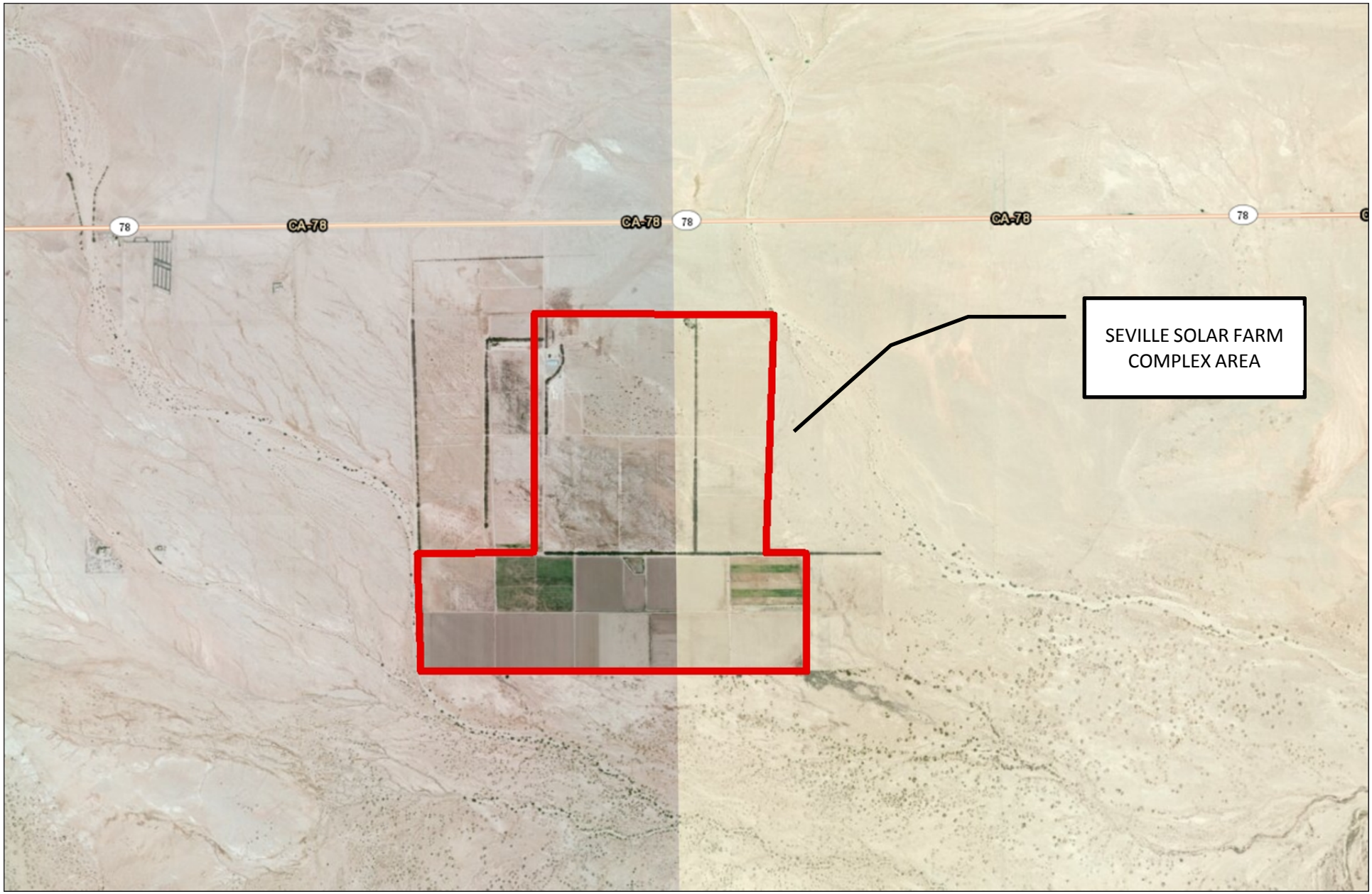


Figure 2 : Development Area on an Aerial Photographic Base

Land Evaluation Worksheet							
A	B	C	D	E	F	G	H
Soil Map Unit*	**Project Acres**	**Proportion of Project Area**	**LCC** (irrigated)**	**LCC Rating (irrigated)*****	**LCC Score (C x E)**	**Storie Index****	**Storie Index Score (C x G)**
117	103.5	0.084	I	100	8.40	96	8.06
119	93.6	0.076	IIs	80	6.08	96	7.30
121	144.7	0.117	IIIs	60	7.02	32	3.74
130	161.0	0.131	IVs	40	5.24	47	6.16
132	173.0	0.140	IIIs	60	8.40	51	7.14
143	556.0	0.452	IIs	80	36.16	92	41.58
Totals	1231.8	1.000		**LCC Total Score**	71.30	**Storie Index Total Score**	73.99

Total Project Area (acres)=	1231.8

* The Soil Map Unit information and acreage were determined from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Figure 3).

** The Land Capability Classification and Storie Index information was obtained from the current soil survey information available at the USDA Natural Resources Conservation Service website: http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx (Appendix A).

*** The LCC Rating for irrigated land was determined from the LCC Point Rating Table 2 from the LESA Instruction Manual (California Department of Conservation 1997).

Tables — California Revised Storie Index (CA) — Summary By Map Unit

Summary by Map Unit — Imperial County, California, Imperial Valley Area (CA683)

Map unit symbol	Map unit name	Rating	Component name (percent)	Acres in AOI	Percent of AOI
117	INDIO LOAM	Grade One - Excellent	Indio (85%)	103.5	8.4%
			Glenbar (5%)		
119	INDIO-VINT COMPLEX	Grade One - Excellent	Indio (35%)	93.6	7.6%
			Vint (30%)		
121	MELOLAND FINE SAND	Grade Four - Poor	Meloland (85%)	144.7	11.7%
			Niland (4%)		
130	ROSITAS SAND, 0 TO 2 PERCENT SLOPES	Grade Three - Fair	Rositas (85%)	161.0	13.1%
			Rositas (4%)		
132	ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES	Grade Three - Fair	Rositas (85%)	173.0	14.0%
			Rositas (4%)		
			Holtville (1%)		
143	VINT FINE SANDY LOAM	Grade One - Excellent	Vint (90%)	556.0	45.1%
			Indio (3%)		
Totals for Area of Interest				**1,231.8**	**100.0%**

	Site Assessment Worksheet 1		
	Project Size Score*		
	I	J	K
	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Project Acres per LCC Class	103.5	144.7	161.0
Project Acres per LCC Class	93.6	173.0	
Project Acres per LCC Class	556.0		
Total Project Acres per LCC Class	**753**	**318**	**161**
**** Project Size Scores***	**100**	**100**	**40**
Highest Project Size Score	**100**		

* Project Size Score was determined from the Project Size Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).

Site Assessment Worksheet 2				
Water Resources Availability				
A	**B**	**C**	**D**	**E**
Project Portion	**Water Source**	**Proportion of Project Area**	**Water Availability Score***	**Weighted Availability Score (C x D)**
1	Ground Water Only	1.0	65	65
2				
3				
4				
5				
6				
		(Must Sum to 1.0)	***Total Water Resource Score***	65

* The Water Availability Score was determined using the Water Resources Availability Scoring Table from the LESA Instruction Manual (California Department of Conservation 1997).

Site Assessment Worksheet 3

Surrounding Agricultural Land & Surrounding Protected Resource Land

A	B	C	D	E	F	G
Zone of Influence*					Surrounding Agricultural Land Score (From LESA Manual Table 6)	Surrounding Protected Resource Land Score (From LESA Manual Table 7)**
Total Acres	Acres in Agriculture	Acres of Protected Resource Land	Percent in Agriculture (B/A)	Percent Protected Resource Land (C/A)		
3049.9	722	644	23.7	21	0	0

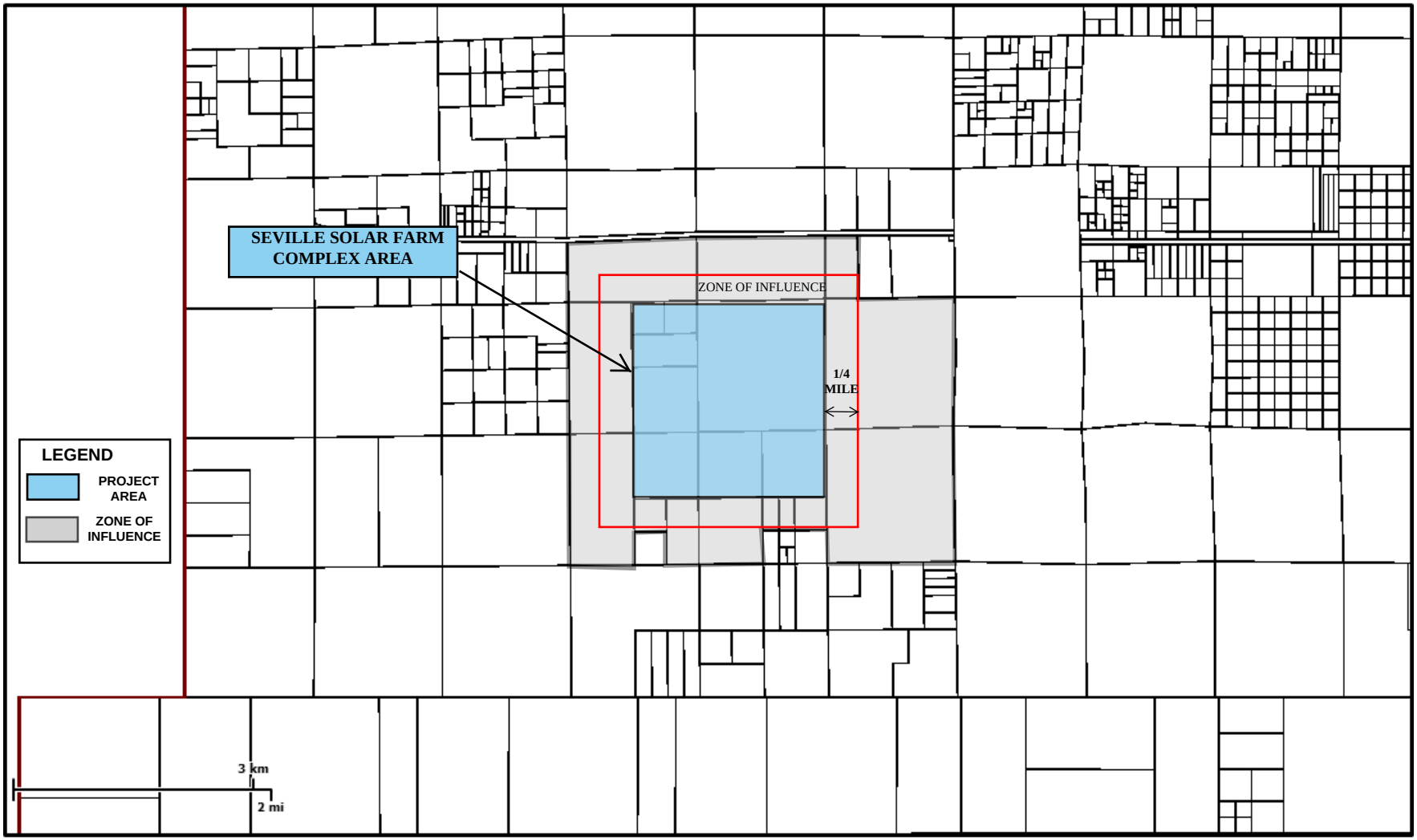
* In conformance with the instructions in the LESA Instruction Manual (California Department of Conservation 1997), the Zone of Influence was determined by drawing the smallest rectangle that could completely encompass the entire Project Area. A second rectangle was then drawn which extended one quarter mile on all sides beyond the first rectangle. The Zone of Influence is represented by the entire area of all parcels with any lands inside the outer rectangle, less the area of the proposed project (Figure 4).

** The LESA Instruction Manual (California Department of Conservation 1997) describes *Protected Resource Land* as those lands with long term use restrictions that are compatible with or supportive of agricultural uses of land. Included among them are the following: Williamson Act contracted lands; Publicly owned lands maintained as park, forest, or watershed resources; and Lands with agricultural, wildlife habitat, open space, or other natural resource easements that restrict the conversion of such land to urban or industrial uses.

Surrounding Parcels***	Acres	Protected Resource Land?	Percent Protected Resource Land	Acres in Protected Land	Agricultural Land?	Percent Agricultural Land	Acres of Agriculture
018-010-019	79.4	N	0	0	N	0	0.0
018-010-020	314.3	N	0	0	N	0	0.0
018-010-025	307.9	N	0	0	Y	85	261.7
018-170-003	318.1	N	0	0	N	0	0.0
018-170-004	41.1	N	0	0	Y	100	41.1
018-170-005	41.3	N	0	0	Y	100	41.3
018-170-006	82.1	N	0	0	Y	100	82.1
018-170-007	163.7	N	0	0	Y	100	163.7
018-170-009	644.2	Y****	100	644	N	0	0.0
018-170-010	658.8	N	0	0	Y	20	131.8
018-170-014	81.5	N	0	0	N	0	0.0
018-170-016	32.4	N	0	0	N	0	0.0
018-170-042	40.7	N	0	0	N	0	0.0
018-022-001	162.7	N	0	0	N	0	0.0
018-022-005	20.5	N	0	0	N	0	0.0
018-022-006	20.3	N	0	0	N	0	0.0
018-022-007	40.8	N	0	0	N	0	0.0
Total	**3049.9**		**Total**	**644**		**Total**	**722**

***The Imperial County Assessors website was accessed to identify the surrounding parcel numbers (http://www.co.imperial.ca.us/assessor/). The percentage of agriculture was determined from a map overlay used to estimate the proportion of land in agriculture and the California Department of Conservation Important Farmland Map Series.

****According to the "Protected Areas Database – November 2012" (http://gapanalysis.usgs.gov/padus/data/download/), the parcel (018-170-009) is part of the San Sebastian Marsh / San Felipe Creek Area of Critical Environmental Concern



1" = 6,019 ft	**Figure 4** **Zone of Influence**	04/18/2013	N W E S	IMPERIAL COUNTY CALIFORNIA

This map represents a visual display of related geographic information. Data provided hereon is not a guarantee of actual field conditions. To be sure of complete accuracy, please contact Imperial County staff for the most up-to-date information.

Final LESA Score Sheet			
	Factor Scores	Factor Weight	Weighted Factor Scores
LE Factors			
Land Capability Classification	71.30	0.25	17.83
Storie Index	73.99	0.25	18.50
LE subtotal		0.50	36.32
SA Factors			
Project Size	100	0.15	15.00
Water Resource Availability	65	0.15	9.75
Surrounding Agricultural Land	0	0.15	0.00
Protected Resource Land	0	0.05	0.00
SA Subtotal		0.50	24.75
		Total LESA Score	**61.07**

California LESA Model Scoring Thresholds	
Total LESA Score	**Scoring Decision**
0 to 39 Points	Not Considered Significant
40 to 59 Points	Considered Significant only if LE and SA subscores are each greater than or equal to 20 points
60 to 79 Points	Considered Significant unless either LE or SA subscore is less than 20 points
80 to 100 Points	Considered Significant

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APPENDIX A: SEVILLE I SOLAR PROJECT DEVELOPMENT AREA SOILS DETAILS

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Imperial County, California, Imperial Valley Area

117—INDIO LOAM

Map Unit Setting

Elevation: -230 to 200 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Indio and similar soils: 85 percent
Minor components: 15 percent

Description of Indio

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 8.5 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 1
Land capability (nonirrigated): 7c
Hydrologic Soil Group: B

Typical profile

0 to 12 inches: Loam
12 to 72 inches: Stratified loamy very fine sand to silt loam

Minor Components

Meloland

Percent of map unit: 5 percent

Glenbar

Percent of map unit: 5 percent

Vint

Percent of map unit: 5 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

119—INDIO-VINT COMPLEX

Map Unit Setting

Elevation: -230 to 300 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Indio and similar soils: 35 percent
Vint and similar soils: 30 percent
Minor components: 35 percent

Description of Indio

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 8.5 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: B

Typical profile

0 to 12 inches: Loam
12 to 72 inches: Stratified loamy very fine sand to silt loam

Description of Vint

Setting

Landform: Basin floors

Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or eolian deposits derived from mixed

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Low (about 4.9 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: A

Typical profile

0 to 10 inches: Loamy fine sand
10 to 60 inches: Loamy sand

Minor Components

Meloland

Percent of map unit: 12 percent

Holtville

Percent of map unit: 12 percent

Rositas

Percent of map unit: 11 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

121—MELOLAND FINE SAND

Map Unit Setting

Elevation: -230 to 300 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Meloland and similar soils: 85 percent
Minor components: 15 percent

Description of Meloland

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Slightly saline to moderately saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: C

Typical profile

0 to 12 inches: Fine sand
12 to 26 inches: Stratified loamy fine sand to silt loam
26 to 71 inches: Clay

Minor Components

Niland

Percent of map unit: 4 percent

Glenbar
Percent of map unit: 4 percent

Meloland
Percent of map unit: 4 percent

Rositas
Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

130—ROSITAS SAND, 0 TO 2 PERCENT SLOPES

Map Unit Setting

Elevation: -230 to 310 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Rositas and similar soils: 85 percent
Minor components: 15 percent

Description of Rositas

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 3 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 4s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: A

Typical profile

0 to 27 inches: Sand
27 to 60 inches: Sand

Minor Components

Carsitas

Percent of map unit: 4 percent

Vint

Percent of map unit: 4 percent

Rositas
Percent of map unit: 4 percent

Niland
Percent of map unit: 3 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

132—ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES

Map Unit Setting

Elevation: -230 to 350 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 70 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Rositas and similar soils: 85 percent
Minor components: 15 percent

Description of Rositas

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Available water capacity: Low (about 3.6 inches)

Interpretive groups

Farmland classification: Farmland of statewide importance
Land capability classification (irrigated): 3s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: A

Typical profile

0 to 9 inches: Fine sand
9 to 60 inches: Sand

Minor Components

Niland

Percent of map unit: 4 percent

Rositas
Percent of map unit: 4 percent

Vint
Percent of map unit: 4 percent

Antho
Percent of map unit: 1 percent

Holtville
Percent of map unit: 1 percent

Superstition
Percent of map unit: 1 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

Imperial County, California, Imperial Valley Area

143—VINT FINE SANDY LOAM

Map Unit Setting

Elevation: -230 to 310 feet
Mean annual precipitation: 0 to 3 inches
Mean annual air temperature: 72 to 75 degrees F
Frost-free period: 300 to 350 days

Map Unit Composition

Vint and similar soils: 90 percent
Minor components: 10 percent

Description of Vint

Setting

Landform: Basin floors
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed sources and/or eolian deposits derived from mixed sources

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Available water capacity: Low (about 5.3 inches)

Interpretive groups

Farmland classification: Prime farmland if irrigated
Land capability classification (irrigated): 2s
Land capability (nonirrigated): 7e
Hydrologic Soil Group: B

Typical profile

0 to 10 inches: Fine sandy loam
10 to 60 inches: Loamy sand

Minor Components

Rositas

Percent of map unit: 5 percent

Indio
Percent of map unit: 3 percent

Meloland
Percent of map unit: 2 percent

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil's potential for cultivated agriculture in California.

The Storie Index asseses the productivity of a soil from the following four characteristics: Factor A, degree of soil profile development; factor B, texture of the surface layer; factor C, slope; and factor X, manageable features, including drainage, microrelief, fertility, acidity, erosion, and salt content. A score ranging from 0 to 100 percent is determined for each factor, and the scores are mukltiplied together to derive an index rating.

For simplification, Storie Index ratings have been combined into six grades classes as follows: Grade 1 (excellent), 100 to 80; grade 2 (good), 79 to 60; grade 3 (fair), 59 to 40; grade 4 (poor), 39 to 20; grade 5 (very poor), 19 to 10; and grade 6 (nonagricultural), less than 10.

Report—California Revised Storie Index Rating (CA)

The Storie Index is a soil rating based on soil properties that govern a soil map unit component's potential for cultivated agriculture. [Absence of an entry indicates that a Storie Index rating is not applicable or was not estimated]. For simplification, Storie Index ratings have been combined into six grades as follows: Grade 1 (Excellent): Soils that rate between 80 and 100 and which are suitable for a wide range of crops. Grade 2 (Good) Soils that rate between 60 and 79 and which are suitable for a wide range of crops. Grade 3 (Fair): Soils that range between 40 and 59. Soils in this grade may give good results with certain specialized crops. Grade 4 (Poor): Soils that rate between 20 and 39 and which have a narrow range in their agricultural potential. Grade 5 (Very Poor): Soil that rate between 10 and 19 and are of very limited agricultural use except for pasture because of adverse soil conditions. Grade 6 (Nonagricultural): Soils that rate less than 10. [The numbers in the "Limiting feature value" column range from 0.01 to 1.00. Soils with a smaller the value have a lower potential for cultivated agriculture. The table shows each of the sub-factors used to generate the Storie Index rating for each soil component].

California Revised Storie Index Rating (CA)– Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
117—INDIO LOAM				
Indio	85	96	Grade One - Excellent	
			USDA Texture	1.00
			Rated Soil Order	1.00
			Profile Group	1.00
			Wetness, flooding, ponding, drainage, erosion	1.00
			Nearly level to gently sloping	0.98

California Revised Storie Index Rating (CA)– Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
119—INDIO-VINT COMPLEX				
Indio	35	96	Grade One - Excellent	
			USDA Texture	1.00
			Rated Soil Order	1.00
			Profile Group	1.00
			Wetness, flooding, ponding, drainage, erosion	1.00
			Nearly level to gently sloping	0.98
Vint	30	83	Grade One - Excellent	
			Rated Soil Order	1.00
			Profile Group	1.00
			Wetness, flooding, ponding, drainage, erosion	1.00
			Nearly level to gently sloping	0.98
			Toxicity	0.94
121—MELOLAND FINE SAND				
Meloland	85	32	Grade Four - Poor	
			Rated Soil Order	1.00
			Profile Group	1.00
			Wetness, flooding, ponding, drainage, erosion	1.00
			Nearly level to gently sloping	0.98
			USDA Texture	0.65
130—ROSITAS SAND, 0 TO 2 PERCENT SLOPES				
Rositas	85	47	Grade Three - Fair	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			Toxicity	0.94
			Wetness, flooding, ponding, drainage, erosion	0.85

California Revised Storie Index Rating (CA)– Imperial County, California, Imperial Valley Area				
Map symbol and soil name	Pct. of map unit	California Revised Storie Index (CA)		
		Storie index rating	Storie index grade and limiting features	Limiting feature value
132—ROSITAS FINE SAND, 0 TO 2 PERCENT SLOPES				
Rositas	85	51	Grade Three - Fair	
			Rated Soil Order	1.00
			Profile Group	1.00
			Nearly level to gently sloping	0.98
			Toxicity	0.94
			Wetness, flooding, ponding, drainage, erosion	0.85
143—VINT FINE SANDY LOAM				
Vint	90	92	Grade One - Excellent	
			USDA Texture	1.00
			Rated Soil Order	1.00
			Profile Group	1.00
			Wetness, flooding, ponding, drainage, erosion	1.00
			Nearly level to gently sloping	0.98

Data Source Information

Soil Survey Area: Imperial County, California, Imperial Valley Area
Survey Area Data: Version 5, Jul 25, 2008

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PROPERTY AGRICULTURAL HISTORY

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ENVIRONMENTAL MANAGEMENT ASSOCIATES

AN AGRICULTURAL HISTORY OF ALLEGRETTI FARMS
IMPERIAL COUNTY, CALIFORNIA

EMA Project No. 2223
April 2013

Prepared for:

Regenerate Power LLC
1050 Doyle St.
Menlo Park, CA 94025

Location and Setting

Allegretti Farms (the "Property") is located immediately south of State Highway 78 in west-central Imperial County, California, approximately eight miles west of the junction of State Highway 78 and State Highway 86, and approximate three miles east of the San Diego County line (see Figure 1). The Property consists of approximately 2,440 acres located on portions of Sections 13, 15, 22, 23 and 25-27, Township 12 South (T12S), Range 9 East (R9E), San Bernardino Baseline and Meridian (SBB&M) (see Figure 2). Elevations range from approximately 25 feet above sea level in the northwest corner of the Property to approximately 70 feet below sea level in the southeast corner.

The dry bed of San Felipe Creek currently runs south along the southwestern edge of the Property. Tarantula Wash trends south past the northeast corner of the Property, then crosses the northeastern corner of the undeveloped southeastern portion of the Property as it turns to the southeast.

The adjacent properties are generally a mixture of private, state and federal lands. To the north of Highway 78 is the Ocotillo Wells State Vehicular Recreation Area, which is managed by the State of California for the use of off-highway recreational vehicles. To the west of the Property are several private and commercial developments. Undeveloped desert lands adjoin the Property to the southwest, south and east.

Early Development

Ted Jacobs began development of the Property (then known as "Ranch Oasis" or "Jacobs Ranch") in the early 1950's.[1] Two groundwater wells were initially drilled to provide the water

[1] Personal Communication, Joe Allegretti, Jr. – January 21, 2013

necessary for development: the "San Felipe Well" and the "Jacobs Domestic Well" (see Table 1).

Table 1: Well Information for the Property

Well	State Well Number	Year Constructed	Pump Discharge	Approximate Location
Jacobs Domestic Well	12S/9E-22A1[1]	1953[2]	n/a	NE1/4NE1/4 Section 22
San Felipe	12S/9E-23D1	1953[3]	n/a	NW1/4NW1/4 Section 23
Allegretti 1	12S/9E-23D2	1965	1,500	NW1/4NW1/4 Section 23
Allegretti 2	12S/9E-22A2	1960	1,800	NE1/4, NE1/4 Section 22
Allegretti 3	12S/9E-15Q[4]	1969[5]	3,000	NW1/4NE1/4 Section 22[3]
Allegretti 4	12S/9E-27A	1976[6]	2,800	NW1/4NW1/4 Section 26
Allegretti 5	12S/9E-23G	1976[6]	1,800	SW1/4NW1/4 Section 23
Allegretti 6	12S/9E-25D	1976[6]	3,100	NW1/4NW1/4 Section 25
Allegretti 7[7]	12S/9E-23B[7]	1982	n/a	NW1/4NE1/4 Section 23

[1] Table 2 of the Borrego Water District study (2012) identifies the State Well Number for this well as 12S/9E-22AI. This assessment has assumed that the "I" is a typo and should be the number "1," as that would be consistent with the State of California water well nomenclature system.
[2] Table 3 of the Borrego Water District study (2012) identifies the well as the "Jacobs abandoned well" and the Krieger & Stewart (1995) study indicates that the well has been "long abandoned."
[3] The Borrego Water District study (2012) indicates that this well was producing until 1960s, when the pumping unit was removed and the well became strictly a USGS monitoring well. The USGS had monitored this well since 1953.
[4] The State well number implies that the well is located in Section 15. However, based on recent surveys, this well is believed to be located in Section 22, just south of the 15-22 Section line.
[5] The Krieger & Stewart (1995) Hydrogeologic Study states that Well 3 (Allegretti 3) was taken out of service in 1983.
[6] The Krieger & Stewart (1995) Hydrogeologic Study indicated that Allegretti wells 4, 5 and 6 were constructed in 1977, rather than 1976.
[7] Allegretti 7 is a domestic water well.
[8]Table 2 of the Borrego Water District study (2012) identifies the State Well Number for this well as 12S/9E-236. This assessment has assumed that the "6" is a typo and should be the letter "B," as that would be consistent with the State of California water well nomenclature system.

Principal source: Borrego Water District, 2012 (unless otherwise indicated)

A 1995 investigation (Krieger 1995) states, "For the period from 1954 to 1973, about 320 acres of ground had been cleared and leveled for farming, and about half, 180 acres, were being farmed in 1973." An aerial photograph from 1973 shows farming activity on approximately 320 acres, located north of the San Felipe Creek channel in the east half of the east half of Section 22 and the west half of the west half of Section 23 (see Appendix A: Aerial Photographic History). In addition, a north-south vegetation windbreak had been constructed a quarter mile to the west in the center of Section 22. A 1970 Water Supply Analysis (Koebig & Koebig 1970) relates that "the reported yields of alfalfa, barley, oats, citrus, date palms, grapes and tomatoes have been satisfactory and in some cases spectacular to date," although no specific information concerning the lands farmed were provided.

During the 1960's three additional water wells were drilled on the Property. Although there is conflicting information in the available literature regarding well names, State well numbers and

locations, this document has listed these three wells as "Allegretti 1," "Allegretti 2" and "Allegretti 3" (see Table 1, Table 2 and Figure 3). During the 1960's the "San Felipe Well" was converted to a USGS monitoring well. A 1995 hydrogeologic study reported that the "Jacobs Domestic Well" had by then been "long abandoned."[2]

Table 2: Well Water Quality

WELL	SAMPLE DATE	TOTAL DISSOLVED SOLIDS	HARDNESS	SODIUM	SULFATE	CHLORIDE
Allegretti 1	9/25/1962	1,650	530	381	388	628
	7/29/1963	1,740	534	409	425	645
	2/26/1965	1,687	488	380	393	574
	12/3/1969	1,724	492	387	--	568
	8/23/1991	1,673	--	370	405	630
	9/22/1995	1,790	510	390	630	610
	6/20/2002	1,400	390	360	350	500
Allegretti 2	9/25/1962	1,580	486	372	388	578
	7/29/1963	1,560	442	383	400	550
	8/15/1967	1,817	344	468	--	682
	12/3/1969	1,852	516	413	--	653
	4/18/1983	--	--	425	566	603
	8/23/1991	1,477	--	345	349	530
	9/22/1995	1,540	423	350	380	550
	6/20/2002	1,200	350	280	270	450
Allegretti 3	8/29/1967	--	480	390	450	603
	12/2/1969	1,806	344	441	--	596
Allegretti 4	8/29/1967	--	250	520	405	710
	4/18/1983	--	--	418	499	561
	1/10/1984	--	--	320	310	485
	8/23/1991	1,553	--	355	391	528
	4/7/1993	1,548	--	370	380	540
	9/22/1995	1,660	445	365	510	580
Allegretti 5[1]	N/A	N/A	N/A	N/A	N/A	N/A
Allegretti 6	4/18/1983	--	--	258	345	348
	8/23/1991	1,243	--	258	256	490
	9/22/1995	1,200	350	256	280	500
Allegretti 7	4/7/1982	880	217	232	240	312
	9/22/1995	930	198	245	230	410

[1] Water quality information for Allegretti 5 was not available in either the Kreiger (1995) or the Borrego Water District (2012) documents.

Principal Source: Borrego Water District 2012.

Farming continued to expand in the mid to late 1970's. Three additional water wells were drilled on the Property in the mid 1970's: "Allegretti 4," "Allegretti 5," and "Allegretti 6" (see Table 1 and Figure 3). A 1995 report stated that "Up to 2,000 acres of alfalfa and Sudan Grass [were farmed] until the late 1970's."[3] The current Property owner recollects that approximately

[2] Krieger & Stewart, 1995
[3] Krieger & Stewart, 1995

1,600 acres were under cultivation in 1978.[4] A 1978 aerial photograph of the Property shows that farming had, by that date, reached its current, maximum extent, with approximately 1,700 acres under cultivation (see Appendix A: Aerial Photographic History).

The 1978 aerial shows that the Property had been "subdivided" into individual fields (see Figure 4). The fields do not precisely align with the surveyed sections. However, as shown in Figure 4, fields 1 and 2 (approximately 100 acres) are generally located in the southeast quarter of Section 15; fields 3N, 3S, 4S 4N, and 4A (approximately 320 acres) are generally located in the east half of Section 22; fields 5N, 6N, 7N, 5W, 5E, 8W, 8E and 9S (approximately 640 acres) are generally located in Section 23; and fields 10N, 10S, 11N, 11S, 12N, 12S, 13N, 13S, 14N, 14S, 15N and 15S (approximately 640 acres) and are generally located in the northeast quarter of Section 27, the north half of Section 26 and the north-west quarter of Section 25.

Also established by the late 1970's was an irrigation water pipeline system designed to transport water from the six agricultural wells to allow irrigation of the various fields on the Property. Figure 5 generally shows how the pipelines, which ran between the fields, allowed water to be moved from the wells to each field.

Aerial photographs also document that between 1973 and 1978 a north-south running berm was constructed on the western edge of the Property in the center of Section 22 and the north half of Section 27 (see Appendix A: Aerial Photographic History and Figure 2). This berm protected farm lands in the southeastern quarter of Section 22 and the north half of Section 26 from storm water flowing down washes and arroyos from the northwest, including San Felipe Creek, by diverting these waters to the south into Fish Creek Wash, located immediately south of the Property in Section 27, T12S, R9E, SBBM (see Figure 6 and Figure 7). Fish Creek Wash then runs east-southeast approximately five miles before joining the San Felipe Creek channel in Section 32, T12S, R10E, SBBM.

[4] Personal Communication, Joe Allegretti, Jr. – January 21, 2013

Allegretti Farms

Allegretti & Company took ownership of the Property in 1981[5]. Table 3 shows that during the period of 1983 to 1994, up to 1,024 acres were farmed annually, although none were reportedly farmed in 1990.

Table 3: Acreages Farmed, 1983 - 1994

YEAR	ACREAGE	YEAR	ACREAGE
1983	660	1989	1,024
1984	507	1990	0
1985	500	1991	590
1986	534	1992	590
1987	799	1993	733
1988	904	1994	796

Source: Krieger & Stewart, 1995

Aerial photographs from 1984, 1987 and 1992 (see Appendix A: Aerial Photographic History) substantiate that the Property was being farmed during this time period, though it is difficult to precisely determine the acreage or location of the fields being actively farmed. It appears from these three aerial photographs that agricultural activities were generally consistently conducted in the southern fields (using some or all of fields 10 - 15) and in portions of the western fields (fields 3 and 4). Use of the northeast fields (fields 5 – 9) for agricultural production appeared to decline over this time period. During this time period fields 10 and 14 were reported as irrigated with a lateral move sprinkler system, and fields 5 and 6 were irrigated using a pivot irrigation system commencing sometime after 1987 but before 1992[6]. Fields 4, 11N, 12N and 13N were also reported as being flood irrigated[7]. During this time period agricultural tail water, if any, was not controlled or collected.

A domestic water well, "Allegretti 7," was drilled in 1982 (see Table 1 and Figure 3). In 1983, the Allegretti 3 water well was taken out of service[8].

During this time period the Property owners report that there were no breaches of the western storm water diversion berm, nor was any maintenance of the berm undertaken[9].The Property owners also report that, to their knowledge, the tamarisk "windbreaks" located on the property were not intentionally watered by them, but may have subsisted on agricultural tail water.[10]

Allegretti Farms was leased to Morgan Ranches/Kelomar from 1993 to 2009[11]. Crops grown during this time period included melons, onions, alfalfa, wheat, safflower, arugula, asparagus,

[5] Personal Communication, Joe Allegretti, Jr. – January 21, 2013
[6] Personal Communication, Joe Allegretti, Jr. – February 6, 2013
[7] Personal Communication, Joe Allegretti, Jr. – February 6, 2013
[8] Krieger & Stewart, 1995
[9] Personal Communication, Joe Allegretti, Jr. – February 6, 2013
[10] Personal Communication, Joe Allegretti, Jr. – February 6, 2013
[11] Personal Communication, Joe Allegretti, Jr. – January 21, 2013

milo and carrots[12]. During this period, the most acreage farmed at any one time was approximately 1,000 acres, although the average acreage under cultivation was likely around 500 acres[13].

Morgan Ranches/Kelomar initially tried flood irrigation, though this practice was quickly abandoned because the amount of water required was very high and the costs of pumping and delivering the water to the fields too high[14]. Thereafter the active fields were irrigated with drip or sprinkler systems. Morgan Ranches/Kelomar also instituted systems and constructed infrastructure to collect and reuse agricultural tail water[15]. Every active field was cut with a tail water ditch to collect tail water, which was pumped to one of three reservoirs specifically constructed on the property to store the tail water for reuse as irrigation water (see Figure 5)[16].

Morgan Ranches/Kelomar reported that the soils in southern fields were the best for agriculture on the Property[17]. They believed that the soils in Section 23 were not that good for agriculture, and that the soils in the east half of Section 23 were the worst on the property, being so coarse grained that they were at one point being considered for sale as aggregate[18]. They also reported that the soils in the east half of Section 22 were also not that good.

Historical aerial photographs available from Google Earth (from 2002, 2004, 2005 and 2008) substantiate that Allegretti Farms was in agricultural production, though it is once again difficult to precisely determine the acreage farmed and the specific fields under production from these individual aerial photographs (see Appendix A: Aerial Photographic History). For all years, active agricultural production was evident in the southern and central portion of the Property.

During the time they farmed the Property, Morgan Ranches/Kelomar reported that there were no breaches of the western storm water diversion berm, nor was any maintenance of the berm undertaken[19]. They also report that, during their tenure, the tamarisk "windbreaks" located on the property were not intentionally watered, but likely subsisted on water leaking from the adjacent buried agricultural water pipes[20].

The Farm was leased by Oasis Organics in 2010, and in that year 80 acres of onions were cultivated. Approximately 80 acres of wheat, safflower and milo were grown in 2011.[21] Aerial photography available from Google Earth (2010 and 2012) show that only a very small portion of the Farm area was under agricultural production during this time period, and all was in the southern portion of the Property (see Appendix A: Aerial Photographic History).

[12] Personal Communication, Joe Allegretti, Jr. – January 21, 2013
[13] Personal Communication, Joe Allegretti, Jr. – January 21, 2013
[14] Personal Communication, Mike Morgan – February 5, 2013
[15] Personal Communication, Mike Morgan – February 5, 2013
[16] Personal Communication, Mike Morgan – February 5, 2013
[17] Personal Communication, Mike Morgan – February 5, 2013
[18] Personal Communication, Mike Morgan – February 5, 2013
[19] Personal Communication, Joe Allegretti, Jr. – February 6, 2013
[20] Personal Communication, Mike Morgan – February 5, 2013
[21] Personal Communication, Joe Allegretti, Jr. – January 21, 2013

The Farm has been certified organic since 2001.

References

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