For the Project, land capability classification is made according to the depth of hard pan. Thus, the land capacity classes in the area after the reclamation are classified into Type II and III. The former has hard pan at a depth of shallow or moderately deep, the latter has hard pan at a depth of deep.

C-2.2. Wahby Downstream Area and South Area of Lake Qarun

(1) Soil Survey Work

1) Preliminary Survey

The soil survey works started with the preliminary survey by field reconnaissance in order to grasp the general condition of survey area. During the preliminary survey the landscape within the survey area, that is, topography, relief, land use, and existing road networks were carefully investigated.

2) Soil Profile Survey

Soil profile survey in the representative sites was examined to a depth of 120 cm or more where soil permitted easy digging, and when hard stone was encountered, digging was discontinued.

Twenty sites were selected for open pits and 65 sites were selected for supplementary survey using a small auger. The location of the soil profile survey sites (open pits) are shown in the soil map.

The morphological features of the soil profiles were carefully observed and described. These features are soil color, texture, gravel and stone, structure consistency, wetness mottling, concretion, salt crust, spot, parent rocks,

accumulation of salt, calcium carbonate and gypsum, and layer boundaries. In addition, cropping pattern and natural vegetation were also investigated.

3) Soil Sampling

Soil samples for the chemical and physical analysis were taken from three or four layers in each soil profile of 20 open pits and were also taken 60 soil samples selected for complete soil analyses, and 630 samples were selected for measurement for pH and EC.

The chemical and physical analysis, pH and EC measurements for the above-mentioned soil samples collected from the survey area were carried out in the laboratory of Agriculture, Cairo University at Fayoum.

4) Result of Soil Analysis

The results of analysis is shown in Table C2-3.

(2) Soil Classification

Soil profiles have an ochric or anthropic epipedon and have a calcic or a salic horizon within 75 cm of the surface and a thermic temperature regime. According to the soil taxonomy these soils can be considered to belong to the order Aridisols, suborder orthids, great group calciorthids, salorthids, subgroup Typic Calciorthids, Typic Salorthids and the family level.

Typic calciorthids

* Sandy, thermic soils with very deep zone; EBE-SD_3
* Sandy clay loam over sandy, thermic soils with very deep zone; EBE-SCL/SD_3
* Clayey, montomorillonitic, thermic soils with very deep zone: EBE-CD_3

Typic Salorthids

* Clayey, montomorillonitic, thermic soils with very shallow reduced zone; EBA-CR_1

Another group of soil profiles in the Project area have an ochric or anthropic epipedon and have no evidence of development of pedogenic horizon and a thermic temperature region.

According to the soil taxonomy these soils can be considered to belong to the order Entisols. These soils are saturated with water permanently or almost of the year. These soil profiles belong to suborder Aquents, great group: Hydroaquents or Fluviaquents, subgroup: Typic Hydroaquents or Typic Fluviaquents and up to the family level.

Hydroaquents

* Clayey, montomorillonitic, thermic soils with moderately deep zone JAB-CD_1

Fluviaquents

* Sandy, thermic soils with very deep zone; JAD-SD_3
* Clay loamy, thermic soils with very deep zone; JAD-CLD_3
* Clayey, montomorillonitic, thermic soils with very deep zone JAD-CD_3
* Sandy over clay loam, thermic soils with very deep zone; JAD-S/CL-D_3

(3) Explanation of Soil Profiles

* Sandy, thermic soils with very deep zone ($EBE\text{-}SD_3$)

Included Profiles:		open pit (5, 8)
Location	:	Wahby Downstream area (5, 8)
Vegetation	:	No.5 Berseem, tomato, one year fallow No.8 Maize, berseem or bean, no year fallow
Soil Temperature	:	30 - 32°C (9 - 11 AM)
Soil Profile	:	Soil Profile DL-5 in Fig. C2-1
Surface Soil	:	Soil color, grayish yellow brown, soil texture, sandy loam
Subsoil	:	Soil texture, sandy or gravel sandy

* Sandy clay loam over sandy, thermic soils with very deep zone $EBE\text{-}SCL/S\text{-}D_3$

Included Profiles:		open pits (9, 11)
Location	:	Wahby Downstream Area (9, 11)
Vegetation	:	No.9 Berseem, maize, wheat, tomato, no year fallow No.11 Berseem, maize, no year fallow
Soil Temperature	:	28 - 32°C (9 to 11 AM)
Soil Profile	:	Soil Profile DL-9 in Fig. C2-1
Surface Soil	:	Yellowish gray color, sandy clay loam texture (0 - 60 cm depth)
Subsoil	:	Sandy texture, gley layer, below 130 cm

* Clayey, montomorillonitic, thermic soils with very deep zone $EBE\text{-}CD_3$

Included Profiles:		Open pits (6, 7)
Location	:	Wahby Downstream Area (6, 7)
Vegetation	:	No.6 Berseem, maize repeat, no fallow No.7 Maize, tomato, wheat, no fallow
Soil Temperature	:	27 - 32°C (8.30 - 11.30 AM)
Soil Profile	:	Soil Profile DL-6 in Fig. C2-1
Surface Soil	:	Grayish yellow brown color, clayey texture blocky structure
Subsoil	:	Yellowish gray color, clayey texture, a little wet, gley layer (reduced zone) below 130 cm and more

* Clayey, montomorillonitic, thermic soils with very shallow reduced zone EBA-CR_1

Included Profiles: Auger hole (51, 52, 54, 55, 56)

Location : South Area of Lake Qarun (51, 52, 54, 55 and 56)

Vegetation : Soils are always covered with water, or salt crust, no vegetation

Soil Profile : 0 - 130 cm, dark bluish gray, gley layer clayey deep zone, or 0 - 2 m salt crust, 7 - 130 cm dark bluish gray, (gley layer) deep zone, highly saline
Soil Profile DL-51 in Fig. C2-1

* Clayey, montomorillonitic, thermic soils with moderately deep zone JAB-CD_1

Included Profile : open pit (15, 16, 19)

Location : South Area of Lake Qarun (15, 16, 19)

Vegetation : No.15 Natural vegetation SHOOK, no crops
No.16 Berseem, maize, (December-February 3 months are covered with water)
No.19 Much of SHOOK are grown, no crops (3 months in winter are covered with water)

Soil Temperature : 30 - 31°C

Profile : Soil Profile DL-16 in Fig. C2-1

Surface Soil : Soil color, grayish yellow brown texture, clay, blocky structure

Subsoil : Clayey, gley layer (dark bluish gray) below 60 - 70 cm, high saline soils

* Sandy, thermic soils with very deep zone JAD-SD_3

Included Profiles: open pit (13)

Location : Wahby Downstream Area (13)

Vegetation : No.13 Berseem, maize or tomato, no year fallow

Soil Temperature : 30 - 32°C (9 to 11 AM)

Surface Soil : Soil color, grayish yellow born, soil texture sandy loam

Subsoil : Soil texture, sandy or gravel sandy

* Clay loamy, motomorillonitic, thermic soils with very deep zone; $JAD\text{-}CLD_3$

Included Profiles: open pits (2, 3, 4, 10 12)

Location : Wahby Downstream Area (2, 3, 4, 10, 12)

Vegetation : No.2 Maize, wheat or berseem, one year fallow
No.3 - do -
No.4 - do -
No.10 Berseem, half year fallow, wheat, half year fallow
No.12 Berseem, maize, no year fallow

Soil Profile : Surface soil, brownish gray color, sandy clay loam texture, some blocky structure, subsoil, grayish yellow brown or brown color, sandy clay texture, some wetty, gley layer, below 130 cm
Soil Profile DL-4 in Fig. C2-1

* Clayey, montomorillonitic, thermic soils with very deep zone $JAD\text{-}CD_3$

Included Profiles: open pits (1, 14, 17, 18, 20)

Location : Wahby Downstream Area (1)
South Area of Lake Qarun (14, 17, 18, 20)

Vegetation : No. 1 Berseem, 2 years fallow and berseem
No.17 Cotton, wheat or berseem, no year fallow
No.18 Maize, berseem, no year fallow
No.20 Wheat, maize (early type), no year fallow

Soil Temperature : 27 - 32°C (8.30 to 11.30 AM)

Soil Profile : Soil Profile DL-17 in Fig. C2-1

Surface Soil : Grayish yellow brown color, clayey texture blocky structure

Subsoil : Yellowish gray color, clayey texture, a little wet, gley layer (reduced zone) below 130 cm and more

* Sandy over clay loam, thermic soils with very deep zone $JAD\text{-}S/CL\text{-}D_3$

Including Profiles: Augar holes (64)

Location : South Area of Qarun Lake (64)

Profile : Soil Profile DL-64 in Fig.C2-1

Surface Soil : Dull yellow brown color, sandy texture

Subsoil : Yellowish gray color, clay loam texture, gley layer can not be found below 130 cm from the surface

(4) Soil Salinity

Soil salinity in the Area are very different in each soil family, ranging from one mmhos/cm to 37 mmhos/cm. Thus, they are classified into four classes as follows;

Type	Surface/Sub Surface	EC(mmhos/cm)
1	salt free to weakly saline/weakly saline	less than 4/ less than 4
2	Weakly saline to moderately saline/weakly saline	4.1 to 8/ more than 4
3	moderately saline to strongly saline/moderately saline	8.1 to 15.1/ more than 8.1
4	strongly saline/strongly saline	more than 1.51/ more than 15.1

The salinity maps are prepared as attached in this volume.

5) Land Capability Classification

Since Wahby Downstream Area and South Area of Lake Qarun are cultivated land, the land is classified as a capability of present condition according to the categories described before in the paragraph of Land Capability Classification for North Wahby and Com Osheem areas.

a. Wahby Downstream Area

The texture of the soil is defined as mostly sandy, clay loam and clayey. The value of EC (mmhos/cm) ranges from below four to 15, and almost area shows below 8. The effective soil depth is observed as deep. Topographic condition is nearly flat.

Judging from these facts, the capability of the land is classified as type II.

b. South Area of Lake Qarun

The texture of the soil is defined as mostly clay and some sandy clay. The value of EC (mmhos/cm) is generally high. The effective soil depth is observed as moderately deep or deep. And gley layer (reduced zone) is observed in some parts of the area. Topographic condition is nearly flat.

Judging from these facts, land capability is classified as type III, IV and IV/V as shown in the Land Classification Map.

Class Type	Soil Type
III	JAD - CD_3 JAD-S-CLD_3
IV	JAB-CD_1
IV/V	EBA - CR_1

Table C2-1 Results of Soil Analysis (1)

No.	Depth (cm)	pH	EC (m.mohs/cm)	Mechanical Analysis: Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Texture	$CaCO_3$ (%)	$CaSO_4$ (%)	Soluble Anions and Cations: CO_3	HCO_3	Cl	SO_4	Ca (meq/100g)	Mg (meq/100g)	Na (meq/100g)	K (meq/100g)	Exchangable Cation: Na (meq/100g)	K (meq/100g)	Ca+Mg (meq/100g)	CEC (meq/100g)	ESP (%)	ORGANIC MATTER C(%)	ORGANIC N(%)	AVAILABLE P(%)
C-1	0-12	8.15	11.00	5.30	1.17	93.53	0.57	S.	5.45	0.300	-	0.05	1.75	0.39	0.59	0.12	1.46	0.02	0.60	0.31	3.94	4.92	12	0.093	0.006	0.02
	12-40	8.00	11.00	3.78	0.18	96.04	-	S.	6.98	0.008	-	0.06	2.54	1.14	1.19	0.18	2.36	0.01	0.40	0.32	2.91	3.75	11	0.267	0.003	0.02
	40-55	7.85	28.50	3.57	1.06	95.37	-	S.	7.38	0.143	-	0.07	9.38	0.12	1.34	0.20	7.99	0.04	0.43	0.25	2.64	3.37	13	0.250	0.006	0.02
C-2	0- 9	8.10	36.00	7.20	1.74	91.06	2.91	S.	6.56	0.301	-	0.07	5.48	2.51	1.19	0.16	6.66	0.03	0.89	0.22	5.24	6.48	13	0.005	0.008	0.02
	9-16	8.05	8.50	2.00	0.80	97.20	-	S.	3.23	0.542	-	0.08	1.60	0.65	0.93	0.04	1.34	0.03	0.28	0.17	1.95	2.51	11	0.220	0.008	0.02
	16-30	7.50	75.00	28.17	9.11	62.72	-	S.C.L.	9.96	0.284	-	0.15	33.03	0.55	2.81	1.76	28.94	0.13	3.67	0.48	14.50	18.89	19	0.075	0.002	0.02
C-3	0- 9	8.10	95.00	7.77	3.66	88.57	2.79	L.S.	5.36	3.493	-	0.05	2.46	0.90	1.08	0.11	24.30	0.07	0.69	0.15	5.16	6.17	11	0.108	0.002	0.02
	9-20	8.15	265.00	12.14	5.70	82.16	0.65	L.S.	1.67	1.152	-	0.19	98.40	1.73	0.82	0.16	99.13	0.28	1.42	0.33	9.67	11.70	12	0.156	0.005	0.02
C-4	0-15	8.35	43.00	18.10	8.48	73.42	2.96	S.L.	1.11	4.175	-	0.08	19.30	0.92	1.83	0.09	17.98	0.11	2.34	0.54	16.07	19.22	12	0.255	0.002	0.02
	15-30	7.70	148.25	25.21	8.04	66.75	-	S.C.L.	0.43	4.096	-	0.09	56.08	17.47	1.53	0.43	71.60	0.03	4.05	0.63	18.73	23.75	17	0.095	0.005	0.41
	30-60	7.30	370.00	36.83	11.30	51.87	-	S.C.	1.57	1.169	-	0.09	50.81	15.82	1.21	0.39	64.90	0.03	6.22	0.72	26.21	33.38	18	0.189	0.005	0.02
C-5	0-21	7.95	12.50	4.94	2.72	92.34	25.00	S.	12.75	1.844	-	0.04	2.21	0.72	0.76	0.05	2.12	0.03	0.54	0.25	3.41	4.17	13	0.104	0.002	0.01
	21-42	7.60	52.00	7.15	16.91	75.94	22.69	S.L.	22.66	6.372	-	0.06	15.72	1.16	1.94	0.37	14.48	0.15	0.76	0.30	5.41	6.65	11	0.575	0.002	0.02
	42-65	7.50	181.19	5.54	7.68	86.78	34.20	L.S.	57.26	6.024	-	0.05	38.51	115.80	1.29	0.26	48.17	0.43	0.64	0.26	3.78	4.90	13	0.133	0.002	0.02
C-6	0-10	7.70	285.12	32.98	14.15	52.88	7.19	S.C.L.	20.96	4.157	-	0.12	132.50	5.43	1.05	0.34	136.50	0.17	4.64	0.76	25.35	31.19	14	0.069	0.006	0.02
	10-45	7.55	327.40	63.18	12.92	23.90	31.84	C.	12.31	2.116	-	0.07	95.35	28.20	0.35	0.06	122.12	0.50	8.95	1.56	38.59	49.69	9	0.870	0.003	0.09
N-7	0-11	8.10	13.99	10.32	2.50	87.18	37.38	L.S.	13.56	0.816	-	0.05	1.44	2.04	1.28	0.44	1.79	0.02	1.03	0.49	6.08	7.77	13	0.029	0.005	0.02
	11-23	8.00	62.36	13.74	3.45	82.81	6.75	S.L.	7.54	0.672	-	0.09	16.87	4.15	3.65	1.01	16.74	0.06	1.43	0.28	7.27	10.12	14	0.226	0.008	0.02
	23-40	7.10	47.89	18.52	5.38	76.10	-	S.L.	9.17	0.040	-	0.13	11.19	10.99	8.89	1.85	11.48	0.10	2.12	0.31	12.77	15.25	13	0.075	0.004	0.02
N-8	0-11	7.65	44.36	10.89	9.79	79.32	0.88	S.L.	12.66	0.478	-	0.04	13.34	3.79	1.96	1.01	13.99	0.22	1.35	0.41	5.94	7.98	16	0.191	0.008	0.09
	11-30	7.35	159.23	12.77	4.85	82.38	-	S.L.	9.41	0.060	-	0.08	48.18	11.90	5.65	4.65	72.36	0.31	1.26	0.23	6.56	8.17	15	0.215	0.009	0.02
	30-60	7.65	41.47	23.69	9.47	66.84	-	S.C.L.	15.36	0.029	-	0.08	8.40	0.24	5.81	3.07	7.61	0.23	2.52	0.34	14.91	17.96	14	0.005	0.007	0.30
N-9	0- 9	8.05	6.28	4.48	2.14	93.38	11.65	S.	5.63	1.136	-	0.05	0.51	0.85	0.77	0.05	0.65	0.03	0.50	0.11	2.94	3.58	14	0.034	0.005	0.02
	9-15	7.35	70.24	12.72	7.14	80.14	-	S.L.	12.68	0.656	-	0.07	14.94	12.08	5.85	4.06	17.08	0.09	1.27	0.41	7.37	9.27	13	0.226	0.006	0.02
	15-65	7.45	45.09	9.61	3.75	86.64	-	L.S.	7.66	0.032	-	0.07	8.84	9.38	5.48	2.30	10.43	0.07	1.18	0.25	6.87	8.45	13	0.093	0.006	0.02
N-10	0- 8	7.75	10.76	5.77	2.29	91.94	18.94	S.	5.82	0.122	-	0.04	0.70	1.68	0.56	1.25	0.59	0.02	0.61	0.21	3.30	4.32	14	0.005	0.005	0.02
	8-30	8.10	15.02	10.88	6.05	83.07	-	L.S.	8.65	0.193	-	0.12	4.49	1.56	1.27	0.36	4.46	0.08	1.24	0.45	6.29	8.17	15	0.005	0.007	0.02
	30-65	7.80	15.02	7.72	3.96	88.32	-	L.S.	7.37	0.034	-	0.06	5.88	1.26	0.82	0.73	5.58	0.06	0.82	0.63	4.95	6.66	12	0.279	0.005	0.02
N-11	0- 5	7.65	4.23	5.10	1.80	93.10	16.71	S.	6.14	1.410	-	0.05	0.24	0.51	0.45	0.10	0.22	0.02	0.65	0.35	3.01	4.13	16	0.098	0.007	0.02
	5-20	7.65	16.75	12.36	8.58	79.06	-	S.L.	14.10	0.527	-	0.07	5.02	2.60	1.06	0.24	6.29	0.10	1.26	0.49	6.65	8.63	15	0.308	0.009	0.02
	20-70	7.85	17.67	30.12	19.71	50.17	-	S.C.L.	19.33	0.030	-	0.16	14.30	0.63	1.11	0.71	13.95	0.16	3.09	1.32	16.56	21.30	15	0.034	0.005	0.02
N-12	0- 5	8.25	5.20	4.97	2.27	92.76	-	S.	7.91	0.216	-	0.08	1.41	1.38	1.12	0.64	0.97	0.14	0.47	0.18	2.80	3.49	13	0.069	0.006	0.02
	5-25	7.30	39.42	12.45	6.54	81.01	-	S.L.	14.02	0.014	-	0.09	10.57	5.59	2.18	2.29	11.59	0.19	1.18	0.27	7.00	8.54	14	0.063	0.005	0.02
	25-70	7.35	33.63	22.27	8.62	69.11	-	S.C.L.	12.47	0.296	-	0.06	5.60	11.44	3.37	3.36	10.05	0.32	2.12	0.58	13.80	16.73	13	0.412	0.008	0.02
N-13	0-12	8.00	52.89	13.80	7.00	79.20	6.52	S.L.	10.04	1.779	-	0.06	12.21	4.89	3.16	1.23	12.67	0.10	1.56	0.55	9.04	11.31	14	0.069	0.006	0.02
	12-30	7.50	156.00	20.97	6.82	72.21	-	S.C.L.	6.25	0.844	-	0.07	44.16	15.92	5.66	13.41	39.73	0.35	2.76	0.93	18.01	21.90	13	0.063	0.005	0.02
	30-50	7.35	187.00	22.08	7.51	70.41	2.68	S.C.L.	10.57	0.157	-	0.08	54.05	21.10	6.34	16.43	52.17	0.29	2.89	0.82	15.04	19.01	15	0.412	0.008	0.02

Table C2-1 Results of Soil Analysis (2)

No.	Depth (cm)	pH	EC (m.mohs/cm)	Mechanical Analysis: Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Texture	$CaCO_3$ (%)	$CaSO_4$ (%)	Soluble Anions and Cations (meq/100g): CO_3	HCO_3	Cl	SO_4	Ca	Mg	Na	K	Exchangable Cation (meq/100g): Na	K	Ca+Mg	CEC (meq/100g)	ESP (%)	ORGALIC MATTER C(%)	ORGALIC N(%)	AVAILABLE P(%)
N-14	0-15	8.25	18.51	15.58	5.93	78.49	4.35	S.L.	6.64	1.843	-	0.05	4.90	1.22	0.83	0.14	5.07	0.04	1.52	0.76	11.72	14.15	11	0.308	0.007	0.02
	15-30	8.15	45.01	33.73	9.41	56.86	-	S.C.L.	7.63	0.703	-	0.12	24.34	2.65	1.94	2.12	22.82	0.21	3.26	0.91	24.98	29.37	11	0.046	0.008	0.02
	30-68	7.50	29.30	37.70	11.23	51.07	-	S.C.	7.95	0.673	-	0.14	7.11	7.45	1.73	1.40	11.24	0.34	4.27	1.08	26.50	32.07	13	0.244	0.003	0.02
N-15	0- 8	7.65	46.01	4.24	1.32	94.44	12.87	S.	6.79	1.627	-	0.03	7.20	1.80	0.89	0.06	8.04	0.04	0.41	0.28	2.66	3.42	12	0.226	0.006	0.02
	8-20	8.25	270.01	4.38	5.33	90.29	1.06	S.	4.83	1.410	-	0.09	58.29	0.15	0.32	0.06	58.17	0.05	0.34	0.30	2.31	3.05	11	0.511	0.002	0.09
N-16	0- 6	7.70	36.00	11.16	4.87	83.97	14.48	L.S.	10.22	2.893	-	0.02	4.46	5.35	3.49	1.39	4.92	0.03	1.05	0.43	8.01	9.61	11	0.005	0.005	0.02
	6-25	7.10	120.29	15.67	4.51	79.82	1.07	S.L.	12.41	0.375	-	0.05	30.22	14.51	5.26	2.46	36.88	0.19	1.22	0.58	9.20	11.15	11	0.017	0.006	0.02
	25-50	7.15	190.17	12.33	4.02	82.65	1.27	S.L.	7.95	0.096	-	0.05	37.73	28.20	8.04	4.98	52.80	0.16	1.18	0.23	8.79	10.40	11	0.337	0.002	0.02
N-17	0-13	7.50	112.78	20.52	10.39	69.09	20.67	S.C.L.	8.55	6.230	-	0.08	42.82	2.75	1.95	0.20	43.35	0.13	2.17	0.53	14.60	17.25	12	0.127	0.007	0.02
	13-25	7.40	99.00	29.09	9.24	61.67	1.87	S.C.L.	1.16	4.820	-	0.14	47.03	3.69	1.36	0.13	49.45	0.07	2.90	0.63	23.02	26.92	11	0.017	0.006	0.02
N-18	0- 8	8.20	221.65	45.93	17.63	36.44	-	C.	8.34	0.185	-	0.20	109.90	0.81	0.97	0.32	108.90	0.72	5.14	1.76	33.96	41.11	13	0.104	0.004	0.02
	8-21	8.45	182.36	46.45	12.65	40.90	-	S.C.	9.76	3.073	-	0.31	136.21	3.07	1.52	0.38	137.56	0.18	5.68	1.07	33.97	40.86	14	0.098	0.005	0.02
	21-38	8.45	27.45	26.56	11.53	61.91	1.71	S.C.L.	10.17	3.253	-	0.08	12.38	2.09	1.05	0.06	13.39	0.07	2.79	0.94	19.02	22.97	12	0.226	0.005	0.03
N-19	0-15	8.15	2.62	1.03	0.57	98.40	24.43	S.	12.46	0.545	-	0.04	29.30	0.11	0.27	0.04	0.12	0.01	0.18	0.12	1.20	1.63	11	0.005	0.004	0.02
	15-35	8.25	2.79	3.91	0.18	95.91	10.78	S.	8.43	0.355	-	0.05	0.34	0.13	0.33	0.05	0.13	0.01	0.31	0.09	2.45	2.94	10	0.284	0.002	0.02
	35-60	8.05	2.76	1.94	0.12	97.94	11.67	S.	8.58	0.096	-	0.05	0.38	0.15	0.41	0.09	0.06	0.01	0.20	0.10	1.62	2.03	10	0.296	0.005	0.02
N-20	0-15	8.10	4.11	2.72	0.33	96.95	20.25	S.	7.72	3.313	-	0.03	0.68	0.14	0.55	0.08	0.20	0.02	0.23	0.11	1.76	2.15	10	0.116	0.003	0.02
	15-25	7.95	4.60	3.08	0.70	96.22	8.42	S.	6.15	1.950	-	0.04	0.80	0.16	0.53	0.02	0.43	0.02	0.32	0.16	2.17	2.78	11	0.563	0.002	0.02
	25-50	7.35	5.20	4.26	1.51	94.23	26.03	S.	9.78	3.494	-	0.03	0.71	0.32	0.39	0.15	0.48	0.02	0.37	0.13	2.75	3.38	10	0.337	0.004	0.02
N-21	0-12	7.05	12.61	16.12	4.47	79.41	6.12	S.L.	6.30	6.847	-	0.03	2.17	0.54	0.26	0.25	2.22	0.01	1.81	0.24	12.20	14.47	12	0.517	0.005	0.02
	12-30	7.95	127.78	26.39	8.29	65.36	2.14	S.C.L.	3.42	6.504	-	0.07	24.13	3.54	2.01	0.66	25.00	0.07	2.87	0.64	20.57	24.62	10	0.110	0.007	0.02
	30-50		270.01	56.75	10.84	32.41	-	C.	2.03		-	0.06	125.46	9.61	4.00	4.59	126.39	0.15	9.28	1.83	36.91	48.84	19	0.224	0.003	0.02

Table C2-2 Caluculation of Gypsum Requirement
(0 - 30 cm)

Pit No.	Esp (%)	Esp-15 (%)	CEC (meq/100g)	Gypsum Requirement (ton/fed)
1	12	-	-	-
2	13	-	-	-
3	11	-	-	-
4	12	-	-	-
5	13	-	-	-
6	14	-	-	-
7	13	-	-	-
8	16	1	7.98	0.26
9	14	-	-	-
10	14	-	-	-
11	16	1	4.13	0.05
12	13	-	-	-
13	14	-	-	-
14	12	-	-	-
15	11	-	-	-
16	11	-	-	-
17	12	-	-	-
18	13	-	-	-
19	11	-	-	-
20	10	-	-	-
21	12	-	-	-

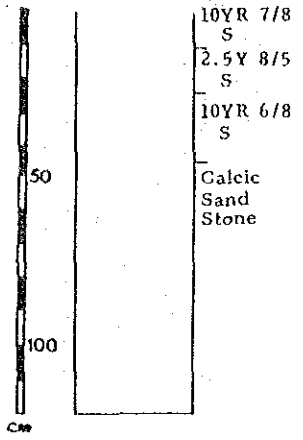
Table C2-3: Result of Soil Analysis (1)

No.	Depth (cm)	pH	EC (m.mohs/cm)	Mechanical Analysis: Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Texture	$CaCO_3$ (%)	$CaSO_4$ (%)	Soluble Anions and Cations: CO_3	HCO_3	Cl	SO_4	Ca (meq/100g)	Mg (meq/100g)	Na (meq/100g)	K (meq/100g)	Exchangable Cation: Na (meq/100g)	K (meq/100g)	Ca+Mg (meq/100g)	CEC (meq/100g)	ESP (%)	ORGANIC MATTER C(%)	ORGANIC N(%)	AVAILABLE P(%)
W-1	0-20	7.70	2.32	45.25	12.77	41.98	2.70	C.	6.90	0.019	-	0.08	1.05	0.52	0.36	0.32	0.96	0.014	4.70	0.48	36.58	41.76	11.3	1.15	0.089	0.004
	20-30	8.20	4.08	45.60	13.92	40.48	3.86	C.	4.99	0.025	-	0.08	1.92	1.48	0.58	0.62	2.24	0.230	5.90	0.56	36.27	42.73	13.8	0.88	0.084	0.042
	30-60	8.20	5.96	52.71	12.10	35.21	0.71	C.	5.90	0.039	-	0.08	2.86	2.65	1.87	1.26	2.47	0.050	5.59	0.93	39.28	46.10	12.1	1.42	0.065	0.001
W-2	0-15	8.00	0.99	24.31	7.24	68.45	0.00	S.C.L.	11.71	0.022	-	0.05	0.05	0.10	0.13	0.08	0.29	0.020	1.45	1.54	17.41	20.44	7.1	1.98	0.098	0.013
	15-35	8.05	0.38	24.01	7.55	68.44	1.35	S.C.L.	11.78	0.012	-	0.09	0.31	0.09	0.16	0.06	0.27	0.005	1.69	1.37	15.15	18.21	9.3	1.24	0.149	0.010
	35-60	8.45	1.42	13.90	2.50	83.54	0.00	S.L.	9.08	0.017	-	0.08	0.30	0.16	0.15	0.06	0.27	0.060	0.57	0.31	10.35	11.20	5.1	1.36	0.033	0.003
W-3	0-15	7.80	6.50	27.70	10.83	61.47	0.00	S.C.L.	8.72	0.039	-	0.10	2.28	1.70	1.04	0.76	1.99	0.370	1.01	1.27	22.20	24.48	4.1	1.49	0.112	0.011
	15-35	7.55	2.94	30.58	10.37	59.05	0.00	S.C.L.	10.53	0.025	-	0.06	1.08	0.98	0.59	0.44	0.96	0.130	1.16	1.81	24.29	27.26	4.2	1.17	0.079	0.008
	35-45	8.00	3.55	32.19	12.56	55.25	0.00	S.C.L.	9.62	0.033	-	0.06	1.04	1.56	1.03	0.71	0.93	0.040	1.69	1.17	26.22	29.08	5.8	0.16	0.980	0.003
W-4	0-15	8.55	6.08	26.99	9.76	63.25	2.20	S.C.L.	10.08	0.028	-	0.10	2.26	0.78	0.39	0.46	1.82	0.480	2.29	1.92	19.08	23.29	9.8	2.17	0.154	0.070
	15-25	8.25	3.80	18.31	15.36	66.33	1.96	S.C.L.	11.65	0.025	-	0.12	2.39	0.19	0.14	0.18	1.91	0.480	2.22	1.64	11.53	15.59	14.2	1.22	0.065	0.070
	25-60	8.15	1.28	22.07	8.14	69.79	5.21	S.C.L.	12.24	0.022	-	0.11	0.77	0.11	0.07	0.04	0.81	0.060	1.82	1.96	15.35	19.12	9.5	1.21	0.061	0.070
W-5	0-18	7.95	0.54	12.78	6.88	80.34	4.13	S.C.L.	12.35	0.025	-	0.04	0.05	0.08	0.07	0.04	0.05	0.050	0.43	0.45	10.26	10.99	3.9	0.75	0.084	0.007
	18-35	7.85	0.43	2.25	14.91	82.84	0.00	L.S.	38.27	0.052	-	0.03	0.04	0.09	0.07	0.04	0.04	0.009	0.17	0.08	1.63	1.88	9.0	0.16	0.028	0.001
	35-60	8.00	0.92	19.38	36.46	43.71	0.58	L.	24.15	0.045	-	0.07	0.21	0.18	0.12	0.06	0.27	0.006	1.93	0.27	12.59	14.69	13.1	0.88	0.033	0.003
W-6	0-18	7.55	1.00	43.85	13.15	43.00	3.83	C.	30.42	0.041	-	0.10	0.23	0.39	0.29	0.14	0.25	0.050	2.81	1.18	28.90	32.89	8.5	1.17	0.037	0.030
	18-33	7.70	0.77	33.15	15.31	51.54	4.57	S.C.L.	27.60	0.028	-	0.07	0.20	0.14	0.15	0.07	0.19	0.009	1.12	0.85	24.18	25.95	4.3	0.64	0.033	0.004
W-7	0-15	8.25	1.69	46.10	18.92	34.98	2.98	C.	24.80	0.028	-	0.17	0.70	0.80	0.69	0.19	0.77	0.100	1.35	1.82	33.15	36.32	3.7	0.75	0.079	0.015
	15-35	7.90	1.07	48.11	14.82	37.07	2.80	C.	21.70	0.033	-	0.09	0.33	0.61	0.40	0.09	0.49	0.060	1.75	1.52	45.70	39.09	4.5	1.63	0.107	0.007
	35-60	8.35	0.81	43.88	15.88	40.24	1.32	C.	7.50	0.212	-	0.08	0.21	0.31	0.23	0.10	0.27	0.008	2.49	2.12	33.49	38.10	6.5	1.15	0.084	0.004
W-8	0-18	7.55	1.50	26.91	14.64	58.45	19.52	G.S.L.	14.07	0.022	-	0.08	0.24	0.39	0.36	0.10	0.22	0.020	0.92	0.73	21.52	23.17	4.0	0.61	0.084	0.021
	18-33	8.25	0.59	19.41	10.60	69.99	18.42	G.S.L.	13.57	0.049	-	0.04	0.08	0.14	0.08	0.08	0.08	0.008	0.90	0.40	15.05	16.35	5.5	1.49	0.079	0.007
	33-48	8.05	0.74	3.04	1.88	95.08	19.44	G.S.	16.62	0.019	-	0.04	0.10	0.07	0.09	0.03	0.07	0.007	0.14	0.07	2.18	2.39	5.9	1.98	0.106	0.005
	48-60	7.95	0.73	2.25	1.92	95.83	24.12	G.S.	18.91	0.019	-	0.03	0.08	0.10	0.08	0.04	0.07	0.010	0.13	0.04	1.56	1.73	7.5	0.25	0.037	0.005
W-9	0-10	7.90	0.95	30.66	11.98	57.36	6.88	S.C.L.	17.34	0.022	-	0.06	0.14	0.32	0.26	0.13	0.10	0.030	1.47	0.98	22.03	24.48	6.0	1.36	0.154	0.017
	10-30	7.55	0.92	29.41	11.81	58.78	6.30	S.C.L.	18.07	0.022	-	0.08	0.18	0.27	0.22	0.09	0.20	0.020	0.84	0.77	21.57	23.18	3.6	1.09	0.047	0.002
	30-60	7.65	4.55	64.12	18.07	17.81	2.03	C.	35.96	2.350	-	0.08	0.23	1.84	1.66	0.72	1.91	0.100	7.84	1.62	36.55	40.01	4.6	2.17	0.028	0.001
W-10	0-15	8.00	2.18	27.74	11.27	60.99	3.67	S.C.L.	9.30	0.195	-	0.08	0.97	0.25	0.26	0.12	0.79	0.130	3.02	0.91	21.48	25.41	11.9	1.22	0.065	0.002
	15-30	7.80	5.53	34.66	10.16	55.18	3.46	S.C.L.	7.72	0.082	-	0.11	4.23	2.01	1.17	1.03	4.05	0.100	5.68	0.97	23.72	30.37	18.7	0.55	0.047	0.004
	30-60	8.25	9.38	67.78	7.57	24.65	0.44	C.	6.36	0.127	-	0.10	6.53	5.08	2.22	2.24	7.10	0.160	10.67	1.41	43.05	55.19	19.3	1.53	0.047	0.001
W-11	0-15	7.55	8.14	23.08	8.64	68.28	0.38	S.C.L.	6.99	0.039	-	0.12	2.02	2.18	1.61	0.89	1.28	0.540	0.37	3.10	16.82	20.65	1.8	1.11	0.079	0.002
	15-25	7.85	3.03	16.54	4.78	78.68	0.00	S.L.	6.99	0.022	-	0.06	0.86	0.48	0.38	0.21	0.64	0.180	1.53	0.66	12.05	14.42	10.6	0.73	0.065	0.008
	25-60	8.70	2.51	25.99	6.68	67.33	0.00	S.C.L.	10.94	0.017	-	0.05	0.93	0.48	0.46	0.17	0.76	0.070	1.70	1.69	20.40	23.79	7.1	0.25	0.051	0.005
W-12	0-15	8.35	5.44	30.91	9.20	59.88	0.39	S.C.L.	8.63	0.055	-	0.08	2.79	1.21	0.65	0.61	2.63	0.190	5.19	1.29	20.70	27.89	18.6	1.24	0.121	0.025
	15-25	7.95	3.70	27.49	9.14	63.38	0.00	S.C.L.	8.63	0.019	-	0.06	1.77	0.71	0.36	0.41	1.63	0.130	5.51	1.69	18.33	25.33	21.8	1.09	0.098	0.006
	25-60	8.05	6.60	15.52	4.83	79.65	0.00	S.L.	11.53	0.058	-	0.06	2.35	1.25	0.70	0.64	2.21	0.090	2.52	0.65	9.15	12.68	19.9	0.64	0.061	0.004
W-13	0-15	8.55	4.03	13.12	3.74	83.14	0.00	L.S	4.59	0.028	-	0.09	1.47	0.27	0.21	0.18	1.32	0.110	2.12	0.97	8.10	11.19	18.9	1.11	0.107	0.017
	15-35	8.00	3.68	12.51	3.67	83.82	0.00	L.S.	6.99	0.014	-	0.05	1.18	0.42	0.24	0.24	1.09	0.070	0.34	0.69	9.44	10.47	3.2	0.55	0.065	0.004
	35-60	7.95	2.10	8.09	3.03	88.88	0.00	L.S.	7.74	0.036	-	0.03	0.43	0.68	0.17	0.20	0.47	0.020	0.11	0.24	5.96	6.31	1.7	0.73	0.047	0.003

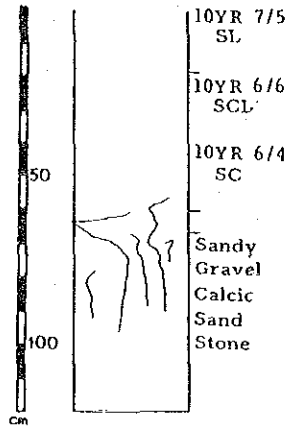
Table C2-3 Result of Soil Analysis (2)

No.	Depth (cm)	pH	EC (m.mohs/cm)	Mechanical Analysis: Clay (%)	Silt (%)	Sand (%)	Gravel (%)	Texture	$CaCO_3$ (%)	$CaSO_4$ (%)	Soluble Anions and Cations (meq/100g): CO_3	HCO_3	Cl	SO_4	Ca	Mg	Na	K	Exchangable Cation (meq/100g): Na	K	Ca+Mg	CEC (meq/100g)	ESP (%)	ORGANIC MATTER C(%)	ORGANIC N(%)	AVAILABLE P(%)
L-14	0-15	8.35	2.43	51.73	18.81	30.06	0.00	C.	9.58	0.036	-	0.12	1.27	0.62	0.39	0.39	1.20	0.04	5.79	1.18	39.97	46.84	12.4	0.37	0.042	0.011
	15-25	8.30	1.60	53.55	17.47	28.78	0.00	C.	10.89	0.022	-	0.08	0.71	0.44	0.19	0.22	0.80	0.02	4.91	2.66	40.64	48.20	10.2	1.42	0.121	0.002
	25-60	8.20	3.70	49.64	19.23	31.13	0.00	C.	13.67	0.110	-	0.07	2.35	0.77	0.48	0.57	2.10	0.03	2.84	2.89	35.90	41.63	6.8	0.37	0.070	0.007
L-15	0-12	7.30	16.20	56.22	19.35	24.43	0.00	C.	13.53	0.299	-	0.11	9.42	8.19	3.11	6.12	8.33	0.17	8.81	4.75	34.24	47.67	18.5	1.25	0.093	0.013
	12-22	7.50	11.30	56.05	18.39	25.56	0.00	C.	0.29	0.212	-	0.08	4.19	4.74	2.27	2.80	3.78	0.18	9.66	3.44	33.42	46.74	20.7	1.12	0.079	0.008
	22-60	7.85	4.34	59.02	18.62	22.36	0.00	C.	13.85	0.036	-	0.15	4.69	1.18	0.36	0.45	5.08	0.14	8.97	2.46	36.09	47.52	18.9	1.04	0.079	0.011
L-16	0-15	7.85	7.57	37.07	14.91	48.02	0.00	S.C.	7.95	0.061	-	0.14	4.08	1.77	0.87	1.59	3.39	0.13	3.85	3.31	25.10	32.26	11.9	2.38	0.107	0.017
	15-35	8.00	5.41	38.00	14.50	47.50	0.00	S.C.	8.63	0.030	-	0.11	3.19	0.88	0.37	0.91	2.87	0.03	4.44	3.30	27.25	34.99	12.7	1.28	0.103	0.013
	35-65	8.25	3.48	26.79	5.07	68.14	0.00	S.L.	8.35	0.079	-	0.08	1.98	0.33	0.17	0.39	1.71	0.12	2.85	1.91	19.21	23.97	11.9	0.66	0.070	0.003
L-17	0-13	8.25	1.23	50.46	18.32	31.22	0.00	C.	5.54	0.017	-	0.13	0.96	0.28	0.14	0.17	1.03	0.03	6.57	2.46	37.72	46.69	14.5	1.64	0.070	0.006
	13-33	8.25	1.52	50.83	28.22	20.95	0.00	C.	2.49	0.022	-	0.15	1.45	0.39	0.16	0.15	1.65	0.03	5.61	2.00	40.57	48.18	11.8	0.69	0.075	0.006
	33-60	8.05	1.31	52.10	31.71	16.19	0.00	C.	3.72	0.025	-	0.13	1.19	0.11	0.14	0.09	1.18	0.02	6.36	2.90	40.61	49.87	12.8	0.53	0.056	0.003
L-18	0-10	7.80	5.64	42.48	17.25	40.27	0.00	C.	10.35	0.022	-	0.12	3.62	0.89	0.49	0.63	3.49	0.02	4.39	2.67	31.21	38.27	11.5	1.44	0.075	0.006
	10-22	8.20	1.78	43.22	17.99	38.79	0.00	C.	12.44	0.025	-	0.17	1.85	0.13	0.18	0.20	1.72	0.06	4.79	2.40	31.48	38.67	12.4	1.41	0.103	0.005
	22-60	8.05	4.40	49.55	18.18	32.27	0.00	C.	9.39	0.030	-	0.12	3.29	0.61	0.32	0.51	3.15	0.04	6.44	2.29	36.02	44.75	14.4	1.01	0.089	0.001
L-19	0-15	7.55	32.20	39.39	14.07	46.54	0.00	S.C.	16.16	0.105	-	0.08	17.31	7.87	2.97	4.79	17.14	0.35	7.36	4.88	20.66	32.90	22.4	1.90	0.039	0.013
	15-35	7.65	15.20	46.05	17.51	36.44	0.00	C.	18.70	0.044	-	0.08	10.89	3.84	2.55	2.28	9.58	0.39	9.48	5.48	21.35	36.31	26.1	0.53	0.061	0.005
	35-60	7.70	22.90	53.26	21.40	25.34	0.00	C.	14.44	0.176	-	0.12	16.48	11.39	3.92	6.67	17.12	0.27	10.94	4.22	30.22	45.38	24.1	0.93	0.051	0.003
L-20	0-20	8.10	6.25	57.13	23.68	19.19	0.00	C.	4.45	0.061	-	0.16	4.99	1.05	0.42	0.41	5.31	0.06	8.97	4.45	40.23	53.65	16.7	1.57	0.117	0.003
	20-35	7.50	7.98	57.96	32.41	9.63	0.00	C.	1.36	0.049	-	0.11	5.35	3.38	1.36	1.31	6.12	0.05	8.37	3.98	39.22	51.57	16.2	0.74	0.079	0.005
	35-60	7.95	3.53	61.37	32.95	5.68	0.00	C.	1.32	0.047	-	0.12	3.16	1.32	0.83	0.86	2.85	0.05	8.26	3.83	44.01	56.10	14.7	0.75	0.089	0.002

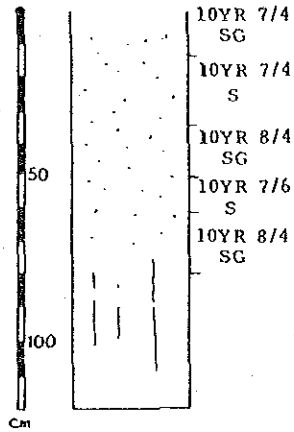
Fig C 2-1 Typical Soil Profile (1)



CN-16



CN-4



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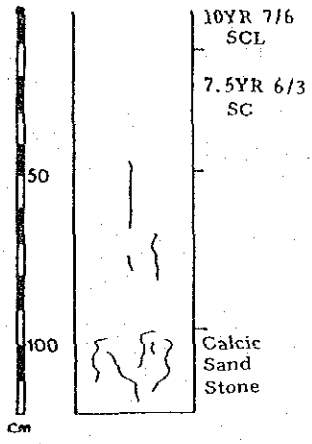

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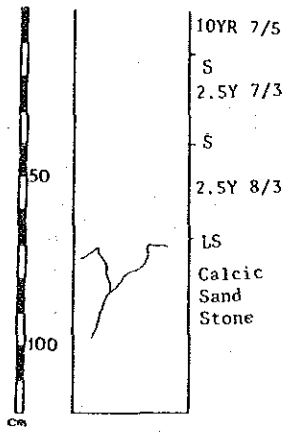
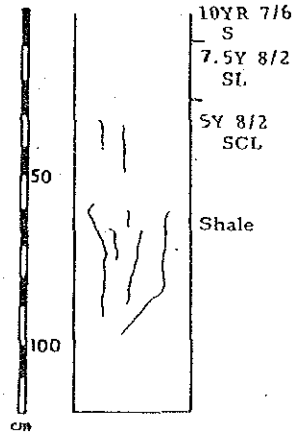


CN-1



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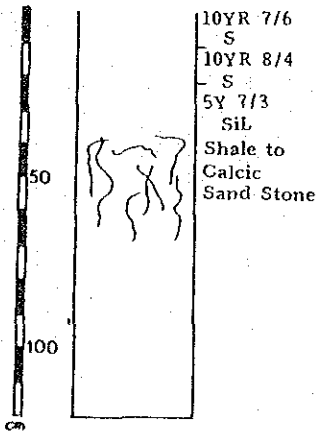
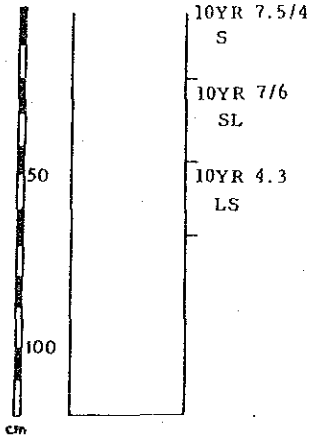
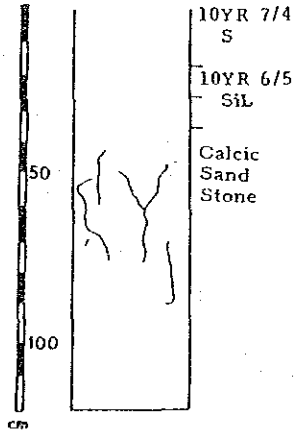


CN-2

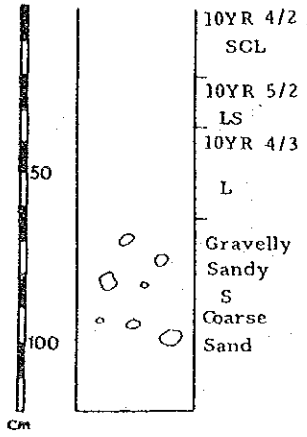


CN-5

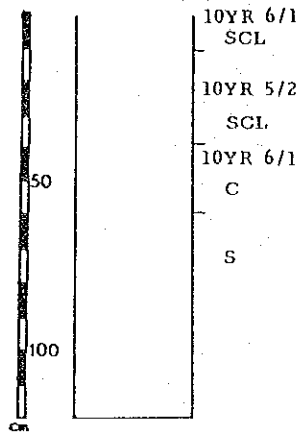


CN-17

Fig C 2-1 Typical Soil Profile (2)



DL-5



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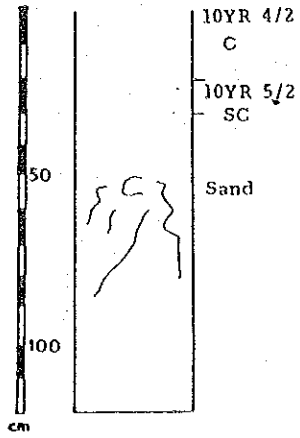
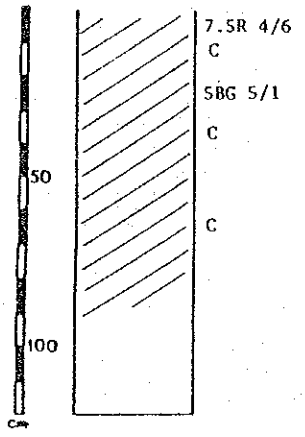
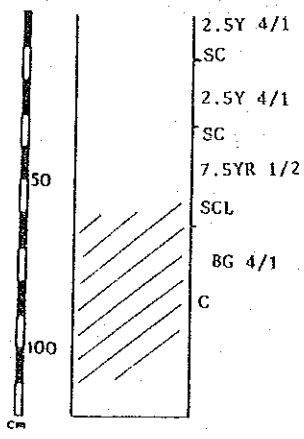


DL-6



DL-51



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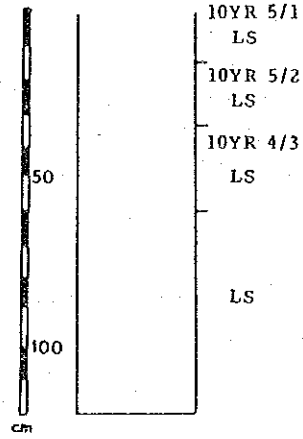

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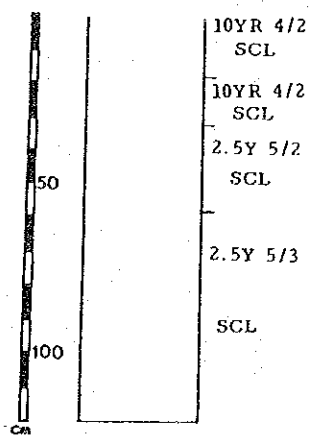
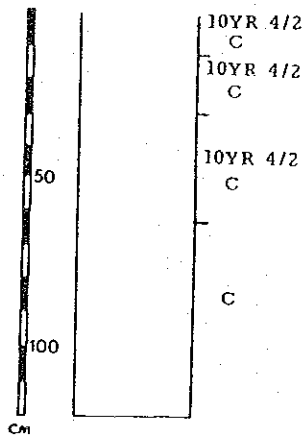
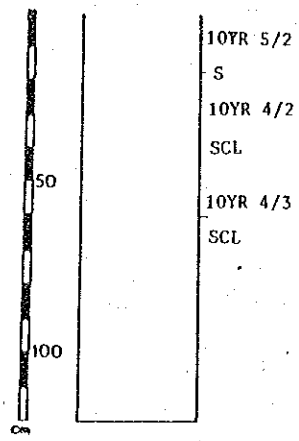


DL-4



DL-17



DL-64

FAYOUM AGRICULTURAL DEVELO
SOUTH AREA OF LAKE QARU

SOIL MA

LEGEND

○ ---- Small Auger

◉ ---- Open Pit

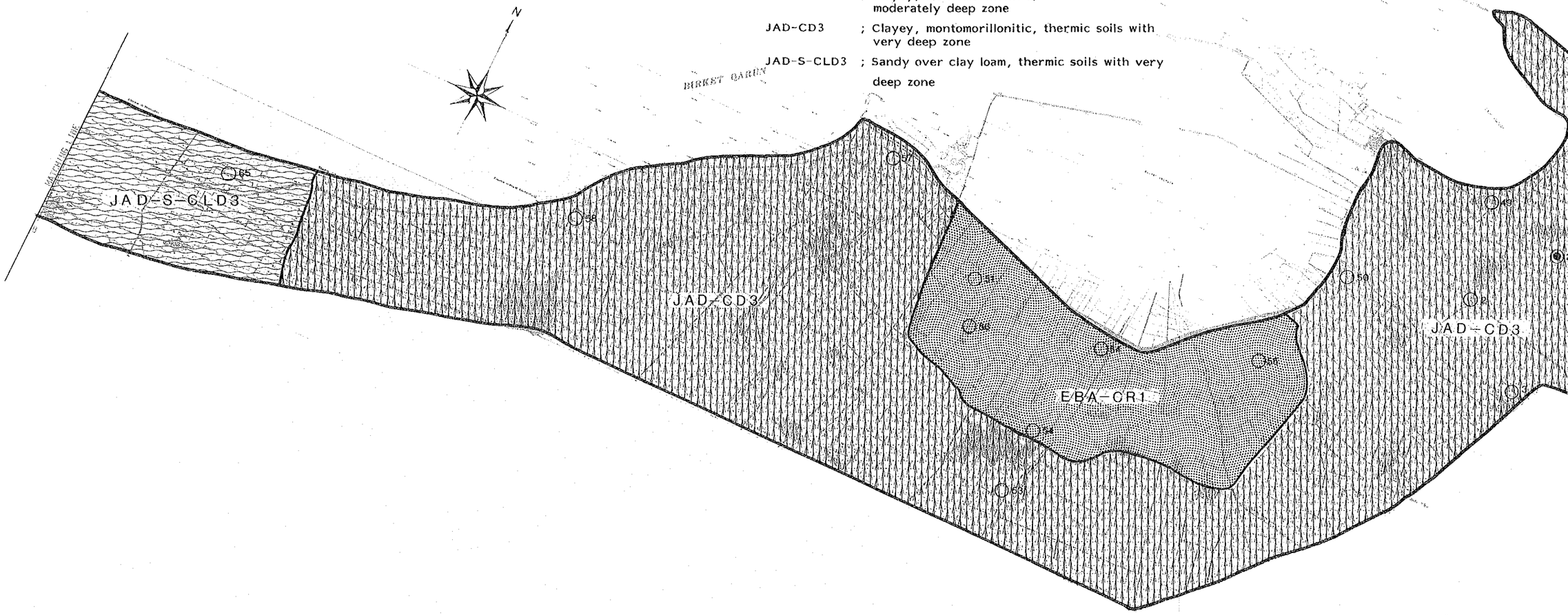
Soil Family

EBA-CR1 ; Clayey, montomorillonitic, thermic soils with very shallow reduced zone

JAB-CD1 ; Clayey, montomorillonitic, thermic soils with moderately deep zone

JAD-CD3 ; Clayey, montomorillonitic, thermic soils with very deep zone

JAD-S-CLD3 ; Sandy over clay loam, thermic soils with very deep zone



FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

SOUTH AREA OF LAKE QARUN (2)

SOIL MAP

LEGEND

○ ---- Small Auger

◉ ---- Open Pit

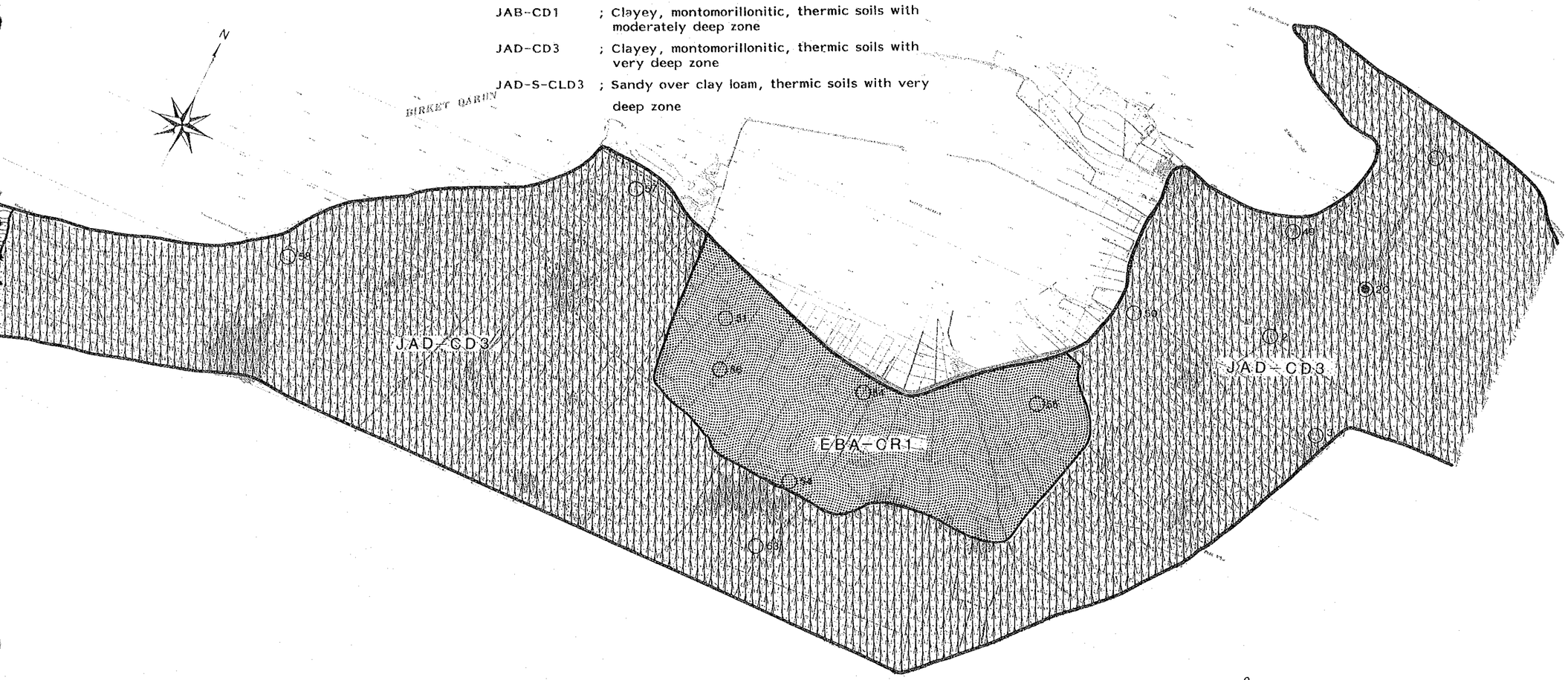
Soil Family

EBA-CR1 ; Clayey, montomorillonitic, thermic soils with very shallow reduced zone

JAB-CD1 ; Clayey, montomorillonitic, thermic soils with moderately deep zone

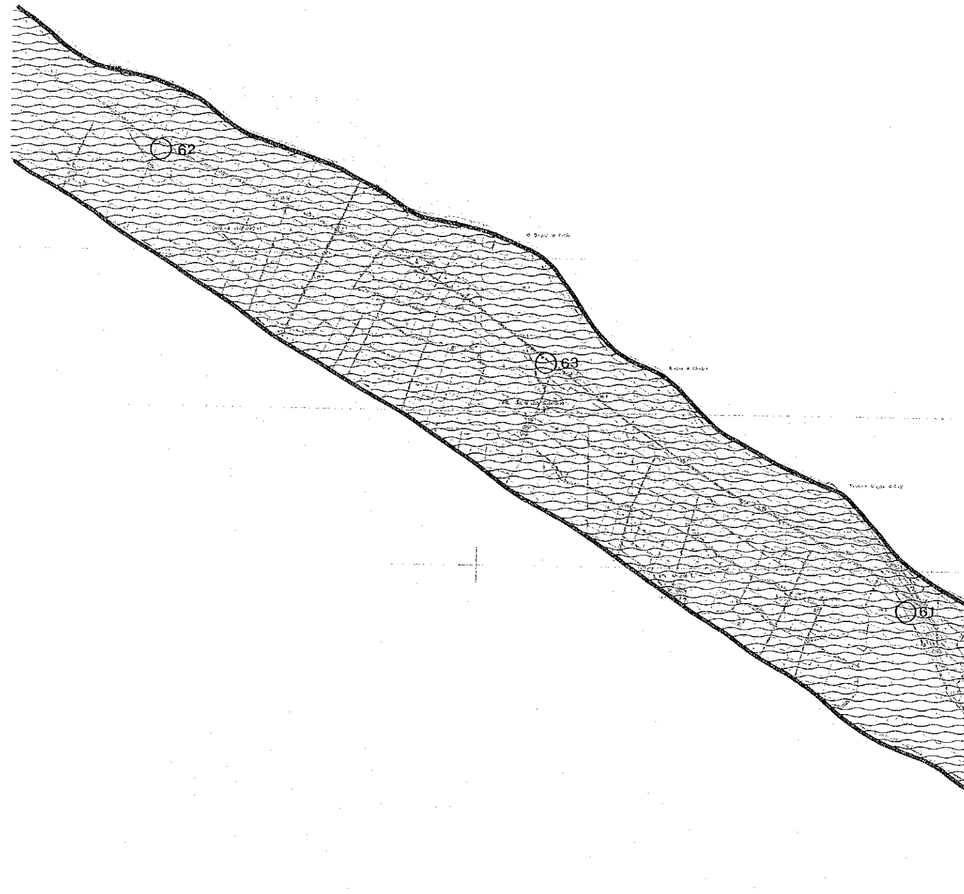
JAD-CD3 ; Clayey, montomorillonitic, thermic soils with very deep zone

JAD-S-CLD3 ; Sandy over clay loam, thermic soils with very deep zone



FAYOUM AGRICULTURAL DEVEL
SOUTH AREA OF LAKE QAR

SOIL MA



LEGEND

○ ---- Small Auger
◉ ---- Open Pit

Soil Family

EBA-CR1 ; Clayey, montomorillonitic, very shallow reduced zone
JAB-CD1 ; Clayey, montomorillonitic, moderately deep zone
JAD-CD3 ; Clayey, montomorillonitic, very deep zone
JAD-S-CLD3 ; Sandy over clay loam, ther deep zone

N

0 1 2 km
Scale

FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

SOUTH AREA OF LAKE QARUN (3)

SOIL MAP

LEGEND

○ ----- Small Auger

◉ ---\- Open Pit

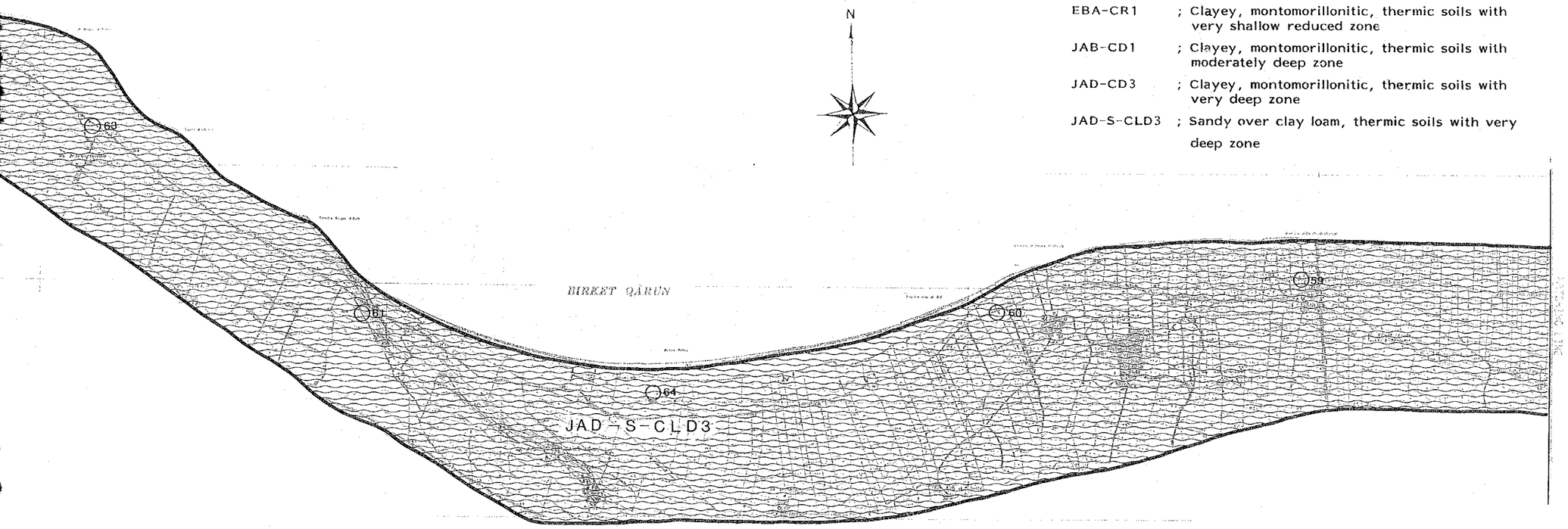
Soil Family

EBA-CR1 ; Clayey, montomorillonitic, thermic soils with very shallow reduced zone

JAB-CD1 ; Clayey, montomorillonitic, thermic soils with moderately deep zone

JAD-CD3 ; Clayey, montomorillonitic, thermic soils with very deep zone

JAD-S-CLD3 ; Sandy over clay loam, thermic soils with very deep zone



0 1 2 km

Scale

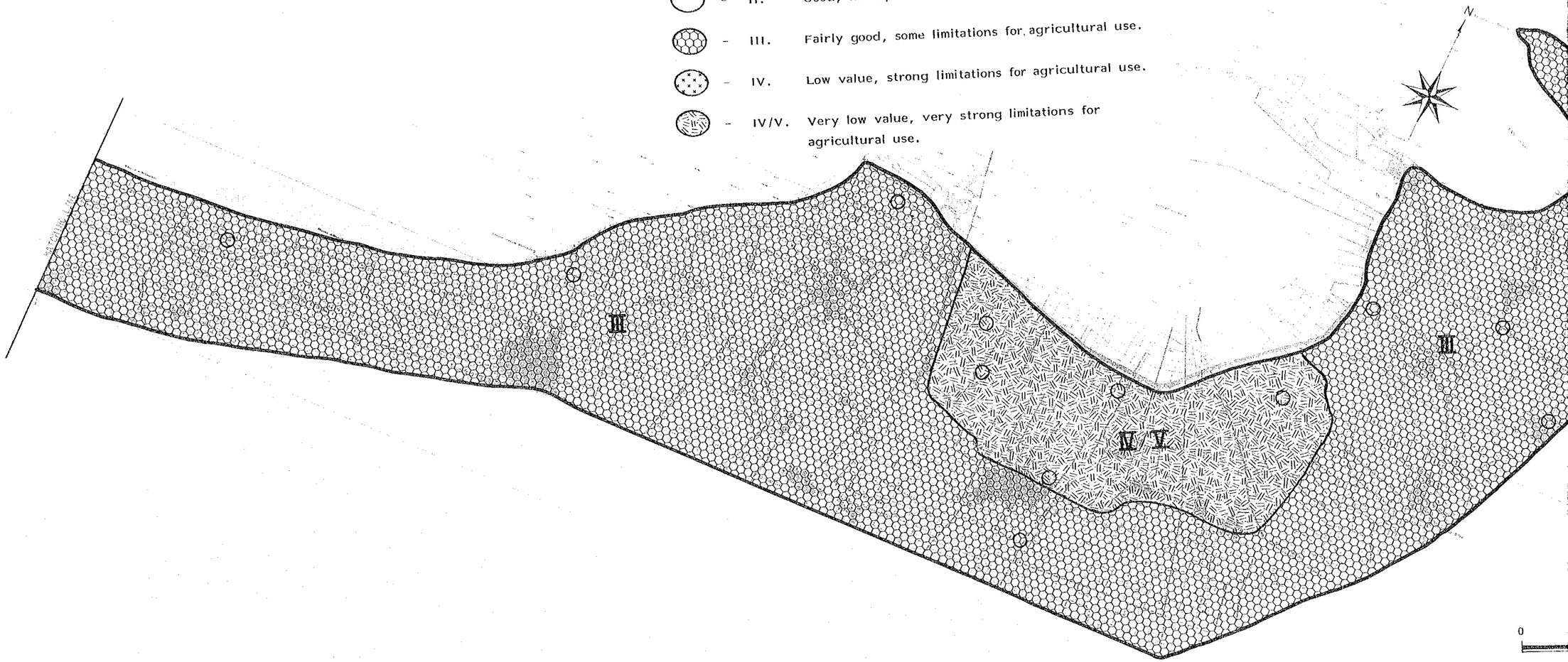
FAYOUM AGRICULTURAL D

SOUTH AREA OF LA

LAND CLASSIF

LEGEND

Symbol	Land Class	
	II.	Good, no important limitations for agricultural use.
	III.	Fairly good, some limitations for agricultural use.
	IV.	Low value, strong limitations for agricultural use.
	IV/V.	Very low value, very strong limitations for agricultural use.



FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

SOUTH AREA OF LAKE QARUN (2)

LAND CLASSIFICATION MAP

LEGEND

Symbol		Land Class	
	-	II.	Good, no important limitations for agricultural use.
	-	III.	Fairly good, some limitations for agricultural use.
	-	IV.	Low value, strong limitations for agricultural use.
	-	IV/V.	Very low value, very strong limitations for agricultural use.

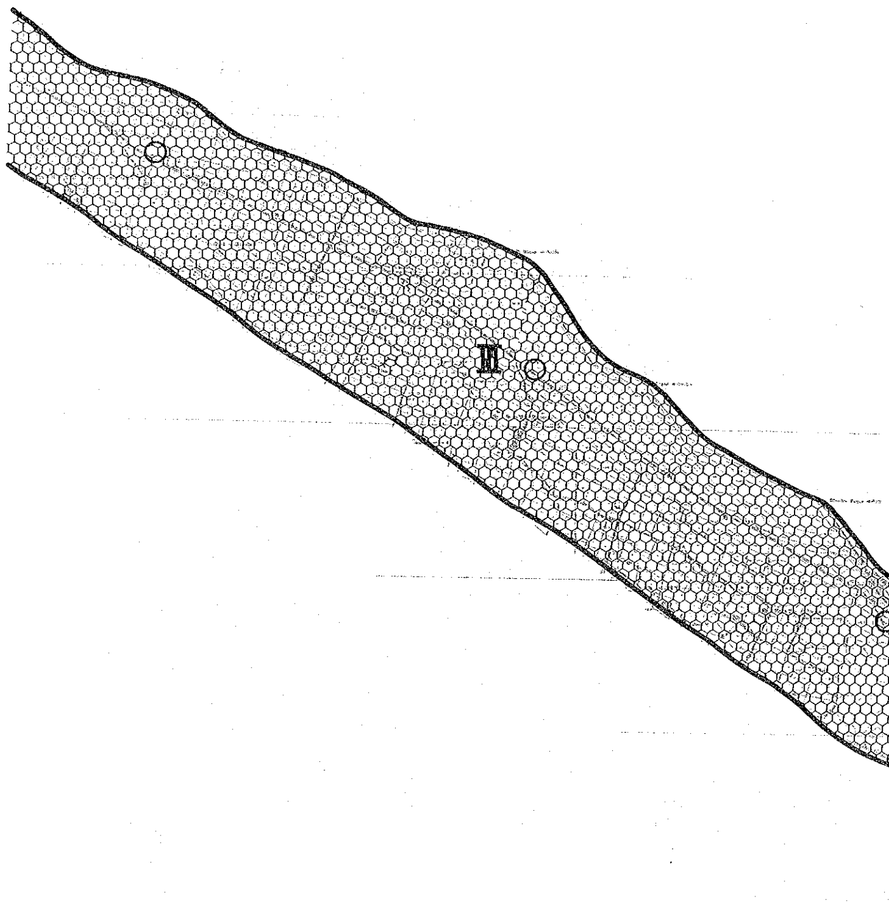
FAYOUM AGRICULTURAL DEV

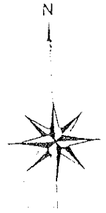
SOUTH AREA OF LAKE

LAND CLASSIFI

LEGEND

Symbol		Land Class	
	-	II.	Good, no important limitations for agricultural use.
	-	III.	Fairly good, some limitations for agricultural use.
	-	IV.	Low value, strong limitations for agricultural use.
	-	IV/V.	Very low value, very strong limitations for agricultural use.





0 1

Scale

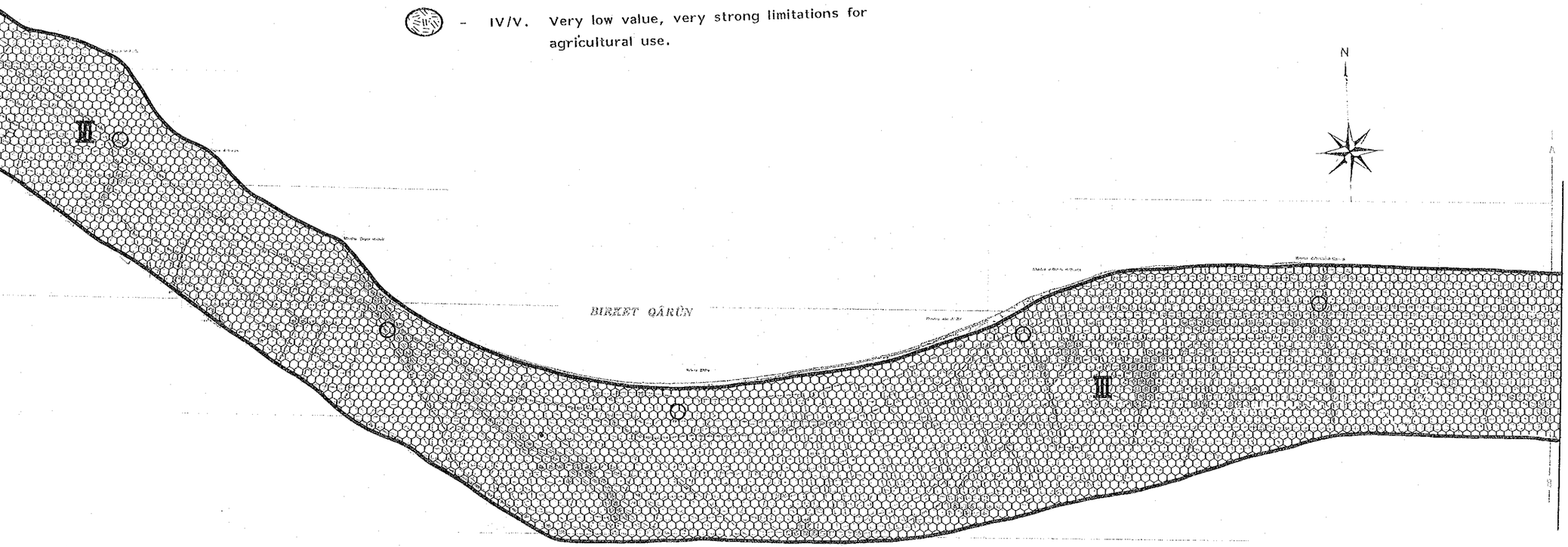
FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

SOUTH AREA OF LAKE QARUN (3)

LAND CLASSIFICATION MAP

LEGEND

Symbol		Land Class	
	-	II.	Good, no important limitations for agricultural use.
	-	III.	Fairly good, some limitations for agricultural use.
	-	IV.	Low value, strong limitations for agricultural use.
	-	IV/V.	Very low value, very strong limitations for agricultural use.



N

0 1 2 km

Scale

FAYOUM AGRICULTURAL DEVELO

NORTH WAHBY AREA

SALINITY MA

Symbol

Su

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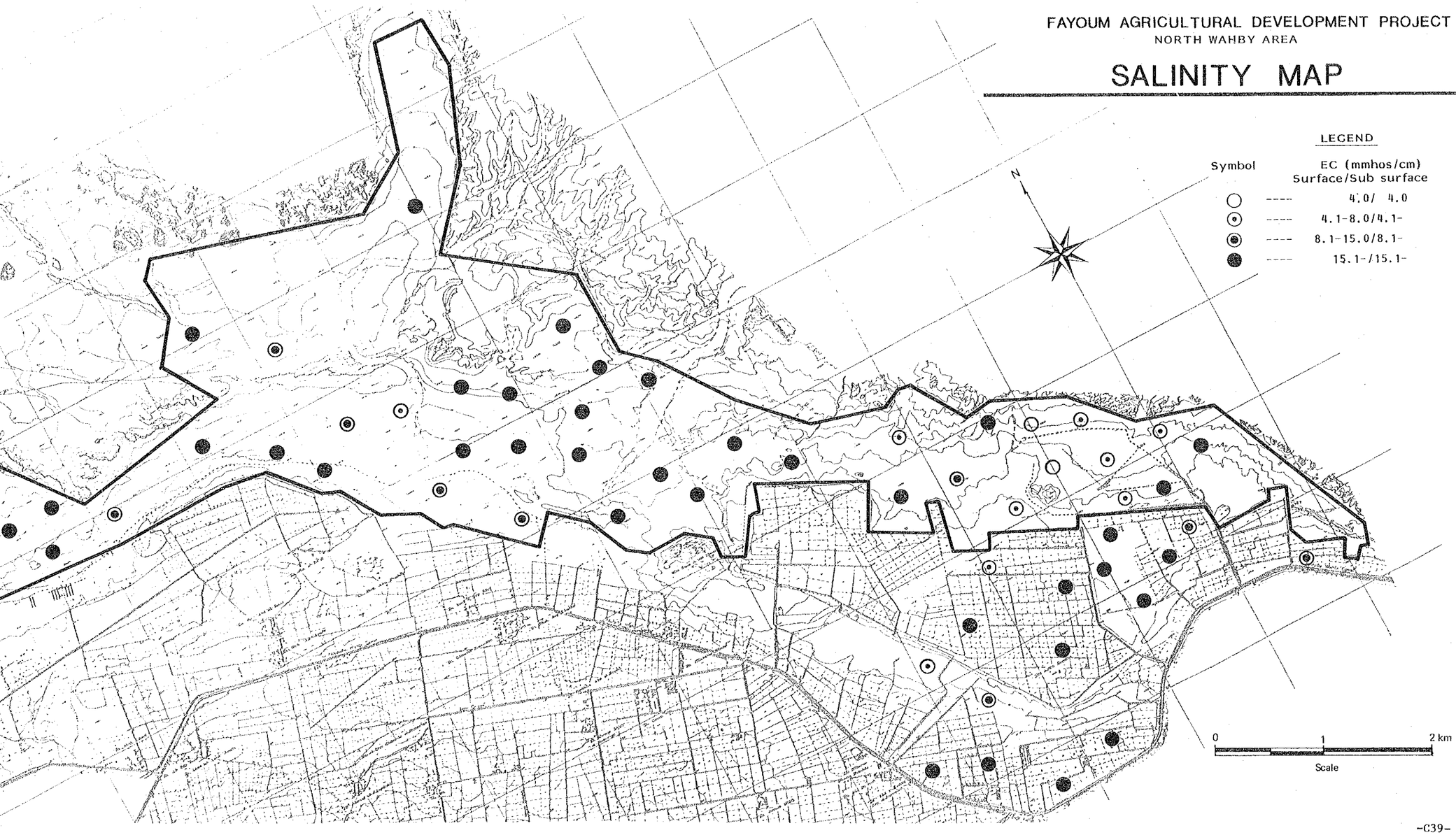
0

FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

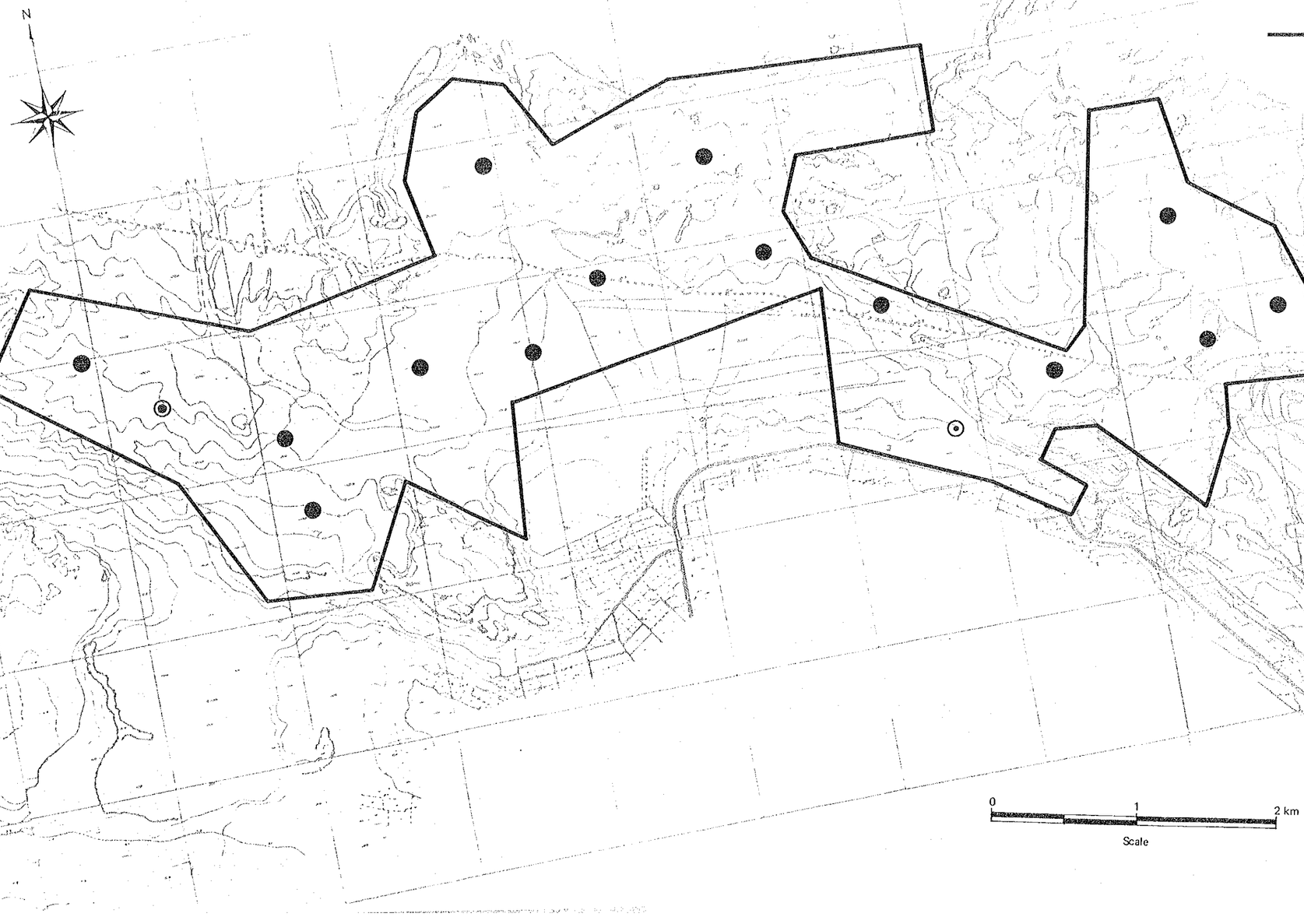
NORTH WAHBY AREA

SALINITY MAP



FAYOUM AGRICULTURAL DEVELO
COM OSHEEN AREA

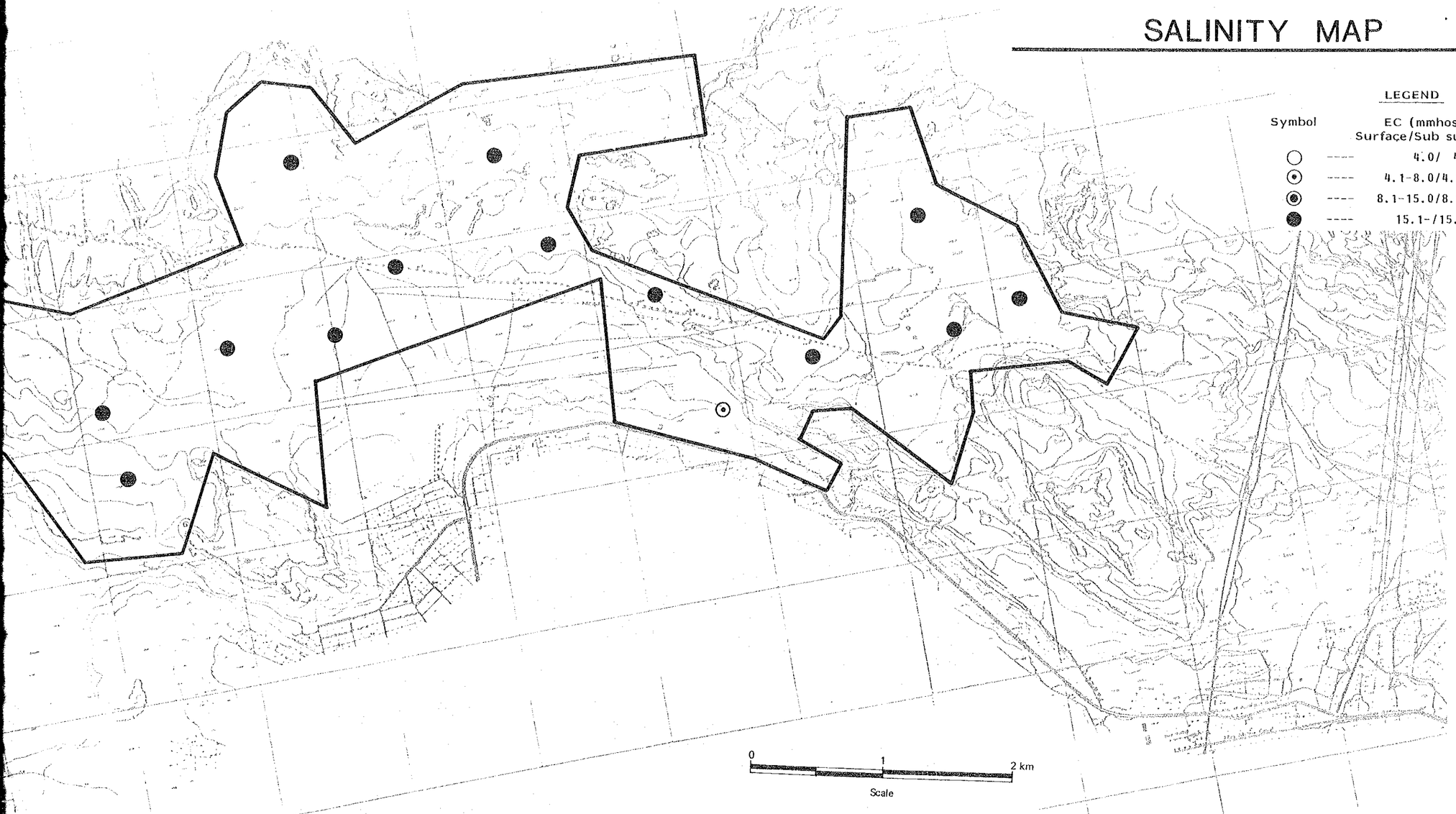
SALINITY MA



FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

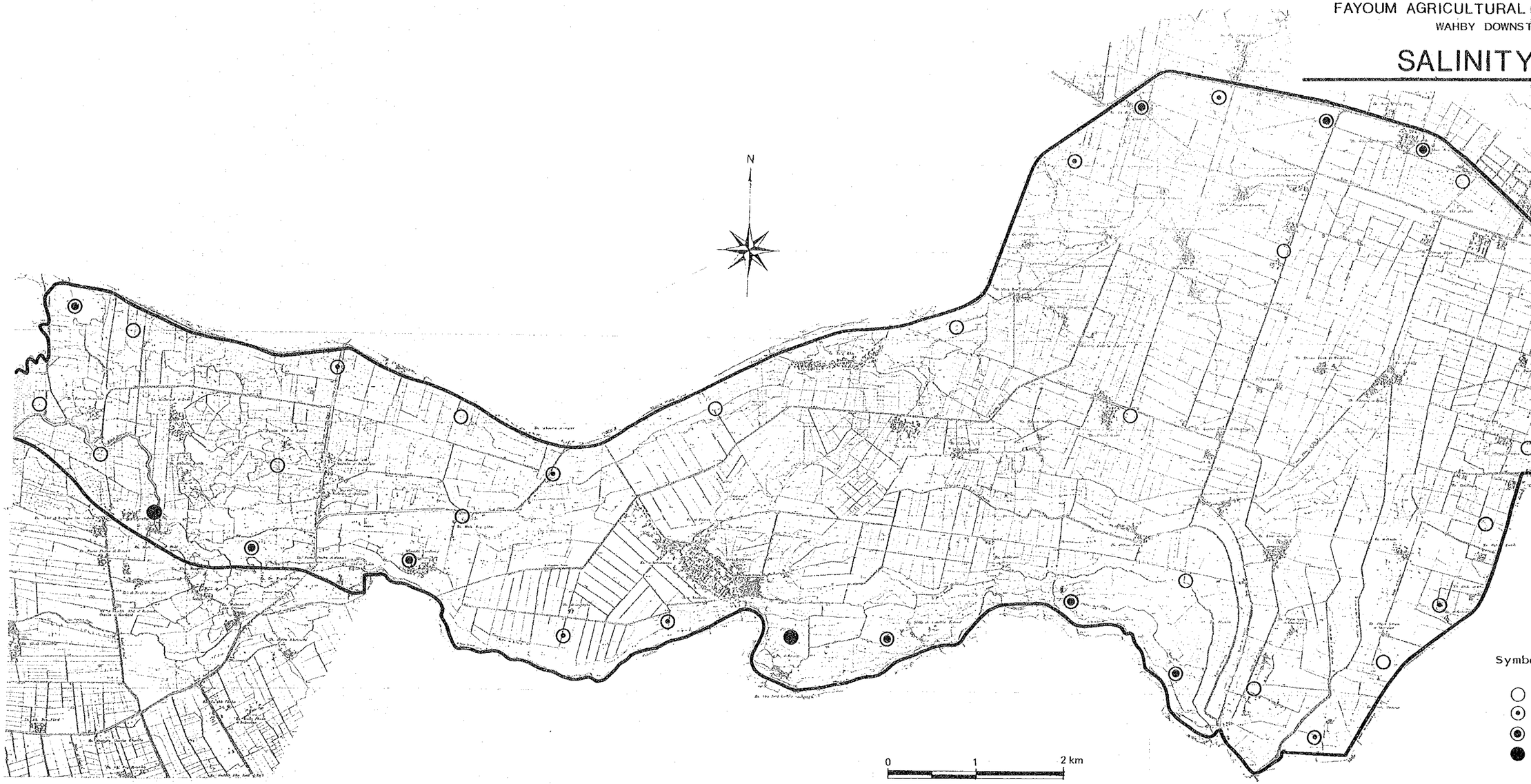
COM OSHEEN AREA

SALINITY MAP



FAYOUM AGRICULTURAL
WAHBY DOWNST

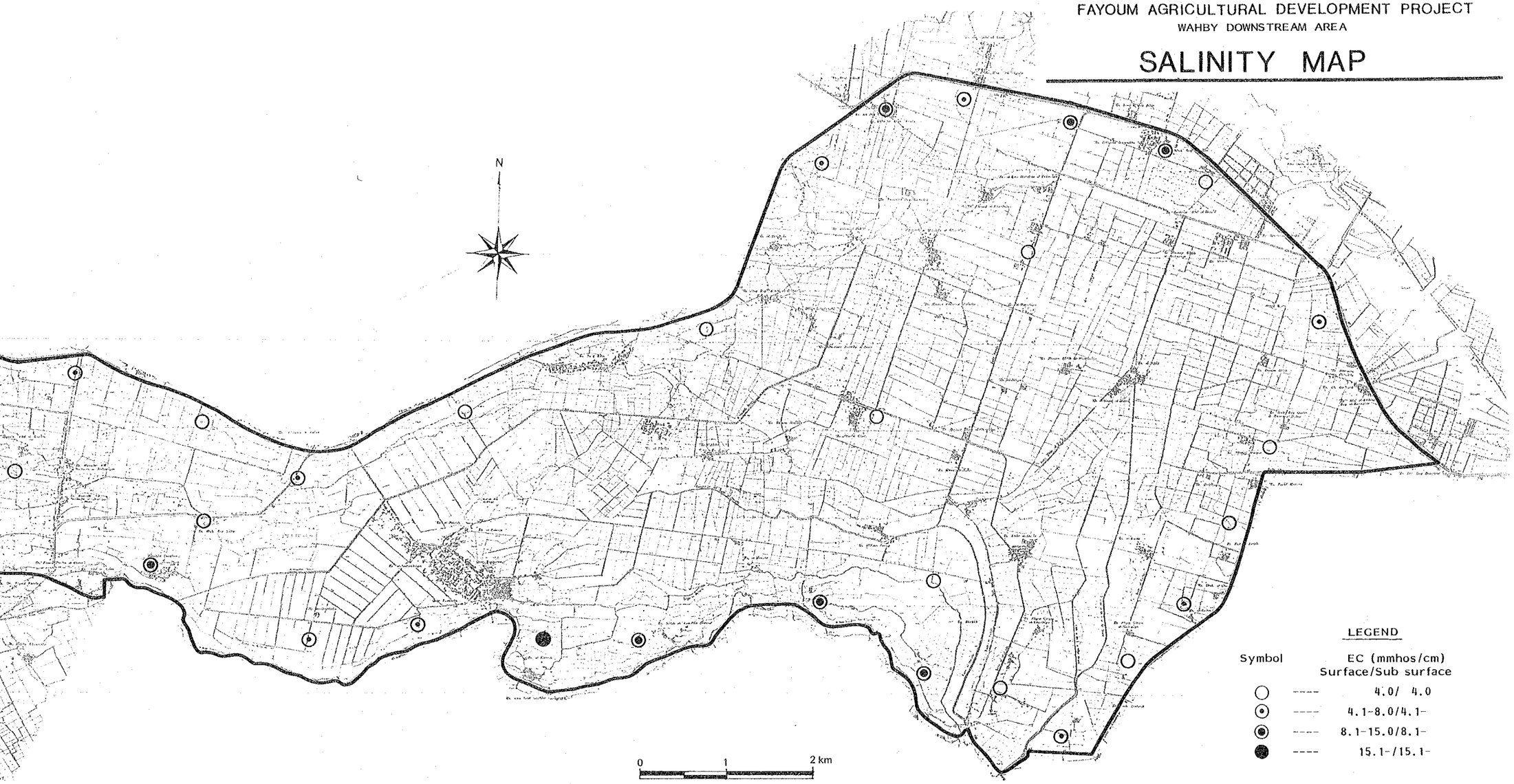
SALINITY



FAYOUM AGRICULTURAL DEVELOPMENT PROJECT

WAHBY DOWNSTREAM AREA

SALINITY MAP



LEGEND

Symbol		EC (mmhos/cm) Surface/Sub surface
○	----	4.0/ 4.0
⊙	----	4.1-8.0/4.1-
◎	----	8.1-15.0/8.1-
●	----	15.1-/15.1-

FAYOUM AGRICULTURAL DEVELO
SOUTH AREA OF LAKE QAR

SALINITY MA