Appendix B

Soil Pit A

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rancho Monticello Resort
Applicant/Owner: USBR
Investigator: Michelle Prowse / Demetria Adams

Date: 4/22/2003
County: Napa
State: California

Do Normal Circumstances exist on the site? Yes (No)
Is the site significantly disturbed (Atypical Situation)? (Yes) No
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: Grasses
Transect ID: none
Plot ID: none

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Elymus sp.	H	NO	9.		
2. Hordeum sp.	H	NO	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2

Remarks: Annual grasses

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 0 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators: None
Primary Indicators: None
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required): None
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

Approx 9000 sq ft
Spring
0.20661 acres

Soil pit A

11 inches deep
0-4 roots
4-11 homogenous

Smells like soil but after few minutes no smell
very clayey

2.5Y 3/2 all over
very dark greyish brown

loamy clay
no rocks no particulates
smooth
very fine
balls up like clay

plants:
grasses
wildrye sp. ~~grasses~~ Elymus sp.
barley sp. ~~Brachyan Herum~~
Hordeum sp.

150 ft
60 ft

herbaceous
vines
shrubs
trees

14

(1,2,3,5)

Soil PIT B

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Rancho Monticello Resort
Applicant/Owner: USBR
Investigator: Michelle Prowse/Demetria Adams

Date: 4/22/2003
County: Napa
State: CA

Do Normal Circumstances exist on the site? Yes (No)
Is the site significantly disturbed (Atypical Situation)? (Yes) No
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: Wetland
Transect ID: NONE
Plot ID: NONE

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Typha sp.	H	OBL	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 1/1

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 0 (in.)
Depth to Saturated Soil: * 16 (in.)

Wetland Hydrology Indicators:
Primary Indicators:
X Inundated half
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
X FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: * left pit for an hour to see if water would accumulate. No water accumulated but very bottom at 16in soils were saturated, previously soil at bottom was damp.

Sewage treatment plant about 150 ft uphill from this area. USBR believes treatment plant is seeping causing this man-made wetland. Couldn't visually see where the seeping is coming from but is definitely seeping & forming the wetland & running into the street rapidly.

inside wetland

Soil pit B

organic matter - 7"

2.5 Y 3/2 - 0-7"

10YR 3/2 = 7-16" some water starting to seep... minutes later; no standing water only saturated

dry out but moist soil

Sedge
Cattails > both dead

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Soil Pit C

Project/Site: Rancho Monticello Resort
Applicant/Owner: USBR
Investigator: Michelle Prowse / Demetria Adams

Date: 4/22/2003
County: Napa
State: CA

Do Normal Circumstances exist on the site? Yes (No)
Is the site significantly disturbed (Atypical Situation)? (Yes) No
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: Grasses/Trees
Transect ID: none
Plot ID: none

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Ranunculus sp.	H	No/obl
2. Elymus Sp.	H	NO
3. Hordeum Sp.	H	NO
4. Scrub oak - dumosa	T	N/a
5. digger pine	T	N/a
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/5 OR 1/5

Remarks: Grasses & a few trees.

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)
Depth to Free Water in Pit: 0 (in.)
Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators: None
Primary Indicators: None
___ Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required): None
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

Soil Pit C

grasses
little pin tree
weeds
small poison oak - Baby

rocks + roots 0-10"

7.5 yr 3/3

Dark Brown - more red
sticky
no silt
loamy clay - more loamy than A + B pits.
roots thruout pit - ranunculus sp
worms, ants

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Soil Pit D

Project/Site: Rancho Monticello Resort Applicant/Owner: USBR Investigator: Michelle Prowse / Demetria Adams	Date: 4/22/2003 County: Napa State: California
Do Normal Circumstances exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? Yes (No) (If needed, explain on reverse.)	Community ID: Grasses Transect ID: none Plot ID: none

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Vicia sp. Sativa	H	FACU 90%	9.		
2. Digger Pine	T	N/a 20%	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8.			16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 0/2

Remarks: Vetch

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:

Depth of Surface Water: 0 (in.)

Depth to Free Water in Pit: 0 (in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators: None

Primary Indicators:
- ___ Inundated
- ___ Saturated in Upper 12 Inches
- ___ Water Marks
- ___ Drift Lines
- ___ Sediment Deposits
- ___ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 Inches
- ___ Water-Stained Leaves
- ___ Local Soil Survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks:

Soil pit D

12in

grasses willow Rocks, Roots throughout
beech
purple
pine
trees growing on dead pines

2 in organic matter
5YR 3/2 - soil color - throughout homogenous
crumble, rolls but breaks up in crumbles as drying

Willow ; Cat tails Just outside of wetland after site D. Also poison oak community. Also grassland towards upland parts

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Data point E

Project/Site: Rancho Monticello Resort
Applicant/Owner: USBR
Investigator: Michelle Prowse / Demetria Adams

Date: 4/22/2003
County: Napa
State: California

Do Normal Circumstances exist on the site? Yes (No)
Is the site significantly disturbed (Atypical Situation)? (Yes) No
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: inundated
Transect ID: none
Plot ID: none

VEGETATION

Dominant Plant Species	Stratum	Indicator
1. Typha sp	H	OBL
2. willow pacific	T	OBL
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-). 2/2

Remarks:

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:

Depth of Surface Water: _____ (in.)

Depth to Free Water in Pit: _____ (in.)

Depth to Saturated Soil: _____ (in.)

Wetland Hydrology Indicators:
Primary Indicators:
X Inundated
___ Saturated in Upper 12 Inches
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Drainage Patterns in Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks:

Appendix C

General nature of the county

This section provides general information about physiography, relief, and drainage and about water supply. It also gives facts about the climate and the settlement and development of Napa County.

Physiography, relief, and drainage

Napa County is part of the hilly to steep mountains of the California Coast Range. The county is characterized by a number of northwesterly parallel mountain ridges and intervening valleys of varying widths.

The soils in Napa Valley generally are very deep and have high potential productivity. They are used for vineyards, orchards, and pastures. The soils in the southern part of the valley have lower production potential because they are limited by a strongly developed subsoil. They are used mainly for dryland pasture and for oats and hay.

Maacama Mountain rises abruptly on the west side of Napa Valley. The soils in this area are moderately deep to very shallow over sandstone and shale, and they are used mainly for range, wildlife habitat, and watersheds. A few areas of moderately sloping soils are used for vineyards.

The mountain ridges on the west side of the valley extend as far south as Napa, where the landscape consists of rolling hills and dissected terraces. The soils in this area are moderately deep over sandstone and shale or are shallow to a claypan. They are used for range, pasture, and vineyards.

Howell Mountain borders Napa Valley on the east and rises abruptly from the valley floor. The soils in this area are moderately deep to shallow over rhyolitic tuff and basic igneous rock. They are used for timber, range, wildlife habitat, and watersheds. Where this ridge broadens to a plateau near Angwin, some areas of soils are used for vineyards and orchards.

The plateau drops off to the northeast into Pope Valley, and Vaca Mountain rises abruptly to the east. The soils in the northern and eastern part of the county are moderately deep to shallow over sandstone, shale, and serpentine. They are used for range, wildlife habitat, and watersheds.

The Napa River and its tributaries drain the western part of the county. The Napa River flows southward from north of Calistoga into San Pablo Bay. The northeastern part of the county drains into Lake Berryessa by way of Putah Creek and its tributaries. These tributaries drain Snell, Pope, and Cappel Valleys and part of Chiles Valley.

Water supply

The main source of water for the county is surface water impoundment. Unincorporated communities and areas that do not have access to municipal water supplies depend upon wells and springs.

The City of Napa obtains water from Lake Hennessey, Miliken Reservoir, and the North Bay Aqueduct. Yountville obtains water from Rector Reservoir and from an emergency supply at Conn Aqueduct. The City of St. Helena obtains water from Bell Canyon Reservoir and from a reservoir in a small tributary of York Creek. Conn Aqueduct is secondary source of water for St. Helena. Calistoga obtains water from Kimball Reservoir and from a well in Fiege Canyon.

With the increase in demand for grape production, pumpage of groundwater has increased. Many reservoirs have been built to store water for irrigation, which provides protection against frost

damage. The main sources of water for these reservoirs are pumpage of groundwater and the Napa River. Groundwater basins in Napa Valley are naturally recharged.

Climate

In summer, Napa County is protected from the hot weather of the Central Valley of California by the coastal mountain ranges. The Pacific Ocean provides a source of cool, moist air in summer, and this steady flow of marine air holds temperatures at a moderate level.

Temperature and precipitation information from Napa and from Pacific Union College at Angwin are shown on table 15. The data in the table were compiled from records of weather stations of the National Weather Service in Napa County.

Temperature patterns vary throughout the area because of the mountainous terrain. The range in temperature is much greater in the higher mountainous valleys than in other areas of the county.

The greatest variation in temperature occurs in summer. The average daily maximum temperature in July is 82° F at Napa and in the nineties at Lake Berryessa. The highest temperature is more than 100° in most of the county during the warm season, and it is more than 110° in the northeastern part. The average daily minimum temperatures are in the fifties throughout the county during the warm season.

Winters are generally mild, but there are occasional cold spells. In January, the average minimum temperature is in the thirties throughout the county, but a low of 15° has been recorded. Relatively warm temperatures are common in the afternoon. In January the average daily maximum temperature is in the middle fifties.

The last freezing temperature in spring generally occurs in March in most areas of the county, but it commonly occurs in February in the northeastern part. The first freezing temperature in fall generally occurs in November in most of the county and as late as December in the warmer northeastern part.

The growing season, which is the period between the last freezing temperature in spring and the first in fall, ranges from 215 to 260 days in Napa Valley. The growing season near Lake Berryessa is about 285 days. The vicinity of Lake Berryessa has greater climatic extremes than other parts of the county because of the mountainous terrain, which limits the effects of the Pacific Ocean.

Most of the annual precipitation falls during the period of November through April. The average annual precipitation ranges from about 20 inches in the extreme northeastern corner and extreme southern boundary of the county to 24 to 35 inches in Napa Valley. The average precipitation increases with elevation to a maximum of about 55 inches near Mount St. Helena. Figure 1 shows the distribution of precipitation in Napa County.

Total precipitation varies from year to year. For example, in 9 years out of 10, it ranges from about 13 to 34 inches at Napa and from less than 21 to about 50 inches at St. Helena. Table 16 shows the probability of receiving the total annual precipitation indicated at five weather stations in Napa County.

The greatest amount of rainfall in 1 hour is expected to be 0.8 inch about once in 2 years, and it is 1.6 inches once in 100 years in the southern part of Napa Valley and the eastern part of Napa County. In the northern part of Napa Valley and the western part of Napa County, the range is from 0.9 inch in 1 hour once in 2 years to 2.1 inches in 1 hour once in 100 years.

The average annual snowfall at the lower elevations in the county is less than 1 inch. At the higher

elevations, the annual average is 3.1 inches at Angwin and 18.3 inches at Mount St. Helena.

Table 17 shows monthly and annual evaporation recorded at three stations in Napa County previous to 1970. All records of evaporation recorded were from a Class A pan that is 4 feet in diameter.

Records covering a 2-year period at the Napa County Airport show that the wind direction is dominantly from the south and southwest, but it is also from the east and west. A weak downdraft has also been recorded. Strong north winds that follow winter storms frequently cause a sudden drop in temperature.

Winds of less than 5 miles per hour were recorded slightly less than 25 percent of the time. Winds of *25* miles per hour or more were recorded less than 1 percent of the time. It is estimated that winds reach speeds of 40 miles per hour in most parts of the county as often as once in *2* years and speeds of 80 miles per hour once in 50 years.

The average relative humidity in the county ranges from 75 percent in winter to about 60 percent in summer and fall. In summer, the difference in humidity between the marine air and the drier and warmer air of the inland locations is great.

Napa County receives about 50 percent of the total possible sunshine in winter and about 80 percent in summer. Most of the cloudiness in winter is associated with storms that move inland from the Pacific Ocean. The cloud patterns of these storms are nearly the same in all parts of the county. In summer the cloud patterns are more localized. Typically, the clouds move inland late in the afternoon and spread across much of the county. By late morning the cloud cover starts to dissipate.

Settlement and development

The Indian civilization was in existence in the survey area 4,000 years ago (*8*). The county derives its name from the Nappa Indians, who inhabited the area until about 1870. The population of Napa County was 76,819 in 1970.

The first recorded expedition to Napa Valley was made in 1823 by Francisco Castro. George C. Yount settled in Napa Valley in 1835 and was soon followed by other settlers. Yount received the Caymus Grant from the Government of Mexico in 1836, and by 1845 almost the entire valley had been taken up in large grants. Napa County was created on February 8, 1850, and included the area that is now Lake County.

Grains, mainly wheat, were grown in the area during the early days of settlement, but orchards became dominant in the 1860's. Grapes were introduced in the area in the 1850's from cuttings supplied by the Spanish Mission in Sonoma and San Rafael. Vineyards occupy the major part of the acreage of Napa Valley.

The major industries in the county are winemaking, the fabrication of steel pipe, and the production of construction materials, sportswear, and leather goods. Most transportation in the area is by automobile and truck. Bus service provides regular transportation to areas outside the county.

Napa County has high schools in the communities of Napa, St. Helena, and Calistoga. Numerous grammar schools are scattered throughout the rural areas. Napa Junior College is south of the City of Napa, and Pacific Union College is at Angwin. Medical facilities in the county include hospitals at Napa and Deer Park.

Appendix D

Henneke series (Mapunits: 153, 154)

The Henneke series consists of excessively drained soils on uplands. Slope is 5 to 75 percent. Elevation is 500 to 4,000 feet. These soils formed in material weathered from serpentine. The vegetation is scattered oak, digger pine, scrub oak, manzanita, muskbrush, toyon, MacNabb cypress, and a few annual grasses. The mean annual precipitation is 25 to 45 inches, and the mean annual temperature 59° to 62 F. Summers are hot and dry, and winters are cool and moist. The frostfree season is 220 to 260 days.

In a representative profile the surface layer is reddish brown, neutral gravelly loam 7 inches thick. The subsoil is reddish brown, mildly alkaline very gravelly clay loam 8 inches thick. Fractured, greenish blue serpentine is at a depth of 15 inches.

Permeability is moderately slow. The effective rooting depth is 10 to 20 inches. Available water capacity is I to 3 inches.

Henneke soils are used for wildlife habitat, watershed, and limited grazing.

Representative profile of Henneke gravelly loam, 30 to 75 percent slopes, 200 feet north and 200 feet west of intersection of Pope Canyon and Berryessa-Knoxville Roads, R. 4 W., T. 9 N. (nonsectionalized):

A1-0 to 7 inches, reddish brown (5YR 4/3) gravelly loam, dark reddish brown (5YR 3/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; many very fine and fine tubular pores; 30 percent gravel; neutral (pH 7.0); abrupt smooth boundary.

B2t-7 to 15 inches, reddish brown (5YR 3/4) very gravelly clay loam, dark reddish brown (5YR 3/3) moist; weak medium subangular blocky structure; slightly hard, firm, slightly sticky, slightly plastic; thin continuous clay films lining pores; 50 percent gravel; mildly alkaline (pH 7.5); abrupt wavy boundary.

R-15 inches, fractured greenish blue serpentine.

The A1 horizon is dark brown, reddish gray, or reddish brown (7.5YR 4/2 and 5YR 4/3, 5/2, and 5/3) gravelly loam or gravelly clay loam. The gravel content ranges from 25 to 35 percent. Reaction is slightly acid or neutral.

The B2t horizon ranges from dark brown, reddish yellow, reddish brown, dusky red, or red (5YR 7/6, 6/6, 4/3, 5/4, and 3/4 and 2.5YR 3/2, 5/6, and 4/6) clay loam or clay that has gravel, cobbles or stones. Rock fragments make up 35 to 50 percent of the horizon. Reaction is neutral to moderately alkaline. Depth to weathered serpentine ranges from 10 to 20 inches.

153-Henneke gravelly loam, 5 to 30 percent slopes. This gently sloping to moderately steep soil is on toe slopes on uplands.

Included with this soil in mapping were small areas of Bressa, Dibble, Lodo, Maymen, and Montara soils. Also included were small areas of dark gray clayey soils that crack upon drying, a few areas of rock outcrop that make up about 5 percent of this unit, and areas of soils that are similar to this Henneke soil but that are more than 20 inches deep to bedrock or are browner.

Runoff is medium to rapid. The hazard of erosion is slight to moderate. This soil is very low in fertility.

This soil is used mostly for wildlife habitat, recreation, and watershed. A few areas are used for range. Capability unit VIIe-1 (15); Rocky Serpentine range site.

154-Henneke gravelly loam, 30 to 75 percent slopes. This steep and very steep soil is on uplands. It has the profile described as representative for the series.

Included with this soil in mapping were small areas of Lodo, Maymen, and Montara soils. Also included were small areas of rock outcrop that make up about 10 percent of this unit and areas of soils that are similar to this Henneke soil but that are more than 20 inches to bedrock or are browner.

Runoff is rapid to very rapid. The hazard of erosion is moderate to high. This soil is very low in fertility.

This soil is used for wildlife habitat, recreation, and watershed. A few areas are used for range. Capability unit VIIe-1 (15); Rocky Serpentine range site.

Montara series (Mapunits: 166, 167)

The Montara series consists of well drained soils on uplands. Slope is 5 to 50 percent. Elevation is 500 to 1,500 feet. These soils formed in material weathered from serpentine. The vegetation consists mainly of annual grasses and a few digger pine. The mean annual precipitation is 25 to 45 inches, and the mean annual temperature is 59° to 62° F. Summers are hot and dry, and winters are cool and moist. The frost-free season is 240 to 260 days.

In a representative profile the surface layer is grayish brown and dark grayish brown mildly alkaline clay loam underlain at a depth of 12 inches by serpentine.

Permeability is moderately slow. The effective rooting depth is 10 to 15 inches. Available water capacity is 2 to 2.5 inches.

Montara soils are used mostly for wildlife habitat and watershed. Areas of Montara soils that adjoin areas of other soils that are in pasture are used for grazing.

Representative profile of Montara clay loam, 5 to 30 percent slopes, approximately ¼ mile northwest of intersection of Snell Valley and Spanish Trail Roads, SE¼NW¼ sec. 22, T 10 N., R. 5 W.:

A11-0 to 4 inches, grayish brown (10YR 5/2) clay loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; hard, friable, sticky and plastic -, many fine and very fine roots; many very fine tubular pores; mildly alkaline (pH 7.8); clear wavy boundary.

A12-4 to 12 inches, dark grayish brown 2.5Y 4/2) clay loam, very dark grayish brown (2.5Y 3/2) moist; moderate coarse subangular blocky structure; hard, friable, sticky and plastic; common fine and very fine roots; many very fine tubular pores; mildly alkaline (pH 7.8); abrupt wavy boundary.

R-12 inches, serpentine.

The A horizon is gray, grayish brown, or dark grayish brown (10YR 5/2, 4/2, and 5/1 and 2.5Y 5/2, 4/2). Reaction is neutral to moderately alkaline. Depth to bedrock is 10 to 15 inches. Gravel and cobbles that are mainly serpentine make up 5 to 10 percent of the profile.

166-Montara clay loam, 5 to 30 percent slopes. This gently sloping to moderately steep soil is on foot slopes, side slopes, and rounded ridgetops on uplands. It has the profile described as representative for the Montara series.

Included with this soil in mapping were areas of Henneke and Maxwell soils. Also included were areas of rock outcrop and areas of soils that are similar to this Montara soil but that are clayey or that are less than 10 inches deep to bedrock.

Runoff is rapid. The hazard of erosion is moderate.

This soil is used for range, wildlife habitat, and watershed. Capability unit VIIe-1 (15); Serpentine range site.

167-Montara clay loam, 30 to 50 percent slopes. This steep soil is on uplands.

Included with this soil in mapping were small areas of Bressa, Henneke, and Lodo soils and areas

of soils that are similar to this Montara soil but that are clayey.

Runoff is rapid. The hazard of erosion is high.

This soil is used for wildlife habitat, limited grazing, and watershed. Capability unit VIIe-1 (15); Serpentine range site.