IRAQ 31 C

Site No. R.1

Topography: On level surface just above gilgai

Cultivation: Nil

Vegetation: Plantago ovata, shôk, patchy turf in slight hollows with Iris sisyrinchium

Surface: Higher parts with no vegetation cover, salt crumb or marked fine polygonal cracking with flaking and curling. Salt crumb shows signs of deliquescent salts.

0-20 cm	10 YR 4/3 Sil-SiCL Dry, fairly soft, weak - moderate vertical cracking where vegetation in hallows, otherwise well developed med. ang. - subang. blocky structure, fairly friable consistency, roots present, also visible pores, absorbs water readily especially where roots occur. Traces of a white salt without taste - probably carbonate.
20-60 cm	10 YR 5/4 SiCL-SiC Rather mixed, moist, fairly soft, becoming hard, structure dying out with depth, fairly friable consistence becoming fairly hard below 40 cm. Traces of black mottling and of gypsum crystals. Fairly dense.
60-95 cm	10 YR 5/3 SiCL Mixture of SiL and SiC. Moist, soft, structureless, fairly friable, abundant gypsum speckling. No visible salts.
95-112 cm	10 YR 4/3 SiL Moist, soft, structureless friable consistence, no visible salts.
112-150 cm	10 YR 5/4 SiCL Mixture of SiL and SiC. As 60-95 cm, but far less gypsum visible and black mottling present, becoming common below 120 cm.
150-245 cm	7.5 YR 5/4 SiC Moist, fairly hard - fairly soft, structureless, dense, fairly hard consistency. Gypsum crystals very common, also red and black mottling.
245-310 cm	10 YR 6/4 Sic As 150-245 but fairly friable consistence. Twinned crystals of gypsum may be 1inch across! Becomes wet at 300 cm. Tastes of salt.
310-330 cm	10 YR 6/4 SiCL Mixture of SiL and SiC. Forms a transition to:
330-343 cm max.	10 YR 5/3 SiL Wet, otherwise as 95-112 cm. Water struck at about 350 cm - was 349 cm after about 30 secs.

3½ metre bore in 2 metre pit — Date: 30.12.57

Soil class: B — Land classification:

See also laboratory analyses of samples 15304-15310

Site No. R.2

Topography:	In the centre of a round gilgai in a slight depression at base of gypsum mound
Cultivation:	Nil
Vegetation:	Aeluropus sp. in tufts; elsewhere limited grass turf in some gilgai
Surface:	Marked minor surface cracking and flaking of takyr type on puff. Depression shows several small sink holes, but is badly kicked about by grazing animals.
0-15 cm	10 YR 5/3 SiL-SiCL, dry, fairly soft, weak, medium - fine ang. blocky to 8 cm over marked vertical cracking, fairly friable consistence, roots common, no visible salts. Can be traced as infilling of the surface of blocks let down by a kind of cauldron subsidence. Aero structure prevails.
15-55 cm	10 YR 5/4 SiC-SiCL Very hard, dry, marked vertical cracks to 90 cm, up to 2 cm wide, very hard consistence, a few roots. No visible salts.
55-90 cm	10 YR 5/4 SiC-SiCL Moist, fairly hard, vertical cracks decrease in importance, fairly hard consistence becoming fairly friable below 80 cm; gypsum very common as small specks and crystals. Black mottling appears.
90-150 cm	10 YR 5/4 SiC-SiCL As 55-90 cm but structureless
150-183 cm max.	10 YR 6/3 SiCL Wet, soft, structureless, fairly sticky, no visible salts. Water table standing at 183 cm after 20 hours.

1.8 metre bore in 2 metre pit
Soil class: Ts

Date 30.12.57
Land classification: 6ntd ?s

See also laboratory analyses of samples 15311-15315

Site No. R.3

Topography:	On slight rise by side of artificial basins
Cultivation:	Nil
Vegetation:	Only in slight hollows. Plantago sp. Young grasses, shôk
Surface:	Marked minor surface cracking, some flaking, tendency to patches of deliquescent salts.
0-2 cm	10 YR 5/4 SiCL Dry, soft, laminated, fairly hard consistence, no visible salts. Tendency to aero structure.
2-100 cm	10 YR 6/4 SiCL-SiC, Moist, soft, weak vertical cracking to 35 cm with almost a salt crumb from 2-8 cm. Friable consistence, gypsum present, suddenly becoming abundant at 47 cm. Some crystals up to 1½ inches across. Tastes of salt.
100-114 cm	10 YR 7/4 SiL. Moist, soft, structureless, friable consistence, large gypsum crystals sometimes present; also black mottling.
114-336 cm max.	10 YR 5/3 SiCL Mixture of SiL with some SiCL- SiL. Soft, moist, structureless, patchy. Very friable consistence, gypsum crystals common - also black mottling. Becomes firm below 240 cm, and sticky and plastic (wet) below 280 cm.
	Water hit at 336. Rose to 333 cm after 45 secs, 331½ cm after 5 mins.

3½ metre bore in 2 metre pit — Date 30.12.57
Soil Class: B — Land classification:6sd

See also laboratory analyses of samples 15316-15321

Site No. R.4

Topography:	Level surface
Cultivation:	Fallow - remains of good stubble
Vegetation:	Shôk
Surface:	Weak - marked minor surface cracking. Tendency to flaking. Puffy patches
0-10 cm	10 YR 5/4 SiCL Mixture of SiL and SiC. Dry, soft, laminated, fairly friable, occasional vertical cracking. Traces of carbonate flecks. Aero structure. Plough layer.
10-50 cm	10 YR 5/4 SiC-SiCL Moist, soft, weak crumb structure (fine - medium subang. blocky), porous, friable, abundant gypsum flecking. Weak salt efflorescence on pit sides. Tastes bitter.
50-82 cm	10 YR 5/4 SiCL Mixture of SiC and SiL in varying proportions. Moist, soft becoming harder, structureless, friable become fairly friable below 70 cm. Porous. Some gypsum present. Salt efflorescence as above.
82-85 cm	10 YR 5/3 SiL-FSL Moist, soft, structureless, friable, negligible efflorescence on pit sides.
85-147 cm	10 YR 5/4 SiCL As 50-82 cm but white fluffy efflorescence on pit sides to 130 cm. Below 104 cm, fairly hard consistence.
147-160 cm	10 YR 5/4 SiC-SiCL Moist, fairly hard, structureless, fairly hard consistence. Some gypsum present. Black mottling.
160-300 cm	10 YR 5/4 SiCL As 104-147 cm but negligible efflorescence. Gypsum present, also black mottling.
300-310 cm	10 YR 5/4 SiC-SiCL As 147-160 cm.
310-405 cm	10 YR 5/4 SiCL Mixture, very variable as 160-300 cm.
405-425 cm max.	10 YR 5/4 SiC-SiCL As 147-160 cm but becoming wet. It is very dense. Firm consistence. Gypsum common. Water struck at 425 cm and rose to 415 cm in one minute.

5 metre bore in 2 metre pit — Date 31.12.57
Soil Class: B — Land classification: 6sd

See also laboratory analyses of samples 15322-15329

Site No. R.6

Topography:	Fairly level surface above gully and below gypsum mounds
Cultivation:	Nil
Vegetation:	Salsola sp., Iris sisyrinchium, short grass
Surface:	Locally puffy (on slight rises) with moderate medium - fine surface cracking in slight depressions
0-29 cm	10 YR 6/4 SiC Dry, hard, marked medium ang. - subang. blocky, fairly hard consistence, but moderately porous. Gypsum abundant.
29-139 cm	10 YR 6/4 SiCL-SiC Moist, fairly soft becoming fairly hard, structureless, fairly friable to 50 cm becoming fairly hard - hard. Gypsum sparsely present. Dense.
139-235 cm	10 YR 7/5 SiCL A mixture of SiL and SiC in varying proportions. Moist, soft, structureless, fairly friable. Gypsum sparsely present, becoming abundant below 190 cm. Reasonably porous. Black mottling.
235-255 cm	10 YR 6/4 SiL Moist, soft, structureless, friable, with gypsum crystals and black mottling.
255-290 cm	10 YR 7/5 SiL-SiCL - as 139-235 cm.
290-350 cm	10 YR 6/4 SiL-FSL Moist, soft, structureless, floury consistence, no visible salts. Occasional SiCL fragments below 310 cm. Becomes wet below 330 cm.
350-375	7.5 YR 6/5 SiCL Very moist and fairly soft - as 139-235 cm.
375-500 cm max.	10 YR 7/4 SiCL-SiC Moist, fairly soft, structureless, friable, gypsum present. Below 450 cm consistence becomes firm.

5 metre bore in 2 metre pit
Soil Class: A

Date 31.12.57
Land Classification:

See also laboratory analyses of samples 15336-15342

Site No. R.7

Topography:	Level area with puffy parts and slight grassy hollows. Pit in rise
Cultivation:	Fresh plough nearby
Vegetation:	Salsola sp. and new turf
Surface:	Ranges from salt crumb of puff via takyr with flaking, to moderate medium surface cracking among vegetation
0-95 cm	10 YR 5/3 SiCL-SiC Hard and dry over moist and hard. Well developed medium - fine angular - subang. blocky with weak vertical cracking to 45 cm. Thereafter structureless. Hard consistence, weak salt efflorescence from 30 cm deep. Gypsum abundant between 0-30 cm and 60-95 cm.
95-200 cm	10 YR 6/4 L Mixture of SiL and SiCL-SiC in vary proportions - SiL usually dominant. Moist, soft, structureless, fairly friable, gypsum present. Between 130 and 145 cm lies a heavier layer (of SiCL ?) but it seems not to be continuous within the pit.
200-215 cm	10 YR 6/4 SiCL As 95-200 cm but less sand and rather heavier with more gypsum.
215-250 cm	10 YR 6/4 SiL Moist, soft, structureless, friable, no visible salts.
250-370 cm max.	10 YR 6/4 SiCL-SiC Moist, fairly soft becoming fairly hard, structureless, fairly friable becoming fairly firm below 320 cm, gypsum abundant, green mottling below 320 cm. Water struck at 370 cm.

3.7 metre bore in 2 metre pit
Soil Class: A (approaching A1)

Date 1.1.58
Land classification: 6snd

See also laboratory analyses of samples 15343-15348

Site No. R.8

Topography:	Level plain below gypsum mounds. Scattered round gilgai. Pit in rise
Cultivation:	Nil
Vegetation:	Artemisia campestris and grasses in slight hollows. Salsola sp. on slight rises. Artemisia sp. never in channels of gilgai.
Surface:	Hallows: marked medium coarse surface cracking with cracks up to 2 cm wide. Slight rises - almost a salt puff. Everywhere tendency towards curling and flaking.
0-90 cm	10 YR 5/3 SiL-L Dry and fairly hard, weak medium ang. blocky with better developed the still weak vertical cracking throughout. Gypsum common. Hard consistence, some visible pores but does not absorb water readily. Few roots.
90-125 cm	10 YR 5/3 L-FSL Dry, fairly soft, structureless, abundant pore spaces, absorbs water readily, fairly friable - fairly hard consistence, gypsum common below 105 cm.
125-145 cm	10 YR 4/3 FSL Dry, soft, structureless, fairly friable, gypsum common. Porous.
145-275 cm	10 YR 5/3 L-FSL As 90-125 cm
275-350 cm	10 YR 5/3 SiL-SiCL Mixture of SiL and SiCL. Moist and fairly soft, structureless, fairly friable, gypsum present.
360-380 cm	10 YR 5/3 L As 90-125 cm
380-390 cm	10 YR 5/3 SiCL As 275-350 cm
390-430 cm	10 YR 5/3 L As 90-125 cm - but very variable.
430-500 cm max.	10 YR 5/3 FSSiL Wet, soft, structureless, friable. No visible salts. Very wet at 5 m. Water present after 1 minute.

5 metre bore in 2 metre pit
Soil Class: A

Date 1.1.58
Land classification: 3n (?s)

See also laboratory analyses of samples 15349-15356

Site No. R.9

Topography:	Level plain with patches of turf in slight hollows. Occasional gilgai
Cultivation:	Nil
Vegetation:	Hallow: shôk, Iris sisyrinchium, good turf (except actual gilgai channels). Rises: non. Intermediate zone - twigy plant ?
Surface:	Hallow: fine surface cracking markedly present Highest points: saline puff, with curling and flaking and deliquescent patches.
0-30 cm	10 YR 6/4 L Dry, fairly hard, fairly hard consistency, gypsum present from 15 cm. Roots present, poor vertical cracking. (This layer varies from 10-45 cm in depth round pit walls).
30-90 cm	10 YR 6/4 SiCL Not very heavy. Moist, hard, weak vertical cracking throughout. Otherwise structureless, very hard consistence, gypsum present some visible pore spaces but does not absorb water readily.
90-200 cm max.	10 YR 6/4 Sl-S Moist, soft, structureless, very friable, gypsum present and roots

2 metre bore in 2 metre pit — Date 1.1.58
Soil Class: (M)1 — Land classification: 3n (?s)

See also laboratory analyses of samples 15357-15360

Site No. R.10

Topography: Below slight ridge

Cultivation: Nil

Vegetation: Grassland - steppe. Calcareous lichens

Surface: Weak surface cracking and flecking.

0-28 cm 10 YR 5/4 SL Dry, fairly soft, very porous, with laminated top 2 cm - otherwise structureless, friable. Roots abundant.

28-60 cm max. Gypsum beds of fars (L)

.6 metre bore in 2 metre pit
Soil Class: Ad

Date 2.1.58
Land classification:

See also laboratory analyses of samples 15361-15362

Site No. R.11

Topography: Slightly undulating land

Cultivation: Fallow - remains of fairly good stubble

Vegetation: Patches of Artemisia campestris, with shôk

Surface: Wet after rain. Scattered small stones. Remains of last years plough discernible

0-10 cm	10 YR 4/3 SL Very moist, soft, structureless, friable, no visible salts, occasional small stones of 2-5 mm diameter.
10-40 cm	10 YR 5/3 SiL Moist becoming dry below 15 cm, soft - fairly soft, structureless, fairly friable, no visible salts until gypsum appears at 30 cm.
40-140 cm	10 YR 5/3 SiCL Mixture of SiL and heavy material. As 10-40 cm but fragments of heavier material are harder. Gypsum very common. Approaches a SiC at 80 cm (10 YR 5/4). Whole very variable. Gypsum uncommon below 100 cm.
140-210 cm	10 UR 5/3 SiL-SiCL Almost a L. As 40-140 cm but no gypsum and marked SiL in mixture - heavy fraction being less heavy (SiCL).
210-220 cm	10 YR 4/3 FSSiL Moist, soft, structureless, floury, no visible salts.
220-250 cm	10 YR 5/3 SiL-SiCL As 140-210 cm
250-280 cm	10 YR 4/3 FSSiL As 210-220 cm but gypsum present.
280-420 cm	10 YR 5/3 SL As 250-280 cm. Stones and sand present at about 390 cm and 400-420 cm.
420-450 cm	10 YR 5/3 FSSiL-SiCL As 140-210 cm, but abundant gypsum and some pebbles.
450-500 cm max.	10 YR 5/3 FSSiL As 250-280 cm but gypsum common

5 metre bore in 2 metre pit — Date 8.1.58

Soil Class: S — Land classification: 2

See also laboratory analyses of samples 17692-17699

Site No. R.12

Topography:	Level crest of dissected highland plain
Cultivation:	This years plough
Vegetation:	Shôk, Artemisia campestris, Salsola sp., Centaurea sp.
Surface:	Moist, Rather flattened - but not bad slaking
0-15 cm	10 YR 6/4 SiCL Moist, soft, structureless, friable, traces of gypsum.
15-330 cm	10 YR 5/6 SiL Moist, soft, structureless, floury, gypsum present and occasional SiCL nodules from 130-160 cm. Extremely gypseous below 200 cm. SiCL nodules again at 260-280 cm.
330-410 cm	10 YR 6/4 SiCL-SiL Mixture of SiL as 15-320 cm and SiCL-SiC. Moist, soft, structureless, friable, gypsum abundant.
410-430 cm	10 YR 5/6 SiL As 15-330 cm.
430-470 cm	10 YR 6/4 SiL-SiCL As 330-410 cm but abundant gypsum.
470-500 cm max.	10 YR 6/4 SiCL As 330-410 cm but harder - abundant gypsum From 200 cm it could be L Fars.

5 metre bore in 2 metre pit — Date 8.1.58
Soil Class: S/P — Land classification: 2

See also laboratory analyses of samples 17700-17706

Site No. R.13

Topography:	Level surface
Cultivation:	Freshly harrowed barley - just germinating
Vegetation:	Artemisia campestris (good stand), shôk and sundry perennials
Surface:	Moderate medium surface cracking but moist. Moderate - poor slaking.
0-25 cm	10 YR 4/3 SiL Very moist, soft, structureless, friable, porous, roots present.
25-140 cm	10 YR 4/3 - 6/4 SiL-SiCL Just moist, fairly hard, weak vertical cracking and marked fine ang. blocky structure, fairly hard consistence yet moderately porous. Roots present, with abundant carbonate in nodular form to base.
140-260 cm	10 YR 6/4 SiL-SiCL Moist, fairly soft, structureless to weak medium ang. blocky; fairly hard - fairly friable consistence. Mixture of SiL with a little heavier material (SiCL). Many termite tubes. Few roots. Traces of gypsum.
260-340 cm	10 YR 6/4 SiL Moist, soft, structureless, floury, no visible salts until 320 cm; then traces of gypsum.
340-415 cm	10 YR 6/4 SiL-SiCL As 140-260 cm.
415-450 cm	10 YR 5/3 FSL As 260-340 cm.
450-490 cm	10 YR 6 /4 L-SiL Mixture of SiCL, SiL and FSL. As 140-260 cm.
490-500 cm max.	10 YR 6/4 SiL-SiCL As 25-140 cm but more friable.

5 metre bore in 2 metre pit
Soil Class: S

Date 9.1.58
Land classification: 2

See also laboratory analyses of samples 17707-17714

Site No. R.14

Topography:	Crest of slight rise in line with areas of sloping land
Cultivation:	Fallow
Vegetation:	Shôk, Artemisia campestris, self sown barley
Surface:	Moist, considerably slaked
0-12 cm	10 YR 5/3 FSSiL Moist, soft, structureless, friable, roots present. No visible salts.
12-75 cm	10 YR 6/4 SiCL-SiL Moist to 25 cm becoming just moist, weakly developed vertical cracking with marked tendency to medium - fine subangular blocky. Gypsum present mainly between 12 and 50 cm, with carbonate concretions throughout. Porous and fairly friable. Few roots.
75-135cm max.	Highly gypseous layer - 10 YR 6/4 with possibly a SiL matrix. Very hard.

1.3 metre bore in 2 metre pit
Soil Class: Adj

Date 10.1.58
Land classification: 3t ?

See also laboratory analyses of samples 17715-17717

Site No. R.15

Topography:	Slightly undulating plateau. Pit on margin of slight depression without gilgai
Cultivation:	Fallow with fairly good wheat stubble
Vegetation:	Artemisia campestris, shôk
Surface:	Moist and markedly slaked
0-10 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, no visible salts but roots present, porous.
10-205 cm	10 YR 5/4 SiCL-SiL Moist and soft to 25 cm over just moist and fairly hard, weak vertical cracking and moderate medium - fine subang. - ang. blocky, fairly hard consistence but porous, and absorbs water readily. Roots present throughout. Some visible pores, carbonate concretion abundant becoming rare below 100 cm. Traces of gypsum present in same zone.
205-260 cm	10 YR 5/4 SiL Moist, fairly hard, structureless, fairly friable apart from occasional harder SiCL nodules. Traces of gypsum.
260-300 cm	10 YR 6/4 SL-L Moist, soft, structureless, friable. No visible salts.
300-340 cm	10 YR 5/4 SiL As 205-260 cm.
340-380 cm	10 YR 6/4 L As 260-300 cm but gypsum present.
380-400 cm	10 YR 5/4 SiL As 205-260 cm.
400-500 cm max.	10 YR 5/6 SiCL-SiL Moist, hard, structureless, fairly hard consistence, some large pores, carbonate and gypsum common becoming almost a SiL below 480 cm with no carbonate.

5 metre bore in 2 metre pit
Soil Class: S

Date 10.1.58
Land classification: 2

See also laboratory analyses of samples 17723-17730

Site No. R.16

Topography: Level plain, near gullying

Cultivation: Wheat - good germination

Vegetation: Artemisia campestris; shôk, Malva parviflora

Surface: Moist, slaking having left clods but nearly obscured the furrows

0-15 cm	10 YR 4/3 - 3/3 SL Moist, soft, structureless, friable, very porous, many roots, no visible salts.
15-82 cm	7.5 YR 5/4 SiCL Moist and soft to 40 cm over just moist and fairly hard, structureless, moist, over weak fine subang. blocky and vertical cracking. Fairly hard consistence but absorbs water readily, many visible pores and roots. Carbonate concretions abundant from 35 cm - rare above.
82-260 cm	10 YR 5/3 SiC Moist, hard, structureless, conchoidal fractures, hard consistence and does not absorb water readily, few roots dying out by 150 cm. Carbonate abundant decreasing to more by 180 cm. Below 240 cm - black mottling.
260-340 cm max.	10 YR 5/4 SiCL Mixture of SiC and SiL. Moist, fairly hard, structureless, fairly friable consistence, apart from SiCL nodules. Gypsum present from 310 cm - becoming common.

3.4 metre bore in 2 metre pit — Date 10.1.58

Soil Class: S — Land classification: 2

See also laboratory analyses of samples 17718-17722

Site No. R.17

Topography:	Fairly level
Cultivation:	Barley - newly germinated - good
Vegetation:	Camel thorn
Surface:	Wet. Weak - moderate slaking
0-12 cm	10 YR 5/3 SiL Moist, soft, structureless to weakly laminated, friable consistence, porous, no visible salts, roots present.
12-84 cm	10 YR 5/4 SiCL-SiL Moist, fairly soft, structureless, friable consistence, visibly porous, absorbs water readily, abundant carbonate concretions from 20 cm. Roots common.
84-135 cm	10 YR 6/4 SiL-SiCL As 12-84 cm but no carbonate concretions.
135-260 cm	10 YR 5/4 L As 12-84 cm but no carbonate concretions but gypsum appears.
260-280 cm	10 YR 6/4 SiL Moist, fairly hard, structureless, friable, but gypsum cementation.
280-335 cm	10 YR 6/4 SiCL Mixture of SiL and SiC Patchy and very gypseous. Fairly hard, moist, structureless, friable SiL and hard (SiC). Abundant gypsum.
335-400 cm	10 YR 6/4 SiCL-SiC As 280-335 cm but almost pure gypseous SiC.
400-450 cm	10 YR 6/4 SiC-SiCL As 335-400 cm.
450-500 cm max.	10 YR 6/4 SiCL As 280-335 cm.

5 metre bore in 2 metre pit
Soil Class: S

Date 12.1.58
Land classification: 2

See also laboratory analyses of samples 17739-17745

Site No. R.18

Topography:	Level field near gravel mounds
Cultivation:	Wheat field - fair germination only
Vegetation:	Artemisia campestris, shôk, Centaurea sp.
Surface:	Moderate slaking and some signs of vertical cracks. Some stones.
0-10 cm	10 YR 5/3 SL Moist, soft, structureless, friable, many roots, no visible salts. Occasional pebbles.
10-180 cm	10 YR 5/4 SiCL Moist and soft to 25 cm becoming just moist, fairly hard consistency but absorbs water readily, weak - moderate vertical cracking from 25 to 75 cm, with weak tendency to medium ang. blocky structure. Somewhat laminated. Carbonate very common from 25 to 100 cm - rare below. Occasional pebbles to 50 cm.
180-430 cm	10 YR 5/3-4 SL Moist, soft, massive, friable and porous. Somewhat patchy. No visible salts.
430-500 cm max.	10 YR 5/3 SiL Moist, fairly hard, structureless, friable, no visible salts.

5 metre bore in 2 metre pit — Date 12.1.58
Soil Class: S — Land classification: 2

See also laboratory analyses for samples 17746-17753

Site No. R.19

Topography:	Slight slope from hill to gully
Cultivation:	Fresh plough
Vegetation:	Artemisia campestris, camelthorn, Centaurea sp., shôk
Surface:	Moderate slaking. Moist
0-18 cm	10 YR 5/3 SL Moist and soft, structureless, friable, occasional small stones. Roots abundant.
18-80 cm	10 YR 5/3 SiCL-SiL Moist and soft to 50 cm over just moist and fairly hard, structureless, fairly hard - fairly friable (just moist) but friable when moist. Carbonate concretions present from 30 cm. Roots present, absorbs water readily.
80-230 cm	10 YR 5/3 SL Moist, fairly soft becoming soft below 120 cm, structureless, friable, traces of gypsum. Carbonate present in top 10 cm only. Roots present.
230-280 cm	10 YR 5/3 S-SL As 80-230 cm.
280-330 cm	10 YR 5/3 SL As 80-230 cm.
330-350 cm	2.5 Y 5/3 S Moist, soft, structureless, free running.
350-360 cm max.	2.5 Y 5/3 S as matrix to gravel.

3.6 metre bore in 2 metre pit — Date 12.1.58
Soil Class: S — Land classification: 2

See also laboratory analyses for samples 17754-17759

Site No. R.20

Topography:	Level field
Cultivation:	Fallow. Fair stubble
Vegetation:	Shôk
Surface:	Wet - completely slaked

0-12 cm	10 YR 4/3 SiL Moist, soft, structureless apart from some well laminated patches, friable, many roots and visible pore spaces.
12-44 cm	10 YR 4/3 SiCL Moist, fairly hard, moderate vertical cracking from 20 to 65 cm, with moderate coarse ang. blocky structure. Hard consistence but fairly porous, some visible pores, many roots. Carbonate from 25 cm.
44-200 cm	10 YR 4/3 - 5/3 SiC Moist, hard, structureless, hard consistence, dense, conchoidal fracture, only shôk roots present. Carbonate concretion common to 130 cm; then none.
200-420 cm	10 YR 5/3 SiCL Moist, fairly hard - hard, structureless, mixture of friable SiL and hard SiC fragments. No visible salts. Black mottling from 220 cm. Consistence - friable below 300 cm and gypsum appears becoming common especially as a cement forming harder lumps.
420-500 cm max.	10 YR 5/3 SiL-SiCL Some SiC or SiCL nodules present, otherwise moist, soft, structureless, friable, gypsum common.

5 metre bore in 2 metre pit — Date 13.1.58
Soil Class: S - approaching (M) — Land classification: 2

See also laboratory analyses for samples 17760-17767

Site No. R.21

Topography:	Slight northerly slope near tel
Cultivation:	Fallow - remains of moderate corn crop
Vegetation:	Shôk and camelthorn, Centaurea sp., Malva parviflora
Surface:	Moist yet incomplete slaking of year old furrows
0-15 cm	10 YR 5/3 L Moist, soft, structureless, friable. No visible salts. Many roots.
15-100 cm	10 YR 5/3 SiCL Mixture of SiL and SiC. Moist and soft to 40 cm over just moist and fairly soft, structureless, friable (moist) over fairly friable, many visible pores, many roots. Absorbs water readily. Carbonate concretions present from 20 cm. Sheard fragments at 80 cm.
100-220 cm	10 YR 5/3 SiCL-SiC i.e. SiC fraction dominant. Fairly hard. As 15-100 cm but carbonate present throughout, with a burnt layer at 100-150 cm in part of pit. Round stone in pit face at 130 cm. Roots common. Black mottling in SiC from 190 cm.
220-250 cm	10 YR 5/3 SiCL As 40-100 cm but hard. Traces of gypsum. No carbonate but shell fragments and occasional small stones.
250-310 cm	10 YR 5/3 SiCL-SiC As 220-250 cm.
310-320 cm	10 YR 5/3 Pebbly L-SiCL Moist, fairly soft, structureless, fairly friable apart from SiC nodules.
320-360 cm	10 YR 5/3 SiCL-SiC As 220-250 cm, but carbonate concretions no shells.
360-500 cm	10 YR 5/3 SiCL As 40-100 cm.

max.

5 metre bore in 2 metre pit — Date 13.1.58
Soil Class: S — Land classification: 2

See also laboratory analyses for samples 17768-17775

Site No. R.22

Topography:	Level field near tel
Cultivation:	Good stubble - Fallow
Vegetation:	Marked Artemisia campestris, shôk, Centaurea sp., Bellevalia sp.
Surface:	Markedly slaked - Moist
0-25 cm	10 YR 4/3 SiL Very moist, soft, weakly laminated, friable, porous, with many visible pores and roots.
25-140 cm	10 YR 6/4 SiCL-SiL Very moist and soft over just moist and fairly soft, structureless, friable, many visible pore spaces. Excellent moisture penetration and many roots. Carbonate concretions common, also many roots.
140-270 cm	10 YR 5/4 SiL Moist, soft, structureless, floury, many visible pore spaces. No visible salts.
270-330 cm	10 YR 5/4 SiCL Moist, fairly hard, structureless, fairly hard consistence. Mixture of SiL and SiCL-SiC. No visible salts.
330-365 cm	10 YR 5/4 SiL As 140-270 cm.
365-370 cm max.	10 YR 5/4 Gravelly SiL Becomes too hard to penetrate. Matrix as 140-270 cm.

3.7 metre bore in 2 metre pit — Date 14.1.58
Soil Class: S — Land classification: 2

See also laboratory analyses for samples 17776-17780

Site No. R.23

Topography: Level field

Cultivation: Fresh plough

Vegetation: Shôk, Artemisia campestris, Centaurea sp.

Surface: Moist, fairly 'blocky'.

0-18 cm	10 YR 5/3 L Moist, soft, structureless, friable, no visible salts, porous, with roots.
18-250 cm	10 YR 5/4 SiCL Moist and soft to 32 cm over just moist and fairly hard; fairly hard consistence but absorbs water readily. Many visible pores. Weak vertical cracking from 50-90 cm. Below 90 cm becomes hard consistency and not very porous. Below 120 cm material changes to a very variable mixture of SiL and SiC-SiCL. Throughout Si appears to be just dominant over C. Some roots to 90 cm but only a few shôk roots below. Carbonate concretions present to 50 cm only.
250-310 cm	10 YR 5/3 SiL Moist, fairly soft, structureless, fairly friable gypsum present as trace - also occasional shell fragments around 280 cm. Occasional SiCL nodules.
310-450 cm	10 YR 5/3 SiL-SiCL As 250-310 cm but more gypsum.
450-480 cm	10 YR 5/3 SiCL-SiL As 120-250 cm - variable mixture
480-500 cm max.	10 YR 5/3 SiL As 250-310 cm.

5 metre bore in 2 metre pit
Soil Class: S

Date 15.1.58
Land classification: 2

See also laboratory analyses for samples 17781-17788

Site No. R.24

Topography:	Level plateau surface near 3t by village
Cultivation:	Wheat field - fairly good germination but many leaves, yellow at tips.
Vegetation:	Artemisia campestris, shôk, Crocus sp., Malva parviflora
Surface:	Plough marks only just visible but clods still present though considerably slaked. Moist.
0-25 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, roots but no visible salts.
25-60 cm	10 YR 6/4 SiCL Just moist and fairly hard, weak vertical cracking, fairly hard consistence but fairly porous at top, abundant carbonate concretions, some roots.
60-210 cm	10 YR 6/3 SiC Moist, hard, structureless below weak vertical cracking to 85 cm, hackly fracture. Some visible pores becoming dense, massive below 80 cm. Carbonate concretions abundant to 110 cm becoming common. Hard consistence and does not absorb water readily. Roots present to 125 cm.
210-240 cm	10 YR 6/3 SiCL Moist fairly hard, structureless, fairly hard consistence, dense in SiC phase - fairly friable in SiL phase. No visible salts.
240-260 cm	10 YR 6/3 SiCL-SiL Moist, fairly soft, structureless, mixture of SiL and SiC - former dominant, friable apart from SiC nodules. Occasional carbonate concretions.
260-320 cm	10 YR 6/3 SiCL As 210-240 cm.
320-500 cm max.	10 YR 6/3 SiL-SiCL Moist, soft, structureless, friable, much gypsum present. SiCL nodules sometimes present.

5 metre bore in 2 metre pit
Soil Class: S (almost (M))

Date 15.1.58
Land classification: 2

See also laboratory analyses for samples 17789-17796

Site No. R.25

Topography:	Slight slope from mounds to gully
Cultivation:	Fallow - remains of fair stubble (last years)
Vegetation:	Shôk, Malva parviflora
Surface:	Moderate fine - medium surface cracking - tendency to flaking
0-15 cm	10 YR 5/3 L Moist, soft, structureless, friable, porous, many roots. No visible salts.
15-25 cm	10 YR 4/3 SiCL Moist, fairly soft, structureless, fairly friable, absorbs water readily, no visible salts, many roots.
25-128 cm	10 YR 6/4 SiC Just moist, hard, structureless apart from traces of weak vertical cracking to 65 cm, hard consistence becoming harder downwards, dense, does not absorb water readily. Some roots present.
128-140 cm max.	Gypsum

1.4 metre bore in 2 metre pit — Date 15.1.58
Soil Class: (M)/S/Aj — Land classification:

See also laboratory analyses for samples 17797-17801

Site No.R.26

Topography:	Level field on slight ridge between depressions
Cultivation:	Barley field - good germination
Vegetation:	Shôk, Artemisia campestris, Centaurea spp.
Surface:	Moist, but weak minor surface cracking
0-12 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts. Roots present.
12-25 cm	10 YR 5/3 SiCL As 0-12 cm.
25-155 cm	10 YR 6/4 SiC Just moist, hard, structureless, apart from weak vertical cracking to 55 cm with moderate fine ang.blocky hard consistency, dense, abundant carbonate concretions to 85 cm. Conchoidal fracture, few roots. Does not absorb water readily.
155-310 cm	10 YR 6/4 SiCL As 25-155 cm but not so hard. Mixture of friable SiL with hard SiC. No visible salts. Black mottling occurs in SiC below 280 cm.
310-330 cm	10 YR 6/4 SiCL-SiL Moist, soft, structureless, friable with gypsum present. Even SiC fraction is fairly friable.
330-400 cm	10 YR 6/4 SiL As 310-330 cm but much gypsum present.
400-500 cm max.	10 YR 6/4 SiCL As 155-310 cm but no carbonate. Gypsum very common.

5 metre bore in 2 metre pit
Soil Class: (M)

Date 16.1.58
Land classification:

See also laboratory analyses 17802-17809

Site No. R.27

Topography:	Slight slope to gully
Cultivation:	Wheat - fair rather patchy germination
Vegetation:	Centaurea spp., shôk
Surface:	Flattened by drawing logs over surface
0-10 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salt.
10-180 cm	10 YR 4/3 SiC Moist and fairly soft to 20 cm over just moist, very hard, marked coarse vertical cracking to bottom of pit, hard consistence. Does not absorb water readily. Few visible pore spaces. Occasional roots and carbonate concretions - latter ceasing at 130 cm. Gypsum appears at about 100 cm and continues to base of pit.
180-245 cm	10 YR 4/3 SiCL Moist, fairly hard, structureless, fairly hard - fairly friable consistence, gypsum present.
245-320 cm	10 YR 4/3 SiC-SiCL As 180-245 cm.
320-380 cm	10 YR 6/4 SiL Moist, soft, structureless, friable and gypsum present.
380-430 cm	10 YR 5/3 SiCL As 180-245 cm Very variable.
430-450 cm	10 YR 4/3 SiC-SiCL As 180-245 cm.
450-500 cm max.	10 YR 5/3 SiCL As 320-380 cm but variable

5 metre bore in 2 metre pit
Soil Class: (M)

Date 16.1.58
Land classification:

See also laboratory analyses for samples 17810-17816

Site No. R.28

Topography: Level top of slight hill

Cultivation: Barley - good germination

Vegetation: Shôk, Artemisia campestris, Cousinia, camel thorn

Surface: Moist but only weakly slaked

0-10 cm — 10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts. Many roots.

10-170 cm — 10 YR 5/3 SiCL-SiL Moist and soft to 23 cm becoming just moist fairly soft, weak fine sub-ang. blocky becoming well developed medium - fine sub-ang. blocky at 20 cm with weak vertical cracking below 100 cm. Fairly friable consistency becoming fairly hard at 65 cm, becoming very hard below 100 cm. A few roots throughout. Horizons above 100 cm absorb water readily but those below are bad structured. Carbonate concretions from 12-110 cm - abundant from 28-90 cm.

170-300 cm — 10 YR 5/3 SiL-SiCL Moist, soft, structureless, mixture of friable SiL with occasional SiCL nodules. Gypsum present from 190 cm, becoming abundant making whole fairly hard consistency due to cementation.

300-410 cm — 10 YR 5/3 SiCL Moist fairly hard, structureless, gypsum cementation. Patchy SiL and SiCL mixture. Occasional carbonate concretions.

410-430 cm max. — Gypsum bed probably of L.Fars

4.3 metre bore in 2 metre pit
Soil Class: S

Date 18.1.58
Land classification:

See also laboratory analyses for samples 17921-17927

Site No. R.29

Topography:	Margin of gilgai area (round gilgai) at foot of hills. Pit from sink to shelf
Cultivation:	Nil
Vegetation:	Remains of poor patchy stubble. Shôk, Centaurea sp., Artemisia sp. even on edge of sink hole. Grass in hollows.
Surface:	Marked minor surface cracking. Sink holes in small scattered depressions and on puffs - 9" sink
0-15 cm	10 YR 5/3 SiL Moist, fairly soft, somewhat laminated 1 cm over structureless, fairly friable, no visible salts, many roots.
15-260 cm	7.5 YR 5/3 SiCL Very moist throughout, fairly hard, structureless, firm consistence, gypsum present from about 100 cm. Less moist below 100 cm - with conchoidal fracture. Black mottling from 110 cm.
260-305 cm	10 YR 5/3 SiL -SiCL Moist, fairly hard, structureless, SiCL nodules present, also gypsum, fairly hard consistency. Some black mottling of SiCL nodules.
305-500 cm max.	10 YR 5/3 SiCL As 260-305 cm. Below 400 cm large gypsum crystals are common. Rather a variable mixture of SiL and SiCL-SiC

5 metre bore in 2 metre pit — Date 18.1.58
Soil Class: T — Land classification:

See also laboratory analyses for samples 17928-17934

Site No. R.30

Topography:	At foot of a tel, slight slope from low mound
Cultivation:	Barley - good germination
Vegetation:	Camel thorn, Artemisia sp., shôk
Surface:	Weak medium surface cracking, moderate slaking, fairly even
0-15 cm	10 YR 5/3 SiL Moist, soft, laminated at first cm, structureless, friable, roots present, no visible salts.
15-64 cm	7.5 YR 5/3 SiL-SiCL. Just moist to 39 cm. Fairly hard to dig, structureless, fairly hard consistency. Sheards layer present at 36 cm. Odd sheards and pebbles between 28-64 cm. Lime common between 28-60 cm and extends down to 135 cm. Roots present.
64-115 cm	7.5 YR 5/3 SiC Just moist. Tendency to conchoidal fracture, well developed medium ang. blocky; moderate well developed vertical cracking present and extends to 140 cm. Lime present. Roots present.
115-195 cm	7.5 YR 5/3 SiCL-SiL Variable mixture of SiL-SiC. Just moist, fairly friable (SiL fraction). Roots present. SiC fraction hard.
195-440 cm	7.5 YR 5/3 SiCL-SiC As 64-115 cm Traces of gypsum present but no carbonate. Black mottling from 390 cm. Sheard found at 420 cm.
440-500 cm max.	10 YR 5/3 SiL Moist, soft, structureless, friable, gypsum present.

5 metre bore in 2 metre pit — Date 18.1.58
Soil Class: S — Land classification:

See also laboratory analyses for samples 17935-17941

Site No. R.31

Topography:	Slightly undulating land
Cultivation:	Barley field, just germinating
Vegetation:	Shôk, Artemisia campestris, Centaurea sp., Bellevalia sp.
Surface:	Marked slaking
0-18 cm	10 YR 4/3 L Moist, soft, markedly laminated, friable, roots present, no visible salts.
18-80	10 YR 5/4-3 SiCL Moist, fairly soft, structureless tending to crumb structure, carbonate common to 60 cm and present throughout horizon. Below 60 cm black mottling and gypsum occur.
80-117 cm	10 YR 5/3 SiL Moist, soft, structureless, very friable, gypsum present. Very porous.
117-200 cm	10 YR 4/3 SiCL-SiL As 80-117 cm. Laminated layer from 148-150 cm.
200-310 cm	10 YR 5/3 SiCL Moist, fairly hard, structureless, fairly friable, carbonate present. Fairly porous.
310-335 cm	10 YR 5/3 SiL-SiCL As 80-117 cm.
335-500 cm max.	10 YR 5/3 SiL As 80-117 cm.

5 metre bore in 2 metre pit — Date 19.1.58
Soil Class: S — Land classification:

See also laboratory analyses for samples 17942-17949

Site No. R.32

Topography:	Slight slope from upper plain (Tauq plain)
Cultivation:	Fallow. Remains of fair stubble
Vegetation:	Shôk, Artemisia campestris, Capparis spinosa, Cousinia sp., Centaurea sp., Malva parviflora.
Surface:	Weak minor surface cracking
0-13 cm	10 YR 5/3 SiL Moist, soft, laminated surface cm and sometimes below, otherwise structureless, no visible salts, porous, many roots.
13-32 cm	10 YR 5/3 SiCL Moist, soft, structureless, fairly friable, both gypsum and carbonate concretions present. Many roots.
32-51 cm	10 YR 5/3 SiCL-SiL As 13-32 cm but little gypsum.
51-122 cm	10 YR 5/3 SiCL Just moist, fairly soft, weak vertical cracking, fairly friable, some visible pores, absorbs water readily. Root and termite holes. Carbonate common to 115 cm.
122-170 cm	10 YR 5/3 SiCL-SiL Just moist, very hard, structureless, hard consistence, absorbs water readily. Mixture of SiL and SiC. Carbonate present to 140 cm.
170-470 cm	10 YR 5/3 SiCL Just moist, fairly hard, structureless, fairly hard consistency, absorbs water readily. Gypsum present becoming abundant below 300 cm. Black mottling from 265 cm. Gypsum acts as a cement. Lime present below 410 cm.
470-500 cm max.	10 YR 5/3 SiL-SiCL As 13-32 cm.

5 metre bore in 2 metre pit
Soil Class: S

Date 19.1.58
Land classification:

See also laboratory analyses for samples 17950-17958

Site No. R.33

Topography:	Slight southerly slope
Cultivation:	Wheat field - irrigated - with good stand
Vegetation:	Artemisia campestris, Alhagi sp., Centaurea sp., shôk, Malva parviflora, Bellevalia sp.
Surface:	Marked medium surface cracking. Moist.
0-17 cm	10 YR 5/3 SiL Moist, soft, weakly laminated, friable roots present, no visible salts.
17-85 cm	7.5 YR 5/3 SiCL Moist fairly soft becoming fairly soft below 40 cm. Structureless, fairly friable to 40 cm becoming firm consistence, carbonate present from 25 cm. Top layer absorbs water readily but grades down into dense second layer. Roots present.
85-137 cm	7.5 YR 5/3 SiC Just moist, hard, moderate vertical cracking, hard consistency, dense, few visible pores. Carbonate concretions abundant. A few shôk roots.
137-190 cm	7.5 YR 5/3 SiCL-SiC As 85-137 cm but less carbonate and some silt present.
190-450 cm	10 YR 5/3 SiL-SiCL Moist, soft, structureless, friable, porous, traces of carbonate, with gypsum appearing at 220 cm becoming common below 250 cm.
450-480 cm	10 YR 5/3 SiCL As 190-450 cm.
480-510 cm max.	10 YR 5/3 SiL-SiCL As 190-450 cm.

5 metre bore in 2 metre pit Date 20.1.58

Soil Class: S Land classification:

See also laboratory analyses for samples 17959-17966

Site No. R.34

Topography:	Fairly level field
Cultivation:	Wheat - fairly good germination
Vegetation:	Artemisia campestris, shôk, Centaurea spp., Alhagi sp., Malva parviflora
Surface:	Weak minor surface cracking. Moist.
0-25 cm	7.5 YR 5/4 SiCL-SiL Moist, soft, weakly laminated, porous, fairly friable, roots present.
25-75 cm	7.5 YR 5/4 SiCL Moist, fairly soft, structureless, almost doughy, carbonate concretions present throughout, many roots.
75-127 cm	10 YR 5/3 SiL-SiCL Just moist, soft, weak fine ang.blocky and vertical cracking below 110 cm. Otherwise structureless, very friable, a few carbonate concretions present - porous. Roots.
127-138 cm	10 YR 4/3 SL Just moist, soft, weak vertical cracks, friable, no visible salts, roots.
138-305 cm	7.5 YR 5/4 SiC Just moist, hard, weak - moderate vertical cracking to 170 cm, otherwise structureless, dense, hard consistence, does not absorb water readily. Occasional shells. Some carbonate concretions.
305-430 cm	7.5 YR 5/4 SiL-SiCL Moist, fairly soft, structureless, friable SiL with a few hard SiC fragments and nodules. Latter has carbonate in.
430-470 cm	7.5 YR 5/4 L Moist, soft, structureless, friable, gypsum present.
470-500 cm	7.5 YR 5/4 SiL As 430-460 cm.

max.

5 metre bore in 2 metre pit — Date 20.1.58

Soil Class: S — Land classification:

See also laboratory analyses for samples 17967-17975

Site No. R.35

Topography: Slight slope from Gebel

Cultivation: Wheat field

Vegetation: Shôk, Centaurea sp., Capparis sp., Agul

Surface: Marked slaking - wet

0-76 cm	10 YR 5/3 SiL Moist and soft becoming just moist and fairly soft below 40 cm, structureless to 40 cm, becoming weak vertical cracking and medium-fine sub-ang. blocky. Many roots and visible pores. Absorbs water readily. Friable over fairly friable consistence. Carbonate present from 22 cm being abundant below 40 cm.
76-120 cm	10 YR 6/3 SiL-SiCL Just moist, fairly hard, weak vertical cracks and medium sub-ang.blocky fairly hard consistence, traces of carbonate to 85 cm. Absorbs water readily. Some roots.
120-210 cm	7.5 YR 6/4 L-SiL Moist, fairly soft, structureless, friable, gypsum common below 130 cm. Many pores visible.
210-470 cm	7.5 YR 6/4 SiL As 120-210 cm. Occasional SiL-SiCL nodules.
470-500 cm max.	7.5 YR 5/3 SiCL - very gypseous, moist, fairly hard, structureless, fairly friable consistence, abundant gypsum.

5 metre bore in 2 metre pit
Soil Class: Ad

Date 24.1.58
Land classification: 2

See also laboratory analyses for samples 18111-18118

Site No. R.36

Topography:	Level plateau top, in dark channel pattern - only perceptible from top of landrover. Max. amplitude about 1".
Cultivation:	Wheat - fairly thin
Vegetation:	Bellevalia sp., Centaurea sp., Artemisia sp., Iris sisyrinchium, Capparis spinosa, shôk
Surface:	Weak slaking. Wet but moderate medium-coarse surface cracking
0-47 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, carbonate concretions present from 30 cm, many roots.
47-73 cm	10 YR 6/4 SiCL Moist, fairly soft, weak becoming moderate fine ang. blocky, carbonate concretions common. Many roots and visible pores. Absorbs water readily.
73-175 cm	10 YR 6/4 SiCL-SiC Just moist, fairly hard, weak vertical cracking and medium ang.-subang.blocky. Some conchoidal fractures. Roots present. Hard consistence and absorbs water only slowly. Carbonate concretions abundant throughout.
175-420 cm	10 YR 6/4 SiCL-SiL As 47-73 cm but is a patchy mixture of SiL and SiCL-SiC. Carbonate concretions cease at 220 cm. Gypsum appears at 320 cm and continues to be common below and often acting as a cement. Below 400 cm gypsum becomes less common and carbonate cones reappear.
420-500 cm max.	10 YR 6/4 SiL Moist, soft, structureless, friable gypsum present. Occasional SiCL nodules. No carbonate concretions.

5 metre bore in 2 metre pit
Soil Class S

Date 24.1.58
Land classification:

See also laboratory analyses for samples 18119-18126

Site No. R.37

Topography:	Slope from hills 1° at this point
Cultivation:	Fallow - with remains of fair old stubble
Vegetation:	Artemisia cempestris, Centaurea sp., Shôk, grasses, Iris sp., Malva parviflora
Surface:	Traces of furrows. No surface cracking or flaking
0-25 cm	10 YR 5/3 SiL Moist, soft, structureless, apart from weak laminations, friable, many roots and visible pores, no visible salts.
25-46 cm	10 YR 5/3 SiCL As 0-25 cm.
46-112 cm	10 YR 5/3 SiC Moist and soft structureless apart from weak laminations to 90 cm, fairly friable consistence. Porous. Absorbs water readily. Carbonate concretions fairly common becoming less common below 70 cm. Many roots.
112-137 cm	10 YR 6/4 SiC Just moist, hard, moderate vertical cracking and weak medium ang. blocky. Conchoidal fracture present - also some carbonate concretions. Hard consistency absorbing water only slowly. Some roots and visible pores.
137-500 cm max.	10 YR 5/3 SiCL Mixture of SiC and SiL - patchy. Moist, fairly hard, moderate well developed medium ang. blocky; many visible pores, fairly hard consistency absorbing water readily. Carbonate concretions common. Gypsum appears at 330 cm - fairly common. A little lighter below 420 cm but still SiCL.

5 metre bore in 2 metre pit
Soil Class: S

Date 24.1.58
Land classification:

See also laboratory analyses for samples 18127-18134

Site No. R.38

Topography: Slight slope from Gebel - 1°

Cultivation: Wheat - thinly sown

Vegetation: Artemisia campestris, shôk

Surface: Markedly slaked surface - moist. No cracking or flaking

0-33 cm	10 YR 3/2 SiL Moist, soft, tendency to weak fine laminations and fine ang. blocky. Porous, friable, absorbs water readily. Carbonate concretions appear at 25 cm.
33-70 cm	10 YR 4/3 SiL-SiCL Moist, soft, weak to moderate fine medium ang. blocky, porous, and friable with carbonate concretions common, becoming just moist and fairly soft below 62 cm with more carbonate.
70-178 cm	10 YR 5/3 SiCL Just moist, fairly hard, marked fine - medium subang. and ang. blocky with tendency to vertical cracks, fairly hard - fairly friable, absorbs water fairly readily apart from some SiC nodules between 100 and 150 cm. Carbonate concretions abundant becoming common below 100 cm and rare below 150 cm.
178-350 cm	10 YR 5/3 SiL Moist, fairly hard, structureless, porous, fairly hard consistence, gypsum present but no carbonate concs. Absorbs water very readily.
350-500 cm max.	10 YR 5/3 SiL-SiCL As 178-350 cm but gypsum very common.

5 metre bore in 2 metre pit — Date 25.1.58

Soil Class: 5 — Land classification:

See also laboratory analyses for samples 18135-18142

Site No. R.39

Topography: 1° slope from Batawa

Cultivation: Fallow - fair stubble

Vegetation: Artemisia campestris, Centaurea sp., shôk

Surface: Moist. No surface cracking or flaking. Furrows still visible after a year

0-140 cm	10 YR 4/3 SiL-SiCL becoming 10 YR 5/3 below 20 cm. Moist and soft to 20 cm, over just moist and fairly hard. Weakly laminated to 10 cm over weak - moderate medium - fine ang and subang. blocky, fairly friable consistence (20 cm) over fairly hard consistence, absorbs water fairly readily. Many roots. Carbonate concs appear at 30 cm and is abundant throughout. Porous.
140-300 cm	10 YR 5/3 L Just moist, fairly soft, structureless, friable, with many visible pores, traces of gypsum. Carbonate concs present to 160 cm.
300-325 cm	10 YR 5/3 FSL As 140-300 cm.
325-530 cm max.	10 YR 5/3 SiL-SiCL As 140-300 cm but gypsum abundant below 400 cm.

5 metre bore in 2 metre pit
Soil Class: S (1 ?)

Date 25.1.58
Land classification:

See also laboratory analyses for samples 18143-18149

Site No. R.40

Topography:	Fairly level area between wadi used for rainfed irrigation and a gully
Cultivation:	Barley field - just germinating
Vegetation:	Shôk, Artemisia campestris, Bellevalia sp., Iris sp., Centaurea sp.
Surface:	Moderate slaking and negligible cracking or flaking. Moist.
0-110 cm	10 YR 4/3 (20 cm) over 10 YR 6/4 SiL-SiCL Moist and soft to 20 cm over just moist and fairly hard, weakly laminated (moist) over moderate vertical cracking with weak medium ang. blocky to 65 cm, becoming moderate vertical cracking and fine ang. blocky. Gypsum present in root channels between 40 and 80 cm. Carbonate concretions appear at 70 cm becoming common below 80 cm. Friable consistence to 20 cm over hard consistence. Absorbs water readily - many roots and pore spaces.
110-215 cm	7.5 YR 6/4 SiCL Moist, fairly hard, weak fine ang. blocky structure, fairly hard to 180 cm becoming fairly friable. Very porous and absorbs water fairly rapidly. Carbonate concretions abundant between 130 and 180 cm otherwise common. No visible roots.
215-275 cm	10 YR 6/4 SiL Moist, soft, structureless, friable, gypsum present becoming almost a gypsum horizon below 250 cm.
275-295 cm	7.5 YR 7/6 SiCL Moist, fairly hard, structureless, fairly hard consistence, gypsum abundant as cement. Absorbs water slowly.
295-315 cm	10 YR 6/4 SiL As 215-250 cm.
315-500 cm max.	7.5 YR 7/6 SiCL As 275-295 cm

5 metre pit in 2 metre bore — Date 25.1.58
Soil Class: S — Land classification:

See also laboratory analyses for samples 18150-18156

Probably Fars beds below 250 cm

Site No. R.41

Topography:	Slight slope from ridge crest, 20 m to south-east
Cultivation:	Good germination in wheat
Vegetation:	Shôk, Centaurea sp., Aeluropus sp.
Surface:	Weak - moderate slaking - moist
0-43 cm	10 YR 4/3 SiL Moist and soft becoming just moist and fairly soft at 35 cm. Structureless over weak fine subang. blocky from 35 cm. Very porous, friable, carbonate appears at 20 cm. Many roots.
43-135 cm	10 YR 5/3 SiCL-SiL Moist, fairly hard, well developed medium-fine subang. blocky with weak vertical cracks below 90 cm, fairly hard - hard consistence, yet porous and absorbs water readily apart from a few SiC nodules near the base, carbonate concs common to 90 cm and present to 120 cm. Roots dying out with depth as soil gets harder.
135-330 cm	10 YR 5/3 SiCL-SiL Moist, fairly soft, structureless, fairly hard consistence, absorbs water readily. Gypsum very common to abundant. ? Fars Beds
330-360 cm	10 YR 5/3 SiCL As 135-330 cm
360-425 cm	10 YR 5/3 SiCL-SiL As 135-330 cm
425-460 cm	10 YR 5/3 SiCL As 135-330 cm
460-500 cm max.	10 YR 5/3 SiL-SiCL As 135-330 cm but friable consistence apart from SiCL nodules

5 metre bore in 2 metre pit
Soil Class: S/Adj ?

Date 26.1.58
Land classification:

See also laboratory analyses for samples 18157-18163

Site No. R.42

Topography: Crest of slight rise between gullies

Cultivation: Fallow field - fairly good stubble

Vegetation: Centaurea sp., shôk

Surface: Fairly well slaked surface. Moist

0-17 cm	10 YR 4/3 SiL Moist, soft, structureless below 1 cm laminated, friable consistence, many roots, no visible salts
17-67 cm	10 YR 4/3 SiCL Moist and soft over just moist and fairly hard, from structureless over moderately well developed fine ang. - subang. blocky. Many roots and visible pores. Hard consistence but absorbs water readily. Carbonate appears at 25 cm and is very common from 30-50 cm.
67-127 cm	7.5 YR 5/4 SiCL-SiC Just moist, hard, weak vertical cracking increasing downwards, well developed coarse - medium ang.-subang. absorbs water fairly readily. Many pores. A few roots at top only. Porous.
127-210 cm max.	Gypsum bed of L.Fars. Moist, hard, a few marked vertical cracks continuing from SiC above to 160 cm, fairly hard consistence but absorbs water readily.

2.1 metre bore in 2 metre pit
Soil Class: Adj type

Date 26.1.58
Land classification:

See also laboratory analyses for samples 18164-18167

Site No. R.43

Topography:	Slight slope from Gebel
Cultivation:	Wheat field - good stand
Vegetation:	Artemisia campestris, shôk, Centaurea sp.
Surface:	Slight medium surface cracking - much slaking - moist
0-50 cm	10 YR 3/3 SiL Moist and soft, laminated 10 cm over structureless to 20 cm over just moist and fairly hard, well developed medium - fine ang. - subang. blocky, friable to 20 cm, over hard consistence but porous, absorbs water readily. Carbonate concretions common from 25 cm.
50-171 cm	10 YR 5/3 SiCL-SiL Moist, fairly hard, moderately well developed medium - fine ang. blocky - finer at top, coarser at bottom. Fairly hard consistence but absorbs water readily apart from occasional SiC nodules below 110 cm. Porous. Carbonate common to 150 cm.
171-440 cm	10 YR 5/3 SiL Moist, soft, structureless, friable consistence, porous, absorbs water readily. No carbonate. Many roots. Gypsum appears at 290 cm, becoming common below 350 cm and abundant below 410 cm.
440-500 cm max.	10 YR 5/3 SiL-SiCL As 171-440 cm.

5 metre bore in 2 metre pit
Soil Class: S

Date 26.1.58
Land classification:

See also laboratory analyses for samples 18168-18174

Site No. R.44

Topography: Gentle slope to village

Cultivation: Wheat - fairly good crop. Abundant weeds

Vegetation: Centaurea sp., Bellevalia sp., Artemisia campestris

Surface: Moderate - considerable surface slaking. Occasional stones

0-40 cm — 10 YR 5/3 SiL Moist, soft, weakly finely laminated to 15 cm over structureless, friable, carbonate concretions from 23 cm. Many roots.

40-80 cm — 7.5 YR 5/4 SiCL-SiC Just moist, hard, moderate vertical cracking weak fine laminations and medium to fine ang. blocky, fairly hard consistence many visible pores and some roots. Small stones are occasionally found below 60 cm, while carbonate concretions are very common to 55 cm and present to base.

80-140 cm max. — Gypseous SiCL of Fars beds. Very hard with gypsum cement.

1.4 metre bore in 2 metre pit — Date 27.1.58

Soil Class: Adj — Land classification:

See also laboratory analyses for samples 18175-18177

Site No. R.45

Topography: Slight slope towards the Zab

Cultivation: Fresh plough

Vegetation: Bellevalia sp., Centaurea sp.

Surface: Moist

0-40 cm	10 YR 5/3 SiL Moist, and soft to 28 cm over hard and just moist, structureless, over moderately well developed vertical cracking and medium - fine ang. blocky, friable over hard consistence, porous and absorbs water readily. Carbonate concretions common from 28 cm. Roots throughout.
40-58 cm	7.5 YR 6/4 SiCL Just moist, hard, well developed vertical cracks with weak medium - fine ang. blocky, fairly hard consistence, fairly porous. Roots present, absorbs water fairly readily. Carbonate concretions abundant.
58-138 cm	7.5 YR 6/4 SiC Just moist, hard, weak vertical cracks to 100 cm, well developed medium - fine ang.- subang. blocky, fairly hard consistence. Does not absorb water readily. Conchoidal fracture. Carbonate concretions throughout.
138-190 cm	7.5 YR 6/4 SiC As 58-139 cm but practically massive with gypsum cementation - gypsum common i.e. L.Fars.
190-285 cm	7.5 YR 6/4 SiCL Moist, hard, structureless, mixture of SiC and SiL. Carbonate concretions and gypsum present. Black mottling below 250 cm on SiC fraction. Fairly hard consistence but absorbs water readily.
285-360 cm	10 YR 5/3 SiCL-SiL As 190-285 cm but more friable silt loam present - whole being of friable consistence. No carbonate.
360-500 cm max.	10 YR 5/3 SiL Moist, soft, structureless, friable, gypsum present.

5 metre bore in 2 metre pit
Soil Class: S

Date 27.1.58
Land classification:

See also laboratory analyses for samples 18178-18184

Site No. R.46

Topography:	1½° slope from Gebel
Cultivation:	Fallow
Vegetation:	Artemisis campestris, Centaurea sp., shôk
Surface:	Completely slaked surface. No cracking or flaking
0-10 cm	10 YR 5/3 SiL Moist, soft, structureless, apart from 1 cm laminated, friable, no visible salts. Roots present.
10-107 cm	7.5 YR 6/4 SiL-SiCL Moist and soft as 0-10 cm to 25 cm. Below: just moist, hard, weak vertical cracking to 80 cm and medium - fine ang. - subang. blocky. Hard consistency but many pores and roots present. Absorbs water readily. Carbonate concretions very common from 20-100 cm - absent below.
107-160 cm	7.5 YR 6/4 SiCL Moist, fairly soft, structureless, very porous, fairly friable consistency, gypsum present and roots.
160-215 cm	7.5 YR 6/4 SiCL Mixture of SiC and SiL with abundant gypsum. Hard to dig but otherwise as 107-160 cm. Not very porous but absorbs water readily. Fairly hard consistence.
215-330 cm	7.5 YR 6/4 SiL-SiCL Moist, soft, structureless, friable, gypsum present - also some SiCL nodules.
330-500 cm max.	7.5 YR 6/4 SiL As 215-330 cm. Heavier below 450 cm probably SiCL

5 metre bore in 2 metre pit
Soil Class: S

Date: 27.1.58
Land classification:

See also laboratory analyses for samples 18185-18192

Site No. R.47

Topography:	Sloping slightly from east, no undulation
Cultivation:	Fallow
Vegetation:	Fairly good stubble of cereals, shôk, Centaurea sp., Bellevalia sp.
Surface:	Weak - moderate minor surface cracking (dry). Almost complete slaking.
0-15 cm	10 YR 5/3 SiL Moist, soft, structureless (top cm laminated), friable, no visible salts, roots present.
15-50 cm	7.5 YR 5/4 Fine sandy clay; just moist, fine subang. blocky, fairly hard to dig, hard consistency, absorbs water readily, roots and insect channels present, carbonates common, weak vertical cracking.
50-115 cm	7.5 YR 5/6 SiC Just moist, fine subang. blocky, hard to dig, hard consistency. Insect and animal channels present, carbonate abundant. Weak cracking. Does not absorb water readily.
115-205 cm	7.5 YR 5/6 SiC Just moist, fine ang.-subang. blocky, harder to dig, harder consistency, few insect channels carbonate less abundant, weaker vertical cracking, does not absorb water readily.
205-320 cm	10 YR - 7.5 YR 5/4 SiCL Highly gypseous, moist, very hard and massive with gypsum cement, hard consistency, absorbs water fairly readily. Gypsum abundant. Below 270 cm less gypsum and the texture is lighter.
320-420 cm	10 YR 5/4 SiL-SiCL As 0-15 cm but gypsum present and no roots. SiCL nodules have fairly hard consistency. SiL - fairly friable consistence.
420-485 cm	10 YR 5/4 SiL As 0-15 cm.
485-500 cm max.	10 YR 5/4 SiCL-SiL Ad 320-420 cm.

5 metre bore in 2 metre pit
Soil Class: S

Date 28.1.58
Land classification:

See also laboratory analyses for samples 18193-18199

Site No. R.48

Topography:	Near crest of slight ridge
Cultivation:	Wheat - just germinating
Vegetation:	Shôk, Bellevalia sp., Centaurea sp.
Surface:	Moderate minor surface cracking - moderate flaking
0-10 cm	10 YR 5/4 SiL Moist, soft, structureless, friable, no visible salts but porous with roots and termite tubes.
10-45 cm	10 YR 6/3 SiCL As 0-10 cm
45-168 cm max.	Gypseous, sugary 10 - 7.5 YR 5/4 SiCL Moist, hard, massive, with gypsum cement. No roots below 65 cm but termite tubes. Absorbs water fairly readily.

1.6 metre bore in 2 metre pit
Soil Class: Adj

Date 28.1.58
Land classification:

See also laboratory analyses for samples 18200-18202

Site No. R.49

Topography:	Slight slope from Gebel
Cultivation:	Wheat - just germinating
Vegetation:	Centaurea sp., shôk
Surface:	Weak minor surface cracking (dry)
0-15 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts. Roots
15-72 cm	10 YR 6/3 SiCL Moist and fairly soft to 35 cm over just moist and fairly hard, structureless, becoming weak-moderate medium - fine ang. blocky, fairly hard consistence becoming hard. Carbonate abundant after appearing at 30 cm. Root channels present. Absorbs water readily.
72-109 cm	7.5 YR 6/4 SiL-SiCL Just moist, hard, moderately well developed, fine subang. blocky, not very porous, does not absorb water readily. Fairly hard consistence. Carbonate common.
109-160 cm	10 YR 6/4 SiCL Moist, hard, well developed medium ang. subang. blocky, very hard consistence, does not absorb water readily. SiC nodules present. Traces of carbonate.
160-173 cm	7.5 YR 6/4 SiCL-SiL As 72-109 cm but only traces of carbonate.
173-275 cm	Gypseous 7.5 YR 5/4 SiL Moist, hard, massive, hard consistence, absorbs water readily. Gypsum abundant.
275-430 cm	7.5 YR 5/5 SiCL Moist, hard, structureless - cemented, hard consistence but absorbs water readily, gypsum abundant. Black mottling from 370 cm. Consistence friable below 390 cm.
430-500 cm max.	7.5 YR 5/5 SiL Moist, fairly soft, structureless, friable, full of gypsum

5 metre bore in 2 metre pit — Date 28.1.58
Soil Class: S — Land classification:

See also laboratory analyses for samples 18203-18211

Site No. R.50

Topography: Slight southerly slope

Cultivation: Wheat - just germinating

Vegetation: Shôk, Centaurea sp.

Surface: Slight slaking

0-15 cm	10 YR 4/3 FSCL Moist, soft, structureless (Laminated at top cm) friable, no visible salts, roots present.
15-30 cm	7.5 YR 5/4 SiL Moist, soft, well developed fine ang. - subang. blocky, friable, roots present, carbonate present starting from 20 cm. Insect channels present, absorbs water readily.
30-85 cm	7.5 YR 5/6 SiC-SiCL Just moist, well developed fine subang. blocky, hard consistency, easy to dig, absorbs water readily, roots present, carbonate abundant at 40 cm and common down to 90 cm and present to 143 cm, roots present, vertical cracking present throughout, insect channels present.
85-140 cm	7.5 YR 5/4 SiC Just moist, hard, fine ang. subang. blocky, hard consistency, does not absorb water readily, roots present, carbonates present, vertical cracking present, insect channels present.
140-260 cm	7.5 YR 5/4 SiL-SiCL Just moist, hard, massive, hard consistence, absorbs water readily, gypsum very common. Porous. Vertical cracking passes down to base of pit from above this horizon.
260-410 cm	10 YR 5/4 SiL Moist, soft, structureless, friable. Gypsum very common.
410-430 cm	10 YR 5/4 SiCL As 260-420 cm - floury. Abundant gypsum.
430-460 cm	Gypsum bed
460-500 cm max.	10 YR 5/4 SiCL As 410-430 cm.

5 metre bore in 2 metre pit

Soil Class: S

Date 1.2.58

Land classification:

See also laboratory analyses for samples 18219-18226

Site No. R.51

Topography: By crest of slight rise

Cultivation: Wheat field - good germination

Vegetation: Shôk, Centaurea sp.

Surface: Marked slaking - furrows barely discernible

0-18 cm	10 YR 4/2 SCL Moist, soft, weakly laminated, moderately well developed coarse - medium ang. blocky. No visible salts, friable and porous, with many roots.
18-43 cm	10 YR 6/4 SiL Moist, soft, weak fine ang. subang. blocky, fairly friable, carbonate present from 27 cm, porous, many roots.
43-143 cm	10 YR 5/3-4 SiCL Just moist, fairly hard, moderate vertical cracking to 143 cm with well developed medium - fine subang. blocky, fairly hard consistence becoming hard below 90 cm but always absorbs water readily. Many visible pores and some roots, especially near top. Carbonate abundant to 60 cm and present throughout.
143-165 cm max.	Gypseous SiCL Hard, just moist, massive with abundant gypsum as crystals and cement. Absorbs water readily.

1.6 metre bore in 2 metre pit — Date 1.2.58

Soil Class: Adj — Land classification:

See also laboratory analyses for samples 18227-18231

Site No. R.52

Topography: Fairly level area

Cultivation: Wheat - good germination

Vegetation: Shôk

Surface: Occasional sheards. Considerable slaking. Moderate - medium surface cracking

0-15 cm	10 YR 4/2 SiL Moist, soft, weak fine laminations, friable and very porous, no visible salts or sheards. Many roots.
15-50 cm	10 YR 5/3 SiCL-SiL Moist and soft to 30 cm, becoming dry and fairly hard, weak fine laminations becoming weak medium ang. blocky with slightly stronger vertical cracking at 38 cm. Friable consistence becoming hard, but whole absorbs water readily, is very porous and has many roots. Carbonate concretions appear at 30 cm and are common below that depth. Sheards and charcoal fragments present throughout.
50-88 cm	10 YR 5/3 SiCL Just moist and hard, well developed medium - fine ang. - subang blocky with weak vertical cracks in dry pit face. Hard consistence but absorbs water readily, many visible pores while carbonate concretions, sheards and bricks are present.
88-130 cm	10 YR 6/3 SiC Just moist, hard, hackly fracture, fairly massive, weak vertical cracking , hard consistence, carbonate concretions common. Many visible pores. Absorbs water fairly readily. Bricks and sheards present throughout.
130-170 cm	7.5 YR 5/3 SiC Just moist, hard, conchoidal fracture, structureless, massive, hard consistency but absorbs water readily. No sheards. Many visible pores. Traces of carbonate and gypsum. Roots present.
170-220 cm	10 YR 5/3 SiCL Just moist, fairly hard, structureless, fairly hard consistence, absorbs water readily. Patchy. Sheard found at base.
220-500 cm max.	Gypseous SiCL Just moist, hard, massive with gypsum cement. Absorbs water readily though hard consistency. Gypsum abundant to 280 cm then slightly less abundant.

5 metre bore in 2 metre pit
Soil Class: S

Date 1.2.58
Land classification:

See also laboratory analyses for samples 18227-18231

Site No. R.53

Topography: By gully on fairly level land

Cultivation: Nil

Vegetation: Centaurea sp., Agul, Bellevalia sp.

Surface: Very moist - ? salty. Weak mcderate minor surface cracking - slight flaking

0-11 cm	10 YR 5/3 SiL Moist, soft, weakly laminated (fine) friable, porous, many roots, no visible salts.
11-90 cm	10 YR 5/3 SiL-SiCL Moist and fairly soft up to 20 cm becoming just moist and fairly hard, well developed medium - fine ang. blocky, fairly friable to 30 cm becoming fairly hard consistence. Carbonate present being very common from 22 cm. Some roots. Many visible pores. Absorbs water readily.
90-136 cm	10 YR 5/3 SiCL With some SiC nodules present. Moist, fairly hard, fairly massive but porous, rather variable with fragments of different textures mixed up together. Fairly hard consistence absorbing water readily. Carbonate common to 100 cm becoming a trace.
136-160 cm	7.5 YR 5/4 L Moist, soft, structureless, friable, very porous. Gypsum crystals present.
160-190 cm	7.5 YR 6/4 SiCL Moist, fairly hard, structureless, small stones present, also gypsum, fairly hard consistency. Fairly dense with gypsum cementation.
190-310 cm	7.5 YR 6/4 SiCL-SiC Moist, hard, structureless with gypsum cement, fairly hard consistence, but absorbs water readily. Carbonate concretions present.
310-315 cm max.	Gravel with SiL matrix.

3.1 metre bore in 2 metre pit — Date 2.2.58

Soil Class: S — Land classification:

See also laboratory analyses for samples 18466-18472

Site No. R.54

Topography:	Level
Cultivation:	Fallow
Vegetation:	Grasses, shôk, Centaurea sp.
Surface:	Fairly well slaked but only weak minor cracking - no flaking
0-17 cm	10 YR 5/3 SiL-SiCL Moist, soft, very weakly laminated, friable, porous, many roots. No visible salts.
17-27 cm	10 YR 5/3 SiCL As 0-17 cm but fewer roots and no laminations
27-265 cm	10 - 7.5 YR 5/4 SiL-SiCL Just moist and hard to 100 cm over moist and hard, moderately well developed, medium - fine ang. blocky to 100 cm with weak medium ang. blocky to 120 cm becoming massive. Many infillings of cavities, weak vertical cracking to 130 cm, fairly hard - hard consistence below 100 cm, absorbs water moderately readily to 50 cm becoming less water absorbing. Roots to depth. Carbonate concretions common to 125 cm; uncommon below. Gypsum present from 210 cm.
265-340 cm	10 - 7.5 YR 5/4 SiL Moist, soft, structureless, friable, gypsum common - after as a cement.
340-420 cm	10 - 7.5 YR 5/4 SiL-SiCL As 265-340 cm
420-465 cm max.	7.5 YR 5/4 SiCL Moist, hard, structureless, hard consistenc , absorbs water fairly readily. Gypsum present - Fars.

4.6 metre bore in 2 metre pit — Date 2.2.58
Soil Class: (M) - S — Land classification:

See also laboratory analyses for samples 18473-18479

Site No. R.55

Topography: Slight northerly slope

Cultivation: Wheat - just germinating

Vegetation: Centaurea sp., Agul, shôk

Surface: Considerable surface slaking. Moderate medium surface cracking

0-60 cm	10 YR 5/3 SiL-SiCL Moist, soft, finely laminated, many pores, friable, no visible salts, roots, becoming just moist and fairly hard at 17 cm, weak - moderate fine ang. blocky and vertical cracking, carbonate concretions abundant, porous, absorbs water readily but fairly hard consistency. Roots present throughout.
60-90 cm	7.5 - 10 YR 5/3 SiCL Moist, hard, weak moderate subang. blocky, and vertical cracking, fairly hard consistence but absorbs water readily. Carbonate concretions common.
90-143 cm	10 - 7.5 YR 5/3 SiC As 60-90 cm but carbonate less common and conchoidal fracture and many nodules present. Structure moderate strong medium ang. blocky. Does not absorb water readily.
143-160 cm max.	Gypseous L.Fars clays. Moist, hard, massive with gypsum abundant - often as cement. Absorbs water readily.

1.6 metre bore in 2 metre pit — Date 2.2.58

Soil Class: Adj — Land classification:

See also laboratory analyses for samples 18480-18484

Site No. R.56

Topography: Slight slope to gully

Cultivation: Fresh plough

Vegetation: Centaurea sp.

Surface: Moist, with considerable slaking

0-18 cm — 10 YR 4/3 SiL-SiCL Moist, soft, structureless, porous, friable. Many roots.

18-70 cm — 10 YR 5/3 SiL Just moist, hard, well developed fine subang. blocky, hard consistence but absorbs water readily, many roots and visible pores, carbonate abundant to 40 cm and present throughout. Traces of gypsum throughout. Roots present.

70-115 cm — 10 YR 5/3 SiCL-SiL Moist, hard, moderate vertical cracking, some visible pores and termite tubes. Absorbs water readily though of hard consistence, carbonate concretions and gypsum present - also roots.

115-180 cm — 7.5 YR 5/4 SiC Moist, very hard, massive with gypsum cement. Gypsum abundant, absorbs water fairly slowly, hard consistence. Fragments of pottery present.

1.8 metre bore in 2 metre pit
Soil Class: Adj

Date 2.2.58
Land classification:

See also laboratory analyses for samples 18485-18488

Site No. 57

Topography: By highest point of slight ridge

Cultivation: Barley field - fair germination

Vegetation: Centaurea sp., Bellevalia sp.

Surface: Moist but moderate fine surface cracking

0-12 cm — 10 YR 5/3 SiCL-SiL Moist, soft, structureless, friable, gypsum present. Many visible pores and roots.

12-82 cm — 10 YR 5/3 SiL Moist, soft, rather variable, with occasional stones, weak fine ang. subang. blocky, very porous. Friable consistence (moist). Moisture penetration highly variable - 30-70 cm around pit sides. Where dry it is hard to dig and the structure is well developed with some vertical cracking. Consistence is hard but water absorption high. Gypsum present throughout while carbonate occurs below 30 cm - common between 30 and 43 cm. Roots present.

82-180 cm max. — Gypseous and pebbly 10 YR 5/3 SiC Moist, hard, massive, abundant, gypsum present, with some pebbles throughout.

1.8 metre bore in 2 metre pit — Date 3.2.58

Soil Class: Adj — Land classification:

See also laboratory analyses for samples 18489-18493

Site No. R.58

Topography: Slope from ridge to gully

Cultivation: Fallow

Vegetation: Centaurea sp.

Surface: Moderately well developed minor surface cracking with weak curling

0-18 cm	10 YR 4/3 SiL-SiCL Moist, soft, moderately well developed fine laminations, friable, absorbs water readily, no visible salts.
18-80 cm	10 YR 5/3 SiL Just moist, fairly hard, well developed fine - medium ang. blocky, with weak vertical cracking, many visible pores, roots common, carbonate concretions abundant. Hard consistence but absorbs water readily.
80-119 cm	10 YR 5/3 SiCL-SiC Moist, hard, fairly well developed, fine vertical cracking, some visible pores, hard consistence, and absorbs water only slowly. Carbonate present some roots.
119-204 cm max.	7.5 YR 5/4 Gypsum bed - probably SiCL but too much gypsum to texture. Moist and hard, massive, abundant gypsum. No roots visible.

2 metre bore in 2 metre pit
Soil Class: Adj

Date 3.1.58
Land classification:

See also laboratory analyses for samples 18494-18498

Site No. R.59

Topography:	Slight slope from village on crest of hill towards south
Cultivation:	Wheat field
Vegetation:	Shôk
Surface:	Weak slaking

0-18 cm	10 YR 5/3 SiL-SiCL Moist, soft, structureless, friable, very porous with many roots. No visible salts.
18-35 cm	10 YR 5/3 SiL-SiCL Fairly moist, fairly soft, weak fine subang. blocky, fairly friable consistence, many visible pores and roots. Carbonate concretions present.
35-87 cm	10 YR 5/3 SiL Moist, fairly soft, weak vertical cracking to 87 cm and fine ang. subang. blocky to 60 cm. Moderately friable and absorbs water readily. Carbonate concs present to 50 cm. Traces of gypsum throughout.
87-145 cm max.	10 YR 5/3 Gypseous SiL Moist, hard, otherwise massive, gypsum very common and as cement. Occasional cracks continuing from 35-87 cm horizon to 108 cm. Hard consistence but absorbs water very readily.

1.4 metre bore in 2 metre pit
Soil Class: Adj

Date 3.1.58
Land classification:

See also laboratory analyses for samples 18499-18502

Site No. R.60

Topography:	Slight slope from Gebel. Gypsum outcrop behind village
Cultivation:	Good wheat crop - Kirkuk chain irrigation
Vegetation:	Shôk, Camel thorn, Centaurea sp., Artemisia sp., Malva parviflora
Surface:	Moist - negligible slaking
0-20 cm	10 YR 5/3 SiCL-SiL Very moist, soft, structureless, friable, porous, many roots. No visible salts.
20-53 cm	7.5 - 10 YR 5/3 SiL As 0-20 cm but carbonate appears at 30 cm being common below.
53-300 cm	7.5 YR 5/3 SiCL Moist, fairly soft, structureless, fairly firm - fairly friable consistence. Moderately porous, roots present, carbonate concs common to 100 cm and present to 270 cm. Black mottling appears at 210 cm, while consistence becomes friable. Gypsum appears at 230 cm, becoming common below 280 cm. Pebbles present between 270 and 285 cm. Whole is somewhat patchy - with some SiL present in predominantly a SiC.
300-390 cm	10 - 7.5 YR 5/3 SiCL-SiL Moist, soft, structureless, friable, gypsum fairly common.
390-420 cm	7.5 - 10 YR 5/3 SiL-SiCL As 300-390 cm
420-500 cm max.	7.5 - 10 YR 5/3 SiL As 300-390 cm - but only traces of gypsum.

5 metre bore in 2 metre pit — Date 7.2.58
Soil Class: Di — Land classification:

See also laboratory analyses for samples 18509-18516

Site No. R.61

Topography:	Slightly undulating - by crest of ridge
Cultivation:	Barley field - good germination
Vegetation:	Centaurea sp., Artemisia sp., shôk
Surface:	Weak slaking and medium surface cracking
0-10 cm	10 YR 4/3 SiCL-SiL Moist, soft, structureless, friable, no visible salts.
10-60 cm	10 YR 5/3 SiC Moist, fairly soft, structureless, fairly friable consistence, gypsum and carbonate common.
60-235 cm	10 YR 5/3 SiCL As 0-10 cm but traces of gypsum and carbonate to 120 cm - absent below.
235-300 cm max.	10 YR 5/3 SiCL Moist, fairly hard, structureless mixture of SiL and SiC. Hard - fairly hard consistence (SiC-SiL). Gypsum abundant. Absorbs water readily

3 metre bore in 2 metre pit
Soil Class (Ki)

Date 7.2.58
Land classification 2t

See also laboratory analyses for samples 18517-18522

Site No. R.62

Topography:	Level field
Cultivation:	Fresh plough
Vegetation:	Centaurea sp., shôk, agul
Surface:	Negligible slaking
0-15 cm	10 YR 4/3 L Moist, fairly soft, structureless, fairly friable consistence, no visible salts.
15-75 cm	10 YR 5/3 SiC Hard, and moist to 50 cm over just moist and hard, structureless, hard on firm consistence, does not absorb water readily. Carbonate concretions appear at 25 cm and are common from 35 cm.
75-210 cm	7.5 - 10 UR 5/3 SiCL-SiC Fairly hard, moist, structureless, fairly hard - fairly friable consistence, some carbonate present.
210-230 cm	7.5 YR 5/4 Pebbly sandy clay. Moist, hard, structureless, hard consistence but absorbs water fairly readily, pebbles ¼-½" diam. present, no visible salts.
230-300 cm max.	7.5 YR 5/4 SiCL-SiC As 75-210 cm but hard consistence. Traces of black mottling.

3 metre bore in 2 metre pit — Date 7.2.58
Soil Class: M - (Ki top) — Land classification:

See also laboratory analyses for samples 18523-18528

Site No. R.63

Topography:	Slight slope from Kirkuk structure
Cultivation:	Barley field - good germination
Vegetation:	Artemisia sp., good turf, shôk, Centaurea sp., Crocus sp., Bellevalia sp., Malva parviflora
Surface:	Fairly marked surface slaking. Moist
0-15 cm	10 YR 5/3 L Moist, soft, structureless, friable, no visible salts. Many roots.
15-110 cm	10 YR 6/4 SiC Moist, and soft to 55 cm over just moist and fairly soft, structureless apart from nutty appearance (just moist). Carbonate common from 25 cm. Friable consistence.
110-140 cm	10 YR 6/4 SiCL As 15-110 cm but less carbonate.
140-210 cm	10 YR 6/4 SiL As 0-15 cm but no roots.
210-240 cm	10 YR 6/4 FSL As 140-210 cm but almost a free running sand.
240-250 cm	10 YR 6/4 SiL As 140-210 cm
250-300 cm max.	10 YR 6/4 SiCL As 140-210 cm but traces of carbonate.

3 metre bore in 2 metre pit — Date 7.2.58
Soil Class: Di — Land classification:

See also laboratory analyses for samples 18529-18534

Site No. R.64

Topography:	Fairly level field
Cultivation:	Fallow
Vegetation:	Artemisia campestris, Centaurea sp., Capparis sp., Gladiolus sp., Bellevalia sp.
Surface:	Weak - moderate minor surface cracking. Fairly well slaked
0-20 cm	10 YR 5/3 L Moist, soft, structureless, friable, no visible salts but roots present.
20-75 cm	10 YR 4/3 SiL Moist and soft to 30 cm over just moist and soft, structureless, friable, carbonate (soft) appears at 18 cm and is abundant from 25 cm to 75 cm. Below that depth it is rare.
75-110 cm	7.5 YR 5/4 SiL-SiCL As 20-75 cm but carbonate ceases below 90 cm.
110-160 cm	7.5 YR 5/4 SiCL Moist and soft, becoming moist and fairly hard below 130 cm. Structureless, massive below 130 cm, friable above fairly hard - fairly friable consistence. Gypsum appears at top and is abundant by base, forming a cement.
160-190 cm	10 YR 5/3 Gypseous SiL As 0-20 cm but full of gypsum.
190-270	7.5 YR 5/4 SiCL Moist, hard, massive, hard consistence but absorbs water readily. Gypsum abundant.
270-290 cm	10 YR 5/3 Gypseous SiL As 160-190 cm.
290-300 cm max.	7.5 YR 5/4 SiCL As 190-270 cm.

3 metre bore in 2 metre pit — Date 8.2.59

Soil Class: (Di) — Land classification:

See also laboratory analyses for samples 18535-18540

Site No. R.65

Topography: Level field near irrigation ditch

Cultivation: Fallow

Vegetation: Malva parviflora, Centaurea sp., agul

Surface: Weak minor surface cracking. Moderately well slaked

0-10 cm	10 YR 5/3 SiCL Moist, soft, structureless, friable, no visible salts, many roots.
10-300 cm max.	10 YR 5/3 SiC Moist, hard, structureless, dense, firm consistence to 35 cm over hard, carbonate present from 25 cm to depth. Sheards present at 240-265 cm. Gypsum traces from 280 cm.

3 metre bore in 2 metre pit — Date 8.2.58

Soil Class: (M) — Land classification:

See also laboratory analyses for samples 18541-18544

Site No. R.66

Topography:	Level field
Cultivation:	Wheat field
Vegetation:	Artemisia campestris, Centaurea sp., agul, Bellevalia sp., shôk
Surface:	Weak slaking, well developed minor surface cracking
0-10 cm	10 YR 4/3 SiC Moist, soft, structureless, fairly friable, no visible salts.
10-170 cm	7.5 YR 6/4 SiC Moist, fairly hard over fairly soft below 60 cm, structureless, hard - firm consistence over fairly friable below 50 cm, reappearing at 100 cm and abundant from 110 cm to 150 cm.
170-250 cm	10 YR 6/4 SiCL Moist, fairly soft, structureless, fairly friable, no visible salts.
250-300 cm max.	7.5 YR 6/4 SiC-SiCL As 10-170 cm but only traces of carbonate.

3 metre bore in 2 metre pit — Date 9.2.58
Soil Class: Ma — Land classification:

See also laboratory analyses for samples 18545-18549

Site No. R.67

Topography:	Near crest of rise by tel and gullying
Cultivation:	Fallow
Vegetation:	Artemisia campestris, Centaurea sp., Crocus sp.
Surface:	Fairly marked slaking. Weak minor surface cracking
0-15 cm	7.4 YR 5/4 L Moist, soft, structureless, friable, no visible salts.
15-100 cm	10 YR 6/4 SiL Moist, soft, structureless, friable, gypsum present.
100-130 cm	10 YR 6/4 SiCL-SiL Intermediate to:
130-245 cm	7.5 YR 5/4 SiCL Moist, fairly soft, structureless, friable apart from SiC nocules, traces of gypsum.
245 +	Gravel stopping the berina

2.5 metre bore in 2 metre pit
Soil Class: (Di)

Date 9.2.58
Land classification:

See also laboratory analyses for samples 18550-18553

Site No. R.68

Topography:	Fairly level floor of valley
Cultivation:	Fallow
Vegetation:	Centaurea sp., grasses, Malva parviflora
Surface:	Gravelly with marked slaking. Moderate minor surface cracking
0-10 cm	10 YR 5/4 SiL Moist, soft, structureless, friable, no visible salts but some stones.
10-30 cm	7.5 YR 6/4 SiCL-SiL As 0-10 cm.
30cm (to over 20m in wells)	Gravel with cobbles up to 8x6x4" A typical river gravel in a valley the size of the present Tauq Chai. Negligible matrix.

This soil grows good wheat but does not require more than one application of irrigation water

.3 metre bore in 2 metre pit — Date 9.2.58

Soil Class: Tutal al Bir — Land classification:

See also laboratory analyses for sample 18554

Site No. R.69

Topography:	Level field - irrigated from Tauq Chai
Cultivation:	Barley field - good germination
Vegetation:	Shôk, agul. Artemisia campestris nearby
Surface:	Negligible slaking or cracking
0-10 cm	10 YR 4/3 SiCL Moist, fairly soft - fairly hard, structureless, fairly friable (moist) but sets like a rock. No visible salts.
10-110 cm	10 YR 4/4 SiC Moist and fairly soft to 30 cm over hard and just moist, structureless, fairly friable - fairly firm consistence over hard consistence, none absorbs water readily. Carbonate present from 25 cm.
110-140 cm	10 YR 4/4 SiCL As 0-10 cm but traces of carbonate.
140-210 cm	10 YR 4/4 SiCL-SiL Moist, soft, structureless, friable, no visible salts.
210-300 cm max.	10 YR 4/4 SL As 140-210 cm

3 metre bore in 2 metre pit
Soil Class M approaching Ki

Date 9.2.58
Land classification:

See also laboratory analyses for samples 18555-18559

Site No. R.70

Topography:	Slope from Gebel
Cultviation:	Nil
Vegetation:	Bellevalia sp., Iris sp., Centaurea sp., grasses, Cousinia sp., Capparis spinosa, Crocus sp., Malva parviflora. Good cover
Surface:	Marked cracking and flaking in slight hollows
0-15 cm	10 YR 5/3 SiL-SiCL Moist, soft, structureless, below 1 cm crust; friable, absorbs water readily, no visible salts.
15-90 cm	10 YR 6/3 SiC Moist, soft, structureless, fairly friable, carbonate present becoming very common below 40 cm.
90-125 cm	10 YR 6/3 SiL As 15-90 cm.
125-150 cm	10 YR 6/3 SiL Dry, fairly hard, structureless, fairly hard - fairly friable consistence, but mixture of SiL and SiC (friable and hard) No visible salts.
150-230 cm	10 YR 6/3 SiL-SiCL As 15-90 cm, but no visible salts. Pebble at 210 cm. Occasional SiC nodules.
230-270cm	10 YR 5/3 SiCL-SiL As 15-90 cm but fairly hard - fairly friable consistence, gypsum and carbonate present.
270-300 cm max.	10 YR 5/4 Gypsum bed SiCL Hard, moist, massive, abundant gypsum, fairly hard consistence but absorbs water readily.

3 metre bore in 2 metre pit — Date 10.2.58
Soil Class: Di — Land classification:

See also laboratory analyses for samples 18560-18564

Site No. R.71

Topography:	Slight slope from Gebel
Cultivation:	Wheat field - good germination
Vegetation:	Artemisia campestris, Centaurea sp., Cousinia sp., Malva parviflora, Crocus sp., Bellevalia sp., Tulip sp.
Surface:	Weak minor surface cracking. Negligible slaking
0-75 cm	10 YR 4/3 SiCL-SiL Moist, soft, structureless, friable, carbonate appears at 20 cm and is abundant from 30 cm - 75 cm. Below 40 cm it is fairly soft and fairly dry.
75-150 cm	10 YR 5/3 L-SiCL Moist, soft, structureless, friable, traces of carbonate.
150-210 cm	10 YR 5/3 SL Moist, fairly soft, structureless, friable, occasional SiCL nodules and pebbles.
210-240 cm	10 YR 5/3 L Very mixed horizon with friable SL as matrix to hard SiCL nodules.
240-300 cm max.	10 YR 6/6 Gypseous SiCL Moist, hard, massive, fairly hard consistence, but absorbs water readily.

3 metre bore in 2 metre pit
Soil Class (Ki)

Date 10.2.58
Land classification:

See also laboratory analyses for samples 18565-18569

Site No. R.72

Topography:	Slight slope to gully
Cultivation:	Wheat - fair germination
Vegetation:	Shôk, Malva parviflora, Artemisia campestris
Surface:	Negligible slaking
0-15 cm	10 YR 5/4 SL Moist, soft, structureless, friable, no visible salts. Many roots.
15-105 cm	10 YR 5/3 L Moist and soft to 30 cm over fairly moist and fairly soft, structureless over weak vertical cracking. Friable consistence over hard consistence. Occasional pebbles present. Carbonate and gypsum common to 55 cm and present to depth. Porous and many roots dying out downwards.
105-110 cm max.	10 YR 5/3 Gypseous SiCL Hard, moist, structureless, hard consistence but absorbs water readily.

1.1 metre bore in 2 metre pit — Date 10.2.58
Soil Class: Ad — Land classification:

See also laboratory analyses for samples 18570-18573

Site No. R.73

Topography:	Level area
Cultivation:	Fallow
Vegetation:	Centaurea sp., Bellevalia sp., grasses, good cover, Crocus sp.
Surface:	Moderate surface cracking and flaking
0-30 cm	10 YR 4/3 SiL Moist, soft, structureless, friable. No visible salts but many roots.
30-120 cm	10 YR 5/4 SiCL Just moist, fairly soft, structureless, fairly hard - fairly friable consistence. Absorbs water readily. Carbonate present becoming abundant from 40 cm.
120-170 cm	10 YR 5/4 SiCL-SiL As 30-120 cm but more friable SiL present and much less carbonate.
170-250 cm	10 YR 5/4 SiL-SiCL As 0-30 cm.
250-320 cm	10 YR 5/4 SiL As 0-30 cm.
320-370 cm	10 YR 5/4 FSL-SiL As 0-30 cm.
370-410 cm	10 YR 5/4 SiL As 0-30 cm but gypsum present.
410-460 cm	7.5 - 10 YR 5/4 SiCL As 370-410 cm.
460-480 cm	10 YR 5/4 SiL-SiCL As 370-410 cm.
480-500 cm max.	10 YR 5/4 SL Moist, soft free running. No visible salts.

5 metre bore in 2 metre pit Date 11.2.58

Soil Class: Ki Land classification:

See also laboratory analyses for samples 18574-18581

Site No. R.74

Topography:	Fairly level field
Cultivation:	Wheat field - just germinating
Vegetation:	Capparis sp., shôk, Crocus sp., Centaurea sp., Artemisia campestris, Bellevalia sp., Malva parviflora, Agul, Gladiolus sp.
Surface:	Well developed minor surface cracking. Much slaking.
0-10 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts.
10-40 cm	10 YR 4/3 SiCL-SiC Moist, soft, structureless, friable, abundant carbonate concretions.
40-65 cm	10 YR 6/4 SiCL As 10-40 cm but less carbonate.
65-110 cm	10 YR 6/4 SiL As 0-10 cm.
110-170 cm	10 YR 6/4 SiCL-SiL As 0-10 cm.
170-190 cm	7.5 YR 6/4 SiC Moist, fairly soft, structureless, fairly friable, gypsum present.
190-260 cm	7.5 - 10 YR 6/4 SiCL Patchy mixture of SiL and SiC. Moist, soft, structureless, friable, gypsum present.
260-320 cm	10 YR 6/4 SiL-SiCL As 190-260 cm.
320-345 cm	10 YR 6/4 FSL As 0-10 cm.
345-500 cm max.	10 YR 6/4 SiL As 190-260 cm. Somewhat variable with occasional bands of SiCL and SL.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 12.2.58
Land classification:

See also laboratory analyses for samples 18908-18913

Site No. R.75

Topography:	Level field
Cultivation:	Barley field - good germination
Vegetation:	Agul, Centaurea sp., shôk, Malva parviflora, Bellevalia sp.
Surface:	Moderate minor surface cracking and slaking
0-20 cm	10 YR 6/4 SiL Moist, soft, structureless, friable, no visible salts.
20-260 cm	10 YR 4/4 SiCL As 0-20 cm but carbonate very common below 30 cm, becoming common below 60 cm. Present throughout. Stones and sheards occur at 130 cm only. Gypsum replaces carbonate after 200 cm.
260-285 cm	10 YR 6/4 SiL As 0-20 cm but gypsum present.
285-320 cm	10 YR 5/4 SiL-SiCL As 260-285 cm.
320-520 cm max.	10 YR 5/4 SiCL As 260-285 cm. Gypsum fairly common from 415 cm.

5 metre bore in 2 metre pit — Date 12.2.58
Soil Class: Di — Land classification:

See also laboratory analyses for samples 18914-18921

Site No. R.76

Topography:	Level field
Cultivation:	Fresh plough
Vegetation:	Artemisia campestris, shôk, Centaurea sp., Crocus sp., Malva parviflora
Surface:	-
0-30 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, no visible salts. Very porous with many roots.
30-87 cm	7.5 YR 5/4 SiCL Moist, hard, strong medium - fine vertical cracking, hard consistence, but porous, absorbs water readily. Carbonate present, being common between 40 and 65 cm.
87-130 cm	10 YR 6/3 SiL-SiCL Moist, fairly hard, structureless, fairly hard consistence, absorbs water readily, porous, pebble at 70 cm. Traces of carbonate concretions throughout.
130-210 cm	10 YR 6/4 SL with SiL patches. Moist, soft, highly finely laminated in sandy layers, somewhat patchy, soft, friable consistence, no visible salts.
210-250 cm	10 YR 5/3 S Medium free running sand. No visible salts.
250-500 cm max.	10 YR 5/3 SiCL Moist, fairly hard, structureless, coming up in berina as nutty, fairly hard consistence, does not absorb water very quickly. Below 330 cm blocky mottling occurs while gypsum appears at 350 cm. Below 480 cm, it becomes fairly friable consistence.

5 metre bore in 2 metre pit
Soil Class: Di

Date 12.2.58
Land classification:

See also laboratory analyses for samples 18921-18928

Site No. R.77

Topography:	2½° Slope from Gebel
Cultivation:	Barley field - good germination
Vegetation:	Agul, Centaurea sp., Artemisia campestris, Cousinia sp.
Surface:	Weak slaking and minor surface cracking
0-35 cm	10 YR 5/3 SiL Moist, soft, structureless, porous, friable, gypsum appears at 20 cm , carbonate concretions at 26 cm.
35-74 cm	10 YR 5/3 SiCL Just moist, fairly hard, moderately well developed vertical cracking and fine ang. - subang. blocky, carbonate and gypsum present.
74-125 cm max.	10 YR 5/3 Gypseous SiCL Moist, hard, massive yet highly porous, gypsum as crystals and as cement, hard consistence yet absorbs water readily.

1.2 metre bore in 2 metre pit
Soil Class Ad

Date 12.2.58
Land classification:

See also laboratory analyses for samples 18929-18932

Site No. R.78

Topography: Slight slope to depression area - probably terrace of Chai

Cultivation: Barley field

Vegetation: Artemisia campestris, shôk, Centaurea spp.

Surface: Well developed minor surface cracking and slaking

0-15 cm	10 YR 4/3 SiL Moist, soft, 1½ cm laminated (well developed finely) over structureless, porous, no visible salts but roots present.
15-35 cm	10 YR 5/3 SiCL Moist, soft, structureless, apart from weak fine laminations, porous, friable, carbonate appears at top and is common below 20 cm.
35-57 cm	10 YR 4/3 SL Moist, soft, weak vertical cracking below 40 cm, friable, porous, carbonate present. Roots
57-115 cm	10 YR 4/3 L As 35-57 cm but no carbonate present. Sheards present about 108 cm down.
115-205 cm	7.5 - 10 YR 5/3 SiC Moist, hard, strong medium vertical cracking, hard consistence, does not absorb water readily, dense, carbonate present from 135 cm.
205-310 cm	10 YR 5/3 FSSiL Moist, soft, structureless, friable, no visible salts.
310-330 cm	10 YR 5/3 SiL As 205-310 cm.
330-500 cm max.	10 YR 5/3 SiCL Variable mixture of SiL and SiC As 205-310 cm but gypsum present.

5 metre bore in 2 metre pit Date 13.2.58

Soil Class: Ki Land classification:

See also laboratory analyses for samples 18933-18941

Site No.R.79

Topography:	Level field - rainfed
Cultivation:	Wheat field
Vegetation:	Agul, shôk, Bellevalia sp.
Surface:	Weak slaking only
0-30 cm	10 YR 5/3 SiCL Moist, soft, structureless, friable, no visible salts but roots.
30-110 cm	10 YR 5/3 SiL As 0-30 cm but traces of gypsum present from 40 cm.
110-150 cm	10 YR 5/3 SiL-SiCL As 30-110 cm.
150-270 cm	7.5 YR 5/4 SiCL Moist and fairly hard to 175 cm over moist and soft, structureless, hard consistence over friable. Traces of gypsum present.
270-340 cm	7.5 YR 5/4 SiC - SiCL Moist, fairly hard, structureless, fairly hard - fairly friable consistence. Gypsum and carbonate fairly common. Fairly dense.
340-500 cm max.	7.5 YR 5/4 SiCL As 270-340 cm but less dense.

5 metre bore in 2 metre pit — Date 13.2.58
Soil Class: Di — Land classification:

See also laboratory analyses for samples 18942-18949

Site No. R.80

Topography:	Fairly level area. Near normal type gilgai
Cultivation:	Fallow
Vegetation:	Grasses, shôk, Centaurea sp.
Surface:	Marked slaking and minor surface cracking
0-30 cm	10 YR 4/3 SiCL - SiL Moist, soft, structureless, friable consistence, no visible salts.
30-130 cm	10 YR 4/3 SiCL-SiC Moist, hard, structureless, hard consistence, dense, absorbs water only slowly. Traces of carbonate at 30 cm.
130-150 cm	10 YR 5/3 SiCL Intermediate to:
150-210 cm	10 YR 5/3 SiL Moist, soft, structureless, friable. Gypsum present.
210-260 cm	10 YR 5/3 L As 150-210 cm.
260-285 cm	10 YR 5/3 SiCL Intermediate to:
285-340 cm	7.5 - 10 YR 5/4 SiC Moist, fairly hard - fairly soft, structureless, fairly friable - fairly hard consistence, gypsum present.
340-410 cm	7.5 - 10 YR 5/3 L As 150-210 cm but more gypsum.
410-450 cm max.	7.5 - 10 YR 5/3 Gypseous L As 150-210 cm but abundant gypsum.

4.5 metre bore in 2 metre pit
Soil Class: Ma

Date 13.2.58
Land classification:

See also laboratory analyses for samples 18950-18956

Site No. R.81

Topography:	Level field near small gullies
Cultivation:	Fresh plough - fallow
Vegetation:	Shôk, Centaurea sp.
Surface:	Weak slaking and minor cracking
0-15 cm	10 YR 3/3 SL Moist, soft, structureless, friable, no visible salts but roots present.
15-32 cm	10 YR 4/3 SiL As 0-15 cm but traces of gypsum below 25 cm.
32-48 cm	10 YR 4/3 SL Moist, soft, moderate - well developed medium - fine laminated, with bands of SiL-Si, porous, very friable.no visible salts.
48-89 cm	10 YR 4/4 SiL-SiCL Moist, soft, patchily laminated, friable, very porous with many visible pores and roots, no visible salts, some angular fragments of SiCL.
89-115 cm	7.5 YR 5/4 SiCL Mixture of SiL and SiC, moist, fairly hard, banded and mixed up layer with laminations in SiL fraction. SiL as above (48-89 cm) and SiC fraction as below. Weak vertical cracking.
115-140 cm	7.5 YR 5/4 SiC Moist, hard, strong fine vertical cracking, hard consistence, does not absorb water readily. No visible salts.
140-165 cm	7.5 YR 5/4 SiCl-SiC As 115-140 cm but thin bands and patches of SiL present and less marked cracking.
165-172 cm	10 YR 4/3 SL As 0-15 cm.
172-183 cm	7.5 YR 5/4 SiCL As 89-115 cm.
183-190 cm	10 YR 4/3 SL As 0-15 cm.
190-215 cm	7.5 YR 5/4 SiC As 115-140 cm.
215-310 cm	7.5 YR 5/4 SiCL Moist, fairly hard, structureless, fairly friable (SiL fraction) - hard (SiC nodules) consistency.
310-330 cm	7.5 YR 5/4 SiC As 115-140 cm but carbonate present.
330-420 cm	7.5 YR 5/4 SiCL-SiC As 140-165 cm but carbonate present being common from 380-420 cm.
420-470 cm	10 YR 5/3 SiCL As 89-115 cm, but fairly soft, with fairly friable consistence. Traces of gypsum from 440 cm.
470-500 cm max.	10 YR 5/3 SiCL-SiL As 0-15 cm but gypsum fairly common.

5 metre bore in 2 metre pit — Date 15.2.58
Soil Class: Ki — Land classification:

See also laboratory analyses for samples 18957-18967

Site No.R.82

Topography:	Slight slope to depression
Cultivation:	Wheat - but poor germination
Vegetation:	Bellevalia sp., Centaurea sp., Cousinia sp.
Surface:	Moderately well developed minor surface cracking, fair slaking.
0-22 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts but roots.
22-147 cm	10 YR 4/3 SiC Moist, hard, structureless, hard consistence, but to 65 cm there are visible pores and it absorbs water fairly readily; carbonate abundant throughout. Roots present.
147-220 cm	10 YR 5/3 SiCL As 22-147 cm, but absorbs water fairly readily - being porous. Less carbonate.
220-250 cm	10 YR 5/3 SiL-SiCL Moist, hard, structureless, hard consistence, does not absorb water readily, no visible salts.
250-310 cm	10 YR 5/3 L Moist, fairly hard, structureless, fairly hard consistence, but absorbs water fairly readily. Gypsum present becoming very common below 260 cm. Sets as cement. Many visible pores.
310-370 cm	10 YR 5/3 SiL-SiCL As 0-22 cm but gypsum common.
370-400 cm max.	Gypsum bed of L.Fars. Moist, fairly hard, structureless, friable, some SiCL in gypsum crystals !

4 metre bore in 2 metre pit
Soil Class Ki - Ma

Date 15.2.58
Land classification:

See also laboratory analyses for samples 18968-18973

Site No. R.83

Topography:	Level field
Cultivation:	Wheat - good germination
Vegetation:	Centaurea sp., Artemisia campestris, shôk, Bellevalia sp., Crocus sp.
Surface:	Weak slaking and surface cracking.
0-16 cm	10 YR 4/3 L Moist, soft, structureless, friable, porous,many roots.
16-95 cm	7.5 - 10 YR 5/3 SiCL-SiL Moist, soft, structureless, friable, carbonate abundant from 24 cm, absent above. Very porous. Sheards at 50 cm.
95-127 cm	10 YR 4/3 FSSiL As 0-16 cm but some carbonate concretions - common above 100 cm.
127-152 cm	10 YR 4/3 SiCL-SiL As 0-16 cm.
152-175 cm	10 YR 5/3 SiCL As 0-16 cm.
175-200 cm	10 YR 5/3 FSSiL As 0-16 cm.
200-250 cm	10 YR 4/3 SiL As 0-16 cm.
250-320 cm	7.5 YR 5/4 SiCL Moist, fairly hard, structureless, fairly hard consistency, absorbs water fairly readily, gypsum present from top, while carbonate reappears at 300 cm.
320-420 cm	10 YR 5/3 SiL-SiCL As 0-16 cm but carbonate present to 360 cm and gypsum fairly common.
420-500 cm max.	10 YR 5/3 L As 250-320 cm Gypsum very common below 435 cm.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 15.2.58
Land classification:

See also laboratory analyses for samples 18974-18982

Site No. R.84

Topography: Level field

Cultivation: Fallow

Vegetation: Capparis spinosa, shðk, Centaurea sp., Bellevalia sp., agul, Artemisia campestris, Crocus sp., Malva parviflora, Iris sisyrinchium

Surface: Moderately well slaked with moderately well developed minor surface cracking.

0-13 cm	10 YR 4/3 SiL Moist, soft, structureless, tendency to "aero-structure", fairly friable, porous, absorbs water readily, no visible salts.
13-100 cm	10 YR 4/3 SiL-SiCL Moist, fairly hard, weak vertical cracking and medium subang. blocky below 25 cm becoming moderately well developed below 70 cm. Many visible pores, fairly hard consistence but absorbs water readily. Carbonate appears at 30 cm being abundant from 35-70 cm.
100-150 cm	10 YR 4/3 SiCL Moist, hard, strong medium - fine vertical cracking, few visible pores, absorbs water only slowly. Hard consistence. Carbonate concs. fairly common.
150-170 cm	10 YR 4/3 SiCL-SiL As 13-100 cm but carbonate ceases at 158 cm.
170-280 cm	10 YR 4/3 SiCL-SiC As 100-150 cm but only traces of carbonate to 190 cm. Gypsum appears at 220 cm becoming fairly common. Pebble at 270 cm.
280-510 cm	7.5 - 10 YR 5/3 SiCL Mixture of SiL and SiC. As 170-280 cm. Some black mottling of SiC fraction below 320 cm. Below 450 cm it is patchily finely laminated, with blue mottling appearing. Probably slightly heavier.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 15.2.58
Land classification:

See also laboratory analyses for samples 18983-18992

Site No. R.85

Topography:	Level field
Cultivation:	Barley field - irrigated by water brought from Taza Kharmatli
Vegetation:	Artemisia campestris, shôk, agul
Surface:	Wet - marked slaking
0-18 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, no visible salts. Many roots.
18-48 cm	10 YR 5/3 SiL-SiCL As 0-18 cm.
48-82 cm	10 YR 4/3 SiCL Just moist, hard, weak medium - fine vertical cracking and medium ang. blocky, hard consistence and absorbs water slowly. Carbonate abundant to 76 cm - present to base.
82-128 cm	10 YR 5/3 L Moist, soft, structureless, apart from a few vertical cracks, friable, gypsum present below 110 cm.
128-155 cm	10 YR 6/4 SL As 82-128 cm but no vertical cracks. Many roots.
155-167 cm	10 YR 5/3 L As 128-155 cm.
167-210 cm	10 YR 5/3 SiCL-SiC Moist, hard, structureless, hard consistence, carbonate present. Hackly fracture.
210-280 cm	10 YR 5/3 SiL-SiCL As 0-18 cm.
280-430 cm	10 YR 5/3 SiC As 167-210 cm - no carbonate but gypsum and black mottling present.
430-520 cm	10 YR 5/3 SiL-SiCL As 0-18 cm but gypsum present max.

5 metre bore in 2 metre pit
Soil Class: Di

Date 15.2.58
Land classification:

See also laboratory analyses for samples 18993-19002

Site No. R.86

Topography: Level field

Cultivation: Wheat field

Vegetation: Centaurea sp., shôk, Bellevalia sp.

Surface: Weak surface slaking and moderate minor cracking

0-20 cm	10 YR 6/4 SiL-SiCL Moist, soft, structureless, friable, no visible salts.
20-55 cm	7.5 YR 5/4 SiCL Moist, soft, structureless to 30 cm over just moist, fairly hard weak medium subang. blocky, fairly hard consistence, porous and absorbs water fairly quickly apart from a few hard lumps. Carbonate abundant.
55-120 cm	10 YR 5/3 SiCL Moist, fairly soft, weak vertical cracking (irregular) and medium - fine ang. blocky, many visible pores, fairly hard consistence, but absorbs water very readily. Carbonate common to 70 cm - absent below.
120-210 cm	10 YR 5/3 SiCL-SiC Moist, hard, fairly strong vertical cracking and weak medium subang. blocky. Few visible pores and does not absorb water very readily. No visible salts.
210-255 cm	10 YR 5/3 SiCL As 20-55 cm - but no visible salts.
255-290 cm	10 YR 5/3 FSSiL As 0-20 cm.
290-360 cm	10 YR 5/3 SL As 0-20 cm but gypsum appearing.
360-390 cm	10 YR 5/3 FSSiL As 290-360 cm but much gypsum.
390-430 cm	10 YR 5/3 L Moist, hard,massive, gypsum cement, absorbs water readily. Abundant gypsum.
430-500 cm max.	7.5 YR 5/4 SiCL As 390-430 cm but carbonate common.

5 metre bore in 2metre pit — Date 15.2.58

Soil Class: Di - Ma — Land classification:

See also laboratory analyses for samples 19003-19010

Site No. R.87

Topography: Level field

Cultivation: Fallow

Vegetation: Shôk, Centaurea sp., Iris sisyrinchium, agul, Gladiolus sp., Tulip sp., Bellevalia sp., Crocus sp.

Surface: Fairly well slaked surface, fairly well developed minor surface cracking.

0-5 cm	10 YR 4/3 SiL Moist, soft, markedly finely laminated, friable, many visible pores, no visible salts.
5-22 cm	10 YR 6/4 SiL-SiCL Moist, fairly soft, structureless, fairly friable, a few visible pores, absorbs water readily. Many roots, no visible salts.
22-136 cm	7.5 YR 5/3 SiCL Moist and fairly soft, becoming moist and hard below 55 cm, marked coarse vertical cracking and coarse ang. blocky, hard consistence but some visible pores to 50 cm, and absorbs water fairly readily to this depth - but not below as few pores. Occasional roots to 80 cm. Carbonate concretions abundant to 55 cm and present 100 cm.
136-285 cm	7.5 YR 6/3 SiC Moist, hard, moderately well developed fine - medium, vertical cracking and fine - medium ang. blocky, hard consistence, does not absorb water readily, gypsum present, common below 200 cm. No visible roots or pores. Black mottling occurs below 210 cm.
285-325 cm	10 YR 5/3 SiCL Patchy mixture approaching SiL in centre. As 5-22 cm but gypsum present.
325-400 cm	7.5 YR 6/3 SiC As 136-285 cm but becomes fairly friable and softer below 380 cm.
400-480 cm	10 YR 5/3 SiCL Moist, soft, structureless, friable, gypsum very common.
480-500 cm max.	10 YR 5/3 L As 400-480 cm.

5 metre bore in 2 metre pit
Soil Class: Ki - Di

Date 16.2.58
Land classification:

See also laboratory analyses for samples 19011-19019

Site No. R.88

Topography:	Level field
Cultivation:	Wheat field - dying through lack of water. Poor germination too.
Vegetation:	Centaurea sp.
Surface:	Marked slaking. Moderate well developed minor surface cracking
0-13 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, no visible salts. Roots present.
13-28 cm	10 YR 5/4 SiL-SiCL As 0-13 cm.
28-66 cm	10 YR 5/4 SiCL - rather variable. Moist, fairly soft, weak fine vertical cracking and fine ang. blocky with patchy fine laminations and banding. Fairly hard consistence but absorbs water readily. Many visible pores. Carbonate common to 45 cm - absent below.
66-115 cm	10 YR 5/4 SiC Moist, hard, strong medium fine vertical cracking, hard consistence, does not absorb water readily, no visible salts.
115-205 cm	10 YR 5/4 SiCL-SiL Moist, fairly soft, structureless, fairly friable consistence, absorbs water readily, gypsum present throughout.
205-320 cm	10 YR 5/4 SL As 0-13 cm but gypsum present.
320-340 cm	10 YR 5/4 SiCL As 115-205 cm.
340-380 cm	10 YR 5/4 L As 205-320 cm but red and black mottling and SiCL nodules in SL matrix.
380-500 cm max.	10 YR 5/4 SiC-SiCL As 66-115 cm but gypsum present.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 16.2.58
Land classification:

See also laboratory analyses for samples 19020-19028

Site No. R.89

Topography:	Level field near slope to terrace of nearby Chai
Cultivation:	Barley field
Vegetation:	Shôk, Centaurea sp., Artemisia campestris, Bellevalia sp., Crocus sp.
Surface:	Only slight slaking and negligible cracking
0-27 cm	10 YR 4/3 SiL-L Dry becoming moist below 10 cm, soft, structureless, friable, no visible salts. Tendency to "aero-structure" in top 10 cm.
27-60 cm	10 YR 4/3 SiCL-SiL Fairly dry, and fairly hard, very weak irregular vertical cracking and medium - fine ang. blocky, fairly soft consistence, absorbing water fairly quickly. Carbonate concretions common. Some roots.
60-325 cm	10 YR 4/3 L Mixture of SiCL fragments (usually rounded) with L-SL matrix. Moist, fairly hard, structureless, fairly hard consistence absorbing water fairly slowly. Carbonate flecks, continues to 80 cm (fairly common) and then ceases abruptly. Shôk roots present. Some visible pores. Hackly fracture due to heterogeneity. Carbonate concretions reappear at 150 cm - common below. Gypsum appears at 250 cm, becoming fairly common. Visible salts cease at 290 cm and whole becomes more sandy.
325-400 cm	10 YR 5/3 FSL As 0-27 cm but no "aero-structure".
400-430 cm	10 YR 5/3 S As 325-400 cm.
430-500 cm max.	10 YR 5/3 SL As 325-400 cm.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 16.2.58
Land classification:

See also laboratory analyses for samples 18029-19036

Site No. R.90

Topography:	Slight slope to gully
Cultivation:	Barley field
Vegetation:	Shôk, Bellevalia sp.
Surface:	Marked coarse and irrigation cracking. Marked slaking.
0-17 cm	10 YR 4/3 SL Moist, soft, structureless, friable, no visible salts but roots present.
17-63 cm	7.5 YR 4/4 SiCL Moist, and fairly hard, becoming harder downwards, weak medium subang. blocky, fairly hard consistence but absorbs water fairly readily to 40 cm. Carbonate concs present becoming common below 35 cm. Some roots present.
63-84	7.5 YR 4/4 SiC Moist, hard, strong fine vertical cracking and medium ang. blocky structure, hard consistence - does not absorb water readily, few pores, carbonate abundant. Roots present.
84-100 cm	7.5 YR 4/4 SL Moist, soft, structureless, fairly friable, carbonate persisting to 90 cm.
100-210 cm	7.5 YR 5/4 SiCL As 17-63 cm but no carbonate; absorbs water fairly readily. Mixture of SiL and SiC. Carbonate common from 140-210 cm after which it is replaced by traces of gypsum.
210-260 cm	10 YR 5/3 L As 0-15 cm but gypsum present.
260-280 cm	7.5 YR 5/4 SiCL-SiC As 64-84 cm but gypsum instead of carbonate.
280-320 cm	7.5 YR 4/4 Pebbly SL As 84-100 cm but no carbonate but many pebbles up to 1 in. diameter.
320-400 cm	2.5 Y 4/4 Pebbly S Moist, soft, free running medium sand with pebbles uo to 3/8 in. diameter present, ceasing below 350 cm.
400-470 cm	7.5 YR 4/4 Pebbly SL As 280-300 cm.
470-500 cm max.	7.5 YR 4/4 Pebbly L Moist, hard, structureless, fairly hard consistence, gypsum present, absorbs water slowly.

5 metre bore in 2 metre pit — Date 18.2.58
Soil Class: Ki-Ma — Land classification:

See also laboratory analyses for samples 19037-19045

Site No. 91

Topography:	Level irrigated field
Cultivation:	Wheat field - good stand
Vegetation:	Centaurea sp., Bellevalia sp., shôk, Leontice leontopetalum, agul
Surface:	Marked irrigation and coarse surface cracking
0-30 cm	7.5 YR 5/4 SiCL-SiL Wet, soft, tendency to fine laminations, some visible pores, absorbs water fairly quickly. No visible salts but many roots.
30-123 cm	7.5 YR 5/4 SiC-SiCL Wet, fairly soft, structureless but patchy weak laminations, firm - friable consistence, absorbs water fairly slowly. Carbonate abundant to 95 cm. Absent below. Roots common. Sheards and charcoal occur locally at 120 cm.
123-145 cm	7.5 YR 5/4 SiC Moist, hard, strong medium - fine vertical cracks and medium coarse angular blocky, hard consistency, absorbs water extremely slowly, roots present but no visible salts, and few discernable pores. Scattered sheards throughout.
145-205 cm	7.5 YR 5/4 SiC-SiCL As 123-145 cm - sheards present throughout.
205-300 cm	10 YR 5/4 SiL Moist, soft, structureless, friable, no visible salts. A few scattered sheards and stones.
300-330 cm	10 YR 5/4 SiCL Intermediate to:
330-450 cm max.	7.5 YR 5/4 SiC Moist, fairly soft, structureless, fairly friable, gypsum appears at 400 cm. Scattered sheards and stones to depth. Stopped by gravel (?) and another bore was stopped at 300 cm by stones.

4.5 metre bore in 2 metre pit
Soil Class: Di-Ma

Date: 18.2.58
Land classification:

See also laboratory analyses for samples 19046-19052

Site No. R.92

Topography:	Slight slope from Tauq Chai
Cultivation:	Fallow
Vegetation:	Centaurea sp., shôk, Malva parviflora, agul, Bellevalia sp.
Surface:	Weak minor surface cracking and some coarse cracking
0-15 cm	10 YR 4/3 SiL-SiCL Moist, fairly soft, structureless, fairly friable, no visible salts but many roots.
15-32 cm	10 YR 5/3 SiCL Moist, fairly soft, weak medium - coarse ang. blocky and vertical cracking, fairly dense, fairly friable, absorbs water fairly readily. Some visible pores and roots.
32-134 cm	7.5 YR 5/4 SiC Moist, hard, strong, coarse vertical cracking to 127 cm, cracks up to 3/8" wide, hard consistence, very dense, virtually no visible pores but occasional roots, absorbs water only slowly, gypsum present as traces from 55 cm. Land snail found at about 95 cm.
134-158 cm	10 YR 5/3 SiCL Mixture of SiL and SiC but not much less dense than 32-134 cm.
158-305 cm	7.5 YR 5/4 SiC As 32-134 cm but carbonate common to 170 cm and then ceases while gypsum fairly common throughout.
305-370 cm	7.5 YR 5/4 SiCL As 134-158 cm but gypsum fairly common.
370-460 cm	7.5 YR 5/4 SiC As 32-134 cm but carbonate concretions replace gypsum below 380 cm.
460-500 cm max.	10 YR 5/4 SiCL As 134-154 cm but carbonate in place of gypsum

5 metre bore in 2 metre pit
Soil Class: Ma

Date 19.2.58
Land classification:

See also laboratory analyses for samples 19053-19061

Site No. R.93

Topography: Level field

Cultivation: Wheat - but very dry

Vegetation: Shôk, Tulipa sp., Bellevalia sp., Centaurea sp., Iris sisyrinchium

Surface: Well developed minor surface cracking, marked slaking

0-16 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, many visible pores and roots. No visible salts.
16-30 cm	10 YR 4/3 SiL-SiCL Moist, fairly soft, structureless, fairly friable consistence, fairly dense but absorbs water fairly readily. Some roots, few visible pores, no visible salts.
30-70 cm	7.5 YR 5/4 SiCL Moist, hard, weak coarse ang. blocky, carbonate concretions common, hard consistence and does not absorb water readily. Few visible pores or roots.
70-123 cm	7.5 YR 5/4 SiCL Moist, fairly hard, moderately well developed fine - medium ang. blocky, fairly hard consistence but absorbs water readily, many visible pores and some roots present. Carbonate very common.
123-325 cm	7.5 YR 5/4 SiC Moist, hard, moderately well developed fine vertical cracking and weak fine subang. blocky, hard consistence, does not absorb water readily, dense, carbonate concretions very common to 260 cm. No roots, few visible pores.
325-410 cm	10 YR 5/3 SiCL As 70-123 cm but only traces of carbonate
410-450 cm	10 YR 5/3 FSSiL As 0-16 cm.
450-475 cm	2.5 Y 4/4 S Moist soft free running sand - no visible salts.
475-500 cm max.	7.5 YR 5/4 SiCL As 123-325 cm but no carbonate

5 metre bore in 2 metre pit — Date 19.2.58

Soil Class: Ma — Land classification:

See also laboratory analyses for samples 19062-19069

Site No. R.94

Topography:	Slight slope from canal to gully
Cultivation:	Fallow
Vegetation:	Shôk, Centaurea sp., grasses, Bellevalia sp., agul
Surface:	Irrigation cracking showing up by lines of vegetation. Almost complete slaking
0-20 cm	10 YR 4/3 SiL Moist, soft, structureless, friable, many visible pores and roots,no visible salts
20-55 cm	10 - 7.5 YR 4/3 - 5/4 SiCL-SiL Moist, fairly hard, weak - medium ang. blocky, fairly hard consistence but many visible pores and absorbs water readily, carbonate concs appear at 28 cm, being common below 35 cm.
55-95 cm	7.5 YR 5/4 SiC Moist, hard, structureless apart from weak irregular vertical cracking and weak fine subang. blocky, fairly hard consistence - does not absorb water very readily. Fairly dense, few visible pores. Carbonate common to 80 cm - absent below.
95-165 cm	10 YR 5/3 SiCL Mixture of SiL and SiC - very patchy - SiL as 0-20 cm - after laminated, with SiC as 20-55 cm - sometimes as nodules similar to 55-95 cm. No visible salts.
165-190 cm	7.5 YR 5/4 SiC As 55-95 cm but structureless and gypsum crystals in place of carbonate concretions.
190-260 cm	10 YR 5/3 SiL As 0-20 cm.
260-280 cm	10 YR 5/3 SiCL Intermediate to:
280-500 cm	7.5 YR 5/4 SiC As 55-95 cm but some gypsum present - no carbonate. max.

5 metre bore in 2 metre pit
Soil Class: Ki

Date 20.2.58
Land classification 2sd

See also laboratory analyses for samples 19070-19078

Site No. R.95

Topography:	Level field near gully
Cultivation:	Barley - good germination (irrigated)
Vegetation:	Artemisia campestris, shôk, Centaurea sp.
Surface:	Neglibible slaking or cracking
0-17 cm	10 YR 4/3 SiL Moist, soft, structureless, friable consistence, no visible salts, very porous and many roots.
17-88 cm	10 YR 4/3 SL Moist, fairly soft, structureless, friable, carbonate fairly common from 25-62 cm but not elsewhere.
88-140 cm	10 YR 4/3 SiCL Moist, fairly hard, structureless, hard consistence, absorbs water slowly. Dense, no visible salts.
140-220 cm	7.5 YR 4-5/4 SiL Moist, fairly soft, well developed fine subang. blocky, fairly friable consistence, carbonate concretions abundant.
220-310 cm	10 YR 5/3 FSSiL As 0-17 cm.
310-330 cm	10 YR 5/3 SiL-SiCL As 0-17 cm.
330-360 cm	10 YR 5/3 SiL As 0-17 cm.
360-380 cm	10 YR 5/3 SL As 0-17 cm but occasional SiCL nodules.
380-410 cm	10 YR 5/3 S As 0-17 cm Almost a free running S
410-500 cm max.	7.5 YR 5/4 SL As 25-62 cm.

5 metre bore in 2 metre pit Date 20.2.58

Soil Class: Ki Land classification:

See also laboratory analyses for samples 19079-19087

Site No. R.96

Topography: Slight slope to old valley

Cultivation: Fresh plough

Vegetation: Shôk, Bellevalia sp., Artemisia campestris, Iris sisyrinchium, Centaurea sp., Scorpiurus sulcata, Achillea sp., Alhagi maurorum

0-26 cm	10 YR 4-5/3 SiL Moist, soft, structureless, fairly friable, no visible salts. Many roots visible.
26-70 cm	10 YR 4-5/3 SiCL As 0-26 cm but carbonate flecking common at top, dying out with depth (ceases at 55 cm).
70-108 cm	7.5 YR 4/4 SiC Moist, hard, moderately well developed fine vertical cracking and medium - fine ang. blocky. Hard consistence, very dense, a few carbonate concretions, no visible pores, absorbs water only very slowly. Only shôk roots present.
108-134 cm	7.5 YR 4/4 SiC As 70-108 cm but full of gypsum crystals.
134-175 cm max.	10 YR 5/3 SiCL Mixture of SiL As 0-26 cm and SiC as 108-134 cm. Abundant gypsum.

1.7 metre bore in 2 metre pit
Soil Class: Ad

Date 22.2.58
Land classification:

See also laboratory analyses for samples 19088-19092

Site No. R.97

Topography:	Level field above Kirkuk Chai flood plain
Cultivation:	Nil
Vegetation:	Artemisia campestris, agul, Bellevalia sp., shôk, Tulipa sp., good grass, Centaurea sp.
Surface:	Negligible surface cracking and flaking
0-35 cm	10 YR 5-4/3 SL Moist, soft, structureless, friable, no visible salts.
35-75 cm	10 YR 5/3 L Moist, fairly soft, structureless, firm consistence, no visible salts.
75-190 cm	10 YR 5/3 SiL As 0-35 cm.
190-290 cm	10 YR 5/3 SL As 0-35 cm, but pebbles appearing below 260 cm.
290 cm max.	Gravel

2.9 metre bore in 2 metre pit
Soil Class: Di-Ki

Date 23.2.58
Land classification:

See also laboratory analyses for samples 19704-19708

Site No. R.98

Topography: Level field

Cultivation: Fallow

Vegetation: Grasses, shôk, a few annuals, Crocus sp., Iris sp.

Surface: Moderately well developed minor surface cracking. Marked slaking. Negligible flaking.

0-26 cm	10 YR 4/3 SiL Moist, soft, marked fine laminated to 5 cm over mod. well developed med. - fine ang. - subang. blocky friable consistence, many visible pores, traces of gypsum from 10 cm.
26-76 cm	10 YR 4/3 SiC Moist, very hard, strong medium vertical cracking, hard consistence, dense, does not absorb water readily, traces of gypsum present.
76-127 cm	10 YR 4/2 SiCL Moist, fairly hard, structureless, rather mixed material SiC + SL - with SiC dominant, abundant gypsum. SiC has hard consistence and does not absorb water readily. It often forms layers of nodules and fragments while SL is as 0-26 cm but plenty of gypsum crystals.
127-135 cm	10 YR 3/3 SL Moist, soft, structureless, friable, gypsum present.
135-190 cm max.	10 YR 4/3 SiCL As 76-127 cm but somewhat less gypsum and more SiC.

1.9 metre bore in 2 metre pit
Soil Class: Ad

Date 24.2.58
Land classification:

See also laboratory analyses for samples 19709-19712

Site No. R.99

Topography:	Slight S slope
Cultivation:	Nil - grassland
Vegetation:	Good grass cover, occasional shôk, Centaurea sp.
Surface:	Weak minor surface cracking, no flaking

0-19 cm	10 YR 6/4 SiL Dry, fairly soft, strong fine laminated and medium coarse ang. blocky held together by roots, friable, absorbs water readily apart from occasional lumps. No visible salts.
19-92 cm	10 YR 4/3 SiCL Just moist, fairly hard, moderately well developed medium - fine ang. - subang. blocky, very porous, absorbs water readily but fairly hard consistence. Carbonate common to 44 cm, then absent. Traces of gypsum occur below 57 cm. Roots common to 26 cm.
92-114 cm	10 YR 5/3 SiL Just moist, fairly hard, structureless, porous, fairly hard consistence but absorbs water readily. No visible salts.
114-250 cm	10 YR 5/3 SiCL Mixture of SiC and SiL - patchy
250-310 cm	10 YR 5/3 SL Moist, soft, structureless, friable, no visible salts.
310-340 cm	10 YR 5/3 SiCL As 92-114 cm but gypsum fairly common.
340-370 cm	10 YR 5/3 SL As 250-310 cm but gypsum present.
370-500 cm max.	10 YR 5/3 SiL-(SiCL) As 340-370 cm.

5 metre bore in 2 metre pit
Soil Class: Di

Date 24.2.58
Land classification:

See also laboratory analyses for samples 19713-19721

Site No. R.100

Topography: Level field at bottom of old valley

Cultivation: "Felhan"

Vegetation: Shôk, Bellevalia sp.

Surface: Negligible slaking

0-15 cm	10 YR 3/2 SiCL Dry, hard, structureless, hard consistence, absorbs water only slowly, no visible salts. Tendency to aero-structure. Roots present.
15-53 cm	10 YR 4/3 SiC Moist, hard, strong medium - fine vertical cracking otherwise as 0-15 cm.
53-125 cm	10 YR 4/3 SiCL Moist, hard, weak fine ang. - subang. blocky, hard consistence, does not absorb water very quickly. Some visible pores. Carbonate present throughout, while gypsum is present below 100 cm. Land snail shells present between 82 and 92 cm, a sheard occurs at 73 cm, and shôk roots are present.
125-200 cm	10 YR 4/3 SiCL-L As 53-125 cm but softer, more porous, and some SL present. Traces of carbonate present to 140 cm, also traces of gypsum throughout.
200-240 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, no visible salts.
240-265 cm	10 YR 4/3 SiCL As 125-200 cm but no visible salts.
265-285 cm	10 YR 5/3 SL As 200-240 cm.
285-300 cm	10 YR 5/3 L As 125-200 cm.
300-430 cm	10 YR 5/3 SiC Very moist, hard, structureless, hard - firm consistence, no visible salts but red, black and blue mottling present.
430-450 cm	10 YR 5/3 SiCL As 300-430 cm but friable consistence.
450-480 cm	10 YR 5/3 FSSiL As 200-240 cm but mottling present as 300-430 cm.
480-510 cm max.	10 YR 5/3 L As 450-480 cm.

5 metre bore in 2 metre pit
Soil Class:Ma

Date 25.2.58
Land classification:

See also laboratory analyses for samples 19722-19728

Site No.R.101

Topography:	Level field
Cultivation:	Fallow
Vegetation:	Good grass, Crocus sp., Bellevalia sp., Tulipa sp.
Surface:	Marked slaking, weak - moderate patchy minor surface cracking and flaking
0-15 cm	10 YR 4/3 L Dry, fairly hard, well developed medium - fine laminations (2 cm), over well developed medium ang. blocky fairly hard consistence but absorbs water readily, no visible salts. Many visible pores.
15-76 cm	10 YR 4/3 SiCL Dry, hard, weak irregular vertical cracks and fine subang. blocky, consists of SiL matrix and SiC rounded fragments, fairly hard consistence, but absorbs water fairly readily. Carbonate common from 35-52 cm, and present below.
76-140 cm	7.5 YR 5/4 SiC Moist,hard, marked fine vertical cracking, dense, absorbs water only slowly, very hard consistence, occasional carbonate flecks. Sheards and charcoal present.
140-230 cm	7.5/10 YR 5/4 SiC As 15-76 cm but moist and only occasional carbonate flecks.
230-280 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, no visible salts.
280-345 cm	10 YR 5/3 SL As 230-280 cm.
345-390 cm	7.5/10 YR 5/4 SiCL Patchy mixture of SiL and SiC (as 230-280 cm and 140-230 cm respectively).
390-400 cm	10 YR 5/3 SL As 230-280 cm.
400-435 cm	7.5 YR 5/4 SiC As 140-230 cm - but gypsum present.
435-470 cm	2.5 Y 4/4 S Moist, soft free running sand and no visible salts.
470-500 cm max.	7.5 YR 5/4 SiC-SiCL As 400-435 cm.

5 metre bore in 2 metre pit — Date 25.2.58
Soil Class: Ki — Land classification:

See also laboratory analyses for samples 19729-19735

Site No. R.102

Topography: Level field

Cultivation: Fallow

Vegetation: Crocus sp., Iris sisyrinchium, shôk, Centaurea sp.

Surface: Moderately well developed minor and coarse surface cracking and slaking. Negligible flaking.

0-32 cm	10 YR 4/3 SiCL Dry and fairly hard, strong medium - fine laminations to 5 cm over structureless, apart from occasional vertical cracks (3/8" wide at top) to 90 cm. Many visible pores, hard consistence but absorbs water fairly readily. Carbonate common from 18 cm.
32-94 cm	10 YR 4/3 SiC Moist, hard, well developed minor vertical cracks and medium ang. blocky; tendency to laminated below 68 cm, hard consistence, dense, does not absorb water readily, carbonate present to 86 cm also a few visible pores and roots.
94-240 cm	10/7.5 YR 5/4 SiC-SiCL Moist, hard, weak to moderately well developed medium - fine ang. - subang. blocky, hard consistence, does not absorb water readily. Gypsum present becoming common below 120 cm - but may not be enough to be a limiting factor.
240-320 cm	10 YR 5/3 FSSiL Moist, soft, structureless, friable consistence, trace of gypsum.
320-410 cm	7.5 YR 5/4 SiC As 94-240 cm, but gypsum dies out below 410 cm.
410-465 cm	10 YR 5/3 L Very moist, fairly soft, structureless, fairly firm consistence. Gypsum present as crystals.
465-500 cm	10 YR 5/3 SL As 240-320 cm.

max.

5 metre bore in 2 metre pit — Date 25.2.58

Soil Class: Ki (almost Ma) — Land classification:

See also laboratory analyses for samples 19736-19743

Site No. R.103

Topography: Virtually level, at foot of slight slope from north.

Cultivation: Wheat field

Vegetation: Centaurea sp., shôk, Iris sisyrinchium, Tulipa sp., Bellevalia sp.

Surface: Well developed minor surface cracking. Tendency to curl in furrows. Weak - moderate slaking.

0-18 cm	10 YR 4/3 SiL Dry, fairly hard, well developed medium - ang. - subang. blocky, fairly friable consistence, aero structure - absorbs water readily. Many visible roots, no visible salts.
18-220 cm	10 YR 4/3 SiCL Moist, hard, strong vertical cracking to 170 cm, hard consistence, does not absorb water readily, carbonate fairly common to 85 cm and below 140 cm - traces in between.
220-320 cm	10 YR 5/3 SiCL Moist, fairly hard, structureless, fairly friable consistence, gypsum present.
320-340 cm	10 YR 5/3 L As 220-320 cm but soft, and gypsum common.
340-400 cm	10 YR 5/3 SL Moist, soft, structureless, friable, gypsum very common.
400-450 cm	10 YR 5/3 SiL-L As 340-400 cm - gypsum abundant making it difficult to texture properly.
450-500 cm max.	10 YR 5/3 SiCL-SiL As 340-400 cm.

5 metre bore in 2 metre pit
Soil Class: Ma

Date: 26.2.58
Land classification:

See also laboratory analyses for samples 19744-19750

Site No. R.104

Topography:	Level area of normal gilgai
Cultivation:	Nil
Vegetation:	Grasses (good cover), shŏk, Tulipa sp.
Surface:	Scattered sink holes. Some coarse surface cracks ¾" wide and marked minor surface cracking on puff
0-16 cm	10 YR 4/3 SiL Dry and fairly hard, well developed fine laminated for 3 cm, over well developed medium ang. - subang. blocky structure, hard consistence and does not absorb water readily, many roots, no visible salts, few visible pores
16-60 cm	10 YR 5/3 SiCL Just moist, fairly soft, fairly well developed medium - fine ang. blocky, absorbs water fairly readily, carbonate concretions common from 25 cm. Roots common in top layer.
60-78 cm	10 YR 5/3 L As 16-60 cm but absorbs water only slowly, and is somewhat harder. Carbonate present.
78-135 cm	10 YR 5/3 SiL Moist, fairly hard, structureless, fairly hard consistence, absorbs water only slowly, carbonate present only between 90 and 100 cm.
135-155 cm	10 YR 5/3 L As 78-135 cm but mixture of finely laminated S and SiL with SiCL
155-200 cm	10 YR 5/3 SiC Moist, hard, structureless, very hard consistence, gypsum present.
200-280 cm	10 YR 5/3 FSSiL Moist, soft, structureless, friable, no visible salts.
280-295 cm	2.5 Y 4/4 S As 200-280 cm.
295-470 cm	10 YR 5/3 SiCL Moist, fairly soft, structureless, fairly friable, variable mixture of SiL and SiC. No visible salts.
470-510 cm max.	10 YR 5/3 SiC Moist, fairly hard, structureless, firm consistence, carbonate present.

5 metre bore in 2 metre pit
Soil Class: G

Date 26.2.58
Land classification:

See also laboratory analyses for samples 19751-19759

Site No. R.105

Topography:	Level field (irrigated from Tauq Chai). Scattered round gilgai. Pit corner in sink hole.
Cultivation:	Fallow
Vegetation:	Tulipa sp., Crocus sp., Bellevalia sp., shôk, Centaurea sp., Iris sisyrinchium
Surface:	Sink holes 15" deep. Marked minor surface cracking and weak coarse cracking. Traces of flaking, almost complete slaking.
0-68 cm	10 YR 4/3 SiC Very moist, soft, structureless, fairly friable, no visible salts (N.B. this layer is absent outside shelf and sink hole area).
68-90 cm	10 YR 5/3 SiC Just moist, very hard, strong medium vertical cracking to 80 cm, hard consistence, hardly absorbs water at all, no visible salts, extremely dense. (Forms surface horizon outside shelf - sink hole area).
90-260 cm	10 YR 5/3 SiC As 68-90 cm but fairly massive, hackly fracture and gypsum common as crystals in veins - percentage uncertain.
260-370 cm	10 YR 5/3 SiL Moist, soft, structureless, friable, gypsum present.
370-400 cm	10 YR 5/3 SiCL As 260-370 cm.
400-500 cm max.	10 YR 5/3 SiC-SiCL Moist, fairly hard, structureless, fairly firm consistence, gypsum very common. Does not absorb water readily.

5 metre bore in 2 metre pit
Soil Class (Ad ?) - G

Date 26.2.58
Land classification:

See also laboratory analyses for samples 19765-19771

Site No. R.106

Topography:	Level field with scattered round gilgai. Hole in intervening area.
Cultivation:	Wheat but poor germination
Vegetation:	Tulipa sp., shôk, Bellevalia sp., Iris sisyrinchium, Centaurea sp. Crocus sp.
Surface:	Weak slaking
0-20 cm	10 YR 4/3 SiCL Dry, fairly hard, tendency to laminated, fairly hard - fairly friable consistence but does not absorb water very readily. No visible salts. Roots present.
20-80 cm	10 YR 4/3 SiC Moist, hard, fairly well developed medium vertical cracking, hard consistence, very dense, absorbs water extremely slowly, carbonate concretions present, few visible roots or pores. Angular fracture.
80-175 cm	10 YR 5/3 SiC Moist, hard, massive, hackly fracture, hard consistence, dense only shôk roots, gypsum very common in veins and descrete crystals; traces of carbonate also present (? Limiting gypsum)
175-185 cm max.	Gypsum bed of L.Fars

1.8 metre bore in 2 metre pit
Soil Class: G

Date 26.2.58
Land classification:

See also laboratory analyses for samples 19760-19764

Site No. R.107

Topography:	Slight slope from old canal to gilgai, halfway down slope, scattered gilgai (round and depression forms)
Cultivation:	Nil
Vegetation:	Cousinia sp., Artemisia campestris, Iris sisyrinchium, Crocus sp. shôk, Tulipa sp., good grass cover
Surface:	Marked coarse surface cracking (1" wide in places) and moderate well developed minor surface cracking.
0-20 cm	7.5 YR 4/3 SiCL-SiL Dry and hard, moderate well developed medium - fine prismatic structure, hard consistence, no visible salts, absorbs water fairly quickly, many roots.
20-80 cm	7.5 YR 4/3 SiC Moist, hard, moderately well developed fine - medium vertical cracking (prismatic) dense, hard consistence, absorbs water hardly at all, few roots or visible pores. Carbonate concretions present to 50 cm only.
80-300 cm	7.5 YR 4/3 SiCL Mixture of SiL and SiCL. Moist, fairly hard, vertical cracking continues to 100 cm - structureless below, fairly dense, hard consistence, absorbing water only slowly. Gypsum appears at 100 cm being common below 120 cm.
300-360 cm	10 YR 5/4 SiL-SiCL Moist, soft, structureless, friable, no visible salts.
360-375 cm	10 YR 5/3 SL As 300-360 cm.
375-400 cm	10 YR 5/3 SiCL-SiL As 300-360 cm.
400-440 cm	10 YR 6/4 S-SL As 300-360 cm.
440-470 cm	10 YR 5/3 SiCL As 375-400 cm but very moist.
470-485 cm	10 YR 5/3 SiL Wet, otherwise as 300-360 cm.
485-500 cm max.	10 YR 5/3 SiCL As 375-400 cm but wet.

5 metre bore in 2 metre pit — Date 27.2.58
Soil Class: G — Land classification:

See also laboratory analyses for samples 19772-19778