

Water Chemistry Profile

CLIENT: **OZBREED**
 PO Box 1011
 Richmond NSW 2753
 Attn: Beck Clark

PROJECT: Name: **Irrigation Water Assessment**
 Location:
 SESL Quote N°: Client Job N°: Order N°:
 Date Received: **04/06/2008**

SAMPLE: Batch N°: **6742** Sample N°: **1**
 Name: **Irrigation Water (2 bottles)**
 Test Type: **W04-TAH (FW)**



Sydney Environmental and Soil Laboratory

Specialists in Soil Chemistry, Agronomy and Contamination Assessments

Tests are performed under a quality system certified as complying with ISO 9001:2000. Results and conclusions assume that sampling is representative. This document shall not be reproduced except in full.

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Total No Pages:

TEST	RESULT	COMMENTS
pH	7.3	slightly alkaline
EC mS/cm	1.13	Class 3 Irrigation Water. Elevated
Total Dissolved Salts mg/L	723.2	Moderate to high nutrient concentrations in the water

TEST Unit	CATIONS			ANIONS			
	meq/L	mg/L	Comment	Test	meq/L	mg/L	Comment
Sodium	5.1	117.3	Elevated	Chloride	3.3	115.7	High
Potassium	.79	30.8	Acceptable	Sulphate	1.86	89.5	High
Calcium	2.04	40.8	Acceptable	Nitrate	<0.08	<5.0	Acceptable
Magnesium	.58	7	Acceptable	Phosphate	.61	29	High
Aluminium				Bicarbonate	5.72	349.3	Very High
Ammonium	1.18	16.5	High	Carbonate	0.02	0.7	Acceptable

TRACE	mg/L	Comment
Iron	0.22	acceptable
Zinc	0.07	acceptable
Copper	0.06	acceptable
Manganese	0.06	acceptable
Boron		

Derived Values


Sodium Adsorption Ratio $\text{mmol}^{1/2} \cdot \text{L}^{1/2}$	4.46	acceptable
Anion/Cation Balance meq/L	-1.84	
Titrateable Alkalinity g/L CaCO ₃	0.35	acceptable
CaCO ₃ Saturation Index (pH-pH _c)	2.1	some risk of scaling
Total Hardness (mg/L as CaCO ₃)	130.7	slightly hard

Recommendations

pH = 7.40. Water has potential to precipitate calcium and magnesium salts.
 Adjusted SAR = 8.9. High potential for sodium to accumulate.
 Results of the water analysis has indicated that this water is a class 5 irrigation water under NSW Department of Primary Industries guidelines. Class 5 waters are very high salinity waters are classified as being totally unstable even with strict precautions. The chloride level is extremely high for turf grass irrigation, and it is expected that a leaf burn will occur in high temperatures. The Adjusted Sodium Absorption Ratio indicates that there is a very high potential for sodium accumulation to occur with repeated use of this water. This water is not ideal for turf grass irrigation and ideally, options to shandy or reduce the use of this water should be investigated.

Consultant: 
Shane Harvey

Date of Report: **13/06/2008**

Authorised Signatory: 
Murray Fraser

Explanation of the Methods: pH: Glass Calomel electrode
 Na, K, Ca, Mg, Fe, Zn, Cu, Mn: flame AAS
 N, P, Cl, CO₃, B: Spectrophotometric method