J.J. Schelling

MINISTRY OF AGRICULTURE

WESTERN REGION

RECOMMENDATIONS FOR SOIL AND WATER MANAGEMENT OF THE MEYLERSFIELD WEST POLDER WESTMORELAND

ANNEX II: SOIL DESCRIPTIONS & ANALYTICAL DATA

RURAL PHYSICAL PLANNING UNIT

MONTEGO BAY, OCTOBER 1980.

To: Mr. M. Leader, Chairman of the Meylersfield Agricultural Development Committee.

From: J. Van der Valk, Consultant Engineer Meylersfield Drainage Project, D. J. Ponsteen - Consultant Irrigation Engineer, Rural Physical Planning Unit.

Date: December 1, 1980

Through: Mrs. M. A. Stair, Deputy Director, Western Region, Ministry of Agriculture.

In order to optimise functioning of the irrigation and drainage system and achieve a good cultivation of the Meylersfield - West Polder some recommendations are given below as to the use and maintenance of the irrigation and drainage system and to the cultivation of the rice fields in the Polder. Part of these recommendations are based on observations made during the start of the cultivation of the area.

OPERATIONS OF IRRIGATION AND DRAINAGE SYSTEM

1. The operator in charge of the irrigation pump, installed at the northern side of the reservoir, should keep records of the daily water levels of the Cabarita as well as of the reservoir. For this purpose two gauges will be installed; one in the Cabarita and one in the reservoir. Records also should be kept of the running hours of this pump. These records will enable a proper maintenance of the pump and also might lead to the detection of malfunctioning of the pump or parts of it. They also enable calculations about the water use of the project and pump efficiency.

2. The water level in the reservoir should be kept within a small range, preferably less than one foot. To achieve this, the irrigation pump will have to run intermittently. During periods when the whole polder is in cultivation, the irrigation pump would have to run 2 hours with 3½ hours intervals, keeping the reservoir level within a 0.5 ft range. By doing this the need for a frequent re-setting of the main intake structure is prevented and erosion, due to wave action, along the inside slopes of the reservoir, will be restricted to a narrow strip which will be covered with vegetation.

3. The adjustment of the main intake gates should be carried out according to the manual prepared for this structure. The difference in water levels in the reservoir and in the intake structure should be kept at less than 2 ins. A greater difference in levels, combined with a great aperture of the first gate will result in discharges exceeding the design capacities of canals and minor structures. Overtopping of the structures and subsequent erosion and scouring in canals could occur. One person should be in charge of the operation of this structure.

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4. The gates should always be locked to avoid interference by unauthorised persons.

5. When enough equipment and/or labour is available to cultivate more than one plot at a time, the plots to be cultivated should be divided over the two main irrigation canals. In this way it will be possible to supply more than one plot at a time with water needed for soil preparation.

6. The two drainage pumps should be used alternately. Records should be kept of running hours and of water level readings in the sump of the intake structure.

CULTIVATION OF RICE FIELDS

7. The design of the West Polder is such that access to the fields is only possible at those fields which are adjacent to the irrigation main canals. Therefore, the sequence of field preparation should be as follows: equipment should move into the top field of a section and cross all the bunds till the last field is reached. There, the field preparation should be done followed by the broadcasting. Then the equipment is moved to the next field. If work is done according to this system no drains are damaged or destroyed. It is expected that in the near future pipes will be placed in the drains so that all fields will be accessible at anytime.

8. Water to a depth of 8 ins. should be applied to a field several weeks before cultivation. This water should stay on the field for about a week after which it is drained off. This pre-cultivation flooding will remove surface salt crusts and start desalinisation of the top soil.

9. When fields are flooded for wet cultivation not too much water should be applied. Immediately after this rotavating should start; waiting too long will result in the soil getting soaked to a depth too great to bear equipment and this results in equipment steadily bogging down. Heavy equipment then is needed to rescue the tractor. Furthermore, this bogging down of equipment is not conducive to the flatness of the fields.

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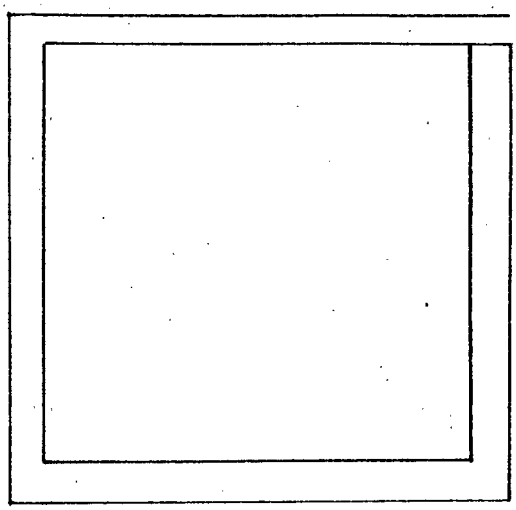
10. For rotavating the following system is proposed :



This pattern, represented in the figure should be applied going diagonally over the field and after finishing the field in this way the rotavator should go around the sides of the field two times. The advantages of this pattern are: it maintains a level field and the tractor has to make 90° turns instead of 180° turns which prevents churned turning places. A levelling log should be applied behind the rotavator to obliterate the tracks.

11. Broadcasting should be done in a carefully fixed pattern. In order to achieve an even distribution of the seeds, pegs should be placed on the two shortest sides of the field at regular intervals in accordance with the strip width covered by the seeding machine. The tractor driver should drive in a straight line from peg to peg and in this way will cover the whole area to be seeded without any spillage or spots left without seeds. The same could be applied when broadcasting is done by hand.

MAINTENANCE OF IRRIGATION AND DRAINAGE SYSTEM

12. Maintenance of the irrigation and drainage pumps should be carried out according to the manuals as prepared by the manufacturer.

13. Cleaning of drains should start at the drainage pumping station and proceed against the water flow. Drains should be cleaned and deepened at least twice a year, and should be kept at their design dimensions. In this way, they will contribute to the percolation of fresh water which enhances the desalinisation process.

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DESALINISATION

15. In the process of irrigation with fresh water and adequate drainage, salinity levels in the West Polder will decrease with time. During the first cultivation cycle however, fairly high salinity levels could still occur on elevated spots. This is due to the fact that on these places water quickly evaporates, leaving salts behind in the top soil. Utmost care should therefore be taken to achieve a good levelling. This also promotes an even germination over the field. In deep tracks rice seeds drown and do not germinate.

RECOMMENDATIONS

FOR

SOIL AND WATER MANAGEMENT

OF THE

MEYLERSFIELD WEST POLDER

WESTMORELAND

ANNEX II: SOIL DESCRIPTIONS AND SOIL ANALYTICAL DATA

Ministry of Agriculture
Rural Physical Planning Unit
Montego Bay

October 1980

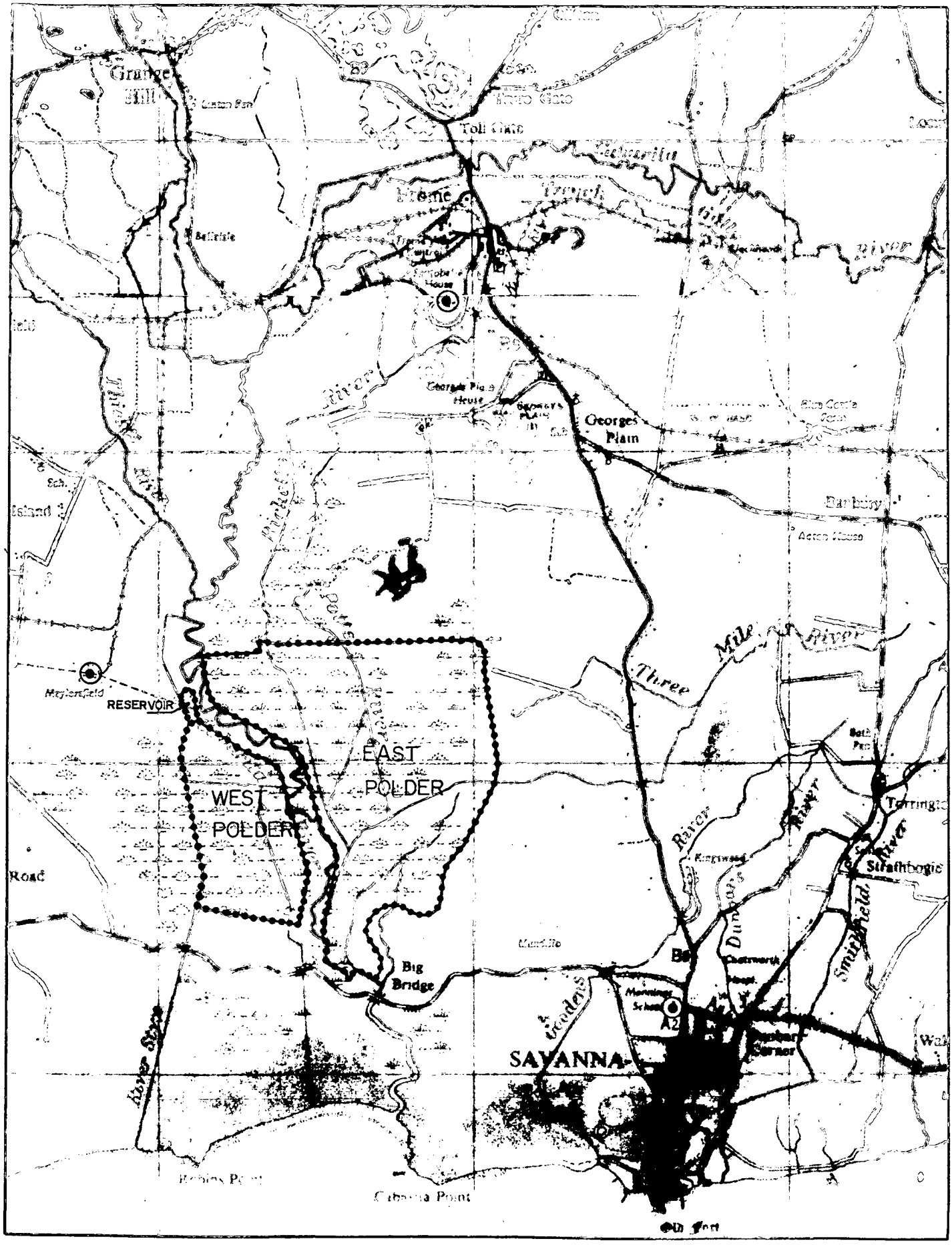


FIG. 1 LOCATION OF THE MEYLERSFIELD PROJECT AREA AND METEOROLOGICAL STATIONS

Scale 1:50,000

SOIL DESCRIPTIONS AND SOIL ANALYTICAL DATA

In this Annex, four (4) detailed descriptions from soil pits as well as one hundred and seventy eight (178) augerhole descriptions are compiled. The location of all these observations is shown on Map No. 1: Soils of the Meylersfield West Polder. This map is included in the main volume of the report "Recommendations for Soil and Water management in the Meylersfield West Polder. The soil pits are numbered P1 through P4. The soil auger observations are placed in a grid system of 75 x 100 m for the first 48 observations and 100 x 100 m for the the remainder of the auger observations. They are numbered 1 through 175 with three observations numbered with an additional 'a', i.e. 158a, 160a and 161a.

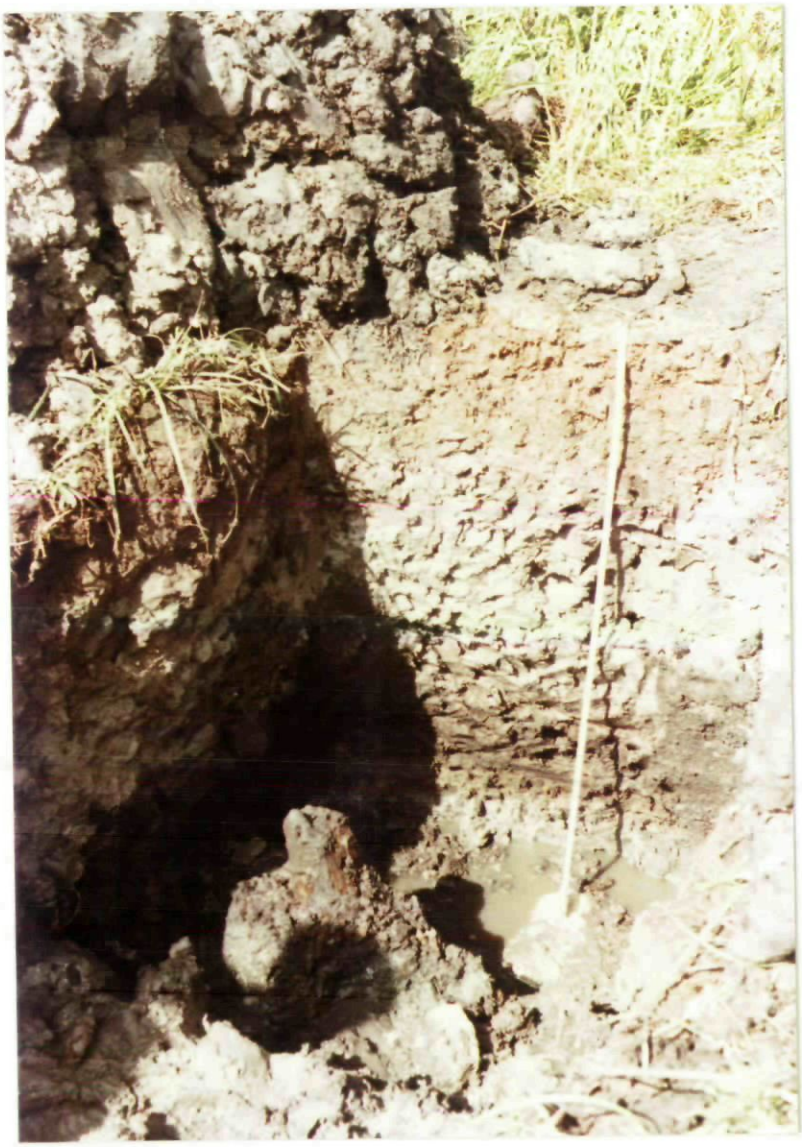
The soil descriptions are prepared following the FAO "Guidelines for Soil Descriptions" and the USDA "Soil Survey Manual". Colours are described using the descriptive terms and notations of "Munsell Soil Color Charts." Colours are for moist conditions unless stated otherwise. The field pH figures given in the descriptions have been determined by means of the Truog Soil Reaction Field Testing Kit. Field figures for electrical conductivity of both surface water and groundwater were determined with the "pHOX" portable electrical conductivity meter. The classification of the soils is at the family level of the USDA Soil Taxonomy.

A total of 27 samples from genetic horizons of the 4 soil pits were analysed in the Soil Laboratory of the Ministry of Agriculture in Kingston. Special thanks are due to Mr. Jan van der Wal, Netherlands Laboratory Consultant, for his attention to the analyses and the execution of some extra analyses which are important to a good understanding of the soils of the area (i.e. Total Sulphur, pH wet and dry, saturated. Paste Extract, Water Saturation Percentage). The following analytical methods have been used:

Soil Reaction (pH):	pH meter with glass/KCl reference electrode in 1:1 soil/water when wet upon arrival of the samples at the laboratory and following drying of the sample; and in 1:2 $CaCl_2$ suspension following drying of the sample.
Organic Matter:	Walkley & Black Method
Organic Carbon:	By calculation from Organic Matter content: Organic Carbon = Organic Matter $\div$ 1.72

Available Phosphorus (P):	Truog Method: extraction with sulphuric acid, molybdenum blue method.
Available Potassium (K):	Extraction with acetic acid, flamephotometer
Total Sulphur (S):	Ignition with $NaNO_3/Na_2CO_3$, extraction with water, precipitation as $BaSO_4$.
Total Calcium Carbonate ($CaCO_3$):	Volumetric - Scheibler.
Electrical Conductivity of Soil Paste extract (ECe):	Saturated paste, vacuum suction, EC in extract
Exchangeable Bases (Ca, Mg, Na, K) :	Extraction with ammonium acetate at pH 7.0; Ca and Mg by atomic absorption; Na and K by flamephotometer.
Cation Exchange Capacity (CEC):	Treatment with ammonium acetate at pH 7.0; ammonium displaced by 10% KCl at pH 2.5
Base Saturation:	By calculation: Base Saturation = (Sum of exchangeable Bases ÷ CEC) x 100%
Saturated Paste Extract (Ca, Mg, Na, K):	Ca and Mg Atomic Absorption, Na and K flamephotometer
Particle Size (Sand, silt, clay):	Pipette Method
Textural Class:	USDA Textural Classes Triangular Diagram
Water Saturation Percentage:	Percentage water on overdry (105°C) basis.

Below, the descriptions of the 4 soil pits are presented first. Each pit description is accompanied by the related analytical data. Then, the 178 auger observations follow.



Profile 1

SOIL PROFILE DESCRIPTION

Parish: Westmoreland

Area: Meylersfield West Polder

Observation No.: P1

Topographic Map Sheet No. (Scale 1:12,500): 23 C

Co-ordinates : 14190 82985

Date: January 10, 1980

Taxonomic Classification: USDA: Tropic Fluvaquent; very fine, mixed, non-acid, isohyperthermic, FAO/UNESCO: Eutric Fluvisol

Land Classification: Rm I,; Rt I; Ct I

Land Use: Rough wet pasture, formerly used for sugar-cane cultivation

Physiography: Coastal Plain, river basin

Slope at observation site: 0°

Elevation: 1 ft. a.m.s.

Internal drainage: Poorly drained

Moisture condition of the soil: Moist throughout

Depth of water table: -150 cm

Surface stones/Rock outcrops: None

Evidence of erosion: None

Number of samples: Seven (7)

Remarks: Electro-conductivity ground water: 13 mmho

Profile 1

Horizon	Depth (cm)	Description
A_{1g}	0 - 16	dark gray (10YR 4/1) heavy clay, with many fine prominent red (2.5YR 4/6) mottles along root channels; moderate coarse prismatic structure, parting to moderate medium sub-angular blocky; slighty sticky, plastic, slightly firm; many fine and medium roots; common fine and medium tubular pores, common medium interstitial pores; common coarse blackish mottles due to organic. matter; clear and smooth boundary; pH 5.5
AC_g	16 - 35	dark gray (10YR 4/1) heavy clay, with few fine distinct dark reddish brown (5YR 3/3) mottles along root channels; weak coarse sub-angular blocky structure, parting to weak fine and medium sub-angular blocky structure; sticky, plastic, slightly firm; common fine and medium roots; common fine tubular pores, common fine and medium interstitial pores; few medium blackish spots due to organic matter; clear and smooth boundary; pH 5.5
C_{1g}	35 - 46	dark gray (10YR 4/1) heavy clay, with fine and medium distinct reddish brown (5YR 4/4) and yellowish brown (10YR 5/6) mottles, mainly along root channels; very weak medium and coarse sub-angular blocky structure; sticky, very plastic, slightly firm, common fine and medium roots; common fine tubular pores, common fine and medium interstitial pores; common plant remnants; few fine gypsum crystals occurring in pockets; gradual and smooth boundary; pH 7
C_{2g}	46 - 77	mottled: gray (5Y 6/1) and greenish gray (5 GY 6/1) heavy clay, with few medium distinct greenish gray (5G 5/1) mottles; structure less, massive; very sticky, plastic; common fine and medium roots; common plant remnants; common fine and very fine gypsum crystals; krotovina at 60 cm, diameter 6 cm; gradual and smooth boundary; pH 8
C_{3g}	77 - 95	gray to light gray (10YR 6/1) slightly gravelly clay, with common fine distinct brown to dark brown (7.5YR 4/2) and few fine distinct greenish gray (5GY 6/1) mottles; structure-less massive; sticky, plastic; few fine and medium roots; few plant remnants; few fine tubular pores; few fine and medium blackish spots of organic matter; abundant fine medium and coarse hard gypsum crystals, and soft pockets of powdery gypsum; gradual and smooth boundary; pH 8.
C_{4g}	95 - 125	mottled: brown to dark brown (7.5YR 4/2) and very dark gray (N3/) peaty half ripe clay, with common medium distinct dark greenish gray (5BG 4/1) mottles; sticky, plastic; abundant decomposed and partly decomposed plant remnants; strong H_2S small; abundant medium and coarse hard gypsum crystals; at the bottom of this horizon a blackish layer (2 cm) due to organic matter occurs; abrupt and smooth boundary; pH 8.
C_5	125 - 150+	mottled gray (10YR 5/1 and 5Y 5/1), and very pale brown (10YR 7/3), heavy clay; structure-less, massive; sticky, plastic; many plant remnants; common fine tubular pores; pH 8.

SOIL ANALYTICAL DATA — MEYLERSFIELD WEST POLDER — PROFILE P1

Sample No.	Horizon	Depth (cm)	pH wet H_2O 1:1	pH air H_2O 1:1	pH dry $CaCl_2$ 1:2	Organic Matter (%)	Organic Carbon (%)	Available P_2O_5 (ppm)	Available K_2O (ppm)	Total S (%)	Total $CaCO_3$ (%)	ECe (mmho/cm)
W 113	A_1	0 - 5	5.4	4.8	4.8	12.9	7.5	47	388	0.2	1.8	11.2
114	AC_g	5 - 32	5.3	4.9	4.9	13.3	7.7	53	> 400	0.3	1.2	5.4
115	C_{1g}	32 - 70	7.5	7.2	7.2	4.0	2.3	72	> 400	0.6	0.1	8.9
116	C_{2g}	70 - 100	7.3	5.9	5.6	14.0	8.1	50	> 400	2.4	1.2	17.9
117	A_b	100 - 115	6.5	3.1	3.1	36.7	21.3	40	> 400	6.8	0.9	n.d.
118	II C_{3g}	115 - 150	7.6	4.2	4.0	11.1	6.5	34	> 400	6.1	1.2	10.5
119	C_{4g}	150 - 165	7.7	6.2	6.3	4.2	2.4	56	> 400	1.6	0.9	9.7

Sample No.	Horizon	Depth (cm)	Exchangeable Bases (meq/100 gr soil) Ca	Mg	Na	K	CEC (meq/100gms)	Base Saturation (%)	Saturated Paste Extract (meq/100 gr soil) Ca	Mg	Na	K
W 113	A_1	0 - 5	30	15	15	1.1	46	100	5.8	5.1	13.2	0.2
114	AC_g	5 - 32	26	18	21	2.6	48	100	2.7	2.5	9.3	0.2
115	C_{1g}	32 - 70	18	21	39	3.3	40	100	2.6	4.2	31.2	0.6
116	C_{2g}	70 - 100	28	24	62	3.9	54	100	4.8	1.7	28.9	0.7
117	A_b	100 - 115	31	38	90	2.4	29	100	n.d.	n.d.	n.d.	n.d.
118	II C_{3g}	115 - 150	13	20	43	3.4	34	100	6.5	10.9	40.3	1.0
119	C_{4g}	150 - 165	12	18	44	3.4	35	100	3.5	6.9	44.3	0.8

Sample No.	Horizon	Depth	Particle Size Distribution (%) Sand	Silt	Clay	Textural Class (USDA)	Water Saturation Percentage
W 113	A_1	0 - 5	5	12	83	C	116
114	AC_g	5 - 32	2	9	89	C	126
115	C_{1g}	32 - 70	5	21	74	C	252
116	C_{2g}	70 - 100	2	11	87	C	161
117	A_b	100 - 115	22	24	54	Peat	n.d.
118	II C_{3g}	115 - 150	11	15	74	C	238
119	C_{4g}	150 - 165	16	11	73	C	255

n.d. - not determined

SOIL PROFILE DESCRIPTION

Parish: Westmoreland

Area: Meylersfield West Polder

Observation No: P2

Topographic Map Sheet No. (Scale 1:12,500): 23 C

Co-ordinates: [1]4408 [4]8035

Date: 8/5/80

Taxonomic classification: USDA: Aeric Tropic Fluvaquent, fine mixed non-acid isohyperthermic, FAO/UNESCO: Eutric Fluvisol

Land Classification: Rm I; Rt I; [illegible] I

Land Use: rough wet pasture, formerly used for sugar-cane cultivation

Physiography: Coastal plain, river levee

Slope at observation site: 0°

Elevation: 1 ft. a.m.s.

Internal drainage: somewhat poorly drained

Moisture condition of the soil: moist throughout

Depth of water table: -155 cm

Surface stones/Rock outcrops: None

Evidence of erosion: None

Number of samples: 7

Remarks: Electro-conductivity groundwater: 6.3 mmho

Profile 2

Horizon	Depth	Description
A_1	0 - 3/6	dark grayish brown (10YR 4/2) heavy clay, with common fine distinct yellowish red (5YR 4/6) and red (2.5YR 4/6) mottles; moderate fine sub-angular blocky structure, breaking to strong fine granular; slightly hard when dry, slightly firm moist, plastic, sticky; common fine roots; pH 8. no reaction with HCl; abrupt and wavy boundary.
C_1	3/6 - 27	dark grayish brown (10YR 4/2) heavy clay common fine and medium distinct yellowish brown (10YR 5/6) mottles; structure-less massive; very plastic, sticky; very small inclined slicken sides, particular in upper part of horizon; very few fine gravel-sized weathering limestone fragments, very few small shell fragments; few fine and very fine roots, very few fine soft Manganese spots; very few fine tubular pores; pH 8; no reaction with HCl except for limestone fragments, boundary gradual and smooth; in upper part of horizon between slicken sides inclusions of material from upper horizon;
C_2	27 - 38	gray (10YR 5/1) heavy clay; with many fine and medium dark yellowish brown (10YR 5/4 + 10YR 5/6) mottles; structure-less massive; very plastic; sticky; few small inclined slicken sides few fine and very fine roots; very few and very fine soft and slightly hard Manganese nodules; very few fine tubular pores; pH 8; no reaction with HCl; few soft powdery gypsum spots, boundary smooth and gradual;
C_3	38 - 50	mottled dark grayish brown (10YR 4/2) brown (10YR 4/2) brown (10YR 5/3) and yellowish brown (10YR 5/6) heavy clay, with dark gray (10YR 4/1) inclusions; structure-less; massive very plastic; sticky; few weakly developed pressure faces, very few fine and common very fine roots; few soft and hard Fe/Mn nodules, very few,very fine tubular pores; pH 8, no reaction with HCl, boundary clear and smooth;
IIC_4	50 - 72	yellowish brown (10YR 5/6 and 10YR 5/4) heavy clay, with many fine and medium distinct greenish gray (5GY 6/1) mottles; common medium and large distinct dark gray (5Y 4/1) mottles; very plastic; sticky; few small weakly developed slicken sides; common fine spots with gypsum crystals and powdery gypsum; very few soft and slightly hard Manganese nodules; common fine and very fine roots pH 8; no reaction with HCl; boundary gradual and smooth;
IIC_5	72 - 121	mottled strong brown (7.5YR 5/8) greenish gray (5G 6/1) heavy clay structure-less; common medium well developed inclined slicken sides; few fine soft Manganese nodules; very few fine and very fine roots; common fine tubular pores; pH 8; no reaction with HCl; boundary gradual and smooth.
HC_6	121 - 155	mottled greenish gray (5G 6/1) greenish gray (5G 5/1) strong brown (7.5YR 5/6) heavy clay; structure-less many medium and large inclined slicken sides; few fine soft Manganese nodules common fine and very fine roots pH 8. common fine tubular pores, no reaction with HCl.

SOIL ANALYTICAL DATA — MEYLERSFIELD WEST POLDER — PROFILE P2

Sample No.	Horizon	Depth (cm)	pH wet H_2O 1:1	pH air H_2O 1:1	pH dry $CaCl_2$ 1:2	Organic Matter (%)	Organic Carbon (%)	Available P_2O_5 (ppm)	Available K_2O (ppm)	Total S (%)	Total $CaCO_3$ (%)	ECe (mmho/cm)
W 106	A_1	0 - 3/6	7.2	6.8	6.5	6.1	3.5	53	164	0.3	1.0	1.2
107	C_1	3/6 - 27	7.2	7.2	6.9	4.2	2.4	31	150	0.3	1.1	2.5
108	C_2	27 - 38	7.4	7.2	7.0	3.0	1.7	25	146	0.4	1.6	2.6
109	C_3	38 - 50	7.5	7.3	7.1	2.9	1.7	34	141	0.3	0.9	3.3
110	II C_4	50 - 72	7.3	7.2	7.1	1.5	0.9	31	179	0.7	1.2	4.5
111	II C_5	72 - 121	7.5	7.1	7.1	0.9	0.5	47	232	0.2	0.2	4.6
112	II C_6	121 - 155	7.3	7.2	6.9	0.7	0.4	97	262	0.3	0.7	3.5

Sample No.	Horizon	Depth (cm)	Exchangeable Bases (meq/100 gr soil) Ca	Mg	Na	K	CEC (meq/100 grs)	Base Saturation (%)	Saturated Paste Extract (meq/100 gr soil) Ca	Mg	Na	K
W 106	A_1	0 - 3/6	50	4.6	2.2	0.5	46	100	0.9	0.2	0.7	0.02
107	C_1	3/6 - 27	55	5.8	2.6	0.4	44	100	1.8	0.5	2.0	0.02
108	C_2	27 - 38	55	6.9	4.7	0.5	38	100	1.9	0.5	2.3	0.02
109	C_3	38 - 50	50	8.3	5.9	0.5	39	100	2.6	0.6	3.3	0.02
110	II C_4	50 - 72	94	9.6	7.7	0.5	34	100	5.0	1.5	5.2	0.03
111	II C_5	72 - 121	29	12.1	10.5	0.6	33	100	2.9	1.3	7.6	0.05
112	II C_6	121 - 155	24	12.3	10.3	0.7	29	100	0.9	0.8	6.6	0.05

Sample No.	Horizon	Depth (cm)	Particle Size Distribution(%) Sand	Silt	Clay	Textural Class (USDA)	Water Saturation Percentage
W 106	A_1	0 - 3/6	8	13	79	C	116
107	C_1	3/6 - 27	3	16	81	C	129
108	C_2	27 - 38	17	11	72	C	136
109	C_3	38 - 50	4	20	76	C	136
110	II C_4	50 - 72	14	13	73	C	155
111	II C_5	72 - 121	11	19	70	C	155
112	II C_6	121 - 155	6	31	63	C	182

SOIL PROFILE DESCRIPTION

Parish: Westmoreland

Area: Meylersfield, West Polder

Observation No.: P3

Topographic Map Sheet No. (Scale 1:12,500): 23C

Co-ordinates: ¼208 ⁸993

Date: May 8, 1980

Taxonomic Classification: USDA: Aeric Sulfic Tropic Fluvaquent very fine, mixed, non-acid, isohyperthermic FAO/UNESCO: Thionic Fluvisol

Land classification: Rm IIIn; Rt IIn; Ct IIn

Land use: rough wet pasture, formerly used for sugar-cane cultivation

Physiography: Coastal Plain, river basin

Slope at observation site: 0°

Elevation: 1 ft. a.m.s. (about 30 cm a.m.s.)

Internal drainage: poorly drained

Moisture condition of the soil: moist in uppermost 5 cm, moist to wet below

Depth of water table: 1.60 m below surface

Surface stones/Rock outcrops: None

Evidence of erosion: None

Number of samples: Seven (7)

Remarks: EC 25 mmho (measured at 1.60 m in ground water)

Profile 3

Horizon	Depth (cm)	Description
A_1	0 - 5	dark brown (7.5YR 3/2) clay with common fine distinct dark reddish brown (2.5YR 3/4) mottles; moderate coarse parting to medium and fine sub-angular blocky structure; slightly firm when moist ,sticky and plastic when wet; few fine and common coarse tubular pores; many medium and fine roots; abrupt and smooth boundary; pH 5.0; no reaction to HCl.
AC_g	5 - 32	very dark gray (10YR 3/1) heavy clay with many medium prominent yellowish red (5YR 5/8) mottles mainly along root channels; weak coarse sub-angular blocky structure; very plastic, very sticky; few fine soft manganese nodules; common fine and medium roots; few plant remnants; few charcoal fragments; gradual and smooth boundary; pH 6.0; no reaction to HCl.
C_{1g}	32 - 70	greenish gray (5GY 5/1) heavy clay with very coarse inclusions of very dark grayish brown (10YR 3/2) particularly in upper part of horizon; structure-less; very plastic, sticky, few fine soft manganese nodules; few charcoal fragments; few plant remnants; gradual smooth boundary; pH 8.0; no reaction to HCl.
C_{2g}	70 - 100	mottled brown to dark brown (7.5YR 4/2) and light gray to gray (5Y 6/1) heavy clay; structure-less; plastic, sticky; many decomposed and partially decomposed plant remnants; gradual and wavy boundary; pH 8.0; no reaction to HCl; slight H_2S smell.
A_b	100 - 115	mixed very dark grayish brown (10YR 3/2) brown to dark brown (7.5YR 4/2) and olive (5Y 4/3) peaty clay; structure-less; slightly plastic, sticky; common black spots of organic matter; abundant partially decomposed and decomposed plant remnants including few tree branches (diameter 12 cm); clear and smooth boundary; pH 8.0; no reaction to HCl; strong H_2S smell.
IIC_{3g}	115 - 150	greenish gray (5GY 5/1) heavy clay with few medium faint bluish gray (5B 5/1) mottles; structure-less; plastic and sticky; many medium root channels containing plant remnants; gradual and smooth boundary; pH 8.0; no reaction to HCl; slight H_2S smell
C_{4g}	150 - 165	greenish gray (5G 5/1) heavy clay with many medium distinct light olive brown (2.5Y 5/4) mottles; structure-less; very plastic, sticky; few medium distinct black spots of organic matter; common medium root channels with plant remnants; pH 8.0; no reaction to HCl; slight H_2S smell.

SOIL ANALYTICAL DATA — MEYLERSFIELD WEST POLDER — PROFILE P3

Sample No.	Horizon	Depth (cm)	pH wet H_2O 1:1	pH air dry H_2O 1:1	pH air dry $CaCl_2$ 1:2	Organic Matter (%)	Organic Carbon (%)	Available P_2O_5 (ppm)	Available K_2O (ppm)	Total S (%)	Total $CaCO_3$ (%)	ECe (mmho/cm)
W 65	$A1_g$	0 - 16	n.d.	4.5	4.6	11.6	6.7	18	179	0.9	1.0	3.3
66	AC_g	16 - 35	n.d.	4.8	4.8	7.0	4.1	25	292	0.7	1.1	4.5
67	$C1_g$	35 - 46	n.d.	5.5	5.5	8.6	5.0	18	> 400	0.5	0.8	5.2
68	$C2_g$	46 - 77	n,d.	6.8	6.6	3.6	2.1	12	> 400	5.9	0.9	4.9
69	$C3_g$	77 - 95	n.d.	7.0	6.9	4.0	2.3	60	> 400	6.6	0.9	7.9
70	$C4_g$	95 - 125	n.d.	2.8	2.8	18.0	10.5	23	164	7.9	0.5	9.3
71	$C5_g$	125 - 150	n.d.	3.7	3.7	12.6	7.3	18	> 400	0.6	0.5	8.8

Sample No.	Horizon	Depth (cm)	Exchangeable Bases (meq/100 gr soil) Ca	Mg	Na	K	CEC (meq/100gr)	Base Saturation (%)	Saturated Paste Extract (meq/100 gr soil) Ca	Mg	Na	K
W 65	A_{1g}	0 - 16	28	15	12	0.7	53	100	n.d.	n.d.	n.d.	n.d.
66	AC_g	16 - 35	25	16	16	1.0	53	100	-	-	-	-
67	C_{1g}	35 - 46	63	19	28	1.6	54	100	-	-	-	-
68	C_{2g}	46 - 77	400	13	29	1.1	26	100	-	-	-	-
69	C_{3g}	77 - 95	425	14	37	1.1	26	100	-	-	-	-
70	C_{4g}	95 - 125	300	22	46	0.4	36	100	-	-	-	-
71	C_{5g}	125 - 150	38	21	50	2.0	42	100	-	-	-	-

Sample No.	Horizon	Depth (cm)	Particle Size Distribution (%) Sand	Silt	Clay	Textural Class (USDA)	Water Saturation Percentage
W 65	A_{1g}	0 - 16	14	7	79	C	n.d.
66	AC_g	16 - 35	3	7	90	C	n.d.
67	C_{1g}	35 - 46	5	8	87	C	n.d.
68	C_{2g}	46 - 77	29	71		C	n.d.
69	C_{3g}	77 - 95	33	67		C	n.d.
70	C_{4g}	95 - 125	44	56		C	n.d.
71	C_{5g}	125 - 150	7	15	78	C	n.d.

n.d.: not determined

SOIL PROFILE DESCRIPTION

Parish: Westmoreland

Area: Meylersfield West Polder

Observation No. : P4

Topographic Map Sheet No. (Scale 1:12,500) : 23C

Co-ordinates: [1]4216 [4]8573

Date: May 20, 1980

Taxonomic classification : USDA: Typic Sulfihemist, euic, isohyperthermic
FAO/UNESCO: Dystric Histosol

Land Classification: Rm VI p(n); Rt V p(n); Ct Vn

Land use: Rough wet pasture formerly used for sugar-cane cultivation, immediate surroundings presently flooded

Physiography: Coastal Plain, river basin filled with peat

Slope at observation site: 0^{o}

Elevation: 1 ft a.m.s.l.

Internal drainage: Poorly drained

Moisture condition of the soil: Moist throughout

Depth of water table: 100 cm from the surface

Surface stones/Rock outcrops: None

Evidence of erosion : None

Number of samples : Six (6)

Remarks:
- Electro-conductivity of groundwater: 20 mmho.
- EC tests also conducted by Sugar Industry Research Institute
- Salt efflorescence at soil surface consisting of fine salt crystals (chlorides and sulphates of calcium, sodium, potassium)

Horizon	Depth (cm)	Description
A_1	0 - 13	very dark brown (10YR 2/2) clay, with few fine distinct brown (7.5YR 5/4) mottles; strong fine and medium granular structure; slightly sticky, slightly plastic, slightly firm; common fine and medium decomposed and partially decomposed plant remnants; few fine charcoal fragments; few fine blackish spots of organic matter; few fine roots; few fine tubular and vasicular pores; no reaction with HCl; pH 5.0; abrupt and smooth boundary
C_1	13 - 27	mottled; very dark grayish brown (10YR 3/2) and brown to dark brown (10YR 4/3) clay; with few fine distinct strong brown (7.5YR 4/6) mottles; structureless and massive; slightly sticky, slightly plastic; many fine and medium decomposed and partially decomposed plant remnants; common blackish spots of organic matter; few fine roots; few fine tubular pores; no reaction with HCl; pH 7.0; clear and smooth boundary
C_2	27 - 39	dark brown (7.5YR 3/2) peaty clay; structureless and massive; slightly sticky, slightly plastic; many medium and coarse decomposed and partially decomposed plant remnants; common blackish spots of organic matter; very few fine roots; few fine tubular pores; slight H_2S smell; no reaction with HCl; pH 8.0; clear and smooth boundary.
Oe_1	39 - 125	dark reddish brown (5YR 3/2 + 3/4 unrubbed) half ripe peat with 20 percent decomposed and 80 percent partially decomposed (fiber) fine, medium and coarse remnants, fiber can almost completely be rubbed, partially decomposed tree-trunk at 80 cm; very few fine roots; strong H_2S smell; no reaction with HCl; pH 8.0; gradual and smooth boundary.
IIC_{3cs}	125 - 143	dark olive gray (5Y 3/2) half ripe clay; structureless and massive; sticky and plastic; many fine and medium decomposed and partially decomposed plant remnants; common fine blackish spots of organic matter; very few fine roots; common medium and large gypsum crystals; strong H_2S smell; no reaction with HCl; pH 8.0; clear and smooth boundary.
C_{4cs}	143 - 155+	mottled: dark olive gray (5Y 3/2) and dark grayish brown (10YR 4/2) half ripe clay; structureless and massive; sticky and plastic; common fine and medium decomposed and partially decomposed plant remnants; few fine blackish spots of organic matter; few pockets of fine gypsum crystals; slight H_2S smell; no reaction with HCl; pH 8.5

File Meyersfield.

Received from Jan Van der Wal on 14/1/1991 by Telephone re 4 soil samples for Meyersfield West taken from the side of Pit No. 4. Intention was to check on the drop in pH following repeated drying and wetting. Drying and wetting was done 5 times At the end of this procedure, the pH H_2O 1:1 appeared to be:

0-20 cm	pH H_2O 1:1	4.9
20-40		5.95
40-60		4.8
60-80		4.3

This compares to pH H_2O 1:1 figures for Pit No.4 as follows

0-13 cm	pH H_2O 1:1 air dry	4.1
13-27		4.3
27-39		4.6
39-125		3.9
125-143		3.7
143 +		2.9

SOIL ANALYTICAL DATA — MEYLERSFIELD WEST POLDER — PROFILE P4

Sample No.	Horizon	Depth (cm)	pH wet H_2O 1:1	pH air dry H_2O 1:1	pH air dry $CaCl_2$ 1:2	Organic Matter (%)	Organic Carbon (%)	Available P_2O_5 (ppm)	Available K_2O (ppm)	Total S (%)	Total $CaCO_3$ (%)	ECe (mmho/cm)
W 120	A_1	0 - 13	4.6	4.1	4.1	34.3	19.9	50	> 400	1.4	n.d.	26.8
121	C_1	13 - 27	5.8	4.8	4.8	44.4	25.8	45	> 400	3.6	n.d.	62.6
122	C_2	27 - 39	5.9	4.6	4.7	48.0	27.9	38	> 400	4.3	n.d.	35.8
123	II O_{e1}	39 - 125	5.2	3.9	4.0	55.2	32.1	32	> 400	3.8	n.d.	44.7
124	II C_{3cs}	125 - 143	5.7	3.7	3.8	28.9	16.8	45	> 400	6.4	n.d.	60.8
125	II C_{4cs}	143+	5.0	2.9	3.0	28.9	16.8	38	> 400	6.0	n.d.	17.9

Sample No.	Horizon	Depth (cm)	Exchangeable Bases (meq/100 gr soil) Ca	Mg	Na	K	CEC (meq/100 grs)	Base Saturation (%)	Saturated Paste Extract (meq/100 gr) Ca	Mg	Na	K
W 120	A_1	0 - 13	31	26	54	2.0	73	100	4.8	10.2	32.6	0.4
121	C_1	13 - 27	47	45	106	2.6	70	100	7.7	31.3	97.1	1.4
122	C_2	27 - 39	50	52	136	3.2	76	100	4.9	28.1	81.5	1.6
123	II O_{e1}	39 - 125	63	75	205	4.1	94	100	4.8	2.1	133.2	1.9
124	II C_{3cs}	125 - 143	44	45	150	3.5	46	100	n.d.	n.d.	n.d.	nd
125	II C_{4cs}	143+	34	38	125	2.1	38	100	0.7	4.9	15.7	0.1

Sample No.	Horizon	Depth (cm)	Particle Size Distribution (%) Sand	Silt	Clay	Textural Class (USDA)	Water Saturation Percentage
W 120	A_1	0 - 13	7	22	71	Peat	91
121	C_1	13 - 27	18	17	65	Peat	102
122	C_2	27 - 39	14	38	48	Peat	75
123	II O_{e1}	39 - 125	24	35	41	Peat	108
124	II C_{3cs}	125 - 143	15	19	66	C	58
125	II C_{4cs}	143+	15	16	69	C	74

n.d. not determined

NO. 1

Soil Description

0 - 20 cm	-	mottled brown (10YR 5/3), strong brown (7.5YR 4/6) heavy clay, with few blackish spots or organic matter; plant remnants and few shell fragments; few hard rounded manganese concretions. pH 8.
20 - 50	-	mottled dark grayish brown (2.5Y 4/2) dark yellowish brown (10YR 4/4) heavy clay; few plant remnants and few blackish spots of organic matter; few shell fragments; few soft and hard rounded iron-manganese concretions. pH 8.
50 - 80	-	yellowish brown (10YR 5/6) heavy clay, with common medium faint grayish brown (10YR 5/2) mottles; few blackish spots of organic matter; few soft and hard iron-manganese concretions. pH 8.
80 - 160	-	mottled yellowish brown (10YR 5/8) and (10YR 5/4) and grayish brown (10YR 5/2) heavy clay; few soft and hard rounded iron-manganese concretions; few plant remnants. pH 8.
160 - 200	-	mottled reddish gray (5YR 5/2) yellowish brown (10YR 5/8) heavy clay.
200 - 220	-	reddish brown (5YR 5/4) heavy clay with many course faint yellowish brown (10YR 5/8) mottles; few hard manganese concretions; few fine distinct gray (10YR 5/1) mottles.
Groundwater	-	- 200 cm
Salinity	-	surface water 1.8 mmho ground water 6.5 mmho
Land Capability Class :	-	Rm I, Rt I; Ct I
Soil Classification :	-	Tropo fluvent, very fine, mixed, calcareous, isohyperthermic.

NO. 2

Soil Description

0 - 20 cm	-	brown to dark brown (10YR 4/3) heavy clay, with few fine faint yellowish brown (10YR 5/8) common fine faint dark gray (10YR 4/1) mottles; common plant remnants; common fine and medium roots pH 8.
20 - 60	-	mottled brown to dark brown (10YR 4/3) and yellowish brown (10YR 5/8) and dark gray (10YR 4/1) heavy clay; with common spots of organic matter. pH.8

60 - 70	-	yellowish brown (10YR 5/6) heavy clay, with common fine faint dark gray (10YR 4/1) and common fine faint brown (10YR 5/3) mottles; few blackish spots of manganese pH 8
70 - 100	-	mottled brown (10YR 5/3) yellowish brown (10YR 5/6) heavy clay with few hard iron-manganese concretions pH 8
100 - 170	-	gray (10YR 5/1) heavy clay with many medium distinct yellowish brown (10YR 5/8) few fine distinct red (2.5YR 6/8) mottles.
Groundwater	-	— 100 cm
Salinity	-	surfacewater 2.4 mmho ground water 7.6 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropofluvent, very fine, mixed, non-acid, isohyperthermic
Soil Description		
0 - 20 cm	-	mottled grayish (10YR 5/2) yellowish brown (10YR 5/8) heavy clay, with common plant remnants; few shell fragments; common fine roots pH 8
20 - 60	-	mottled dark gray (10YR 4/1), yellowish brown (10YR 5/8) heavy clay, with few blackish spots of organic matter; common fine roots; few shell fragments pH 8
60 - 80	-	mottled greenish gray (5GY 5/1) yellowish brown (10YR 5/8) dark gray (10YR 6/1) heavy clay; the last colour due to organic matter; few plant remnants; few fine roots; few blackish spots due to organic matter pH 8
80 - 110	-	mottled greenish gray (5GY 5/1), yellowish brown (10YR 5/8) heavy clay.
110 - 130	-	greenish gray (5BG 6/1) heavy clay with many coarse prominent yellowish brown (10YR 5/8); mottles few soft non-manganese concretions pH 8
130+	-	dark gray (01YR 4/1) heavy clay with common plant remnants pH 8
Groundwater	-	— 130 cm
Salinity	-	surfacewater 1.1 mmho groundwater 4.3 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed non-acid isohyperthermic

Groundwater: - -130 cm

Salinity: - surface water 1.1 mmho ground water 4.3 mmho

Land Capability Class : - Rm I, Rt I, Rt I Ct I

Soil Classification : - Aeric Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

NO. 4

Soil Description

0 - 20 cm	-	yellowish brown (10YR 5/4) heavy clay, with few medium distinct very dark gray (10YR 3/1) mottles, with few fine faint yellowish brown (10YR 5/8) mottles, common plant remnants, common fine and medium roots, common shell fragments. pH 8.
20 - 50	-	yellowish brown (10YR 5/4) heavy clay with many medium distinct yellowish brown (10YR 5/8)mottles and many grayish brown (10YR 5/2) mottles, common plant remnants, few dark organic matter spots common fine and medium roots. Few shell fragments. pH 8.
50 - 80	-	dark gray (10YR 4/1) heavy clay, with many coarse distinct yellowish brown (10YR 5/6) mottles and few fine distinct dark yellowish brown (10YR 4/6) mottles, few shell fragments, few fine roots. pH 8.
80 - 90	-	mottled greenish gray (5GY 5/1), yellowish brown (10YR 5/6) heavy clay with few blackish spots of organic matter, few soft blackish manganese concretions. pH 8.
90 - 130	-	greenish gray (5GY 6/1) heavy clay with many coarse distinct yellowish brown (10YR 5/6) mottles, few blackish organic matter spots pH 8.
130 - 160	-	greenish gray (5G 5/1) heavy clay with common medium distinct yellowish brown (10YR 5/6) mottles. pH 8.
160 - 210	-	dark gray (5Y 4/1) heavy clay, with common blackish spots of organic matter and few medium faint greenish gray (5GY 5/1) mottles pH 8.
210 - 225	-	mottled olive brown (2.5Y 4/4) dark brown (7.5YR 4/4) heavy clay, with many rounded hard iron manganese concretions. pH 8.

Groundwater - - 2.00 m

Salinity - surface water 1.2 mmho ground water 7.9 mmho

Land Capability Class : - Rm I, Rt I; Ct I

Soil Classification : - Aeric Tropic Fluvaquent, very fine, mixed, non-acid , iso-hyperthermic

NO. 5

Soil Description

0 - 60 cm	-	mottled very dark gray (10YR 3/1) yellowish brown (10YR 5/4) yellowish brown (10YR 5/8) heavy clay, with common fine roots few plant remnants. Very dark gray spots due to organic matter. Few shell fragments. pH 8
60 - 80	-	mottled greenish gray (5GY 5/1) yellowish brown (10YR 5/8) heavy clay. Few blackish spots of organic matter. Few plant remnants. Few fine roots. pH 8.
80 - 100	-	mottled gray to light gray (5Y 6/1), dark gray (5Y 4/1) and yellowish brown (10YR 5/8) heavy clay. Few blackish spots of organic matter. Few plant remnants few soft round iron manganese concretions. pH 8.
100 - 160	-	greenish gray (5GY 6/1) heavy clay with common fine prominant yellowish brown (10YR 5/8) mottles pH 8.
160 - 170	-	dark brown (7.5YR 3/2) clay with many plant remnants and common black (10YR 2/1) mottles of organic matter pH 8.
170+	-	mottled gray (N5) gray to light gray (5Y 6/1), yellowish brown (10YR 5/8) dark brown (7.5YR 3/4) heavy clay. Many plant remnants. pH 8.

Groundwater - - 1.50 m

Salinity - surface water 2.2 mmho ground water 2.5 mmho

Land Capability Class : - Rm I; Rt I, Ct I

Soil Classification : - Aeric Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

NO. 6

Soil Description

0 - 30 cm	-	mottled dark grayish brown (10YR 4/2) and yellowish brown (10YR 5/4) and strong brown (7.5YR 4/6) heavy clay. Few plant remnants. pH 8.
30 - 50	-	very dark gray (N3) heavy clay, with common medium distinct light olive brown (2.5Y 5/6) mottles. Common fine and medium roots. pH 8.
50 - 70	-	yellowish brown (10YR 5/8) mottled (10YR 5/4) dark gray (10YR 4/1) heavy clay. Few plant remnants. Few blackish soft manganese nodules pH 8.
70 - 100	-	greenish gray (5GY 5/1) heavy clay, with many coarse distinct yellowish brown (10YR 5/8) mottles, few plant remnants, few blackish spots of organic matter. pH 8.
100 - 120	-	greenish gray (5GY 6/1) mottled, yellowish brown (10YR 5/8) heavy clay. Few blackish spots of organic matter.
Groundwater	-	- 1.20 m
Salinity	-	surface water [illegible] mmho [illegible] water 8.1 mmho
Land Capability Class :	-	[illegible] I, Rt I, Ct I
Soil Classification :	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 7

Soil Description

0 - 10 cm	-	mottled dark gray (10YR 4/1), dark brown (10YR 3/3) heavy clay, with common fine distinct yellowish red (5YR 5/8) mottles, few shell fragments, few roots pH 8.
10 - 30	-	yellowish brown (10YR 5/8) heavy clay, with few fine distinct strong brown (7.5YR 5/8) and few fine faint dark gray (10YR 4/1) mottles few roots. pH 8.
30 - 70	-	mottled light olive brown (2.5Y 5/4) and greenish gray (5GY 5/1) heavy clay. Few medium distinct yellowish brown (10YR 5/8) mottles. pH 8.
70 - 110	-	greenish gray (5BG 6/1) heavy clay , with many coarse distinct yellowish brown (10YR 5/8) mottles. pH 8.
110 - 120	-	gray (5Y 5/1) heavy clay with many coarse distinct dark yellowish brown (10YR 4/6) mottles [illegible]

Groundwater - -1.10 m

Salinity - surface water ground water 8.6 mmho

Land Capability Class : - Rm I, Rt I; Ct I

Soil Classification : - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 8

Soil Description

0 - 15 cm - mottled very dark grayish brown (10YR 3/2) and dark gray (10YR 4/1) heavy clay, with many fine distinct strong brown (7.5YR 5/8) mottles; common fine and medium roots pH 8.

15 - 35 - dark greenish gray (5GY 4/1) heavy clay with common medium distinct yellowish brown (10YR 5/8) mottles and few fine distinct strong brown (7.5YR 5/6) mottles; pH 8.

35 - 120 - greenish gray (5G 6/1) heavy clay with many medium and coarse yellowish brown (10YR 5/6) mottles; increasing in number and size with depth; few plant remnants pH 8

Groundwater - -120 cm

Salinity - surface water ground water 11.0 mmho

Land Capability Class : - Rm I, Rt I; Ct

Soil Classification : - Tropic Fluvaquent, very fine, mixed,non-acid , isohyperthermic

NO. 9

Soil Description

0 - 10 cm - very dark grayish brown (10YR 3/2) heavy clay with few fine faint yellowish brown (10YR 5/8) mottles; common fine roots ; few plant remnants; few blackish spots of organic matter pH 8.

10 - 40 - mottled dark gray (10YR 4/1) yellowish brown (10YR 5/8) heavy clay, with few blackish spots of organic matter. Few shell fragments pH 8

40 - 70 - mottled light greenish gray (5G 7/1) dark gray (5Y 4/1) and yellowish brown (10YR 5/6) heavy clay, few coarse blackish spots of organic matter; few fine roots pH 8.

70 - 110	-	mottled dark gray (5Y 4/1) and greenish gray (5GY 6/1) and brownish yellow (10YR 6/8) and yellowish brown (10YR 4/4) heavy clay with common blackish spots of organic matter. pH 8.
110 - 140	-	greenish gray (5GY 5/1) heavy clay with common fine distinct yellowish brown (10YR 5/8) mottles. pH 8.
Groundwater	-	- 1.50 m
Salinity	-	surface water ground water 15,0 mmho
Land Capability Class :	-	Rm I, Rt I; Ct I
Soil Classification :	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, , isohyperthermic

NO. 10

Soil Description

0 - 15 cm	-	mottled dark gray (10YR 4/1), very dark grayish brown (10YR 3/2) and yellowish brown (10YR 5/4), heavy clay with few fine distinct strong brown (7.5YR 5/6) mottles and few medium blackish spots of organic matter. Common fine and medium roots. pH 8
15 - 50	-	mottled gray(10YR 5/1) and yellowish brown (10YR 5/8) and (10YR 5/4) heavy clay, few fine roots, few shell fragments. pH 8.
50 - 80	-	dark gray clay (N4) with many medium distinct yellowish brown (10YR 5/8) mottles and common medium distinct light yellowish brown (10YR 6/4) mottles, with few blackish spots of organic matter and common shell fragments.
80 - 130	-	mottled yellowish brown (10YR 5/8) and greenish gray (5GY 6/1) heavy clay. pH 8.
130 - 150	-	grayish brown (10YR 5/2) heavy clay with common medium distinct yellowish brown (10YR 5/6) mottles and few medium faint greenish gray (5GY 5/1) mottles, few plant remnants, few blackish spots of organic matter.
Groundwater	-	- 1.40 m
Salinity	-	surface water groundwater 14.0 mmho
Land Capability Class:	-	Rm I, Rt I; Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

NO. 11

Soil Description

0 - 20 cm	-	dark gray (N4) heavy clay with many medium distinct yellowish brown (10YR 5/6) mottles and common medium blackish spots of organic matter with common shell fragments and plant remnants. pH 8.
20 - 40	-	mottled dark gray (5Y 4/1), greenish gray (5GY 5/1), yellowish brown (10YR 5/4) heavy clay with few shell fragments. pH 8.
40 - 70	-	gray to light gray (5Y 6/1) heavy clay with common light yellowish brown (10YR 6/4) and few fine distinct yellowish red (5YR 5/8) mottles. pH 8.
70 - 100	-	gray (5Y 5/1) clay with many medium coarse yellowish brown (10YR 5/6) mottles and few blackish spots of organic matter. pH 8.
100 - 120	-	dark gray (10YR 4/1) clay with common medium faint light yellowish brown (10YR 6/4) mottles and abundant flat large gypsum crystals. pH 8.
Groundwater	-	- 1.30
Salinity	-	ground water: 15.0 mmho
Land Capability Class:	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 12

Soil Description

0 - 15 cm	-	very dark grayish brown (10YR 3/2) heavy clay with common and medium distinct yellowish brown (10YR 5/6) mottles and few fine faint very dark gray (10YR 3/1) mottles and few fine distinct strong brown (7.5YR 5/8) mottles, common fine roots, few shell fragments. pH 8.

NO. 11

Soil Description

0 - 20 cm	-	dark gray (N4) heavy clay with many medium distinct yellowish brown (10YR 5/6) mottles and common medium blackish spots of organic matter with common shell fragments and plant remnants. pH 8.
20 - 40	-	mottled dark gray (5Y 4/1), greenish gray (5GY 5/1), yellowish brown (10YR 5/4) heavy clay with few shell fragments. pH 8.
40 - 70	-	gray to light gray (5Y 6/1) heavy clay with common light yellowish brown (10YR 6/4) and few fine distinct yellowish red (5YR 5/8) mottles. pH 8.
70 - 100	-	gray (5Y 5/1) clay with many medium coarse yellowish brown (10YR 5/6) mottles and few blackish spots of organic matter. pH 8.
100 - 120	-	dark gray (10YR 4/1) clay with common medium faint light yellowish brown (10YR 6/4) mottles and abundant flat large gypsum crystals. pH 8.
Groundwater	-	- 1.30
Salinity	-	ground water: 15.0 mmho
Land Capability Class:	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, . isohyperthermic

NO. 12

Soil Description

0 - 15 cm	-	very dark grayish brown (10YR 3/2) heavy clay with common and medium distinct yellowish brown (10YR 5/6) mottles and few fine faint very dark gray (10YR 3/1) mottles and few fine distinct strong brown (7.5YR 5/8) mottles, common fine roots, few shell fragments. pH 8.

15 - 20	-	mottled yellowish brown (10YR 5/8) greenish gray (5GY 5/1) and greenish gray (5G 6/1) heavy clay, with few blackish spots of organic matter. pH 8.
50 - 120	-	greenish gray (5G 6/1) heavy clay with few medium distinct yellowish brown mottles. pH 8, below 60 cm common blackish spots of organic matter, below 100 cm gypsum crystals. pH 8.
Groundwater	-	- 1.00 m
Salinity	-	surface water ground water 16.0 mmho
Land Capability Class :	-	Rm I, Rt I, Ct I
Soil Classification :	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 13

Soil Description

0 - 15 cm	-	dark gray clay (10YR 4/1) with many fine distinct yellowish red (5YR 4/6) mottles and common medium faint yellowish brown (10YR 5/4) mottles with common fine medium roots, few shell fragments and few blackish spots of organic matter. pH 8.
15 - 30	-	mottled dark gray (10YR 4/1) dark grayish brown (2.5Y 4/2) clay, with many fine distinct yellowish red (5YR 4/6) mottles and few medium faint yellowish brown (10YR 5/4) mottles, few fine roots, few plant remnants, few plant remnants, few shell fragments. pH 7.5
30 - 50	-	greenish gray (5GY 6/1) heavy clay with many medium distinct yellowish brown (10YR 5/8) and many fine and medium dark gray (Mn) mottles. pH 7.5
50 - 80	-	mottled gray to light gray (5Y 6/1) and yellowish brown (10YR 5/8) clay, few medium distinct dark gray(Mn) mottles. pH 8.
80 - 120	-	greenish gray (5GY 6/1) clay with many coarse and distinct yellowish brown (10YR 5/8) mottles and few dark gray (5Y 4/1) mottles. pH 8, many very large elongated transparent gypsum crystals.

Groundwater	-	- 1.00 m
Salinity	-	surface water groundwater 16 mmho
Land Capability Class :	-	Rm I; Rt I; Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 14

Soil Description

0 - 20 cm	-	very dark grayish brown (10YR 3/2) heavy clay with few distinct medium yellowish brown (10YR 5/8) mottles, common fine roots, few plant remnants; few shell fragments. pH 8.
20 - 30	-	dark gray (10YR 4/1) heavy clay, with common medium prominent strong brown (7.5YR 4/6) mottles and few coarse faint dark grayish brown (10YR 4/2) mottles, few shell fragments. pH 8.
30 - 50	-	dark gray (10YR 4/1) heavy clay with many distinct medium and coarse brownish yellow (10YR 6/8) mottles, few medium faint (5GY 6/1) greenish gray mottles,few shell fragments. pH 8.
50 - 70	-	greenish gray (5G 6/1) heavy clay with many coarse distinct yellowish brown (10YR 5/8) mottles and few medium distinct strong brown (7.5YR 5/8) mottles. pH 8.
70 - 110	-	as above.
Groundwater	-	- 1.10 m
Salinity	-	surface water ground water 15.0mmho
Land Capability Class :	-	Rm I, Rt I; Ct I
Soil Classification:	-	Tropic Fluvaquent, very fine, mixed, non-acid,isohyperthermic

NO. 15

Soil Description

0 - 20 cm	-	very dark grayish brown clay (10YR 3/2) with common fine faint yellowish brown(10YR 5/4) and yellowish brown (10YR 5/8) mottles and few strong brown (7.5YR 4/6) mottles, few coarse blackish spots of organic matter, common fine and medium roots. pH 8.
20 - 30	-	dark gray (N4) clay with common medium distinct yellowish brown (10YR 5/8) mottles, few shell fragments. pH 8.
30 - 60	-	mottled yellowish brown (10YR 5/6) pale olive (5Y 6/3) heavy clay, with few medium distinct dark gray (N4) mottles (due to organic matter) pH 8.
60 - 130	-	greenish gray (5GY 6/1) heavy clay with many medium and coarse distinct yellowish brown (10YR 5/6) mottles. pH 8.
130 - 150	-	mottled dark brown (7.5YR 3/2), dark gray (N4) heavy clay, with few medium distinct strong brown (7.5YR 4/6) mottles and common medium and coarse spots of organic matter; plant remnants in abundance. pH 8.
Groundwater	-	- 1.30 m
Salinity	-	surface water ground water 14 mmho
Land Capability Class :	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 16

Soil Description

0 - 20 cm	-	very dark grayish brown (10YR 3/2) clay with few medium distinct brownish yellow (10YR 6/8) and few medium distinct strong brown (7.5YR 4/6) mottles, common fine roots, few hard rounded Mn concretions.
20 - 30	-	mottled dark gray (10YR 4/1), yellowish brown (10YR 5/4) and strong brown (7.5YR 5/8) heavy clay with common medium and coarse blackish spots of organic matter, few fine and medium hard rounded Fe Mn concretions and few fine roots. pH 8.
30 - 50	-	dark gray (10YR 4/1) heavy clay with many coarse distinct yellowish brown (10YR 5/4) and common fine distinct strong brown (7.5YR 4/6) mottles. Few Mn concretions. pH 8

50 - 130	-	yellowish brown (10YR 5/4) clay with few fine faint yellowish brown (10YR 5/8) mottles and few fine rounded hard Mn concretions (black). From 100 cm downwards many medium faint (10YR 6/4) light yellowish brown mottles.
Groundwater:	-	not encountered
Salinity:	-	not measured
Land Capability:	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic

NO. 17

Soil Description:

0 - 30 cm	-	mottled gray (10YR 5/1), yellowish brown (10YR 5/6) heavy clay. pH 8.
30 - 70	-	yellowish brown (10YR 5/6) heavy clay with few fine distinct gray (10YR 5/1) mottles with common fine hard non-manganese concretions. pH 8.
70 - 100	-	yellowish brown (10YR 5/6) heavy clay with common fine faint light brownish gray (10YR 6/2) and few coarse distinct dark gray (10YR 4/1) mottles, common fine soft manganese concretions. pH 8.
100 - 130	-	gray (10YR 5/1) heavy clay with many fine distinct yellowish brown (10YR 5/6) mottles, few fine soft and hard Manganese concretions. pH 8.
130 - 150	-	mottled light greenish gray (5G 7/1) yellowish brown (10YR 5/6) heavy clay, at greater depth red (2.5YR 4/6) mottles occur.
Groundwater	-	- 1.25 m
Salinity	-	surface water 3.4 mmho ground water 11.5 mmho
Land Capability Class :	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 18

Soil Description :

0 - 10 cm	-	very dark grayish brown (10YR 3/2) heavy clay, with many medium distinct strong brown (7.5YR 4/6) [illegible]. mottles, common fine and medium roots. pH 8.
10 - 60	-	mottled very dark gray (10YR 4/2) heavy clay few fine roots, few shell fragments,few coarse blackish spots of organic matter pH 8.
60 - 70	-	mottled yellowish brown (10YR 5/4) dark gray (10YR 4/1) heavy clay. pH 8.
70 - 120	-	mottled yellowish brown (10YR 5/8) and (10YR 5/4) grayish brown (10YR 5/2) heavy clay with common hard rounded manganese concretions and few fine pockets of powdery gypsum crystals; few fine blackish spots of organic matter. pH 8.
120 - 130	-	greenish gray (5GY 5/1) heavy clay with many medium distinct yellowish brown (10YR 5/8) mottles, few blackish spots of organic matter, also coarse medium prominent (5YR 5/8) yellowish red mottles. pH 7.5
Ground water	-	- 1.80 m
Salinity	-	surface water 1.5 mmho ground water 9.5 mmho
Land Classification:	-	Rm I, Rt I, Ct I
Soil Classification:	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

NO. 19

Soil Description

0 - 10 cm	-	mottled dark gray (10YR 4/1) yellowish brown (10YR 5/8) strong brown (7.5YR 4/6) heavy clay, few blackish spots of organic matter, many plant remnants and common roots. pH 8.
10 - 50	-	dark gray (5Y 4/1) heavy clay with common medium and coarse dark yellowish brown (10YR 3/6) mottles; common plant remaants common roots; few blackish spots of organic matter. pH 8.
50 - 70	-	mottled yellowish brown (10YR 5/8) and dark grayish brown (10YR 4/2) heavy clay with few blackish spots of organic matter. Few fine roots. pH 8.

70 - 90 - mottled yellowish brown (10YR 5/8) and yellowish brown (10YR 5/4) and greenish gray (5GY 6/1) heavy clay. Few blackish spots of organic matter. Few pockets of small gypsum crystals. Few fine roots. pH 8.

90 - 120 - mottled greenish gray (5GY 6/1) and yellowish brown (10YR 5/8) heavy clay with few medium distinct (5BG 6/1) greenish gray, mottles. Small gypsum crystals in pockets. pH 8

120 - 150 - greensih gray (5G 6/1) heavy clay with many medium distinct yellowish brown (10YR 5/8) and dark yellowish brown (10YR 3/6) mottles.

Groundwater - -1.40

Salinity - surface water: ground water: 9.5 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 20

Soil Description

0 - 10 cm - brown to dark brown (10YR 4/3) heavy clay with few fine faint yellowish brown (10YR 5/8) mottles. Many fine and medium roots. pH 8.

10 - 50 - dark greenish gray (5GY 4/1) heavy clay with many coarse distinct light olive brown (2.5Y 5/4) mottles, common blackish spots of organic matter. Common plant remnants. Few pockets of gypsum crystals along root channels. pH 8

50 - 70 - brown to dark brown (10YR 4/3) heavy clay with few blackish spots of organic matter with common coarse faint dark grayish brown (10YR 4/2) mottles. pH 8.

70 - 100 - mottled greenish gray (5BG 6/1) yellowish brown (10YR 5/8) heavy clay. pH 8.

100 - 130 - dark gray (5Y 4/1) heavy clay with many medium and coarse distinct greenish gray (5BG 6/1) and yellowish brown (10YR 5/4) mottles. Many plant remnants. Many blackish spots of organic matter. pH 8.

130 - 150 - dark greenish gray (5BG 4/1) heavy clay with plant remnants and blackish spots of organic matter and common medium distinct light olive brown (2.5Y 4/6) mottles. Few violet mottles.

Groundwater: - not encountered

Salinity - not measured

Land Classification: - Rm I, Rt I, Ct I

Soil Classification: - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic. Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic.

NO. 21

Soil Description

0 - 20 - mottled dark grayish brown (10YR 4/2) dark gray (5Y 4/1) and strong brown (7.5YR 4/6) heavy clay. Many fine roots, common coarse blackish spots of organic matter. pH 8.

20 - 50 - mottled dark greenish gray (5GY 4/1) and very dark gray (N3) due to organic matter) heavy clay, with common coarse distinct dark reddish brown mottles, common plants remnants few fine roots. pH 8.

50 - 110 - greenish gray (5GY 5/1) heavy clay with common coarse distinct light olive brown (2.5Y 5/4) and few fine, medium faint gray (N5) and few medium distinct (5G 5/2) grayish green mottles and few fine distinct yellowish brown (10YR 5/3) mottles. Few plant remnants. pH 8.

110 - 120 - mottled brown to dark brown (7.5YR 4/2) heavy clay with greenish gray (5GY 5/1) many plant remnants and many coarse blackish spots of organic matter. pH 8.

Groundwater - 1.00 m

Salinity: - surface water ground water 15.0 mmho

Land Capability Class : - Rm I, Rt I, Ct I

Soil Classification: - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 22

Soil Description

0 - 25 cm - mottled very dark grayish brown (10YR 3/2) greenish gray (5GY 5/1), and strong brown (7.5YR 5/8) and strong brown (7.5YR 4/6) heavy clay, with coarse blackish spots of organic matter, few soft spherical blackish Mn concretions and common fine roots. pH 8.

25 - 35	-	greenish gray (5GY 5/1) heavy clay, with medium common distinct strong brown (7.5YR 4/6) and strong brown (7.5YR 5/8) mottles, and with common medium distinct very pale brown (10YR 8/4) mottles. pH 8.
35 - 60	-	dark greenish gray (5GY 4/1) heavy clay, with common medium distinct yellowish brown (10YR 5/8) and few fine distinct yellowish red (5YR 4/6) mottles. pH 8.
60 - 100	-	greenish gray (5GY 6/1) heavy clay, with common medium and coarse distinct light olive brown (2.5Y 5/6) mottles, and few medium distinct blackish spots of organic matter. pH 8.
100 - 120	-	mottled dark brown to brown (7.5YR 4/2) with greenish gray (5GY 5/1) heavy clay, with many plant remnants and many coarse blackish spots of organic matter. pH 8.
Groundwater	-	- 1.00 m
Salinity	-	surface water ground water 15.0 mmho
Land Capability Class	-	Rm I; Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 23

Soil Description

0 - 15 cm	-	mottled dark gray (10YR 4/1), strong brown (7.5YR 4/6) heavy clay, many fine roots. pH 6.
15 - 25	-	mottled dark gray (10YR 4/1), strong brown (7.5YR 5/8) and yellowish brown (10YR 5/8) heavy clay with many soft whitish spots of gypsum, few fine roots. pH 8.
25 - 40	-	dark gray (5Y 4/1) heavy clay with many light gray (10YR 7/2) spots of gypsum crystals and common coarse black spots of organic matter. pH 8.
40 - 60	-	mottled fine greenish gray (GY 5/1) and light gray (10YR 7/2) (spots of gypsum crystals) heavy clay, with common medium and coarse distinct brown (10YR 5/3) mottles, many coarse gypsum crystals. pH 8.
60 - 80	-	greenish gray (5GY 6/1) heavy clay, with many medium and coarse distinct olive brown (2.5Y 4/4) mottles, and common medium distinct strong brown (7.5YR 4/6) mottles and few fine distinct dark bluish gray (5B 4/1) mottles (due to organic matter) common gypsum crystals. pH 8.

80 - 110	-	mottled dark brown. (7.5YR 4/2) and greenish gray (5GY 5/1) heavy clay, with many blackish coarse spots of organic matter. Many gypsum crystals. Few plant remnants. pH 8.
Groundwater	-	- 1.00 m
Salinity	-	surfacewater 4.0 mmho groundwater 18.0 mmho
Land Capability Class	-	Rm I, Rt I, Ct
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid , isohyperthermic.

NO. 24

Soil Description

0 - 20 cm	-	very dark gray heavy clay (10YR 3/1), with common fine prominent dark red (2.5YR 3/6) and common fine distinct reddish brown (5YR 4/4) mottles. With few plant remnants and common roots. pH 6.
20 - 30	-	mottled gray (N5) and dark reddish brown (2.5YR 3/4) heavy clay. pH7.
30 - 50	-	very dark gray (N3) heavy clay, with few fine distinct reddish brown (5YR 3/4) mottles, few plant remnants. pH 8
50 - 100	-	greenish gray (5GY 6/1) heavy clay, with few fine distinct light olive brown (2.5Y 5/4) mottles and few fine faint dark greenish gray (5GY 5/1) mottles. pH 8.
100 - 110	-	mottled very dark gray (10YR 3/1) and dark gray (10YR 4/2) peaty clay, very dark gray due to plant remnants.
110 - 120	-	greenish gray (5BG 6/1) heavy clay, to gray (5GY 6/1), few plant remnants. pH 8.
Groundwater	-	- 1.10 m
Salinity	-	surface water 3.7 mmho ground water 20 mmho
Land Capability Class:	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 25

Soil Description

0 - 10 cm	-	dark greenish gray (5GY 4/1) heavy clay with few fine distinct (10YR 4/6) dark yellowish brown. mottles, common roots, few small snail shells. pH 8
10 - 30	-	gray (10YR 5/1) heavy clay with common fine distinct yellowish brown (10YR 5/4) mottles , gypsum crystals.
30 - 50	-	light gray (5Y 7/1) heavy clay with common medium and coarse yellowish brown (10YR 5/8) mottles, common fine and medium pockets of gypsum crystals pH 8.
50 - 60	-	mottled light greenish gray (5G 7/1) and strong brown (7.5YR 5/8) heavy clay. pH 8.
60 - 70	-	light gray (10YR 7/1) heavy clay with common fine and medium distinct yellowish brown (10YR 5/6) and few fine prominent red (2.5YR 5/8) mottles. pH 8.
70 - 80	-	light gray (5Y 7/1) heavy clay with few fine distinct yellowish brown (10YR 5/6) mottles pH 8.
80 - 90	-	mottled light gray (5Y 7/1) and yellowish brown (10YR 5/6) heavy clay. pH 8.
90 - 100	-	some gypsum crystals, heavy clay with few fine prominent red (2.5YR 5/8) mottles, and few plant remnants.
Groundwater	-	not encountered
Salinity	-	not measured
Land Capability Class :	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 26

Soil Description

0 - 30 cm	-	mottled very dark grayish brown (10YR 3/2) yellowish brown (10YR 5/8), dark gray (5Y 4/1) heavy clay, few plant remnants, few roots. pH 7.5
30 - 60	-	dark gray (5Y 4/1) heavy clay with many fine distinct (7.5YR 4/6) strong brown heavy clay with many snail shells and many fine pockets of powdery gypsum. pH 8.

60 - 80	-	greenish gray (5GY 6/1) heavy clay with common medium distinct olive brown (2.5Y 4/4) mottles and common medium distinct yellowish brown (10YR 5/8) mottles common medium blackish spots of organic matter, and few spots of gypsum. pH 8. Few medium distinct.dark greenish gray (5GY 4/1) mottles.
80 - 120	-	mottled brown (7.5YR 5/2) (due to organic matter) and greenish gray (5G 6/1) heavy clay few fine distinct yellowish brown (10YR 5/6) mottles. Few plant remnants. Coarse pockets of gypsum. pH 8
Groundwater	-	-90 cm
Salinity	-	surface water ground water 13.0 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification:	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 27

Soil Description

0 - 10 cm	-	dark gray (10YR 4/1) heavy clay with many medium distinct (7.5YR 4/6) strong brown mottles, with common plant remnants and roots and few black spots of organic matter. pH 6.
10 - 30	-	dark gray (10YR 4/1) heavy clay with few fine distinct yellowish brown (10YR 5/8) mottles and few strong brown distinct (7.5YR 4/6) mottles. Common plant remnants few roots. pH 6.5
30 - 70	-	dark gray (5Y 4/1) heavy clay, with few fine faint olive brown (2.5Y 4/6) mottles, and few fine distinct strong brown (7.5YR 4/6) mottles, and few small pockets of gypsum. With depth increasing content of gypsum. pH 8.
70 - 100	-	gray (5Y 6/1) heavy clay with few fine distinct brownish yellow (10YR 6/8) mottles and common coarse distinct dark gray (10YR 4/1) mottles and many pockets of gypsum, also few medium coarse distinct grayish green (5G 4/2) mottles. pH 8. nearly ripe.
Groundwater	-	- 1.00 m
Salinity	-	surface water 3.3 mmho groundwater 13.0 mmho
Land Capability Class:	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 28

Soil Description

0 - 20 cm	-	mottled very dark grayish brown (10YR 3/2) dark gray (5Y 4/1), greenish gray (5GY 5/1) strong brown (7.5YR 4/6) heavy clay. Few spots of organic matter. Many roots. Few plant remnants. pH 7.
20 - 40	-	dark gray (N4) heavy clay, with common fine prominent strong brown (7.5YR 4/6) mottles and few fine and medium distinct yellowish brown (10YR 5/6) mottles and few fine pockets with fine whitish gypsum crystals. pH 7.5
40 - 80	-	gray to light gray (5Y 6/1) heavy clay with common coarse dark gray (N4) mottles and few fine distinct strong brown (7.5YR 4/6) mottles, few pockets of gypsum crystals. Common medium distinct yellowish brown (10YR 5/8) mottles common medium faint greenish gray (5G 6/1) mottles. pH 8.
80 - 110	-	mottled dark reddish gray (5YR 4/2) (decomposed organic matter), gray (5Y 5/1) heavy clay, with common fine and medium faint dark gray (5Y 4/1) mottles. pH 8.
110 - 120	-	mottled very dark gray (10YR 3/1) clay, dark grayish brown (10YR 4/2) clay, with many partly decomposed plant remnants and many spots of organic matter.
Groundwater	-	not encountered
Salinity	-	surface water ground water
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 29

Soil Description

0 - 20 cm	-	mottled dark grayish brown (10YR 4/2) yellowish brown (10YR 5/4) and very dark gray (10YR 3/1) heavy clay, with common roots and few plant remnants. pH 7.5
20 - 50	-	dark gray heavy clay (5Y 4/1) with few fine distinct yellowish brown (10YR 5/8) mottles,few snail shells, few roots. pH 8.
50 - 60	-	mottled yellowish brown (10YR 5/8) dark gray (10YR 4/1) and greenish gray (5GY 5/1) heavy clay, some snail shells. pH 8.

60 - 90	- mottled greenish gray (5GY 6/1) and yellowish brown (10YR 5/8) heavy clay few medium distinct dark gray (5Y 4/1) mottles pH 8.
90 - 100	- dark gray (5GY 6/1) clay, mottled with yellowish brown (10YR 5/8), few medium soft iron concretions. pH 8.
100 - 150	- light gray (N7) heavy clay with many coarse, distinct yellowish brown (10YR 5/8) and common red (2.5YR 4/8) haematite mottles.
150 - 170	- more plant remnants and many coarse prominent red (2.5YR 4/6) mottles.
Groundwater	- 1.50
Salinity	- surface water:- ground water: 13.0 mmho
Land Capability Class	- Rm I, Rt I, Re I
Soil Classification	- Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 30

Soil Description

0 - 10 cm	- dark gray (10YR 4/1) clay with common fine distinct yellowish red (5YR 4/6) mottles. pH 8.
10 - 20	- as above, but dark reddish brown (5YR 3/3) mottles. pH 8.
20 - 50	- gray (10YR 5/1) clay with common fine distinct yellowish brown (10YR 5/6) mottles. Few snail shells fragments; common coarse distinct dark gray (10YR 4/1) mottles. pH 8.
50 - 70	- mottled light yellowish brown (10YR 6/4) gray to light gray (5Y 6/1) heavy clay with few medium and coarse dark gray (N4) iron manganese nodules. pH 8.
70 - 90	- dark gray (5Y 4/1) clay with common fine distinct yellowish brown (10YR 5/4) mottles.
90 - 100	- greenish gray (5G 6/1) heavy clay, with yellowish brown (10YR 5/8) mottles.
Groundwater	- -100 cm
Salinity	- surface water: ground water 15.0 mmho
Land Capability Class	- Rm I, Re I, Ct I
Soil Classification	- Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 31

Soil Description

0 - 20 cm	-	mottled dark grayish brown (10YR 4/2), brown (10YR 5/3) heavy clay with many plant roots and common fine faint yellowish brown (10YR 4/4) mottles few fine hard Manganese nodules. pH 7.5
20 - 60	-	brownish yellow (10YR 6/6) heavy clay with common coarse distinct dark gray (10YR 4/1) mottles. pH 8.
60 - 80	-	brownish (10YR 6/6) heavy clay with few fine medium distinct light gray (10YR 7/1) mottles. 3 - 4% limestone fragments pH 8.
80	-	hard limestone
Groundwater	-	not encountered
Salinity	-	not measured
Land Capability Class	-	Rm IId, Rt IId, Ct I
Soil Classification	-	Tropofluvent , very fine, mixed, calcareous, isohyperthermic

NO. 32

Soil Description

0 - 10 cm	-	mottled dark grayish brown (10YR 4/1) yellowish brown (10YR 5/6) clay, many fine and medium soft and hard iron-concretions. Common spots of Mn. pH 7.
10 - 20	-	yellowish brown (10YR 5/6) clay with few fine distinct (2.5YR 5/8) red and few fine faint grayish brown (10YR 5/2) mottles. Few fine hard iron-Manganese nodules. pH 7.
20 - 30	-	yellowish brown (10YR 5/6) clay with common fine prominent (2.5YR 5/8) red mottles and few and medium distinct light gray (5Y 6/1) mottles and few fine Iron-Manganese nodules. pH 7.5
30 - 125	-	mottled gray to light gray (5Y 6/1), yellowish brown (10YR 5/6), red (2.5YR 5/8) heavy clay few fine hard Iron-Manganese nodules.
Groundwater	-	- 1.50m
Salinity	-	surface water 2 mmho ground water 18 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic

NO. 33

Soil Description

0 - 15 cm	-	dark gray (10YR 4/1) heavy clay with common fine distinct yellowish brown (10YR 4/4) mottles, common plant remnants.
15 - 30	-	dark gray (10YR 4/1) heavy clay with common fine prominent reddish brown (5YR 4/4) mottles. Few common fine blackish spots of organic matter. pH 8.
30 - 50	-	greenish gray (5G 5/1) heavy clay with common fine prominent yellowish red (5YR 5/8) mottles very few plant remnants. pH 8.
50 - 60	-	gray clay (5Y 5/1) with common fine distinct yellowish brown (10YR 5/6) mottles.
60 - 90	-	greenish gray (5G 6/1) clay with many fine distinct yellowish brown (10YR 5/6) mottles. Few coarse distinct dark gray (N4) nodules.
90 - 100	-	mottled gray (N5), greenish gray (5G 6/1) and yellowish brown (10YR 5/6) clay. pH 8.
100 - 120	-	greenish gray (5G 6/1) clay with common fine distinct yellowish (10YR 5/4) mottles. Light gray (5YR 4/1) spots of organic matter. pH 8.
120 - 150	-	very dark gray (5YR 3/1) to dark gray (5YR 4/1) peaty clay, many partly decomposed plant remnants.
150 - 170	-	dark gray (5Y 4/1) clay few fine faint dark brown to brown (10YR 4/3) mottles. Few plant remnants. pH 8.
Groundwater	-	not encountered
Salinity	-	not measured
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 34

Soil Description

0 - 10 cm	-	mottled grayish brown (10YR 5/2) yellowish brown (10YR 5/6) clay. pH 8.
10 - 20	-	mottled gray (10YR 5/1), yellowish brown (10YR 5/6) heavy clay, with few fine spots of organic matter. pH 8.
20 - 40	-	greenish gray (5GY 5/1) clay, with many medium distinct yellowish brown (10YR 5/6) mottles, common fine blackish spots of organic matter. pH 8.

40 - 60	-	mottled gray (10YR 5/1), yellowish brown (10YR 5/6) heavy clay. pH 8.
60 - 100	-	gray to light gray (10YR 6/1) clay with many fine distinct yellowish brown (10YR 5/8) mottles. Few fine soft and hard black manganese nodules. pH 8.
100 - 120	-	greenish gray (5GY 6/1) clay with many fine distinct yellowish brown (10YR 5/8) mottles,few fine soft and hard manganese nodules. pH 8.
120 - 150	-	mottled greenish gray (5GY 6/1), strong brown (7.5YR 5/6) clay, very few soft and hard manganese nodules.
150 -	-	gray (5GY 5/1) clay, with common fine medium prominent yellowish red (5YR 5/8) manganese nodules. Common fine soft and hard black spots of organic matter.
Groundwater	-	not encountered
Salinity	-	surface water 2.1 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 35

Soil Description

0 - 10 cm	-	dark gray (10YR 4/1) clay, with common fine prominent reddish brown (5YR 5/4) mottles; common medium distinct black (10YR 2/1) spots of organic matter; pH 7.5.
10 - 40	-	mottled: gray (10YR 5/1) and strong brown (7.5YR 5/6) clay; pH 6.5
40 - 60	-	dark gray (10YR 4/1) clay, with common fine distinct reddish brown (5YR 4/4) and strong brown (7.5YR 4/6) mottles; pH 6.0.
60 - 80	-	mottled dark gray (N 4/), dark reddish brown (5YR 3/4) and reddish brown (5YR 4/4) clay; common very fine shiny gypsumcrystals; veins of powdery whitishgypsum; pH 7.0 (dark gray colours increase with depth)
80 - 100	-	greenish gray (5GY 5/1) heavy clay, with few fine distinct olive brown (?) mottles; fewgypsumcrystals; pH 8.0
100 - 120	-	greenish gray (5GY 5/1) heavy clay, with many medium and coarse distinct yellowish brown (10YR 5/6) mottles; few gypsumcrystals; pH 8.0
Groundwater	-	100 cm
Salinity	-	surface water 2 2 mmho ground water14 mmho
Land Capability Class :	-	Rm I, Rt,I, Ct.I
Soil Classification:	:	Aeric Tropic Fluvaquent fine, mixed non-acid, isohyperthermic

NO. 36

Soil Description

0 - 30 cm	-	dark grayish brown (10YR 4/2) clay, with common fine distinct dark reddish brown (10YR 3/4) mottles; common medium distinct very dark gray (10YR 3/1) spots of organic matter; pH 6.0
30 - 50	-	gray (10YR 5/1) clay, with common fine prominent dark brown (7.5YR 4/4) mottles; pH 7.5
50 - 60	-	gray (5YR 5/1) heavy clay, with few fine faint dark yellowish brown (10YR 4/6) mottles; few plant remnants; pH 8.0
60 - 100	-	mottled: gray to light gray (5Y 6/1) and very dark grayish brown (10YR 3/2) heavy clay; pH 8.0
100 - 130	-	gray to light gray 5Y 6/1) heavy clay, with very dark grayish brown (10YR 3/2) mottles; few gypsum crystals; pH 8.0
130 - 140	-	dark gray (10YR 4/1) half ripe heavy clay, few plant remnants; pH 8.0
Soil Classification	-	Aeric Tropic Fluvaquent, fine mixed non-acid,isophythermic

Groundwater - 100 cm

Salinity - surface water 1.2 mmho; ground water 16 mmho

Land Capability Class - Rm I; Rt I; Ct I.

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isophythermic

NO.37

Soil Description :

0 - 10 cm - mottled: very dark gray (10YR 3/1) and dark yellowish brown (10YR 4/4) clay: few medium and coarse blackish organic matter spots; pH 5.5

10 - 50 - reddish gray (5YR 5/2) clay, with many fine distinct dark reddish brown (5YR 3/3) mottles;few plant remnants; pH 5.5

50 - 80 - very dark gray (10YR 4/1) heavy clay, with few fine distinct dark reddish brown (5YR 3/3) mottles; very few plant remnants; fewgypsumcrystals; strong H_2S-smell; pH 7.5

80 - 110 - greenish gray (5GY 6/1) heavy clay, few plant remnants; strong H_2S-smell, pH 8.0

110 - 120 - very dark gray (10YR 4/1) heavy clay, common plant remnants pH 8.0

Groundwater - 60 cm

Salinity - surface water 1.5 mmho, ground water 8 mmho

Land Capability Class - Rm IIIn, Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic.

NO.38

Soil Description :

0 - 30 cm - dark gray (10YR 4/1) clay, with many fine prominent yellowish red (5YR 4/6) mottles; few medium and coarse blackish organic matter spots; pH 6.0.

30 - 60 - mottled: very dark gray (10YR 3/1), dark grayish brown (10YR 4/2) and dark yellowish brown (10YR 4/4), few plant remnants; pH 7.0

60 - 80 - very dark gray (10YR 3/1) heavy clay, with common fine faint brown (10YR 5/3) mottles; few plant remnants; pH 7.0

80 - 120 - grayish brown (10YR 5/2) half ripe heavy clay, with few fine faint dark yellowish brown (10YR 4/4) mottles; pH 8.0

Groundwater - 60 cm

Salinity - surface water: 1.5 mmho ground water: 6 mmho

Land Capability Class - RmI: Rt I: Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 39

Soil Description

0 - 30 cm	-	dark grayish brown (10YR 4/2) clay, with many fine prominent yellowish red (5YR 4/6) mottles; few medium and coarse blackish organic matter spots; pH 5.5
30 - 50	-	mottled: very dark gray (10YR 3/1) dark gray (10YR 4/1) and dark brown (7.5YR 3/4) clay; pH 7.0.
50 - 60	-	same as above horizon, but heavy clay texture and with gypsumcrystals; pH 7.5
60 - 90	-	dark grayish brown (10YR 4/2) heavy clay, with few fine distinct dark yellowish brown (10YR 3/4) and few fine distinct greenish gray (5G 5/2 + 4/2) mottles; few plant remnants; fewgypsumcrystals; pH 8.0
90 - 120	-	dark gray (10YR 4/4) mottles; pH 8.0
Groundwater	-	60 cm
Salinity	-	surface water 1.3 mmho groundwater 1.3 mmho
Land Capability Class :	-	Rm I; R. I; Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO.40

Soil Description :

0 - 30 cm	-	dark gray (10YR 4/1) clay, with many fine and medium distinct strong brown (10YR 4/6) mottles; common medium blackish organic matter spots; pH 6.0
30 - 40	-	dark gray (N4/) clay with few fine distinct dark brown (2.5 YR 3/4) mottles; few fine plant remnants; pH 6.5
40 - 80	-	greenish gray (5GY 5/1) heavy clay, few plant remnants; pH 8.0
80 - 110	-	mottled: very dark grayish brown (10YR 3/2) and dark grayish brown (10YR 4/2) heavy clay; common plant remnants; pH 8.0
110 - 120	-	olive (5Y 5/3) half ripe heavy clay; few fine gravels (probablygypsumcrystals) pH 8.0
Groundwater	-	80 cm
Salinity	-	surface water ground water
Land Capability Class:	-	Rm I; Rt I; Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isophythermic

NO.41

Soil Description

0 - 20 cm	-	dark gray (10YR 4/1) clay with many fine prominent reddish brown (5YR 4/4) and common fine distinct very dark gray (10YR 3/1) mottles. pH 7
20 - 30	-	dark grayish brown (10YR 4/2) heavy clay with common fine distinct dark yellowish brown (10YR 4/4) mottles. pH 7
30 - 60	-	gray to light gray clay (5Y 6/1) with common fine prominent strong brown (7.5YR 5/6) mottles; some gypsumcrystals. pH 8
60 - 100	-	gray (N5) clay with common fine distinct yellowish brown (10YR 5/4) mottles;gypsumcrystals pH 8
100-120	-	gray (5Y 5/1) half ripe heavy clay with common faint olive (5Y 5/4) mottles;gypsumcrystals; pH 8.
Groundwater	-	100 cm
Salinity -	-	surface water - ground water: 18 mmho
Land Capability Class :	-	Rm I; Rt I; Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 42

Soil Description

0 - 20 cm	-	dark gray (10YR 4/1) heavy clay, with common fine distinct dark brown (7.5YR 4/4) mottles. Common plant remnants. pH 6
30 - 50	-	very dark gray brown (10YR 3/2) heavy clay with common fine distinct gray (10YR 3/2) heavy clay and common fine distinct strong brown (7.5YR 4/3)and few fine prominent yellowish red (5YR 4/6) mottles pH 6.5
50 - 120	-	dark gray (10YR 4/1) and gray (10YR 5/1) half ripe; heavy clay; plant remnants below 70 cm gypsumcrystals at 100 cm. pH 8.
Groundwater	-	10 cm
Salinity	-	surface water 1.8 mmho groundwater 5.2 mmho
Land Capability Class	-	Rm I; Rt I; Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 43

Soil Description

0 - 15 cm	-	dark gtay (10YR 4/1) clay with common fine distinct light gray (10YR 6/1) and yellowish brown (10YR 5/4) mottles. pH 7
15 - 40	-	greenish gray clay (5GY 6/1) with many fine distinct yellowish brown (10YR 5/4) mottles and common fine distinct dark grayish brown (10YR 4/2) mottles and common plant remnants. pH 8.
40 - 50	-	light greenish gray (5G 7/1) clay with many fine and medium prominent yellowish brown mottles (10YR 5/4). pH 8
50 - 60	-	yellowish brown (10YR 5/4) heavy clay with pockets of iron concretions with common light greenish gray (5G 7/1) mottles.
60 - 120	-	as in 40 - 50 cm, with the addition of rounded fine and medium manganese concretions increasing in quantity and size with depth. pH 8
120 - 140	-	greenish gray clay (5G 6/1) with many coarse distinct dark gray (N/4) and many coarse distinct yellowish brown (10YR 5/4) mottles with common hard medium rounded manganese nodules (20%).
below 140	-	common medium and coarse weathered limestone fragments (30 - 40%)
Groundwater:	-	not encountered
Salinity:	-	surface water soil water
Land Capability Class	-	Rm I; Rt I; Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 44

Soil Description

0 - 10 cm	-	dark grayish brown (10YR 4/2) heavy clay with common fine distinct strong brown (7.5YR 4/6) and few medium distinct dark gray (N4) mottles few plant remnants. pH 7
10 - 30	-	gray (5Y 5/1) heavy clay with common fine distinct yellowish brown (10YR 5/6) and few coarse prominent dark red (2.5YR 3/6) mottles. Plant remnants. pH 8. Few coarse blackish spots of organic matter.
30 - 60	-	greenish gray (5GY 6/1) heavy clay with many fine distinct yellowish brown (10YR 5/6) mottles. Few plant remnants. Common spots of organic matter. pH 8.
60 - 80	-	light greenish gray (5GY 6/1) heavy clay with common medium distinct yellowish brown (10YR 5/6) mottles. pH 8
80 - 90	-	mottled light gray (N/7) and strong brown (7.5YR 5/8) heavy clay. gypsum crystals. iron concretions. pH 8. Ten percent
	-	limestone gravel, fine and medium.
90	-	hard limestone rock

Groundwater: - not encountered

Salinity: - not measured

Land Capability Class: - Rm - IId; Rt IId; Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic moderately deep phase.

NO. 45

Soil Description

0 - 10 cm	-	mottled dark gray (10YR 4/1) and dark yellowish brown (10YR 4/6) clay, few plant remnants, common black spots of organic matter, many brick remnants. pH 8.
10 - 25	-	grey (10YR 5/1) heavy clay with common medium/fine distinct strong brown (7.5YR 4/6) mottles. Snail shells. pH 8
25 - 50	-	gray (N5) clay with common medium distinct yellowish brown (10YR 5/8) mottles heavy clay. pH 8
50 - 55	-	very dark gray (10YR 3/1) clay with many coarse distinct brownish yellow (10YR 6/8) mottles. 10% slightly weathered limestone fragments, few plant remnants, few spots of organic matter. pH 8.
below 55	-	hard limestone

Groundwater: - not encountered

Salinity: - not measured

Land Capability Class: - Rm IId; Rt IId; Ct I.

Soil Classification - Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic moderately deep phase.

NO.46

Soil Description

0 - 10 cm	-	mottled dark greenish gray (5GY 4/1), very dark gray (10YR 3/1), yellowish brown (10YR 5/4) heavy clay, few plant remnants common spots of organic matter, few fine distinct yellowish red (5YR 5/8) mottles. pH 8.
10 - 50	-	dark gray (5Y 4/1) heavy clay, with common fine distinct yellowish red (5YR 4/6) mottles, snail shells. pH 8.
50 - 120	-	mottled dark gray (5Y 4/1), greenish gray (5GY 6/1) yellowish brown (10YR 5/6) heavy clay, with few snail shells. pH 8

Groundwater - -1.10 m

Salinity - surface water 4.4 mmho ground water : 1.9 mmho

Land Capability Class : - Rm I; Rt I; Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic

NO. 47

Soil Description

0 - 20	-	dark gray (5Y 4/1) heavy clay, with few fine faint yellowish brown (10YR 5/8) mottles. Few plant remnants and charcoal spots. pH 8
20 - 40	-	dark gray (5Y 4/1) heavy clay with common fine and medium prominent, strong brown (7.5YR 4/6) mottles, few snail shells. pH 8
40 - 60	-	greenish gray (5GY 5/1) heavy clay with common fine distinct yellowish brown (10YR 5/8) mottles.
60 - 120	-	greenish gray (5G 5/1) heavy clay with common fine and medium distinct yellowish brown (10YR 5/8) mottles. pH 8
120	-	dark greenish gray (5G 4/1) heavy clay with few fine faint light olive brown (2.5Y 5/4) mottles, few plant remnants, few blackish spots of organic matter. pH 8 nearly ripe.

Groundwater - -1.20 m

Salinity - surface water groundwater 19 mmho

Land Capability Class : - Rm I; Rt I; Ct I

Land Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 48

Soil Description

0 - 30 cm	-	yellowish brown clay (10YR 5/4) with few fine faint dark grayish brown (10YR 4/2) mottles and few fine faint yellowish brown (10YR 5/8) mottles. pH 8.
30 - 60	-	brown (10YR 5/3) clay with common fine and medium distinct yellowish brown (10YR 5/8) and few fine faint very dark grayish brown (10YR 3/2) mottles. pH 8.
60 - 80	-	dark grayish brown (2.5YR 4/2) heavy clay with common fine faint yellowish brown (10YR 5/6) mottles pH 8
80 - 100	-	brownish yellow (10YR 6/6) heavy clay with common fine faint light olive brown (2.5Y 5/4) mottles and few fine distinct dark greenish grey (5GY 4/1) mottles, few lime concretions. pH 8

100 - 120		as above, with few fine hard spherical Manganese concretions
120 - 130	-	change to greenish gray (5GY 5/1) heavy clay with many medium and coarse yellowish brown mottles (10YR 5/6).
130 - 180	-	mottled greenish gray (5GY 6/1), (10YR 5/8) yellowish brown clay with few manganese concretions, with common fine prominent (10 R 4/6) haematite mottles.
Groundwater	-	- 200 m
Salinity	-	surface water 1.9 mmho groundwater not measured
Land Capability Class :	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropofluvent, very fine, mixed, non-acid, isohyperthermic

NO. 49

Soil Description

0 - 30 cm	-	very dark grayish brown (10YR 3/2) clay with many medium distinct strong brown (7 - 5 YR 4/6), mottles; common fine and medium roots; few charcoal fragments. pH 8
30 - 50	-	dark brown (7.5YR 3/2) peaty clay with many fine distinct strong brown (7.5YR 4/6) mottles; many blackish spots due to organic matter, many plant remnants; many common fine root; pH 7.
50 - 80	-	gray (10YR 5/1) heavy clay with common blackish spots of plant remnants. pH 7.
80 - 110	-	greenish gray (5GY 5/1) heavy clay with many blackish spots of organic matter; Few plant remnants and many small medium gypsum crystals.
110 - 120	-	very dark gray (10YR 3/1) peaty clay with many plant remnants. pH 7
Groundwater:	-	1.20 m
Salinity	-	surface water ground water 15.0 mmho
Land Capability Class	-	Rm I; Rt I; Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 50

Soil Description :

0 - 20 cm	-	very dark grayish brown (10YR 3/2) clay with many medium distinct strong brown (7.5YR 4/6) mottles; many fine and medium roots; common plant fragments pH 6
20 - 50	-	very dark grayish brown (10YR 3/2) clay with many medium distinct strong brown (7.5YR 4/6) mottles.
50 - 90	-	dark gray (10YR 4/1) peaty clay with many plant remnants; strong small of H_2S, with common blackish mottles due to organic matter. pH 7.
90 - 110	-	very dark brown (10YR 2/2) peaty clay dark colour is due to organic matter, pH 8.
110 - 120	-	greenish gray clay (5G 6/1) pH 8.
Groundwater	-	- 1.20 cm
Salinity	-	surface water - ground water 9.0 mmho
Land Capability Class	-	Rm IIIn, Rt IIn; Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, fine, non-acid, mixed, isohyperthermic

NO. 51

Soil Description

0 - 30 cm	-	very dark grayish brown (10YR 3/2) heavy clay with few fine distinct yellowish brown (10YR 5/8) and few medium faint very dark gray (10YR 3/1) mottles; common fine and medium roots. pH 8.
30 - 50	-	dark gray (10YR 4/1) heavy clay with few fine faint brown (10YR 5/3) mottles; Few plant remnants; few fine roots few dark spots of organic matter. pH 8.
50 - 80	-	greenish gray (5GY 5/1) heavy clay with few blackish spots of organic matter; common medium distinct dark gray (5Y 4/1) mottles. pH8.
80 - 100	-	very dark grayish brown (10YR 3/2) peaty clay, with many plant remnants; blackish spots of organic matter. Slight smell of H_2S; pH 8.
100 - 200	-	dark greenish gray (5G 4/1) peaty clay; many blackish spots of organic matter. Few plant remnants.
Groundwater	-	- 200 cm
Salinity	-	surface water - ground water 10.0 mmho
Land Capability Class:	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 52

Soil Description

0 - 30	-	very dark grayish brown (10YR 3/2) clay with many medium distinct strong brown (7.5YR 4/6) mottles; many fine and medium roots; pH 5.5
30 - 60	-	mottled, dark grayish brown (10YR 4/2) brown (7.5YR 5/2) and very dark gray (10YR 3/1) clay, with common fine distinct strong brown (7.5YR 4/6) mottles; many pockets with powdery gypsum and gypsum crystals, common fine and medium roots, common plant remnants. pH 6.5
60 - 90	-	dark brown (7.5YR 4/2) clay with pockets of whitish powdery gypsum and gypsum crystals and pockets of (10YR 5/1) gray clay; few plant remnants; few blackish spots of organic matter. pH 6.5

90 - 110	-	dark brown (10YR 3/3) peaty clay, with pockets as above, common plant remnants; few blackish spots of organic matter. pH 7.
110 - 120	-	mottled greenish gray (5GY 5/1) dark greenish gray (5BG 4/1) and dark gray (NY) heavy clay. pH 7.
Groundwater	-	-120 cm
Salinity	-	surface water - ground water 8.5 mmho
Land Capability Class	-	Rm IIIn; Rt IIn; Ct IIn
Soil Classification:	-	Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 53

Soil Description

0 - 30 cm	-	dark gray (10YR 4/1) clay with many medium prominent yellowish red (5YR 4/6) mottles; Few blackish spots of organic matter; Few fine to medium roots. pH 8.
30 - 50	-	dark gray (10YR 4/1) clay with few medium prominent prominent reddish yellow (7.5YR 6/8) and yellowish red (5YR 5/8) mottles; few fine roots; few blackish spots of organic matter; Few plant remnants.
50 - 100	-	dark grayish brown (10YR 4/2) clay, with many medium distinct gray (10YR 5/1) mottles; abundant pale brown (10YR 6/3) gypsum crystals; Few fine to medium roots; few plant remnants. pH 8.
100 - 120	-	very dark gray (N3) peaty clay with strong H_2S smell; many plant remnants; Few fine roots;
Groundwater	-	-1.00 cm
Salinity	-	surface water ground water 18.0mmho
Land Capability Class:	-	RmI, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent fine,mixed, non-acid, isohyperthermic

NO. 54

Soil Description

0 - 20	-	dark grayish (10YR 4/1) clay with many medium distinct strong brown (7.5YR 4/6) mottles; few fine roots; many plant remnants; Few black spots due to organic matter. pH 6.
20 - 40	-	very dark gray (10YR 3/1) clay with common coarse prominent dark reddish brown (5YR 3/3) mottles; few fine roots; few spots with powdery gypsum; common blackish spots of organic matter. Few plant remnants. pH 7.
40 - 80	-	dark grayish brown (10YR 4/2) clay with many large very pale brown (10YR 6/3) pockets of gypsum crystals; Few blackish spots of organic matter; plant remnants. pH 8.
80 - 110	-	very dark gray (10YR 3/1) peaty clay with many plant remnants; few fine roots; slight H_2S smell; Few pockets of gypsum crystals. pH 8.
110 - 120	-	dark grayish brown (10YR 4/2) clay; few plant remnants; few fine roots pH 8.
Groundwater	-	- 120 cm
Salinity	-	surface water - ground water 16.0 mmho
Land Capability Class	-	Rm IIIn, Rt IIn, Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 55

Soil Description

0 - 10 cm	-	dark gray (10YR 4/1) heavy clay with many medium distinct strong brown (7.5YR 4/6) mottles; many plant remnants; many fine to medium roots; few blackish spots pH 8.
10 - 30	-	very dark gray (10YR 3/1) heavy clay with many medium distinct strong brown (7.5YR 4/6) mottles; many fine and medium roots; few blackish spots of organic matter. pH 8.
30 - 60	-	very dark gray (10YR 3/1) clay with few fine faint strong brown (7.5YR 4/6) mottles; many pockets of pinkish gray (7.5YR 7/2) gypsum crystals; few fine and medium roots; few blackish spots of organic matter. pH 8.

60 - 80 - mottled yellowish brown (10YR 5/6) grayish brown (10YR 5/2) clay, with many pockets of gypsum crystals; few blackish spots of organic matter. pH 8.

80 - 100 - dark grayish brown (10YR 4/2) clay, with few fine faint gray (10YR 5/1) mottles; few small pockets of powdery gypsum crystals; few plant remnants; few blackish spots of organic matter.

100 - 120 - olive (5Y 5/3) clay with many medium and coarse very dark gray (N 3) mottles, with many blackish spots of organic matter; few pockets of powdery gypsum.

Groundwater - 1.10 cm

Salinity - surface water ground water 12.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 56

Soil Description

0 - 20 cm - dark grayish brown (10YR 4/2) clay with common medium distinct strong brown (7.5YR 5/8) mottles; many fine and medium roots; few blackish spots of organic matter; few roots. pH 8.

20 - 50 - dark gray (10YR 4/1) clay with few fine distinct strong brown (7.5YR 4/6) mottles; pockets of powdery gypsum; few fine roots; few blackish spots of organic matter; pH 8.

50 - 110 - mottled gray (10YR 5/1) pale brown (10YR 6/3) clay; many gypsum crystals; few pockets of powdery gypsum; few plant remnants; few blackish spots of organic matter. pH 8. at 100 - 110 abundant dispersed gypsum crystals.

110 - 120 - black (10YR 2/1) peaty clay; many plant remnants; gypsum crystals scattered.

120-+ - a layer of black (N2) organic matter.

Groundwater - -120 cm

Salinity - surface water ground water 11.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 57

Soil Description

0 - 20 cm	-	dark gray (10YR 4/1) clay with common faint distinct strong brown (7.5YR 4/6) mottles many fine and medium roots; with many blackish spots of organic matter. pH 8.
20 - 60	-	gray (10YR 5/1) clay with many fine faint light yellowish brown (10YR 6/4) mottles; many blackish spots of organic matter; few fine roots; few small pockets of powdery gypsum pH 8.
60 - 100	-	mottled greenish gray (5G 5/1) light gray (10YR 7/2) clay; few large gypsum crystals; few small pockets of powdery gypsum; few plant remnants; few blackish spots of organic matter. pH 8.
100 - 120	-	very dark gray (10YR 3/1) clay, few plant remnants; few blackish spots of organic matter.
Groundwater	-	not encountered
Salinity	-	surface water ground water
Land Capability Class	-	Rm I, Rt I, Ct
Soil Classification	-	Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic.

NO. 58

Soil Description

0 - 20 cm	-	brown to dark brown (10YR 4/3) clay; with common fine faint dark yellowish brown (10YR 4/4) mottles, with partly decomposed plant remnants; common fine roots; few fine limestone fragments; pH 8.
20 - 50	-	brown (10YR 5/3) clay, with common medium distinct dark yellowish brown (10YR 4/4) mottles; partially decomposed organic matter; common fine roots. pH 8.
50 - 60	-	gray (10YR 5/1) clay with common medium prominent dark yellowish brown (10YR 4/4) mottles; pH 8.
60 - 70	-	mottled gray (10YR 5/1), dark yellowish brown (10YR 4/4) clay pH 8.
70 - 130	-	yellowish brown (10YR 5/6) clay with common medium prominent gray (10YR 5/1) also few soft manganese concretions. Few partially decomposed plant remnants few fine roots; very few fine limestone fragments. pH 8.

130 - Mottled bluish gray (5B 6/1) yellowish brown (10YR 5/6) heavy clay; many black spots oforganic matter.

Groundwater - -200 cm

Salinity - surface water:- ground water 10.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine mixed, non-acid,isohyperthermic

NO. 59

Soil Description

0 - 10 cm - mottled dark yellowish brown (10YR 4/4), grayish brown (10YR 5/2) clay, with few small limestone fragments; few fine roots pH 8.

10 - 50 - dark grayish brown (10YR 4/2) clay with common fine distinct dark yellowish brown (10YR 4/1) mottles; very few fine roots. Some small shell fragments. pH 8.

50 - 90 - mottled grayish brown (10YR 5/2) dark greenish gray (5GY 4/1) clay; remnants of plant roots; few faint Manganese concretions; some charcoal pH 8.

70 - 100 - greenish gray (5GY 5/1) clay with coarse distinct yellowish brown (10YR 4/6) mottles, with few fine remnants of plant material; some charcoal; few blackish spots due to organic matter. pH 8.

100 - 120 - greenish gray (5BG 5/1) clay with many medium prominent dark yellowish brown (10YR 4/6) mottles with few fine limestone fragments. pH 8.

120 - 140 - dark greenish gray (5BG 4/1) clay; some partially decomposed plant remnants. pH 8.

140 - 150 - dark greenish gray (5GY 4/1) heavy clay; very few fine limestone fragments at greater depth few coarse spots of gypsum crystals.

Groundwater - - 2.00 m

Salinity - surface water 1.2 mmho, ground water 12.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 60

Soil Description

0 - 10 cm	- mottled very dark grayish brown (10YR 3/2) reddish brown (5YR 3/4), yellowish red (5YR 4/6) heavy clay; with few finegypsumcrystals occurring in veins; Few plant remnants; pH 6
10 - 40	- mottled very dark grayish brown (10YR 3/2) very dark brown (10YR 2/2), brown (10YR 5/3) clay, with common medium distinct dark reddish brown (5YR 3/4) mottles, and common mottles throughout matrix. pH 6.5
40 - 60	- mottled brown to dark brown (2.5YR 4/2) and very dark grayish brown (10YR 3/2) heavy clay, with common medium distinct yellowish brown (10YR 5/8) mottles; common plant remnants, few gypsum crystals, throughout matrix; pH 6.0
60 - 80	- mixed brown to dark brown (7.5YR 4/2) and gray (5Y 5/1) heavy clay with few medium distinct brownish yellow (10YR 6/6) mottles and few medium prominent yellowish red (5YR 4/6) mottles. pH 5.5
80 - 100	- very dark brown (10YR 2/2) clay, with many decomposed plant remnants and many pockets of fine gypsum crystals pH 6.0
100 - 120	- dark gray (10YR 4/1) heavy clay with many blackish spots of organic matter; common plant remnants. pH 6.5
Ground water	- -1.20 cm
Salinity	- surface water . ground water 17.0 mmho
Land Capability Class	- RmI, Rt I, Ct I
Soil Classification:	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 61

Soil Description

0 - 30 cm	- very dark brown (10YR 2/2) clay with many medium distinct yellowish red (5YR 4/6) mottles, mainly along root channels. pH 6.
30 - 60	- very dark grayish brown (10YR 4/2) heavy clay with few blackish spots of organic matter. pH 6.
60 - 80	- very dark grayish brown (10YR 4/2) clay, with many plant fragments; common black spots of organic matter; H_2S smell. pH 6.5

80 - 100 - very dark brown (10YR 2/2) clayey peat with many decomposed and semi-decomposed plant fragments; strong H_2S smell; pH 8.0

100 - 120 - dark grayish brown (2.5Y 4/2) heavy clay with common plant remnants. pH 8.

Groundwater - -1.20 m

Salinity - surface water ground water 19.0 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine mixed, non-acid, isohyperthermic

NO. 62

Soil Description

0 - 10 cm - very dark brown (10YR 2/2) clay with many medium distinct strong brown (7.5YR 4/6) mottles; mainly along root channels; many gypsum crystals occurring in veins. pH .6.0

10 - 60 - disturbed horizon including a variety of colours, brown to dark brown (10YR 4/3), darkbluish gray (5B 4/1), common whitish pockets of gypsum, common medium distinct strong brown (7.5YR 4/6) mottles; few blackish spots of organic matter, clay. pH 6.

60 - 80 - mixed very dark brown (10YR 2/2), yellowish brown (10YR 5/8) (mainly gypsum crystals), greenish gray (5BG 5/1) heavy clay; common plant remnants. pH 8

80 - 100 - same as above, but without gypsum pH 8.

100 - 120 - dark greenish gray (5GY 4/1) heavy clay, with common medium and large distinct gray (5G 4/1) mottles, due to organic matter; common plant remnants; pH 8.

Groundwater - -1.20 m

Salinity - surface water ground water 15.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 63

Soil Description

0 - 30 cm	- very dark grayish brown (10YR 3/2) heavy clay with many medium distinct strong brown (7.5YR 4/6) mottles common fine and medium roots. pH 5.5
30 - 50	- very dark gray (10YR 3/1) clay with few fine distinct strong brown (7.5YR 4/6) mottles; common fine roots. pH 5.5
50 - 60	- dark grayish brown (10YR 4/2) clay with common blackish spots of organic matter; common plant remnants; strong H_2S smell. pH 7
60 - 110	- very dark grayish brown (10YR 3/2) clayey peat; many partly decomposed plant remnants strong H_2S smell. pH 7.5
110 - 120	- dark gray (5YR 4/1) heavy clay, common plant remnants; strong H_2S smell. pH 7.5
Groundwater	- -1,10 cm
Salinity	- surface water ground water 19.0 mmho
Land Capability Class	- Rm IV n/r, Rt III n/p, Ct IIn
Soil Classification	- Aeric Sulfic Tropic Thapto-histic Fluvaquent, fine, mixed non-acid, isohyperthermic

NO. 64

Soil Description

0 - 20 cm	- very dark gray (10YR 3/1) clay with abundant coarse medium fragments of charcoal; common medium and fine brick fragments; many fine and medium roots; many blackish spots of organic matter; few plant remnants, few fine soft gypsum crystals. pH 6
20 - 60	- very dark gray (10YR 3/1) clay, with common fine faint dark yellowish brown (10YR 3/6) mottles, and common fine faint very pale brown (10YR 6/3) mottles; common fine soft gypsum crystals. pH 7.
60 - 80	- very dark gray (10YR 3/1) clay with mottles as above, with common coarse medium distinct very pale brown (10YR 8/3) mottles; also few fine faint light gray (10YR 6/1) mottles; abundant fine, soft and hard gypsum fragments, few fine roots, few small blackish spots of organic matter. pH 8.
80 - 90	- gray brown (10YR 4/2) clay, with common fine faint very pale brown (10YR 8/3) mottles and common fine prominent gray (10YR 5/1) mottles, and common medium prominent greenish gray (5GY 4/1) mottles; semi-decomposed plant remnants, many fine soft and hard gypsum crystals. pH 8.

90 - 110 - very dark gray (10YR 3/1) heavy clay, pH 8

110 - 120 - dark grayish brown sticky clay (2.5Y 4/2) with abundant fine limestone and shell fragments few blackish spots of organic matter. pH 8.

Groundwater - 120 cm

Salinity - surface water ground water 6.0 mmhc

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 65

Soil Description

0 - 10 cm - yellowish brown (10YR 5/4) clay with common coarse gravelsized limestone; many fine roots, few soft Iron-concretions. pH 8.

10 - 30 - yellowish brown (10YR 5/8) clay, common fine and medium roots; many coarse gravel sized limestone, rubbly limestone below 30 cm. pH 8

Groundwater - not encountered

Salinity - surface water - ground water -

Land Capability Class - Rm Vd, Rt IIId, Ct IId

Soil Classification - Tropofluvent, fine mixed, calcareous, isohyperthermic, shallow phase

NO. 66

Soil Description

0 - 20 cm - dark gray (10YR 4/1) clay, with fine few faint yellowish brown (10YR 5/4) mottles; common fine roots; common fine limestone fragments. pH 8.

20 - 30 - mottled gray (10YR 5/1) and light gray (10YR 7/1) heavy clay with few fine distinct brownish yellow (10YR 6/6) mottles; few fine roots; few pockets of fine sott gypsum crystals; few plant remnants. pH 8

30 - 60	- mottled brownish yellow (10YR 6/8) light gray (N7) heavy clay, pH 8.
60 - 80	- yellowish brown (10YR 5/6) heavy clay, with common medium distinct gray (N7) and few fine prominent greenish gray (5G4/1) mottles; common medium and fine gypsum crystals; few blackish spots of organic matter. pH 8.
80 - 160	- light olive brown (2.5Y 5/4) heavy clay with few medium faint greenish gray (5GY 6/1) mottles; common plants remnants; many blackish spots of organic matter. pH 8.
160+	- hard limestone
Groundwater	- not encountered
Salinity	- surface water - ground water -
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 67

Soil Description

0 - 20 cm	- very dark gray (10YR 3/1) clay, with abundant fine powdery gypsum material; common fine roots; common small shell fragments. pH 8.
20 - 50	- dark gray clay (10YR 4/1) with few fine roots; common shell fragments; abundant soft and hard white limestone fragments; few fine gypsum crystals. pH 8.
50 - 60	- brown (10YR 5/3) clay, with common medium distinct yellowish brown (10YR 5/8) mottles, common fine hard gypsum crystals, few fine roots; some soft white powdery limestone inclusions. pH 8.
60 - 70	- brown (10YR 5/3) clay, with common coarse prominent yellowish brown (10YR 6/8) mottles; abundant fine soft gypsum crystals; few fine and medium roots; common fine fragments of partially decomposed organic matter. pH 8.
70 - 110	- brown (10YR 5/3) clay with common medium faint yellowish brown (10YR 5/6) mottles;with soft gypsum crystals, few fine roots; some blackish spots of organic matter. pH 8.

110 - 130	- yellowish brown (10YR 5/4) heavy clay, with common medium faint gray (10YR 5/1) mottles; few blackish spots of organic matter; common fine hard gypsum crystals occurring in pockets. pH 8.
130 - 160	- yellowish brown (10YR 5/4) heavy clay, with few fine prominent gray (10YR 5/1) mottles; common blackish spots of organic matter; common fine and medium sized pockets of gypsum crystals. pH 8.
160 - 210	- as above, with few fine prominent reddish brown (2.5YR 4/4) mottles; common medium and coarse gypsum crystals, red mottles increasing in depth.
below 210	- red (10R 4/6) heavy clay with few fine prominent light olive brown (2.5Y 4/6) mottles; few fine plant remnants; many large and hard limestone fragments. pH 8.
Groundwater	- not encountered
Salinity	- surface water - ground water -
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 68

Soil Description

0 - 10 cm	- dark gray (10YR 4/2) clay with few fine faint yellowish brown (10YR 5/6) mottles; few fine roots. pH 8.
10 - 30	- mottled yellowish brown (10YR 5/6) gray (10YR 5/1) clay; few fine roots. pH 8
30 - 50	- gray (10YR5/1) clay with many medium distinct yellowish brown (10YR 5/6) mottles; Few fine roots; few fine shell fragments. pH 8.
50 - 80	- gray (N5) clay with common fine distinct yellowish brown (10YR 5/8) mottles; few fine shell fragments; common medium and coarse limestone fragments covered with iron, few fine roots; common fine blackish spots. of organic matter.
80 - 100	- mottled dark gray (10YR 4/1), yellowish brown (10YR 5/8) and gray (N5) clay, with common pockets of hard and soft gypsum crystals, few fine limestone fragments; few fine shell fragments; few fine roots; gypsum crystals increasing with depth. pH 8.
100 - 110	- dark gray (10YR 4/1) heavy clay, with abundant fine and medium hard gypsum crystals in pockets. pH 8.
110 - 130	- mottled gray (N5/N6) light olive brown (2.5Y 5/4) clay, with many fine and medium pockets of gypsum crystals. pH 8.

130+	- mottled bluish gray (5B 5/1), greenish gray (5GY 5/1) clay, with common coarse fragments of plant remnants; many pockets of hard and soft gypsum crystals. pH 8.
Groundwater	- 150 cm
Salinity	- surface water ground water 12.0 mmho
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Tropic Fluvaquent, fine, mixed, non-acid , isohyperthermic

NO. 69

Soil Description

0 - 10 cm	- dark brown (10YR 4/3) clay, with few fine distinct yellowish brown (10YR 4/6) mottles, with common fine blackish spots of organic matter; few fine roots; few coarse and common fine, limestone fragments. pH 8.
10 - 60	- mottled dark brown (10YR 4/3), yellowish brown (10YR 4/6) clay. pH 8.
60 - 70	- mottled dark gray (10YR 4/1) yellowish brown (10YR 5/6) clay. Few fine roots, common fine limestone fragments, common fine blackish spots of organic matter. pH 8.
70 - 140	- yellowish brown (10YR 5/6) clay with common medium prominent greenish gray (5GY 5/1) mottles; few fine roots; some blackish spots of organic matter; common fine manganese concretions; pH 8.
140 - 160	- mottled greenish gray (5G 6/1) yellowish brown (10YR 5/8) heavy clay, very few fine roots; few decomposed plant remnants; common medium and coarse limestone fragments. pH 8.
160 - 210	- yellowish brown (10YR 5/8) heavy clay with common medium prominent greenish gray (5GY 5/1) mottles; some blackish spots of organic matter; Few coarse limestone fragments.
210+	- mottled bluish gray (5BG 6/1) olive (5Y 4/3) heavy clay. pH 8.
Groundwater	- -210 cm
Salinity	- surface water . ground water 3.3 mmho
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 70

Soil Description

0 - 10 cm	- dark gray (10YR 4/1) clay, with common medium prominent yellowish brown (10YR 5/6) mottles; with few fine spots of organic matter; Few fine roots; pH 8.
10 - 40	- dark gray (10YR 4/1) heavy clay, with common fine distinct yellowish brown (10YR 4/6) mottles, and few fine distinct yellowish brown (10YR 5/6) mottles; few fine plant roots; common fine blackish roots of organic matter; few fine limestone fragments. pH 8.
40 - 60	- mottled yellowish brown (10YR 5/6), gray (10YR 5/1) clay, with few coarse distinct dark gray (10YR 4/1) mottles; few common fine roots; fragments of decomposed organic matter; few fine limestone fragments; few manganese concretions; some pockets of powdery gypsum. pH 8
60 - 100	- dark yellowish brown (10YR 4/6) clay, with common coarse prominent greenish gray (5GY 6/1) mottles; abundant gypsum crystals in pockets; fine and medium common limestone fragments; some blackish spots of organic matter. pH 8
100 - 120	- mottled greenish gray (5GY 6/1), gray (5Y 5/1) yellowish brown (10YR 5/6) heavy clay; few fine roots; few gypsum crystals. pH 8.
120 - 140	- yellowish brown (10YR 5/8) clay with common coarse prominent greenish gray (5G 6/1) mottles; few fine roots; few fine blackish spots of organic matter. pH 8.
Groundwater	- 140 cm
Salinity	- surface water - ground water 8.0 mmho
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 71

Soil Description

0 - 30 cm	- very dark brown (10YR 2/2) clay with common medium distinct dark reddish brown (5YR 3/4) mottles; with common gypsum crystals occurring in veins and pockets; few fine roots. pH 6.
30 - 40	- mixed black (10YR 2/1) and yellowish brown (10YR 5/8) clay with common fine distinct strong brown (7.5YR 4/6) mottles, and common gypsum crystals. pH 6.

40 - 70 - mixed brown to dark brown (7.5YR 4/2) bluish gray (5B 5/1) heavy clay, with common blackish spots of organic matter and common medium pockets of gypsum crystals varying from whitish to yellowish brown. pH 7.0

70 - 100 - mixed very dark grayish brown (10YR 3/2) brown to dark brown (7.5YR 4/2) bluish gray (5B 5/1) heavy clay with common plant remnants and common pockets of gypsum crystals and common medium distinct (7.5YR 4/6) strong brown mottles. pH 8.

100 - 120 - greenish gray (5GY 5/1) heavy clay with common blackish spots of organic matter, few plant remnants.

120 - 150 - greenish gray (5BG 4/1) heavy clay, with few medium distinct strong brown (7.5YR 4/6) mottles; common blackish spots of organic matter. pH8

150 - 210 - mottled brown (10YR5/3) and very dark gray (N3) heavy clay. pH 8.

Groundwater - -2.10 cm

Salinity - surface water · groundwater 15.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine, mixed, non acid, isohyperthermic.

NO. 72

Soil Description

0 - 30 cm - very dark grayish brown (10YR 3/2) clay, with common medium distinct yellowish red (5YR 4/6) mottles and common medium distinct yellowish brown (10YR 5/6) mottles, commongypsumcrystals pH 5.5

30 - 60 - mixed very dark grayish brown (10YR 3/2) gray (5Y 5/1) very dark gray (N3) heavy clay with few medium distinct strong brown (7.5 YR 5/8) mottles common pockets of gypsum crystals, many plant remnants in lower part of horizon. pH 7

60 - 70 - mixed very dark brown (10YR 2/2) very dark gray (N3) peaty clay with many decomposed and semi-decomposed plant remnants. pH 7.0

70 - 80 - mottled brown (10YR 5/3) and very dark gray (10YR 3/1) heavy clay, with common plant remnants. pH 8

80 - 100 - dark greenish gray (5GY 4/1) heavy clay with few dark spots of organic matter; few plant remnants. pH 8.

Groundwater - -100 cm

Salinity - surface water ground water 14.0 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 73

Soil Description

0 - 30 cm - very dark brown (10YR 2/2) clay with common fine distinct strong brown (7.5YR 4/6) mottles, few fine roots pH 5.5

30 - 60 - mixed very dark grayish brown (10YR 3/2) yellowish brown (10YR 5/4) gray (5Y 5/1) heavy clay with few medium distinct strong brown (7.5YR 4/6) mottles. pH 6.0

60 - 90 - mottled very dark brown (10YR 2/2) very dark gray (N3) peaty clay with few fine distinct strong brown (7.5YR 4/6) mottles; common decomposed plant remnants. pH 7

90 - 120 - dark gray (5Y 4/1) heavy clay, with common medium distinct brownish yellow (10YR 6/6) and common medium distinct strong brown (7.5YR 4/6) mottles; few blackish spots of organic matter. pH 7.5

Groundwater - 100 cm

Salinity - surface water - ground water 17.0 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 74

Soil Description

0 - 20 cm - very dark brown (10YR 3/2) clay with common medium distinct yellowish brown (10YR 5/6) and few medium distinct strong brown (7.5YR 4/6) mottles. Charcoal remnants. pH 5.5

20 - 50 - mixed very dark grayish brown (10YR 3/2) and very dark gray (N3) clay, with many partially decomposed plant remnants, common blackish spots of organic matter. pH 7.0

50 - 90 - very dark grayish brown (10YR 3/2) clayey peat with many decomposed or partially decomposed plant remnants. pH 8

90 - 120 - dark greenish gray (5GY 4/1) heavy clay with common blackish spots of organic matter. pH 8

Groundwater - -100 cm

Soil Salinity - surface water - ground water 150 mmho

Land Capability Class - Rm IV n/p, Rt III n/p, Ct IIn

Soil Classification - Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine mixed, non-acid isohyperthermic

NO. 75

Soil Description

0 - 20 cm - very dark gray (10YR 3/1) clay, with common medium distinct strong brown (7.5YR 5/8) mottles common fine blackish spots of organic matter, common fine and medium roots. pH 6

20 - 40 - dark grayish brown (10YR 4/2) heavy clay with few fine distinct reddish brown (5YR 4/4) mottles. Few fine plant remnants. Few fine roots. Few blackish organic matter spots. pH 6.5

40 - 60 - dark brown (7.5YR 3/2) heavy clay with pockets of greenish gray (5G 5/1) common plant remnants. Few fine roots. pH 8.

60 - 100 - very dark brown (10YR 3/2) clayey peat; slight smell of H_2S; many decomposed and partially decomposed plant remnants. pH 8

100 - 120 - brown (10YR 5/3) heavy clay with few fine distinct dark gray (5Y 5/1) mottles; common decomposed and partially decomposed plant remnants. pH 8

Groundwater - -100 cm

Salinity - surface water ground water 11.0 mmho

Land Capability Class - Rm IV n/p, Rt IIIn/p, Ct IIn

Soil Classification - Aeric Sulfic Thapto Histic Tropic Fluvaquent, very fine mixed, non-acid, isohyperthermic

NO. 76

Soil Description

0 - 20 cm	- very dark grayish brown (10YR 3/2) clay, with common medium distinct yellowish red (10YR 4/6) mottles, mainly along root channels; few blackish spots of organic matter Few fine roots common plant remnants. pH 6
20 - 40	- mixed dark brown (7.5YR 3/2) greenish gray (5G 5/1) heavy clay common blackish spots of organic matter; many plant remnants. pH 6.5
40 - 70	- mottled dark gray (N4), dark grayish brown (2.5Y 4/2) heavy clay, common plant remnants. Few gypsum crystals. pH 8
70 - 120	- dark grayish brown (2.5Y 4/2) heavy clay with common medium distinct dark gray (N4) mottles, few plant remnants, few gypsum crystals.
Groundwater	- not encountered
Salinity	- surface water ground water
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent very fine, mixed non-acid, isohyperthermic

NO. 77

Soil Description

0 - 30 cm	- mottled very dark grayish brown (10YR 3/2) brown to dark brown (7.5YR 4/4) clay. Few fine roots few fine brick fragments at 20 cm inclusion of brownish yellow (10YR 6/6) due to human disturbance. pH 7.
30 - 60	- very dark brown (10YR 2/2) clay with common fine distinct dark reddish brown (5YR 3/2) mottles mainly along root channels. Few charcoal fragments,common fine roots. Few blackish organic matter spots. Few brick fragments. pH 6.5
60 - 120	- very dark gray (10YR 3/1) clayey peat, peat content increasing with depth; few medium charcoal fragments, few blackish spots of organic matter,many plant remnants. pH 8
Groundwater	- 100 cm
Salinity	- surface water - ground water 10.0
Land Capability Class	- RmI, Rt I, Ct I
Soil Classification	- Aeric Thapto-Histic Tropic Fluvaquent, fine, mixed, non-acid isohyperthermic

NO. 78

Soil Description

0 - 50 cm	- very dark grayish brown (10YR 3/2) clay with common fine prominent dark reddish brown (5YR 3/4) mottles along root channels,common fine roots; Few blackish spots of organic matter; many fine whitish powdery gypsum stains. Few fine shell fragments. pH 8.
50 - 70	- very dark grayish brown (10YR 3/2) clay with many pockets of gypsum crystals; Few fine roots. Few plant remnants; few blackish spots of organic matter. pH 7.5
70 - 120	- very dark brown (10YR 2/1) clayey peat many decomposed and partially decomposed plant remnants. pH 7.5
120 - 150	- dark gray (N4) heavy clay half-ripe pH 8
Groundwater	- -1.20 m
Salinity	- surface water · ground water 8.5 mmho
Land Capability Class	- Dm II n/p, Rt III n/p, Ct IIn
Soil Classification	- Aeric Thapto-Histic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic.

NO. 79

Soil Description

0 - 20 cm	- yellowish brown (10YR 5/4) clay, with few fine faint grayish brown (10YR 5/2) and few fine distinct, strong brown (7.5YR 5/8) mottles; few fine and medium roots; Few blackish spots of organic matter. pH 8.
20 - 60	- brown (10YR 5/3) clay with common medium faint light yellowish brown (10YR 6/4) mottles, and few fine faint brownish yellow (10YR 6/6) mottles, few fine roots; few blackish spots of organic matter; few shell fragments. pH 8
60 - 130	- light gray (10YR 6/1) heavy clay, with common medium distinct, greenish gray (5G 5/1) and many coarse prominent strong brown (7.5YR 5/8) mottles; few fine roots; few blackish spots of organic matter; pH 8.
130 - 160	- grayish brown (2.5Y 5/2) heavy clay; few blackish spots of organic matter. pH 8.
160 - 200	- olive brown (2.5Y 4/4) heavy clay, with common coarse prominent greenish gray (5G 5/1) mottles; many plant remnants, common blackish spots of organic matter. pH 8

Groundwater - -2.00 m

Salinity - surface water - ground water 12.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 80

Soil Description

0 - 20 cm - yellowish brown (10YR 5/6) clay, with few medium distinct gray (10YR 5/1) mottles, few fine blackish spots of organic matter; few fine roots, few fine shell fragments; few plant remnants. pH 8.

20 - 70 - mottled yellowish brown (10YR 5/8) grayish brown (10YR 5/2) and greenish gray (5G 5/1) heavy clay; common spots of organic matter; few fine roots; few pockets of powdery gypsum. Few gravel-sized limestone fragments. pH 8

70 - 150 - yellowish brown (10YR 5/6) heavy clay, with common fine distinct dark greenish gray (5GY 4/1) mottles, with few blackish spots of organic matter; few pockets of gypsum crystals. pH 8.

150 - 200 - mottled greenish gray (5BG 5/1) strong brown (7.5YR 5/8) dark brown (7.5YR 4/2) heavy clay, few pockets of gypsum crystals; common spots of organic matter; few gravel-sized limestone fragments. pH 8.

Groundwater - not encountered

Salinity - surface water - ground water -

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 81

Soil Description

0 - 10 cm	- very dark brown (10YR 2/2) clay, with common coarse blackish spots of organic matter; common fine roots. pH 7
10 - 40	- mottled very dark gray (10YR 3/1), brown to dark brown (10YR 4/3) clay; common black spots of organic matter; few fine distinct strong brown (7.5YR 4/6) mottles; few fine roots. pH 6.5
40 - 60	- dark brown (7.5YR 3/2) clay, with few coarse faint very dark gray (7.5YR 3/1) mottles ; few plants remnants. pH 7.5
60 - 80	- greenish gray (5GY 6/1) heavy clay, with common medium distinct dark greenish gray (5G 4/1) and common medium distinct yellowish brown (10YR 5/6) mottles. pH 8.
Groundwater	- -80 cm.
Salinity	- surface water - ground water 17.0 mmho
Land Capability Class	- RmI, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO.82

Soil Description

0 - 10 cm	- very dark brown (10YR 2/2) heavy clay, with common medium distinct yellowish red (5YR 4/6) mottles; common coarse blackish spots of organic matter; common fine and medium roots. pH6
10 - 35	- mottled very dark grayish brown (10YR 3/2), brown to dark brown (10YR4/3) and grayish brown (10YR 5/2) heavy clay, with common blackish spots of organic matter; common plant remnants pH 6.5
35 - 120	- dark gray (5Y 4/1) peaty clay; strong H_2S smell; peat content increasing with depth; many plant remnants;
120 - 150	- greenish gray (5G 5/1) heavy clay.

Groundwater - -120 cm

Salinity - surface water - ground water 15.0 mmho

Land Capability Class - Rm VIp(N); RV p(N); Ct v.n.

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

NO. 83

Soil Description

0 - 15 cm - very dark grayish brown (10YR 3/2) heavy clay, with many medium distinct strong brown (7.5YR 4/6) mottles; few blackish spots of organic matter; few fine roots; pH 5.5

15 - 30 - mixed dark gray ($_N$4) very dark grayish brown (10YR 3/2) black (N2) heavy clay. pH 6.5

30 - 40 - mixed very dark brown (10YR 2/2) brown to dark brown (10YR 4/3) dark gray (5Y 4/1) peaty clay; many plsnt remnants. pH7

40 - 60 - mixed dark grayish brown (10YR 4/2) dark gray (5Y 4/1) peaty clay; many plant remnants. pH7

60 - 100 - brown (10YR 5/3) heavy clay with common blackish spots of organic matter; common medium and coarse distinct greenish gray (5GY 5/1) mottles. pH 7.5

Groundwater - - 100 cm.

Salinity - surface water ground water 15.0 mmho

Land Capability Class - Rm II n, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 84

Soil Description

0 - 10 cm - very dark brown (10YR 2/2) heavy clay, with common fine, distinct strong brown (7.5YR 4/6) mottles; few fine roots; shiny fine gypsum concretions. pH 8.

10 - 40 - mixed very dark grayish brown (10YR 3/2) very dark gray (N3) and brown to dark brown (10YR 4/3) heavy clay; with common whitish spots of gypsum; common blackish spots of organic matter; common plant remnants. pH 8.

40 - 60 - mixed very dark grayish brown (10YR 3/2) very dark gray (N3) slightly peaty clay; common plant remnants; few gypsum crystals. pH 8

60 - 120 - very dark grayish brown (10YR 3/2) peaty clay, with many plant remnants; strong H_2S smell. pH 8.

120 - - brown to dark brown (10YR 4/3) heavy clay; common plant remnants. pH 8.

Groundwater - -120 cm

Salinity - surface water - ground water 12.0 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, ishyperthermic

NO. 85

Soil Description

0 - 20 cm - very dark brown (10YR 2/2) clay, with common medium distinct dark yellowish brown (10YR 4/6) mottles; pH 6; no reaction with HCl.

20 - 50 - very dark brown (10YR 2/2) clay with common fine and medium distinct dark reddish brown (5YR 3/4) mottles; few blackish spots of organic matter; few partially decomposed plant remnants; no reaction with HCl. pH 5.5

50 - 90 - brown to dark brown (7.5YR 4/2) heavy clay, with common medium distinct yellowish red (5YR 4/6) mottles; common medium blackish spots of organic matter; few partially decomposed plant remnants. pH 5. No reaction with HCl.

90 - 110 - very dark brown (10YR 2/2) peaty clay; with common medium distinct dark greenish gray (5GY 4/1) mottles; common blackish spots of organic matter; many partially decomposed plant remnants; slight H_2S smell; no reaction with HCl. pH 7.

110 - 120 - dark greenish gray (5GY 4/1) heavy clay, with common blackish spots of organic matter; few coarse distinct yellowish brown (10YR 5/6) mottles; common partially decomposed plant remnants. Strong H_2S smell; no reaction with HCl. pH 7.

Grcundwater - -50 cm

Salinity - surface water 3.5 mmho ground water 9.3 mmho

Land Capability Class - Rm IIIn, Rt IIn; Ct iin

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

NO. 86

Soil Description

0 - 10 cm - black (10YR 2/1) clay, with many medium and coarse faint dark brown (10YR 3/3) mottles; common blackish spots of organic matter; few partially decomposed plant remnants; no reaction with HCl. pH 6.

10 - 50 - brown to dark brown (7.5YR 4/2) heavy clay, with common medium distinct yellowish red (5YR 4/6) mottles; common partially decomposed plant remnants; many fine gypsum crystals and pockets of powdery gypsum; increasing with depth; no reaction with HCl. pH 5.5

50 - 90 - dark brown (7.5YR 3/2) heavy clay, with many medium and coarse distinct very dark gray (N3) mottles; common blackish spots of organic matter; slight H_2S smell; many partially decomposed plant remnants; no reaction with HCl; many pockets of powdery gypsum and gypsum crystals. pH 6.5

90 - 110 - very dark grayish brown (10YR 3/2) heavy clay, with many medium faint very dark gray (10YR 3/1) mottles; common plant remnants. pH 7.5

110 - 120 - dark gray (5YR 4/1) heavy clay with few medium distinct yellowish brown (10YR 5/8) mottles; common medium blackish spots of organic matter; common partially decomposed plant remnants; no reaction with HCl. pH 7.5

Groundwater - 60 cm

Salinity - surface water 4.0 mmho. ground water 8.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohythermic

No. 87

Soil Description

0 - 30cm	- very dark brown (10YR 2/2) clay with strong fine granular structure; common plant remnants; noreaction to HCl pH 5.0
30 - 50	- very dark brown (10YR 2/2) clay; many fine gypsum crystals; common partially decomposed plant remnants; pH 5.0
50 - 70	- brown to dark brown (7.5YR 4/2) heavy clay, with common medium distinct strong brown (7.5YR 5/3) mottles and many medium blackish spots of organic matter; many fine gypsum crystals; common partially decomposed plant remnants; no reaction to HCl. pH 5.5
70 - 90	- very dark gray (5YR 3/1) heavy clay with common medium spots of organic matter; few plant remnants; no reaction with HCl. pH6.0.
90 - 120	- dark brown (7.5YR 3/2) peaty clay with common medium and coarse spots of organic matter; common medium distinct dark reddish brown (5YR 3/3) mottles; many partially decomposed plant remnants;moderate to strong H_2S smell. no reaction to HCl; pH 8.0.
Groundwater	- -50 cm
Salinity	- surface water ground water 9.4 mmho
Land Capability Class	- Rm IIn; Rt IIn; Ct IIn
Soil Classification	- Aeric Sulfic Tropic Fluvaquent, very fine, mixed non-acid, isohythermic

No. 88

Soil Description

0 - 30 cm	- brown to dark brown heavy clay with few coarse distinct strong brown (7.5YR 4/6) mottles; many whitish pockets of powdery gypsum few blackish spots due to organic matter pH 8.
30 - 50	- very dark grayish brown (10YR 3/2) heavy clay with common fine distinct dark gray (10YR 4/1 mottles, few fine distinct yellowish brown (10YR 5/8) mottles, few charcoal fragments few pockets of powdery gypsum crystals, also common medium coarse yellowish red (5YR 4/6) mottles pH 8.

50 - 70 - very dark gray (10YR 3/1) heavy clay with few fine distinct strong brown (7.5YR 4/6) mottles, common whitish pockets of powdery gypsum crystals. Many blackish spots of organic matter, many plant remnants; pH 8.

70 - 80 - black peaty clay (10YR 2/1) with many decomposed and partially decomposed plant remnants. Many gypsum crystals pH 8.

Groundwater - -0.80 cm

Salinity - surface water - ground water 12.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic.

NO. 89

Soil Description

0 - 40 cm - yellowish brown (10YR 5/4) clay, with many medium distinct strong brown (7.5YR 5/8) and common medium dark grayish brown (10YR 4/2) mottles few blackish spots of organic matter. Few fine roots. pH 7.

40 - 60 - dark gray (5YR 4/1) heavy clay, with common fine faint yellowish brown (10YR 5/4) mottles and many whitish stains of powdery gypsum. Few blackish spots of organic matter.

60 - 90 - gray to light gray (5Y 4/1) heavy clay with common fine faint yellowish brown (10YR 5/4) mottles and many whitish stains of powdery gypsum, few blackish spots of organic matter. pH 8.

90 - 100 - mottled greenish gray (5GY 6/1) yellowish brown (10YR 5/4) and brown to dark brown (7.5YR 4/2) heavy clay with few blackish spots of organic matter. pH 8.

100 - 120 - brown to dark brown (7.5YR 4/2) heavy clay with many coarse blackish spots of organic matter; many plant remnants pH 8.

120 - 140 - mottled yellowish brown (10YR 86/) brown to dark brown (10YR 4/3) greenish gray (5GY 5/1) heavy clay common plant remnants. pH 8.

Groundwater - -1.40 m

Salinity - surface water - ground water 12 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

NO. 90

Soil Description

0 - 30 cm - yellowish brown (10YR 5/4) clay with many fine faint yellowish brown (10YR 5/8) mottles, few hard, rounded Mn concretions. pH 8.

30 - 70 - mottled yellowish brown (10YR 5/4) and (10YR 5/8) gray (10YR 5/1) clay, with few charcoal spots. pH 8

70 - 100 - greenish gray (5GY 5/1) heavy clay, with many medium prominent yellowish brown (10YR 5/8) mottles. Few blackish spots of organic matter. pH 8.

100 - 120 - same colours, coarse blackish spots of organic matter pockets of powdery limestone, many gravel sized limestone fragments

Groundwater - Not encountered

Salinity - surface water ground water

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Aeric Tropic Fluvaquent, fine, mixed, calcareous, isohyperthermic

NO. 91

Soil Description

0 - 20 cm - brown to dark brown (10YR 4/3) clay with common medium distinct yellowish brown (10YR 5/8) and few medium distinct dark gray (10YR 4/1) mottles; few fine roots; few gravel-sized limestone fragments; few blackish spots of organic matter. pH 8.

20 - 60 - mottled brown to dark brown (10YR 4/3) dark yellowish brown (10YR 4/6) and dark gray (10YR 4/1) clay with few fine roots. pH 8

60 - 70	- mottled yellowish brown (10YR 5/6) greenish gray (5GY 5/1) heavy clay, with common medium distinct yellowish brown (10YR 5/8) mottles; common medium spots of organic matter. pH 8
70 - 100	- mottled greenish gray (5GY 5/1) yellowish brown (10YR 5/6) heavy clay, with fewblackish spots of organic matter.
100 - 110	- very dark gray (10YR 3/1) peaty clay with many plant remnants.
110 - 130	- dark gray (5Y 4/1) heavy clay
130	- olive gray (5Y 4/2) heavy clay many dark spots of organic matter many gravel sized limestone fragments.
Groundwater	- not encountered
Salinity	- surface water - ground water -
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Aeric Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 92

Soil Description

0 - 20 cm	- very dark grayish brown (10YR 3/2) heavy clay with few blackish spots of organic matter and few fine distinct strong brown (7.5YR 4/6) mottles; few limestone fragments; few fine roots; pH 6.5
20 - 40	- very dark grayish brown (10YR 3/2) peaty clay, with few blackish spots of organic matter; many plant remnants; pH 8
40 - 100	- mixed very dark brown (10YR 2/2) very dark gray (10YR 3/1) clayey peat; with many plant remnants; strong H_2S smell; pH8.
100 - 120	- mixed very dark brown (10YR 2/2) dark brown (10YR 3/3) very dark gray (10YR 3/1) clayey peat; strong H_2S smell. pH 8.
Groundwater	- -100 cm
Salinity	- surface water - ground water 16.0 mmho
Land Capability Class	- Rm VI pn), Rv p(n); Ct Vn
Soil Classification	- Typic Sulfihemist euic, isohyperthermic

No. 93

Soil Description

0 - 10 cm	-	yellowbrown /ish (10YR 5/8) heavy clay, with common fine and medium faint pale brown (10YR 6/3) mottles and few iron-manganese concretions. pH 8.
10 - 80	-	mottled yellowish brown (10YR 5/8), pale brown (10YR 6/3) heavy clay; few plant remnants. pH 8.
80 - 130	-	olive (5Y 5/4) heavy clay with few medium distinct pale brown (10YR 6/3) mottles and few fine distinct manganese stains; few plant remnants. pH 8.
Groundwater	-	not encountered
Salinity	-	surface water:- ground water:-
Land Capability Class:	-	RmI, Rt I, Ct I
Soil Classification:	-	Tropofluvent, very fine, mixed, non acid, isohyperthermic

No. 94

Soil Description

0 - 10 cm	-	very dark brown (10YR 2/2) heavy clay, with commnn medium and coarse distinct dark brown (7.5YR 3/4) mottles and common coarse blackish spots of organic matter pH 5.5.
10 - 40	-	mixed very dark grayish brown (10YR 3/2) dark gray (10YR 4/1) dark greenish gray (5GY 4/1) heavy clay with many plant remnants. pH 7.
40 - 100	-	mixed very dark grayish brown (10YR 3/2) brown to dark brown (10YR 4/3) and dark greenish gray (5GY 4/1) peaty clay; strong H_2S smell; many partially decomposed plant remnants. pH 7.
100 - 120	-	brown (10YR 5/3) heavy clay, with few plant remnants. pH 8.
120 - 150	-	greenish gray (5GY 5/1) heavy clay with few fine blackish spots of organic matter. pH 8.
Groundwater	-	-110 cm

Salinity - surface water: ... ground water 18.0 mmho

land Capability Class - Rm IIIn; Rt IIn; Ct IIn

Soil Classification: - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic.

No. 95

Soil Description

0 - 10 cm - very dark brown (10YR 2/2) heavy clay, with common black spots of organic matter; common fine roots; few plant remnants. pH 5.

10 - 40 - mottled very dark grayish brown (10YR 3/2) and dark gray (10YR 4/1) heavy clay with common plant remnants; pH 7.

40 - 50 - mixed dark gray (N3) very dark grayish brown (10YR 3/2) peaty clay; dark gray colours in fine firm pockets; many plant remnants; many whitish soft spots of gypsum. pH 7.

50 - 90 - mottled very dark gray (10YR 3/1) very dark brown (10YR 2/2) peat; strong H_2S smell gray colour dominant in upper, brown colour dominant in lower part of horizon pH 8.

90 - 120 - olive gray (5Y 4/2) clay, with few shell fragments, few plant remnants.

Groundwater - -90 cm

Salinity - surface water :- - soil water 12.0 mmho

Land Capability Class - Rm IV n/p; Rt III n/p, Ct IIn

Soil Classification : - Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine mixed, non-acid, isohyperthermic

No. 96

Soil Description

0 - 10 cm	-	mixed black(10YR 2/1) very dark grayish brown (10YR 3/2) heavy clay; common plant remnants. pH 6.
10 - 30	-	mixed very dark gray (10YR 3/1) dark brown (7.5YR 3/2) heavy clay; common blackish spots of organic matter; common plant remnants. pH 7.
30 - 50	-	dark brown (10YR 3/3) peaty clay; common blackish spots of organic matter; many plant remnants; pH 7.
50 - 90	-	dark brown (10YR 3/3) clayey peat; strong H_2S smell;
90 -	-	dark brown (7.5YR 3/2) peat; with abundant partially decomposed plant remnants. pH 8
Groundwater	-	-90 cm
Salinity	-	surfacewater:- groundwater 19.0 mmho
Land Capability Class	-	RmIV n/p; Rt III n/p, Ct IIn
Soil Classification:	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent very fine, mixed, non acid isohyperthermic

No. 97

Soil Description

0 - 20 cm	-	very dark gray (5YR 3/1) heavy clay with common fine faint dark reddish brown (5YR 3/3) mottles; few decomposed and partially decomposed plant remnants; few fine gypsum crystals; pH 5.5
20 - 30	-	dark reddish gray (5YR 4/2) heavy clay, with common fine faint dark reddish brown (5YR 2/3) and common fine distinct black (5YR 2.5/1) mottles of organic matter; few fine gypsum crystals; few decomposed and partially decomposed plant remnants, no reaction with HCl, pH 6.

30 - 40 - mixed: dark reddish brown (5YR 3/2) and reddish brown (5YR 5/3) heavy clay; many fine gypsum crystals; few decomposed and partially decomposed plant remnants; no reaction with HCl. pH 6.

40 - 50 - mixed: very dark gray (5YR 3/1), reddish brown (5YR 3/1), reddish brown (5YR 5/3) and pink (5YR 8/3) heavy clay; many fine gypsum crystals; concentrated in pinkish pockets; few decomposed and partially decomposed plant remnants, no reaction with HCl, pH 6.

50 - 100 - mixed: very dark gray (5YR 3/1), black (5YR 2.5/1), dark reddish brown (5YR 2.5/2) peaty clay; many decomposed and partially decomposed plant remnants; slight H_2S smell, no reaction with HCl, pH 6.5

100 - 120 - very dark gray (5YR 3/1), half ripe peaty clay, common decomposed and partially decomposed plant remnants, pH 8

Groundwater : - -110 cm

Salinity - surface water: 5.7 mmho, ground water 9 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 98

Soil Description

0 - 10 cm - mottled: very dark gray (5YR 3/1), reddish gray (5YR 5/2) and dark reddish brown (5YR 3/3) heavy clay; few fine gypsum crystals, few powdery gypsum spots; no reaction with HCl; pH 5.0

10 - 70 - dark reddish brown (5YR 3/2) heavy clay, with common fine distinct reddish brown (5YR 4/4) mottles; few fine blackish spots of organic matter; few fine gypsum crystals; no reaction with HCl; pH 5.5

70 - 80 - mixed: very dark gray (5YR 3/1) and dark reddish gray (5YR 4/2) heavy clay; few fine gypsum crystals; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 7.5

80 - 100 - very dark gray (5YR 3/1) peaty clay; few fine gypsum crystals; common decomposed and partially decomposed plant remnants; slight H_2S smell; no reaction with HCl; pH 8.0.

100 - 120 - dark reddish brown (5YR 3/2) peaty clay; common decomposed and partially deocmposed plant remnants; slight H_2S smell; no reaction with HCl; pH 8.0

Groundwater - -120 cm

Salinity - surface water:- ground water:- 9 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification : - Aeric Sulfic Tropic Fluvaquent; very fine, mixed, non-acid, isohyperthermic

No. 99

Soil Description

0 - 15 cm - dark brown (7.5YR 3/2) heavy clay, with many fine and medium distinct dark reddish brown (2.5YR 3/4) mottles; no reaction with HCl; pH 5.0

15 - 30 - brown to dark brown (7.5 YR 4/2) heavy clay, with common fine distinct dark reddish brown (2.5YR 3/4) and few fine distinct very dark gray (5YR 3/1) mottles; few very fine gypsum crystals; no reaction with HCl; pH 5.0.

30 - 40 - mottled: dark reddish brown (5YR 3/2) and dark reddish gray (5YR 4/2) heavy clay, with common fine distinct very dark gray (5YR 3/1) mottles; few fine gypsum crystals; no reaction with HCl; pH 4.5.

40 - 50 - very dark gray (5YR 3/1) heavy clay, with common fine and medium faint dark reddish brown (5YR 3/3) mottles; few fine gypsum crystals; no reaction with HCl; pH 4.5.

50 - 70 - dark reddish brown (5YR 2.5/2) heavy clay, with common fine and medium distinct yellowish red (5YR 4/6) mottles; few fine gypsum crystals; common decomposed and partially decomposed plant remnants; no reaction with HCl, pH 6.0.

70 - 80 - mixed: black (5YR 2.5/1) and dark reddish brown (5YR 2.5/2) peaty clay; common decomposed and partially decomposed plant remnants; slight H_2S smell; no reaction with HCl; pH 7.0

80 - 100 - mottled: greenish gray (5GY 5/1) and very dark gray (N 3/) heavy clay, common decomposed and partially decomposed plant remnants; few gypsum crystals; common fine shell fragments; positive reaction with HCl; pH 8.0

100 - 120 - mottled: brown to dark (7.5YR 4/2) and black (5YR 2.5/1) half-ripe heavy clay, few fine shell fragments; few spots of powdery calcium carbonate; positive reaction with HCl; pH 8.

Groundwater - -100 cm

Salinity - surface water:- groonndwater: 5.8 mmho

Land Capability Class - Rm IIIn, Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 100

Soil Description

0 - 5 cm - very dark brown (10YR 2/2) clay, strong fine granular structure; no reaction with HCl, pH 5.0

5 - 40 - dark grayish brown (10YR 4/2) heavy clay, many fine and medium prominent dark red (2.5YR 3/6) mottles; few fine spots of powdery gypsum; no reaction with HCl; pH 8.0

40 - 60 - dark gray (5YR 3/1) heavy clay, with few fine and medium prominent red (2.5YR 4/6) mottles; no reaction with HCl; pH 7.0

60 - 80 - reddish gray (5YR 5/2) heavy clay, with few fine distinct yellowish red (5YR 4/6) mottles; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 8.0

80 - 100 - very dark gray (5YR 3/1) heavy clay; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 7.0

100 - 120 - very dark gray (5YR 3/1) peaty clay, slight H_2S smell, no reaction with HCl; pH 7.5

Groundwater - -90 cm

Salinity - surface water:- ground water: 8.0 mmho

Land Capability Class - Rm III, Rt IIn, Ct IIn

Soil Classification: - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 100

Soil Description

0 - 5 cm	- very dark brown (10YR 2/2) clay, strong fine granualr structure; no reaction with HCl, pH 5.0
5 - 40	- dark grayish brown (10YR 4/2) heavy clay,many fine and medium prominent dark red (2.5YR 3/6) mottles; few fine spots of powdery gypsum; no reaction with HCl; pH 8.0
40 - 60	- dark gray (5YR 3/1) heavy clay, with few fine and medium prominent red (2.5YR 4/6) mottles; no reaction with HCl; pH 7.0
60 - 80	- reddish gray (5YR 5/2) heavy clay, with few fine distinct yellowish red (5YR 4/6) mottles; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 8.0
80 - 100	- very dark gray (5YR 3/1) heavy clay; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 7.0
100 - 120	- very dark gray (5YR 3/1) peaty clay; slight H_2S smell reaction with HCl; pH 7.5

Groundwater - -90 cm

Salinity - surface water:- - ground water: 8.0 mmho

Land Capability Class - Rm IIIn; Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 101

Soil Description

0 - 10 cm	-	dark grayish brown (10YR 4/2) heavy clay, with few fine distinct yellowish brown mottles; few fine gravels of weathering limestone, positive reaction with HCl; pH 8.0
10 - 50	-	brownish yellow (10YR 6/6) heavy clay, with few fine gravels of weathering limestone; positive reaction with HCl; pH 8.0
50 - 80	-	brownish yellow (10YR 6/6) heavy clay, with common fine distinct light brownish gray (10YR 6/2) mottles; few fine gravels of weathering limestone; positive reaction with HCl; pH 8.0
80 - 110	-	pale brown (10YR 6/3) heavy clay, with common fine distinct brownish yellow (10YR 6/8) mottles; few fine gravels of weathering limestone.
110 - 120	-	hard limestone
Groundwater	-	not encountered
Salinity	-	surface water:- - ground water:- -
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropofluvent, very fine, mixed, calcareous, isohyperthermic

No. 102

Soil Description

0 - 10 cm	-	dark grayish brown (10YR 4/2) heavy clay, with common fine and medium prominent dark red (2.5YR 3/6) mottles no reaction with HCl; pH 7.5
10 - 60	-	dark grayish brown (10YR 4/2) heavy clay, with common fine distinct dark yellowish brown (10YR 4/4) mottles; many pockets of powdery whitish gypsum crystals; no reaction with HCl; pH 8.0
60 - 70	-	mottled: grayish brown (10YR 5/2) and strong brown (7.5YR 5/6)heavy clay; few pockets of fine gypsum crystals; no reaction with HCl; pH 6.5

70 - 100	-	brown (7.5YR 5/2) heavy clay with many fine distinct strong brown (7.5YR 4/6) mottles; few pockets of fine gypsum crystals; no reaction with HCl; pH 6.0
100 - 110	-	dark brown (7.5YR 3/2) heavy clay, with few fine faint brown to dark brown (7.5YR 4/4) mottles; no reaction with HCl; pH 5.5
110 - 120	-	dark reddish brown (5YR 2.5/2) peaty clay; many fine and medium gypsum crystals; many decomposed and partially decomposed plant remnants; no reaction with HCl; pH 5.5
120 - 140	-	dark gray (5Y 4/1) heavy clay; common blackish spots of organic matter; few fine and medium gypsum crystals; few decomposed and partially decomposed plant remnants; no reaction with HCl; pH 7.0
Groundwater	-	-120 cm
Salinity	-	surface water:- - ground water: 10 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 103

Soil Description

0 - 10 cm	-	very dark brown (10YR 2/2) heavy clay, with common blackish spots of organic matter. Few fine roots; pH 5
10 - 20	-	black (10YR 2/1) heavy clay with few plant remnants and charcoal fragments; pH 8.
20 - 35	-	mixed brown to dark brown (10YR 4/3) very dark gray (10YR 3/1) heavy clay with common plant remnants. Few blackish spots of organic matter. pH 8
35 - 100	-	very dark grayish brown (10YR 3/2) clayey peat with many plant remnants. pH 8.
100 - 110	-	grayish brown (10YR 5/2) heavy clay with many plant remnants.
110 - 120	-	dark bluish gray (5BG 4/1) heavy clay, with few plant remnants.

Groundwater: - -100 cm

Salinity - surface water: - soil water:-19.0 mmho

Land Capability Class - Rm VI p(n);; Rt V p(n); Ct Vn

Soil Classification: - Typic Sulfihemist, euic, isohyperthermic

No. 104

Soil Description

0 - 20 cm - mixed dark yellowish brown (10YR 4/4), black (10YR 2/1) very dark brown (10YR 2/2) heavy clay with few fine roots. pH 6

20 - 50 - dark gray (5Y 4/1) heavy clay with few blackish spots of organic matter, few plant remnants. pH 8

50 - 70 - olive (5Y 5/4) heavy clay with many hard gravel limestone fragments. pH 8; below 70 cm hard limestone.

Groundwater: - not encountered

Salinity - surface water:- - ground water: -

Land Capability Class - Rm IId; Rt IId; Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic, moderately deep phase

No. 105

Soil Description

0 - 10 cm - very dark brown (10YR 2/2) heavy clay with common fine distinct strong brown (7.5YR 4/6) mottles, few fine roots. pH 5.5

10 - 30 - very dark gray (10YR 3/1) heavy clay with common fine distinct strong brown (7.5YR 4/6) mottles. Few plant remnants. pH 6.

30 - 100 - greenish gray (5BG 5/1) heavy clay with common medium distinct dark bluish gray (5B 4/1) mottles and many hard gravelly limestone fragments. pH 8.

100 - 120	-	olive (5Y 5/4) heavy clay. pH 8.
Groundwater:	-	
Salinity	-	surface water:- soil water:-
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic.

No. 106

Soil Description

0- 20 cm	-	very dark brown (10YR 2/2) heavy clay, with common coarse blackish spots of organic matter. pH 6.
20 - 40	-	very dark brown (10YR 2/2) peaty clay, pH 7 with many plant remnants. Strong H_2S smell.
40 - 60	-	mottled brown to dark brown (10YR 4/3) very dark brown (10YR 2/2) and dark greenish gray (5GY 4/1) heavy clay with common plant remnants and many gravel-sized limestone fragments. pH 8; below 60 cm hard limestone
Groundwater:	-	not encountered
Salinity	-	surface water:- - soil water:- -
Land Capability Class	-	Rm IIIn; Rt IIn; Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic, moderately deep phase

No. 107

Soil Description

0 - 20 cm	-	very dark brown (10YR 2/2) peaty clay with common decomposed plant remnants. pH 5.5.
20 - 60	-	dark reddish brown (5YR 2/2) peaty clay, with many partially decomposed plant remnants. Some gypsum crystals. pH 5.5.

60 - 70	-	dark reddish brown (10YR 2/2) peaty clay with common partially decomposed plant remnants and common small bluish gray (5B 6/1) clay lenses, strong H_2S smell, common gypsum crystals increasing with depth. pH 5.5
70 - 100	-	very dark brown (10YR 2/2) clayey peat with many partially decomposed plant remnants. Strong H_2S smell pH 6.
100 - 180	-	clay, content increasing to an unripe peaty clay. (strong H_2S smell) pH 7.
180 - 200	-	greenish gray (5G 6/1) heavy clay half ripe.
Ground water:	-	-100 cm
Salinity	-	surface water 2.5 mmho soil water 6.5 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 103

Soil Description

0 - 30 cm	-	dark reddish brown (5YR 2/2) peaty clay with few fine soft and hard Manganese concretions, few gypsum crystals. pH 6.
30 - 50	-	dark reddish brown (5YR 3/2) clay with many medium faint reddish brown (5YR 5/3) mottles, common partially decomposed plant remnants, few gypsum crystals. pH 7.
50 - 90	-	very dark gray (10YR 3/1) ripe peaty clay. Strong H_2S smell
90 - 150	-	same as above, nearly ripe. Strong H_2S smell. pH 8
150 - 160	-	gray heavy clay half ripe. pH 8
160 - 180	-	hard limestone
Groundwater	-	-1.50 m
Salinity	-	surface water:- 10 mmho soil water: 12 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 109

Soil Description

0 - 30 cm	-	mottled very dark brown (10YR 2/2) and very dark grayish brown (10YR 3/2) peaty clay, with common brick fragments and few partially decomposed plant remnants. pH 6.
30 - 50	-	peaty clay, black (10YR 2/1), slight H_2S smell. pH 6.5
50 - 150	-	very dark gray (10YR 3/1) clayey peat with many partially decomposed plant remnants half-ripe, strong H_2S smell. pH 7.
150 - 160	-	light reddish brown (2.5Y 6/4) heavy clay with gravel-sized limestone fragments. pH 8.
160 - 180	-	hard limestone
Groundwater	-	-1.50 m
Salinity	-	surface water 10mmho soil water 12 mmho
Land Capability Class	-	Rm VI p(n); RV p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 110

Soil Description

0 - 120 cm	-	mottled dark reddish brown (5YR 3/2), dark reddish brown (5YR 3/4) and dark reddish gray (5YR 4/2) peaty clay, common fine soft Manganese concretions in upper 30 cm, common partially decomposed plant remnants
120 - 180	-	mottled (5YR 3/2) dark reddish brown and dark reddish gray (5YR 4/2) clay.
180 - 200	-	gray (N6) heavy clay unripe.
Groundwater	-	-1.80 m
Salinity	-	surface water 2.2 mmho soil water 7.8 mmho
Land Capability Class		Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed non-acid isohyperthermic.

No. 111

Soil Description

0 - 40 cm	-	reddish gray (5YR 5/2) heavy clay with common medium distinct yellowish red (5YR 4/6) mottles. pH 8.
40 - 60	-	mixture of clay and marl. pH 8.5
60 - 80	-	hard limestone
Groundwater	-	not encountered
Salinity	-	surface water soil water
Land Capability Class		Rm IId; Rt IId, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic, shallow phase.

No. 112

Soil Description

0 - 60 cm	-	dark grayish brown (10YR 4/2) heavy clay with common fine distinct yellowish red (5YR 4/8) mottles, many white spots of powdery gypsum. pH 8.
60 - 100	-	gray (10YR 5/1) heavy clay with common fine distinct olive brown (2.5Y 4/4) and common fine distinct yellowish red (5YR 5/8) mottles. pH 8.
100 - 130	-	greenish gray (5GY 6/1) heavy clay, with many medium distinct light olive brown (2.5Y 5/4) mottles. pH 7.0
130 - 200	-	greenish gray (5GY 6/1) heavy clay, with common medium prominent red (2.5YR 5/8) mottles increasing in depth. Increasing fraction of coarse sand consisting of weathering limestone particles. pH 8.
200 -220	-	coarse sandy clay, yellowish brown (10YR 5/4) mottles. pH 8.
Groundwater	-	-180 cm
Salinity	-	surface water 5.3 mmho, ground water 8.0 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed non-acid, isohyperthermic

No. 113

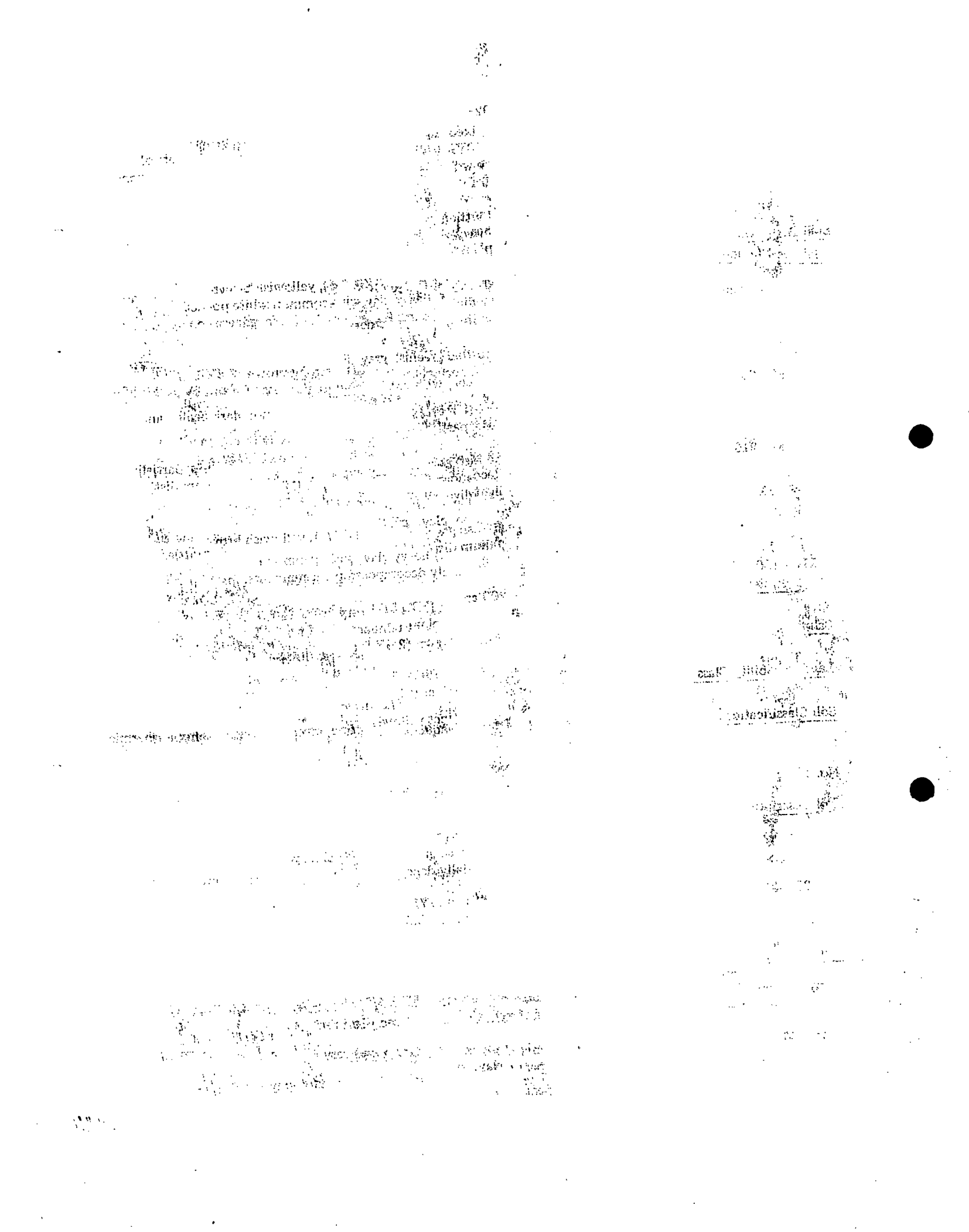
Soil Description

0 - 50 cm	-	mixed: light gray (10YR 6/1), yellowish brown (10YR 5/4) heavy clay with common white pockets of powdery gypsum, few spots of soft Manganese concretions. pH 8
50 - 60	-	mottled light gray (5Y 6/1), strong brown (7.5YR 4/6) heavy clay with common white pockets of powdery gypsum. pH 8.0
60 - 90	-	greenish gray (5BG 5/1) heavy clay with common fine and medium distinct yellowish brown (10YR 5/4) mottles, few white spots of powdery gypsum. pH 8.
90 - 110	-	mottled greenish gray (5GY 5/1), yellowish brown (10YR 5/4) heavy clay. pH 8.
110 - 130	-	gray (5Y 5/1) heavy clay, with common dark brown and black partially decomposed plant remnants. pH 8.
130 - 210	-	greenish gray (5BG 5/1) very heavy clay with few partially decomposed plant remnants, few fine and medium distinct light olive brown (2.5Y 5/4) mottles. pH 8
210 - 220	-	greenish gray (5GY 6/1) heavy clay, with many fine and medium distinct yellowish brown (10YR 5/4) mottles. pH 8.
Groundwater	-	- 200 cm
Salinity	-	surface water 8.3 mmho soil water 8.2 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 114

Soil Description

0 - 20 cm	-	dark reddish gray (5YR 4/2) clay, with many decomposed and partially decomposed plant remnants. pH 5.0
20 - 40	-	mixed black (5YR 2.5/1) and very dark gray (5YR 3/1) peaty clay. pH 5.5



40 - 50	-	mixed pinkish gray (5YR 6/2), dark reddish gray (5YR 4/2) heavy clay with many decomposed and partially decomposed plant fragments. pH 7.0
50 - 60	-	dark reddish gray (5YR 4/2) peaty clay with many fine distinct light gray (5YR 6/1) mottles. pH 8.0
60 - 80	-	dark reddish gray (5YR 4/2) peaty clay, with many whitish pockets of gypsum, strong H_2S smell,
80 - 110	-	dark reddish brown (5YR 3/2) clayey peat with common fine and medium distinct dark greenish gray (5BG 4/1) mottles, strong H_2S smell.
110 - 120	-	mixed very dark gray (10YR 3/1) and dark reddish brown (5YR 3/3) peaty clay.
Groundwater	-	-110 cm
Salinity	-	surface water 6.0 mmho soil water 9.8 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 115

Soil Description

0 - 50 cm	-	dark reddish brown (5YR 2.5/2) peaty clay, pH 8.0
50 - 90	-	dark reddish gray (5YR 4/2) peaty clay with common fine gypsum crystals. pH 8.0
90 - 120	-	dark grayish brown (5YR 3/2) clayey peat with strong smell of H_2S pH 8.0
Groundwater	-	-90 cm
Salinity	-	surface water 8.3 mmho ground water 8.2 mmho
Land Capability Class	-	Rm VI p(n); Rt Vp(n)Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 116

Soil Description

0 - 20 cm	-	dark reddish brown (5YR 2.5/2) peaty clay with common fine faint dark reddish brown (5YR 3/2) mottles. pH 4.5
20 - 50	-	dark reddish gray (5YR 4/2) peaty clay with common fine distinct reddish brown (5YR 4/4) mottles. pH 5.5
50 - 80	-	dark reddish brown (5YR 2.5/2) clayey peat common spots of gypsum crystals strong H_2S smell. pH 6.5
80 - 100	-	very dark grayish brown (10YR 3/2) clayey peat common fine snail shell fragments. Strong H_2S smell. pH 8.
100 - 120	-	very dark grayish brown (2.5Y 3/2) peaty clay; common fine snail shell fragments. pH 8
Groundwater	-	-15 cm
Salinity	-	surface water 5.3 mmho ground water 8.0 mmho
Land Capability Class	-	Rm VI p(n); RtV p(n) Ct V (n)
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 117

Soil Description

0 - 20 cm	-	very dark gray (10YR 3/1) peaty clay, pH 5.0
20 - 40	-	dark reddish gray (5YR 4/2) heavy clay, with few fine faint reddish brown (5YR 4/4) mottles and common partially decomposed plant remnants. pH 6.0
40 - 80	-	mottled gray (5Y 5/1), dark greenish gray (5G 4/1) and reddish gray (5YR 5/2) heavy clay with common partially decomposed plant remnants. pH 8.0
80 - 120	-	gray to light gray (5Y 6/1) heavy clay, with common medium distinct dark bluish gray (5B 4/1) mottles, with few fine strongly weathered limestone fragments and few partially decomposed plant remnants. pH 8.5

Groundwater	-	- 30 cm
Salinity	-	surface water 5 mmho; ground water 11 mmho
Land Capability Class	-	Rm I; Rt I, Ct I
Soil Classification	-	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 118

Soil Description

0 - 40 cm	-	dark reddish brown (5YR 2.5/2) peaty clay with few fine faint dark reddish brown (5YR 3/3) mottles. Below30 cm the mottles disappear. pH 5.0
40 - 60	-	very dark gray (10YR 3/1) clay, with common decomposed and partially decomposed plant remnants. Few spots of calcium carbonate. pH 6.0
60 - 80	-	very dark gray (5YR 3/1) clay, with many decomposed and partly decomposed plant remnants. pH 8.0
80 - 110	-	dark reddish brown (5YR 2.5/2) clayey peat. pH 8.0
110 - 120	-	dark grayish brown (2.5Y 4/2) peaty clay. pH 8.0
Groundwater	-	- 30 cm
Salinity	-	surface water 4.5 mmho ground water 10.0 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 119

Soil Description

0 - 30 cm	-	very dark gray (10YR 3/1) peaty clay with common fine faint dark reddish brown (5YR 3/2) mottles. pH 5.0
30 - 70	-	dark reddish gray (5YR 4/2) peaty clay, with few fine distinct dark reddish brown (5YR 3/4) mottles. pH 5.0

70 - 90	-	dark reddish brown (5YR 5/2) clayey peat. pH 7.0
90 - 110	-	dark reddish brown (5YR 3/2) peat. pH 8.0
110 - 120	-	dark gray (10YR 4/1) peaty clay.
Groundwater	-	- 90 cm
Salinity	-	surface water 4.5 mmho, ground water 11 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 120

Soil Description

0 - 30 cm	-	mixed dark reddish gray (5YR 4/2), dark grayish brown (5YR 2.5/2) clay, with few fine distinct reddish brown (5YR 4/4) mottles. Few calcium carbonate spots. pH 4.5
30 - 70	-	dark reddish brown (5YR 2.5/2) clayey peat . pH 5.0
70 - 100	-	dark gray (10YR 4/1) half ripe clay. pH 8.0
100 - 120	-	same as above (10YR 4/1) changes to (10YR 6/1)
Groundwater	-	- 90 cm
Salinity	-	surface water: ground water: 10 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 121

Soil Description

0 - 30 cm	-	dark reddish brown (5YR 3/2) clay, with many fine faint dark reddish brown (5YR 3/4) mottles. Few fine soft Manganese spots. pH 5.0

30 - 50	-	dark reddish brown (5YR 3/2) peaty clay, with common fine faint dark reddish brown (5YR 3/3) mottles pH 7.0
50 - 70	-	dark reddish gray (5YR 4/2) clay, with common partly decomposed plant remnants. pH 7.0.
70 - 90	-	mottled dark reddish brown (5YR 3/3), dark reddish brown 5YR 2.5/2 peat strong H_2S smell. pH 8.0
Groundwater	-	90 cm
Salinity	-	surface water :- ground water 13 mmho
Land Capability		Rm IV n/p; Rt III n/p; Ct IIn
Soil Classification	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine mixed, non-acid, isohyperthermic

No. 122

Soil Description

0 - 30	-	very dark gray (5YR 3/1) clay, with many medium distinct dark reddish brown mottles pH 5
30 - 40	-	dark reddish brown (5YR 3/2) clay, with many fine faint dark reddish brown (5YR 3/3) mottles common spots of calciumcarbonate pH 5
40 - 60	-	dark gray (5YR 4/1) heavy clay, with common fine distinct yellowish red (5YR 4/6) mottles. Common gysum mottles pH 8.
60 - 80	-	mixed dark reddish brown (5YR 2.5/2) and reddish gray (5YR 5/2) peaty clay; few gypsum crystals pH 8
80 - 120	-	dark reddish brown (5YR 2.5/2) clayey peat, pH 8
Groundwater	-	110 cm
Salinity	-	surface water : - ground water 7 mmho
Land Capability Class	-	Rm IV n/p; Rt II n/p; Ct IIn
Soil Classification	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No 123

Soil Description

0 - 20 cm	-	dark reddish brown (5YR 3/2) heavy clay, with many medium distinct yellowish red (5YR 4/6) mottles pH 5
20 - 50	-	dark reddish gray (5YR 4/2) heavy clay, with common fine and medium distinct yellowish red (5YR 4/6) mottles pH 6.5
50 - 80	-	dark reddish gray (5YR 4/2) clay, with few fine distinct reddish brown (5YR 4/4) mottles,many partly decomposed plant remnants, few spots of calciumcarbonate pH 7
80 - 109	-	gray (N5) heavy, with many fine and medium distinct dark reddish brown (5YR 3/4), mottles; few partially decomposed plant remannts; pH 8
110 - 150	-	mottled dark gray (5YR 4/1) and light olive brown (2.5Y 5/4) heavy clay; few partially blackish plant remannts; few strongly weathered limestone fragments pH 8.0
150 - 180	-	mottled light greenish gray (5G 7/1) and light olive brown (2.5Y 6/4) heavy clay; few partially decomposed black plant remnants, few strongly weathered limestone fragments;
Groundwater	-	not encountered
Salinity	-	surface water - ground water -
Land Capability Class	-	Rm I; Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 124

Soil Description

0 - 10 cm	-	very dark grayish brown (10YR 3/2) clay, with common medium distinct reddish brown (5YR 4/4) mottles; few fine soft manganese spots pH 6.5
10 - 50	-	grayish brown (10YR 5/2) heavy clay, with common fine distinct yellowish red (5YR 4/6) mottles few partially decomposed plant remnants pH 8.0
50 - 110	-	reddish brown (5YR 2.5/2) heavy clay, with common decomposed plant remnants pH 8.
100 -	-	greenish gray (5G 5/1) heavy clay, with few fine faint light olive brown (2.5 Y 5/4) mottles.
Groundwater	-	100 cm
Salinity	-	surface water - ground water 16.0 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 125

Soil Description

0 - 20 cm	-	dark gray (5YR 4/1) heavy clay with common fine distinct yellowish red (5YR 5/6) mottles; few fine soft manganese concretions. pH 6.5
20 - 30	-	dark reddish gray (5YR 4/2) veryheavy clay, with common medium prominent light gray (N7) mottles; common large spots of gypsum. pH 7
30 - 40	-	mottled greenish gray (5BG 5/1) and dark reddish gray (5YR 4/2) heavy clay; common large spots of gypsum. pH 7.5
40 - 70	-	mottled reddish gray (5YR 5/2) and light olive brown (2.5Y 5/4) heavy clay; many small/medium soft/hard dark gray concretions; many large spots of gypsum. pH 8
70 - 80	-	dark gray (N4) heavy clay, with few fine and medium distinct light olive brown (2.5Y 5/4) mottles; few fine soft and hard dark gray concretions few small spots of gypsum; few partially decomposed plant remnants. pH 8.
80 - 200	-	mottled very dark gray (N3) light yellowish brown (2.5Y 6/4) heavy clay, common large gypsum crystals. Few partially decomposed plant remnants. Below 180 cm common fine distinct light gray (N7) mottles. pH 8.
200 - 220	-	light gray (N7) heavy clay, with common fine and medium distinct very dark gray (N3), and common fine and medium distinct light yellowish brown (2.5Y 6/4) mottles. Few partially decomposed plant remnants. pH 8.
Groundwater	-	-200 cm.
Salinity	-	surface water : - groundwater 9.5 mmho
Land Capability Class	-	Rm I, Rt I; Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperhtermic

No. 126

Soil Description

0 - 30 cm	-	mottled dark gray (5YR 4/1) and reddish brown (5YR 4/4) clay. pH 6.
30 - 40	-	very dark gray (5YR 3/1) clay with many decomposed plant remnants. pH 8.
40 - 70	-	dark reddish gray (5YR 4/2) peaty clay, with many partially decomposed plant remnants. pH 8.
70 - 80	-	dark reddish brown (5YR 2.5/2) clayey peat, with many decomposed and partially decomposed plant remnants. pH 8.
80 - 90	-	very dark grayish brown (10YR 3/2) clayey peat with many decomposed and partially decomposed plant remnants. pH 8.
90 - 130	-	reddish gray (5YR 5/2) clay, with many partially decomposed plant remnants. pH 8.
130 - 160	-	light gray (5YR 6/1) heavy clay, with common fine distinct very dark gray (N4) mottles; few partially decomposed plant remnants. pH 8.
160 - 180	-	mottled light gray (N6) and light yellowish brown (2.5Y 6/4) heavy clay with many partially decomposed plant remnants; half ripe pH 8.
Groundwater	-	-160 cm
Salinity	-	surface water:- - ground water: 5.1 mmho
Land Capability Class	-	Rm IV n/p; Rt III n/p; Ct IIn
Soil Classification	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine, mixed, nonacid, isohyperthermic.

No. 127

Soil Description

0 - 20 cm	-	dark reddish gray (5YR 4/2) clay, with common fine distinct yellowish brown (5YR 4/4) mottles. Many partially decomposed plant remnants. pH 6

20 - 50	-	very dark gray (5YR 3/1) peaty clay, with common spots of gypsum crystals; common fine soft manganese concretions. pH 5.5
50 - 60	-	light gray (N7) clay, with common fine distinct dark reddish brown (5YR 3/2) and few fine distinct brownish yellow (10YR 6/6) mottles. Common spots of gypsum crystals, common decomposed and partially decomposed plant remnants. pH 6.
60 - 90	-	dark reddish brown (5YR 3/2) peaty clay, with common fine and medium distinct light gray (N7) mottles. Few spots of gypsum crystals. pH 6.5
90 - 140	-	mottled gray (5YR 5/1) and dark gray (5Y 4/1) heavy clay with common decomposed plant remnants. pH 8.
140 - 200	-	mottled light gray (5YR 6/1) dark gray (N4) and yellowish brown (10YR 5/4) heavy clay few partially decomposed plant remnants.
Groundwater	-	-200 cm
Salinity	-	surface water: - ground water 7.5 mmho
Land Capability Class	-	Rm VI p(n),Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 128

Soil Description

0 - 30 cm	-	dark reddish brown (5YR 2.5/2) peaty clay many decomposed and partly decomposed plant remnants. pH 5.
30 - 50	-	very dark gray (5YR 3/1) peaty clay; many decomposed and partly decomposed plant remnants. pH 6.
50 - 70	-	dark reddish brown (5YR 3/2) peaty clay, strong H_2S smell; many decomposed and partially decomposed plant remnants. pH 6.5
70 - 100	-	dark reddish brown (5YR 2.5/2) peaty clay ; same as above. pH 6.5
100 - 140	-	very dark grayish brown (10YR 3/2) peaty clay half-ripe.

Groundwater - not encountered

Salinity - surface water: 5.6 mmho ground water: -

Land Capability Class - Rm VI p(n), Rt V p(n); Ct Vn

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 129

Soil Description

0 - 20 cm	- dark reddish brown (5YR 2.5/2) clay, with common fine faint dark reddish brown (5YR 3/4) mottles; many partially decomposed plant remnants. pH 6.
20 - 40	- very dark gray (5YR 3/1) clay, with common fine and medium distinct yellowish red (5YR 4/6) mottles; few fine soft manganese concretions; many partially decomposed plant remnants. pH 6.
40 - 70	- dark reddish brown (5YR 3/2) peaty clay, with common fine faint dark reddish brown (5YR 3/4) mottles and common medium distinct black (5YR 2.5/1) mottles; scattered fine gypsum crystals. pH 6.5
70 - 130	- dark gray (N4) heavy clay, with common fine distinct very dark gray (5YR 3/1) and light olive brown (2.5Y 5/4) and pale yellow (2.5Y 7/4) mottles. Few partially decomposed plant remnants.
130 - 160	- mottled light olive brown (2.5Y 7/4) light gray (N7) and dark gray (N4) gravelly heavy clay; many weathered limestone fragments. pH 7.
160 - 180	- light olive brown (2.5Y 5/4) light yellowish brown (2.5Y 6/4) white (10YR 8/1) very gravelly heavy clay pH 8.

Groundwater - not encountered

Salinity - surface water 4.4 mmho ground water : -

Land Capability Class - Rm IIIn; Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 130

Soil Description

0 - 20 cm	-	dark reddish brown (5YR 5/2) peaty clay with common fine and medium distinct dark (2.5YR 2.5/4) mottles; common very fine gypsum crystals. pH 5.0, at surface pH 4.0
20 - 50	-	very dark gray (5YR 3/1) peaty clay with common black (5YR 2.5/1) inclusions of decomposed plant material; many medium gypsum crystals; few fine and pH 4.5 medium distinct greenish gray (5BG 5/1) mottles.
50 - 140	-	mottled dark gray (5Y 4/1) light yellowish brown (2.5Y 6/4) heavy clay, with many partially decomposed plant remnants, common medium to large gypsum crystals. pH 8.
Groundwater	-	- 120 cm
Salinity	-	surface water:- - ground water 10.0 mmho
Land Capability Class	-	Rm VI p(n), Rt V p(n), Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 131

Soil Description

0 - 10 cm	-	dark reddish gray (5YR 4/2) heavy clay, with common fine and medium distinct dark yellowish brown (10YR 4/6) mottles; few partially decomposed plant remnants common very fine gypsum crystals. Few hard iron manganese concretions. pH 5.0
10 - 30	-	mottled dark yellowish brown (10YR 4/6) dark gray (5YR 4/1) heavy clay; few partially decomposed plant remnants. pH 6.
30 - 70	-	mottled yellowish brown (10YR 4/6) dark gray (10YR 4/1) heavy clay, with few fine prominent red (10R 4/6) mottles; many fine medium gypsum crystals. pH 6.5
70 - 110	-	mottled greenish gray (5GY 6/1) and light olive brown (2.5Y 5/4) heavy clay, with common black and dark brown partially decomposed plant remnants; common medium and large gypsum crystals. pH 8.

110 - 130 - light olive brown (2.5Y 5/4) heavy clay, with few medium distinct dark gray (10YR 4/1) mottles; few blackish partially decomposed plant remnants; few large gypsum crystals; many weathering limestone fragments.

130 -150 - hard limestone

Groundwater - not encountered

Salinity - surface water 6.0 mmho ground water :

Land Capability Class - Rm I; Rt I; Ct I

Soil Classification - Tropofluvent, very fine, mixed, non-acid, isohyperthermic

No. 132

Soil Description

0 - 10 cm - dark reddish brown (5YR 2.5/2) peaty clay, with common fine distinct dark reddish brown (5YR 3/4) mottles; common partially decomposed plant remnants. pH 5

20 - 70 - dark reddish brown (5YR 2.5/2) clayey peat; many partially decomposed plant remnants,strong H_2S smell. pH 6.0

70 -120 - very dark grayish brown (10YR 3/2) clayey peat; unripe; pH 8

Groundwater - -75 cm

Salinity - surface water: 7.0 mmho ground water 7.0 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct Vn

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 133

Soil Description

0 - 40 cm	-	dark reddish brwon (5YR 2.5/2) peaty clay, with common fine distinct (5YR 3/3) mottles; very fine gypsum crystals; few partially decomposed plant remnants pH 5.0
40 - 80	-	mottled dark reddish brwon (5YR 2.5/2) dark reddish gray (5YR 4/2) peaty clay with few fine faint dark reddish brown (5YR 3/3) mottles; common fine and very fine gypsum crystals; common brown and black partially decomposed plant remannts, strong H_2S smell pH 8.0
80 - 110	-	dark grayish brown (2.5Y 4/2) ripe clay; with common fine brown partially decomposed plant remnants pH 8.0
110 - 120	-	dark brown to brown (7.5YR 4/2) ripe clay with few brown partially decomposed plant remnants pH 8.0
Groundwater	-	100 cm
Salinity	-	surface water 4.5 mmho,ground water 5.5 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typ ic Sulfihemist, eufc, isohyperthermic

No 134

Soil Description

0 - 10 cm	-	reddish gray (5YR 5/2) clay with common fine distinct yellowish red (5Y 5/6) mottles pH 5.5
10 - 20	-	brown (7.5 YR 5/2) heavy clay, with many fine and medium prominent yellowish red (5YR 4/6) mottles very few fine gypsum crystals pH 6
20 - 40	-	gray (5Y 5/1) heavy clay; very few partly decomposed plant remnants pH 5.5

40 - 50	-	dark brown (7.5YR 3/2) heavy clay with many brown partially decomposed plant remnants, pH 7.0
50 - 70	-	dark reddish brown (5YR 2.5/2) clayey peat; many partially decomposed plant remnants pH 7.0
70 - 110	-	dark brown (7.5 YR 3/2) peaty clay, common partially decomposed plant remnants pH 8.0
Groundwater	-	80 cm
Salinity	-	surface water - ... ground water 10 mmho
Land Capability Class	-	Rm IV n/p; Rt III n/p, Ct IIn
Soil Classification	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent, very fine mixed, non-acid, isohyperthermic.

No 135

Soil Description

0 - 10	-	dark grayish btown (10YR 4/2) heavy clay with common fine faint dark brown (10YR 3/3) and few medium distinct strong brown (7.5YR 5/6) mottles; few partially decomposed plant remnants pH 8.0
10 - 40	-	gray (10YR 5/1) heavy clay with few medium distinct strong brown (7.5YR 5/6) mottles; common brown partially decomposed plant remnants pH 8.0
40 - 60	-	dark reddish brown (5YR 3/2) peaty clay with many black and brown partially decomposed plant remnants pH 8.0
60 - 90	-	dark grayish brown (10YR 4/2) heavy clay with common fine brown partially decomposed plant remnants pH 8.0
90 - 110	-	dark reddish brown (5YR 3/2) peaty clay with many partially decomposed plant remnants pH 8
110 - 120	-	mottled (5Y 4/1) dark gray and olive gray (5Y 5/2) heavy clay; few partially decomposed plant remnants. pH 8.0

Groundwater	-	90 cm
Salinity	-	surface water - ground water 12.0 mmho
Land Capability Class		Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 136

Soil Description

0 - 25 cm	-	very dark grayish brown (10YR 3/2) heavy clay, with many medium prominent yellowish red (5YR 4/6) mottles; common medium blackish spots of organic matter; common plant remnants; no reaction to HCl; pH 6.5
25 - 40	-	dark gray (5B 4/1) heavy clay with few medium distinct dark blackish gray (5B 4/1) and brownish yellow (10YR 6/6) mottles; few blackish spots of organic matter; no reaction to HCl; pH 8.0
40 - 60	-	mottled: very dark gray (N3/) and light olive brown (2.5Y 5/6) heavy clay, common blackish spots of organic matter; with common fine soft Mn nodules and common gypsum crystals; few plant remnants; common gravel-sized weathering limestone fragments in lower part of this horizon; positive reaction to HCl; pH 8.0
60 - 80	-	light olive brown (2.5Y 5/6) heavy clay, with many medium distinct very dark gray (N3/) mottles; common coarse gypsum crystals; many gravel-sized weathering limestone fragments; positive reaction to HCl, pH 8.0
80 - 100	-	hard limestone
Groundwater	-	not encountered
Salinity	-	surface water: 5.8 mmho; ground water :- -
Land Capability Class	-	Rm IId, Rt IId, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, calcareous, isohyperthermic; moderately deep phase

No. 137

Soil Description

0 - 5cm	-	very dark brown (10YR 2/2) heavy clay; few partially decomposed plant remnants; pH 6.0
5 - 25	-	mottled: yellowish red (5YR 4/6) and dark brown (10YR 3/3) heavy clay; with common fine blackish spots of organic matter; pH 5.5
25 - 50	-	very dark brown (10YR 2/2) peaty clay; with many decomposed and partially decomposed plant remnants; slight H_2S smell; pH 4.5
50 - 80	-	very dark grayish brown (10YR 3/2) heavy clay, with common plant remnants; slight H_2S smell; pH 6.5
80 - 120	-	very dark grayish brown (10YR 3/2) peaty clay; with many plant remnants; common blackish spots of organic matter; strong H_2S smell; pH 7.5
120^+	-	very dark brown (7.5YR 3/2) heavy clay; pH 8.0
Groundwater	-	20 cm
Salinity	-	surface water 6.6 mmho; ground water 10 mmho
Land Capability Class	-	Rm IV n/p; Rt III n/p, Ct IIn
Soil Classification	-	Aeric Sulfic Thapto-Histic Tropic Fluvaquent, very fine mixed, non acid, isohyperthermic

No. 138

Soil Description

0 - 30 cm	-	very dark brown (10YR 2/2) clay, with common fine distinct dark reddish brown (5YR 3/4) mottles; common plant remnants pH 5.0
30 - 50	-	dark brown (7.5YR 3/2) peaty clay with common medium blackish spots of organic matter; many plant remnants; strong H_2S smell; pH 7.0
50 - 110	-	very dark grayish brown (10YR 3/2) clayey peat abundant decomposed and partially decomposed plant remnants; strong H_2S smell; pH 7.5

110- 120	-	dark brown 10YR 3/3 heavy clay; many plant remnants; strong H_2S smell; pH 8
Groundwater	-	110 cm
Salinity	-	surface water 5.4 mmho ground water 16.0 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic isohyperthermic

No. 139

Soil Description

0 - 10cm	-	mixed black (10YR 2/1), strong brown (7.5YR 5/6) and dark brown (7.5YR 3/2) heavy clay . pH 6
10 - 50	-	dark brown (7.5YR 3/2) heavy clay, with common blackish spots of organic matter; common plant remnants; common fine gypsum crystals and pockets of powdery gypsum; pH 5.5.
50 - 70	-	mixed dark brown (7.5YR 3/2) and very dark gray (N3) and gray (N5) peaty clay; gray colours occur in pockets; common blackish spots of organic matter; many plant remnants; common pockets of powdery gypsum; slight H_2S smell;
70 - 100	-	very dark brown (10YR 2/2) peaty clay with common medium distinct very dark gray (N3) mottles; many plant remnants and common whitish pockets of powdery gypsum; slight H_2S smell; pH 7.0
100 - 110	-	very dark brown (10YR 2/2) peat; strong H_2S smell; abundant plant remnants pH 6.5
120 - 140	-	brown to dark brown (7.5YR 4/2) heavy clay, with common blackish spots of organic matter, many plant remnants; slight H_2S smell; pH 8
Groundwater	-	above surface
Salinity	-	surface water : - ground water -

Land Capability Class - Rm IIn; Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 140

Soil Description

0 - 20cm	- mixed reddish brown (5YR 3/3) and dark reddish brown (5YR 2.5/2) heavy clay, with common fine distinct red (2.5YR 3/6) mottles; common very fine gypsum crystals pH 5.5
20 - 30	- dark reddish gray (5YR 4/2) heavy clay, with common fine distinct reddish brown 5YR 4/4 mottles; many fine gypsum crystals; pH 4.0
30 - 70	- mottled reddish gray (5YR 5/2), greenish gray (5 BG 6/1) heavy clay; part of mottles is hardened into nodules common gypsum crystals; pH 5.0
70 - 100	- reddish gray (5YR 5/2) greenish gray (5BG 5/1) dark yellowish brown (10YR 4/6) heavy clay; part of greenish gray mottles hardened into nodules; many gypsum crystals pH 5.5
100 - 110	- mottled light olive brown (2.5Y 6/4) dark yellowish brown (10YR 4/6) heavy clay; fine gypsum crystals; pH 7.0
110 - 150	- light olive brown (2.5Y 6/4) heavy clay; common medium and coarse very dark gray (10YR 3/1) spots of decomposed plant remnants; fine gypsum crystals pH 7.5
150 - 160	- yellowish brown (2.5Y 6/4) heavy clay with very dark gray (10YR 3/1) spots of organic matter; common (10%) weathered limestone fragments; common large gypsum crystals; pH 7.5
160 - 180	- hard limestone

Groundwater - not encountered

Salinity - surface water: groundwater:

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification : - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 141

Soil Description

0 - 30 cm	-	dark reddish brown (5YR 2.5/2) peaty clay; with common fine distinct (2.5YR 2.5/4) dark reddish brown mottles; pH 6.0
30 - 50	-	dark gray (5YR 4/1) peaty clay. pH 5.0
50 - 80	-	dark reddish brown (5YR 3/2) peaty clay with many partially decomposed plant remnants. pH 8.0
80 - 100	-	dark reddish brown (5YR 3/2) peaty clay. pH 8
100 - 110	-	dark gray (5YR 4/2) peaty clay; many partially decomposed plant remnants. pH 8.
110 - 120	-	brown to dark brown (7.5YR 4/2) half-ripe heavy clay; many partially decomposed plant remnants; few shell fragments; pH 8.

Groundwater - - 110 cm

Salinity - surface water: 9.5 mmho groundwater: 10.0 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct Vn

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 142

Soil Description

0 - 20 cm	-	reddish gray (5YR 5YR 5/2) peaty clay, with many partially decomposed plant remnants few fine gypsum crystals; pH 5.0
20 - 50	-	black (5YR 5/1) peaty clay, with many brown to dark brown partially decomposed plant remnants; pH 6.0

50 - 70	-	dark brown (7.5YR 3/2) clayey peat . pH 7.0
70 - 110	-	dark brown to brown (7.5YR 3/2) peaty clay, half-ripe; many many partially decomposed plant remnants. pH 8.0
110 - 120	-	brown to dark brown (7.5YR 4/2) half-ripe heavy clay; common partially decomposed plant remnants. pH 8.0
Groundwater	-	- 110 cm
Salinity	-	surface water: 8.5 mmho ground water: 9.6 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 143

Soil Description

0 - 30 cm	-	dark reddish brown (5YR 2.5/2) heavy clay with common medium distinct reddish brown (5YR 4/4) mottles; common brown partially decomposed plant remnants; few very fine gypsum crystals; pH 4.5
30 - 60	-	very dark gray (5YR 3/1) heavy clay, with common partially decomposed plant remnants. Few very fine gypsum crystals. pH 6.5
60 - 80	-	dark reddish brown (5YR 3/2) peaty clay,slight H_2S smell. pH 8.0
80 - 110	-	dark reddish brown (5YR 3/3) clayey peat; strong H_2S smell; pH 8.
110 -	-	brown (7.5YR 5/2) half ripe clay with common brown partially deoomposed plant remnants. pH 8.
Groundwater	-	- 100 cm
Salinity -	-	surface water: 5.5 mmho ground water 8.5 mmho
Land Capability Class	-	Rm IIIn; Rt IIn; Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 144

Soil Description

0 - 20 cm	-	dark reddish brown (5YR 3/2) clay, with common fine faint dark reddish brown (5YR 3/4) mottles. pH 6. Top soil pH 5.0
20 - 50	-	reddish gray (5YR 5/2) heavy clay, with many medium prominent yellowish red (5YR 5/6) and reddish brown (2.5YR 3/4) mottles; pH 6.0
50 - 70	-	brown to dark brown (7.5YR 4/2) heavy clay with few fine distinct strong brown (7.5YR 5/6) mottles; few partially decomposed plant remnants. pH 7.0
70 - 110	-	dark reddish brown (5YR 2.5/2) peaty clay with many partially decomposed brown plant remnants. pH 8.0
110 -	-	brown (7.5YR 5/2) clay with common partially decomposed plant remnants. pH 8.0
Groundwater	-	- 100 cm
Salinity	-	surface water: - ground water: 9.5 mmho
Land Capability Class	-	Rm IIIn, Rt IIn; Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 145

Soil Description

0 - 10 cm	-	gray (10YR 5/1) heavy clay, with common fine distinct strong brown (7.5YR 5/6) mottles; pH 7.0
10 - 30	-	dark gray (10YR 4/1) heavy clay; with common fine distinct dark yellowish brown (10YR 4/4) mottles; pH 7.0
30 - 50	-	greenish gray (5GY 5/1) heavy clay, with common fine distinct dark yellowish brown (10YR 4/4) mottles pH 8.0
50 - 80	-	very dark grayish brown (7.5YR 3/2) peaty clay, with commnn fine partially decomposed plant remnants. pH 8.0

80 - 100 - very dark grayish brown (10YR 3/2) peaty clay, with few medium distinct greenish gray (5G 5/1) mottles. pH 8.0

100 - 180 - mottled greenish gray (5G 5/1) reddish brown (5YR 4/3) peaty clay, with many partially decomposed plant remnants; few fine shell fragments. pH 8.0

180- 200 - mottled: colours as above, sandy clay loam with common partially decomposed brown plant remnants. pH 8.0

Groundwater - - 150 cm

Salinity - surface water: 8.0 mmho ground water: 15.0 mmho

Land Capability Class - Rm IIIn, Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, fine, mixed, non-acid isohyperthermic

No. 146

Soil Description

0 - 30 cm - dark gray (10YR 4/1) clay with many fine prominent red (2.5YR 4/6) dark reddish brown (2.5YR 3/4) mottles; common blackish spots of organic matter; few plant remnants; no reaction with HCl; pH 6.

30 - 60 - mottled: strong brown (7.5YR 5/8) and light gray (N7) heavy clay; few fine faint red (2.5YR 4/8) mottles; common large blackish spots of organic matter; few plant remnants; many fine and medium gypsum crystals; no reaction with HCl; pH 7.

60 - 80 - mottled yellowish brown (10YR 5/6) light yellowish brown (10YR 6/4) and light gray (N7) heavy clay; many small and medium gypsum crystals; common fine rounded dark greenish gray (5GY 4/1) nodules; pH 8.

80 - 90 - brownish yellow (10YR 6/6) heavy clay, with common medium prominent light gray (N7) mottles common fine gypsum crystals; common fine rounded dark greenish gray (5GY 4/1) nodules; pH 8

90 - 120 - light olive brown (2.5Y 5/4) heavy clay, with common medium and large gypsum crystals,few gravel-sized weathering limestone fragments. pH 8.

120 - 140 - mottled pale yellow (2.5Y 7/4) and very dark gray (N3) heavy clay; common gravel sized limestone fragments; common large blackish organic matter spots. Positive reaction with HCl pH 8.

Groundwater - not encountered

Salinity - surface water :- - ground water:- -

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropofluvent, very fine, mixed, non-acid, isohyperthermic

No. 147

Soil Description

0 - 15 cm	- mottled (10YR 3/2) very dark greyish brown light yellowish brown (10YR 6/4) heavy clay; many blackish spots of organic matter; pH 8. common plant remnants; no reaction with HCl
15 - 40	- brown (7.5YR 3/2) heavy clay, with common fine prominent reddish brown (2.5YR 4/4)mottles. common blackish spots of organic matter. Few plant remnants; few fine gypsum crystals; no reaction with HCl. pH 7.
40 - 60	- light gray (N7) heavy clay with many fine gypsum crystals; no reaction with HCl; pH 8.
60 - 80	- mottled light gray (N7) and dark gray (N4) heavy clay, with common fine distinct reddish brown (5YR 4/4) mottles; no reaction with HCl; common fine gypsum crystals. pH 8.
80 - 110	- mottled light gray (N7) and brown (10YR 6/6) heavy clay; many medium and large gypsum crystals; no reaction with HCl; pH 8.
110 - 190	- light yellowish brown (2.5Y 6/4) heavy clay; with common fine distinct brownish yellow (10YR 6/6) mottles; common blackish spots of organic matter; common large and medium gypsum crystals; few gravel-sized limestone fragments. No reaction with HCl; pH 8

Ground water - - 180 cm

Salinity - surface water 6.0 ground water: 11.0 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 148

Soil Description

0 - 5 cm	- mixed brown to dark brown (10YR 4/3), dark grayish brown (10YR 4/2) heavy clay; many fine and medium rounded hard Fe/Mn nodules. pH 8
5 - 60	- brownish yellow (10YR 6/8) heavy clay; common fine hard rounded Fe/Mn nodules: no reaction with HCl. pH 8
60 - 80	- brownish yellow (10YR 6/8) heavy clay; few fine and medium faint light gray (10YR 7/2) mottles; common medium soft Mn spots; few soft and hard fine and medium Fe/Mn nodules; no reaction with HCl. pH 8.
80 - 100	- brownish yellow (10YR 6/6) heavy clay; many fine and medium light greenish gray (5GY 7/1) mottles; few gravel sized weathering limestone fragments. pH 8.
100 - 130	- mottled brownish yellow (10YR 6/6) grayish brown (10YR 5/2) heavy clay; few gravel-sized weathering limestone fragments; few blackish spots of organic matter very few plants remnants; pH 8.
130 - 150	- light olive brown (2.5Y 5/4) heavy clay, with common fine distinct light greenish gray (5GY 7/1) mottles; common blackish spots of organic matter, few plant remnants. pH 8
150 - 200	- dark gray (10YR 4/1) heavy clay with common medium and large distinct brownish yellow (10YR 6/6) mottles; many blackish spots of organic matter; few plant remnants; Few gravel-sized limestone fragments; pH 8.
Groundwater	- - 180 cm
Salinity	- surface water: - ground water :- 11.0 mmho
Land Capability Class	- Rm I, Rt I, Ct I
Soil Classification	- Tropofluvent, very fine, mixed, non-acid, isohyperthermic

No. 149

Soil Description

0 - 20 cm	- mottled brown (10YR 5/3) yellowish brown (10YR 5/4) and 10YR 5/6) heavy clay; with few fine prominent red (2.5YR 4/6) mottles; common blackish spots of organic matter; pH 8. very few plant remnants; no reaction with HCl.

20 - 40	-	yellowish brown (10YR 5/6) heavy clay, with common fine distinct grayish brown (10YR 5/2) and few fine prominent yellowish red (5YR 5/6) mottles; common large blackish spots of organic matter; very few plant remnants, few fine and medium Fe/Mn nodules; no reaction with HCl. pH 8,
40 - 70	-	mottled strong brown (7.5YR 5/6) and light gray (N7) heavy clay; few fine gypsum crystals, mainly in light gray mottles; few fine and medium Fe/Mn nodules; common blackish organic matter spots; no reaction with HCl. pH 8.
70 - 80	-	brown (10YR 5/2) heavy clay, with common fine distinct strong brown (7.5YR 5/6) mottles; common blackish organic matter spots; no reaction with HCl. pH 8
80 - 160	-	mottled N8 (white) brownish yellow (7.5YR 6/6) heavy clay; common fine and medium prominent red (2.5YR 4/6) mottles; few blackish organic matter spots; many large gypsum crystals; many fine gypsum crystals in white spots; no reaction with HCl. pH 8
160 - 180	-	strong brown (7.5YR 5/6) heavy clay with many fine and medium prominent red (7.5YR 4/6) mottles; common fine distinct light gray (N7) mottles; many large gypsum crystals; no reaction with HCl. pH 8
Groundwater	-	- 160 cm
Salinity	-	surface water:- ground water: 9.0 mmho
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 150

Soil Description

0 - 10 cm	-	very dark brown (10YR 2/2) heavy clay, with common blackish spots of organic matter; common plant remnants; no reaction to HCl. pH 5
10 - 60	-	dark brown to brown (7.5YR 4/2) heavy clay with common medium distinct dark reddish brown (5YR 3/4) mottles; common medium light spots of gypsum; common blackish spots of organic matter; few plant remnants; no reaction to HCl; pH 4.5

60 - 90	-	mixed dark brown (7.5YR 3/2) brown to dark brown (7.5YR 4/4) and dark gray (N4) heavy clay; dark gray colours occurring in clusters; common medium brownish pockets of gypsum crystals; few plant remnants; no reaction to HCl. pH 4.5
80- 110	-	mottled dark greenish gray (5GY 4/1) and yellowish brown (10YR 5/4) peaty clay, with common blackish spots of organic matter. few plant remnants; few pockets of powdery gypsum. pH 5.
110 - 120	-	mottled yellowish brown (10YR 4/3) heavy clay with common blackish spots of organic matter; few plant remnants; no reaction to HCl; pH 6.0
Groundwater	-	+ 10 cm
Salinity	-	surface water: 3.0 mmho ground water : -
Land Capability Class	-	Rm IIIn; Rt IIn; Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

No. 151

Soil Description

0 - 10 cm	-	very dark gray (10YR 3/1) peaty clay with common fine and medium faint black (10YR 2/1) spots of organic matter; few fine faint reddish brown (2.5YR 4/4) mottles along roots; common fine gypsum crystals; pH 4.5
10 - 20	-	mixed: brown to dark brown (7.5YR 4/2) and very dark gray (10YR 3/1) heavy clay with many blackish spots of organic matter; common plant remnants; slight H_2S smell; pH 7.0
20 - 40	-	mixed: brown to dark brown (7.5YR 4/2) and very dark gray (10YR 3/1) peaty clay with many blackish spots of organic matter; many plant remnants; slight H_2S smell; pH 7.5
40 - 60	-	dark reddish brown (5YR 2.5/2) peaty clay with common medium distinct dark gray (N4/) mottles of clay; many plant remnants; few pockets of fine gypsum crystals; pH 7.5

60 - 70	-	dark gray (5Y 4/1) heavy clay; common plant remnants; slight H_2S smell; pH 7.0
70 - 90	-	mottled dark gray (5Y 4/1) and light gray (N7/) heavy clay; few plant remnants; few fine hard Fe concretions; pH 8.0
90 - 120	-	light olive brown (2.5Y 5/4) heavy clay; pH 8.0
Groundwater	-	100 cm from the surface
Salinity	-	surface water : - ground water :11.0 mmho
Land Capability Class	-	Rm IIIn, Rt IIn Ct IIn
Soil Classification	-	Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 152

Soil Description

0 - 10 cm	-	dark gray (10YR 3/1) heavy clay with common fine prominent dark reddish brown (2.5YR 3/4) mottles; no reaction to HCl; pH 6.5
10 - 40	-	mottled dark gray (5YR 4/1) and light reddish brown (5YR 6/3) heavy clay with common fine prominent dark reddish brown (2.5YR 3/4) mottles; common blackish spots of organic matter; very few plant remnants; few fine gypsum crystals; no reaction to HCl; pH 6.5
40 - 60	-	reddish gray (5YR 5/2) heavy clay with common fine prominent yellowish red (5YR 4/6) mottles; few fine to very fine gypsum crystals; few blackish spots of organic matter; no reaction to HCl; pH 6.5
60 - 70	-	mottled gray (5Y 5/1) and pinkish gray (7.5YR 6/2) heavy clay; common blackish spots of organic matter; few plant remnants; no reaction th HCl; pH 8.0
70 - 100	-	light yellowish brown (2.5Y 6/4) heavy clay; few blackish spots of organic matter; very few plant remnants; no reaction to HCl; pH 8.0
100 - 110	-	light olive brown (2.5Y 5/4) heavy clay with common medium faint gray (N 5/) mottles; few blackish spots of organic matter; few plant remnants; no reaction to HCl; pH 8.0

110 - 160	-	light olive brown (2.5Y 5/4) heavy clay; common dark gray to black plant remnants; slight H_2S smell; no reaction to HCl; pH 8.0
160 - 190	-	olive yellow (2.5Y 6/6) heavy clay; few blackish plant remnants; few gravel-sized limestone fragments increasing with depth; positive reaction to HCl; pH 8.0
190 - 220	-	greenish gray (5G 6/1) heavy clay with many medium to coarse distinct light olive brown (2.5Y 5/4) mottles; common blackish plant remnants.
220 - 240	-	Hard white limestone
Groundwater	-	not encountered
Salinity	-	not measured
Land Capability Class	-	Rm I, Rt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed,non-acid, isohyperthermic

No. 153

Soil Description

0 - 30 cm	-	very dark gray (5YR 3/1) heavy clay with few fine distinct dark reddish brown (2.5YR 3/4) mottles along root channels and common fine distinct reddish brown (5YR 5/3) mottles; common black spots of organic matter; very few fine gypsum crystals;no reaction to HCl; pH 5.0
30 - 50	-	dark reddish brown (5YR 3/2) heavy clay; common plant remnants; few blackish spots of organic matter; very few very fine gypsum crystals; no reaction to HCl; pH 5.5
50 - 90	-	very dark gray (5YR 3/1) heavy clay; many plant remnants; few blackish spots of organic matter; slight H_2S smell; pH 6.5
90 - 100	-	reddish gray (5YR 5/2) heavy clay; many plant remnants; slight H_2S smell; pH 7.0
100 - 110	-	grayish brown (2.5Y 5/2) heavy clay; common plant remnants; few fine shell fragments; positive reaction to HCl; slight H_2S smell; pH 8.0

110 - 120 - grayish brown heavy clay; common plant remnants; no reaction to HCl; pH 8.0

Groundwater - 100 cm from the surface

Salinity - surface water: ground water: 8 mmho

Land Capability Class - Rm IIIn; Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent; very fine, mixed, non-acid, isohyperthermic

No. 154

Soil Description

0 - 30 cm - dark grayish brown (10YR 4/2) heavy clay with common fine and medium, prominent dark red (2.5YR 3/6) mottles; few plant remnants; no reaction to HCl; pH 6.5

30 - 50 - dark reddish gray (5YR 4/2) heavy clay; common plant remnants; slight H_2S smell; no reaction to HCl; pH 8.0

50 - 100 - dark reddish brown (5YR 3/2) peaty clay; many plant remnants; strong H_2S smell; no reaction to HCl; pH 8.0

100 - 120 - dark grayish brown (10YR 4/2) heavy clay; nearly ripe; common plant remnants; few shell fragments; no H_2S smell; positive reaction to HCl; pH 8.0

Groundwater - 100 cm from the surface

Salinity - surface water: ground water : 15 mmho

Land Capability Class - Rm IIIn; Rt IIn, Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-aicd, isohyperthermic.

No. 155

Soil Description

0 - 10 cm - dark gray (10YR 4/1) heavy clay with many fine prominent dark red (2.5YR 3/6) mottles and many fine and medium distinct yellowish brown (10YR 5/4) mottles; common gray spots of organic matter; pH 6.5

10 - 50	-	gray (10YR 5/1) heavy clay with many fine prominent yellowish red (5YR 5/8) mottles; no reaction to HCl; pH 7.0
50 - 80	-	gray (N 5/) heavy clay with few fine prominent yellowish red (5YR 5/6) mottles as well as light olive brown (2.5Y 5/4) mottles; few plant remnants; no reaction to HCl; pH 7.5
80 - 100	-	mixed brown (7.5YR 5/2) and grayish brown (2.5Y 5/2) heavy clay; common plant remnants; slight H_2S smell; pH 8.0
100 - 120	-	greenish gray (5GY 6/1) heavy clay; many plant remnants; strong H_2S smell; pH 8.0

Groundwater - 100 cm from the surface

Salinity - surface water: - ground water: 10 mmho

Land Capability Class - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 156

Soil Description

0 - 20 cm	-	very dark gray (10YR 3/1) heavy clay with many fine prominent dark red (2.5YR 3/6) mottles; common fine blackish organic matter spots; pH 6.0
20 - 30	-	dark reddish brown (5YR 2.5/2) heavy clay with common medium faint pinkish gray ((5YR 6/2) mottles; many medium and large blackish spots of organic matter; few coarse pockets of fine gypsum crystals; no reaction to HCl; pH 6.5
30 - 50	-	mixed: dark brown (7.5YR 3/2) and brown (7.5YR 5/2) peaty clay with many plant remnants; slight H_2S smell; no reaction to HCl; pH 8.0
50 - 70	-	dark reddish brown (5YR 2.5/2) clayey peat with common fine and medium inclusions of greenish gray (5BG 5/1) clay; common fine and medium pockets of fine gypsum crystals; and powdery gypsum; common blackish spots of organic matter; no reaction to HCl; distinct H_2S smell; pH 8.0
70 - 90	-	dark reddish brown (5YR 2.5/2) clayey peat with common fine and medium inclusions of greenish gray (5BG 5/1) clay; abundant plant fragments; common fine and mediump pockets of fine gypsum crystals and powdery gypsum; strong H_2S smell; no reaction to HCl; pH 8.0

90 - 120	-	dark gray (5Y 4/1) nearly ripe heavy clay; many plant remnants; distinct H_2S smell; no reaction to HCl; pH 8.0
Groundwater	-	110 cm from the surface
Salinity	-	surface water : · ground water: 10 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 157

Soil Description

0 - 30 cm	-	very dark gray (10YR 3/1) heavy clay; many fine and medium distinct dark reddish brown (5YR 3/4) mottles; pH 5.5
30 - 60	-	very dark gray (10YR 3/1) peaty clay; many plant remnants; few blackish spots of organic matter; distinct H_2S smell; no reaction to HCl; pH 7.5
60 - 90	-	dark brown (7.5YR 3/2) clayey peat; many plant remnants; strong H_2S smell; no reaction to HCl; pH 7.5
90 - 120	-	dark grayish brown (10YR 4/2) half-ripe clay, many plant remnants; slight H_2S smell; pH 8.0
120 - 130	-	gray (5YR 5/1) half-ripe heavy clay; common plant remnants; common blackish spots of organic matter; slight H_2S smell; pH 8.0
Groundwater	-	70 cm from the surface
Salinity	-	surface: · ground water: 17 mmho
Land Capability Class	-	Rm VI p(n); Rt V p(n); Ct Vn
Soil Classification	-	Typic Sulfihemist, euic, isohyperthermic

No. 158

Soil Description

0 - 10 cm	very dark gray (10YR 3/1) heavy clay, with common medium faint dark grayish brown (10YR 4/2) mottles and few fine distinct yellowish brown (10YR 5/6) mottles and few fine prominent dark red (2.5YR 3/6) mottles; common blackish spots of organic matter; no reaction to HCl; pH 7.0
10 - 20	mottled gray to light gray (10YR 6/1) brownish yellow (10YR 6/6) white (10YR 8/1) heavy clay; common fine and medium rounded nodules of powdery and hard micro crystalline gypsum; pH 8.0
20 - 40	gray to light gray (10YR 6/1) heavy clay with many fine and medium distinct white (10YR 8/1) mottles, common medium distinct strong brown (7.5YR 5/8) mottles; common fine and medium hard rounded gray (10YR 8/1) nodules of micro crystalline gypsum; pH 8.0
40 - 50	dark gray (5YR 4/1) heavy clay with few fine and medium prominent yellowish brown (10YR 5/6), light olive brown (2.5Y 5/4) mottles; common fine and medium hard rounded gray (10YR 5/1) nodules of gypsum and clay; no reaction to HCl; pH 8.0
50 - 70	mottled light olive brown (2.5Y 5/4), light gray to gray (N6/) heavy clay common blackish spots of organic matter; pH 8.0
70 - 100	mottled dark gray (N 4/) and light olive brown (2.5Y 5/4) gravelly heavy clay, gravel consisting of weathering limestone fragments; few plant remnants; clay does not react to HCl; pH 8.0
100 - 120	light yellowish brown (2.5Y 6/4) heavy clay with common dark gray (N 4/) spots of organic matter; few plant remnants; few gravel-sized weathering limestone fragments; clay does not react to HCl; pH 8.0
Groundwater	not encountered
Salinity	not measured
Land Capability Class	Rm I, Rt I, Ct I
Soil Classification	Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic.

No. 159

Soil Description

0 - 10 cm	very dark gray (10YR 3/1) heavy clay with few medium distinct dark reddish brown (5YR 2/3) mottles; common fine and medium blackish spots of organic matter; common very fine gypsum crystals; no reaction to HCl; pH 4.5
10 - 30	mottled very dark gray (5YR 3/1) and dark reddish gray (5YR 4/2) heavy clay; many medium and large blackish spots of organic matter; many coarse pockets of gypsum crystals; slight H_2S smell; no reaction to HCl; pH 5.0
30 - 80	mixed dark reddish brown (5YR 3/2) dark reddish gray (5YR 4/2), very dark gray (5YR 3/1), white (5YR 8/1) and pink (5YR 7/3) peaty clay; many coarse pockets of gypsum crystals; many plant fragments; common inclusions of dark gray (N4/) heavy clay; slight H_2S smell; no reaction to HCl; pH 8.0
80 - 100	dark reddish brown (5YR 3/2) peaty clay; common blackish spots of organic matter; many plant fragments; common pockets of gypsum crystals; no reaction to HCl; distinct H_2S smell; pH 8.0
80 - 100	dark reddish brown (5YR 3/2) peaty clay; common blackish spots of organic matter; many plant fragments; common pockets of gypsum crystals; no reaction to HCl; distinct H_2S smell; pH 8.0
100 - 110	dark reddish brown (5YR 3/3) clayey peat; abundant plant fragments; distinct H_2S smell; no reaction t' HCl; pH 8.0
Groundwater	90 cm from the surface
Salinity	surface: - ground water: 11 mmho
Land Capability Class	Rm IIIn; Rt IIn; Ct IIn
Soil Classification	Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 160

Soil Description

0 - 20 cm	-	very dark gray (10YR 3/1) heavy clay, with common medium distinct dark reddish brown (5YR 2.5/2) and common fine prominent dark reddish brown (2.5YR 3/4) mottles; common blackish spots of organic matter; few gravel sized limestone fragments. No reaction to HCl. pH 6.5
20 - 40	-	dark gray (5YR 4/1) heavy clay, common plant remnants; few blackish spots of organic matter very few fine gypsum crystals. slight smell of H_2S. No reaction to acid. pH 7.
40 - 60	-	dark reddish brown (5YR 2.5/2) peaty clay; distinct H_2S smell; many plant remnants; pH 7.5
60 - 90	-	dark reddish brown (5YR 3/2) clayey peat; distinct H_2S smell; pH 8.
90 - 110	-	dark gray (10YR 4/1) heavy clay, many plant remnants; distinct H_2S smell; few gravel sized limestone fragments; shell fragments;
110 - 120	-	gray to light gray (N6/) half-ripe heavy clay, with common plant remnants; distinct H_2S smell; few gravel sized weathering limestone fragments. Positive reaction with HCl. pH 8
120 - 140	-	gray to light gray N6 heavy clay, with many medium and coarse prominent light yellowish brown (2.5Y 6/4) mottles; 10% weathering limestone fragments; common plant remnants. Positive reaction to HCl. pH 8.

Groundwater - 90 cm.

Salinity - surface water :- . ground water :- 11.0 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct Vn

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 160 A

Soil Description

0 - 10 cm	-	dark brown (10YR 3/3) gravelly heavy clay; gravel (10%) consisting of weathering limestone fragments; few blackish charcoal spots; positive reaction to acid. pH 8.
10 - 25	-	brownish yellow (10YR 6/6) heavy clay; many fine and [illegible] distinct gray (10YR 5/1) mottles; few weathering limestone fragments . pH 8.
25 - 50	-	mottled light gray to gray (10YR 6/1) brownish yellow (10YR 6/6) heavy clay, few gravel-sized limestone fragments. Positive reaction with HCl pH 8.
50 - 60	-	mottled white (10YR 8/2) light gray (10YR 7/1) brownish yellow (10YR 6/6) gravelly heavy clay; gravel consists of weathering limestone fragments. pH 8
60 - 80	-	hard limestone.
Groundwater	-	not encountered
Salinity	-	surface water:- - ground water:- -
Land Capability Class		Rm IId, Rt IId, Ct I
Soil Classification	-	Tropofluvent, very fine, mixed, calcareous, isohyperthermic, moderately deep phase.

No. 161

Soil Description

0 - 20cm	-	very dark grayish brown (10YR 3/2) heavy clay, with common fine distinct red (2.5Y 4/6) mottles, common blackish spots of organic matter; few brick fragments positive reaction to HCl. pH 8.
20 - 30	-	dark gray (10YR 4/1) heavy clay with many fine and medium distinct reddish brown (2.5YR 4/4) mottles; common blackish spots of organic matter. Few very fine gypsum crystals; pH 7.
30 - 60	-	dakk gray (5YR 4/1) heavy clay with many fine distinct yellowish red (5Y 4/6); common blackish spots of organic matter; very few plant remnants; Few very fine gypsum crystals; no reaction to HCl; pH 6.5

60 - 80 - mottled very dark gray (N3) brown to dark brown (7.5YR 4/2) heavy clay; few medium distinct light olive brown (2.5Y 5/4) mottles; few gravel-sized weathering limestone. Few plant fragments. Negative reaction to HCl. pH 6.5

80 - 90 - olive yellow (2.5Y 6/6) very gravelly clay with common fine and medium distinct gray (N5) mottles 40% gravel sized limestone fragments. pH 8

Groundwater - not encountered

Salinity - surface water: - ground water:-

Land Capability - Rm I, Rt I, Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 161A
Soil Description

0 - 20 cm - brownish yellow (10YR 6/6) heavy clay; few (less than 5%) gravel -sized weathered limestone fragments; positive reaction with HCl; pH 8.0

20 - 40 - mixed light yellowish brown (10YR 6/4) and brownish yellow (10YR 6/8) gravelly heavy clay; many (20%) gravel sized weathered limestone fragments; positive reaction with HCl; pH 8.0

40 - 50 - hard limestone

Groundwater - not encountered

Salinity - surface water:- ground water:-

Land Capability Class - Rm Vd, Rt IIId, Ct IId

Soil Classification - Tropogluvent, very fine, mixed, calcareous, shallow phase

No. 162
Soil Description

0 - 10 cm - dark grayish brown (10YR 4/2) heavy clay with common medium distinct brownish yellow (10YR 6/6) and few fine distinct yellowish red (5YR 4/6) mottles, few gravel-sized weathering limestone fragments; positive reaction to HCl. Few rounded hard iron nodules. pH 6

10 - 30 cm	-	mottled grayish brown (10YR 5/2) reddish yellow (7.5YR 6/8) heavy clay, few gravel-sized weathering limestone fragments; common blackish spots of organic matter; pH 8.
30 - 50	-	mottled dark grayish brown (10YR 4/2) olive yellow (2.5Y 6/6) heavy clay; common (10%) gravel-sized weathered limestone fragments. pH 8
50 - 80	-	dark gray (N4) heavy clay; few gravel-sized weathering limestone fragments; few plant fragments; positive reaction to HCl. pH 8.
80 - 90	-	pale olive (5Y 6/4) heavy clay; common gravel-sized weathering limestone fragments, positive reaction to HCl.
90 - 120	-	olive yellow (2.5Y 6/6) very gravelly clay common fine and medium distinct grey (N5) mottles. 40% gravel-sized weathered limestone fragments.
Groundwater	-	not encountered
Salinity	-	surface water: - groundwater : -
Land Capability Class	-	Rm I, Bt I, Ct I
Soil Classification	-	Aeric Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 163

Soil Description

0 - 30 cm	-	very dark gray (10YR 3/1) heavy clay, with many fine and medium distinct (2.5YR 3/2) disky red and many fine distinct dark reddish brown (2.5YR 3/4) mottles, few blackish spots of organic matter; common very fine gypsum crystals; few soft Mn nodules; pH 5.0
30 - 40	-	dark reddish brown (5YR 2.5/2) heavy clay with many plant remnants; slight H_2S smell; no reaction to HCl. pH 7.5
40 - 70	-	mixed dark reddish brown (5YR 2.5/2) dark reddish grey (5YR 4/2) peaty clay; many plant remnants; slight H_2S smell. No reaction to HCl. pH 7.5
70 - 100	-	dark reddish brown (5YR 3/2) peaty clay; common blackish spots of organic matter; many plant remnants; strong H_2S smell
100 - 110	-	dark reddish brown (5YR 3/2) clayey peat pH 8.

Groundwater - -100 cm

Salinity - surface water :- - ground water: 10.0 mmho

Land Capability Class: - Rm IIIn; Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic

No. 164

Soil description

0 - 30 cm - mottled dark reddish brown (5YR 3/2), dark reddish gray (5 YR 4/2) heavy clay, with common fine and medium prominent yellowish red (5YR 4/6) mottles, common blackish spots of organic matter; few spots of powdery gypsum; no reaction with HCl. pH 5.5

30 - 50 - dark brown (7.5YR 3/2) heavy clay, with many decomposed and partially decomposed plant remnants; slight H_2S smell; no reaction with HCl, pH 7.0

50 - 70 - dark reddish brown (5YR 3/2) heavy clay, with many decomposed and partially decomposed plant remnants; slight H_2S smell; no reaction with HCl, pH 6.5

70 - 90 - dark reddish brown (5YR 3/2) peaty clay, abundant medium and coarse decomposed and partially decomposed plant remnants; strong H_2S smell; no reaction with HCl, pH 8.0

90 - 120 - dark grayish brown (10YR 4/2) heavy clay; common decomposed and partially decomposed plant remnants; slight H_2S smell; no reaction with HCl, pH 8.0

Groundwater - -100 cm

Salinity - surface: groundwater: 8 mmho

Land Capability Class - Rm IIIn; Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic

No. 165

Soil Description

0 - 10 cm	- dark gray (10YR 4/1) heavy clay; no reaction with HCl, pH 8.0
10 - 20	- dark grayish brown (10YR 4/2) heavy clay, with many fine and medium greenish gray (5GY 5/1) mottles; strong H_2S smell; no reaction with HCl. pH 8.0
20 - 30	- dark grayish brown (2.5Y 4/2) heavy clay, many decomposed and partially decomposed plant remnants; strong H_2S smell; no react ion with HCl. pH 8.0
30 - 70	- dark brown (7.5YR 3/2) heavy clay, many decomposed and partially decomposed plant remnants; strong H_2S smell. pH 8.0
70 - 110	- dark brown (7.5YR 3/2) heavy clay, few medium distinct dark greenish gray (5GY 4/1) mottles; many decomposed and partially decomposed plant remnants; strong H_2S smell; positive reaction with HCl. pH 8.5
110- 120	- as above but with many gravel-sized limestone fragments.

Groundwater - -70 cm

Salinity - surface water:- - ground water: 18.0 mmho

Land Capability Class - Rm I; Rt I; Ct I

Soil Classification - Aeric Tropic Fluvaquent, very fine, mixed, non-acid, ischyperthermic

No. 166

Soil Description

0 - 30 cm	- light greenish gray (5GY 6/1) heavy clay, with common medium distinct yellowish brown (10YR 5/8) mottles; no reaction to HCl. pH 8.0.
30 - 60	- very dark gray (N3/) heavy clay, with common medium distinct brown (7.5YR 5/2)mottles. pH 8.0
60 - 70	- hard limestone

Groundwater - not encountered

Salinity - surface water: - ground water: -

Land Capability Class - Rm IId; Rt IId; Ct I

Soil Classification - Tropic Fluvaquent, very fine, mixed, non-acid, isohyperthermic, moderately deep phase.

No. 167

Soil Description

0 - 30 cm - very dark grayish brown (10YR 2/2) clay, with common medium distinct strong brown (7.5YR 4/6) mottles, common medium distinct strong brown (7.5YR 4/6) mottles, common blackish spots of organic matter, many decomposed and partially decomposed plant remnants; no reaction to HCl. pH 4.5

30 - 50 - very dark grayish brown (10YR 3/2) peat, abundant medium and coarse plant remnants; no reaction to HCl, strong H_2S smell. pH 5.5

50 - 110 - very dark brown (10YR 2/2) peat, as above but. pH 8.0.

110 - 120 - very dark grayish brown (2.5Y 3/2) half ripe clay; many plant remnants; strong H_2S smell; no reaction to HCl. pH 8.0

Groundwater - -90 cm

Salinity - surface water: ground water: 17.0 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct Vn

Soil Classification - Typic Sulphemist, euic, isohyperthermic

No. 168

Soil Description

0 - 20 cm - very dark brown (10YR 2/2) peaty clay, with common blackish spots of organic matter; common plant remnants; common fine gypsum crystals; no reaction to HCl. pH 5.0

20 - 40 - mixed: very dark brown (10YR 2/2), yellowish brown (10YR 5/6) very dark gray (N3/), and gray to light gray (N6/), heavy clay, with many coarse pockets of powdery gypsum; gray colours occur in pockets of gypsum; common plant remnants, slight H_2S; no reaction to HCl. pH 5.5

40 - 60 - very dark brown (10YR 2/2) peaty clay with medium to very coarse pockets of powdery gypsum; many plant remnants; slight H_2S smell; no reaction to HCl, pH 6.0

60 - 120 - very dark grayish brown (10YR 3/2) peat, with abundant plant remnants, distinct H_2S smell; no reaction to HCl. pH 7.5

120 - 130 - very dark grayish brown (2.5Y 3/2) half-ripe clay, with many plant remnants; strong H_2S smell; no reaction to HCl. pH 8.

Groundwater - - 100 cm

Salinity - surface water 8.5 mmho; groundwater 11.0 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct V n

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 169

Soil Description

0 - 10 cm - very dark grayish brown (10YR 3/2) heavy clay, with common medium distinct dark brown (7.5YR 3/4) mottles and common medium distinct blackish spots of organic matter; common plant remnants; many very fine gypsum crystals; no reaction to HCl. pH 6.0

10 - 20 - brown to dark brown (7.5YR 4/4) clay, with common blackish spots of organic matter; common coarse pockets of fine gypsum crystals (yellowish brown, 10YR 5/6); no reaction to HCl. pH 5.5

20 - 50	- mixed: very dark brown (10YR 2/2), yellowish brown (10YR 5/6), dark gray (N4/), and black (N2/), heavy clay, with common plant remnants and common coarse pockets of fine gypsum crystals and powdery gypsum; no reaction to HCl. pH 5.5
50 - 90	- very dark gray (10YR 2/1), heavy clay, with common medium distinct brown to dark brown (10YR 4/3) mottles and common blackish spots of organic matter, many plant remnants, no reaction to HCl. pH 6.0
90 - 120	- mottled: dark gray (10YR 4/1) and light olive brown (2.5Y 5/4), heavy clay, with common blackish spots of organic matter, common plant remnants; slight H_2S smell; no reaction to HCl; pH 7.0
120 - 130	- light olive brown (2.5Y 5/4) heavy clay, with few medium distinct dark gray (10YR 4/1) mottles, and common blackish spots of organic matter; positive reaction to HCl. pH 8.5
Groundwater	- -60 cm
Salintiy	- surface water: 9.0 mmho ground water: 9.7 mmho
Land Capability Class	- Rm IIIn; Rt IIn; Ct IIn
Soil Classification	- Aeric Sulfic Tropic Fluvaquent, very fine mixed, non-acid, isohyperthermic

No. 170
Soil Description

0 - 20 cm	- very dark brown (10YR 2/2) peaty clay, with common medium distinct strong brown (7.5YR 4/6) mottles and common medium distinct blackish spots of organic matter; common plant remnants, no reaction to HCl; pH 4.5
20 - 40	- dark brown (10YR 3/3) peaty clay, with common medium distinct dark brown (7.5YR 3/4) mottles and common medium distinct blackish spots of organic matter; many plant remnants; many fine gypsum crystals; no reaction to HCl; pH 5.0
40 - 60	- mixed: very dark grayish brown (10YR 3/2), yellowish brown (10YR 5/6), light gray to gray (N6/) and very dark gray (N3/) clay, with common plant remnants; many coarse pockets of fine gypsum crystals (yellowish brown; 10YR 5/6); no reaction to HCl; pH 6.5

60 - 110 - very dark brown (10YR 2/2) peat, with few pockets of very dark gray (N3/) clayey peat; abundant plant remnants; no reaction to HCl; pH 8.0

110 - 120 - very dark grayish brown (10YR 3/2) peaty clay, with many plant remnants; common fine shell fragments; no reaction to HCl (except for shell fragments).

Groundwater - -50 cm

Salinity - surface water: 8.5 mmho; ground water: 12 mmho

Land Capability Class - Rm IV n/p; Rt III n/p; Ct IIn

Soil Classification - Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine, mixed non-acid, isohyperthermic

No. 171

Soil Description

0 - 25 cm - very dark gray (10YR 3/1) heavy clay, with common medium distinct yellowish red (5YR 4/6) mottles and many medium distinct blackish spots of organic matter; common plant remnants; no reaction to HCl. pH 6.0

25 - 50 - mixed: black (10YR 2/1), very dark grayish brown (10YR 3/2) and yellowish brown (10YR 5/4) clay, few plant remnants, many charcoal fragments; no reaction to HCl. pH 7.0

50 - 60 - dark brown (7.5YR 3/2) clay, with common blackish spots of organic matter; many plant remnants; no reaction to HCl. pH 8.0

60 - 100 - dark brown (7.5YR 3/2) peaty clay; many plant remnants; strong H_2S smell; no reaction to HCl. pH 8.0.

100 - 110 - very dark grayish brown (10YR 3/2) half-ripe clay, with few pockets of powdery calcite; positive reaction to HCl. pH 8.5

110 - 120 - greenish gray (5GY 5/1) half-ripe clay, with common medium distinct dark gray (5Y 4/1) mottles; few plant remnants; few pockets of powdery calcite; positive reaction to HCl. pH 3.5

Groundwater - -50 cm

Salinity - surface water: - ground water: 7.5 mmho

Land Capability Class - Rm IIIn; Rt IIn; Ct IIn

Soil Classification - Aeric Sulfic Tropic, Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 172

Soil Description

0 - 20 cm - very dark brown (10YR 2/2) peaty clay, with few fine distinct yellowish red (5YR 4/6) mottles and common blackish spots of organic matter; many plant remnants slight H_2S smell; no reaction to HCl, pH 5.0

20 - 30 - black (N2/) peat with abundant plant remnants; strong H_2S smell; no reaction to HCl. pH 4.5

30 - 50 - very dark brown (10YR 2/2) half-ripe peaty clay, with common blackish spots of organic matter; many plant remnants; strong H_2S smell; no reaction to HCl. pH 6.5

50 - 120 - as above but unripe peaty clay. pH 8.0

Groundwater - -40 cm

Salinity - surface water: - ground water: 8 mmho

Land Capability Class - Rm VI p(n); Rt V p(n); Ct Vn.

Soil Classification - Typic Sulfihemist, euic, isohyperthermic

No. 173

Soil Description

0 - 20 cm - very dark grayish brown (10YR 3/2) heavy clay, with common medium distinct yellowish red (5YR 4/6) mottles and common blackish spots of organic matter; common plant remnants; no reaction to HCl. pH 4.5

20 - 90 - very dark brown (10YR 2/2) peaty clay, with many blackish spots of organic matter; many plant remnants; distinct H_2S smell; no reaction to HCl. pH 8.0

90 - 120 - very dark brown (10YR 2/2) half-ripe clayey peat, strong H_2S smell; no reaction to HCl. pH 8.0

Groundwater - -70 cm

Salinity - surface water: - ... ground water: 10 mmho

Land Capability Class - Rm IV n/p; Rt III n/p; Ct IIn

Soil Classification - Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine, mixed, non-acid, isohyperthermic

No. 174

Soil Description

0 - 40 cm	- very dark brown (10YR 2/2) heavy clay, with many medium distinct yellowish red (5YR 4/6) mottles, and common blackish spots of organic matter; common plant remnants; no reaction to HCl. pH 6.0
40 - 50	- very dark grayish brown (10YR 3/2) heavy clay, with many plant remnants; slight H_2S smell; no reaction to HCl. pH 6.5
50 - 90	- very dark grayish brown (10YR 3/2) peaty clay; many plant remnants; strong H_2S smell; no reaction to HCl. pH 7.5
90 - 110	- dark grayish brown (2.5Y 4/2) heavy clay, with few blackish spots of organic matter; many plant remnants; strong H_2S smell; no reaction to HCl. pH 8.0
110 - 120	- dark gray (5Y 4/1) heavy clay, with common medium faint dark greenish gray (5GY 4/1) mottles, and common blackish spots of organic matter; strong H_2S smell; no reaction to HCl. pH 8.0

Groundwater - -110 cm

Salinity - surface water: - ground water: 9 mmho

Land Capability Class - Rm IV n/p; Rt III n/p; Ct II n

Soil Classification - Aeric Sulfic Thapto-Histic Tropic Fluvaquent, fine, mixed non-acid, isohyperthermic

No. 175

Soil Description

0 - 20 cm	- very dark grayish brown (10YR 3/2) heavy clay, with many medium distinct yellowish red (5YR 4/6) mottles and few blackish spots of organic matter; few fine limestone fragments. pH 7.5
20 - 60	- very dark gray (10YR 3/1) heavy clay with common coarse faint dark brown (10YR 3/3) and common blackish spots of organic matter; common plant remnants, no reaction to HCl; pH 7.0
60 - 70	- mixed: very dark brown (10YR 2/2) and dark grayish brown (10YR 4/2) heavy clay, with common blackish spots of organic matter; many plant remnants; slight H_2S smell; no reaction to HCl. pH 8.0
70 - 90	- very dark brown (10YR 2/2) peaty clay, with many plant remnants; distinct H_2S smell; no reaction to HCl. pH 8.0 dark brown (10YR 3/3) heavy clay, with many plant remnants; no reaction to HCl. pH 8.0
Groundwater	- -50 cm
Salinity	- surface water: - ground water: 8.5 mmho
Land Capability Class	- Rm IIIn; Rt IIn; Ct IIn
Soil Classification	- Aeric Sulfic Tropic Fluvaquent, very fine, mixed, non-acid isohyperthermic