

FIELD - NOTES

MAP B

LOWER CALIFORNIA

Pl. Camps 1 to 12.

Richard

FIELD NOTES.

MAP B.

Lower California.

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FIELD NOTES.

Oct 28/90 Map B, Section Maps 1 to 12
through these maps the Redrales

The following are extracts from field notes, given in explanation of sectional plats. They cover, as well as a rapid examination can do so, the portion of the Pacific Coast lands situated between San Tomas landing and San Ramon Bay, extending inland to varying distances, as described in the notes. The examination is interesting, not only from the large amount of rich agricultural land which is shown to exist close to the coast, but also as presenting so many locations for the founding of colonies where towns can be built upon bays and landings. These often exist at the mouths of rivers, where the amount of arable land adjacent is very large. The mesa lands described resemble the prairies of Western States.

EXTRACTS FROM REPORT.

The route for a railroad down the coast is a good one for a distance of two hundred miles south of Ensenada. The most of it can be built as easily as that along the beautiful mesas surrounding the latter town. The coast line for this distance below Ensenada has several harbors or landing places, which are as good as any between San Diego and San Francisco. That at Colnett Bay is one of the best along the Southern California coast. The mesas adjacent to this harbor and the valley of San Rafael, are without equals on the Western shore. They will accommodate, with the fine valleys, one million people easily. The town site on the bay is an excellent one, and worthy of immediate attention. The soil of the country generally alternates between a deep black loam and a

sandy loam. The slopes of the valleys are often beautiful, gentle and easy. In connection with the site where a large town will certainly be built on Coinett Bay, may be mentioned a pond of fresh water a mile or so long, from fifty to two hundred and fifty feet wide, and three to twenty feet deep, which can supply a city with good water at very little expense. It is fed by springs that come out of the lime and sandstone. There are a large number of fresh water springs scattered over the entire section. The water from the pond spoken of runs into another larger pond of brackish water near the seashore. The soil through many of the valleys seems moist enough to produce well even during the dry season without irrigation. Should water be needed anywhere with the growth of agriculture, it can often be taken out upon the valleys and mesas with very little trouble and expense. The country is generally well supplied with firewood from the adjacent hills.

GENERAL FEATURES:

SAN VICENTE BASIN.—This portion of Lower California lies south of Ensenada, taking in the district adjacent to the coast, between San Tomas River and Valley on the north, and San Ramon Bay on the south, forming an oblong basin sixty by one hundred miles. It has an area of 6,000 square miles, or 3,840,000 acres of land, with mountains in the background. It consists of the valleys of San Vicente, San Jose, Los Cochos, San Antonio, Salado, San Rafael, San Jacinto, Live Oak, White Water and Santo Tomas, with many other smaller valleys. The largest rivers are the San Vicente and San Rafael. The general formation of this basin is regular, even and well-defined. All of the valleys with their mesas are like so many smaller basins within the larger one. The geological formation is one of great regularity, and most clearly defined as to character, general dip and trend of the belts of granite, limestone, sandstone, etc., of the country that forms the background. As a rule the hills are smooth, with good

hill alluvial soil, slopes gentle and with few boulders or huge rocks. The mountains of the background are covered with immense growths of firewood, through which in places neither man nor beast can pass. In the few wheat fields of old settlers we found that last year they raised an average of forty-one bushels per acre, and we saw a field of corn which had produced one hundred bushels per acre. There are scores of little valleys back from the seashore where beautiful homes can be made, where there are springs and running brooks of water, and the valleys, mesas and slopes are unsurpassed for orchards, vineyards and gardens that will equal any in the land. The depth and richness of the soil will surprise anyone who has never seen it. With this soil and climate there are destined to be several towns of importance built in the very near future. We saw bees gathering honey on our entire trip, from flowers that bloom all winter, and there was hardly a day but what we saw numbers of humming and mocking birds and swallows.

The following instances of cultivation, taken from notes made during the trip, show the capacities of the soil and climate from the level of the sea to points far inland, where the elevation is 4,000 feet. At Sauzal, on the seashore, growing on a hard adobe and gravelly loam, there was a fine growth of oranges, lemons, olives, bananas, figs, persimmons, apples, peaches, apricots, grapes and other fruits. In the front yard were almonds and walnuts. At Agua Jito, three miles from the shore, on two kinds of soil in the same orchard—one a dark, heavy, gravelly loam, and the other a light, sandy and alluvial loam—were the following productions: Grapes, figs, oranges, lemons, apricots, dates, walnuts and sugarcane. At Agua Caliente, 3,000 feet above the sea, were Old Mission grapes, large figs and peaches, beside the different grains. At La Huerta, 3,500 feet above the sea, were quantities of fine figs and peaches, besides quantities of grain. We were informed that in none of these places had the frost injured the fruit. At

Sangre de Cristo, still higher above the sea, tobacco and pepper plants were in blossom during December and January, and it was stated that the figs and grapes were not injured by frost. At San Tomas, 2,500 feet above the sea, the olives, figs and other fruits were in profusion, besides some oranges and lemons, and we were informed that the two latter were thrifty, and had only been touched by frost occasionally on the tips of their higher branches in some of the lower portions of the valley. At Calentura, in the Upper Salado Valley, situated among high mountains of 4,000 feet above the sea, there is a fine vineyard, fig and peach orchard twenty years old, that it was claimed had never been injured in the least by frost. The rapid growth of the peach and grape at S. Telmo is one of the features of the region, and the olive trees of San Tomas and San Vicente, over one hundred and thirty years old, have no sign of decay, and bear plentifully every year. At Sauzal, seven-year trees were seventeen feet in height and bearing plentifully. At the Real del Castillo there was a plentiful production of fine strawberries in January, and the vines, which had very little care, continued producing until October.

SECTIONS.

SAN TOMAS, LOWER VALLEY (Section Maps 1 and 2).—This valley, containing about 3,000 acres, extends from the sea north-easterly for twelve miles, when it joins the main valley. Close to the coast there are some ponds covered with reeds, willows and large water grass. On either side is a strip of good valley land, with deep black loam. The adjoining mesas have a heavy, rich, clay loam. The slopes where the stream cuts through are steep and rocky. The higher slopes adjoining the valley and mesa are a heavy clay loam of fine gravel. Where sandstone points are exposed they are curiously cut and carved by the winds and rains. The valley proper would be called a narrow one, seldom exceeding a mile in width, and often narrowing to less. It has a

heavy growth of underbrush with some firewood, consisting of sycamore, willow and other trees. There are some steep hills on the north side as you ascend, covered with an immense growth of firewood. Occasionally these hills broaden out, however, on the summit, into fine high mesas. A few miles from the sea we found the soil of deep and rich alluvial loam, and the slopes covered with fine oak timber. A magnificent stream of water runs the entire length of the valley, and there is also a good wagon road. We found two or three little fields cultivated by settlers, and where excellent crops of wheat, corn, barley and beans had been raised. At the twelfth mile back from the sea is the home of Capt. R. P. Eaton, in a very fertile part of the valley, where the soil, a rich black loam, was covered with a heavy growth of large oak timber. The port of San Tomas is about one mile north of the mouth of the river, where there is a little nook by the sea, protected in part by projecting points. The water is deep, and the landing a very good one. It may be said of this section that besides a fair amount of rich land, it possesses a large amount of firewood and much good timber in places in the surrounding cañons. The land may be divided as follows: 2,500 acres valley; 250 mesa, and 250 slope.

SAN TOMAS VALLEY (Section Map 2).—This district, extending from the Old Mission ruins westwardly to its connection with the Lower Valley, about four miles, and eastwardly to its connection with the Upper Valley, about three miles, has been spoken of generally as containing about 25,000 acres. This would only be correct by taking in all of the adjoining low hills and slopes. The valley proper is almost level, and is cut by the stream which for the first half runs along the south side of the valley, then wanders over toward the center and across to the north side for some distance. The soil alternates between a sandy loam and a deep and dark black loam. There are a number of small farms

scattered about the valley, the crops on which have obtained notoriety from showing the strong fertility of the soil. Olive trees exist near the Old Mission which are one hundred and thirty years old and laden with fruit. A party took from an acre and a half of these trees, during the past season, \$600 worth of olives, and as he has since cut out the interlocking branches, which had not been trimmed for fifty years, he estimates his yield for the coming season at \$1,500 worth of the fruit. The wines from the Mission grapes were celebrated one hundred years ago over Mexico, and the vintage to-day from single acres of vines is the most remarkable in the history of the Peninsula. Vines of a few years growth have trunks like those of small trees. This valley, for both fruits and grains, is destined to become noted as soon as an effort is made at intelligent cultivation. It will divide up well into small farms, and will have an outlet at the sea through the Lower Canon twelve miles away. The land may be divided as follows: 12,000 acres of valley; 4,000 of good slope; and 9,000 hilly, which generally possesses a strong soil and may be called arable land, as it will eventually be planted in vines, nuts and species of fruits.

SAN TOMAS, UPPER VALLEY (Section Map 2).—This portion of the valley, containing about 4,480 acres, begins three miles above the Old Mission, at the point where the valley narrows to one-half a mile in width. Running eastwardly, sometimes widening to a mile and often narrowing, the valley ends in a cañon with steep and rocky sides. The soil of the valley itself is generally a deep alluvial clay loam with some gravel, and a deep red clay soil on the slopes. At the upper end of the valley a trail leads over the high hill on the south, two miles to the San Jacinto north mesa. A wagon road also goes up the valley for eight miles above the Old Mission. There is firewood on the hillsides and in the surrounding cañons. There is a fair amount of water in the stream at intervals. The

land may be classified as 1,200 acres valley; 2,100 mesa, and 280 slope.

WILLOW CREEK MESA (Section Map 2).—This mesa, containing about 7,000 acres, lies north of Willow Creek and extends to Point Solidad, about five miles along the shore, and from the sea back to the mountains, a distance of some three miles. The tract is somewhat cut up from water-courses across it. The slopes on the east and north are gradual. The soil of the lower mesa is a heavy black loam, with some shells mixed with it. As the mesa rises gradually to the foothills, there is more gravel and clay in the soil. There are also numbers of large mounds or hills where the soil is a deep, gravelly, clay loam, with lime and shells on lime and sandstone bedrock; generally the latter. Nearer the mountains the soil becomes an adobe clay loam, on red clay subsoil and a limestone base. There is permanent water in the adjoining cañons of Rancho Viejo and Willow Creek, and an abundance of timber, consisting of oak, sycamore, willow and other woods. On the east and north the mountains are well covered with firewood. Beyond Point Solidad, for some distance, the country along the shore of the ocean is rough and steep. While this Willow Creek mesa is an excellent one, there is no wagon road to it, and as it is surrounded by a small section of rough country, access to it would be had from the sea. The land may be divided as follows: 1,200 acres excellent low mesa; 1,200 rolling mesa cut by water-courses; 1,200 high mesa; 1,900 hilly, and 1,500 slope.

SAN JUAN MESA (Section Map 3).—This tract contains about 10,000 acres, and is a fine stretch of country along the seashore, much of it is level as a floor, without cuts or breaks. The soil is generally a heavy black loam, with shells, six to ten feet deep, on a clay subsoil, and this on sandstone. This mesa is nearly all alike, varying but very little, if any, either in soil or surface.

Back of it the country rises into a high and rolling mesa from fifty to one hundred feet above the sea. The surrounding slopes are, as a rule, easy, with good soil. There is no better land than the low mesa along the seashore with its deep black loam. Willow Creek adjoining has running water, as also Cannon Ball Cañon. There is but little firewood on the nearer hillsides, but on the slopes of the mountains further back there is a large amount of it. On account of the slopes of these hillsides being sheltered from the winds of the north, or those from the sea, they are well adapted for raising the choicer and tender varieties of fruit. The land may be divided as follows: 250 acres valley; 2,000 low mesa; 3,000 rolling mesa; 1,750 slope, and 3,000 hilly.

SAN REFUGIO VALLEY (Section Map 3).—This beautiful little valley, containing about 3,840 acres, lies about nine miles from the sea, and heads near the Chocolate Cañon, and runs southwest to the coast. It has fair slopes, and the soil is generally a very strong, deep, dark clay and alluvial loam. The surface is rolling instead of level. There are several good springs, as also a great growth of small trees. The stream itself alternately rises and sinks. This valley and its surrounding mesas differs from the others in having no sandy loam, but in its place a dark or heavy soil. A small farm in one part of it produced last year good wheat, corn, beans and barley. This land may be divided as follows: 1,000 acres valley; 1,000 level mesa; 1,000 rolling mesa, and 840 hill and slope.

GUADALUPE VALLEY (Section Map 6).—This little valley of about 1,400 acres, is situated five miles north of San Vicente, on Guadalupe Creek, which empties into San Vicente near the sea. The valley itself is not over a quarter of a mile in width, the slopes on the north often being steep and covered with small firewood, while on the south there is a good deal of fine rolling mesa, gently rising to some foothills. The valley possesses a deep and rich sandy

loam soil, while the mesa has a deep clay loam, carrying some fine gravel. At one portion a small farmer cultivates about forty acres of land. There is a good stream of water running through most of the valley, and also a number of springs. The subsoil is usually a red clay. There is quite an amount of sycamore and other timber of good size in the ravines near by, and also in the valley itself. The tract is about fifteen miles from the sea, and its altitude 1,500 feet. It may be divided into 1,000 acres valley; 200 mesa, and 200 slope. Some of the higher lands surrounding it are abrupt and rocky.

SAN JACINTO LOWER VALLEY AND MESA (Section Map 5).—This district, comprising 7,800 acres, occupies the region which is between what is designated as the San Jacinto Valley, and the point where the stream empties into the San Vicente River. The upper four miles is a mere narrow gorge between mountains and mesas, with a fine large stream of water flowing the entire distance, but no valley or mesa, and but very little slope. The cañon is only passable to saddle and pack animals. It is well filled with small firewood and with live oak, cottonwood, sycamore and other trees. Below the cañon the valley opens out and obtains a width of three-quarters of a mile, which it holds for about three miles, until reaching the San Vicente. The soil is a deep, sandy loam with some clay. The mesas on each side and also adjoining the cañon above have a deep alluvial soil, with occasional stretches of heavy clay loam carrying coarse sand. There are also bodies of clay loam on some of the higher mesa. The last mile of the valley is a black loam. Pools fed by springs, and springs of water abound on all sides. Both mesas and valley yield the finest of feed. A small field in cultivation produced last year excellent corn, wheat and beans, without irrigation. To the east, and adjoining, is the Mission Valley, about two miles long, narrow, and having springs or running water at its head. The San Jacinto Lower

Valley may be divided as follows: Valley, 1,800 acres; mesa, 5,400; slope, 600. The San Tomas wagon road enters the valley on the east side, and passes down it to the San Vicente River.

SAN JACINTO VALLEY AND MESA (Section Map 6).—This tract contains 7,040 acres, and lies east and south of the South San Jacinto Mesa, to which it is united on the north. It is about six miles long north and south, and two miles wide, extending from the head of the cañon one mile below the San Jacinto ranch house, north to the San Tomas mountains. The valley is about nineteen miles from the sea, with an altitude of about 2,500 feet. There is a large stream of water running through it, and the soil is generally a deep, dark, alluvial and sandy loam on a clay subsoil. The mesas have a deep clay and sandy loam, and the slopes, which are smooth, also carry strong soil. At some points the stream sinks, but there are numerous springs, and the entire tract may be called well watered. There are two small farms of eighty or one hundred acres under cultivation, and the crops were given as twenty-five to twenty-eight bushels of wheat; sixty-five of corn, and forty of beans to the acre. There is firewood in the ravines and on the mountains to the southeast of the valley. The whole tract is a basin, surrounded by mountains from 2,500 to 3,000 feet high. Feed is everywhere good. The tract may be divided as follows: 2,300 valley; 4,300 mesa, and 440 slope.

SAN JACINTO NORTH MESA (Section Map 6).—This section, containing about 7,000 acres, lies within two miles of the upper part of San Tomas Valley, is six miles in length and about two miles in width. The north end lies against the San Tomas range, and the south end near Estefano Cañon. It is reached from the upper end of San Tomas Valley by passing over a steep hill and a divide of one mile. The summit of the latter is level, and the slope on the south side very gentle, with soil of a rich clay loam. From the divide one descends a valley about forty rods wide, cut

a little by the water, and having a deep, rich, clay loam, on a subsoil of red clay and gravel loam.

The north end of the mesa is composed of rolling land for a distance of about two miles, somewhat cut up by small water-courses, and broken in places by rocks. This continues for a distance of about two miles, with a soil of rich alluvial clay loam from four to six feet deep, resting on a subsoil of red clay loam. The surrounding slopes are steep, with a strong gravelly clay soil, producing a heavy growth of underbrush. The third and fourth miles going south are more level, sloping to the southwest, free from rocks and boulders, with a deep, rich, red clay loam on lime clay subsoil. This ground is of the very best quality for wheat, olives, walnuts, or any fruit or grain demanding a very heavy strong soil. The fifth and sixth miles going south are made up of about one-third valley, one-third low mesa, and one-third high and rolling mesa. The first is a deep, dark, alluvial and sandy loam, intermixed with a strong clay, which has been deposited from the hills above by the water. The low or level mesa carries a very deep, strong, adobe clay loam, mellow when dry, rich and good. The rolling mesa is of the same quality of soil, with a little fine gravel and coarse sand mixed. On the fifth mile there are several good springs, from which the water runs for a mile or so before sinking. There is also in this vicinity a body of timber composed of sycamore, oak, willow and other varieties, with a great growth of smaller firewood.

Adjoining this entire mesa on the west is a small valley, with an average width of perhaps one-quarter of a mile, and this is again joined by two other small valleys. The soil of these is a deep and dark alluvial and sandy loam. The slopes on the hills surrounding the mesa are generally regular, with a strong soil, and but few rocks or boulders. This mesa may be divided into 2,000 acres of valley; 4,000 level and rolling mesa, and 1,000 immediate slope.

SAN JACINTO SOUTH MESA (Section Map 6).—This mesa, containing about 9,600 acres, extends from the North San Jacinto Mesa southeast to the San Jacinto Valley, and from the San Tomas range to the San Jacinto foothills, forming a section of country some three by five miles. It is one of the best mesas on the Pacific coast, and has practically no waste or poor land, and is free from boulders, rocks, and cuts of any kind. It may be described as a smooth, gently sloping tract, carrying a deep, rich alluvial loam of from three to six feet, with lime clay subsoil. It does not bake or become hard. Out of the cañon at the head of the mesa comes a large stream of good water, which runs for some distance and then loses itself. Taken as a whole, it is questionable whether there is another tract of land which surpasses it on the coast. The whole face of it is covered with a great growth of verdure, and yet there is hardly a bush of any kind upon it. Should irrigation be needed there is no doubt but that the grand, roaring, rushing stream of water at its head can, if properly guarded, be made to irrigate all of it with the least possible trouble and expense. When a railroad is built around the coast it must pass over this and the adjoining mesas. The land may be divided as follows: 8,000 acres level mesa; 1,000 rolling mesa, and 600 slope.

SAN JACINTO UPPER VALLEY AND MESA (Section Map 6).—This tract, comprising about 3,840 acres, is in the head of the valley where the stream comes down and out of the divide which separates the San Jacinto from the Agua Blanca and Live Oak Valleys on the east and south. The section is about six miles in length to where it joins the San Jacinto Lower Valley, which, in turn, connects with the San Vicente River and Valley and the sea. The head is about 4,000 feet above the sea, and the view is a very remarkable one. Spread before the eye is San Pedro de Martis, and its grand basin to the east; the San Vicente basin

to the south; San Jacinto and San Tomas to the north and west, and the great mesa plateau along the sea. There is no wagon road to this section, but one can easily be made up the valley, which may be chosen as the route of the coast railroad. The soil of the district is as follows: The valley usually carries a rich, sandy loam, with subsoil of clay, and showing great fertility. The soil of the slopes is a deep, clay loam; that of the mesas a mixture of deep, dark and sandy loam. As a whole, the soil of the district may be called deep and rich, with good feed, and the slopes generally easy ones, with small firewood in the ravines. There are several good springs and some running water in parts of the valley. The more level stretches of mesa are on the north. The land may be divided as follows: 500 acres valley; 1,200 mesa; 1,580 rolling mesa, and 560 slope.

LIVE OAK AND AGUA BLANCA VALLEYS (Section Maps 6 and 7).—This tract of land comprises some 9,040 acres, and commences on the east side of a small divide which bounds the San Jacinto Valley on its twelfth mile. Live Oak is about two miles long and two wide. The soil alternates between a black, moist loam, sometimes covered with water and water grasses, and a fine, fertile loam carrying clay and some fine gravel. There is a grove of over three hundred oak trees, and a lot of sycamores and large willows. Two springs among the trees form the head of one of the best small streams on the coast, a branch of the San Vicente. It is known as Live Oak Creek, and through a beautiful little valley connects with the Agua Blanca. The soil of the latter is deep and black, very rich and fertile. Some of the surrounding mesas are excellent. This Agua Blanca (White Water) Valley has not only a good stream, but numerous springs and some ponds. Grains or fruits could be raised over much of it without either rain-fall or irrigation. Some of the little valleys connecting with both Live Oak and Agua Blanca are filled with live oak and

sycamore. These two valleys with their springs of water and streams, and abundance of fine timber, could be cut up into numerous excellent orchards and farms. Some of the surrounding mesa land has a deep and rich adobe clay loam, while others carry a clay and sandy loam. The land may be divided as follows: 2,500 acres valley; 5,100 mesa, and 1,440 slope.

CAÑON DE RIVER MESAS (Section Map 4).—These lands comprise about 5,000 acres, and may be described as follows: Leaving the cañon just above the springs, one mile from the sea and going north, there is a high mesa extending back from the cañon for two miles, and about the same in length. The soil is a clay loam, somewhat tough, carrying shells and lime, on a limestone base. There are some gravelly and rocky places. At the mouth of the cañon and directly on the seashore, extending north, is a fine little mesa, two miles long by one-quarter of a mile wide, of about six hundred acres. This is a beautiful spot, with a soil three to four feet deep, on a lime base of rich, sandy shell and lime loam. At least one-tenth part of the ground is composed of shells.

At the upper end of this mesa, separated from it by a ridge of limestone hills, is another good piece of country, of two miles by three-fourths of a mile. This is called the Shell Bank Mesa.

To the east of this mesa there is a higher one, one mile wide and four miles in length, with strong, clay loam soil, broken somewhat by rocky places and water-courses, but producing good feed and possessing a soil which is considered favorable for olives.

Next to this comes the Iron Ridge Mesa of about 1,100 acres. It is fine, level, low land, with a deep sandy loam. The slopes surrounding it are gravelly.

North and next to this is an excellent mesa of about one by two miles, containing 1,100 acres of rich land, with a deep red clay and alluvial sandy soil, extending from the sea back to a high, rolling mesa, which, in turn, extends to the mountains. The

former is fine land, and each mesa is separated from the others by small, low hills, which, as well as the high, rolling mesas, are covered with fine feed for stock. The scenery along the coast at this point is one that attracts attention. Rocky points extending into the sea cause the breakers as they roll in to throw the spray one hundred feet in the air. The sea has worn the sand and lime rocks into fantastic forms and shapes in caves and caverns under the shore, and forming natural bridges from one point to another. The spouting horns, which are projections from caverns into which the sea rolls with great force, situated near the San Ysidro South Mesa, make sounds very much like large steam fog horns. A wagon road from San Ysidro landing extends on to the mesas. There is firewood on the surrounding hills, and on the mountains further away, and also a large amount of mineral, principally iron and copper. The shore is the home of the abalone and mussels, of which latter there are thousands of tons. This district may be divided as follows: 3,800 acres of valley or low mesa; 1,000 rolling mesa, and 200 slope.

SAN YSIDRO NORTH MESA (Section Maps 4 and 5).—This mesa, containing about 7,680 acres, lies north of the San Vicente River and along the sea. The mile and a half in width fronting the coast might be called low mesa, sloping gradually into higher, as it retreats eastwardly. The soil is generally a rich, heavy, lime clay loam, on a strong clay subsoil, with bodies of rich alluvial loam. The slopes are excellent. It is one of the most beautiful mesas on the frontier, level as a floor. The soil mellow, and with strips of valley carrying deep black soil adjoining it on the river. The San Ysidro landing in its front is a good one, a reef of rocks putting out to sea for 1,000 yards, which are nearly bare at low water, affording good protection for vessels, and for landing freight or passengers. There is a good wagon road leading up the adjoining valley of the San Vicente River, and the latter,

which is a large stream, can be brought over the mesa and valley to irrigate them with very little trouble or expense. From cultivation already made on a small scale in the vicinity, it is believed that this strong soil will produce well without irrigation. The land may be divided as follows: 1,000 acres valley; 4,000 excellent mesa; 2,500 rolling mesa, and 180 slope.

SAN YSIDRO SOUTH MESA (Section Map 9).—This mesa, containing about 14,520 acres, begins at the mouth of the San Vicente River on the sea, and extends south for six miles to Seal Rock Cañon, thence up this cañon four miles, thence north-westerly for seven miles to the San Vicente River, and thence down to the sea. There is a good deal of low mesa, rich and beautiful, with a deep, sandy, lime clay and shell loam. The depth of this soil appears to be from four to eight feet. There are strips of higher mesa and bits of rolling land, with some small hills. On these there is an abundance of firewood. There are also tracts with heavy clay soil, and the surrounding slopes seem to be generally a rich loam. Inland a short distance there is much timber available for fence posts, etc. At the shore of the sea there are four spouting horns, through which, with the in-rolling swell, the water is forced at great height, with a loud whistle, like that of a steam fog horn. The shore is one of great beauty and grandeur. It should have been stated that scattered over the higher portion of the mesa there were a few large boulders and rocks. The entire tract might be divided as follows: 2,500 acres valley; 8,000 high mesa; 3,500 rolling mesa, and 520 slope.

SAN VICENTE LOWER CANON (Section Map 9).—This part of the cañon and river, containing about 1,500 acres, begins about two miles below the Old Mission, and extends eight miles to the sea. The cañon is narrow, with steep sides, and bounded by mountains. There is a fine stream of water through the cañon, and the ground is moist, and the soil generally a deep alluvial

loam, adapted for fruits or crops of almost any kind. The strips of mesa and valley are from a few rods to one-half a mile wide, with other cañons and narrow mesas opening upon them. On the fourth mile from the sea are the ruins of an old ranch house, one of the relics of the days of plenty, one hundred years ago, and near by is the old Deifina smelter building and house. The adjoining cañons have good growths of sycamore, cotton and other trees. The ruins of the old Berga mansion of one hundred years ago are also in the valley. Wherever the slopes are not steep they carry a strong soil and good vegetation. The San Ysidro Valley and Mesa on the north side, and the San Ysidro South Mesa on the south side are both described elsewhere. There is a good deal of hard pine on the northern summit of the mountains in the vicinity. The wagon road from San Ysidro landing passes up the cañon four miles to the old smelter, thence over the hills to the San Antonio Mesa and San Vicente. The body of water carried by the river is large, and can be used for irrigating on many of the valleys and mesas adjoining. The land of the cañon may be classified as 550 valley; 550 mesa, and 400 siope. The Ysidro mesas on each side of the cañon give such an amount of rich country that the large body of water carried by the San Vicente, with the strips of moist valley, make the section of which the cañon is the center a valuable one.

SAN VICENTE RIVER AND VALLEY (Section Maps 8 and 9).—This tract contains about 5,220 acres of land. At the Old Mission, fourteen miles from the sea, the valley is bounded on the west by a rolling mesa, the stream there having a northerly course for a short distance. The fourteenth, fifteenth and sixteenth miles from the sea of this valley are very choice, having an average width of about two miles, with numbers of fine springs of water, which flow into the river. The soil is a deep, dark, sandy loam, very rich and fertile, which rises gradually back into the fine clay

loam-mesa of the San Vicente. The large stream of water flows on the extreme north side of the valley. On the south side of the valley, where the San Jose unites with it, there are also a number of fine springs of water, and a good stream that runs into the San Vicente. Sections of fine clay loam, with strips along the brows of the mesas that are gravel. Further inland the valley narrows, and would afford some excellent dairy farms, with fruit lands and pastures adjoining. The land may be divided as follows: 2,000 valley; 1,760 low mesa; 1,240 high mesa, and 220 slope.

SAN VICENTE MESA (Section Maps 8 and 9).—The San Vicente Mesa, comprising about 38,400 acres, extends from the Old San Vicente Mission in an easterly direction to the foothills of the Salado Valley, a distance of fifteen miles, and reaches from the San Jose Valley southerly to Bald Mountain and its foothills, which divide it from the San Antonio Mesa. It possesses an average of about sixty square miles in area, or 38,400 acres of good land, of which four-fifths is choice. The other one-fifth is broken mesa, with small hills, places cut by water-courses, and mountains that crowd in upon it from the Salado, San Jose and Antonio Valleys. The mesa is naturally divided into four parts.

First.—The westerly portion which occupies the first five miles east of the Old Mission. This is cut into by the Verdugo Valley. The land which lies south of the latter is rolling, cut somewhat by small water-courses, sloping to the north, and carries a very strong, deep, heavy clay loam, resting on a heavy clay subsoil, the former being from two to five feet deep, and the latter from five to twenty. This soil is the favorite for olives, English walnuts, wheat, and such fruits and grains as need a heavy clay soil. It gets very hard when dry, but it is easily cultivated, crumbles at once in the rain or when water is applied to it, and holds moisture for a long time, requiring only one-fifth

of the water for cultivation that is required by sandy loams. This part of the mesa is well located for cutting up into small tracts of ten to forty acres. Three wagon roads cross it, and any portion is easily reached by teams or on horseback. Its slopes are easy with a deep rich soil. The Verdugo Valley, which cuts into the mesa, is narrow, with a soil of sandy loam. Around the Old Mission the ground is very wet, water covering more than half of it. Numerous springs come out of the banks of the mesa. A little further east the soil becomes a moist, deep black loam. The growth of grass and verdure show that the entire little Verdugo Valley, situated upon the mesa, possesses water close to the surface. A large number of choice fruit gardens and orchards could be placed there, and with the surrounding five miles of country would make one of the most arable spots to accommodate a large number of families which can be found in Lower California.

Second.—This division extends from the end of the fifth mile to a distance four miles further east, bounded on the north by White Hills, and on the south by the foothills of Bald Mountain. On the south side the little Verdugo Valley continues with much the same characteristics as before described. Extending southwest-erly and next to Bald Mountain the mesa is very beautiful, with a northerly slope and a rich red or yellow clay loam soil, mellow and easily worked. North of the valley the mesa, one by four miles in size, is of excellent character, a deep rich, fine clay loam, gently sloping to the south and east, and nearly as level as a floor. The slopes on both the north and south sides are good, with a strong rich soil and very desirable for fruit. The Verdugo becomes very narrow, with only enough valley land for small gardens.

Third.—This division extends from the White Hills and Bald Mountain foothills easterly to the Los Cochos Valley, a distance of four miles. This division is properly divided into two parts:

- 1st. That which lies directly adjacent to Bald Mountain, a magnificent level mesa, two by four miles, known from the days of the old Padres, one hundred and thirty years ago, as "Llanos Colorados," or red lands. It is a beautiful piece of country, level and smooth, without stones, bushes or twigs, and with a deep, rich red clay loam. It is considered one of the most desirable pieces of land in the region.
- 2d. This remaining part of the third division comprises that which rises east of the red lands. A strip two by four miles, almost as level and well situated, but of a rich, sandy alluvial soil, as well adapted for fruit and vegetables as the other is for wheat and grain.

Taking the two together, nothing better for either farming or orchard purposes would be wished.

Fourth.—This last division of the mesa is made up of that portion lying to the eastward of Los Cochos Valley, comprising the two valley mesas with their slopes that extend almost to the Salado. These embrace four classes of land: that in the bottom or lowest, rich sandy loam; that on the sides a little higher, rich loam with some gravel; that on the sides or slope, a deep rich clayey loam; and that on the hills, a deep adobe clay loam. All of this division is rolling, but the soil is good and land accessible, easily tilled, and possessing many varieties of soil for different crops.

This tract of land takes in the narrow Los Cochos Valley from some fine mineral springs up to the Los Cochos Mesa. There are also side depressions or dry valleys running into the mesa from different sides which would add much to its arable land. Taken in its entirety, the whole mesa is a most desirable one; well situated to be cut up into small ranches or fruit farms, with three wagon roads crossing it. The main one passes over the whole length of the mesa for fifteen miles, with a branch road to Calentura; another goes to San Antonio, and a third to Los

Cochos mesa and valley. There is a good deal of small firewood in cañons surrounding the mesa. The land may be classified as follows: 1,500 acres valley; 30,000 low mesa; 5,000 high mesa, and 1,900 slope.

SAN ANTONIO MESA AND VALLEY (Section Map 9).—This fine valley and mesa is about twelve by four and one-half miles, containing about fifty-four square miles, or about 30,000 acres of land, extending from the San Vicente river, valley and mesa, which it joins in four places, southerly to the country north of the Salado. Beginning at the San Vicente mesas at the Old Mission and going south, the first and second miles have an average width of four miles. The slopes are generally gentle. The soils of the lower mesas are a deep, rich, sandy loam, mixed with some adobe. In one portion small hills from forty to one hundred and fifty feet high rise and cut the mesa more or less. These would be excellent points for vineyards. Between these hills are numerous fine little valleys one-quarter to one-half of a mile wide, with a rich sedimentary soil and a growth of small firewood. This whole mesa is a basin virtually without a drain, and alternately widening and narrowing. Water can be had at the driest part of the season less than three feet from the surface. There are springs in the adjoining gulches. The hills on the west are covered with firewood enough to last for years. The soil is generally deep and strong, and almost the entire tract is surrounded by other mesas and valleys. In portions of the mesa there are pond holes fed by springs, and tracts of black rich loam in the vicinity. No finer slopes on the small adjoining hills could be found anywhere. Old mines have once been worked at different points not far away, and one of the roads across the mesa leads to the old smelter and San Vicente Cañon. In the surrounding hills are numerous veins and deposits of iron and traces of copper, etc. As there are also indications of coal, this San Antonio Mesa will in time become

noted for its mineral as well as agricultural resources, and will become the Pittsburgh of the frontier. The Peninsula Railroad will necessarily cross it or pass in the immediate vicinity. The numerous small mesa valleys running out of the main basin are beautiful, carrying almost universally strong soils. Taken in its entirety, this beautiful valley mesa of San Antonio, bordered by other valleys and mesas, is one of the most attractive spots seen on the trip. The tract may be divided as follows: 10,000 acres valley; 10,000 low mesa; 7,000 high mesa; 3,000 slope.

SAN ANTONIO LOWER VALLEY (Section Map 11).—This tract comprises about 3,260 acres. At the sea the valley is about one mile wide, continuing the same width through the second mile, the third mile widens out to two miles, the fourth narrows down to one-eighth of a mile, and so continues through the fifth mile to the Altar Mine, a silver and copper lode now worked and producing very rich ores. The first mile from the sea carries a deep black loam with some alkali, and has in the center a large pond of brackish water. The soil is moist and vegetation abundant. The slope on the south side is steep, but carrying a deep lime and shell clay loam. The north side of the valley is more abrupt and has a clay soil. The pond mentioned is about one mile long, from three to twenty feet deep, and from ten to one hundred and fifty yards wide. The second mile carries a deep, dark, alluvial and shell loam, not as moist as the first mile, but sufficiently so to raise anything without either rain or irrigation, as the water is very near the surface. While both salt and fresh water springs abound on this mile, and good water is found within two feet of the surface. The third mile, where the valley widens out to two miles has a rich sandy and shell loam soil, and on the south and extending south and west, a fine valley with a deep rich clay loam, carrying some shells on a lime base. Fresh water is easily obtained twenty inches below the surface. The slopes on this mile

are steep, and the soil not good, being gravelly. The fourth mile which has narrowed to one-eighth of a mile in width, has a rich moist soil and would make small farms or gardens. The slopes are steep. There is a good deal of firewood, and the wagon road leaves the valley and goes over the hills to Salado and the mine. The fifth mile is a repetition of the fourth, and ends at the Altar Mine before described. The mouth of this valley was formerly a vessel landing of considerable importance, but of late years has not been used, San Ysidro having taken its place. The mesas on each side of the valley to the end of the fifth mile described are high. Beyond this fifth mile the cañon continues narrow for eight miles, where it strikes the San Antonio Mesa described elsewhere. There is a good deal of firewood along it. Of this 3,260 acres, known as lower San Antonio Valley, 2,500 acres valley; 600 mesa, and 160 good slope.

SAN ANTONIO SOUTH MESA (Section Map 11).—This pretty little mesa of 1,600 acres, is an extension of the San Antonio Mesa, to which it is attached at the southeast corner. It is about three miles long and three-quarters of a mile wide. Portions are covered with a rich alluvial adobe clay and sandy loam, mellow when dry and easily worked, and other portions with a heavier but very fertile soil. The side slopes of the tract are easy, with a strong soil, smooth and clean. A large vein of almost pure iron ore crops out on one portion. The old Delfina wagon road runs the whole length of the mesa, leading north to San Antonio, San Vicente and up the coast, and south to Salado Valley, and the landing at the mouth of the San Antonio. Feed for stock is excellent, and there is firewood on the hills near by. The land may be divided as follows: 1,300 acres low mesa, and 300 slope.

SEAL ROCK MESA (Section Maps 9 and 11).—This mesa, containing about 10,240 acres, lies between Seal Rock Cañon on the

north and the San Antonio Lower Valley on the south, about ten miles in length, and from three to five miles in width. One portion of it is badly cut by water-courses and small cañons, the soil being a heavy gravelly clay with boulders. Another portion, two miles back from the shore, contains a stretch of country three miles by three miles, which is level and good, sloping gently to the southward, with very heavy clay soil, five to ten feet deep, resting on lime and sandstone bed rock. Another strip about two miles long and two in breadth is badly cut in front by water-courses, but the most of it is fine, rolling mesa, with a sandy loam, carrying some shells and resting on a limestone subsoil. The gem of the whole mesa is a strip about one mile in width and five miles in length, level as a floor, and lying half a mile back from the sea. The soil is from five to six feet deep, a rich alluvial lime shell loam, on lime clay subsoil, and limestone bed rock. Lying back on the side of this is a fine high mesa, level and good, rising about twenty-five or thirty feet above the other, having a rich, strong soil of clay loam on lime clay subsoil, very favorable for olives.

The southwest portion of Seal Rock Mesa has some fine springs of good water, streams from which run for a half mile or more. There are also salt water springs along the front. The outlets for the mesa are from northeast by Seal Rock Cañon to the sea, and thence to San Ysidro landing, or ten miles up the San Vicente Cañon to the coast road. From the southwest there is an outlet at San Antonio landing two miles, and also by the old Delfina wagon road to the coast road at Salado twenty miles. Seal Rock Cañon has water to within one mile of the shore. There is a very fair landing at Seal Rock, from which connection can be made to the shore when the needs of settlement demand it. Surrounding the entire district known as Seal Rock Mesa there are several thousand acres of broken and rough slope which, however, possess a good strong soil, and will eventually be cul-

tivated for different fruits. The land may be divided as follows: 8,320 acres fair mesa, and 1,920 high mesa. There is also about 4,000 acres of slope with fair soil, but rather inaccessible, which is not included.

SAN JOSE VALLEY (Section Maps 8 and 9).—This valley, containing 6,520 acres, forms a junction with the San Vicente, about three miles above the Old Mission. It is 4 miles long by over 2 wide, and watered at its foot by the San Vicente River and also by fine springs and a stream of its own on its south side which empties into the San Vicente. The soil is generally black loam, and deep rich clay loam, and the slopes easy with fine soil. Near it is Lone Mountain, an isolated peak. The mesas are gently rolling, covered with good feed, free from rock, stones or brush, and ready for the ploughman. There are stretches of sandy loam carrying clay with it. The tract is an excellent one, and may be divided as follows: 3,440 acres valley; 2,760 mesa, and 320 slope.

SAN JOSE UPPER VALLEY (Section Maps 8 and 10).—This body of land of 6,740 acres, begins at the lower end of the upper valley at the old D'Arce house. The average width of the valley is about one and one-half miles, with some good mesas and mesa valleys leading into it. The soil is generally a black loam, moist, rich and good. There are tracts of fertile clay loam and sandy loam mixed with red clay. There are also parts of the valley where it is divided into small low mesas with narrow strips of valley between, carrying a black loam soil. This peculiarity of valleys and mesas on the bed of the valley give it the appearance often of small gardens laid out by a gardener. The varieties of soil are numerous enough to give almost any choice. The feed over the entire valley is remarkably good, and there is a fair amount of firewood in the surrounding ravines and on the hills. The outlet for the tract will be down the Los Cochos Valley. The

land may be classified as follows: 3,840 valley; 2,500 mesa, and 400 slope.

LOS COCHOS VALLEY (Section Maps 8 and 10).—This valley, containing about 5,120 acres, extends from the Salado northeast for twenty-five miles, the lower seven miles being taken in by the San Vicente and Los Cochos Mesas. The mesa is generally a rich, sandy loam, with some of it a deep black, and is rolling, but good land. The slopes are rather steep. The stream of water alternately sinks and rises. There are numerous fine springs. The soil seems to be about four feet thick, on a stiff, black clay subsoil, which holds the water and forces it to the surface. The sandy loam has considerable clay intermixed. At the points where the stream is visible above the surface, it often gives a fine body of water for a mile or so before sinking for an equal distance to again rise. Feed is excellent all up this valley, both in the lowlands and on the hills. The land may be divided as follows: 3,000 acres valley; 1,500 mesa, and 620 slope.

LOS COCHOS MESA (Section Maps 8 and 10).—This mesa, containing about 7,100 acres, extends from the White Hills on the west to Table Mountain on the east, a distance of five miles, with a width of about two. It joins the San Vicente Mesa on the west and again on the south, and the Los Cochos Valley on the north. The drainage runs into the Salado. On the east and north the adjoining slopes are gentle, with a deep, rich, alluvial clay soil; on the west and south the slopes are steeper, with a heavy clay soil and some gravel and rocks. The soil of the mesa itself is generally a dark, sandy loam, with bodies of deep clay loam at short distances. The soil has some fine gravel in it, rendering it mellow and easy to work. The hills surrounding the mesa are smooth and covered with fine feed for stock, and carry a good soil far up their sides. Some of them are level on their

summits, with a soil as strong as that of the mesa itself. There is but little firewood adjoining the mesa, but an abundance a couple of miles or so away. A wagon road leads across the southwest corner. The land may be divided as follows: 5,200 valley; 5,700 mesa, and 700 slope.

SALADO CENTRAL VALLEY (Section Maps 8 and 11).—This tract, containing about 7,000 acres, takes in that part of the valley just below the old Delfina Mine, where the valley shuts into a mere cañon, and extends up the arroyo for ten miles to the old Calentura wagon road. The tract begins about ten miles from the sea, joining on to the portion known as the Lower Valley and having near its commencement the Delfina mining houses. The valley is in no place wider than two miles, occasionally narrowing to a half mile. The soil is generally a black loam, occasionally alternating with a deep sandy loam on a clay subsoil. The surrounding mesas, some of which are very beautiful, carry a sandy loam. The length of this central valley is about nine miles, with one strip of five miles, being the fifteenth, sixteenth, seventeenth, eighteenth and nineteenth miles, which is exceedingly beautiful. The soil is a black loam, and a fine valley of one mile wide and one mile in length, with a rich sandy loam, lies adjoining. On the tenth, eleventh, twelfth and thirteenth miles from the sea the surrounding slopes are steep, and some hills with boulders rest down closely upon them. For the remainder of the nine miles, going inland, the slopes become good, with a rich alluvial loam soil, on a heavy clay base. There are pools, springs and running water over the entire tract, and along the foot of one of the mesas we obtained fine drinking water at the depth of four feet. Almost the entire valley is covered with the finest feed for stock, and firewood is found in the cañons on the hillside and the mountains further away. The tract may be divided as follows: 5,000 acres valley; 1,800 mesa, and 200 slope.

SALADO CENTRAL MESA (Section Map 11).—This choice *histic mesa* containing about 2,500 acres, lies just south of San Vicente Mesa, east of the San Antonio Mesa, and north of Salado Central Valley. It is about one mile wide by three and one-half in length, east and west, and slopes gently to the south. The mile adjoining the San Antonio Mesa carries a width of one mile, and is nearly level land, smooth, with a good, deep, fertile sandy loam on a heavy clay subsoil, with little gravel or brush. The slopes on the north and south are gentle and smooth, with a deep, rich sedimentary soil, well fitted for cultivation.

The second mile widens to a width of two miles, and extends from the Salado to the San Vicente Mesa. The surface slopes easily to the south, and the soil is a rich sandy loam, from two to five feet deep, on a clay subsoil from three to ten feet deep. This mile has no slope on the south side, and but little on the north, but what there is of the latter is good, with a deep alluvial soil on a red clay base.

The third mile narrows to a width of one mile. On the south side next to the Salado, it is a little rolling, cut somewhat by water-courses, and has a few boulders and rocks. The soil is from three to six feet deep, on a red clay base, and well adapted for fruit, grapes or grain. The slopes on the north are even and good, the soil carrying coarse gravel on a clay loam, and is known as a strong soil. There are a few granite boulders. On the east, the surface is rolling, and its slopes abrupt and rocky, and only suitable for the olive and walnut.

There is no water on the mesa, but the southern edge extends to the Salado Valley, where good water is obtained at a depth of three or four feet. The main coast wagon road crosses the mesa north and south. It also has a wagon road up the Salado Valley to Calentura, and down the valley to the Delfina Mine, and thence to the sea by the mouth of the San Antonio Lower Valley. Another wagon road goes to the San Antonio Mesa, and thence to

San Ysidro landing, and north to Los Cochos Valley. A team and carriage can pass anywhere over the mesa. The nearest landing at the sea is San Ysidro, twenty miles. It can also have landings at the mouth of the San Antonio, twenty-two miles, or at Colnett Bay, twenty-five miles. The land may be divided as follows: 2,300 acres mesa, and 200 slope.

SALADO UPPER VALLEY (Section Map 10).—This portion of the Salado Valley, containing about 5,000 acres, begins at the old Calentura wagon road, twenty miles from the sea. For the first mile the valley is one mile in width, level and smooth, with a deep, rich alluvial loam. In a well which has been dug for a long while, the surface soil shows a depth of from six to eight feet, and is so compact and solid that the sides of it are unbroken.

The next three miles narrow to one-half mile in width, carrying a deep and rich sandy loam with a little lime in it. The surrounding slopes are abrupt and steep. The next mile has a width of three-quarters of a mile, and the Calentura ranch house is situated upon it. The family has lived there for forty years, and possesses a fine garden of vines, fig and peach trees, all of which produce abundantly. The grape vines, eighteen years old, are from four to nine inches in diameter near the ground, and the fig trees one foot, and the peach trees fourteen inches in diameter near the butts. The trees and vines have never been injured by the frost, although they are twenty-five miles from the sea and 2,000 feet above it. A fine stream of water runs by the house.

The next mile has a large number of springs and abundance of water. Situated upon it are the ruins of the old Espinosa house, noted in the old days of cattle and wealth.

The next two miles have a width of one mile, the water in the stream having sunk, with a rich alluvial and sandy soil, being very moist, and producing well without irrigation.

The next mile carries the same width and soil, with a fine

stream of water running through the upper part of it. The adjoining mesa is about fifteen feet above the valley, with a rich, strong soil and sandy loam. Above that point the valley narrows to a mere cañon.

The entire tract may be divided as follows: 3,800 acres valley; 1,000 mesa, and 200 slope, of which all is good arable land. The wagon road comes up the valley as far as the ranch house, or about twenty-five miles. Firewood is plenty in the surrounding cañons and on the mountain sides, and there is good feed everywhere.

DEEP CAÑON MESA (Section Map 11).—This high but excellent mesa, containing about 2,560 acres, lies south of the Salado, and northeast of the Mesa Madre, with which it connects by a deep cañon which enters the San Antonio at the head of the Lower San Antonio Valley. Following up Deep Cañon for five miles from its mouth or junction with the San Antonio, there is a fine high mesa or valley mesa, about four miles in length by one mile in width, gently rising from the arroyo to the summit of the higher mesas or low hills, which surround it. At the lower end of the first mile, there is a deep strong red clay and alluvial sandy loam, on a clay subsoil, resting on limestone. The second mile has a deep heavy clay loam on stiff clay subsoil. The third mile has a rich clay and sandy loam on limestone clay subsoil. The fourth mile, which ends in a gentle rise at the base of the foothills, is level and good, with a deep sandy loam soil on clay subsoil. The surrounding slopes on the north, south and east, have a good clay and alluvial loam on a lime base. There is no water on this mesa. It is level and beautiful, and the old wagon road from the mouth of the San Antonio at the sea to San Vicente and San Ysidro, skirts the mesa on its northern border. The outlet will be by sea to Colnett Bay, eighteen miles, or the mouth of the San Antonio, fifteen miles, and wagon road by the

Salado to San Vicente. The land may be divided as follows: 500 valley; 2,500 mesa, and 560 slope.

NORTH GRAND MESA OR MESA MADRE (Section Map 11).—This grand mesa, of about 100,000 acres, extends from the Salado on the north along the sea for fifteen miles, thence up the San Rafael seventeen miles, across to the Salado at the foot of the coast range of mountains, ten miles, and then down the Salado and San Antonio ten miles to the sea or place of starting; making a tract of ten by fifteen miles, or one hundred and fifty square miles of 100,000 acres of excellent land, with no mountains and hardly a foot of waste in the whole extent. To the eye as one looks down upon it from the summit of the range, it appears like a great floor or table.

At the mouth of the San Antonio, or the Salado as it is called by many, where it empties into the sea, the mesa is divided into four divisions. First, low mesa; second, high mesa; third, sandy loam and lime, and fourth, rolling mesa and slope. Each of the first three has a distinct location, while the slope borders all.

The first division begins at a point on the sea about four miles below the mouth of the San Antonio, and extends southeast immediately along the coast for six miles, and back inland for eight miles, occupying all of the great central part on the seashore. It also has another smaller belt, beginning about two miles up the San Antonio, extending along its south bank for one and one-half miles, and one mile to the southwest.

The second division occupies all of the northern portion of the mesa seven by ten miles, from which the portion called slope or rolling mesa takes a small strip on the northeast corner.

The sandy loam, or third division, occupies the northwest corner one and one-half by four miles, and also the southwest corner two by three miles.

The fourth division, slope or rolling mesa, is mostly confined

to the northeast corner to a strip on the north side next to the San Antonio, and to a small park in the southwest corner of the third division.

This description, with the accompanying map will give a fair idea of this large tract of beautiful land on the sea.

The first division, or low mesa on the seashore, is about two hundred feet above the sea, slopes to the east and south very gently, is nearly level, smooth as the floor, without rocks, stones, bush, or anything to mar its beauty. Of a very deep shell and limestone clay loam, on a limestone clay subsoil and limestone bed rock. Near the seashore and for a mile back from it the soil carries a little more sand and shell. But from this line to the northeast where it joins the high mesa, the soil is regular, changing but very little in any direction, and is a fine illustration of the strong clay shell and lime combination of soil mingled with the best alluvial and sedimentary loams. Beautifully situated on the bank of the sea, its superior would be hard to find.

The second division (or high mesa) joins the first on its eastern line about eight miles back from the shore. This high level mesa occupies an extended territory about six by eight miles, and extends from the low mesa northeast to the foothills of the mountain range. It is from fifteen to twenty feet above the other mesa, sloping also to the south and east, level as a table, with hardly a break in the surface, or a rod of waste or useless soil. This latter is a deep, heavy, shell and lime, dark clay loam, with some fine gravel but no rocks, on a limestone clay base, this resting on limestone. The soil is from two to six feet deep, and the subsoil from five to ten. About the same facts as to location, beauty and value apply to this high mesa as has been said of the low.

The third division (sandy loam) takes up the southeast corner of the tract and lies immediately south of the low mesa, along the seashore and bank of the San Rafael valley and river. It is

a little rolling, gently sloping to the south, out along its south bank by a few small deep cañons, and lies about one hundred and fifty feet above the sea, and from fifty to one hundred feet above San Rafael Valley. The soil which is from three to ten feet deep is a heavy sandy and shell loam on a sandstone base, with a subsoil of gravelly clay, from two to eight feet thick, overlying the sandstone. The bank on the west shore next to the ocean is perpendicular, two hundred feet high, and for two miles or more is the hardest kind of iron rock; going southeast along the shore it changes for two miles to schist and then to a conglomerate gravel cement underlaid by clayey shale and sandstone, the dip of the formation being to the east, making the whole tract a basin, and this rolling sand loam most desirable land. A portion of this third division also occupies a location in the northwest corner of the tract, running along the San Antonio Valley for two miles, and along the seashore for four miles, but extending eastward for only a mile. This third division soil is the best yet found among the sandy loam, rich with shells and lime. The sea ages ago has piled up shells to heights of four and five feet, the heaps being from an eighth to a half acre in size. The shells have also been sown broadcast through the soil, and intermixed with it to a depth of several feet. For certain fruits on the immediate seashore, such land cannot be excelled and seldom equaled.

The fourth division (slope or rolling mesa) borders more or less upon the other three, but has its stronghold to the eastward of the high mesa, and occupies the whole easterly end of the entire tract including the first low foothills and the spaces between them. Its soil varies from the best and richest sandy loam on a lime base, to all the varieties of adobe, clay, gravelly and lime clay soil of the country, each of which is deep, rich, fertile and good, and all based upon limestone subsoil and bed-rock. Lying back from the sea ten to fifteen miles and protected from its winds by the foothills, this fourth division becomes a most de-

sirable part of the mesa. A few of the foothills have some boulders or rocks on their summit, but as a rule they are smooth, covered with good soil, a deep loam, and carry good feed for stock, and will bear the olive and hardier fruits and nuts abundantly. The slopes are all clay, with rich clay and sandy loam.

Such is the beauty of the entire mesa of 100,000 acres divided as above into four divisions, that it would be difficult to describe it in detail mile by mile. Good feed is abundant over all of its surface. Along its sea front the maguay is in bloom during the winter and cattle thrive upon it.

A peculiarity of the first division, or low mesa, is a great basin near the center some four or five feet lower than the land surrounding it, connected with three smaller ones, and occupying a space of two by three miles. If desired, they could be at little expense converted into large ponds of water.

A wagon road branching from the main coast road or Red Mountain Valley, passes down into San Rafael Valley, and then traverses the whole length of the south side of this mesa. Along its north side passes the old Delina wagon road from San Ysidro to the mouth of the San Antonio. Colnett Bay at the southwest corner of the mesa furnishes a good harbor. There is also the landing at the mouth of the San Antonio which was used years ago. It is as good if not a better landing than the one at Wilmington, the seaport at Los Angeles or Santa Barbara, while Colnett Bay ranks next to San Quintin and Todos Santos. The southwest corner of this tract is Cape Colnett, which guards or protects the bay and harbor from the west, northwest and north winds, and the shoals or reefs south of the bay protect it from the swell of the sea in a southerly storm. When a railroad is built down the coast it must necessarily cross this mesa.

The 100,000 acres of this tract may be classed as follows: 30,000 low mesa; 30,000 high mesa; 15,000 sandy and shell loam; 25,000 rolling and slope.

SAN RAFAEL LOWER VALLEY (Section Map 11).—This valley contains about 10,000 acres. The San Rafael River is the most southern stream of water in the San Vicente Basin. It rises in the San Pedro de Martis Mountains and runs to the sea unbroken, except in two short places near its mouth, where the valley is so level that the stream is lost for the moment beneath the surface. The water can be found, however, by digging a few inches in the bed. It is a beautiful stream of water, carrying a greater volume than the San Vicente or the San Diego in California, above the boundary line. The valley at its mouth, near Colnett Bay, is about one mile wide, but increases soon to nearly two miles. The soil for the last mile is a deep, black loam, with some alkali. On the south there is a fine mesa nearly one-half mile wide, with a deep rich shell and lime sandy loam soil. This mesa rises about thirty feet above the valley, and gives one of the best town sites on the coast. The high mesa of the Mesa Padre joins on the south, rising fifty to seventy-five feet by a very gentle slope, and extends back for thirteen miles, and down the coast to the mouth of the S. Telmo Valley, three miles. This low mesa of the San Rafael Valley borders the sea down to S. Telmo Valley for a distance of three miles, and is from one-quarter to one-half mile wide. The slopes on the south are very beautiful, with a deep, rich shell lime and sandy loam. Along the base of the low mesa there is a pond of good fresh water, a mile in length, fed by springs that come out of the limestone and sandstone which underlies the section. This pond is from fifty to two hundred and fifty feet wide, and from three to twenty feet deep, and can supply a large town with good water at very little expense. It is about one mile from the sea, and between it and the shore are a large number of fresh water springs. The water from the pond in draining from it, runs into another large pond of brackish water near the beach. This piece of low mesa country, lying close to the mouth of the valley and bordering the sea, and with

the Mesa Padre rising back from it on the south, as before described, makes an exceptionally beautiful piece of land close to the large bay. Opposite to it on the north side of the valley, the slopes are steep, with a heavy clay soil, carrying coarse gravel and small boulders. Four small valleys put out to it on the north, each only from fifteen to twenty rods wide, and a half mile or so in length. On these two miles of the valley from the sea, with the north and south sides described as above, the San Rafael River carries a good stream through the first mile, but sinks on the second.

The third, fourth, fifth, sixth, seventh and eighth miles from the sea hold their width of the valley, and the soil, which is changed to a deep, dark alluvial, sandy loam, is a little dryer and lighter. Some portions of the slopes are excellent, with small valleys and cañons coming in from the south. The soil of these alternates from a rich clay loam to one carrying gravel. On the eighth mile Green Water Cañon comes in with a good supply of firewood and water.

On the north side of these miles of the valley above enumerated, the Mesa Madre rises from the edge of some steep slopes twenty-five to forty feet high. A number of small valleys come in carrying a width of from fifteen to forty rods and a length of a quarter of a mile or so. The river follows the north side generally.

The ninth mile narrows a little. The soil becomes more moist, and is a deep dark loam, with water standing in ponds and springs near the north bank. The slopes on the south are fair, while those on the north are abrupt and steep.

The tenth mile widens out to two and one-half miles, forming a fine mesa on the south, with a deep rich soil in the valley, and a clay lime loam on the mesa slope. The north slope is abrupt and stony.

The eleventh and twelfth miles gradually narrow to a width of

one mile. The slopes on the south are easy, being a fine clay loam with a red clay intermixed. The valley itself carries a deep and dark rich sandy loam. The bank on the north side is lower, but still sharp and steep.

The thirteenth mile carries a width of about one mile and ends at the base of Red Mountain. The slopes on the north are good, and lose themselves in a fine mesa. The slopes on the south carry a deep rich soil. The soil of the valley is a deep, dark, sandy alluvial loam.

This thirteenth mile ends the tract known as the San Rafael Lower Valley. The river runs a large body of water, and the valley is very level, not rising one hundred feet in the thirteen miles. This level characteristic is so strong, that, standing at the base of Red Mountain and looking down toward the sea, it appears as if you were looking up the valley instead of down to the ocean shore. The soil along the south side of the valley is generally very moist, water coming out of the bank in springs and standing in pools in many different places. Crops could apparently be raised here without either rain-fall or irrigation. The water of the river can be taken out upon any part of the valley or mesa at but very little expense.

The country above the thirteenth mile, embracing the fourteenth, fifteenth, sixteenth, seventeenth and eighteenth from the sea, is a narrow cañon with small patches of valley soil at intervals. The slopes are abrupt, but the soil seems generally good on the sides as well as in the valley. Two or three miles above Red Mountain the stream could be dammed at little expense and carried out on the south side to the South Grand Mesa, or Mesa Padre.

In conclusion, it may be said, that Colnett Bay, at the mouth of this valley, is one of the best on the Pacific coast. Cape Colnett guards the bay on the north and west for four miles, and the south shore, with its reefs of rock extending seaward, pro-

fects it on the southeast. The valley can be supplied with firewood from the adjacent canyons and mountains. The divisions of this tract were not estimated.

SAN RAFAEL UPPER VALLEY (Section Maps 11 and 12).—This part of the San Rafael system, containing 6,410 acres, commences at the nineteenth mile from the sea, and ends with the twenty-fourth. The valley averages about one mile in width, and possesses a black, sandy loam, with sections of a darker alluvial loam. The ground is moist and the slopes are generally good with a strong soil. There are three or four small farmers with from twenty to fifty acres of ground in cultivation. On the south of the valley there is a good deal of excellent mesa. The San Rafael is a fine stream of pure water, having its head in the San Pedro de Madras Mountains, sixty miles east. The landing for this valley will be at Colnett Bay, at the mouth of the stream. The old S. Telmo wagon road crosses the upper end of the land near the house of a Mr. Dwardy. There is a good deal of willow growth in the valley. The land may be classified as 3,000 acres valley; 1,000 mesa; 640 slope, and balance hilly.

RED MOUNTAIN VALLEY (Section Map 11).—This fine little valley of 3,500 acres is properly an extension of the San Rafael Valley without its large stream. It joins the San Rafael at the base of the Red Mountain and extends northeastward for six miles or more until it narrows into a small cañon. The average width of the valley is about one mile. The soil is generally a deep and dark black loam, very moist. Water exists in springs and pools, and for a good part of the distance in a small running stream. The average of the slopes is good, with a strong soil. There are some connecting mesas of small size and an abundance of firewood in the ravines. At the head of the valley a mesa with a very deep red clay and sandy loam rises gradually to the

south for a short distance. An old wagon road leaves the valley at this point. The land may be classified as follows: Valley, 2,000 acres; mesa, 1,000; slope 500.

SOUTH GRAND MESA OR MESA PADRE (Section Maps 11 and 12).—This great mesa, of about 110,000 acres, extends along the sea from San Rafael Valley on the north, to San Ramon Bay on the south, a distance of eighteen miles or more; thence north-easterly along the foot of the coast range back to the San Rafael at Red Mountain, a distance of twenty-two miles, thence down the San Rafael to the sea, thirteen miles. The land is choice and desirable. It is a great table or floor, level and smooth, with but few mounds or hillocks breaking its surface. From the center it slopes to the south and to the sea. It is cut into two parts by the S. Telmo Valley, making two distinct divisions, each of which possesses its own peculiarities. The land may be classified as, first, low mesa; second, high mesa; third, valley; fourth, rolling mesa; fifth, slopes. The low mesa comprises about 50,000 acres, and lies along the shore and extends to the northward to the mouth of the S. Telmo Cañon. That portion of it immediately on the shore and for three miles back, is a very rich sand and clay loam mixed with shells and lime three to five feet in depth, resting on a lime clay subsoil three to ten feet thick, and this on limestone bed-rock. This soil is remarkable for its fertility, strength and manner of retaining moisture. The height above the sea is from ten to twenty feet, and the shore where not rock-bound, is rapped with coarse gravel and boulders, in many places higher than the land, and sheltering the latter from storms. To the northward and eastward of this three-mile belt along the shore, the mesa gently rises from five to fifteen feet, and the soil changes into a strong, deep rich clay loam, rich also in lime and shells. This area is also level, and slopes to the south and to the sea. The view over these two portions of the mesa, one rising

slightly above the other, and both fronting the sea, is very beautiful. There are numerous smaller tracts connecting at different angles which add a good deal of arable land.

The second division, or the remaining 50,000 acres of the grand mesa, comprises nearly all the land lying between the San Rafael and S. Telmo Valleys. It is about three miles wide at the end nearest the sea, and ten miles wide at the mouth of the S. Telmo Cañon. It rises about seventy-five to one hundred feet above the low mesa already described. The soil is a deep, rather stiff, heavy clay loam, on a subsoil of lime clay and a bed-rock of limestone, changing for distances of two or three miles into deep and rich alluvial loam. It is excellent for grain and is the natural soil of the olive. The growth of maguey or fibre plant is so dense that stock with difficulty can pass through. There are bodies of land of low mesa at intervals, carrying a deep black loam. The S. Telmo Valley, of one by ten miles, is also included in this division. The valley proper is narrow, often being but a few rods wide. This adjoins what may be called high valley and low mesa. The valley could be divided to advantage into small fruit or vegetable gardens, with a high valley and mesa on either side for other crops. There is a fine stream of water for some distance and some large ponds of water fed by springs. All through the lower lands the water is very near the surface. The surrounding foothills have a heavy red clay loam soil on iron stone bed-rock, and as their slopes are easy and smooth, they are excellent for orchards and the olive. This also applies to the Red Mountain hills adjoining the tract. The main coast wagon road crosses this mesa from S. Telmo Cañon to San Ramon Bay. The wagon road also passes up White Point Cañon leading from the harbor and San Rafael Valley to S. Telmo Ex-Mission. Colnett Harbor and Bay, at the mouth of San Rafael Valley and at the northwest corner of this mesa, affords a fine harbor for vessels. San Ramon Bay at the southeast corner of the mesa, twenty miles from the

corner of the bay, furnishes another good harbor. The Mesa Padre may be described as follows: 50,000 acres low mesa; 45,000 high mesa; 11,000 rolling mesa; 2,300 valley, and 1,700 slope. The coast line railroad must necessarily cross this mesa.

S. TELMO VALLEY (Section Map 12)—This tract, containing 6,100 acres, extends from its mouth at the sea (which is three miles south of the mouth of the San Rafael) to the mountains in a northeasterly direction. It is one mile wide at the sea and bordered on each side by low mesas, connecting on the south with the Mesa Padre, and on the north with the valley of San Rafael, three miles distant at Colnett Bay and Harbor. The soil of the first and second miles in the valley is black loam; the mesa on both sides having a dark rich loam with lime and shells. There is a pond of brackish water near the sea, fed by fresh and salt water springs, which rise, on both the first and second miles, side by side. There is also an alkali and iron spring within twenty feet of each other. The remainder of the valley has less low land than the first part of it, and the soil alternates with a deep rich clay and sandy loam, carrying lime and shells. The slopes are fair with a strong soil, and occasionally merge in the larger mesas so gradually that the dividing line is lost. There are several large ponds of fresh water fed by fine springs, and also a stream that grows stronger as one ascends the valley. The land may be classified as follows: 3,000 valley; 2,000 mesa, and 1,100 slope. The outlet is by the S. Telmo or coast wagon road, which crosses the upper part of it ten miles from the sea, while the mouth of the valley is but three miles distant from the mouth of the bay. There is firewood in the surrounding cañons and on the hills to the eastward.

NOTES.

MESAS.—In general the mesas of the San Vicente Basin district resemble each other in a certain way, and yet they differ materially in character, quality and quantity of soil; as also in productions of grasses and verdure. The soils range from a perfectly black vegetable mold through alluvial and sandy loams to the heaviest adobes and clays and the lightest sand. Some have been badly cut by water-courses, while others remain for long distances unbroken. The grasses and verdure vary from the buffalo, bunch, gramma, herds grass, burr clover and the alfilarilla, to the cholla or cactus of the roughest summits. The maguey or fibre plant, the flowers and heads of which cattle devour greedily and grow fat upon, forms an important factor in the feed part of the large mesas on the sea especially in dry seasons.

VALLEYS.—While these seem much alike in their external appearances yet, on close inspection, they are found to differ materially not only in soil but in vegetation. While some are miles in length and width, others are narrow and frequently cañon. The soil ranges from a black loam occasionally carrying some alkali to the light sandy loam, and the grasses from the alfilarilla, burr, or other clover, to the salt or fresh water valley grasses. Some have continuous streams of water, while in others the water rises and sinks at frequent intervals, and springs often abound in the banks on either side.

TREES.—These are found almost everywhere, on the northern slopes of the high hills and mountains, and on the sides of the cañons, as well as in many of the valleys. There is an abundance of firewood, sufficient, if protected from fire, to last for years to come

In some places the growth is enormous. The trees are much larger and better than those which have supplied San Diego, Los Angeles, and other towns and cities in California since they were settled. With a little care and cultivation the supply can be increased to almost any extent in a short time, by simply planting those varieties which grow rapidly along the slopes of the cañons and moist hill sides. There are large bodies of remarkable live oak and sycamore trees in Live Oak and Oak Creek Valleys, the timber extending for distances of ~~five to eight~~ miles. The growth is immense, the trees being from eighteen inches to four feet in diameter. Adjoining these on the slopes of the hills and mountains there is an excellent growth of native woods, making an abundance of good firewood. In Willow Creek Valley there is a great growth of sycamore, willow and other trees in both branches of the valley for a distance of six miles or more. This timber covers several thousand acres. On the north side of the mountains there is a good growth of pine from twelve to thirty inches in diameter, straight and free from bad knots. In Rancho Viejo Cañon and the fine valley near its head, there is a great body of fine oak timber with some sycamore and other varieties. These trees are from fifteen inches to four and a half feet in diameter at the butts, and in places so thick that a horse and rider cannot pass and must turn aside and find a path outside of the valley proper. Adjacent to the valley is a great growth of the native woods suitable for firewood and much of it for fence purposes. This belt of timber covers not less than six or seven thousand acres. Lying west of the San Antonio Valley and Mesa, and east of the coast mesas of San Ysidro, San Juan, Santa Cruz and others north, Seal Rock and others south, there is a large area of the finest firewood and timber suitable for posts and other farm purposes. This area of timber covers about 50,000 acres; it is located upon the sides and tops of the higher hills and mountains but is not inaccessible, and roads can be easily cut into it.

The great San Pedro de Martis pine belt is covered with several varieties of pine, an excellent red cedar, and other classes of timber. There is probably not less than 1,000,000 acres in this belt of the very best pine. The Land Inspector found a red cedar log on the bank of the San Rafael River sixty miles below the timber belt, that measured forty-one feet in length, two and a half feet in diameter at the butt, and twenty-two inches at the top, perfectly straight and without a knot, which had been brought down the river in high water.

WATER.—As to water, there can be no question but that this great water-shed gathers water enough every year from the winter rains and from the heavy snows that fall on the great San Pedro de Martis range, 15,000 feet high, to supply all the valleys and mesas with any water they may need, if the supply is only protected or husbanded, instead of allowed to sink into the loose soils of the cañons and valleys. It could be easily conveyed to the valleys and mesas and used. The San Vicente and San Rafael Rivers each carry more water within their banks than does the San Diego River at the point where the San Diego Flume Company, building at an expense of \$3,000,000, take their supply for the great flume which is expected to furnish a city of 50,000 people with all the water needed, besides irrigating the mesa on each side of the flume for a width of five miles, and a distance of from fifteen to twenty. What was accomplished by the San Diego Company is shown in the fact that the mesa lands along the lines of the flume, which were formerly a drag on the market, at from \$1.00 to \$2.50 per acre, are now selling at \$150.

Besides the San Vicente and San Rafael Rivers, the San Tomas flows a large stream except where the soil is loose when it sinks in places. Nearly all of the valleys and cañons have water running in their beds or standing in pools, ponds and springs. Springs in great numbers exist everywhere, even to the tops of the highest

mountains, coming out of the granite, slate, sand or limestone, wherever the formation has been cut by dykes, veins or belts of other rocks. Nearly every cañon in the mountains has running water in it, though it often runs for only short distances, sinking into the soil and then reappearing.

ARTESIAN WELLS.—There is no question apparently why an abundant supply of artesian water cannot be easily and cheaply found, if desired, for such portions of the mesa as cannot be supplied otherwise. Water seems to be everywhere near the surface, and in the valleys can generally be struck at from two to five feet. The geological formation, the fact that there are so many springs, often so high up in the mountains coming forth from the oldest formations which form the rim of the San Vicente Basin, seem to be positive proofs that artesian water can be had whenever sought for.

MINERALS.—Large veins of good copper and iron ore are found almost everywhere in the range of mountains along the coast from San Tomas to San Fernando, a distance of two hundred miles or more. Silver is found in the copper ores, and copper is found with the iron in the iron ore. One-half of a ton of this iron ore was shipped to Liverpool some time since, and the English iron makers pronounced it superior to any ore ever brought into the English iron market, and capable of being made into a class of steel ranking with the celebrated Damascus. Tried in one of the great steel works in the East, the ore was pronounced to be of the very best class for cutlery steel; lately, the same steel company ordered a sample of several tons to be forwarded to them, that they might give it a trial for the best classes of springs of carriages and railroad cars. A recent trial in San Francisco gave the same satisfactory result. Some years ago a vessel was loaded at one of the landings on the coast of the Peninsula, and among the other lots of copper ore was one of twenty-eight tons

which produced a grade of white copper when reduced equal to the "Pang Tang" or white copper of the Chinese. The ore came from this locality, but the exact whereabouts of the vein will not be known until a survey of the district is again made.

Silver and gold are also found near the head of the basin as well as veins of copper and iron. Miners are at work at present panning out gold at Socorro, San Jose and Valle Dares, making good fair wages. The mines in San Antonio are being worked with good results, the ore being used in the small smelter there. When the coal veins are opened San Antonio will become the Pittsburgh of the Pacific Coast, and it will not be a question of a long time before the gold and silver belt lying between the coast range and San Pedro de Martis will become a mining center.

The large deposits of alum which exist in parts of the basin will, it is thought, be utilized in the production of aluminium which metallurgists pronounce the coming metal.

OIL AND COAL.—Crude petroleum exists in several places, and the general indications are better for a large supply of it from this basin than they were in either Ventura or Los Angeles counties in California. Coal has been exhibited at different times by parties who found it in some of the cañons, and the geological indications are such as warrant a belief that it exists. It is believed by those acquainted with the facts of the case that some large veins will be discovered as soon as a search is made for them.

CLIMATE.—Along the coast of the basin it is a little warmer than at San Diego or Ensenada, as the water along the seashore is from one to three degrees higher. This applies to the valleys and mesas between the sea and the coast range of mountains, or from four to twenty miles back from the ocean shore. Above this, or inside of the coast range, and back from twelve to thirty miles from the coast, the climate is about the same as at Los

Angeles in California. Beyond this and back to the foothills of the Santa Isadora Mountains, the climate is about the same as at San Bernardino, Cal. The first of these belts is seventy-five miles in length, and from ten to five hundred feet above the sea. The second has an altitude of from five hundred to fifteen hundred, and the third from fifteen hundred to two thousand. Upon the highest of these belts and the one farthest from the sea, humming and mocking birds were seen and heard. These were busily at work, and swallows were on the wing constantly during the days of January and February, except when it rained. A little white frost was seen a few times on a range of mountains 3,500 feet above the sea, and near Table Mountain, thirty miles from the coast, at an altitude of 2,500 feet, a thin veil of ice was found one morning on a cup of water.

RAILWAY ROUTES.—The route for the coast line or Peninsula Railway will probably extend as far south as San Fernando, four hundred miles below San Diego. Leaving Ensenada this line can have the choice of two routes. The first over the Amanadero up the Los Animas Cañon into San Tomas Valley, and up the valley to San Jacinto, down its cañon to San Vicente and San Antonio and to the Mesa Madre, or North Grand Mesa, and over that mesa, the Grand South Mesa, Camalu, San Ramon, San Quintin and Rosario, on to San Fernando. Second, the line can run down the San Tomas Cañon to the sea and around Point Solidad, where it would enter upon the mesas of the coast and join the other line on the North Grand Mesa, or Mesa Madre. There is no difficulty in building the first line, for there are but two low divides to cross and only one narrow short cañon to pass through. The rest of the line can be built as easily as that from San Diego to the Mexican boundary line, or from Ensenada to Punta Banda. The whole route lies through a most beautiful series of valleys and mesas, and the line will be one that should be self-sustaining from the start.

CATTLE.—In traveling over two hundred square miles of this basin, the bones of less than fifty head of stock were seen, four-fifths being those of horses and mules. This fact proves excellent water, good pastures, no malignant diseases, and a favorable climate. With proper effort this region will become again the *paradise of a stock grower* as it was in the older times, when ships from the East came to the coast of the basin to load with hides and tallow, for which purpose thousands of cattle were slaughtered annually, and the carcasses thrown aside. The few old settlers were fond of telling how their fathers and mothers recited to them the wonders of the wealth of this region one hundred years ago in its cattle, horses and grain. In regard to the latter the ruins of the immense granaries near the Old Missions, capable of holding thousands of bushels of grain, give an evidence of what agriculture could do here before the markets ceased to exist.

AREA.—Below an altitude of 3,000 feet above the sea, there is at the present time accessible and ready for settlement 517,950 acres of good land, of which 92,700 acres is valley with deep rich alluvial soil adjacent to waters sufficient for irrigation; 218,690 acres is low mesa or high valley lying alongside of the other; 82,660 acres is excellent rolling mesa suitable for fruits and grains, and 91,900 acres is high level mesa. The latter is from twenty-five to one hundred feet above the low mesa, and carries a strong soil. There are also 30,000 acres of slope land with a strong, rich soil, good for fruits and vines. All this does not include third and fourth-class lands.

CONCLUSION.—These statements are made from actual observation. 1,100 miles have been traveled, and more than two months' time spent in a careful personal inspection of the country. The soil has been carefully examined, and two hundred samples

taken for examination and analysis. The descriptions are claimed to be truthful ones, the result of careful investigation. The country is a good one. The soil is excellent, the climate unexcelled. There is no portion of the Pacific coast, north or south, that offers such inducements to the settlers. Homes on the seashore, in the valleys, or among the hills, or on the mesas can be chosen. Future towns and cities are things of the very near future.

RANCHO VIEJO MESA (Section Map 1).—This tract, containing about 10,000 acres, with a length and width of four miles, lies between San Tomas Lower Valley and Rancho Viejo Valley, and about ten miles back from the sea.

RANCHO VIEJO VALLEY (Section Map 1).—This tract, containing about 2,500 acres, with a width of one mile and a length of four, lies south of Rancho Viejo Mesa and midway between San Tomas Lower Valley and Willow Creek. It carries a fine body of live oaks, with ponds and springs of water, and is situated about eight miles from the sea. The land may be divided as follows: Valley, 300 acres; mesa, 800; rolling, 900; slope, 500.

S. CRUZ NORTH MESA (Section Map 3).—This tract, two miles in breadth and seven miles in length, north and south, contains about 9,000 acres. It lies about midway between San Juan Cañon on the north and S. Cruz Cañon on the south, and faces the sea. The land may be divided as follows: Valley, 500 acres; mesa, 4,000; rolling, 3,500; slope, 1,000.

S. CRUZ SOUTH MESA (Section Map 3).—This tract, containing about 5,000 acres, lies just north of S. Cruz Cañon and faces the sea.