

Sunland Analytical
11419 Sunrise Gold Cir.#10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 04/20/16
Date Submitted 04/14/16

To: Ron Thompson
Rescue Union School Dist.
2930 Bass Lake Rd.
Rescue, CA, 95672

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following:
Location : PLEASANT GRV.MS FIEL Site ID: 4-14-16
Thank you for your business.

* For future reference to this analysis please use SUN # 71626 - 149436

SOIL ANALYSIS

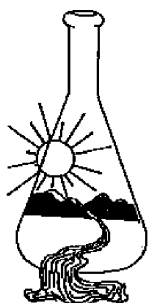
Saturation Percent (SP)	41.6	
pH	6.45	
ECe	0.24	mmho/cm
Tot.Dissolved Salts	153.6	ppm
Infiltration Rate (0% Slope)	0.54	in/hr
% Organic Matter	6.54	
C.E.C.	19.7	meq/100g
Sodium Adsorp.Ratio (SAR)	1.81	
Exchangable Sodium % (ESP)	1.4	
Gypsum Req. (CaSO ₄ *2H ₂ O)	None	Required
est. Nitrogen Release	2.0	#/1000 sq.ft.

Soil Texture: Loam

Nitrate-N	0.19	ppm
Phosphate-P	8.61	ppm
Potassium	103.19	ppm
Sulfur	10.69	ppm
Chloride	No Test	
Carbonates	No Test	
Sodium	62.88	ppm
Calcium	2610.63	ppm
Magnesium	747.76	ppm
Boron	0.35	ppm
Copper	No Test	
Iron	No Test	
Mangnaese	No Test	
Zinc	No Test	

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Very Low Low Adequate Excessive
Low



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SOIL RECOMMENDATIONS FOR LANDSCAPE GARDENING

Soil pH (Acidity and Alkalinity):

The pH of this sample indicates the soil is moderately acid and should be modified for non acid-tolerant plants. Apply 12.0 pounds of Lime per 1000 sq.ft. and work into soil before planting.

Dissolved Salts (Indicated by E.C. & TDS)

These conditions are in the normal range for plant growth.

Soil Texture and Rate of Water Infiltration

The infiltration rate for all soil textures decreases with increasing ground slope. At 0 to 4%, 5 to 8%, 9 to 12%, 13 to 16% and above 16% the infiltration rate of this sample decreases from 0.54 to 0.43, 0.32, 0.22, 0.14, respectively. Infiltration rate also decreases with percent of ground cover and by compaction.

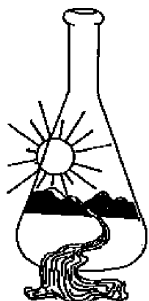
Water Penetration of Soil Due to Chemical Characteristics

When exchangeable Sodium increases in the soil, water penetration decreases. Based on SAR and ESP values this sample has no penetration problem due to soil Sodium. No Gypsum required.

Organic Matter - provides a slow nitrogen release and aids water retention. This sample has a moderate Organic Matter content.

To maintain moisture and provide sustained nitrogen release a level of 10% organic matter is recommended. Use amending material that is approximately 75% organic matter (i.e. many ground fir barks). Based on the analysis of this soil sample apply 2 yards per 1000 sq.ft. Spread evenly and blend into the top six inches of soil. It is a reasonable practice to apply a top dressing of three inches of organic mulches to aid water penetration and retention.

Soil Boron - concentrations are in a range allowing normal plant growth.



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SOIL RECOMMENDATIONS FOR LANDSCAPE GARDENING

Soil Macronutrients (Nitrogen, Phosphorous, Potassium or N-P-K)

Use ONE of these NPK preparations for the first fertilizer application.

Standard NPK

Fertilizer

Preparations	6-20-20	5-20-10	16-16-16	0-10-10	28-3-4	21-0-0
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#/1000 sq.ft.	21	25	N/A	N/A	N/A	N/A
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Soil Micronutrients - Copper, Iron, Manganese and Zinc, in soil are present in small amounts. However, they play a necessary role in plant metabolism. Without appropriate amounts plants will not thrive.

Analysis for micronutrients not requested.

Grass or Sod Preparation

Till in organic matter, N,P,K and micro nutrients in addition to any lime gypsum or sulfur as directed above. Smooth soil surface and follow seed or sod producers direction for moisture and product application.

Trees and Shrubs

Excavate holes for planting shrubs and trees to at least twice the volume of the container. Prepare backfill for tree and shrub planting holes by mixing three parts of native soil (or imported top soil) with one part organic amendment (preferably nitrogen and iron fortified) and 2.5 pounds of 6-20-20 (or similar low nitrogen, high phosphate, high potassium fertilizer) per yard of mix. For extended fertilization, place slow release fertilizer tablets in the hole per manufacture's instructions. If 6-20-20 is not directly added to the backfill mix, during backfilling apply uniformly 1/2 oz of 6-20-20 per gallon container, 2.5 oz per 5 gallons, or 6 oz per 24 inch boxes.

Summary and Suggested Sequence of Soil Improvements (#/1000 sq.ft.)

Lime	12.0	#	
Organic Amendment	2	Yd./1000 sq.ft	Bulk organic amendment (prefer nitroified).
N-P-K Fertilizer - see chart above for type and amount required.			
Sulfate-Sulfur - apply	2	#	Ammonium sulfate fertilizer

Maintenance Fertilization - apply 5 pounds of Ammonium sulfate (21-0-0) per 1000 sq.ft. every month untill plants become established. After established, apply 23-3-4 (or similar preparation)to provide desired growth rate and color.