

Glossary

ppm (parts per million)	A measurement in terms of solids weight, of any character, which are dissolved in 1 million equivalent parts of water. (8.3 lbs. solids in 1 million gallons of water)
deionized water	Water that has gone through an ion exchange process to produce very pure water. Also known as demineralization. (Do not confuse with water softeners, they actually increase the total ppm.)
distilled water	Water that has been evaporated and recondensed. Produces water with a ppm count of less than 10.
grain per gallon	One grain equals 1/7000 lb. or 17.1 ppm = 1 grain per U.S. gallon. In metric, 1 ppm = 1 g per cu meter = 1 mg per liter.
conductance to ppm conversion	To convert a water conductance measurement (mmho) to its ppm equivalent, simply divide by 2. (Example: 40 mmho = 20 ppm.)

For those interested in specific elemental rejections from an RO system, I have included a report from a water testing laboratory that analyzed feed and product water from a 5 gpd low pressure module.

(Cations)	Feed (ppm)	Product (ppm)	(Anions)	Feed (ppm)	Product (ppm)
	Calcium 44.	1.		Carbonate Nil	Nil
	Magnesium 37.	0.8		Bicarbonate 231.7	12.6
	Sodium 100.	6.30		Sulfate 379.	32.0
	Potassium 4.74	.11		Chloride 91.2	11.5
	<u>Feed</u>	<u>Product</u>			
Hardness (CaCO ₃)	262.2	5.70			
Alkalinity (CaCO ₃)	231.7	12.6			
TDS	538.0	11.0			

Special RO systems are available from: Agro Products, 9447 E. Artesia Blvd., Bellflower, California 90706. Write for current prices.

A TRIP TO ARTHUR PASS, NEW ZEALAND
by Jim Forrest

The day dawned clear and sunny, the weather report was good, but neither of these counts for much in what you'll find in the Alps. The main Divide is a divide in more ways than one, and particularly in relation to weather. Leaving Christchurch, you travel north-west along straight paved highways for thirty miles or so to the front ranges of the Alps across the intensively farmed Canterbury Plains.

The first range is climbed by Porter's Pass to a height just over 1000 meters (3000 feet) and a stiff climb too! The road winds for another 70-odd miles to Arthur Pass, skirting mountain ranges up and down, across stony riverbeds, and often alongside wide stony rivers which become raging torrents after rain or when a hot northwest wind melts the snow. The mountains are almost devoid of vegetation and are masses of moving rock--a tribute to one hundred years of burning and overgrazing.

We arrived at the summit which lived up to its reputation--it was raining for 100 meters on our side. The Pass is the center of a national park so some attempt has been made to preserve the vegetation. Alongside the road were small lakes and wet areas and it was here I looked for Drosera.

Drosera arcturi was here by the acre in full flower and plants that could be counted in the thousands. D. spathulata was present also, but not in such vast numbers. Both plants were noticeable for the brilliant red coloring backed by the white flowers--single in the case of D. arcturi. The plants were in some cases growing in sphagnum but in general just in a mass of peat, mires, roots, sedges, etc. The water level in the ponds was about 3 cm. (one inch) below the surface and this I presume kept the temperature for the plants down. In winter, the area will be frozen or covered in snow for months. I couldn't find D. stenopetala which is much more localized. No luck with Utricularias either. Some idea of the weather barrier can be gained from the fact that at the Pass rainfall is about 5000 mm. yet about 10 Km. away it is down to 800 mm. Further south, the contrast is even greater.