CAPRICORN VETERINARY LABORATORIES
ANALYTICAL & DIAGNOSTIC LABORATORY SERVICES

Constituent	Unit	Sample ID	Sample ID	CLASSIFICATION					Dispersion	
		1-21/1450 & 1451	2-21/1450 & 1451	Class 0	Class 1	Class 2	Class 3	Class 4	% Uncertainty	%Recovery
Total Heterotrophic count	/ml	6300	17800	0	1-100	101-1000	>1000	-		
Total coliforms	/100ml	122	0	0	1-10	11-100	101-1000	>1000	<0.1 RSD	117.8
Faecal coliforms	/100ml	-	-	0	1	2-10	11-100	>100		117.9
E.coli	/100ml	0	0	0	1	2-10	11-100	>100	<0.1 RSD	109.9
pH	pH units	7.1	7.2	5-9.5	4.5-5 or 9.5-10	4-4.5 or 10-10.5	3-4 or 10.5-11	<3 or >11	1.8	
EC (mS/m)	mS/m	128.6	129.2	<70	70-150	150-370	370-520	>520	1.37	
TDS	mg/l	836	840	<450	450-1000	1000-2400	2400-3400	>3400	1.37	
SAR	mg/l	0.99	1.49	<2	-	-	-	-	-	
Total Hardness	mg/l	579.63	478.72	<200	200-300	300-600	>600	-	4.42	
Arsenic	mg/l	<0.03	<0.03	<0.01	0.01-0.05	0.05-0.2	0.2-2	>2	4.33	
Boron	mg/l	0.02	0.05	<0.5	-	-	-	-	-	
Calcium	mg/l	61.62	56.73	<80	80-150	150-300	>300	-	5.38	
Cadmium	mg/l	<0.01	<0.01	<0.003	0.003-0.005	0.005-0.02	0.02-0.05	>0.05	2.65	
Copper	mg/l	<0.01	0.02	<1	1-1.3	1.3-2	2-15	>15	2.35	
Iron	mg/l	<0.01	0.01	<0.5	0.5-1	1-5	5-10	>10	2.76	
Magnesium	mg/l	103.80	82.17	<70	70-100	100-200	200-400	>400	2.35	
Manganese	mg/l	<0.01	0.01	<0.1	0.1-0.4	0.4-4	4-10	>10	2.08	
Potassium	mg/l	14.72	8.93	<25	25-50	50-100	100-500	>500	8.3	
Sodium	mg/l	54.60	75.18	<100	100-200	200-400	400-1000	>1000	5.85	
Zinc	mg/l	0.01	0.16	<3	3 - 5	5 - 10	10 - 20	>20	2.03	
Chloride	mg/l	133.4	85.2	<100	100-200	200-600	600-1200	>1200	3.83	
Fluoride	mg/l	0.26	0.35	<0.7	0.7-1	1-1.5	1.5-3.5	>3.5	5.96	
Ammonia as NH4	mg/l	<0.20	<0.20	-	-	-	-	-	-	
Nitrate (as N)	mg/l	17.71	15.04	<6	6 - 10	10 - 20	20-40	>40	8.53	
Sulphate	mg/l	37.36	33.90	<200	200-400	400-600	600-1000	>1000	6.65	
Drinking Water Class		III	III							
Irrigation Water Class		C3S1	C3S1							

Drinking water

Drinking water classification is based on DWA standard for Drinking water

Irrigation water

Reference: US Agriculture Handbook 60 - Diagnosis and Improvement of Saline and Alkali Soils (Cert 2018-086) & DWA Irrigation standard

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Date:

Class 0	Ideal water quality-suitable for lifetime use.
Class 1	Good water quality-suitable for use, rare instances of negative effects.
Class 2	Marginal water quality-conditionally acceptable. Negative effects may occur in some sensitive groups.
Class 3	Poor water quality-unsuitable for use without treatment. Chronic effects may occur.
Class 4	Dangerous water quality-totally unsuitable for use. Acute effects may occur.

Class 0	Drinking health	No effects, suitable for many generations.
	Drinking Aesthetic	W ater is pleasing.
	Food preparation, Bathing, laundry	No effects. No effects. No effects.
Class 1	Drinking health	Suitable for lifetime use. Rare instances of sub-clinical effects.
	Drinking Aesthetic	Some aesthetic effects may be apparent.
	Food preparation, Bathing, laundry	Suitable for lifetime use. Minor effects on bathing or on bathing or on bath fixtures. Minor effects on laundry or on fixtures.
Class 2	Drinking health :	May be used without health effects by majority of individuals of all ages, but may cause effects in some individuals in sensitive groups. Some effects possible after lifetime use
	Drinking Aesthetic	Poor taste and appearance are noticeable.
	Food preparation, Bathing, laundry	May be used without health or aesthetic effects by the majority persons Slight effects on bathing or on bath fixtures. Slight effects on bathing or on bath fixtures.
Class 3	Drinking health	Poses a risk of chronic health effects, especially in babies, children and the elderly.
	Drinking Aesthetic	Bad taste and appearance may lead to rejection of the water.
	Food preparation, Bathing, laundry	Poses a risk of chronic health effects, especially in children and elderly Significant effects on bathing or on bath fixtures. Significant effects on laundry or on fixtures.
Class 4	Drinking health	Severe acute health effects, even with short-term use.
	Drinking Aesthetic	Taste and appearance will lead to rejection of the water.
	Food preparation, Bathing, laundry	Severe acute health effects, even with short-term use. Serious effects on bathing or on bath fixtures. Serious effects on bathing or on bath fixtures.

Class	EC	Description
C1	<25 mS/m	Very Good
C2	25 - 75 mS/m	Good
C3	75 - 225 mS/m	Bad
C4	>225 mS/m	Very Bad

SAR			
S.1	0 - 1.5	Low	Safe on all soil types
S.2	1.5 - 3.0	Medium	Safe on high textured soils
S.3	3.0 - 5.0	High	Need regular gypsum addition
S.4	>5	Very High	Totally unsuitable for irrigation

The optimum pH for irrigation is between 5.50 and 7.50.

The pH of water for irrigation ag vegetables under protection is between 5.0 - 6.5.

The optimal EC of irrigation is <100 mS/m and for Hydroponics it is <50 mS/m.

SAR < 1 presents no problem, but SAR between 1 and 3 need special attention.