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UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

In Cooperation With

AGRICULTURAL EXTENSION SERVICE

of

NEVADA

PLAN OF

SOIL AND WATER CONSERVATION

For the Ranch Property of

VERA MARTIN

Diamond Springs Ranch

Eureka, Nevada

Plans Drawn and Submitted by:

C. R. Townsend
District Extension Agent
Ely, Nevada

Sumner Hatch
Area Soil Conservationist
For: Ray S. Carberry
Area Conservationist
Yerington, Nevada

INTRODUCTION

This plan is prepared under the provisions of a Memorandum of Understanding between the Agricultural Extension Service and the Soil Conservation Service, which provides for the cooperation of the two services in planning erosion control measures on certain farms outside the boundaries of Soil Conservation Service Projects, Camp Areas and established Soil Conservation Districts.

The Plan of Conservation Operations attached hereto is the result of the cooperative efforts of representatives of the State Agricultural Extension Service, the Agricultural Conservation Program, the Soil Conservation Service and the farm owner.

The farm owner will install the conservation measures agreed upon and proceed in accordance with this plan to the best of his ability.

Subject to availability of personnel and appropriations, the Soil Conservation Service will provide the necessary technical services (and/or supervision) as described in this plan to assist the farm operator in establishing the planned conservation measures.

The Agricultural Extension Service (Extension Agent) will advise the farm operator concerning the conservation practices and cropping systems prescribed.

Requests for further technical assistance on the part of the farm operator, will be made to the Extension Agent, who may transmit them to the Area Conservationist of the Soil Conservation Service as he may see fit, or find necessary.

In consideration of the technical assistance furnished by the cooperating agencies, the farm operator agrees to follow the Plan of Conservation Operations, as herein presented, for a period of not less than five (5) years.

The Extension Agent and/or the Soil Conservation Service will furnish technical assistance in such revision of the plan as, in the judgment of the farm operator and the cooperating agencies, may be necessary.

Date	Farm Operator
May 16-1942 Date	Ray L. Carberry Area Conservationist Soil Conservation Service
Date	Extension Agent Eureka County

DESCRIPTION OF PROPERTY

Vera Martin Ranch

Eureka, Nevada

This ranch consists of five tracts located along the foot of the west slope of the Diamond mountains. The largest tract, formerly known as the "Jacobson Ranch" is about 30 miles north of the town of Eureka. Immediately north is the former "Cox Ranch", followed at short intervals by two un-named tracts and the "Mau Ranch".

The elevation is about 6,200 feet above sea level. Total annual precipitation at Eureka (the nearest point for which official records are available) averaged 12.09 inches per year between 1888 and 1930. The lowest annual total was 6.13 inches (1928) and the highest was 20.64 inches (1907). The average length of growing season between killing frosts is 105 days--June 5 to September 8. Frosts have occurred as late as July 6 and as early as August 21.

Range beef production is the principal enterprise on the ranch. The fenced meadows and cropland are used for production of winter feed to supplement grazing on the surrounding public domain and in the fenced brush and native pastures. Meadow and cropland aftermaths are grazed after the hay and grain are harvested.

The property covers 2,400 acres, of which 2,183.5 acres are enclosed by fence. As of May 1, 1942, the fenced portion consisted of approximately:

471.2	acres native meadow--mostly mowable
28.2	acres of mixed clover-grass hay
1,066.0	acres of brush-saltgrass type pasture
538.8	acres of native pasture--mowable in spots.
9.1	acres Farmstead, idle and miscellaneous
13.3	acres of cropland (grain, alfalfa, etc.)
56.9	acres of irrigated pasture including about 13 acres of ponds and sloughs

OBJECTIVES OF THE PLAN

1. To divert the flow of the two large springs on the Home Ranch, alleviating water-logging of the principal native meadows and possibly developing more native meadow by water-spreading on present brushland. A survey will be made by engineers of the Soil Conservation Service to determine the feasibility of this item. Grade and line stakes will be set for such ditch construction as this survey shows to be practicable.

Objectives of the Plan - continued

2. To convert certain present brushland (on favorable soil-type areas) to cropland or seeded meadow (mixed hay)

3. To improve the volume and quality of native meadow hay by supplementary artificial seeding.

4. To reduce erosion and deposition on fields caused by diversion of early water from canyon streams in ditches with excessive grades.

5. To establish shade trees in summer pastures.

6. To improve summer pastures by supplementing native species with certain domesticated grasses and clovers.

THIS PLAN CONSISTS OF:

1. Conservation Survey Map (Attached to front cover)
2. Land Use Map (Attached to front cover)
3. Introductory Statement
4. PROGRAM OF CONSERVATION OPERATIONS
5. Farm Organization Summary
6. Suggested Cropping Plan (Attached to back cover)
7. Suggested Calendar of Operations (Attached to back cover)

PROGRAM OF CONSERVATION OPERATIONS

Owner Vera Martin

Farm Plan No. CE-52

CROPLAND

(Fields lettered "C" and colored solid Yellow on Land-Use Map)

Fields C1, C2, C3, C4, C5 - 65.2 Acres

SOILS

The soil type areas numbered 364 and 365 on the Conservation Survey Map are considered suitable for production of alfalfa and grain crops in the rotation. Such portions of these two soil type areas as may be irrigated once or twice a year from early season flow of canyon streams, including certain present brushland areas, are to be cleared and converted to cropland or mixed hay (grass and alfalfa or clover and alfalfa). Fields C1 and C3 are scheduled for brush clearing in 1942.

ROTATIONS

The recommended rotation for "cropland" fields is grain, two years, alfalfa or mixed hay, 6 years. After clearing of brush it is suggested that winter wheat or winter rye be planted in August or September

If additional leveling and grading is necessary, the same crop may be planted the second year and Grimm alfalfa broadcast on the snow or broadcast the following spring among the young grain plants. If spring-planted light grazing of the grain may be necessary if the plants are so high as to shade the alfalfa seedlings. The attached "Suggested Cropping Plan" gives the anticipated cropping sequence for each field.

IRRIGATION

The 364 and 365 soils will require frequent light irrigations and relatively short "runs", not exceeding 400' in length on the steeper fields or 600' on the relatively flat fields. Care should be exercised in irrigating, to avoid erosion.

The feed ditches to these fields from canyon streams should be established on a grade not exceeding 0.5%, to avoid the washing of sand and gravel in the feed ditch channels and harmful deposition on the fields.

CROPLAND continued

FERTILIZING — All available barnyard manure should be applied to cropland (or mixed hay land) on the stubble of the first year grain crop in the rotation cycle, and thoroughly disked into the soil.

GRAZING MANAGEMENT — Stock should be excluded from newly-seeded alfalfa fields during the first fall and winter after planting. An electric fence will facilitate this practice. The grazing of aftermath in subsequent years should be limited to one animal- * unit-month per acre per year.

MIXED HAY

(Fields lettered "MH" and bordered Yellow on Land-Use Map)

SOILS — The lower-lying soil on the 364 and 365 soil type areas, in addition to the 267 and 23X soils, are considered to be better adapted for mixed hay (grass-alfalfa, grass-clover) than for alfalfa alone. Oats will probably prove more adaptable than barley as a small grain crop on these soils in the rotation.

Some of these fields can be irrigated with the run-off from adjacent higher-lying cropland fields and some may receive early season water from canyon streams. All "MH" fields which are irrigable or sub-irrigated are scheduled to be cleared of brush and seeded in the following order: MH2, 1942; MH1, and MH3, 1943; MH4 and MH5, 1944; 25 acres of MH6, 1945, 26.4 acres of MH6, 1946.

Clearing of the west portion of field MH1 is contingent upon the feasibility of extending the proposed ditch designated D-2 on the Land-Use Map.

* An "Animal-Unit-Month" (A.U.M.) means one month's feed for a 1,000 pound cow or horse or 1,000 pounds liveweight of young stock.

MIXED HAY continued

ROTATION

Grain one or two years, meadow hay six years. Winter wheat or winter rye is recommended as the initial crop after clearing. Later in the rotation, oats may be used for the lower portion and barley on the higher, well-drained portions, as small grains in the rotation cycle.

See the attached "Suggested Cropping Plan" for proposed cropping sequence on each field.

SEEDING

For fields MH1 and MH2, the following mixture is suggested:

	Rate Per Acre
Red clover (mammoth) (Trifolium pratense)	3 lbs.
Alsike clover (Trifolium hybridium)	2 lbs.
Timothy (Phleum pratense)	4 lbs.
Perennial ryegrass (Lolium perenne)	4 lbs.
Meadow fescue (Festuca elatior)	5 lbs.
Smooth bromegrass (Bromus inermis)	3 lbs.

Seeding on grain stubble in early fall is recommended. Grass seed should be drilled in about one-half inch deep; the clover not over one-quarter inch.

If seeded in the spring, planting should be early and a grain-nurse crop of about 30 to 40 pounds per acre added. Drilling is preferable to broadcasting. Disking the grain stubble, drilling and cultipacking, if possible, constitute the recommended planting method.

Fields MH3, MH4, MH5 and MH6

For the higher portions of these fields, after two years in small grain and the same seedbed preparation and planting methods as for fields

MIXED HAY continued

SEEDING continued

Fields MH3, MH4, MH5 and MH6

MH1 and MH2 above, the following seed mixture is suggested:

	Rate Per Acre
Grimm alfalfa	12 lbs.
Smooth bromegrass (Bromus inermis)	4 lbs.
Orchard grass (Dactylis glomerata)	6 lbs.

GRAZING MANAGEMENT Grazing of aftermath on well established mixed hay fields should not exceed 1.5 animal-unit-months, per acre, per year. Stock should be excluded from these fields in early spring when the ground is so wet as to be injured by trampling.

MAINTENANCE Brush dragging or harrowing to break up and scatter clumps of manure should be a beneficial practice on these fields in late winter or early spring each year.

PASTURE

(Fields lettered "P" and colored solid Light Green on Land-Use Map)

Fields P1, P2, P3 and P5 - 36.0 Acres

Pasture P1 is very wet and much of the area is covered by ponds and sloughs. The grazing capacity of this field will be increased by the drainage activities described below under the heading "Special Operations".

Fields P1, P2, P3 and P5

SUPPLEMENTARY SEEDING It is believed that the volume and quality of forage on these fields may be increased by supplementary seeding of domesticated grasses and clovers. A suggested method is broadcasting on the surface followed by light disking, if the pastures are sufficiently dry to permit disking.

A suggested seeding mixture is:

PASTURE continued

SUPPLEMENTARY SEEDING continued

	Rate Per Acre
Strawberry clover (Trifolium fragiferum)	2 lbs.
Kentucky bluegrass (Poa pratensis)	4 lbs.
Sweet clover-redtop mixture*	4 lbs.

MAINTENANCE

To keep these pastures in a high state of production, the following measures should be adopted:

1. Brush-dragging in late winter or early spring.
2. Mowing of unpalatable weeds before they produce seed.
3. Exclusion of stock when the ground is wet enough to be injured by trampling.
4. Rotation of grazing among the various units.
5. Moving stock from each field when approximately 25% of the volume of forage still remains as a reserve.

Field P4 - 11.0 Acres

It is suggested that this field be cleared of brush in 1944 and if water can be applied from the canyon stream, the same seeding and maintenance practices as suggested above for fields P1, P2, P3 and P5, may be used. If irrigation water cannot be applied, clearing of brush and seeding with the sweet-clover-redtop mixture already on hand,is considered worthwhile.

NATIVE PASTURE

(Fields lettered "NP" and bordered Light Green on the Land-Use Map)

Because of soil and moisture characteristics on these fields, no artificial seeding is recommended with the possible exception that portions of field NP1 may be cleared, cultivated and seeded, if water supply is made available from the proposed ditch designated D-1 on the Land-Use Map.

* Seed already on hand.

NATIVE PASTURE continued

Small portions of fields NP2, NP4, NP5 and NP6 are mowed as hay. At the Operator's discretion some of the more continuously wet areas may be spot-seeded by broadcasting strawberry clover at the rate of two pounds per acre.

GRAZING MANAGEMENT Field NP1 is grazed at various times of the year in connection with field Br2. Field NP8 is likewise used in connection with field Br5. Fields NP2, NP3, NP4, NP5 and NP6 are grazed in late summer and fall after the harvesting of hay on the adjacent meadows. An average grazing value of one animal-unit-month per season for every five acres, is estimated for the "NP" fields.

BRUSH PASTURE

(Fields lettered "Br" and bordered Gray on Land-Use Map)

LAND-USE All present brushland fields, which are considered suitable for conversion to cropland, mixed hay and seeded pasture, have been designated "C", "MH" and "P" on the Land-Use Map. The remaining brush fields, because of soil characteristics, and water supply, should remain in present use; namely, grazing at various seasons of all brushland fields separated from meadow and cropland by fences, and late summer and fall grazing of brushland not fenced apart from meadow and cropland.

Field Br1 About 15 to 20 acres of this field may be suitable for cropland or mixed hay. Early season water is available and the Operator proposes to clear, plow and seed an experimental strip about 50' wide and 1,000' long, trying oats or barley for two years, followed by alfalfa or mixed hay, if the grain crops thrive on this soil.

WOODY PLANTINGS

To provide shade for stock in the summer pastures and meadow fields, it is believed that live cuttings of Black Willow, native Cottonwood or Carolina poplar, 2" or more in diameter, and 6' to 7' long,

WOODY PLANTINGS continued

planted like fence posts, in spots which are most continuously wet, would take root and grow. Use dormant cuttings taken preferably in early spring before the leaf-buds begin to expand, and transplant promptly before the wood tissues dry out. This method has produced good results in other localities with similar soil and climatic conditions. However, since the practice has not been verified in this locality, it is recommended that it be tried only on a small scale the first season.

FARMSTEAD, ETC.

(Fields lettered "H" and colored Red on Land-Use Map)

Fields H1 and H2 - 9.1 Acres

No conservation practices are indicated or specified on these fields.

SPECIAL OPERATIONS

DITCHES

Ditches D-1 and D-2, designated by the symbol →→→→ on the Land-Use Map. Engineers assigned by the Soil Conservation Service will investigate the feasibility of constructing ditches at the designated locations, for the purpose of diverting excess water which now "water-logs" fields M1, M2 and adjacent native pastures. If the engineering investigation shows these ditches to be feasible, the Operator will divert water in winter to be spread on fields Br2, Np1, MH1 and Brushland north of the home ranch. He will also divert water through these ditches to make Fields M1 and M2 dry enough for mowing in late summer.

DRAIN

Field P1

It is suggested that an intercepting drain, consisting of a deep trench with sloping banks faced with rip-rap or a covered tile or lumber box-type drain be installed along the east edge

SPECIAL OPERATIONS continued

DRAIN continued of field P1, to divert subsurface water into the large ponds at the north and south sides of this field, respectively.

DIVERSION DAMS AND SUPPLY DITCHES-CANYON STREAMS

As indicated above, under Cropland, it is recommended that ditches bring early season water to various fields on the ranch, from canyon streams in the mountains lying east of the various tracts, be established on a non-scouring grade. Permanent diversion boxes with adequate over-flow provisions should be installed at the points where irrigation water is diverted from these canyon streams.

RODENT CONTROL To reduce the injury to crops and the difficulty of mowing in meadows, caused by pocket gophers, it is recommended that the Operator endeavor to secure the services of the rodent control crew of the Fish and Wildlife Service or the Bureau of Biological Survey. If the services of such a crew are not available, the Operator should secure the U.S.D.A. Farmer's Bulletin on "Pocket Gopher Control", and carry out eradication measures to as great an extent as possible, himself.

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FARM ORGANIZATION SUMMARY

Owner Vera Martin Operator Clyde Haws Plan No. CE-52

OFF-AREA Coop. Extension
~~Farm Code No.~~ S.V. Project ~~District~~ Eureka County Acres 2183.5

Table I. Crops and Feed - Av. 1941

Crop	Acres	Total Prod.	Amount Fed Home Gr.	Amount Fed Bot	Amt. Sold
Alfalfa 2 T.PerAc.	9.3	18.6 T.	-	-	-
Grain 0.8 T. " "	4.0	4 T.	(Hay)-	-	-
Potatoes					
Corn					
Green Manure Crop					
Gr.Alf Nurse Crop					
Alfalfa Aftermath	(9.3)				
Mixed Hay(Irrig)	28.2	56 T.			
" "Aftermath	(28.2)				
Native Meadow	471.2	400 T.			
" "	(471.2)	(Aftermath)			
Wildlife Area					
~~Range~~ Brush Past.	1066.0				
Irrigated Pasture	56.9	(13.2 Pond & Swamp)			
Native Pasture (	538.8	40 T. Hay			
~~Seeded~~ Pasture (					
New Woods	xxx	xxx			
~~Woodland~~ Brush Cleared		xxx			
Idle & Misc.	9.1	xxx	xxx	xxx	xxx
TOTAL	2183.5	xxx	xxx	xxx	xxx

Table II. Acres Planned

1943	1945	Completed Plan Acres	Completed Plan Prod.	Average 1946 to 1950	
35.9	65.2	67.4	135 T.	Hay	
29.3	64.6	50.5	40 T.	Grain	
(35.9)	(65.2)	(67.4)	68	A.U.M.	1/
42.7	92.7	129.6	240 T.	Hay	
(42.7)	(92.7)	(129.6)	160	A.U.M.	
457.8	457.8	457.8	343 T.	Hay	
(457.8)	(457.8)	(457.8)	460	A.U.M.	
929.7	883.3	883.3	88	A.U.M.	
36.0	36.0	47.0	235	A.U.M.	
538.8	538.8	538.8	108	A.U.M.	
	11.0				
104.2	25.0	-	-		
9.1	9.1	9.1	xxx		
2183.5	2183.5	2183.5			

Table III. Livestock and Feed Requirements

Kind of Livestock	Livestock Kept 40-41 No.	Planned No.	Planned A.U.	Feed Required Hay Tons	Feed Required Grain Tons	Feed Required Past. A.U.M.
B.Cows	350	400	350	500		3500
Heifers	100	100	80	80		800
Yr.Steers	100	125	70	70		700
Bulls	10	12	13	17		130
Dr.Horses	18	12	15	19	4	150
S.Horses	15	15	15	15		150
Milk Cows	3	3	3	12	1	30
Br.Sows	4	4	1	-	2	12
Pigs	30	30	2	-	8	12
Chickens	75	75)	1	-	3	-
Geese	10	10)				
TOTAL	xxx	xxx	550	713	18	5484

Notes: 1/ Animal-unit-months of grazing
2/ On fenced land only
3/ Includes outside range grazing
* Equivalent of 2 to 3 mos. full feed on 4 mos. part-time on feed and part on range between Dec. 1 and Apr. 1

Table IV. Feed Estimates

Item	Hay Ton	Grain-Tons Corn	Pasture An. U. Mo	
Available 1940-41	514	-	1038	2/
Required Now Plan	713*	18	5484	3/
Anticipated Now Plan	718	40	1089	2/

Table V. Crop Sales and Feed Bought

Crop or Feed	Old Plan 1940-41 Quant Sold	Old Plan 1940-41 Quant Bot	New Plan Completed ~~Quant~~	New Plan Completed Quant Bot
Range			4215 A.U.M.	
All surplus hay and grain carried over as a reserve				

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 10

Investigation by J.McCormick

~~District~~ OFF-AREA

Date of Invest. 4/16-30/42

Map Plane Table

SOIL INFORMATION SHEET

Martin Ranch Property

Code No. CE-52

Soil Symbol 364

Soil Name Lynndyl loam

0" Profile of Soil Type

Soil Description:

Recent alluvial fan from mixed parent material (largely metamorphic). Artemisia tridentata vegetation. Slopes average 2-9%. The upper portions of the fans are very gravelly and lighter textured, while the lower areas approaching the valley basins are fine textured and contain fewer gravels. The surface soil to approximately 20" is non-calcareous with a pH of 7.3-7.4. From 20" to 60" the soil is a calcareous fine sandy loam with a pH of approximately 7.5-7.7.

Water Penetration) Surface Mod. Subsoil Mod.

Fertility Excellent Water Holding Capacity Good

Tilth Excellent Water Requirement Mod.

Erodibility Slight deposition and drainageway cutting

Internal Drainage Good

Depth of Water Table -

General Discussion of Farm:

This soil, although generally occurring on slopes slightly steeper than the most desirable for cultivated crops requiring irrigation, should be considered as highly productive land where irrigation is possible. The fertility is exceptionally high; there is not an alkali problem-*; and the soil reaction is favorable for general crop use. Care should be exercised in irrigating to avoid the deposition of gravel onto the fields. Fertilizing should include the application of 10-12 tons barnyard manure per acre within a rotation. If a commercial fertilizer is desired, 175-200# of ammonium sulfate is recommended.

* Where the fans emerge onto the basin areas there is a rabbitbrush zone which is occasionally slightly affected with alkali. This condition, however, will not interfere with production because of the slope, internal drainage and the use of non-saline irrigation water.

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 10

Investigation by J.McCormick

~~District~~ OFF-AREA

Date of Invest. 4/16-30/42

Map Plane Table

SOIL INFORMATION SHEET

Martin Ranch Property

Code No. CE-52

Soil Symbol 365

Soil Name Lynndyl silt loam

0"

Profile of Soil Type

12"

24"

36"

48"

60"

Brown silt loam

Grey-brown silt loam

Soil Description:

This type occurs at the lower end of the Lynndyl loam fans. The vegetation is chiefly large rabbitbrush, sagebrush and giant wild rye. These soils are calcareous throughout, uniform in texture, and often slightly affected with alkali. The pH will average 7.4 in the surface and 7.6 in the subsoil. The water table is below 4-5'. Where irrigation is possible, these soils may be considered for cultivated use.

Water Penetration) ~~Surface~~ Slow

) Subsoil Slow

Fertility High

Water Holding Capacity High

Tilth Good

Water Requirement Low

Erodibility Slight

Internal Drainage Satisfactory

Depth of Water Table Below 4-5'

General Discussion of Farm:

See 364

Yer-105A

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 10

OFF-AREA

Investigation by J.McCormick

Map Plane Table

Date of Invest. 4/16-30/42

SOIL INFORMATION SHEET

Martin Ranch Property

Code No. CE-52

Soil Symbol 267

Soil Name Imperfectly drained basin complex

0" Profile of Soil Type

12" Variable silty clay loam

24"

36"

48"

60"

Soil Description:

This type includes the nearly level alkali affected basin areas vegetated with large rabbitbrush, salt grass, giant wild rye, and occasionally some greasewood or sagebrush. The soils are heavy textured (silty clay loam to clay) and calcareous throughout and have pH values from 7.8 to over 9.0. Because of the imperfectly drained condition, the poor tilth and the alkali, these soils should not be considered for cultivated use.

Water Penetration) Surface Slow Subsoil Slow

Fertility Poor

Water Holding Capacity High

Tilth Poor

Water Requirement Mod.Low

Erodibility Slight silt and clay deposition

Internal Drainage Restricted

Depth of Water Table 0 to 5'

General Discussion of Farm:

Areas of P4 vegetation are suitable for cropping. Most of the soils will produce meadow vegetation with irrigation water.

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UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 10

District OFF-AREA

Investigation by J.McCormick

Map Plane Table

Date of Invest. 4/16-30/42

SOIL INFORMATION SHEET

Martin Ranch Property

Code No. CE-52

Soil Symbol 23X

Soil Name Transition complex

0"

Profile of Soil Type

12"

24"

36"

48"

60"

Soil Description:

Occurring adjacently below the Lynndyl fans, these soils are usually on a 2-5% slope and affected with alkali. Vegetation is chiefly chrysothamnus nauseosus. Textures will vary from fine sandy loam to clay. With sufficient water to remove the alkali, these soils should respond to cropping similar to 364 and 365 soils.

Water Penetration: Surface Slow; Subsoil Slow

Fertility Fair

Tilth -

Water Holding Capacity -

Water Requirement -

Erodibility Runoff

Internal Drainage -

Depth of Water Table -

General Discussion of Farm:

See 364 and 365

Yer-105A

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 10

~~EXCEPTION~~ OFF-AREA

Investigation by J.McCormick

Map Plane Table

Date of Invest. 4/16-30/42

SOIL INFORMATION SHEET

Martin Ranch Property

Code No. CE-52

Soil Symbol 157

Soil Name Poorly drained silty clay loam

Profile of Soil Type

Brown or grey-brown silty clay loam

Grey-brown to yellow-brown silty clay

Soil Description:

The poorly drained silty clay loam soils occupy low areas adjacent seeps and springs or positions irrigated by the intermittent streams. Juncus is the most apparent native vegetation. On slightly elevated positions the cover is of salt grass, rye grasses, blue grass, and/or annual weeds. The soils are calcareous and heavy textured throughout. With concentrations of water an organic peat is formed 1-7" above the silty clay.

Water Penetration: Surface Slow; Subsoil Slow

Fertility Fair

Water Holding Capacity High

Tilth Poor

Water Requirement High

Erodibility

Internal Drainage

Depth of Water Table

General Discussion of Farm:

Inasmuch as the irrigation water is largely non-saline alkali does not constitute a serious problem. Plants selected for pasture improvement should be slight to moderately alkali-tolerant, able to withstand high water table, and showing an adaptability for heavy textures.

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Yer-1L0-A

SUGGESTED CROPPING PLAN

(Note:-The following cropping plan is suggested for this farm. It is designed to meet the requirements set forth in the plan of conservation operations. However, any other cropping plan which will also meet these requirements may be used at the discretion of the cooperator.)

Cooperator Vera Martin

Acres 2183.5 1/

Fields No.	Tract Part	No. of Acres	1941	1942	1943	1944	1945	1946	Remarks
C1	I	19.2	M. Hay 4.0 Brush 15.2	M.Hay 4.0 Brush 15.2	Grain *	Alfalfa	Alfalfa	Alfalfa	*Winter rye or winter wheat
C2	II	15.7	Pasture	Grain	Alfalfa	Alfalfa	Alfalfa	Alfalfa	(Plus area east of fence)
C3	II	10.9	Brush	Grain	Alfalfa	Alfalfa	Alfalfa	Alfalfa	
C4	V	10.1	Pasture	Pasture	Grain*	Alfalfa	Alfalfa	Alfalfa	*Winter rye or winter wheat
C5	VI	9.3	Alfalfa	Alfalfa	Alfalfa**	Alfalfa	Alfalfa	Grain	**Supp. seeding of grass hay
MH1	I	50.7	Brush(& NP)	Brush	Cleared	Oats	Mixed Hay	Mixed Hay	
MH2	I	18.5	Oats 4.0 Brush 6.0 Pasture 8.5	Oats 10 Pasture 8.5	Mixed Hay	Mixed Hay	Mixed Hay	Mixed Hay	
MH3	III	23.5	Brush	Brush	Cleared	Oats***	Mixed Hay	Mixed Hay	*** or barley
MH4	IV	15.6	Brush	Brush	Brush	Cleared	Grain	Mixed Hay	
MH5	V	24.8	Brush	Brush	Brush	Cleared	Grain	Grain	
MH6	VI	51.4	Brush	Brush	Brush	Brush	Cleared 25 Brush 26.4	Grain 25 Cleared 26.4	Mixed hay, 1948-1956
MH7	VI	24.2	Mixed Hay	Mixed Hay	Mixed Hay	Mixed Hay	Grain	Mixed Hay	
M1	I	126.4	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 10 to 25 Ac. per yr.

1/ 2400 acres owned but only 2183.5 fenced)

Planned by Sumner Hatch Date 5/1/42

SUGGESTED CROPPING PLAN

(Note:-The following cropping plan is suggested for this farm. It is designed to meet the requirements set forth in the plan of conservation operations. However, any other cropping plan which will also meet these requirements may be used at the discretion of the cooperator.)

Cooperator Vera Martin Acres 2183.5

Fields No.	Tract Part	No. of Acres	1941	1942	1943	1944	1945	1946	Remarks
M2	I	93.3	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 10 to 25 Ac. per yr.
M3	II	21.9	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
M4	III	113.1	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
M5	IV	23.9	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
M6	V	34.4	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
M7	VI	10.0	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
M8	VI	34.8	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Native Meadow	Supp. seeding 5 Ac. per yr. after 1943
P1	I	13.2	Wet Pasture	Wet Pasture	Wet Pasture	Wet Pasture	Wet Pasture	Wet Pasture	
P2	I	3.8	Pasture	Pasture	Pasture*	Pasture	Pasture	Pasture	*Supp. seed
P3	I	5.6	Pasture	Pasture	Pasture*	Pasture	Pasture	Pasture	*Supp. seed
P4	VI	11.0	Brush	Brush	Brush	Cleared	Seed Pasture	Pasture	
P5	VI	13.4	Meadow	Meadow	Pasture*	Pasture	Pasture	Pasture	*Supp. seed
NP1	I	89.6	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	
NP2	I	85.2	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	

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Sheet 3 of 4

SUGGESTED CROPPING PLAN

(Note:-The following cropping plan is suggested for this farm. It is designed to meet the requirements set forth in the plan of conservation operations. However, any other cropping plan which will also meet these requirements may be used at the discretion of the cooperator.)

Cooperator Vera Martin Acres 2183.5

Fields No.	Tract or Farm	No. of Acres	1941	1942	1943	1944	1945	1946	Remarks
NP3	I	33.9	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	
NP4	I	205.5	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Some spots mowable
NP5	I	45.3	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Some spots mowable
NP6	I	34.4	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Some spots mowable
NP7	II	21.5	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	
NP8	II	23.4	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	Native Pasture	
Br1	I	115.8	Brush	Brush	Brush	Brush	Brush	Brush	15 Ac. possibly mixed hay or cropland
Br2	I	288.6	Brush	Brush	Brush	Brush	Brush	Brush	Some seeding if Ditch D-1 is installed
Br3	I	29.8	Brush	Brush	Brush	Brush	Brush	Brush	
Br4	II	107.8	Brush	Brush	Brush	Brush	Brush	Brush	
Br5	II	126.4	Brush	Brush	Brush	Brush	Brush	Brush	
Br6	III	66.4	Brush	Brush	Brush	Brush	Brush	Brush	
Br7	IV	22.9	Brush	Brush	Brush	Brush	Brush	Brush	
Br8	V	19.7	Brush	Brush	Brush	Brush	Brush	Brush	

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SUGGESTED CROPPING PLAN

(Note:-The following cropping plan is suggested for this farm. It is designed to meet the requirements set forth in the plan of conservation operations. However, any other cropping plan which will also meet these requirements may be used at the discretion of the cooperator.)

Cooperator Vera Martin Acres 2183.5

Fields No.	Tract ~~Part~~	No. of Acres	1941	1942	1943	1944	1945	1946	Remarks
Br9	VI	53.8	Brush	Brush	Brush	Brush	Brush	Brush	
Br10	VI	10.3	Brush	Brush	Brush	Brush*	(N.P.) 1/ Brush	(N.P.) 1/ Brush	1/If brush is cleared. * Clear brush
Br11	VI	15.4	Brush	Brush	Brush	Brush	Brush	Brush	
H1	I	3.2	Farmstead	Farmstead	Farmstead	Farmstead	Farmstead	Farmstead	
H2	VI	5.9	Farmstead	Farmstead	Farmstead	Farmstead	Farmstead	Farmstead	

Planned by Sumner Hatch Date 5/1/42

SUGGESTED CALENDAR OF OPERATIONS

Owner Vera Martin Ranch

Farm Plan No. CE-52

	1942	1943	1944	1945	1946
DITCH CONSTRUCTION					
1. D-1 and D-2*	D-1, D-2	-	-	-	-
2. Diversion from canyon streams	(Home ranch (Cox ranch-Mau R.)	Tract V	Tracts III & IV	-	-
3. Deep drain	-	P1	-	-	-
Seeding Alfalfa	-	C2, C3,	C4	-	-
Supp. seed. grass in estab. alfalfa		C5	-	-	-
Seeding Grain	C2 & C3, Fall	C4, Fall	MH1 & MH3 Spring	MH7,Spring	24 Ac. MH6 & C5, Spring
Defer Grazing New Alfalfa Seeding	-	C2, C3	C4	-	-
Seeding Mixed Hay	MH2, Fall	-	MH1, MH3, Fall	MH7, Fall	-
Fertilizing	MH2	C1	MH7	C5	-
Supplementary Seedg. Pasture	-	P1,P2,P3,P5	-	-	-
Entire Seeding-Pasture	-	-	-	P4	-

* See sheet 2.

SUGGESTED CALENDAR OF OPERATIONS

Owner Vera Martin

	1942	1943	1944	1945	1946
Deferred Grazing-- Seeded Pasture	-	-	-	P4	-
Supplementary seedg. N. Meadow	M1, M2, - 10 Ac. Each M3,M4,M8 - 5 Ac. Each	1/	1/	1/	1/
Shade Planting - Pastures	-	P2,P3,P5, 2/ M1,M2,M3	2/	2/	2/
Rodent (Gopher) Control	All "C", "MH" and "M" fields as required.				

* Contingent on feasibility as determined by SCS engineering investigation
1/ Location and extent at Operator's discretion
2/ About 5 trees in each as a trial planting--subsequent planting at Operator's discretion.