

**Calculation summary for Gary Swney by Dr Hendrik Venter, Technical
Director, ARL.**

16 August 2017

Submitter No: 789

Submitter Name: Swney, G & B

Date Received: 16/8 /17

The quantities of nutrients applied per ha at different application rates of **liquid effluent**. All nutrient values expressed as kg/ha and application rates as L/ha. (An application rate of 10000 L/ha is the same as 1 mm/ha. Calculations are based on mean values of two tests #1313353 and #1458931.

Nutrient	Application rate in L/ha						
	10 000	20 000	30 000	40 000	50 000	60 000	70 000
Nitrogen	13.9	27.9	41.8	55.8	69.7	83.7	97.6
Phosphorus	2.5	5.1	7.6	10.1	12.6	15.2	17.7
Potassium	16.9	33.8	50.7	67.6	84.5	101.4	118.3
Sulphur	1.7	3.3	5.0	6.6	8.3	9.9	11.6
Calcium	5.0	10.0	15.0	20.0	25.0	29.9	34.9
Magnesium	2.4	4.8	7.2	9.6	12.0	14.4	16.8
Sodium	4.1	8.1	12.2	16.2	20.3	24.4	28.4

The quantities of nutrients applied per ha at different application rates of **solid effluent**. All nutrient values expressed as kg/ha and application rates as ton/ha. Calculations are based on mean values of two tests #1313361 and #1458937.

Nutrient	Application rate in ton/ha				
	1	2	3	4	5
Nitrogen	3.9	7.7	11.6	15.4	19.3
Phosphorus	67.5	135.0	202.5	270.0	337.5
Potassium	0.7	1.3	2.0	2.6	3.3
Sulphur	1.1	2.2	3.3	4.4	5.5
Calcium	0.8	1.5	2.3	3.0	3.8
Magnesium	2.4	4.8	7.2	9.6	12.0
Sodium	0.9	1.7	2.6	3.4	4.3



Analytical Research Laboratories

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Website: www.arllab.co.nz

Customer: SWNEY G & B LTD - FARM #1
C/- G P & B J SWNEY
694 MILL ROAD NORTH
RD 6
INVERCARGILL 9521

Service Person: Anderson K
Name: Kieran Anderson
Email: gpbjswney@farmside.co.nz

Customer No: 7246994
Samples Received: 21/10/2015 08:36
Report Issued: 29/10/2015
Total samples: 1
Order Number: 21-10-2015 swney
021 900211

7246994-21-10-2015 swney

WATER ANALYSIS REPORT

Sample Name: Swney Liquid Effluent	Lab Number: 1313353	Temp on receipt oC:	17.8
Date & Time Sampled:	29/10/2015 03:00	Order Number:	21-10-2015 swney

Nutrient	Result	Uncertainty of measurement +/-
pH	7.7	0.15
Total Kjeldahl Nitrogen mg/L	1090.95	-
phosphorus mg/L	92	-
potassium mg/L	1057	-
sulphur mg/L	91	-
calcium mg/L	268	-
magnesium mg/L	138	-
sodium mg/L	296	-
Sodium Absorption Ratio	2.6	-

10000 L/ha

10.9 kg/ha

0.9 "

10.57 "

0.9 "

2.68 "

1.38 "

2.96 "

Analysis comment:

M. d. E. Smith

Mae Smith, NZCS, for ARL LTD

Results are based on established methods of analysis, available on request. Results apply to the sample(s) as received.
* Test was subcontracted to an outside facility. Bacteriological test(s) subcontracted to Hills Laboratory (IANZ accredited).
** Calculated from conductivity test result. Metals (total) determined directly by EPA 200.2 digestion and ICP-MS.
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Tests indicated as not accredited are outside the scope of the laboratory's accreditation.

Tests not Accredited

Tests subcontracted

Calculating the amount of N applied per ha at an application rate of 10000 L/ha.
Total N = 1090 mg/L that is the same as 1.09 g/L
(divided mg/L by 1000)
Amount of N applied per ha = 10000 L/ha × 1.09 g/L
= 10900 g/ha
= 10.9 kg/ha (after dividing g/L by 1000)



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Website: www.arllab.co.nz

Customer: SWNEY G & B LTD - FARM #1
C/- G P & B J SWNEY
694 MILL ROAD NORTH
RD 6
INVERCARGILL 9521

Service Person: Anderson K
Name: Kieran Anderson
Email: gpbjswney@farmside.co.nz; kieran.anderson@ravensdown.co.nz

Customer No: 7246994
Samples Received: 16/12/2016 08:40
Report Issued: 21/12/2016
Total samples: 1
Order Number: Swney Liquid Effluen
021 900211

7246994-Swney Liquid Effluen

WATER ANALYSIS REPORT

Sample Name: Swney Liquid Effluent 9/12/16	Lab Number: 1458931	Temp on receipt oC:	
Date & Time Sampled:	09/12/2016 15:00	Order Number:	Swney Liquid Effluen

Nutrient	Result	Uncertainty of measurement +/-
Total Kjeldahl Nitrogen mg/L	1697.65	-
phosphorus mg/L	413	-
potassium mg/L	2324	-
sulphur mg/L	239	-
calcium mg/L	730	-
magnesium mg/L	343	-
sodium mg/L	516	-
Sodium Absorption Ratio	2.8	-

Analysis comment:

K Cooper Karen Cooper, NZCS, for ARL

Results are based on established methods of analysis, available on request. Results apply to the sample(s) as received.
* Test was subcontracted to an outside facility. Bacteriological test(s) subcontracted to Hills Laboratory (IANZ accredited).
** Calculated from conductivity test result. Metals (total) determined directly by EPA 200.2 digestion and ICP-MS.
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For potable water Ministry of Health compliance, any sample which arrives with a temp > 10°C would not meet NZ Drinking water standards.



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Tests not Accredited

Tests subcontracted

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