Dattu, Bhagawati, Shankarpur	70
2	Team 2	Uku, Dadakot, Kharkada	51
3	Team 3	Lali, Sarmauli, Rithachapata	61
4	Team 4	Bohorigaun, Gokuleshwar, Dethala	63
5	Team 5	Rudreshwar, Dilasaini, Gokuleshwar	63
6	Team 6	Rim, Sittad, Nwali	71
7	Team 7	Dasarathchand, Shreekedar	94
8	Team 8	Nagarjun, Giregada, Rodidewal	94
9	Team 9	Aamchaura, Kulau, Pancheshwar	102
<b>Total</b>			<b>669</b>

We had earlier assumed that each profile will have one surface soil sample and two subsurface soil samples. But in the field, some profiles had only one subsurface soil sample because of the shallowness of the profile. Because of this shallowness of the soil profiles at some locations, the total samples collected totaled a little above 1,000 only. Since the entire representative sites were visited, this did not affect the soil map preparation work.

## C.6 SAMPLE ANALYSIS

The collected samples were analyzed at Nepal Agricultural Research Council (NARC) Soil Science Division, Khumaltar, Lalitpur. The soil samples were analyzed for parameters such as particle size distribution and soil texture, pH, Organic Matter (OM), Nitrogen (N), Phosphorous (P) and Potassium (K), Table 4, as per the sample analysis details approved by the TAG. The following methods were followed for the laboratory analysis.

**Table 4: Analytical methods for different parameter**

Soil Sample Test	Analytical Method
Soil Texture	Hydrometer method and Texture classification as per USDA
Soil pH	Soil water suspension
Soil Organic Matter	Walkley and Black
Total Soil Nitrogen	Olson and Bray
Available Soil Phosphorus	Sulphuric acid extraction and reading at Flame photometer
Available Soil Potassium	Microjeldahl

## C.7 PREPARATION OF SOIL MAP AND DESCRIPTION OF THE LEGENDS

Based on the interpretation of the soil analysis data and the georeference position of the soil observation points a soil map of the study area was prepared using ARC GIS. The Legends explained in the soil map were prepared in such a way that the map is easily readable. A separate map was prepared for each of the soil test characteristics explained above.

## C.8 DESCRIPTIONS OF SOIL MAP LEGENDS

**Table 5: Geomorphic Land Units**

Symbol	Characteristics
C	Agricultural terraces on gently rolling old alluvial plains
D	Agricultural terraces on gently sloping mountainous terrain
E	Agricultural terraces on moderately steep mountainous terrain
F	Forest on moderately steep mountainous terrain
G	Forest on steep to very steep mountainous terrain

As limited by the scale and resolution of the base image used, a few minor unmappable forest areas may also be included in C, D and E land units.

**Table 6: Elevation Class (m asl)**

Symbol	Characteristics (m)
1	Less than 1,000
2	1,000 – 1,200
3	1,200 – 1,400
4	1,400 – 1,600
5	More than 1,600

## C.9 SOIL TEXTURAL CLASS

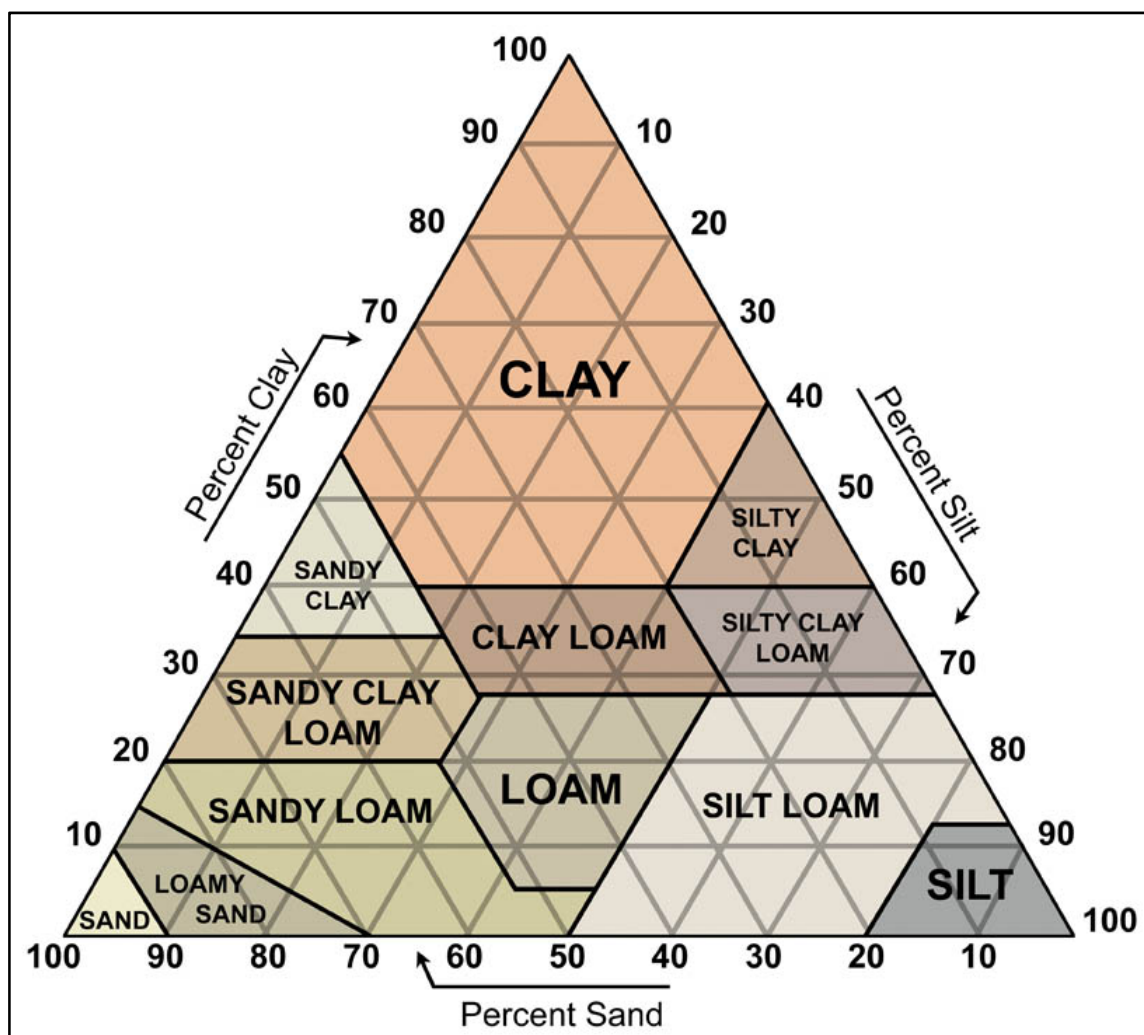


Figure 6: USDA Soil Classification Chart

Table 7: Soil particle fraction and corresponding size (diameter)

Particle size	Diameter (mm)
Sand	2.0 – 0.05
Silt	0.05 – 0.002
Clay	< 0.002

Table 8: Soil textural Class and corresponding mapping symbol

Symbol	Soil Textural Class
S	Sand
LS	Loamy sand
SL	Sandy loam
L	Loam
SiL	Silt loam
CL	Clay loam
SiCL	Silty clay loam
SC	Sandy clay
SiC	Silty clay
C	Clay

**Note:** In the soil map, the numerator letter symbol denotes the surface soil texture and the denominator symbol letter denotes sub-surface soil texture.



**C.10 EXAMPLE OF SOIL MAPPING LEGEND IN SOIL TEXTURE MAP**

**D 2 L/SiL:** Agricultural terraces on gently sloping mountainous terrain lying within 1000 - 1200 m above mean sea level having loam surface soil underlain by silt loam subsurface soils.

Apart from the soil texture, a separate soil map for each of the soil nutrient and acidity/alkalinity status was prepared, and they also depict the occurrence in the respective geomorphic land units and the elevation class. The nutrient status and acidity/alkalinity class assigned was based on the following rating chart developed by the Soil Science Division. Also given is the workability class of soil texture.

**Table 9: Soil Texture (Workability)**

<b>L (Loam)</b>	<b>Good</b>	<b>High suitability</b>
Silt Loam	Good	
Sandy Loam	Good	
cl (Clay Loam)	Moderate	
sicl (Silty Clay Loam)	Moderate	
sic (Silty Clay)	Fair	
c (Clay)	Poor	Low Suitability

**Table 10: Soil Alkalinity and Acidity Rating**

<b>&lt; 5.0</b>	<b>Very Strongly acidic</b>	<b>Low Suitability</b>
5.1 – 5.5	Strongly acidic	
5.6 – 6.0	Moderately acidic	
6.0 – 6.5	Slightly acidic	
6.6 – 7.3	Neutral	Most Suitable
7.4 – 7.8	Slightly alkaline	
7.9 – 8.4	Moderately alkaline	
8.5 – 9.0	Strongly alkaline	
<b>&gt;= 9</b>	<b>Very strongly alkaline</b>	<b>Low Suitability</b>

**Table 11: Soil Organic Matter Content Rating**

<b>&gt;5</b>	<b>High</b>	<b>High Suitability</b>
2.5 – 5	Medium	
1.0 -2.5	Low	
<1	Very low	Low Suitability

**Table 12: Soil Total Nitrogen Rating**

<b>&gt;0.2</b>	<b>High</b>	<b>High Suitability</b>
0.1 – 0.2	Medium	
0.06 – 0.1	Low	
<0.06	Very low	Low Suitability

**Table 13: Soil Available Phosphorous Rating**

<b>&gt;110</b>	<b>Very High</b>	<b>High Suitability</b>
55 - 110	High	
30 – 55	Medium	
16 – 30	Low	
< 16	Very Low	Low Suitability

Table 14: Soil Available Potassium Rating

>550	Very High	High Suitability
280 – 550	High	
110 – 280	Medium	
70 – 110	Low	
>70	Very Low	Low Suitability

### C.11 TABULAR AND GRAPHIC PRESENTATION OF SOIL CHARACTERISTICS

The following tables and charts depict the extent of the area expressed in percentage covered by each of the soil traits in each of the geomorphic land unit and each of the elevation class.

The Table 15 depicts the gross area (ha) covered by each of the geomorphic land units in the study area.

Table 15: Gross area covered by geomorphic unit

Geomorphic land unit	Symbol	Area	Percent
River Channels & water bodies	A	452.1	0.8
Gently rolling old alluvial plains	C	545.50	1.06
Agricultural terraces in the gently sloping mountainous terrain	D	6,112.61	11.88
Agricultural terraces in the moderately sloping mountainous terrain	E	4,049.78	7.87
Forests in the moderately steep mountainous terrain	F	12,375.43	24.06
Forests in the steep to very steep mountainous terrain	G	27,902.01	54.24
Grand total		5,1437.48	100

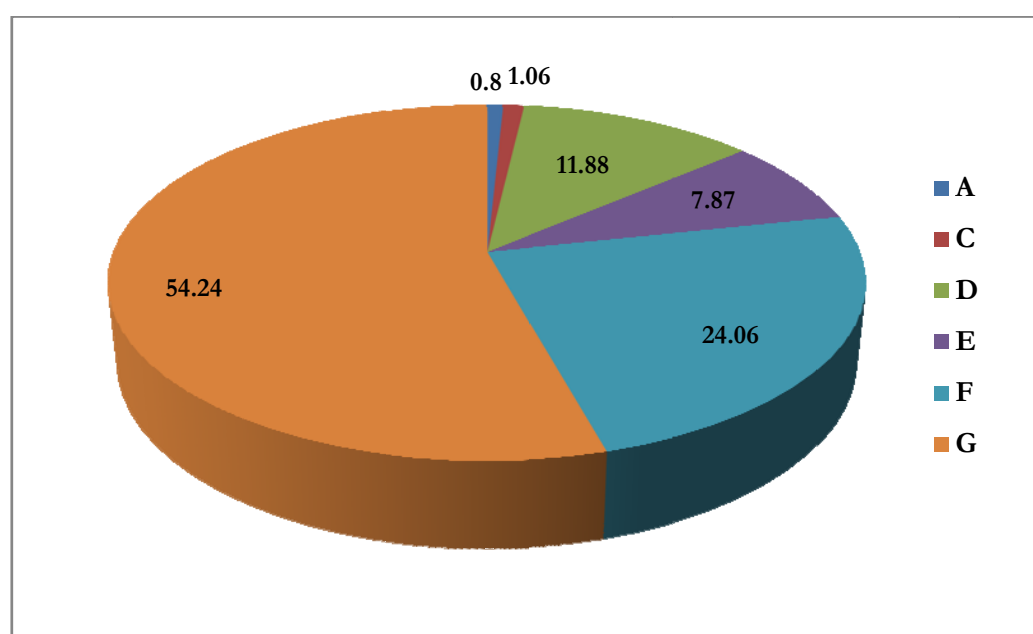


Figure 7: Geomorphic Land Unit Chart

**C.12 ANALYZED SOIL SAMPLE DATA OF PROJECT AFFECTED VDCS**

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
1	AMC 107 EP	0-15	7.2	6.32	0.282	78.75	382.08	60.7	30.5	8.8
2	AMC 107 EP	15-30	6.26					58.7	32.5	8.8
3	AMC 117 FS	0-15	6.26	3.89	0.152	206.72	1232.93	60.7	30.5	8.8
4	AMC 124 GP	0-15	5.99	3.76	0.148	164.06	449.61	40.7	44.5	14.8
5	AMC 124 GP	15-45	6.41					32.7	48.5	18.8
6	AMC 124 GP	45-65	6.68					28.7	50.5	20.8
7	AMC 47 FS	0-15	6.25	3.73	0.147	57.97	24.19	65	28.2	6.8
8	AMC 51 DS	0-15	5.78	5.17	0.189	21.87	179.5	43	46.2	10.8
9	AMC 52 GS	0-15	5.32	2.95	0.124	9.84	145.74	49	42.2	8.8
10	AMC 55 DP	0-15	5.77	3.69	0.146	17.5	409.09	47	44.2	8.8
11	AMC 55 DP	15-45	5.94					49	42.2	8.8
12	AMC 59 ES	0-15	5.73	4.77	0.177	171.72	287.55	53	38.2	8.8
13	AMC 60 ES	0-15	6.7	6.05	0.214	18.59	652.19	45	42.2	12.8
14	AMC 61 FS	0-15	6.3	3.49	0.14	294.21	111.97	51	38.2	10.8
15	AMC 64 ES	0-15	6.3	8.33	0.28	312.81	274.04	41	48.2	10.8
16	AMC 66 DP	0-15	6.19	6.11	0.216	271.25	739.98	41	48.2	10.8
17	AMC 66 DP	15-45	5.82					45	44.2	10.8
18	AMC 66 DP	45-65	5.92					49	40.2	10.8
19	AMC 666 CP	0-15	6.41	6.25	0.22	180.48	152.49	34.7	52.5	12.8
20	AMC 666 CP	15-45	6.31					32.7	52.5	14.8
21	AMC 70 FS	0-15	6.96	6.05	0.214	122.5	787.25	49	40.2	10.8
22	AMC 72 DP	0-15	6.56	6.72	0.233	456.09	571.16	51	38.2	10.8
23	AMC 72 DP	15-45	6.46					51	38.2	10.8
24	AMC 72 DP	45-65	6.52					51	38.2	10.8
25	AMC 73 ES	0-15	7.83	7.79	0.265	261.4	895.29			
26	AMC 75 EP	0-15	6.83	5.31	0.193	22.97	490.13	49	36.2	14.8
27	AMC 75 EP	15-45	6.7						34.2	14.8
28	AMC 76 FS	0-15	5.98	3.49	0.14	26.25	125.48	53	34.2	12.8
29	AMC 77 FP	0-15	6	1.74	0.089	9.84	125.48	97		4.8
30	AMC 77 FP	15-45	5.84					51	28.2	20.8
31	AMC 78 FP	0-15	5.67	2.35	0.107	19.67	57.95	59	28.2	12.8
32	AMC 78 FP	15-45	5.64					61	24.2	14.8
33	AMC 79 FS	0-15	5.69	3.83	0.15	27.34	138.99	51	32.2	16.8
34	AMC 80 DP	0-15	6.45	2.89	0.122	364.21	355.07	63	26.2	10.8
35	AMC 80 DP	15-45	6.5					63	26.2	10.8
36	AMC 81 DP	0-15	6.79	5.91	0.21	296.4	1124.89	31	48.2	20.8
37	AMC 81 DP	15-45	6.78					31	48.2	20.8
38	AMC 82 ES	0-15	7.12	8.2	0.276	22.97	463.11	97	-1.8	4.8
39	AMC 86 GP	0-15	5.33	3.42	0.138	15.31	125.48	45	40.2	18.8
40	AMC 86 GP	15-45	5.48					45	36.2	18.8
41	AMC 86 GP	45-65	5.56					55	36.2	14.8
42	AMC 87 GS	0-15	5.99	1.94	0.095	9.84	57.95	63	24.2	12.8

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
43	AMC 88 FS	0-15	5.97	2.48	0.111	3.5	436.11	44.7	40.5	14.8
44	AMC 89 ES	0-15	6.94	7.26	0.249	682.49	679.21	42.7	44.5	12.8
45	AMC 90 DS	0-15	5.89	7.12	0.245	677.49	949.32	52.7	36.5	10.8
46	AMC 91 ES	0-15	6.83	8.67	0.288	503.12	1300.45	50.7	38.5	10.8
47	AMC 92 EP	0-15	6.88	8.67	0.29	528.27	328.06	48.7	38.5	12.8
48	AMC 92 EP	15-45	7.03					48.7	38.5	12.8
49	AMC 92 EP	45-65	7.12					48.7	38.5	12.8
50	AMC 94 GP	0-15	5.94	2.15	0.101	26.25	989.83	46.7	30.5	16.8
51	AMC 94 GP	15-40	5.94					48.7	34.5	16.8
52	AMC 95 FP	0-15	6.17	1.81	0.091	96.25	584.67	46.7	38.5	14.8
53	AMC 95 FP	15-45	6.77					50.7	36.5	12.8
54	AMC 95 FP	45-65	6.79					50.7	36.5	12.8
55	AMC 96 DS	0-15	6.25	4.5	0.169	337.96	1732.63	50.7	36.5	12.8
56	AMC 99 DS	0-15	6.26	5.51	0.198	939.52	598.17	52.7	36.5	10.8
57	BHA 603 FS	0-15	4.76	7.5	0.25	27.34	233.52	61	38.8	8.2
58	BHA 608 EP	0-15	5.38	3.03	0.14	12.03	44.63	52.2	34.2	13.6
59	BHA 608 EP	15-25	5.42	2.69	0.12	15.31	71.4	54.2	34.2	11.6
60	BHA 608 EP	25-45	5.4	3.03	0.13	7.66	31.32	54.2	34.2	11.6
61	BHA 613 DS	0-15	5.95	5.62	0.2	26.25	274.04	38.2	47.6	14.2
62	BHA 613 GS	0-15	5.76	1.55	0.08	6.56	44.63	48.2	38.2	13.6
63	BHA 614 DS	0-15	6.96	8.04	0.27	134.53	274.04	44.2	42.2	13.6
64	BHA 615 DS	0-15	5.95	3.98	0.15		341.57	51.6	36.2	14.2
65	BHA 616 DP	0-15	5.31	3.29	0.13	26.25	151.09	52.2	36.2	11.6
66	BHA 616 DP	15-30	5.46				301.05	42.2	40.2	17.6
67	BHA 616 DP	30-45	5.43				233.52	40.2	40.2	19.6
68	BHA 619 ES	0-15	5.6				287.55	42.2	38.2	19.6
69	BHA 620 DP	0-15	4.95				111.97	46.2	36.2	17.6
70	BHA 620 DP	15-25	4.75				84.96	46.2	36.2	17.6
71	BHA 621 DS	0-15	6	3.48	0.13	34.99	355.07	54.2	35.6	10.2
72	BHA 623 DS	0-15	5.08	2.14	0.1	45.94	165.99	38.2	30.2	31.6
73	BHA 624 DS	0-15	4.91	3.35	0.13	48.12	260.53	49.8	34	16.2
74	BHA 627 ES	0-15	6.76	2.21	0.1	244.99	274.04	62.3	25.9	11.8
75	BHA 628 EP	0-15	5.9				787.25	50.2	32.2	17.6
76	BHA 628 EP	15-30	6.02				571.16	40.2	40.2	19.6
77	BHA 628 EP	30-45	6.53				557.66	42.2	40.2	17.6
78	BHA 629 ES	0-15	5.78	2.74	0.06	131.25	179.5	49.6	38.2	26.2
79	BHA 632 GP	15-25	7.39	2.17	0.1			64.2	24.7	11.1
80	BHA 632 GP	15-25	7.29	2.91	0.12			70.2	20.7	9.1
81	BHA 633 DS	0-15	4.78	5.02	0.18	0.63	125.48	30.2	50.2	19.6
82	BHA 635 GP	0-15	6.13				84.96	46.2	39.9	13.9
83	BHA 635 GP	15-30	5.85				64.7	44.2	41.9	13.9
84	BHA 635 GP	30-45	5.2				44.5	42.2	39.9	17.9
85	BHA 636 ES	0-15	5.05				422.6	50.2	37.9	11.9

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
86	BHA 637 PP	25-40	5.59	1.5	0.08	51.29	80.46	28.2	46.7	25.1
87	BHA 637 PP	0-15	5.01	2.57	0.11	133.9	134.4	28.2	46.7	25.1
88	BHA 637 PP	15-25	5.12	2.17	0.1	13.31	322.56	30.2	44.7	25.1
89	BHA 640 GP	0-15	5.89				111.97	40.2	43.9	15.9
90	BHA 640 GP	15-30	5.23				111.97	40.2	43.9	15.9
91	BOH 436 ES	0-15	6.9	1.34	0.08	143.28	301.05	39.6	46.8	13.6
92	BOH 443 EP	0-15	5.25	1.21	0.07	75.47	111.97	55.6	34.8	9.6
93	BOH 443 EP	15-30	5.2	0.13	0.04	40.47	125.48	57.6	30.8	11.6
94	BOH 443 EP	30-60	5.23	0.34	0.05	48.12	125.48	57.6	30.2	12.2
95	BOH 459 ES	0-15	5.14	1.48	0.08	27.34	368.58	41.6	48.2	10.2
96	BOH 477 FP	0-15	5.85	0.07	0.04	8.75	138.99	43.6	46.2	10.2
97	BOH 477 FP	15-30	6.45	2.42	0.11	0.33	98.47	39.6	48.2	12.2
98	BOH 477 FP	30-45	5.6	2	0.09	1.09	98.47	43.6	44.2	12.2
99	BOH 486 DP	0-15	4.81	2.96	0.12	47.03	301.05	35.6	54.2	10.2
100	BOH 486 DP	15-30	4.88	1.15	0.02	50.31	301.05	35.6	54.2	10.2
101	BOH 486 DP	30-60	5.03	0.34	0.05	40.47	233.52	35.6	54.2	10.2
102	BOH 495 GP	0-15	5.2	2.67	0.06	7.66	490.13	43.6	40.2	16.2
103	BOH 495 GP	15-30	5.11	1.15	0.09	9.84	618.43	43.6	40.2	16.2
104	BOH 495 GP	30-45	5.25	0.34	0.02	61.25	625.18	43.6	40.2	16.2
105	BOH 500 EP	0-15	5.28	2.22	0.1	14.22	206.51	39	49.4	11.6
106	BOH 500 EP	15-30	5.5	0.61	0.06	43.75	125.48	35	47.4	17.6
107	BOH 500 EP	30-45	5.28	0.87	0.06	8.75	152.49	37	45.4	17.6
108	BOH 505 FP	0-15	7.71					43	40.5	16.5
109	BOH 505 FP	10--30	7.36	1.01	0.07	24.61	307.44	27	54.5	18.5
110	BOH 505 FP	45-60	6.26					31	56.5	12.5
111	BOH 508 GP	15-30	5.63	3.43	0.14	10.94	193.01	45	49.4	11.6
112	BOH 508 GP	0-15	5.48	4.06	0.16	7.66	328.06	41	47.4	11.6
113	BOH 508 GP	45-60	5.66	3.89	0.15	4.37	220.02	45	43.4	11.6
114	BOH 512 DS	0-15	5.41	2.28	0.11	8.75	746.73	23	49.4	27.6
115	BOH 519 GP	0-15	5.69	1.08	0.07	16.41	71.46	45	45.4	11.6
116	BOH 519 GP	15-30	5.66	0.74	0.06	47.03	57.95	43	45.4	11.6
117	BOH 519 GP	30-60	5.69	0.4	0.05	6.56	44.45	43	45.4	11.6
118	BOH 527 FS	0-15	4.3	1.28	0.08	6.56	233.52	11.6	50.8	11.6
119	BOH 530 DS	0-15	6.92	3.83	0.15	265.78	787.25	43.6	44.8	11.6
120	BOH 539 DS	0-15	7.01	3.23	0.13	32.81	220.02	35.6	54.8	9.6
121	BOH 545 GS	0-15	4.73	2.96	0.12	34.99	314.56	33.6	52.8	13.6
122	BOH 547 ES	0-15	7.03	3.16	0.13	31.5	125.48	29.6	60.8	9.6
123	BOH 548 DP	0-15	5.86	2.42	0.11	21.87	301.05	31.6	50.8	17.6
124	BOH 548 DP	15-30	5.41	2.82	0.12	9.84	287.55	29.6	44.8	25.6
125	BOH 548 DP	30-45	5.5	2.96	0.12	13.12	233.52	29.6	50.8	19.6
126	BOH 549 EP	15-30	5.39	0.67	0.06	10.94	233.52	25.6	44.8	29.6
127	BOH 549 EP	30-45	5.12	1.14	0.07	37.18	138.99	27.6	44.8	27.6
128	BOH 549 EP	0-15	4.72	1.61	0.09	21.87	314.56	37.6	52.8	9.6

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
129	BOH 554 FS	0-15	5.57			272.75	589.26	46.4	44.2	9.4
130	BOH 555 ES	0-15	6.9	3.69	0.15	83.12	260.53	29.6	60.8	69.6
131	BOH 559 DS	0-15	6.89					40.4	48.2	11.4
132	BOH 561 FS	0-15	5.57					48.4	40.2	11.4
133	DAN 416 DS	0-15	5.71	4.02	0.15	28.44	233.52	67.3	24.5	8.2
134	DAN 481 DP	0-15	5.58	3.35	0.13	235.15	206.51	39.3	46.5	14.2
135	DAN 481 DP	15-45	5.58	2.34	0.1	222.03	368.58	51.3	38.5	10.2
136	DAN 488 ES	0-15	5.63	5.29	0.19	56.87	220.08	39.3	46.5	14.2
137	DAN 497 ES	0-15	6.16	4.6	0.17			55.3	45.1	11.6
138	DAN 499 DS	0-15	5.51	3.35	0.13	17.49	206.51	39.3	48.5	12.2
139	DAN 504 DS	0-15	6.42	2.01	0.09	21.87	138.99	65.3	22.5	12.2
140	DAN 506 ES	0-15	4.31	2.74	0.09	72.19	125.48	41.3	48.5	10.2
141	DAN 509 FP	0-15	5.56	2.2	0.1			19.3	46.5	34.2
142	DAN 516 DS	0-15	5.27	4.4	0.16			47.3	37.1	13.6
143	DAN 516 DS	0-15	4.34	2.3	0.1			51.3	25.1	9.6
144	DAN 516 DS	25-45	5.94	2.8	0.12			53.2	37.1	15.6
145	DAN 524 ES	0-15	5.71	3.7	0.14			25.5	25.1	23.6
146	DAN 525 GP	0-15	5.78	2.68	0.11	52.49	152.49	63.3	26.5	10.2
147	DAN 525 GP	15-45	5.04	1.34	0.07	14.22	57.95	57.3	34.5	8.2
148	DAN 525 GP	45-60	5.37	2.47	0.11	32.81	111.97	59.3	18.5	8.2
149	DAN 538 ES	0-15	4.83	3.35	0.13	30.62	111.97	73.3	18.5	8.2
150	DAN 544 GP	0-15	6.39	2.68	0.11	8.75	125.48	59.3	32.5	8.2
151	DAN 546 DP	25-45	5.54	2.7	0.11			49.3	25.1	25.6
152	DAN 546 DP	0-15	5.73	2.9	0.12	133.9	134.4	49.3	31.1	13.6
153	DAN 556 ES	0-15	5.61	1.6	0.08			47.3	57.1	17.6
154	DAS 193 DS	0-15	6.92	5.43	0.21	96.39	358.68	47.3	35.4	11.3
155	DAS 194 ES	0-15	6.25	6.77	0.23	83.06	473.97	41.3	35.4	11.3
156	DAS 195 DP	0-15	5.97	1.81	0.09	17.73	166.53	59.3	21.4	11.3
157	DAS 195 GP	15-30	5.94	6.94	0.06	16.41	140.91	59.3	355.4	13.3
158	DAS 196 DS	0-15	6.95	6.3	0.22	400.93	1279.72	53.3	31.4	11.3
159	DAS 197 ES	0-15	6.41	6.77	0.23	39.99	486.78	41.3	35.4	13.3
160	DAS 198 DS	0-15	7.2	4.36	0.16	54.35	269.01	43.3	29.4	13.3
161	DAS 199 DP	30-60	5.33	0.8	0.06	13.33	281.82	39.3	43.4	31.3
162	DAS 199 DP	0-15	5.16	1.34	0.07	26.66	281.82	49.3	45.4	15.3
163	DAS 199 DP	15-30	5.06	0.34	0.04	25.64	256.2	31.3	35.4	37.3
164	DAS 200 GS	0-15	5.68	2.95	0.12	28.71	294.63	49.3	27.4	15.3
165	DAS 201 GS	0-15	6.37	1.21	0.07	21.53	345.87	57.3	29.4	21.3
166	DAS 202 EP	0-15	6.53	3.02	0.12	28.71	256.2	47.3	47.4	17.3
167	DAS 202 EP	0-15	6.1	5.49	0.19	153.81	371.49	51.3	41.4	13.3
168	DAS 203 EP	15-30	7.67	6.49	0.22	526.03	1200.73	39.3	41.4	19.3
169	DAS 203 EP	0-15	7.79	4.96	0.18	256.35	1213.54	25.9	52.2	21.3
170	DAS 204 ES	0-15	6.25	4.82	0.17	35.89	307.44	27.9	51.6	19.3
171	DAS 205 FP	12--25	6.63	1.68	0.08	14.36	166.53	43.9	35	19.3

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
172	DAS 205 FP	0-12	6.61	1.27	0.08	14.36	179.34	49.9	34.8	15.3
173	DAS 205 FP	25-50	6.64	2.55	0.11	20.51	192.15	31.9	42.8	25.3
174	DAS 206 ES	0-15	6.56	4.6	0.17	33.84		45	42.8	12.2
175	DAS 207 FS	0-15	7.93	1.07	0.07	16.41	140.91	41.9	38.8	19.3
176	DAS 208 DP	0-12	6.57	6.04	0.21	173.29	999.18	43.9	40.8	15.3
177	DAS 208 DP	12-25	7.87	7.57	0.26	99.47	832.65	41.9	40.8	17.3
178	DAS 209 DS	0-15	7.95	1.88	0.09	83.06	538.02	43.9	38.8	17.3
179	DAS 210 FP	0-15	8.17	1.01	0.06	15.38	192.15	45.9	34.8	19.3
180	DAS 210 FP	15-25	8.13	0.47	0.05	15.38	166.53	45.9	34.8	19.3
181	DAS 211 DS	15-25	7.35	5.03	0.18	590.63	614.88	35.9	48.8	15.3
182	DAS 211 DS	25-50	7.47	6.38	0.22	404	621.29	33.9	50.8	15.3
183	DAS 211 DS	0-15	7.4	4.03	0.15	582.42	742.98	39.9	46.8	13.3
184	DAS 212 FS	0-15	7.72	3.01	0.13	15.31	179.5	53	36.8	10.2
185	DAS 213 EP	15-30	7.1	3.89	0.15	39.99	384.3	23.9	50.8	25.3
186	DAS 213 EP	0-15	6.89	4.09	0.15	19.48	333.06	21.9	50.8	27.3
187	DAS 214 GP	0-15	7.86	3.75	0.14	31.79	358.68	47.3	40.5	12.2
188	DAS 214 GP	15-25	7.92	3.52	0.14	28.71	352.28	51.3	36.5	12.2
189	DAS 215 ES	0-15	7.94	6.16	0.21	93.31	358.68	41.3	46.5	12.2
190	DAS 216 FS	0-15	7.08	0.27	0.04	13.33	102.48	21.3	54.5	24.2
191	DAS 217 FP	0-15	5.04	2.28	0.1	20.51	269.01	23.3	44.5	32.2
192	DAS 217 FP	15-30	5.06	0.27	0.04	20.51	217.77	23.3	44.5	32.2
193	DAS 218 ES	0-15	5.95	2.07	0.09	10.94	233.52	53	36.8	10.2
194	DAS 219 DP	25-40	7.45	5.43	0.19	49.22	358.68	31.3	54.5	14.2
195	DAS 219 DP	0-12	7.48	5.32	0.19	69.73	409.92	35.3	50.5	14.2
196	DAS 219 DP	12--25	7.46	5.21	0.19	106.64	435.54	37.3	48.5	14.2
197	DAS 220 FS	0-15	7.73	2.41	0.11	16.41	138.99	45	44.8	10.2
198	DAS 221 DP	0-15	7.35	2.61	0.11	71.78	486.78	25.3	52.5	22.2
199	DAS 221 DP	25-50	7.83	2.01	0.09	52.29	313.85	21.3	52.5	26.2
200	DAS 221 DP	15-25	7.8	0.6	0.05	36.91	294.63	21.3	52.5	26.2
201	DAS 222 FP	0-15	6.02	4.22	0.16	18.46	128.1	33.3	52.5	14.2
202	DAS 222 FP	15-30	6	3.14	0.13	19.48	128.1	31.3	52.5	16.2
203	DAS 223 GS	0-15	7.87	3.81	0.14	267.63	365.09	37.3	48.5	14.2
204	DAS 224 DS	0-15	6.18	5.09	0.19	32.81	368.58	41.3	37.4	21.3
205	DAS 225 DP	15-25	8.2	4.15	0.15	330.18	819.84	45.3	38.5	16.2
206	DAS 225 DP	0-15	7.98	5.62	0.2	517.82	999.18	47	38.8	14.2
207	DAS 226 ES	0-15	7.24	4.02	0.15	288.14	602.07	37	46.8	16.2
208	DAS 227 ES	0-15	5.99	5.36	0.19	134.53	652.19	31.3	51.4	17.3
209	DAS 228 ES	0-15	8.05	4.95	0.18	116.89	871.08	41	38.8	20.2
210	DAS 229 EP	0-15	7.1	3.75	0.14	123.05	256.2	33	44.8	22.2
211	DAS 229 EP	15-30	6.97	4.02	0.2	97.41	307.44	35	42.8	22.2
212	DAS 230 ES	0-15	6.82	5.02	0.19	61.25	395.19	31.3	51.4	17.3
213	DAS 231 DS	0-15	7.13	4.8	0.18	309.53	415.85	31.3	51.4	17.3

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
214	DAS 232 DS	0-15	5.92	3.41	0.13	44.12	403.52	29	48.8	22.2
215	DAS 233 FS	0-15	6.26	3.08	0.13	24.06	409.09	47.3	41.4	11.3
216	DAS 234 GS	0-15	6.43	2.54	0.11	9.84	220.02	37.3	47.4	15.3
217	DAS 235 DP	0-10	6.75	3.41	0.13	83.06	307.44	31	48.8	20.2
218	DAS 235 DP	10-25	7.01	5.22	0.19	44.09	217.77	29	50.8	20.2
219	DAS 235 DP	25-46	7.13	2.94	0.12	41.02	217.77	35	44.8	20.2
220	DAS 236 FS	0-15	6.11			3.28	213.27	35.3	29.4	35.3
221	DAS 237 GP	0-15	5.8	2.34	0.1	17.43	172.94	41	36.8	22.2
222	DAS 237 GP	15-25	5.65	2.94	0.12	19.48	204.96	39	38.8	22.2
223	DAS 238 EP	0-15	7.42	3.21	0.13	47.17	563.64	35	46.8	18.2
224	DAS 238 EP	15-30	7.6	3.21	0.13	27.69	538.02	35	46.8	18.2
225	DAS 239 DS	0-15	7.48	4.54	0.17	39.99	281.82	39	44.8	16.2
226	DAS 240 ES	0-15	7.98	4.55	0.17	28.71	307.44	29	48.8	22.2
227	DAS 241 FP	0-12	5.57	4.89	0.18	32.81	288.23	41	42.8	16.2
228	DAS 241 FP	12--30	5.23	3.75	0.14	20.51	192.15	31.3	50.5	18.2
229	DAS 242 GP	0-15	8	2.61	0.11	13.33	128.1	45.3	44.5	10.2
230	DAS 242 GP	15-30	8.17	2.81	0.12	14.36	153.72	51.3	40.5	8.2
231	DAS 242 GP	30-40	8.28	5.15	0.18	16.41	134.51	49.3	40.5	10.2
232	DAS 243 FP	0-15	6.53	3.28	0.13	14.36	320.25	43.3	44.5	8.2
233	DAS 243 FP	15-25	6.46	1.07	0.07	19.48	179.34	49.3	40.5	10.2
234	DAS 243 FP	25-50	6.9	1.07	0.07	63.57	153.72	43.3	44.5	12.2
235	DAS 244 FS	0-15	6.54	0.4	0.05	21.53	153.72	41.3	42.5	16.2
236	DAS 245 DS	0-15	6.89	4.02	0.15	82.03	550.83	37.3	45.4	17.3
237	DAS 246 FP	0-15	6.58	0.33	0.05	22.56	204.96	35.3	38.5	26.2
238	DAS 246 FP	15-30	6.37	0.93	0.07	21.53	204.96	39.3	38.5	22.2
239	DAS 248 FS	0-15	8.07	4.35	0.17	15.38	217.77	61.3	30.5	8.2
240	DAS 249 FP	0-15	6.84	0.53	0.05	8.2	269.01	31.3	42.5	26.2
241	DAS 249 FP	15-30	6.79	0.6	0.06	9.23	230.58	21.3	48.5	30.2
242	DAS 249 FP	30-60	6	0.07	0.04	9.23	192.15	31.3	40.5	28.2
243	DAS 250 DS	0-15	7.22	4.02	0.15	42.04	281.82	27.3	49.4	23.3
244	DAS 251 DP	0-15	7.99	3.68	0.15		307.44	29.3	50.5	20.2
245	DAS 251 DP	15-25	8.13	2.75	0.12	27.69	294.63	31.3	48.5	20.2
246	DAS 257 DS	0-15	7.73	7.7	0.26	347.61	819.84	30.4	54.8	14.8
247	DAS 259 DS	0-15	7.34	5.29	0.19	167.14	935.13	28.4	52.8	18.8
248	DAS 266 DP	0-15	7.61	6.9	0.24	373.24	1206.62	42.4	44.8	12.8
249	DAS 266 DP	15-25	7.78	5.29	0.19	183.54	1114.47	42.4	44.8	12.8
250	DAS 266 DP	25-50	7.86	3.75	0.15	84.08	922.32	44.4	42.8	12.8
251	DAS 270 FS	0-15	8.16	1.8	0.09	11.28	204.95	49.3	35.4	15.3
252	DAS 271 DS	0-15	6.42	4.42	0.17	41.02	461.16	34.4	48.8	16.8
253	DAS 272 EP	0-15	6.89	2.95	0.13	25.64	486.78	26.4	52.8	20.8
254	DAS 272 EP	15-25	7.58	3.15	0.13	21.53	397.11	26.4	52.8	20.8
255	DAS 272 EP	25-35	7.65	2.35	0.11	19.48	320.25	26.4	50.8	22.8
256	DAS 282 ES	0-15	7.89	4.89	0.18	38.96	301.04	35.3	47.4	17.3



S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
257	DAS 283 DS	0-15	8.24	3.08	0.12	20.51	294.63	27.3	49.4	23.3
258	DAS 286 ES	0-15	7.94	5.36	0.19	110.49	1268.19	36.4	48.8	14.8
259	DAS 287 ES	0-15	7.91	4.02	0.15	28.71	499.59	25.3	55.4	19.3
260	DAS 293 DS	0-15	7.98	4.02	0.15	19.48	243.39	43.3	43.4	13.3
261	DAS 296 DS	0-15	7.97	0.4	0.05	52.29	768.6	40.4	46.8	12.8
262	DAS 306 DS	0-15	7.6	1.94	0.09	30.76	307.44	48.4	38.8	12.8
263	DAS 660 GP	0-15	6.31	2.68	0.12	23.58	256.2	50.4	32.8	16.8
264	DAS 660 GP	15-30	6.26	3.02	0.13	33.84	256.2			
265	DAT 631 ES	0-15	6.08	3.36	0.14	47.03	749.92			
266	DAT 634 GP	0-15	6.26	4.37	0.17	6.56	257.55	19.6	48.8	31.6
267	DAT 634 GP	15-45	6.23	3.87	0.15	7.66	244.24	43.6	42.8	13.6
268	DAT 638 CS	0-15	5.69	3.36	0.14	37.19	111.6	43.6	42.8	13.6
269	DAT 639 DS	0-15	5.85	3.56	0.14	43.75	217.63	41.6	44.8	13.6
270	DAT 641 FP	15-30	5.2	3.89	0.15	74.37	57.94	51.6	32.8	15.6
271	DAT 641 FP	0-15	5.2	3.63	0.14	36.09	44.63	31.6	48.8	19.6
272	DAT 642 ES	0-15	7.05	2.49	0.19	22.97	111.16	51.6	32.8	15.6
273	DAT 643 EP	0-15	5.88	2.02	0.09	144.37	297.47	39.6	48.8	11.6
274	DAT 643 EP	15-25	5.79	0.07	0.04	126.87	284.16	45.6	42.8	11.6
275	DAT 643 FP	25-45	5.78	0.94	0.06	72.19	350.7	47.6	38.8	13.6
276	DAT 644 FS	0-15	5.15	0.94	0.06	33.91	84.55	43.6	40.8	15.6
277	DAT 645 DP	0-15	6.62	3.83	0.15	191.4	230.93	51.6	34.8	13.6
278	DAT 645 DP	15-25	6.45	2.96	0.12	155.31	217.63	51.6	34.8	13.6
279	DAT 645 DP	25-45	6.35	1.68	0.09	121.4	164.39	47.6	34.8	17.6
280	DAT 646 FP	0-15	6	2.35	0.11	24.06	44.63	45.6	32.8	21.6
281	DAT 646 FP	15-25	5.88	2.35	0.11	14.22	84.55	59.6	28.8	11.6
282	DAT 646 FP	25-45	6.5	2.15	0.1	16.41	44.63	57.6	30.8	11.6
283	DAT 647 ES	0-15	5.71	6.99	0.24	129.06	244.24	51.6	36.8	11.6
284	DAT 648 EP	0-15	5.58	7.99	0.27	139.99	324.08	55.6	32.8	11.6
285	DAT 648 EP	0-15	5.72	9.14	0.3	110.47	390.62	57.6	30.8	11.6
286	DAT 649 ES	0-15	5.14	4.77	0.18	153.12	124.47	55.6	32.8	11.6
287	DAT 650 ES	0-15	4.9	5.92	0.21	52.49	510.39	51.6	34.8	13.6
288	DAT 651 DS	0-15	4.88	5.24	0.19	115.94	217.63	51.6	34.8	13.6
289	DAT 652 EP	0-15	5.19	3.49	0.14	21.87	151.08	59.6	26	13.6
290	DAT 652 EP	15-25	5.31	3.49	0.14	41.56	97.86	39.6	38.8	21.6
291	DAT 652 EP	25-45	5.2	3.36	0.14	66.72	84.55	37.6	36.8	25.6
292	DAT 653 CP	0-15	5.14	5.38	0.19	75.47	97.86	37.6	36.8	25.6
293	DAT 653 CP	15-25	5.18	4.71	0.18	41.56	111.16	57.6	28.8	13.6
294	DAT 653 CP	25-45	5.28	3.69	0.15	50.31	124.47	51.6	32.8	15.6
295	DAT 654 CP	0-15	5.16	4.37	0.17	20.78	44.63	51.6	32.8	15.6
296	DAT 654 CP	15-25	5.24	4.24	0.16	49.22	31.32	57.6	28.8	13.6
297	DAT 655 DS	0-15	5.09	4.37	0.17	10.94	44.63	57.6	28.8	13.6
298	DAT 656 ES	0-15	5.26	2.29	0.11		44.63	40.2	42.2	17.6
299	DAT 657 CS	0-15	5.18	5.04	0.19	20.78	84.55	52.2	34.2	13.6

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
300	DET 502 CP	0-15	7.24			73.83	358.68	26.4	56.2	17.4
301	DET 502 CP	15-45	7.03					26.4	56.2	17.4
302	DET 502 CP	45-65	6.79					34.4	52.2	13.4
303	DET 503 DP	0-15	6.37					36.7	54.5	8.8
304	DET 503 DP	15-45	7.87					32.7	56.5	10.8
305	DET 503 DP	45-60	7.84					34.7	54.5	10.8
306	DET 513 FP	0-15	6.97	1.88	0.09	12.31	128.1	30.7	50.5	18.8
307	DET 513 FP	15-30	7.86					24.7	54.5	20.8
308	DET 514 ES	0-15	7.63			453.22	217.77	38.4	52.2	9.4
309	DET 518 DS	0-15	7.58			230.71	333.06	32.4	56.2	11.4
310	DET 521 FP	0-15	7.76	5.23	0.19	77.93	115.29	36.7	46.5	16.8
311	DET 522 FP	0-15	7.74	4.62	0.17	38.96	217.77	36.7	48.5	14.8
312	DET 522 FP	30-45	7.74					28.7	58.5	12.8
313	DET 522 FP	45-60	8.15					30.7	58.5	10.8
314	DET 523 GP	0-15	7.94	5.69	0.2	39.99	76.86	30.7	58.5	10.8
315	DET 523 GP	15-30	8.08	2.41	0.11	26.66	89.67	42.7	48.5	8.8
316	DET 526 ES	0-15	6.93			210.21	845.46	224.4	56.2	19.4
317	DET 528 FP	0-15	7.81	2.14	0.1	14.36	89.67	34.7	56.5	8.8
318	DET 528 FP	15-30	6.92	4.62	0.17	28.31	25.62	44.7	46.5	8.8
319	DET 533 GP	0-15	7.48					42.7	48.5	8.8
320	DET 533 GP	0-15	7.74	7.71	0.26	56.39	102.48	27	54.5	18.5
321	DET 540 FS	0-15	5.16			217.38	269.01	44.4	46.2	9.4
322	DET 541 DS	0-15	5.57			95.36	525.21	38.4	46.8	14.8
323	DET 542 FS	0-15	4.88			575.24	467.57	50.4	38.2	11.4
324	DET 549 EP	0-15	5.46	7.46	0.26	16.25	368.58	27.6	46.8	25.6
325	DET 550 DS	0-15	5.15	3.1	0.13	148.68	294.63	42.4	46.2	11.4
326	DET 552 DS	0-15	7.61			81.01	787.82	42.4	46.2	11.4
327	DET 553 FP	15-30	6.7					21	56.5	22.5
328	DET 553 FP	30-45	7.52	2.68	0.12	373.24				
329	DET 553 FP	45-60	6.82					39	42.5	18.5
330	DET 557 EP	0-30	6.84							
331	DET 557 EP	30-45	3.57	2.68	0.12	41.02	473.97	41	46.5	12.5
332	DET 560 FS	0-15	6.22			550.63	249.79	48.4	40.2	11.4
333	DET 564 DS	0-15	5.86			81.01	115.29	48.4	40.2	11.4
334	DET 569 ES	0-15	5.49			341.46	153.72	48.4	40.2	11.4
335	DET 571 FP	0-15	6.05	2.58	0.11	35.9	185.46	41	44.5	14.5
336	DET 571 FP	15-30	3.58	0.34	0.05	9.23	147.32	45	36.5	18.5
337	DET 571 FP	30-60	6.12					41	38.5	20.5
338	DET 573 GP	0-15	6.68			246.09	1216.95	32.4	50.2	17.4
339	DET 573 GP	15-30	6.75					30.4	50.2	19.4
340	DET 573 GP	30-45	6.8					32.4	44.2	23.4
341	DET 577 GS	0-15	7.75			153.81	230.56	50.4	38.2	11.4
342	DET 579 GP	0-15	6.1					43	36.5	20.5

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
343	DET 579 GP	15-30	4.53	5.03	0.18	49.22	153.72	33	48.5	18.5
344	DET 579 GP	30-60	7.4					35	46.5	18.5
345	DET 580 GS	0-15	6.88			96.39	371.49	32.4	38.2	29.4
346	DET 586 GP	0-15	6.17					35	48.5	16.5
347	DET 586 GP	15-30	8.34	1.27	0.08	25.64	307.44	41	42.5	16.5
348	DET 586 GP	15-60	7.58					41	42.5	16.5
349	DET 588 FS	0-15	6.64			462.45	294.63	38.4	42.2	19.4
350	DET 592 GS	0-15	5.37			241.99	261.01	36.4	38.2	25.4
351	DIL 360 DS	0-15	6.11	3.95	0.15	168.16	98.47	46.7	41.1	12.2
352	DIL 363 DS	0-15	5.61	3.75	0.15	51.27	98.47	50.7	39.1	10.2
353	DIL 371 ES	0-15	5.82	3.08	0.13	34.86	394.98	48.7	35.1	16.2
354	DIL 373 EP	0-15	5.86	3.35	0.14	85.11	219.43	40.7	51.1	8.2
355	DIL 373 EP	15-30	6.09	6.23	0.22			40.7	49.1	10.2
356	DIL 373 EP	30-50	6.43	4.42	0.17			42.7	45.1	12.2
357	DIL 376 GP	0-15	5.51	3.75	0.15	29.74	103.34	54.7	27.1	18.2
358	DIL 376 GP	15-30	6	3.15	0.13			62.7	29.1	8.2
359	DIL 385 GP	0-15	6.02			23.58	206.51	54.7	33.1	12.2
360	DIL 385 GP	15-30	6.7	3.22	0.13			45	42.8	12.2
361	DIL 387 DS	0-15	6.03	3.89	0.15	70.75	138.99	51	40.8	8.2
362	DIL 388 EP	0-15	5.87	8.24	0.28	38.97	187.55	41	16.8	12.2
363	DIL 388 EP	15-30	5.99	3.55	0.14			41	42.8	16.2
364	DIL 397 DS	0-15	4.98	3.08	0.13	87.16	395.59	59	34.8	6.2
365	DIL 399 ES	0-15	5.4	3.69	0.15	41.02	665.7	49	42.8	8.2
366	DIL 403 ES	0-15	6.08	8.24	0.33	459.38	382.08	61	32.8	6.2
367	DIL 406 ES	0-15	5.4	3.55	0.14	74.9	436.11	45	44.8	10.2
368	DIL 407 DS	0-15	5.41	3.08	0.13	23.58	611.68	45	44.8	10.2
369	DIL 408 FP	0-15	5.96	3.69	0.15	18.46	179.5	49	42.8	8.2
370	DIL 408 FP	15-30	5.6					49	42.8	8.2
371	DIL 409 GP	0-15	5.76	2.75	0.12	15.38	233.52	67	22.8	10.2
372	DIL 409 GP	15-30	5.68	4.22	0.16	57.42	355.07	63	24.8	12.2
373	DIL 410 DP	0-15	5.31					43	46.8	10.2
374	DIL 410 DP	15-30	5.41					45	44.8	10.2
375	DIL 417 DP	0-15	5.3	5.89	0.21	342.34		51	40.8	8.2
376	DIL 417 DP	15-30	6					65.3	27.1	7.6
377	DIL 417 DP	30-50	6.12					67.3	25.1	7.6
378	DIL 419 EP	0-15	4.5	1.41	0.08	1.87		39.3	51.7	9.6
379	DIL 419 EP	15-30	5					57.3	33.1	9.6
380	DIL 423 ES	30-50	5.05	2.55	0.11	153.11		55.3	37.1	7.6
381	DIL 424 DP	0-15	5.27	1.53	0.08	76.56		49.3	41.1	9.6
382	DIL 424 DP	15-30	5.33					47.3	41.1	11.6
383	DIL 429 EP	0-15	5.28	2.55	0.11	102.81		53.3	37.1	9.6
384	DIL 429 EP	15-30	5.7					53.3	37.1	9.6
385	DIL 430 FP	0-15	5.98	0.87	0.06	3.28		53.3	37.1	9.6

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
386	DIL 430 FP	15-30	6.2					47.3	41.1	11.6
387	GIR 125 GS	0-15	6.92	3.16	0.13	7.66	138.99	47	37.1	15.9
388	GIR 126 GP	0-20	7.35	3.69	0.146	7.66	44.45	35	45.1	19.9
389	GIR 126 GP	20-50	7.64					31	47.1	21.9
390	GIR 129 DP	0-15	7	0.2	0.044	166.25	165.99	13	57.1	29.9
391	GIR 129 DP	15-40	7.59					17	55.1	27.9
392	GIR 130 EP	0-15	6.04	6.52	0.228	95.15	233.52	27	53.1	19.9
393	GIR 130 EP	15-40	6.15					31	49.1	19.9
394	GIR 131 DS	0-15	7.32	3.16	0.13	32.81	706.22	25	53.1	21.9
395	GIR 134 DS	0-15	6.25	2.95	0.124	14.22	152.49	37	46.5	16.5
396	GIR 135 DS	0-15	7.32	6.35	0.222	18.28	881.79	25	58.5	16.5
397	GIR 138 ES	0-15	7.08	5.71	0.204	42.66	598.17	33	52.5	14.5
398	GIR 139 ES	0-15	7.47	4.5	0.169	44.84	1597.58	31	52.5	16.5
399	GIR 140 DS	0-15	7.9	6.11	0.216	8.74	287.55	43	44.5	12.5
400	GIR 141 DS	0-15	7.55	5.44	0.196	107.18	935.81	45	44.5	10.5
401	GIR 142 FS	0-15	6.73	0.067	0.04	16.41	436.11	21	54.5	24.5
402	GIR 143 DS	0-15	7.92	5.37	0.194	46.47	517.14	29	50.5	20.5
403	GIR 144 FS	0-15	6.11	0.53	0.054	17.5	206.51	5	50.5	44.5
404	GIR 145 GP	0-15	8.29	1.88	0.093	15.31	382.08	51	38.5	10.5
405	GIR 145 GP	15-40	8.2					47	42.5	10.5
406	GIR 146 EP	0-15	7.4	7.12	0.245	56.87	1597.58	27	54.5	18.5
407	GIR 146 EP	15-30	7.62					25	50.5	24.5
408	GIR 146 EP	30-60	7.58					15	48.5	36.5
409	GIR 147 DS	0-15	7.99	6.11	0.216	40.47	490.13	33	50.5	16.5
410	GIR 148 DP	0-15	7.03	3.63	0.144	33.91	530.64	11	56.5	32.5
411	GIR 148 DP	15-40	7.02					12.7	61.1	26.2
412	GIR 149 ES	0-15	8.02	1.88	0.093	38.28	165.99	22.7	59.1	18.2
413	GIR 152 DS	0-15	7.73	4.63	0.173	1588.01	1570.57	22.7	57.1	20.2
414	GIR 153 FP	0-15	7.98	7.05	0.243	59.06	409.09	34.7	51.1	14.2
415	GIR 153 FP	15-45	8.03					20.7	53.1	16.2
416	GIR 154 DS	0-15	8	4.37	0.165	38.28	476.62	22.7	59.1	18.2
417	GIR 155 ES	0-15	7.92	8.06	0.272	169.37	361.83	36.7	49.1	14.2
418	GIR 156 FS	0-15	8.22	6.05	0.214	9.84	197	32.7	47.1	20.2
419	GIR 157 GS	0-15	8.4	1	0.068	20.78	179.5	32.7	47.1	20.2
420	GIR 158 ES	0-15	8.18	4.1	0.157	4.37	537.38	22.7	51.1	26.2
421	GIR 159 DS	0-15	7.89	7.66	0.261	50.31	193	30.7	53.1	16.2
422	GIR 160 DS	0-15	7.84	5.71	0.204	82.03	361.83	24.7	59.1	16.2
423	GIR 161 FS	0-15	8.08	7.05	0.243	83.12	368.58	18.7	59.1	22.2
424	GIR 162 DP	0-15	8.23	2.89	0.122	148.75	1003.34	30.7	51.1	18.2
425	GIR 162 DP	15-40	8.12					24.7	57.1	18.2
426	GIR 163 EP	0-15	8.06	6.45	0.226	426.56	436.11	44.7	43.1	12.2
427	GIR 163 EP	15-40	8.66					46.7	37.1	16.2
428	GIR 164 DS	0-15	7.48	0.4	0.05	115.93	989.83	24.7	61.1	14.2

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
429	GIR 165 EP	0-15	8.14	5.51	0.198	9.84	70	24.7	55.1	20.2
430	GIR 165 EP	15-40	8.08					28.7	49.1	22.2
431	GIR 165 EP	40-70	8.05					24.7	49.1	26.2
432	GIR 166 GS	0-15	8.08	1.34	0.077	18.59	280.79	22.7	45.1	32.2
433	GIR 167 FP	0-15	8.48	4.03	0.167	4.37		60.7	29.1	10.2
434	GIR 167 FP	15-40	8.29					60.7	29.1	10.2
435	GIR 170 DP	0-15	7.33	4.43	0.167	4.37	111.97	26.7	53.1	20.2
436	GIR 170 DP	15-45	7.06					16.7	61.1	22.2
437	GIR 172 FP	0-15	7.96	3.29	0.134	27.34	186.25	30.7	45.1	24.2
438	GIR 172 FP	15-30	8.07					30.7	47.1	22.2
439	GIR 173 ES	0-15	7.69	5.91	0.21	7.66	530.64	60.7	25.1	14.2
440	GIR 177 FS	0-15	7.8	7.32	0.251	16.41	98.47	72.7	21.1	6.2
441	GIR 181 GP	0-15	8.18	5.98	0.2	7.66	206.51	64.7	29.1	6.2
442	GIR 181 GP	15-30	8.19					68.7	25.1	6.2
443	GOK 375 GP	0-15	6.43	6.09	0.22	65.62		51.3	41.1	7.6
444	GOK 375 GP	15-30	7.69					59.3	33.1	7.6
445	GOK 380 GP	0-15	6.66	2.35	0.11	51.4		53.3	37.1	9.6
446	GOK 386 GP	0-15	6.23	8.98	0.29	317.18		49.3	41.1	9.6
447	GOK 386 GP	15-30	5.58					37.3	45.1	17.6
448	GOK 392 ES	0-15	7.85	5.89	0.21	972.32		57.3	34.5	8.2
449	GOK 393 DS	0-15	6.73	3.22	0.13	726.27		51.3	40.5	8.2
450	GOK 396 FS	0-15	6.97	3.22	0.13	184.84		57.3	32.5	10.2
451	GOK 401 ES	0-15	6.56	2.95	0.12	240.62		47.3	40.5	12.2
452	GOK 402 FS	0-15	6.98	0.64	0.06	17.49		69.3	20.5	10.2
453	GOK 404 DS	0-15	7	1.74	0.09			53.3	38.5	8.2
454	GOK 416 FP	0-15	6.6	2.21	0.1	759.05		61.3	26.5	12.2
455	GOK 416 FP	15-30	5.09					61.3	28.5	10.2
456	GOK 426 FS	0-15	6.38	3.56	0.14	21.87		73.3	18.5	8.2
457	GOK 447 DP	0-15	8.33	1.68	0.09	75.47		33.3	46.5	20.2
458	GOK 447 DP	15-30	7.49					35.3	46.5	18.2
459	GOK 447 DP	30-45	7.46					31.3	52.5	16.2
460	GOK 458 FS	0-15	6.87	3.22	0.13	98.44		45.3	40.5	14.2
461	GOK 470 CS	0-15	8.25	2.88	0.13	176.09		45.3	42.5	12.2
462	GOK 472 ES	0-15	7.25	3.89	0.15	157.5		25.3	50.5	24.2
463	GOK 496 ES	0-15	6.59	1.94	0.09	94.06		15.3	40.5	44.2
464	GOK 507 DP	0-15	8.19	1.21	0.07	7.66		19.3	61.4	19.3
465	GOK 507 DP	15-30	7.48					15.3	65.4	19.3
466	GOK 507 DP	45-60	7.68					19.3	65.4	15.3
467	GOK 520 GP	0-15	7.76	3.62	0.14	2.14		33.3	51.4	15.3
468	GOK 520 GP	15-30	7.85					33.3	41.4	19.3
469	GOK 520 GP	45-60	5.4					31.3	51.4	17.3
470	GOK 529 GS	0-15	8.56	4.36	0.17	5.47		31.3	59.4	9.3
471	GOK 531 DS	0-15	8.47	2.35	0.11	1.54		33.3	57.4	9.3

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
472	GOK 536 DS	0-15	7.87	6.57	0.23	2.09		23.3	51.4	25.3
473	GOK 537 DS	0-15	8.24	7.91	0.27	1.93		33.3	47.4	19.3
474	GOK 662 DS	0-15	7.21	4.29	0.16	33.9		40.3	43.4	7.3
475	GOK 663 GS	0-15	6.47	5.49	0.19	132.34		49.3	43.4	7.3
476	GOK 668 CP	0-15	6.83	2.14	0.1	3.15		51.3	41.4	7.3
477	GOK 668 CP	15-30	6.9	4.02	0.16	4.17		51.3	41.4	7.3
478	KHA 414 FP	0-15	7.56	3.35	0.13	68.91	233.52	49.3	40.5	10.2
479	KHA 438 ES	0-15	8.37	0.67	0.05	16.41	57.95	31.3	54.5	14.2
480	KHA 442 DS	0-15	6.03	3.8	0.14	230.78	449.61	51	34.8	14.2
481	KHA 445 ES	0-15	6.92	4.02	0.15	106.09	165.99	53	38.8	8.2
482	KHA 465 ES	0-15	5.64	4.02	0.15	114.84	557.66	51	40.8	8.2
483	KHA 467 DS	0-15	5.62	1.67	0.08	18.59	98.47	41	48.8	10.2
484	KHA 473 GP	0-15	5.83	2.68	0.11	14.22	179.5	71	20.8	8.2
485	KHA 487 DS	0-15	5.72	1.47	0.08	27.34	328.06	55	36.8	8.2
486	KHA 501 FP	0-15	5.79	4.02	0.15	16.41	314.56	57	34.8	8.2
487	KHA 501 FP	15-45	5.7	2.07	0.09	8.75	165.99	55	32.8	12.2
488	KHA 517 FP	0-15	4.71	3.28	0.13	41.56	179.5	61	26.8	8.2
489	KHA 522 FS	0-15	8.08	4.69	0.17	41.56	165.99	23.3	50.5	26.2
490	KHA 534 GS	0-15	5.03	0.67	0.05	8.75	41.46	53	30.8	16.2
491	KHA 551 FP	0-15	5.23	2.68	0.11	14.22	57.95	71	18.8	10.2
492	KHA 591 FS	0-15	5.61	4.02	0.15	14.22	152.49	55	36.8	8.2
493	KUL 1 GP	0-15	6.9	4.02	0.16	4.17				
494	KUL 1 GP	15-45	5.62					61.3	31.4	7.3
495	KUL 10 DP	0-15	6.23	1.88	0.09	13.12				
496	KUL 10 DP	15-45	5.25					63.3	29.4	7.3
497	KUL 12 ES	0-15	5.11	4.49	0.16	123.59	233.52	61.3	31.4	7.3
498	KUL 13 DS	0-15	4.88	3.02	0.12	64.53	287.54			
499	KUL 14 DS	0-15	6.31	1.81	0.09	31.72	409.09			
500	KUL 15 DS	0-15	5.45	4.62	0.17	132.34	355.07	63.3	27.4	9.3
501	KUL 16 FP	0-15	5.54	3.95	0.15	8.75	382.08			
502	KUL 16 FP	15-45	6.2					59.3	31.4	9.3
503	KUL 16 FP	45-65	5.51					57.3	33.4	9.3
504	KUL 17 GP	0-15	5.8							
505	KUL 17 GP	15-45						49	40.8	10.2
506	KUL 17 GP	45-65	5.45					43	44.8	12.2
507	KUL 18 DP	0-15	6.88	3.69	0.14	141.09	773.74	73	20.8	6.2
508	KUL 18 DP	15-45	5.62					75	18.8	6.2
509	KUL 18 DP	45-65	6.18					77	16.8	6.2
510	KUL 19 EP	0-15	5.71	4.36	0.16	219.84	692.71			
511	KUL 19 EP	15-45	5.5					45	46.8	8.2
512	KUL 2 FS	0-15	6.71	1.54	0.08	133.44		47.3	43.4	9.3
513	KUL 20 ES	0-15	6.77	4.35	0.16	257.03	1043.85			
514	KUL 22 ES	0-15	6.42	2.41	0.1	132.34	165.99	67	26.8	6.2

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
515	KUL 23 ES	0-15	6.85	0.73	0.06	132.34	598.17	71	22.8	6.2
516	KUL 26 ES	0-15	5.53	0.8	0.06	7.66	220.01			
517	KUL 27 FS	0-15	5.61	1.94	0.09	5.47	145.73	73	16.8	10.2
518	KUL 28 DS	0-15	7.32	4.76	0.17	470.3	1043.85			
519	KUL 29 DS	0-15	6.65	4.35	0.16	84.21	1023.59			
520	KUL 3 GP	0-15	6.72	4.62	0.17	8.04		49.3	41.4	49.3
521	KUL 30 ES	0-15	5.87	2.88	0.12	52.5	490.12	63	30.8	6.2
522	KUL 32 FP	0-15	5.61	2.68	0.11	4.37	111.97	65.8	22.2	12
523	KUL 32 FP	15-45	5.14					69	24.8	6.2
524	KUL 34 DS	0-15	5.28	3.69	0.14	4.37	125.47			
525	KUL 35 EP	0-15	5.32	1.81	0.09	15.31	165.99			
526	KUL 35 EP	15-45	5.29					53	36.8	10.2
527	KUL 35 EP	45-65	6.47					51	38.8	10.2
528	KUL 37 DS	0-15	5.32	0.67	0.05	1.093	220.01			
529	KUL 39 ES	0-15	5.25	0.27	0.04	35	422.6			
530	KUL 4 DP	0-15	7.04	3.48	0.14	5.08		61.3	31.4	7.3
531	KUL 4 DP	15-45	5.85					67.3	25.4	7.3
532	KUL 4 GP	15-45	5.89					47.3	43.4	9.3
533	KUL 41 DP	0-15	6.47	6.43	0.22	143.28	1639.68			
534	KUL 41 DP	15-45	6.8					41	46.8	12.2
535	KUL 43 FP	0-15	5.25	4.09	0.15	1.09	463.08			
536	KUL 43 FP	15-45						47	42.8	10.2
537	KUL 43 FP	45-65						45	44.8	10.2
538	KUL 49 GS	0-15	5.7	6.83	0.23	8.75	382.08			
539	KUL 5 EP	0-15	7.11	2.48	0.11	7.66				
540	KUL 5 EP	15-45	6.2					61.3	31.4	7.3
541	KUL 50 DS	0-15	6.55	5.63	0.2	362.02	1478.4			
542	KUL 53 EP	0-15	5.97	4.36	0.16	165.15	895.29			
543	KUL 53 EP	15-45	6.1					47.8	38.2	14
544	KUL 58 DS	0-15	7.34	5.89	0.2	572.02	1397.76			
545	KUL 6 FS	0-15	7.52	5.83	0.21	4.19				
546	KUL 69 FS	0-15	6.35	3.2	0.13	305.08	1358.18			
547	KUL 7 DP	0-15	7.59	4.56	0.17	74.37				
548	KUL 8 FP	0-15	7.33	5.29	0.19	88.59				
549	KUL 8 FP	15-45	6.21					63.3	29.4	7.3
550	KUL 8 FP	45-65	5.29					61.3	31.4	7.3
551	KUL 9 FP	0-15	7.06					65.3	27.4	7.3
552	KUL 9 FP	15-45	5					67.3	25.4	7.3
553	KUL 9 FP	45-65	6.18					69.3	23.4	7.3
554	LALI 339 GP	0-18	7.03	4.05	1.56			30.2	52.7	11.1
555	LALI 339 GP	15-30	6.99	5.19	0.18			16.2	50.7	33.1
556	LALI 339 GP	30-45	6.78	5.36	0.19	31.71	382.08	22.2	48.2	29.6
557	LALI 343 GP	0-22	5.41	2.57	0.11			12.2	68.7	19.1

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
558	LALI 343 GP	15-25	5.42	2.98	0.12			32.2	48.8	19.1
559	LALI 343 GP	0-48	5.31	4.05	0.15			22.2	48.7	29.1
560	LALI 351 GP	0-15	5.83	3.54	0.14	0.6	206.51	44.3	53.5	12.2
561	LALI 351 GP	0-15	5.83	2.41	0.1	13.4	199.76	46.3	43.5	10.2
562	LALI 354 DS	0-15	7.29	3.61	0.14	24.06	152.49	42.2	40.2	17.6
563	LALI 361 EP	0-15	7.6	3.95	0.15	31.72	274.04	48.3	41.9	9.8
564	LALI 365 DP	0-55	5.3	3.35	0.13	18.59	827.77	34.2	48.2	17.6
565	LALI 365 DP	0-70	5.49	1.8	0.1	18.59	220.02	44.3	37.9	17.8
566	LALI 365 DP	0-25	5.89	2.54	0.11	31.71	328.06	40.2	42.2	17.6
567	LALI 366 GP	0-15	5.83	1.17	0.07	0.11	152.49	15.6	58.2	12.2
568	LALI 366 GP	15-30	7.03	0.56	0.05			75.6	56.2	28.2
569	LALI 366 GP	30-45	5.16	1.4	0.07	260.31	260.53	21.8	54	24.2
570	LALI 367 DS	0-15	7.49	0.87	0.06	12.03	382.08	25.6	56.2	12.2
571	LALI 369 ES	0-15	5.47	5.62	0.2	54.69	152.49	32.2	48.2	19.6
572	LALI 372 DS	0-15	6.32	1.34	0.07	16.41	84.96	44.3	45.9	9.8
573	LALI 374 ES	0-15	7.02	3.35	0.13	59.06	247.03	47.6	34.2	18.2
574	LALI 377 FS	0-15	6.31	2.68	0.11	16.41	260.53	28.2	46.2	25.6
575	LALI 379 ES	0-15	6.52	5.05	0.18		111.97	39.6	46.2	14.2
576	LALI 381 EP	0-15	7.3	1.74	0.08	12.63	598.17	14.6	42.6	42.8
577	LALI 381 EP	15-30	7.27	2	0.09	6.56	763.74	12.6	44.6	42.8
578	LALI 381 EP	30-45	7.21	1.87	0.09	9.84	854.77	14.6	44.6	40.8
579	LALI 382 DS	0-15	5.09	4.02	0.15	0.25	517.14	26.2	54.2	19.6
580	LALI 399 ES	0-15	5.66	4.82	0.17	0.33	652.19			
581	LALI 400 ES	0-15	5.4	0.73	0.06	131.25	57.95	41.6	46.2	12.2
582	LALI 411 GP	0-15	6.23	1.23	0.07		84.96	36.5	50.7	13.1
583	LALI 411 GP	0-15	7.43	2.11	0.1			33.2	47.7	19.1
584	LALI 411 GP	15-30	7.9	1.1	0.07			32.2	52.7	15.1
585	LALI 415 GS	0-15	7.26	1.7	0.08			38.2	50.7	11.1
586	LALI 433 FS	0-15	7.11	1.2	0.07	0.25	84.96	26.2	56.2	17.6
587	LALI 454 FP	0-15	5.54	2.41	0.1	79.84	557.66	38.2	26.2	35.6
588	LALI 454 FP	0-15	5.26	1.87	0.09	32.81	517.14	38.2	26.2	35.6
589	LALI 455 DS	0-15	4.98	1.34	0.07	9.84	152.49	38.3	45.9	15.8
590	LALI 463 EP	30-45	5.33	2.54	0.11	47.03	395.59	32.2	54.2	13.6
591	LALI 463 EP	0-15	5.32	3.48	0.13	10.93	301.05	32.2	52.2	15.6
592	LALI 463 EP	15-30	5.23	4.89	0.18	25.16	422.6	32.2	54.2	13.6
593	LALI 480 FS	0-15	5.24	2.03	0.09		138.99	33.6	52.2	14.2
594	LALI 490 ES	0-15	5.57	1.07	0.07	1.09	341.57	40.3	45.9	13.8
595	NAG 168 DS	0-15	8.04	4.35	0.16	47.03	611.68	63	24.8	12.2
596	NAG 169 FS	0-15	8.2	4.69	0.17	26.25	247.03	21	58.8	20.2
597	NAG 171 DS	0-15	8.35	1.34	0.07	24.06	233.52	41	40.8	18.2
598	NAG 174 FP	0-15	5.6	4.9	0.18	1.09	287.55	43	40.8	10.2
599	NAG 174 FP	15-35	5.82	3.95	0.15	0.13	111.97	41	40.8	10.2
600	NAG 175 FP	0-15	8.02	3.35	0.13	7.66	787.25	39	42.8	18.2



S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
601	NAG 175 FP	15-45	8.64	2.01	0.09	6.56	935.81	23	32.8	44.2
602	NAG 176 ES	0-15	7.93	3.35	0.13	29.53	976.33	19.6	48.2	32.2
603	NAG 178 GP	15-45	6.93	2.01	0.09	56.87	476.62	51.6	36.2	12.2
604	NAG 178 GP	0-15	7.26	2.68	0.11	26.25	544.15	55.6	32.2	12.2
605	NAG 179 FS	0-15	7.49	1.87	0.09	12.03	395.59	29.6	34.2	36.2
606	NAG 180 DP	0-20	7.81	1.34	0.07	24.06	1003.34	15.6	44.2	40.2
607	NAG 180 DP	20-50	7.68	0.67	0.05	84.22	881.79	13.6	46.2	40.2
608	NAG 182 GP	0-15	7.9	3.35	0.13	21.87	395.59	53.6	34.2	12.2
609	NAG 182 GP	15-40	8.06	3.95	0.15	20.78	422.6	41.6	40.2	18.2
610	NAG 183 DS	0-15	8.26	0.67	0.05	13.12	733.23	13.6	42.2	44.2
611	NAG 184 FS	0-15	6.38	1.34	0.08	24.06	422.6	49.6	36.2	14.2
612	NAG 185 DS	0-15	6.99	2.29	0.11	240.62	1327.47	27.6	54.2	18.2
613	NAG 186 EP	0-20	4.97	6.16	0.21	10.94	881.79	27	36.8	22.2
614	NAG 186 EP	20-50	4.95	5.6	0.2	2.19	787.25	27	40.8	22.2
615	NAG 187 DS	0-15	6.63	8.81	0.29	25.16	1300.46	23.6	56.2	20.2
616	NAG 188 DP	0-20	6.51	8.47	0.28	21.87	490.13	43.6	42.2	14.2
617	NAG 188 DP	20-50	6.49	8.94	0.29	6.56	436.12	43.6	42.2	14.2
618	NAG 189 EP	0-20	6.76	9.41	0.31	106.09	706.22	29.6	50.2	20.2
619	NAG 189 EP	20-50	6.82	9.55	0.32	99.53	719.72	31	49.4	19.6
620	NAG 190 FS	0-15	6.42	3.36	0.14	10.94	206.51	57	33.4	9.6
621	NAG 191 DS	0-15	8.14	8.07	0.27	4.37	692.71	27	47.4	25.6
622	NAG 192 EP	0-15	7.3	3.23	0.13	4.37	314.56	25	53.4	21.6
623	NAG 192 EP	15-35	7.25	2.69	0.12	3.28	274.04	25	51.4	23.6
624	NAG 192 EP	35-60	5.25	2.22	0.13	0.9	274.04	33	49.4	17.6
625	NWA 274 FP	0-15	6.53	2.95	19.69	54.69	206.51	53	38.5	8.5
626	NWA 274 FP	15-30	7.18					27	58.5	14.5
627	NWA 274 FP	30-45	7					29	58.5	12.5
628	NWA 275 DP	0-15	6.05	3.16	0.13	19.69	463.11	25	54.5	20.5
629	NWA 275 DP	15-30	6.13					17	54.5	26.5
630	NWA 275 DP	30-45	7					17	56.5	26.5
631	NWA 278 ES	0-15	6.1	2.01	0.097	21.87	138.98	23	56.5	18.5
632	NWA 284 DS	0-15	7.24	2.68	0.116	53.59	328.06	23	58.5	16.5
633	NWA 285 FP	0-15	7.37	4.23	0.161	84.22	679.2	27	60.5	14.5
634	NWA 285 FP	15-30	7.3					27	58.5	14.5
635	NWA 290 DS	0-15	6.37	2.55	0.113	22.97	247.02	23	64.5	12.5
636	NWA 292 ES	0-15	5.95	3.16	0.13	130.15	287.54	31	58.5	10.5
637	NWA 295 ES	0-15	7.6	3.76	0.148	125.87	1873.44	25	62.5	12.5
638	NWA 297 DS	0-15	6.05	2.01	0.097	44.84	164.39	31	58.5	10.5
639	NWA 298 FS	0-15	6.15	2.21	0.103	14.22	44.62	25	60.5	14.5
640	NWA 299 GS	0-15	7.8	2.01	0.097	21.87	217.62	35	52.5	12.5
641	NWA 303 DP	0-15	8.06	3.29	0.135	92.96	71.24	25	56.8	18.2
642	NWA 303 DP	15-30	7.18					23	58.8	18.2
643	NWA 303 DP	30-45	7.44					19	60.8	20.2

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage						
644	NWA 307 ES	0-15	6.91	2.75	0.119	13.82	260.53	25	56.8	18.2
645	NWA 308 DS	0-15	6.98	2.62	0.115	155.31	341.56	17	52.8	30.2
646	NWA 309 ES	0-15	6.91	7.93	0.269	55.78	1205.92	41	48.8	10.2
647	NWA 310 DS	0-15	0.5	2.01	0.097	20.78	368.52	23	52.8	24.2
648	NWA 311 DP	0-15	7.4	4.23	0.161	50.31	530.64	21	58.5	20.2
649	NWA 311 DP	15-30	7.16					21	58.8	20.2
650	NWA 311 DP	30-45	7.43					21	58.8	20.2
651	NWA 313 ES	0-15	7.08	2.68	0.12	9.84	125.48	29	58.8	12.2
652	NWA 314 FP	0-15	7.67	1.47	0.081	7.66	57.95	49	40.8	10.2
653	NWA 314 FP	15-30	7.66					49	40.8	10.2
654	NWA 314 FP	30-45	7.69					41	48.8	10.2
655	NWA 315 EP	0-15	7.85	3.96	0.154	36.09	530.64	31	54.8	14.2
656	NWA 315 EP	15-30	7.99					33	52.8	14.1
657	NWA 316 EP	0-15	6.83	5.44	0.196	60.16	382.08	41	45.1	13.9
658	NWA 316 EP	15-30	7.9					41	41.1	17.9
659	NWA 323 EP	0-15	7.9	3.49	0.14	42.66	301.05	35	49.1	15.9
660	NWA 323 EP	15-30	8					35	49.1	15.9
661	NWA 323 EP	30-45	8.32					31	511	17.9
662	NWA 326 GS	0-15	8.02	4.77	0.177	12.03	314.56	41	41.1	17.9
663	NWA 337 DS	0-15	7.67	4.23	0.161	74.37	1462.52	21	53.1	25.9
664	NWA 661 GS	0-15	6.03	3.83	0.15	13.3	38.99	45	39.1	15.9
665	PAN 11 FP	0-15	6.28	2.89	0.122	76.56	152.49	46.7	42.5	10.8
666	PAN 11 FP	15-35	6.28					50.7	40.5	8.8
667	PAN 11 FP	35-55	6.56					50.7	40.5	8.8
668	PAN 21 DS	0-15	5.82	2.95	0.124	76.56	220.01	70.7	20.5	8.8
669	PAN 24 GP	0-15	7.2	2.48	0.111	1182.32	138.99	52.7	38.5	8.8
670	PAN 24 GP	15-35	5.74					54.7	38.5	6.8
671	PAN 25 EP	0-15	5.62	4.3	0.163	1273.1	881.79	62.7	30.5	6.8
672	PAN 25 EP	15-40	6.51					64.7	28.5	6.8
673	PAN 25 EP	40-65	6.49					64.7	28.5	8.8
674	PAN 31 DS	0-15	6.05	0.47	0.052	64.53	274.04	64.7	28.5	8.8
675	PAN 33 FP	0-15	6.95	1.74	0.089	108.28	557.66	64.7	26.5	8.8
676	PAN 33 FP	15-40	6.13					64.7	26.5	8.8
677	PAN 33 FP	40-65	5.94					64.7	26.5	8.8
678	PAN 36 DS	0-15	5.35	3.83	0.15	115.93	1.93	76.7	16.5	6.8
679	PAN 38 ES	0-15	5.61	2.75	0.118	4.37	355.07	66.7	24.5	8.8
680	PAN 42 FS	0-15	6.15	4.23	0.161	140	247.03	46.7	44.5	8.8
681	PAN 44 DP	0-15	5.76	3.22	0.132	302.96	260.53	68.7	24.5	6.8
682	PAN 44 DP	15-45	6.46				233.52	70.7	22.5	6.8
683	PAN 44 DP	45-65	6.55					70.7	22.5	6.8
684	PAN 45 FS	0-15	5.23	5.07	0.186	24.06	220.02	54.7	36.5	8.8
685	PAN 46 FS	0-15	5.24	2.01	0.097	242.81	773.74	62.7	20.5	6.8
686	PAN 48 DP	0-15	5.29	3.16	0.13	363.12	274.04	50.7	42.5	6.8

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
687	PAN 48 DP	15-45	6.64					46.7	44.5	8.8
688	PAN 48 DP	45-65	5.89					46.7	44.5	8.8
689	PAN 49 ES	0-15	5.73	1.88	0.093	7.66	220.02	52.7	38.5	8.8
690	PAN 54 EP	0-15	5.69	2.42	0.109	143.28	98.47	68.7	24.5	6.8
691	PAN 54 EP	15-40	5.8					69	23.1	7.9
692	PAN 54 EP	40-60	6.4					67	25.1	7.9
693	PAN 56 ES	0-15	6.01	2.42	0.109	134.53	571.16	67	21.1	5.9
694	PAN 57 DS	0-15	7.3	3.63	0.144	438.59	152.49	65	27.1	7.9
695	PAN 62 DP	0-15	7.57	2.68	0.116	112.65	827.77	49	41.1	9.9
696	PAN 62 DP	15-45	5.23					49	41.1	9.9
697	PAN 62 DP	45-65	5.51					51	39.1	9.9
698	PAN 63 DS	0-15	6.36	3.29	0.116	166.25	165.99	49	41.1	9.9
699	PAN 65 EP	0-15	6.42	2.28	0.105	123.59	233.52	73	21.1	5.9
700	PAN 65 EP	15-45	5.78					71	23.1	5.9
701	PAN 65 EP	45-65	6.38					73	21.1	5.9
702	PAN 658 GS	0-15	6.03	0.53	0.054	41.56	125.48	59	23.2	17.8
703	PAN 665 FP	0-14	5.47	1.94	0.095	207.81	341.57	65	21.2	13.8
704	PAN 665 FP	14-36	5.63					59	29.2	19.8
705	PAN 67 GP	0-15	5.71	2.08	0.099	1.23	98.47	51	39.1	9.9
706	PAN 67 GP	15-45	6.16					53	37.1	9.9
707	PAN 68 ES	0-15	6.86	3.02	0.126	229.68	111.97	55	37.1	7.9
708	PAN 71 FP	0-15	7.99	3.09	0.128	27.34	422.6	49	37.1	13.9
709	PAN 71 FP	15-40	7.7					37	43.1	19.9
710	PAN 74 DS	0-15	6.68	3.69	0.146	337.96	179.5			
711	PAN 83 GS	0-15	5.77	0.2	0.044	7.66	71.46			
712	PAN 84 FP	0-14	6.11	1	0.068	6.96	138.99			
713	PAN 84 FP	14-35	5.79					29	49.2	21.8
714	PAN 84 FP	35-60	6.04					29	45.2	25.8
715	PAN 85 DS	0-15	7.46	1.21	0.074	1197.64	247.03	97	1.2	1.8
716	RIM 305 GP	0-15	4.68			104.59	461.16	49	43.4	7.6
717	RIM 305 GP	15-30	5.02					49	43.4	7.6
718	RIM 305 GP	30-45	5.02					49	43.4	7.6
719	RIM 317 ES	0-15	5.16			451.17	345.87	52.4	36.2	11.4
720	RIM 320 DS	0-15	5.66			627.54	172.1	42.4	46.2	11.4
721	RIM 321 EP	0-15	5.45			86.13	333.06	35	53.4	11.6
722	RIM 321 EP	15-30	5.67					31	53.4	11.6
723	RIM 325 FP	0-15	4.44			238.92	256.2	51	41.4	7.6
724	RIM 325 FP	15-30	4.64					51	41.4	7.6
725	RIM 327 ES	0-15	5.73			999.46	294.63	40.4	48.2	11.4
726	RIM 328 GP	0-15	5.37			87.16	384.3	67	25.4	7.6
727	RIM 328 GP	15-30	5.49					43	43.4	13.6
728	RIM 328 GP	30-45	5.82					31	45.4	23.6
729	RIM 330 DS	0-15	5.04			77.93	166.53	46.4	42.2	11.4

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
730	RIM 331 EP	0-15	5.4			99.46	345.87	43	47.4	9.6
731	RIM 331 EP	15-30	5.64					39	49.4	11.6
732	RIM 331 EP	30-45	5.81					32.7	53.1	14.2
733	RIM 332 DS	0-15	5.85			251.22	627.69	46.4	44.2	9.4
734	RIM 333 DP	0-15	5.46			87.16	345.87	44.7	47.1	8.2
735	RIM 333 DP	15-30	5.61					42.7	49.1	8.2
736	RIM 335 DP	0-15	5.21			125.09	230.58	50.7	41.1	8.2
737	RIM 335 DP	15-30	5.96					40.7	51.1	8.2
738	RIM 335 DP	30-45	6.71					36.7	53.1	10.2
739	RIM 336 FP	0-15	4.65			83.06	153.72	50.7	41.1	8.2
740	RIM 336 FP	15-30	5.04					54.7	35.1	10.2
741	RIM 338 FS	0-15	5.43			78.95	128.1	65	29.4	5.6
742	RIM 342 ES	0-15	4.46			79.98	422.73	44.4	44.2	11.4
743	RIM 344 ES	0-15	5.39			75.88	166.53	40.4	48.2	11.4
744	RIM 345 EP	0-15	5.8	3.09	0.13	73.83	217.77	42.7	47.1	10.2
745	RIM 345 EP	15-30	5.57					44.7	47.1	8.2
746	RIM 346 EP	0-15	5.25					42.7	49.1	8.2
747	RIM 346 EP	15-30	5.25					38.7	51.1	10.2
748	RIM 346 EP	30-45	5.32					36.7	53.1	10.2
749	RIM 350 EP	0-15	5.21					48.7	43.1	8.2
750	RIM 350 EP	15-30	5.36					44.7	45.1	10.2
751	RIM 350 EP	30-45	5.36					42.7	47.1	10.2
752	RIM 352 DS	0-15	5.52			87.16	294.63	54.4	36.2	9.4
753	RIM 353 ES	0-15	5.27			157.91	140.91	54.4	36.2	9.4
754	RIM 355 ES	0-15	5.6			85.11	204.96	47	45.4	7.6
755	RIM 357 EP	0-15	5.49					46.7	44.5	8.8
756	RIM 357 EP	15-30	6.37					46.7	44.5	8.8
757	RIM 359 DS	0-15	6.21			122.02	243.39	57	33.4	9.6
758	RIM 362 FS	0-15	5.55			81.01	153.72	59	33.4	7.6
759	RITHA 432 FS	0-15	5.34	5.22	0.19	75.47	449.61	55	30.8	8.2
760	RITHA 434 FS	0-15	5.37	3.01	0.12	7.66	165.99	59	26.8	12.2
761	RITHA 435 FS	0-15	6.11	3.28	0.13	4.37	179.5	63	26.8	10.2
762	RITHA 437 ES	0-15	6.72	6.4	0.22	13.12	230.52	59	36.8	10.2
763	RITHA 444 FS	0-15	6.15	2.9	0.12	13.12	165.99	65	30.8	8.2
764	RITHA 446 DS	0-15	5.92	4.95	0.18	0.17	145.74	49	30.8	12.2
765	RITHA 449 GS	0-15	4.86	6.7	0.23	43.75	557.66	51	50.8	8.2
766	RITHA 452 FS	0-15	6.09	5.8	0.2	41.56	138.99	55	50.8	8.2
767	RITHA 456 EP	0-15	5.66	6.23	0.22	29.53	598.17	49	48.8	10.2
768	RITHA 456 EP	15-30	4.91	4.69	0.17	26.25	436.11	49	46.8	10.2
769	RITHA 456 EP	30-60	5.16	6.4	0.22	24.06	652.19	47	44.8	8.2
770	RITHA 457 ES	0-15	6.96	4.08	0.15	0.17	111.97	45	44.8	10.2
771	RITHA 462 ES	0-15	5.32	4.62	0.17	3.28	422.6	49	42.8	6.2
772	RITHA 469 DS	0-15	5.64	2.07	0.09	64.6	473.97			

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
773	RITHA 471 DS	0-15	5.08	2.94	0.12	0.2	98.47	43	40.8	16.2
774	RITHA 489 FS	0-15	5.33	3.95	0.15	14.22	44.45	55	38.8	6.2
775	RITHA 493 FS	0-15	5.23	4.55	0.17	95.15	436.11	65	28.8	8.2
776	RITHA 510 GP	0-15	5.09	3.21	0.13	5.47	152.49	55	38.8	6.2
777	RITHA 510 GP	15-25	5.47	3.75	0.14	14.21	179.5	55	38.8	6.2
778	RITHA 510 GP	25-45	5.54	2.27	0.1	4.37	152.49	55	38.8	6.2
779	RITHA 515 DS	0-15	6.31	7.3	0.25	83.12	382.08	53	40.8	6.2
780	RITHA 532 GP	0-15	5.89	2.88	0.12	43.75	247.03	61	32.8	6.2
781	RITHA 532 GP	15-30	6.78	3.41	0.13	73.28	287.55	55	36.8	8.2
782	ROD 100 FS	0-15	7.96	4.49	0.17	35.89	1152.9	40.4	44.8	14.8
783	ROD 101 FP	0-15	5.69	2.18	0.48	13.33	512.4	34.4	44.8	20.8
784	ROD 101 FP	15-40	6.16					32.4	42.8	24.8
785	ROD 102 GP	0-15	6.92	3.69	0.15	23.58	320.25	28.4	48.8	22.8
786	ROD 102 GP	15-50	7.31					26.4	46.8	26.8
787	ROD 103 DS	0-15	6.66			46.14	794.22	18.4	54.8	26.8
788	ROD 104 FS	0-15	7.94	4.36	0.17	39.99	345.87	38.4	42.8	18.8
789	ROD 105 DP	0-15	7.65	5.56	0.2	50.24	499.59	18.4	58.8	22.8
790	ROD 105 DP	15-40	7.66					10.4	56.8	32.8
791	ROD 105 DP	40-60	7.91	2.9	0.12	612.16	1306.62	32.4	48.8	18.8
792	ROD 106 FS	0-15	5.73	3.08	0.13	21.53	179.34	14.4	54.8	30.8
793	ROD 108 EP	0-15	6.92			87.16	832.65	18.4	54.8	22.8
794	ROD 108 EP	15-60	7.33					14.4	58.8	28.8
795	ROD 109 ES	0-15	6.78			67.68	781.41	24.4	56.8	32.8
796	ROD 110 EP	0-15	7.67			61.52	538.02	24.4	52.8	20.8
797	ROD 110 EP	15-40	7.96					24.4	54.8	16.8
798	ROD 111 GS	0-15	7.7			41.02	742.98	48.4	34.8	16.8
799	ROD 112 FP	0-15	7.94			20.76	204.63	50.4	34.8	14.8
800	ROD 112 FP	15-40	8.02					48.4	40.8	10.8
801	ROD 113 DS	0-15	6.95			76.9	397.11	30.4	50.8	18.8
802	ROD 114 DS	0-15	7.27			38.97	1279.72	34.4	52.8	26.8
803	ROD 115 DP	0-15	7.74	2.9	0.12	612.16	1306.6	24.4	52.8	22.8
804	ROD 115 DP	15-30	7.53	4.39	0.17	117.98	419.33	12.4	32.8	54.8
805	ROD 115 FP	30-60	8.81					32.4	50.8	16.8
806	ROD 116 FS	0-15	8.03	6.16	0.22	36.91	602.07	38.4	40.8	20.8
807	ROD 118 DP	0-15	8.1	2.2	0.1	20.51	666.12			
808	ROD 119 DP	0-15	7.86			45.12	755.79	12.4	46.8	40.8
809	ROD 119 DP	15-50	7.69					20.4	42.8	36.8
810	ROD 119 DP	50-80	7.78					12.4	42.8	44.8
811	ROD 120 FP	0-15	7.75	3.55	0.14	33.84	345.87	52.4	30.8	16.8
812	ROD 120 FP	15-40	8.14					56.4	30.8	12.8
813	ROD 121 DP	0-15	7.55			218.41	1050.42	30.4	52.8	16.8
814	ROD 122 FS	0-15	5.2	2.48	0.11	39.99	294.63	28.4	42.8	28.8
815	ROD 123 FP	0-15	7.8			83.06	480.38	34.4	44.8	20.8

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
816	ROD 127 DS	0-15	5.5	5.03	0.19	35.89	294.63	38.4	42.8	18.8
817	ROD 128 GP	0-15	7.14			97.41	217.77	44.4	40.8	14.8
818	ROD 128 GP	15-40	7.45					40.4	42.8	16.8
819	ROD 128 GP	40-80	7.21					42.4	42.8	14.8
820	ROD 132 FS	0-15	6.74	5.56	0.2	39.99	653.31	16.4	54.8	28.8
821	ROD 133 ES	0-15	7.22			397.85	685.34	24.4	42.8	32.8
822	ROD 136FS	0-15	6.75	4.22	0.16	50.24	602.07	14.4	58.8	26.8
823	ROD 137 EP	0-15	7.53			253.27	1383.48	36.4	42.8	20.8
824	ROD 137 EP	15-50	7.5					38.4	40.8	20.8
825	ROD 150 DS	0-15	7.7			72.8	1661.42	40.4	42.8	16.8
826	ROD 151 ES	0-15	7.84			477.83	858.27	34.4	46.8	18.8
827	ROD 659 GS	0-15	6.5			31.79	486.78	62.4	24.8	12.8
828	ROD 93 FS	0-15	7.8	4.56	0.17	23.58	307.44	42.4	38.8	18.8
829	ROD 97 FS	0-15	7.28	2.21	0.1	19.48	307.44	52.4	28.8	18.8
830	ROD 98 DS	0-15	6.12			5.13	294.63	30.4	50.8	18.8
831	RUD 412 FS	0-15	6.29	4.56	0.17	4.1	486.78	65	28.5	6.5
832	RUD 421 FS	0-15	6.29	1.94	0.09	9.23	230.58	43	56.5	8.5
833	RUD 427 GS	0-15	6.39	1.27	0.08	9.23	435.54	59	28.5	6.5
834	RUD 428 DS	0-15	6.13	2.68	0.12	30.76	307.44	55	48.5	6.5
835	RUD 431 DS	0-15	6.69	1.47	0.08	31.79	858.27	39	34.5	10.5
836	RUD 439 ES	0-15	6.1	7.8	0.27	13.33	217.77	51	38.5	10.5
837	RUD 440 DS	0-15	5.6	2.35	0.11	72.8	397.11	51	50.5	10.5
838	RUD 441 DP	0-15	6.75	0.13	0.04	86.13	422.73	51	38.5	10.5
839	RUD 441 DP	15-30	6.4					47	42.5	10.5
840	RUD 441 DP	30-50	6.45					51	38.5	10.5
841	RUD 447 ES	0-15	6.32	8.5	0.29	27.69	576.45	33	48.5	18.5
842	RUD 448 DS	0-15	6.17	2.61	0.11	30.76	307.44	41	44.5	14.5
843	RUD 450 ES	0-15	5.58	3.15	0.13	61.52	525.21	43	46.5	10.5
844	RUD 451 ES	0-15	6.04	6.16	0.22	150.73	281.82	49	42.5	8.5
845	RUD 453 DS	0-15	7.51	5.09	0.19	13.33	230.58	33	54.5	12.5
846	RUD 460 GP	0-15	5.83	2.28	0.11	26.66	538.02	40.7	51.1	8.2
847	RUD 460 GP	15-30	6					36.7	53.1	10.2
848	RUD 461 GP	0-15	6	2.61	0.11	15.38	179.34	38.7	53.1	8.2
849	RUD 461 GP	15-30	7.66					40.7	51.1	8.2
850	RUD 464 DS	0-15	5.95	1.01	0.07	18.46	409.92	32.7	55.1	12.2
851	RUD 466 ES	0-15	6.6	3.89	0.15	28.71	166.53	30.7	51.1	18.2
852	RUD 468 EP	0-15	6.4	3.22	0.13	11.28	397.11	44.7	47.1	8.2
853	RUD 468 EP	15-30	5.92					40.7	47.1	12.2
854	RUD 475 FS	0-15	6.07	5.23	0.19	3.08	140.91	50.7	39.1	10.2
855	RUD 478 DP	0-15	6.9	1.81	0.09	65.63	691.74	28.7	57.1	14.2
856	RUD 478 DP	15-30	7.02					22.7	57.1	20.2
857	RUD 478 DP	30-50	7.14					20.7	53.1	26.2
858	RUD 479 EP	0-15	7.86	1.74	0.09	22.56	166.53	36.7	51.1	12.2

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
859	RUD 479 EP	15-30	7.79					34.7	51.1	14.2
860	RUD 482 GP	0-15	7.91	0.8	0.06	15.38	153.72	39	52.5	8.5
861	RUD 482 GP	15-30	8.02					31	60.5	8.5
862	RUD 483 GS	0-15	6.72	2.95	0.12	11.28	204.9	23	56.5	20.5
863	RUD 484 GP	0-15	6	4.36	0.17	21.53	115.29	49	42.5	8.5
864	RUD 485 ES	0-15	6.24	4.09	0.16	133.3	230.58	33	56.5	10.5
865	RUD 492 DS	0-15	7.5	0.6	0.06	309.67	166.53	39	52.5	8.5
866	RUD 498 CS	0-15	6.61	2.28	0.11	17.43	499.59	61	32.5	6.5
867	SAR 348 DP	0-15	5.65	1.34	0.07	0.5	111.97	58.6	34.6	6.8
868	SAR 348 DP	15-30	5.79	2.01	0.09	1	118.72	58.6	34.6	6.8
869	SAR 348 DP	30-45	5.81			0.9	152.49	58.6	34.6	6.8
870	SAR 349 DP	0-15	7.86	3.95	0.15	8.7	193	34.3	55.5	10.2
871	SAR 349 DP	15-30	7.84	1.94	0.09	4.37	159.24	36.3	55.5	8.2
872	SAR 349 DP	30-45	7.65	1.54	0.08	0.8	152.49	30.3	59.5	10.2
873	SAR 356 ES	0-15	5.79	0.87	0.06	1.09	98.47	49.6	38.2	12.2
874	SAR 370 DS	0-15	7.2	1.6	0.08	10.09	98.47	23.6	54.2	22.2
875	SAR 383 FS	0-15	7.19	3.68	0.14	13.12	179.5	29.6	52.2	18.2
876	SAR 384 FP	0-15	5.56	4.15	0.15	1	476.62	58.6	34.6	6.8
877	SAR 384 FP	15-30	4.88	4.15	0.15	5.47	584.67	50.6	40.6	8.8
878	SAR 384 FP	30-45	4.83	3.95	0.14	8.75	165.99	52.6	40.6	6.8
879	SAR 389 ES	0-15	6.95	0.6	0.05	17.49	193.01	21.6	58.2	20.2
880	SAR 390 FP	0-15	7.47	0.4	0.05	0.56	125.48	28.3	55.5	16.2
881	SAR 390 FP	15-30	7.55	0.53	0.05	15.31	165.99	28.3	53.5	18.2
882	SAR 390 FP	30-45	7.51	0.6	0.05	7.66	138.98	28.3	53.5	18.2
883	SAR 394 DS	0-15	6.28	2.14	0.1	10.94	206.51	25.6	54.2	20.2
884	SAR 395 EP	0-15	6.41	5.69	0.2	168.45	841.27	22.6	46.6	30.8
885	SAR 395 EP	15-30	6.64	4.96	0.18	67.81	247.03	18.6	60.6	20.8
886	SAR 395 EP	30-45	6.53	4.28	0.16	106.09	274.04	22.6	58.6	18.8
887	SAR 398 FS	0-15	7.58	5.82	0.2	27.34	84.96	54.3	33.9	11.8
888	SAR 405 DP	0-15	6.41	3.68	0.14	10.94	98.47	36.3	55.5	10.2
889	SAR 405 DP	15-30	7.02	3.61	0.14	17.49	111.97	36.3	53.5	10.2
890	SAR 413 FP	0-15	4.1	3.14	0.13	32.81	98.96			
891	SAR 413 FP	15-30	4.69	2.81	0.12	25.11	84.96	42.6	42.6	14.8
892	SAR 413 FP	30-45	4.42	3	0.12	30.66	125.48	40.6	44.6	14.8
893	SAR 418 DP	0-15	7.46	1.67	0.08	26.25	98.47	28.3	57.5	13.8
894	SAR 420 FP	0-15	6.38	5.15	0.18	324.8	287.55	38.6	50.6	10.8
895	SAR 420 FP	15-30	6.97	0.67	0.05	6.56	111.97	32.6	46.6	20.8
896	SAR 420 FP	30-45	7.06	1	0.06	8.7		18.3	61.5	20.2
897	SAR 425 ES	0-15	6.54	3.08	0.12	0.8	827.77	39.6	46.2	14.2
898	SAR 664 GS	0-15	6.91	3.01	0.12	264.68	111.97	44.3	45.9	9.2
899	SAR 667 FP	0-15	7.06	4.69	0.17	9.84	274.04	58.3	31.5	9.8
900	SHA 563 DP	0-15	6.55	7.7		588.89	1313.96	24.8	59.6	15.6
901	SHA 563 DP	15-25	5.22	3.81		136.72	1326.12	24.2	56.2	19.6

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
902	SHA 567 ES	0-15	5.58	7.7		73.28	179.5	29.2	59.2	11.6
903	SHA 568 DS	0-15	5.71	5.8	0.2			41.3		
904	SHA 572 ES	0-15	5.48	3.5	0.14			35.3	53.1	11.6
905	SHA 574 DS	0-15	6.82	4		29.53	152.49	46	40.4	13.6
906	SHA 578 DS	0-15	7.64	5.6		26.25	733.23	48.6	39.2	11.6
907	SHA 583 ES	0-15	6.51	3.61		15.31	301.05	27.4	57	15.6
908	SHA 585 FP	0-15	5.32	1.3	0.08			27.2	56	25.6
909	SHA 585 FP	30-45	5.28	0.5	0.06			27.2	43.2	29.6
910	SHA 585 FP	15-30	5.43	1.5	0.08			29.3	41.6	29.6
911	SHA 589 DS	0-15	7.99	3.6	0.14			29.3	63.1	7.6
912	SHA 590 FP	15-25	5.04	3	0.12			47.3	41.1	11.6
913	SHA 590 FP	0-15	5.01	4	0.15			47.3	41.1	11.6
914	SHA 590 FP	30-45	4.72	3.4	0.13			41.3	45	15.6
915	SHA 593 DS	0-15	8.06	2.4	0.1			19.3	35.1	31.6
916	SHA 594 EP	0-15	5.39	3.7		57.97	328.06	19.6	60.8	19.6
917	SHA 594 EP	15-30	5.58	3.41		34.99	355.07	18	61.4	19.6
918	SHA 594 EP	30-45	5.67	2.21		22.97	341.57	18.4	56	25.6
919	SHA 596 ES	0-15	6.86	5.3	0.19			41.3	49.1	9.6
920	SHA 597 GP	30-45	8.29	2.5	0.11			29.3	63.1	7.6
921	SHA 597 GP	15-30	8.24	2.1	0.1					
922	SHA 597 GP	0-15	8.02	6.1	0.21			43.3	49.1	11.6
923	SHA 601 DP	0-15	5.92	0.93	0.06			41.3	45.1	13.6
924	SHA 601 DP	15-25	6.05	1.2	0.07			41.3	43.1	15.6
925	SHA 601 DP	25-45	5.79	2.1	0.1			35.3	47.1	17.6
926	SHA 604 DS	0-15	8	4.2	0.16			21.3	67.1	11.6
927	SHA 605 DS	0-15	7.89	3	0.13			21.3	69.1	9.6
928	SHA 606 ES	0-15	5.39	1.13	0.07	4.37	247.03	30.3	51.5	17.8
929	SHA 607 DP	0-15	7.86	4.3	0.16			31.3	47.1	21.6
930	SHA 607 DP	15-30	8	2.9	0.12			29.3	47.1	23.6
931	SHA 609 FS	0-15	7.83	4.5	0.17	46.17	413.95	21.3	47.1	31.6
932	SHA 610 EP	0-15	7.56	3.9		14.22	220.02	27.8	50.6	25.6
933	SHA 610 EP	15-25	7.56	2.81		16.41	193.01	27.2	43.2	25.6
934	SHA 610 EP	25-45	7.62	3.61		10.94	220.02	18.4		25.6
935	SHA 612 FP	0-15	7.49				321.31	53	25.4	21.6
936	SHA 612 FP	15-30	7.6	1.4	0.08	7.66	165.99	20.4	68	11.6
937	SHA 612 FP	30-45	7.72	2.75	0.12	7.66	193.01	41.8	44.6	13.6
938	SHA 617 FS	0-15	6.55	4	0.16			25.3	51.1	23.6
939	SHA 625 DS	0-15	6.64	6.56	0.22			31.3	47.1	11.6
940	SHA 626 DS	0-15	6.98	4.8	0.17			57.3	47.1	7.6
941	SHA 665 GS	0-15	7.96	2.4	0.1			43.3	45.1	23.6
942	SHR 247 FP	0-12	6.53	3.22	0.13	18.46	111.97	41	46.5	12.5
943	SHR 247 FP	12--25	5.72					43	44.5	12.5
944	SHR 247 FP	25-40	5.4					39	46.5	14.5



S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage						
945	SHR 252 GP	0-15	7.75	2.48	0.11	16.41	368.58	39	48.5	16.5
946	SHR 252 GP	15-30	5.77					41	44.5	14.5
947	SHR 253 GS	0-15	6.75	3.28	0.13	20.51	179.5	43	46.5	10.5
948	SHR 254 ES	0-15	7.15	5.16	0.19	20.51	179.5	41	48.5	10.5
949	SHR 255 FP	0-15	8.51	3.95	0.15	22.56	98.47	43	44.5	12.5
950	SHR 255 FP	15-30	7.79					37	48.5	14.5
951	SHR 256 ES	0-15	8.32	3.82	0.15	26.67	179.5	36.7	47.1	16.2
952	SHR 258 ES	0-15	7.54	4.29	0.16	30.76	355.07	26.7	53.1	20.2
953	SHR 260 FS	0-15	6.22	0.47	0.05	25.64	287.55	64.7	27.1	8.2
954	SHR 261 DS	0-15	7.58	4.09	0.16	124.07	328.06	16.7	55.1	28.2
955	SHR 262 GP	0-15	6.16	5.56	0.2	28.71	895.25	30.7	55.1	14.2
956	SHR 262 GP	15-25	5.72					32.7	53.1	14.2
957	SHR 263 ES	0-15	7.53	4.22	0.16	42.04	193	20.7	59.1	20.2
958	SHR 264 EP	0-15	6.81	5.72	0.21	78.96	206.51	34.7	55.1	10.2
959	SHR 265 DS	0-15	7.54					34.7	55.1	10.2
960	SHR 267 GP	0-15	7.96	2.58	0.11	18.46	233.52	28.7	51.1	20.2
961	SHR 267 GP	0-20	8.26	5.69	0.2	29.74	841.27	22.7	57.1	20.2
962	SHR 268 DS	0-15	6.69					34.7	49.1	16.2
963	SHR 269 GP	0-15	8.44	8.64	0.29	167.14	584.17	34.7	51.1	14.2
964	SHR 269 GP	0-30	7.36	1.88	0.09	17.43	314.56	32.7	43.1	24.2
965	SHR 273 DS	0-15	7.47	1.34	0.08	11.28	165.99	22.7	45.1	32.2
966	SHR 276 DS	0-15	8.19	5.09	0.19	70.75	800.75	32.7	49.1	18.2
967	SHR 277 GS	0-15	8.54	3.35	0.14	22.56	220.02	38.7	47.1	14.2
968	SHR 279 DP	0-15	8.06	6.57	0.23	19.48	301.05	38.7	45.1	16.2
969	SHR 279 DP	15-30	8.59	1.61	0.09	54.35	368.58	48.7	31.1	20.2
970	SHR 288 EP	0-15	7.6					46.7	37.1	16.2
971	SHR 288 EP	15-30	8.08	4.29	0.16	22.56	179.5	28.7	57.1	14.2
972	SHR 291 FS	0-15	6.11	3.08	0.13	19.48	503.63	20.7	55.1	24.2
973	SIT 280 FS	0-15	5.46	2.82	0.12	208.9	395.49	61	29.2	9.8
974	SIT 281 ES	0-15	4.24	2.75	0.118	53.59	409.1	49	43.2	7.8
975	SIT 289 ES	0-15	5.63	3.29	0.134	189.22	247.03	43	45.2	11.8
976	SIT 294 GP	0-15	5.31	2.42	0.109	24.06	138.09	51	35.2	13.8
977	SIT 294 GP	15-30	5.29					45	37.2	17.8
978	SIT 294 GP	30-60	4.97					49	41.2	9.8
979	SIT 300 DS	0-15	5.22	5.17	0.189	24.06	287.55	41	47.2	11.8
980	SIT 301 ES	0-15	4.34	0.6	0.056	391.56	733.23	35	49.2	15.8
981	SIT 302 FS	0-15	5.35	4.7	0.175	30.62	138.99	67	23.2	9.8
982	SIT 304 GS	0-15	4.79	2.48	0.111	12.03	98.47	51	37.2	11.8
983	SIT 312 DP	0-15	7.15	4.5	0.169	2.19	233.53	47	45.2	7.8
984	SIT 312 DP	15-30	7.29					52.7	38.5	8.8
985	SIT 318 DS	0-15	5.78	3.16	0.13	18.59	436.11	52.7	36.5	10.8
986	SIT 319 GS	0-15	6.28	6.65	0.232	65.62	827.77	32.7	42.5	24.8
987	SIT 322 ES	0-15	5.44	3.16	0.13	78.75	355.07	40.7	46.5	12.8

S N	Soil ID	Depth (cm)	pH	OM	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Sand	Silt	Clay
				Percentage				Percentage		
988	SIT 324 DS	0-15	5.55	2.95	0.124			42.7	44.5	12.8
989	SIT 324 DS	15-30	5.08					48.7	40.5	10.8
990	SIT 329 FS	0-15	4.9	8.94	0.298		220.01	60.7	30.5	8.8
991	SIT 334 DS	0-15	7.12	2.95	0.124		881.79	38.7	48.5	12.8
992	SIT 340 FP	0-15	5.44	2.35	0.107		125.48	34.7	46.5	18.8
993	SIT 340 FP	15-30	5.4					34.7	46.5	18.8
994	SIT 341 FP	0-15	5.62	2.55	0.113		328.06	32.7	46.5	20.8
995	SIT 341 FP	15-30	5.53					36.7	48.5	14.8
996	SIT 347 ES	0-15	6.91	3.29	0.134			32.7	52.5	14.8
997	SIT 358 EP	0-15	66.4	4.37	0.165			14.7	50.5	34.8
998	SIT 358 EP	15-30	6.86		0.165			16.7	48.5	34.8
999	UKU 511 GP	0-15	5.79				409.09	50.2	34.8	15
1000	UKU 511 GP	25-45	5.57				517.14	40.2	38.8	21
1001	UKU 535 DS	0-15	6.03	6.7	0.23	34.86	192.15	55.3	33.4	11.3
1002	UKU 535 DS	15-30	5.75	1.47	0.08	517.82	313.85	67.3	23.4	9.3
1003	UKU 535 DS	30-60	6.82	3.81	0.14	148.68	281.82	61.3	41.4	9.3
1004	UKU 543 EP	0-15	6.25				409.09	68.8	24.8	7
1005	UKU 543 EP	25-45	5.02				240.28	66.2	26.8	7
1006	UKU 558 DP	0-15	5.34				220.02	64.2	25.9	9.9
1007	UKU 558 DP	25-45	5.82				247.03	60.2	27.9	11.9
1008	UKU 562 FP	0-15	5.37				111.97	60.2	30.8	9
1009	UKU 565 ES	0-15	6.22				145.74	46.2	44.8	9
1010	UKU 566 ES	0-15	6.06				145.74	38.2	50.8	11
1011	UKU 570 DS	0-15	5.04				71.46	62.2	28.8	9
1012	UKU 575 FS	0-15	5.47				247.03	22.2	51.8	26
1013	UKU 576 FS	0-15	4.92				84.96	42.2	47.9	9.9
1014	UKU 581 FS	0-15	4.73				111.97	58.2	29.9	11.9
1015	UKU 582 FS	0-15	5.74				341.57	22.2	46.2	31.6
1016	UKU 584 GS	0-15	5.61	3.49	0.14	52.01	328.06	42.2	43.9	13.9
1017	UKU 587 FP	0-15	5.81	4.91	0.18	20.51	118.73	52.2	37.9	9.9
1018	UKU 587 FP	25-45	5.71				125.48	46.2	39.9	13.9
1019	UKU 591 GP	0-15	4.6				84.96	62.2	29.9	7.9
1020	UKU 595 ES	0-15	8.12				962.82	32.2	50.8	17
1021	UKU 598 GP	0-15	6.02				449.61	42.2	45.9	11.9
1022	UKU 599 DS	0-15	5.78				111.97	54.2	36.8	9
1023	UKU 600 DS	0-15	7.83				165.99	40.2	48.8	11
1024	UKU 611 FS	0-15	5.56				165.99	52.2	38.8	9
1025	UKU 622 DS	0-15	5.72				152.49	30.2	32.8	37

Note:

pH: Percentage of hydrogen ion

OM: Organic matter

N: Nitrogen

P<sub>2</sub>O<sub>5</sub>: Phosphorous pentaoxideK<sub>2</sub>O: Potassium oxide

Agricultural terraces in the gently rolling old alluvial plains lying below 1000 m (C 1)

**Table 16: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	11.24
Loam	38.84
Silt loam	33.49
Sandy loam	16.43
<b>Total</b>	<b>100</b>

**Table 17: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	16.73
High alkaline	0.08
Low acidic	25.39
Low alkaline	5.65
Medium acidic	1.36
Medium alkaline	14.00
Neutral	36.84
<b>Total</b>	<b>100</b>

**Table 18: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	22.90
Low	26.50
Medium	50.60
<b>Total</b>	<b>100</b>

**Table 19: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	11.43
Medium	80.26
Low	8.31
<b>Total</b>	<b>100</b>

**Table 20: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
High	7.23
Low	28.49
Medium	7.49
Very high	23.82
Very low	32.97
<b>Total</b>	<b>100</b>

**Table 21: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Low	12.66
Medium	38.69
High	28.71
Very high	11.30
<b>Total</b>	<b>100</b>

Agricultural terraces in the gently sloping mountainous terrain lying below 1000 m (D1)

**Table 22: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	6.78
Loam	36.84
Sandy clay	0.17
Sandy clay loam	3.33
Silty clay loam	1.67
Silt loam	25.21
Sandy loam	26.00
<b>Total</b>	<b>100</b>

**Table 23: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	13.37
High alkaline	0.59
Low acidic	19.02
Low alkaline	10.18
Medium acidic	18.04
Medium alkaline	14.52
Neutral	23.53
Very high acidic	0.75
<b>Total</b>	<b>100</b>

**Table 24: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	13.58
Medium	55.63
Low	25.63
Very low	5.16
<b>Total</b>	<b>100</b>

**Table 25: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	12.10
Medium	60.82
Low	23.80
Very low	3.28
<b>Total</b>	<b>100</b>

**Table 26: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	33.85
High	23.20
Medium	20.17
Low	9.41
Very low	13.37
<b>Total</b>	<b>100</b>

**Table 27: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	20.84
High	30.92
Medium	39.93
Low	2.67
Very low	5.64
<b>Total</b>	<b>100</b>

Agricultural terraces in the gently sloping mountainous terrain lying between 1000 – 1200 m (D2)

**Table 28: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay	0.03
Clay loam	7.32
Loam	43.72
Sandy clay	0.31
Sandy clay loam	1.07
Silty clay	0.25
Silty clay loam	2.43
Silt loam	23.4
Sandy loam	21.41
<b>Total</b>	<b>100</b>

**Table 29: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	15.34
High alkaline	2.46
Low acidic	13.73
Low alkaline	11.14
Medium acidic	17.73
Medium alkaline	11.13
Neutral	25.50
Very high acidic	2.97
<b>Total</b>	<b>100</b>

**Table 30: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	13.58
Medium	55.63
Low	25.63
Very low	5.16
<b>Total</b>	<b>100</b>

**Table 31: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	12.93
Medium	69.17
Low	15.41
Very low	2.49
<b>Total</b>	<b>100</b>

**Table 32: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

<b>Status</b>	<b>Percent</b>
Very high	26.72
High	21.09
Medium	20.39
Low	13.20
Very low	18.61
<b>Total</b>	<b>100</b>

**Table 33: Available Potassium (K<sub>2</sub>O)**

<b>Status</b>	<b>Percent</b>
Very high	21.64
High	31.34
Medium	36.85
Low	6.54
Very low	3.63
<b>Total</b>	<b>100</b>



Agricultural terraces in the gently sloping mountainous terrain lying between 1200 – 1400 m (D3)

**Table 34: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	7.74
Loam	49.22
Sandy clay	0.88
Sandy clay loam	1.24
Silty clay	1.01
Silty clay loam	0.93
Silt loam	23.62
Sandy loam	15.37
<b>Total</b>	<b>100</b>

**Table 35: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	16.39
High alkaline	0.38
Low acidic	9.74
Low alkaline	13.13
Medium acidic	21.39
Medium alkaline	9.18
Neutral	26.57
Very high acidic	3.21
Very high alkaline	0.01
<b>Total</b>	<b>100</b>

**Table 36: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	15.91
Medium	67.21
Low	15.25
Very low	1.63
<b>Total</b>	<b>100</b>

**Table 37: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	10.58
Medium	76.25
Low	12.07
Very low	1.10
<b>Total</b>	<b>100</b>

**Table 38: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	24.54
High	18.84
Medium	20.01
Low	21.18
Very low	15.52
<b>Total</b>	<b>100</b>

**Table 39: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	20.37
High	32.40
Medium	35.88
Low	7.17
Very low	4.18
<b>Total</b>	<b>100</b>

Agricultural terraces in the gently sloping mountainous terrain lying between 1400 – 1600 m (D4)

**Table 40: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	9.20
Loam	43.74
Sandy clay	0.01
Sandy clay loam	0.02
Silty clay	0,71
Silty clay loam	1.50
Silt loam	29.54
Sandy loam	15.27
<b>Total</b>	<b>100</b>

**Table 41: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	23.17
High alkaline	0.73
Low acidic	18.54
Low alkaline	11.53
Medium acidic	16.56
Medium alkaline	8.94
Neutral	17.25
Very high acidic	3.47
<b>Total</b>	<b>100</b>

**Table 42: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	28.61
Medium	52.39
Low	16.31
Very low	3.13
<b>Total</b>	<b>100</b>

**Table 43: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
Very high	24.54
High	18.84
Medium	20.01
Low	21.18
Very low	15.52
<b>Total</b>	<b>100</b>

**Table 44: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	24.80
High	26.66
Medium	12.15
Low	17.35
Very low	19.03
<b>Total</b>	<b>100</b>

**Table 45: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	20.93
High	35.77
Medium	32.91
Low	5.96
Very low	4.43
<b>Total</b>	<b>100</b>

Agricultural terraces in the gently sloping mountainous terrain lying above 1600 m (D5)

**Table 46: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	17.28
Loam	26.84
Sandy clay loam	1.12
Silty clay	0.03
Silty clay loam	6.31
Silt loam	33.84
Sandy loam	14.57
<b>Total</b>	<b>100</b>

**Table 47: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	12.95
Low acidic	11.34
Low alkaline	7.89
Medium acidic	13.03
Medium alkaline	17.17
Neutral	27.37
Very high acidic	10.26
<b>Total</b>	<b>100</b>

**Table 48: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	22.82
Medium	34.28
Low	16.31
Very low	5.44
<b>Total</b>	<b>100</b>

**Table 49: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	19.12
Medium	46.08
Low	30.76
Very low	4.03
<b>Total</b>	<b>100</b>

**Table 50: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	9.10
High	25.18
Medium	23.21
Low	27.71
Very low	14.81
<b>Total</b>	<b>100</b>

**Table 51: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	25.78
High	41.63
Medium	26.86
Low	2.56
Very low	3.16
<b>Total</b>	<b>100</b>

Agricultural terraces in the moderately steep mountainous terrain lying below 1000 m (E1)

**Table 52: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	4.53
Loam	31.04
Sandy clay loam	2.06
Silty clay	0.19
Silty clay loam	4.25
Silt loam	30.88
Sandy loam	27.06
<b>Total</b>	<b>100</b>

**Table 53: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	13.54
Low acidic	18.72
Low alkaline	11.00
High alkaline	0.60
Medium acidic	14.97
Medium alkaline	10.50
Neutral	30.16
Very high acidic	0.51
<b>Total</b>	<b>100</b>

**Table 54: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	22.23
Medium	53.69
Low	18.91
Very low	5.18
<b>Total</b>	<b>100</b>

**Table 55: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	18.22
Medium	62.07
Low	15.46
Very low	4.25
<b>Total</b>	<b>100</b>

**Table 56: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	44.29
High	19.28
Medium	15.36
Low	9.09
Very low	11.98
<b>Total</b>	<b>100</b>

**Table 57: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	25.87
High	28.28
Medium	39.04
Low	1.35
Very low	5.46
<b>Total</b>	<b>100</b>



Agricultural terraces in the moderately steep mountainous terrain lying between 1000 – 1200 m (E2)

**Table 58: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	5.06
Loam	50.63
Sandy clay	0.04
Sandy clay loam	0.44
Silty clay	0.03
Silty clay loam	2.26
Silt loam	21.09
Sandy loam	19.93
<b>Total</b>	<b>100</b>

**Table 59: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	13.10
Low acidic	15.95
Low alkaline	11.13
High alkaline	0.81
Medium acidic	21.06
Medium alkaline	9.47
Neutral	26.14
Very high acidic	2.34
<b>Total</b>	<b>100</b>

**Table 60: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	25.07
Medium	52.93
Low	17.02
Very low	4.98
<b>Total</b>	<b>100</b>

**Table 61: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	17.55
Medium	64.37
Low	13.98
Very low	4.10
<b>Total</b>	<b>100</b>

**Table 62: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	35.12
High	19.53
Medium	18.25
Low	11.24
Very low	15.86
<b>Total</b>	<b>100</b>

**Table 63: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	21.44
High	34.40
Medium	35.42
Low	4.72
Very low	4.02
<b>Total</b>	<b>100</b>

Agricultural terraces in the moderately steep mountainous terrain lying between 1200 – 1400 m (E3)

**Table 64: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	6.32
Loam	51.95
Sandy clay	0.96
Sandy clay loam	0.17
Silty clay	0.04
Silty clay loam	2.33
Silt loam	17.57
Sandy loam	20.64
<b>Total</b>	<b>100</b>

**Table 65: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	17.83
Low acidic	11.08
Low alkaline	9.51
High alkaline	0.33
Medium acidic	27.87
Medium alkaline	6.45
Neutral	22.26
Very high acidic	4.66
<b>Total</b>	<b>100</b>

**Table 66: Organic matter (OM)**

<b>Status</b>	<b>Percent</b>
High	20.93
Medium	60.56
Low	16.56
Very low	1.79
<b>Total</b>	<b>100</b>

**Table 67: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	15.68
Medium	72.58
Low	10.98
Very low	0.76
<b>Total</b>	<b>100</b>

**Table 68 Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	30.68
High	20.78
Medium	17.98
Low	17.64
Very low	12.92
<b>Total</b>	<b>100</b>

**Table 69: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	25.48
High	31.41
Medium	32.61
Low	7.77
Very low	2.73
<b>Total</b>	<b>100</b>

Agricultural terraces in the moderately steep mountainous terrain lying between 1400 – 1600 m (E4)

**Table 70: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	8.27
Loam	46.79
Sandy clay	0.22
Silty clay	0.01
Silty clay loam	4.12
Silt loam	22.72
Sandy loam	17.88
<b>Total</b>	<b>100</b>

**Table 71: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	28.25
Low acidic	18.36
Low alkaline	10.08
High alkaline	0.09
Medium acidic	18.19
Medium alkaline	6.46
Neutral	13.84
Very high acidic	4.73
<b>Total</b>	<b>100</b>

**Table 72: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	26.00
Medium	55.84
Low	14.74
Very low	3.42
<b>Total</b>	<b>100</b>

**Table 73: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	20.41
Medium	67.07
Low	9.34
Very low	3.18
<b>Total</b>	<b>100</b>

**Table 74: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

<b>Status</b>	<b>Percent</b>
Very high	31.47
High	22.50
Medium	12.23
Low	18.21
Very low	15.59
<b>Total</b>	<b>100</b>

**Table 75: Available Potassium (K<sub>2</sub>O)**

<b>Status</b>	<b>Percent</b>
Very high	25.95
High	35.95
Medium	28.56
Low	6.00
Very low	3.54
<b>Total</b>	<b>100</b>

Agricultural terraces in the moderately steep mountainous terrain lying above 1600 m (E5)

**Table 76: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	19.29
Loam	21.49
Sandy clay loam	0.03
Silty clay loam	6.91
Silt loam	30.77
Sandy loam	21.51
<b>Total</b>	<b>100</b>

**Table 77: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	17.71
Low acidic	13.48
Low alkaline	7.22
High alkaline	0.04
Medium acidic	14.98
Medium alkaline	13.84
Neutral	25.07
Very high acidic	7.65
<b>Total</b>	<b>100</b>

**Table 78: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	28.66
Medium	38.66
Low	26.04
Very low	6.63
<b>Total</b>	<b>100</b>

**Table 79: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	23.89
Medium	51.49
Low	19.13
Very low	5.49
<b>Total</b>	<b>100</b>

**Table 80: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	11.55
High	33.79
Medium	22.73
Low	16.06
Very low	15.88
<b>Total</b>	<b>100</b>

**Table 81: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	25.77
High	45.52
Medium	24.74
Low	2.53
Very low	1.44
<b>Total</b>	<b>100</b>



Forests in the moderately steep mountainous terrain lying below 1000 m (F1)

**Table 82: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	11.22
Loam	35.49
Sandy clay	0.32
Sandy clay loam	0.19
Silty clay loam	1.05
Silt loam	19.82
Sandy loam	31.90
<b>Total</b>	<b>100</b>

**Table 83: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	14.56
Low acidic	29.65
Low alkaline	8.7
High alkaline	1.42
Medium acidic	17.01
Medium alkaline	6.94
Neutral	18.78
Very high acidic	2.75
Very high alkaline	0.15
<b>Total</b>	<b>100</b>

**Table 84: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	9.76
Medium	51.76
Low	31.06
Very low	7.42
<b>Total</b>	<b>100</b>

**Table 85: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	5.96
Medium	67.88
Low	20.48
Very low	5.68
<b>Total</b>	<b>100</b>

**Table 86: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	19.14
High	17.98
Medium	9.99
Low	11.68
Very low	41.21
<b>Total</b>	<b>100</b>

**Table 87: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	9.59
High	31.12
Medium	46.42
Low	6.62
Very low	6.26
<b>Total</b>	<b>100</b>

Forests in the moderately steep mountainous terrain lying between 1000 – 1200 m (F2)

**Table 88: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	13.11
Loam	35.06
Sandy clay	0.01
Sandy clay loam	0.37
Silty clay	0.04
Silty clay loam	1.58
Silt loam	19.79
Sandy loam	30.04
<b>Total</b>	<b>100</b>

**Table 89: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	22.7
Low acidic	21.01
Low alkaline	7.96
High alkaline	1.65
Medium acidic	16.36
Medium alkaline	7.94
Neutral	16.42
Very high acidic	5.71
Very high alkaline	0.26
<b>Total</b>	<b>100</b>

**Table 90: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	16.63
Medium	44.56
Low	33.32
Very low	5.49
<b>Total</b>	<b>100</b>

**Table 91: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	10.92
Medium	57.96
Low	27.02
Very low	4.10
<b>Total</b>	<b>100</b>

**Table 92: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

<b>Status</b>	<b>Percent</b>
Very high	12.43
High	18.55
Medium	15.95
Low	18.61
Very low	34.46
<b>Total</b>	<b>100</b>

**Table 93: Available Phosphorus (K<sub>2</sub>O)**

<b>Status</b>	<b>Percent</b>
Very high	6.23
High	22.19
Medium	61.77
Low	6.07
Very low	3.74
<b>Total</b>	<b>100</b>

Forests in the moderately steep mountainous terrain lying between 1200 – 1400 m (F3)

**Table 94: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	5.29
Loam	41.34
Sandy clay loam	0.68
Silty clay	0.18
Silty clay loam	2.74
Silt loam	28.58
Sandy loam	31.20
<b>Total</b>	<b>100</b>

**Table 95: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	19.42
Low acidic	14.62
Low alkaline	8.88
High alkaline	1.64
Medium acidic	18.04
Medium alkaline	12.01
Neutral	17.26
Very high acidic	8.12
Very high alkaline	0.01
<b>Total</b>	<b>100</b>

**Table 96: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	13.66
Medium	56.94
Low	24.90
Very low	4.54
<b>Total</b>	<b>100</b>

**Table 97: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	9.29
Medium	67.79
Low	21.05
Very low	1.87
<b>Total</b>	<b>100</b>

**Table 98: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	8.49
High	20.77
Medium	16.89
Low	22.34
Very low	31.51
<b>Total</b>	<b>100</b>

**Table 99: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	3.71
High	27.79
Medium	56.83
Low	6.63
Very low	5.04
<b>Total</b>	<b>100</b>

Forests in the moderately steep mountainous terrain lying between 1400 – 1600 m (F4)

**Table 100: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	4.88
Loam	46.64
Sandy clay	0.05
Sandy clay loam	0.37
Silty clay	0.07
Silty clay loam	1.33
Silt loam	26.33
Sandy loam	20.34
<b>Total</b>	<b>100</b>

**Table 101: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	15.36
Low acidic	13.26
Low alkaline	10.38
High alkaline	0.80
Medium acidic	23.39
Medium alkaline	10.81
Neutral	14.77
Very high acidic	11.22
<b>Total</b>	<b>100</b>

**Table 102: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	12.82
Medium	61.38
Low	24.04
Very low	1.76
<b>Total</b>	<b>100</b>

**Table 103: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	10.68
Medium	72.80
Low	15.70
Very low	0.81
<b>Total</b>	<b>100</b>

**Table 104: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	10.22
High	17.28
Medium	16.72
Low	29.12
Very low	26.66
<b>Total</b>	<b>100</b>

**Table 105: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	5.20
High	32.86
Medium	48.15
Low	8.08
Very low	5.71
<b>Total</b>	<b>100</b>



Forests in the moderately steep mountainous terrain lying above 1600 m (F5)

**Table 106: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	9.68
Loam	32.79
Sandy clay loam	0.23
Silty clay loam	6.10
Silt loam	31.43
Sandy loam	19.77
<b>Total</b>	<b>100</b>

**Table 107: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	11.36
Low acidic	23.16
Low alkaline	9.71
High alkaline	0.96
Medium acidic	18.26
Medium alkaline	9.65
Neutral	20.70
Very high acidic	6.21
<b>Total</b>	<b>100</b>

**Table 108: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	10.63
Medium	57.73
Low	21.93
Very low	9.71
<b>Total</b>	<b>100</b>

**Table 109: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	18.17
Medium	95.83
Low	25.55
Very low	11.05
<b>Total</b>	<b>100</b>

**Table 110: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	3.28
High	17.60
Medium	14.17
Low	20.59
Very low	44.36
<b>Total</b>	<b>100</b>

**Table 111: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	8.25
High	41.42
Medium	38.87
Low	5.04
Very low	6.42
<b>Total</b>	<b>100</b>

Forests in the steep to very steep mountainous terrain lying below 1000 m (G1)

**Table 112: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	10.30
Loam	38.68
Sandy clay	2.51
Sandy clay loam	0.90
Silty clay	0.18
Silty clay loam	0.95
Silt loam	21.55
Sandy loam	24.93
<b>Total</b>	<b>100</b>

**Table 113: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	11.67
Low acidic	28.09
Low alkaline	8.10
High alkaline	2.01
Medium acidic	19.31
Medium alkaline	10.82
Neutral	15.96
Very high acidic	3.67
Very high alkaline	0.36
<b>Total</b>	<b>100</b>

**Table 114: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	10.39
Medium	54.95
Low	28.18
Very low	6.47
<b>Total</b>	<b>100</b>

**Table 115: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	6.92
Medium	66.05
Low	21.84
Very low	5.19
<b>Total</b>	<b>100</b>

**Table 116: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	15.07
High	20.19
Medium	12.87
Low	14.87
Very low	37.00
<b>Total</b>	<b>100</b>

**Table 117: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	10.58
High	27.98
Medium	50.64
Low	6.31
Very low	4.49
<b>Total</b>	<b>100</b>

Forests in the steep to very steep mountainous terrain lying between 1000 – 1200 m (G2)

**Table 118: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	6.88
Loam	46.57
Sandy clay	1.44
Sandy clay loam	0.47
Silty clay	0.69
Silty clay loam	0.45
Silt loam	21.84
Sandy loam	21.68
<b>Total</b>	<b>100</b>

**Table 119: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	15.68
Low acidic	21.17
Low alkaline	10.12
High alkaline	2.13
Medium acidic	20.68
Medium alkaline	9.22
Neutral	16.62
Very high acidic	3.97
Very high alkaline	0.04
<b>Total</b>	<b>100</b>

**Table 120: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	18.39
Medium	51.66
Low	25.78
Very low	4.46
<b>Total</b>	<b>100</b>

**Table 121: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	9.63
Medium	66.09
Low	22.31
Very low	1.97
<b>Total</b>	<b>100</b>

**Table 122: Available Phosphorus(P<sub>2</sub>O<sub>5</sub>)**

<b>Status</b>	<b>Percent</b>
Very high	12.70
High	16.53
Medium	18.41
Low	19.86
Very low	32.50
<b>Total</b>	<b>100</b>

**Table 123: Available Potassium (K<sub>2</sub>O)**

<b>Status</b>	<b>Percent</b>
Very high	8.84
High	27.54
Medium	49.81
Low	7.92
Very low	5.89
<b>Total</b>	<b>100</b>

Forests in the steep to very steep mountainous terrain lying between 1200 – 1400 m (G3)

**Table 124: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	5.35
Loam	48.87
Sandy clay	0.58
Sandy clay loam	0.07
Silty clay	0.99
Silty clay loam	0.07
Silt loam	19.94
Sandy loam	24.14
<b>Total</b>	<b>100</b>

**Table 125: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	17.20
Low acidic	17.14
Low alkaline	10.14
High alkaline	1.39
Medium acidic	22.27
Medium alkaline	11.33
Neutral	15.33
Very high acidic	5.01
Very high alkaline	0.20
<b>Total</b>	<b>100</b>

**Table 126: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	20.68
Medium	52.81
Low	22.08
Very low	4.43
<b>Total</b>	<b>100</b>

**Table 127: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	13.94
Medium	65.92
Low	18.71
Very low	1.43
<b>Total</b>	<b>100</b>

**Table 128: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	12.16
High	14.83
Medium	20.27
Low	21.49
Very low	31.25
<b>Total</b>	<b>100</b>

**Table 129: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	4.45
High	31.51
Medium	50.16
Low	7.78
Very low	6.10
<b>Total</b>	<b>100</b>



Forests in the steep to very steep mountainous terrain lying between 1400 – 1600 m (G4)

**Table 130: Soil Texture**

<b>Textural Class</b>	<b>Percent</b>
Clay loam	5.41
Loam	51.06
Sandy clay	0.73
Silty clay	0.72
Silt loam	21.42
Sandy loam	20.66
<b>Total</b>	<b>100</b>

**Table 131: Acidity/Alkalinity (pH)**

<b>Reaction status</b>	<b>Percent</b>
High acidic	13.65
Low acidic	18.35
Low alkaline	8.64
High alkaline	0.50
Medium acidic	22.62
Medium alkaline	9.84
Neutral	18.68
Very high acidic	7.72
<b>Total</b>	<b>100</b>

**Table 132: Organic Matter (OM)**

<b>Status</b>	<b>Percent</b>
High	15.20
Medium	54.05
Low	26.61
Very low	4.13
<b>Total</b>	<b>100</b>

**Table 133: Total Nitrogen (N)**

<b>Status</b>	<b>Percent</b>
High	10.98
Medium	66.19
Low	20.63
Very low	2.19
<b>Total</b>	<b>100</b>

**Table 134: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	11.44
High	13.65
Medium	16.58
Low	28.61
Very low	29.72
<b>Total</b>	<b>100</b>

**Table 135: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	2.70
High	31.70
Medium	49.65
Low	8.78
Very low	7.17
<b>Total</b>	<b>100</b>

Forests in the steep to very steep mountainous terrain lying above 1600 m (G5)

**Table 136: Soil Texture**

Textural Class	Percent
Clay loam	8.93
Loam	56.30
Sandy clay	0.83
Silty clay loam	0.10
Silt loam	17.77
Sandy loam	16.07
<b>Total</b>	<b>100</b>

**Table 137: Acidity/Alkalinity (pH)**

Reaction status	Percent
High acidic	12.10
Low acidic	22.59
Low alkaline	5.92
High alkaline	0.49
Medium acidic	20.81
Medium alkaline	5.27
Neutral	19.96
Very high acidic	12.85
<b>Total</b>	<b>100</b>

**Table 138: Organic Matter (OM)**

Status	Percent
High	7.54
Medium	52.41
Low	34.40
Very low	5.65
<b>Total</b>	<b>100</b>

**Table 139: Total Nitrogen (N)**

Status	Percent
High	4.15
Medium	65.93
Low	30.13
Very low	3.25
<b>Total</b>	<b>100</b>

**Table 140: Available Phosphorus (P<sub>2</sub>O<sub>5</sub>)**

Status	Percent
Very high	9.14
High	23.10
Medium	14.12
Low	22.07
Very low	31.57
<b>Total</b>	<b>100</b>

**Table 141: Available Potassium (K<sub>2</sub>O)**

Status	Percent
Very high	4.48
High	35.64
Medium	40.86
Low	8.02
Very low	11.00
<b>Total</b>	<b>100</b>

Since the study area is large, soil maps will not be readable in the A4 size text. As an example, thematic soil maps of a small portion of the study area have been enlarged to a readable 1:25000 scale and are presented in the following pages.

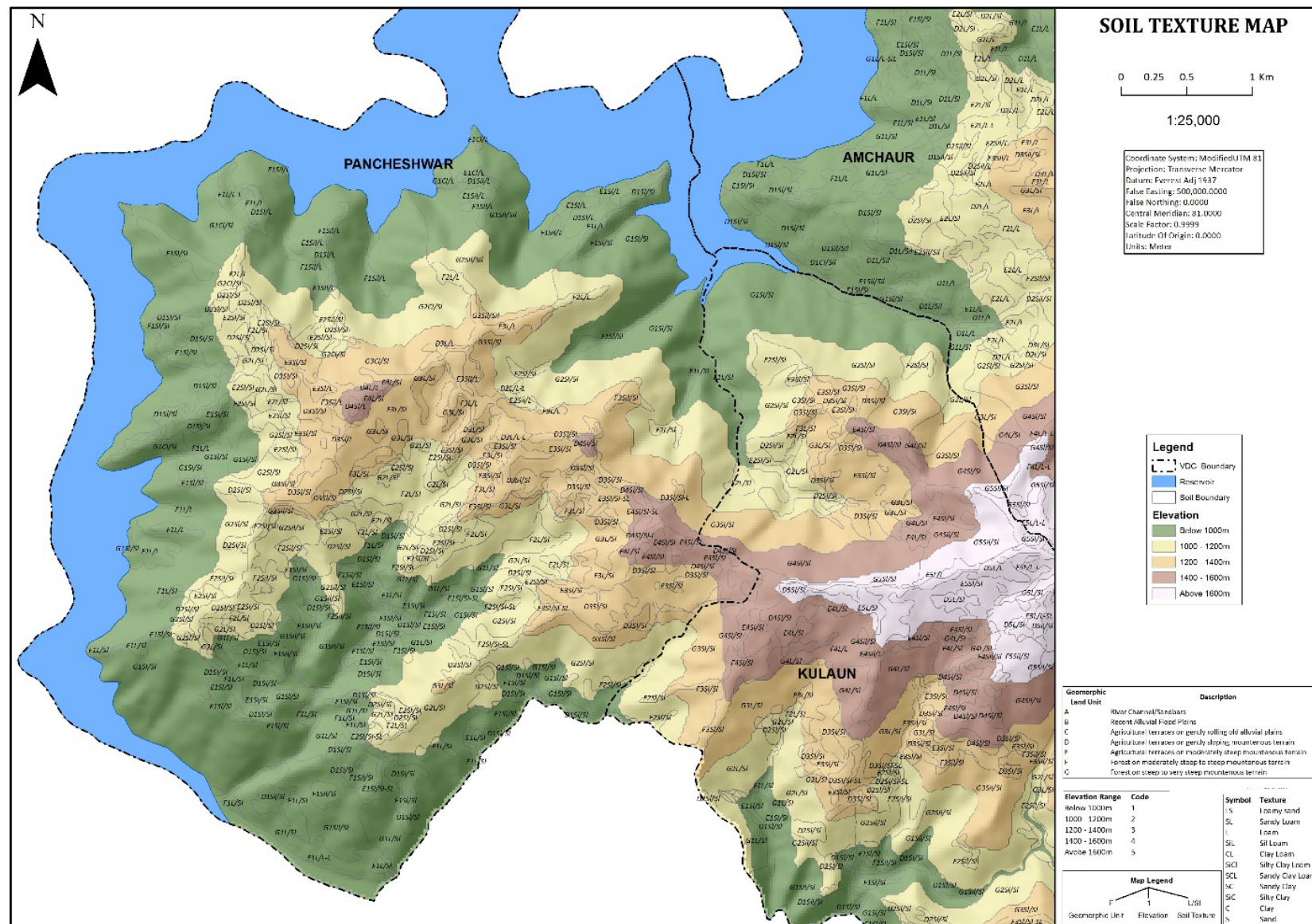


Figure 8: Soil Texture Map



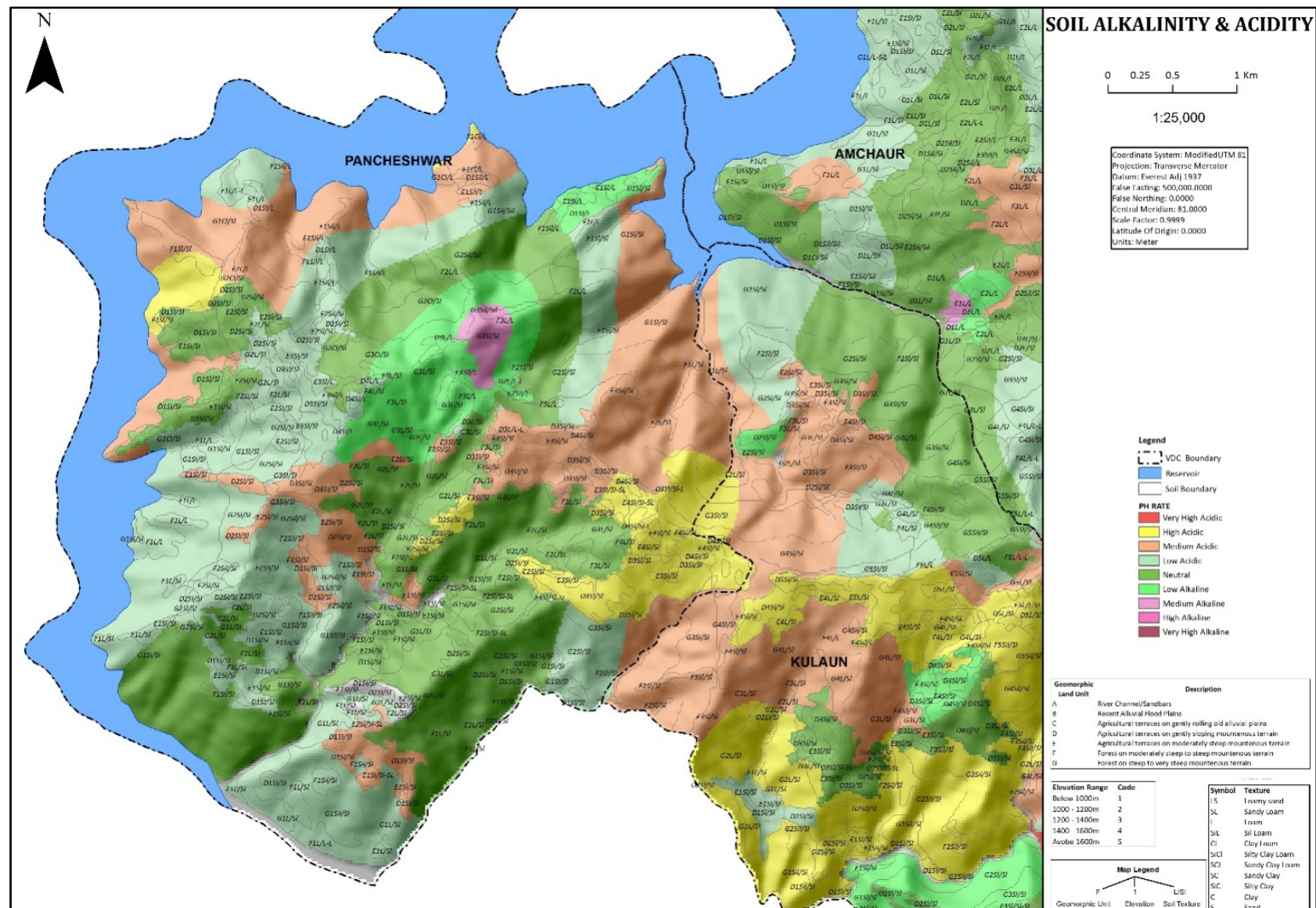


Figure 9: Soil Alkalinity &amp; Acidity Map



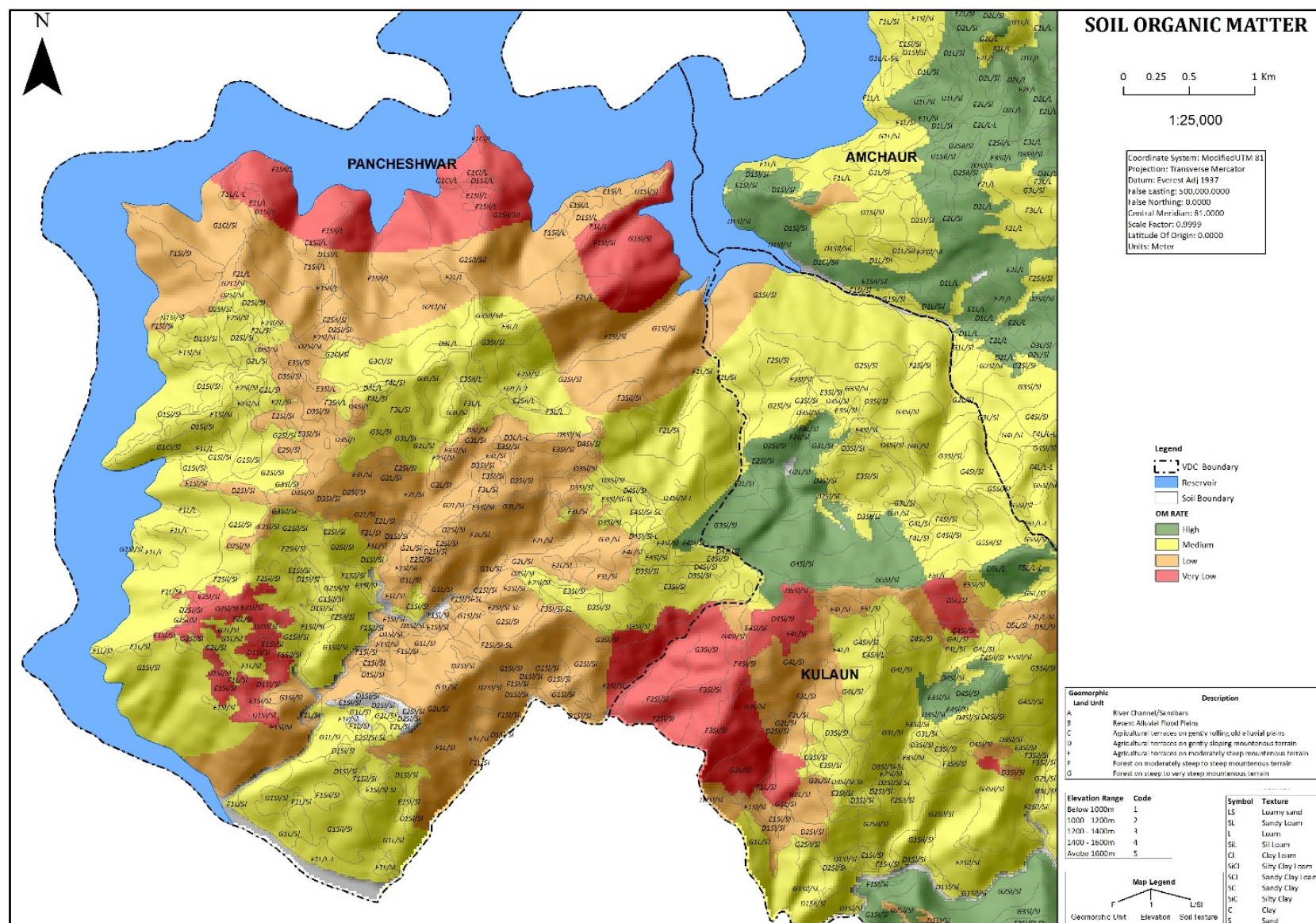


Figure 10: Soil Organic Matter Map



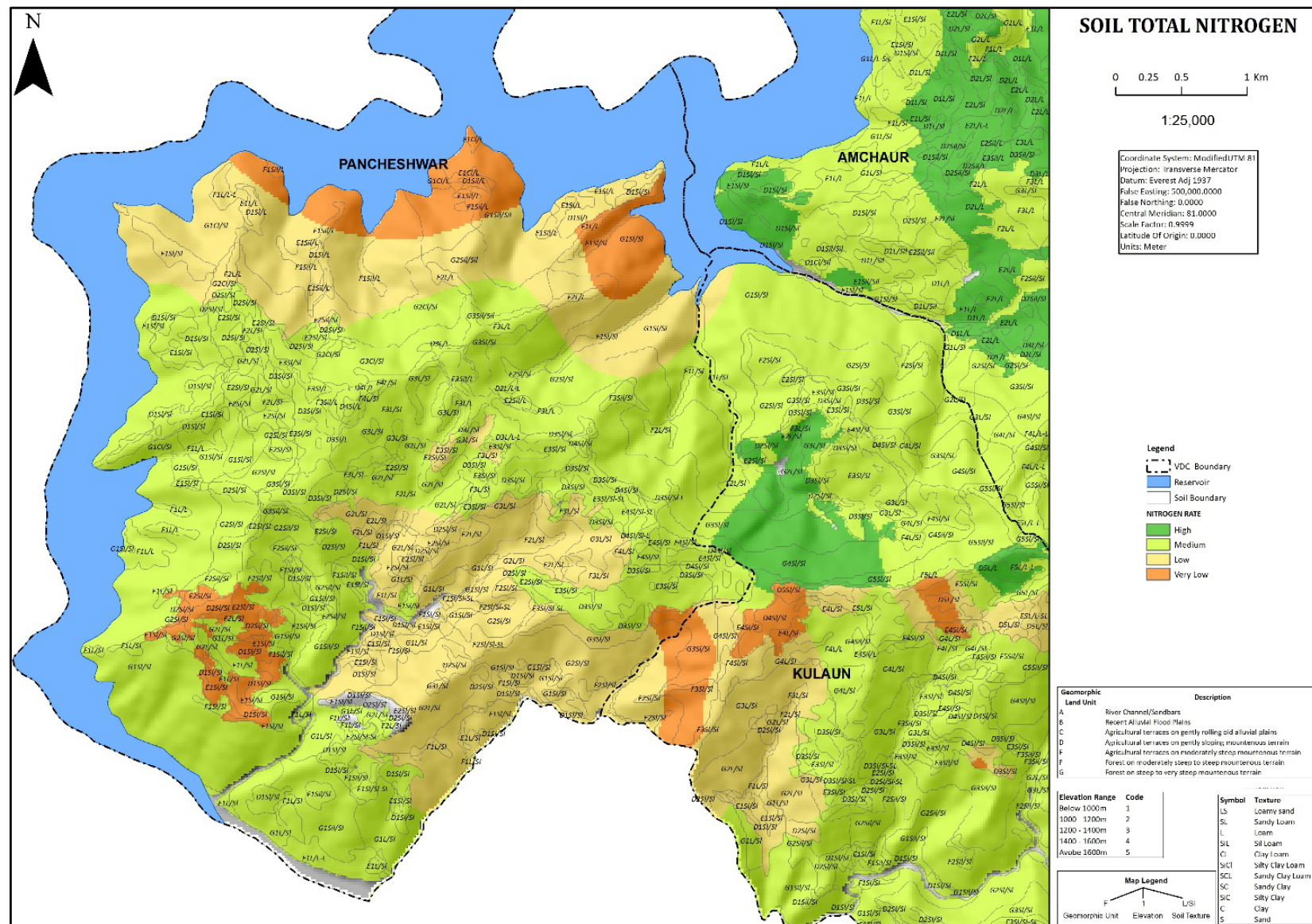


Figure 11: Soil Total Nitrogen Map



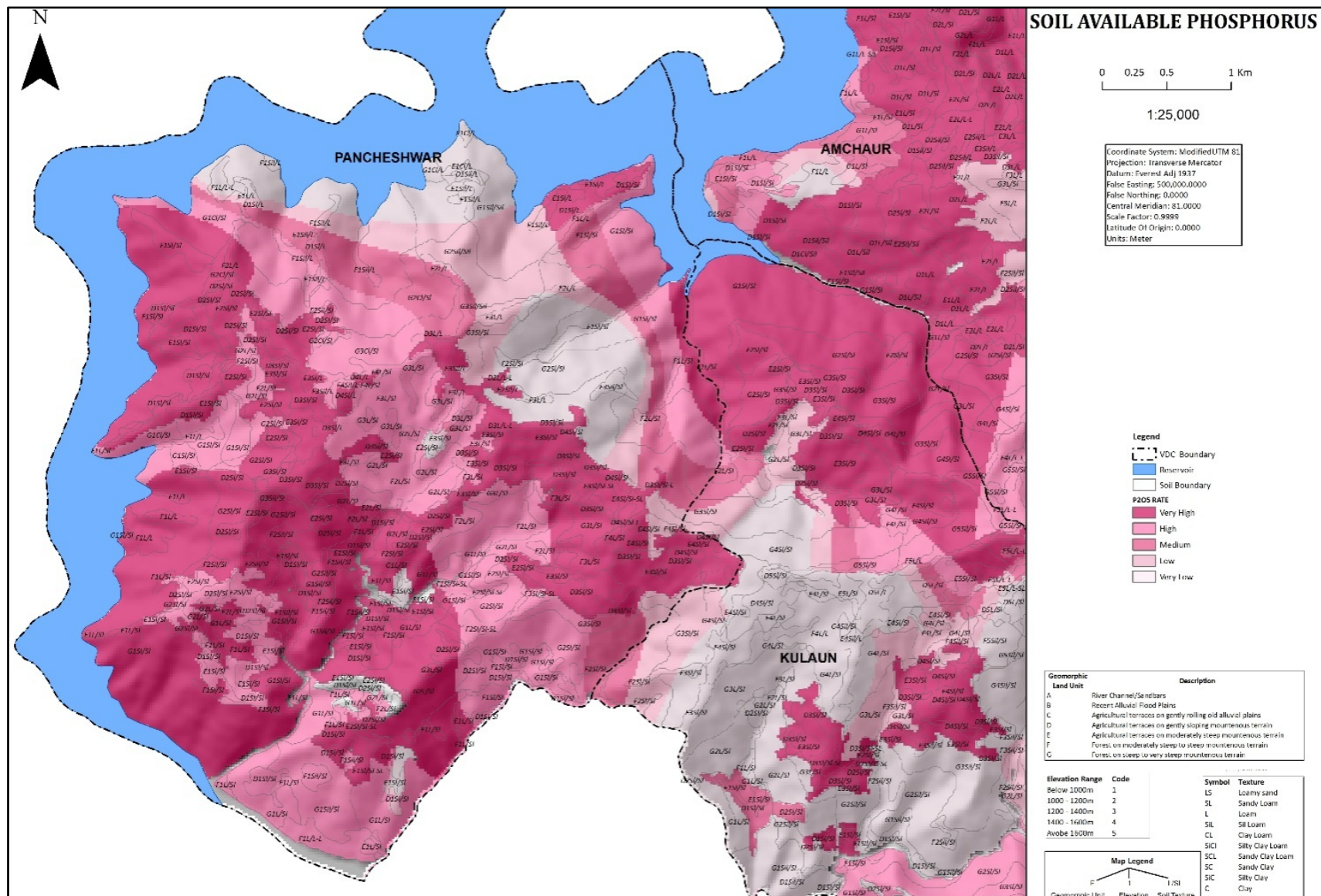


Figure 12: Soil Available Phosphorus Map

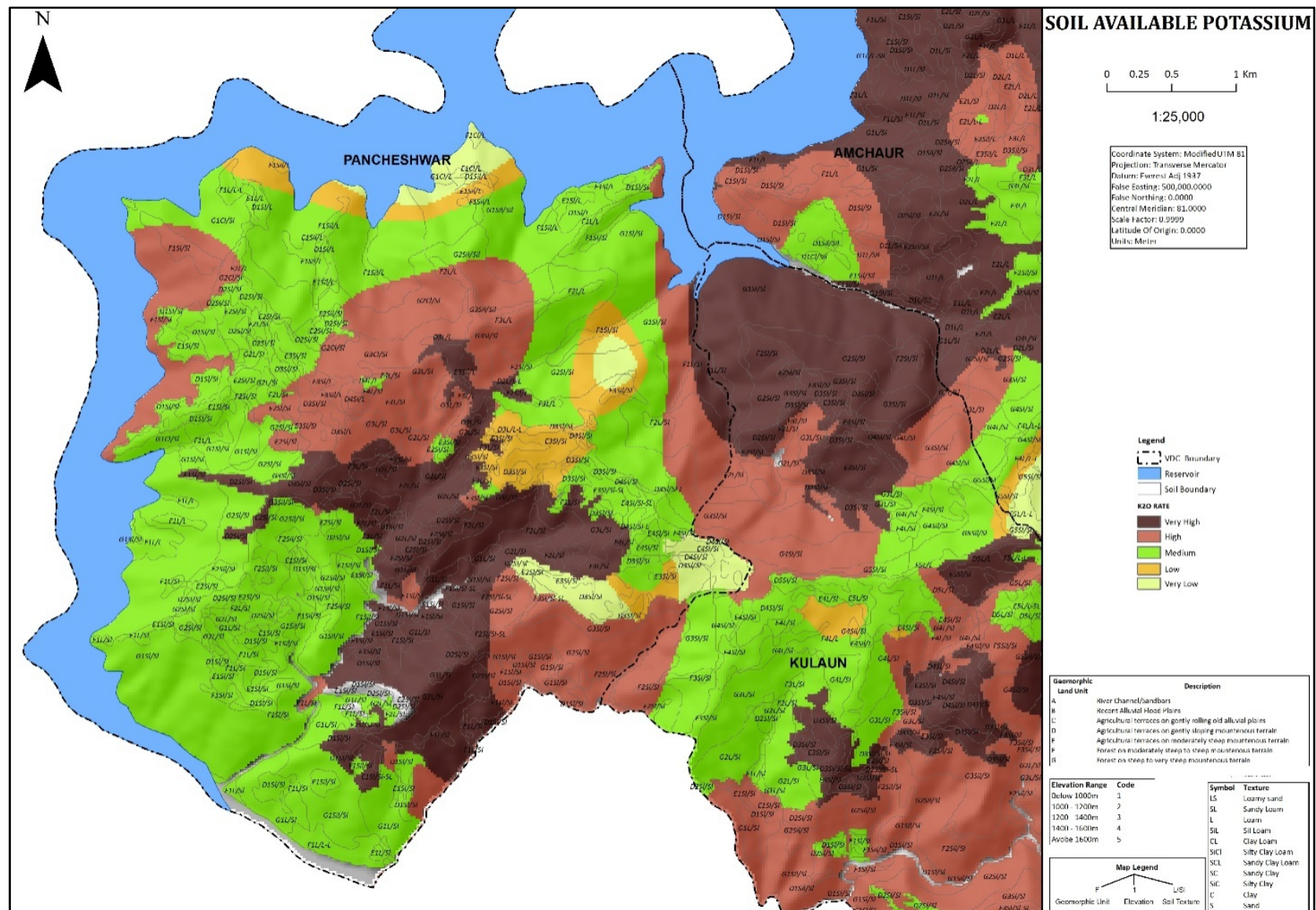


Figure 13: Soil Available Potassium Map