SOIL REPORT

People vs Dompe Bros. et al, Merced County
SCC No. 32544
E. ½ Section 21 and W. ½ Section 27, T8S, R8E, MDB+M

By Rodney J. Arkley, Ph. D.
Soil Morphologist

The Soil Survey of the Los Banos Area, California (USDA Series 1939, No. 12, Jan. 1952) indicated that nearly all of the E. ½ of Section 21 and about 85 percent of the w. ½ of Section 27 consisted of Rincon Clay with a Storie Index Rating of 51. The remaining 15 percent of the W. ½ of section 27 consisted of Kettleman and Altamont soils in the hilly portion of the southwest corner of the parcel and about 8 acres of Sorrento loam. The weighted average Storie Index Rating for both parcels was 51. (See table 1 for details of estimated acreages and ratings.)

Two days were devoted to field work on the property, in which time 32 sites were examined, using a shovel and soil auger 64" in length. Borings were made to the full depth of the auger or until it was clear that all limiting subsoil layers had been observed and the material below could be expected to continue to considerable depth, based on observations of the banks of the canal cuts. Although the number of observations was limited by the time, the nature of the alluvial fan deposition made it possible to determine the nature of the soil pattern from these observations.

It was found that in the W. ½ of section 27, the area described as Rincon clay in the Los Banos Soil Survey, was actually made up of about 220 acres (estimated by grid measurement of map (Plate 1)) of Sorrento clay loam and 54 acres of Rincon clay loam with Ratings of 86 and 72 respectively. As a result of this change, the overall weighted average rating of this parcel appears to be 79, rather than 51. The difference appears to be due to alluvial fan deposition from Mustang Creek, which was not observed by those making the Los Banos Soil Survey.

The E. ½ of Section 21 was likewise modified by a small creek which traversed this parcel. A narrow band of Sorrento loam rating 100 percent crosses the parcel from the mouth of the canyon on the west toward the southeast corner of the parcel. Also a former channel appears to have deposited material further north giving rise to an area of Mocho loam, also rating 100. The remainder of the area is nearly all Rincon clay loam rating 72. The weighted average Storie Index for this half section is therefore 84.

Both parcels contain soils which, except for the Rincon soil and the hilly areas of Kettleman and Altamont soils, are adapted to a wide range of crops including orchard, field and specialty crops such as alfalfa seed. The area is also favored by its position high on the alluvial fans, because good air drainage can be expected to reduce the frost hazard in such a position.

The hilly area in the southwest corner of Sec. 27 has been levelled in part, which would normally increase the rating for these areas. However, due to the fact that the cuts have exposed sedimentary rock material which is of rather low value, even where leveled, I was no reason for increasing these ratings.

The acreage estimates given in Table 1 are based upon an assumed 320 acres per $\frac{1}{2}$ section, since accurate acreage values were not furnished to me. Engineering survey data might improve the acreage estimates somewhat, but it is unlikely that they would change the weighted average parcel ratings more than a fraction of 1 point.

BRIEF SOIL DESCRIPTIONS

Altamont loam, rolling. This soil occurs in small spots on the west edge of both of the two $\frac{1}{2}$ sections. The surface soil is dark brown loam which is friable and easily workable about 18 inches thick. It grades into soft sandstone containing some lime. It occurs on slopes of about 10 to 20 percent, and is used mainly for dryfarmed grain and range in California.

Mocho loam. This soil occurs in the northern part of section 21. It is calcareous throughout with lime concentrations on the surface in places. The surface soil is brown, very friable loam, easy to work. The subsoil is permeable, light yellowish brown and high in lime, and the material below is calcareous alluvium with some fine gravel.

Kettleman silty clay loam, hilly. This soil occurs on the hilly area in the southwest corner of section 27. It has a light greyish brown surface with some gravel in spots. The subsoil is highly calcareous light clay loam resting on shale or sandstone at a depth of about 24 inches except in eroded spots. On the hill tops, erosion has removed the soil and exposed spots of soft sandstone or shale. It is used for range and little grain.

Kettleman silty clay loam, undulating. This soil was indicated on the Los Banos soil survey in one small spot in the southern part of the W. $\frac{1}{2}$ of section 27, but was completely taken up by the canal excavation and banks and was not observed. However, there is no reason to believe that the soil was not as indicated on the Los Banos Soil Survey.

Rincon clay loam. This soil occurs in the northwest corner of section 27 and the southern part of section 21. It consists of about 12 to 15 inches of clay loam which is firm when moist and puddles easily when worked moist. The subsoil to a depth of about three feet is a clay which is slightly calcareous, dries to a hard blocky structure and is slowly permeable to water and roots. The material below is clay loam which is slightly calcareous alluvium, stratified with sandier material in places. The subsoil restricts root and water penetration somewhat, and although many crops can be grown, the yields are somewhat limited and irrigation must be applied with great care.

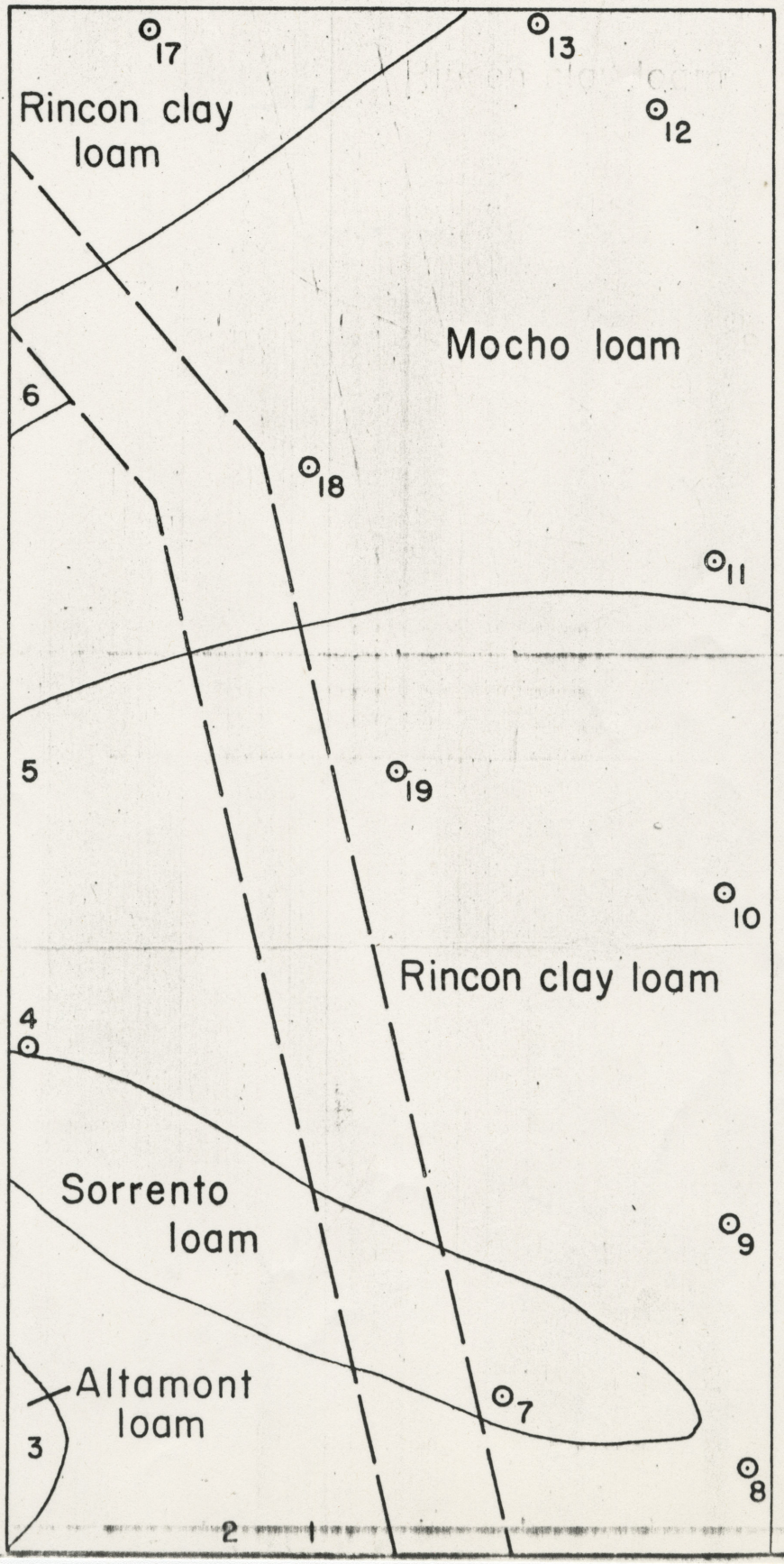
Sorrento loam. This soil consists of greyish brown loam friable, and easily workable to a depth of 1 to 2 feet. The subsoil is only slightly finer texture and is readily permeable to roots and water. It is underlain by permeable, slightly stratified alluvium. This is an excellent soil for a variety of crops.

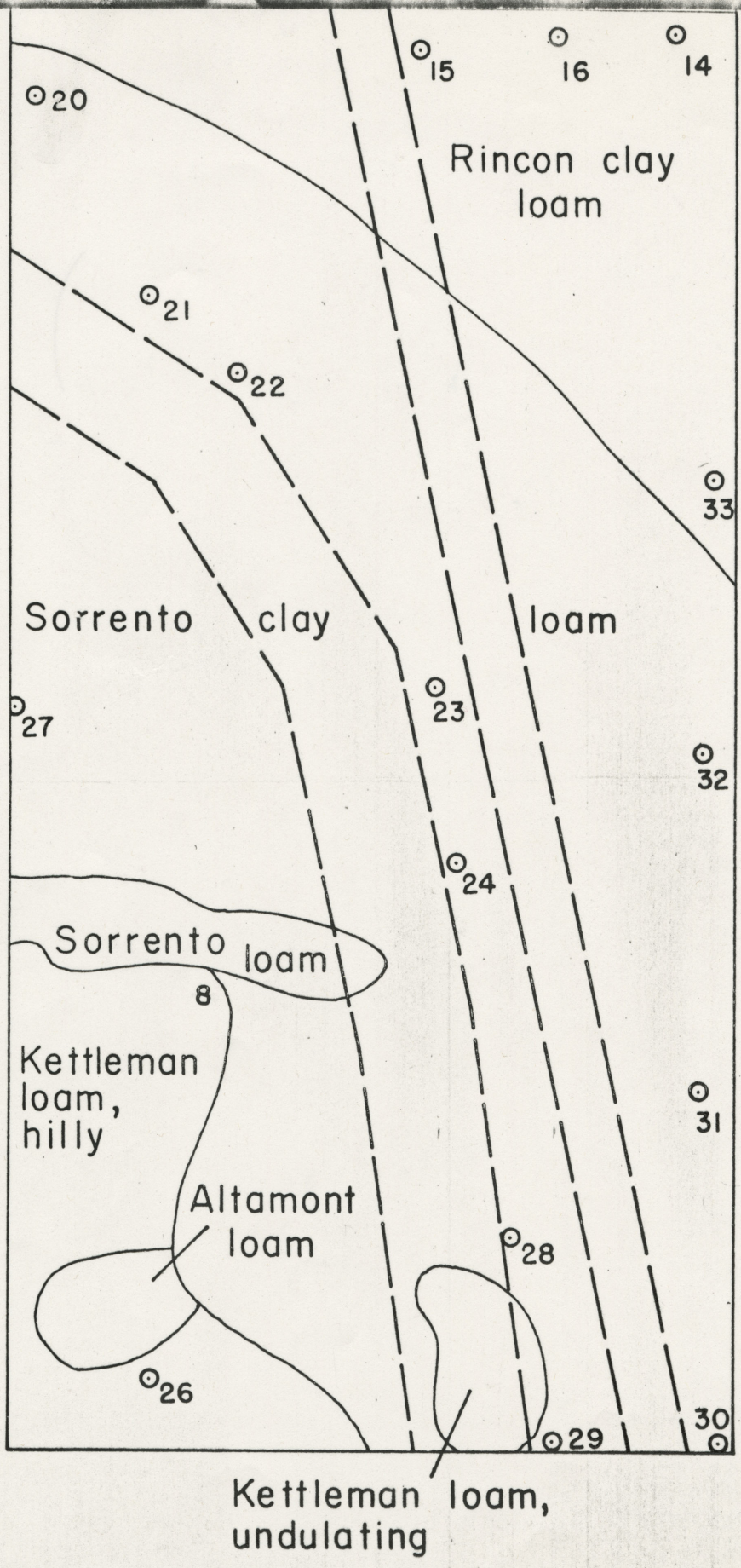
Sorrento clay loam. This soil has a greyish brown clay loam surface soil which is fairly granular, but tends to puddle somewhat when worked moist. The subsoil is heavy clay loam or light clay texture, light greyish brown in color, but moderately permeable to water and roots. The material below is stratified loamy alluvium. The subsoil is more permeable than the Rincon subsoil and limits the usefulness of this soil only slightly.

Table 1. Storie Index Ratings and Estimated Soil Acreages.

Section 21 (E. ½) Soil type	Estimated Acres	Los Banos S. S.	Storie Index Ratings Revised 1966
Altamont, loam, rolling	2	34	
Rincon clay	318	51	
	320	Av. 51	
Altamont loam, rolling	22		34
Sorrento loam	28		100
Mocho loam	108		100
Rincon clay loam	182		72
	320		Av. 84
Section 27 (W. ½)			
Sorrento loam	8	100	100
Altamont loam, rolling	4	34	34
Kettleman silty clay loam, undulating	5	51	51
Kettleman silty clay loam, hilly	29	41	41
Rincon clay	(274)	51	Reclassified
Rincon clay loam	54	- -	72
Sorrento clay loam	220	- -	86
	320	Av. 51	Av. 79

Section 21


17
13
Rincon clay loam
12
Mocho loam
6
18
11
5
19
10
Rincon clay loam
4
Sorrento loam
9
Altamont loam
7
3
8
2
1


15
16
14
20
Rincon clay loam
21
22
33
Sorrento clay loam
23
27
32
24
Sorrento loam
8
Kettleman loam, hilly
31
Altamont loam
28
26
30
29
Kettleman loam, undulating

Section 27