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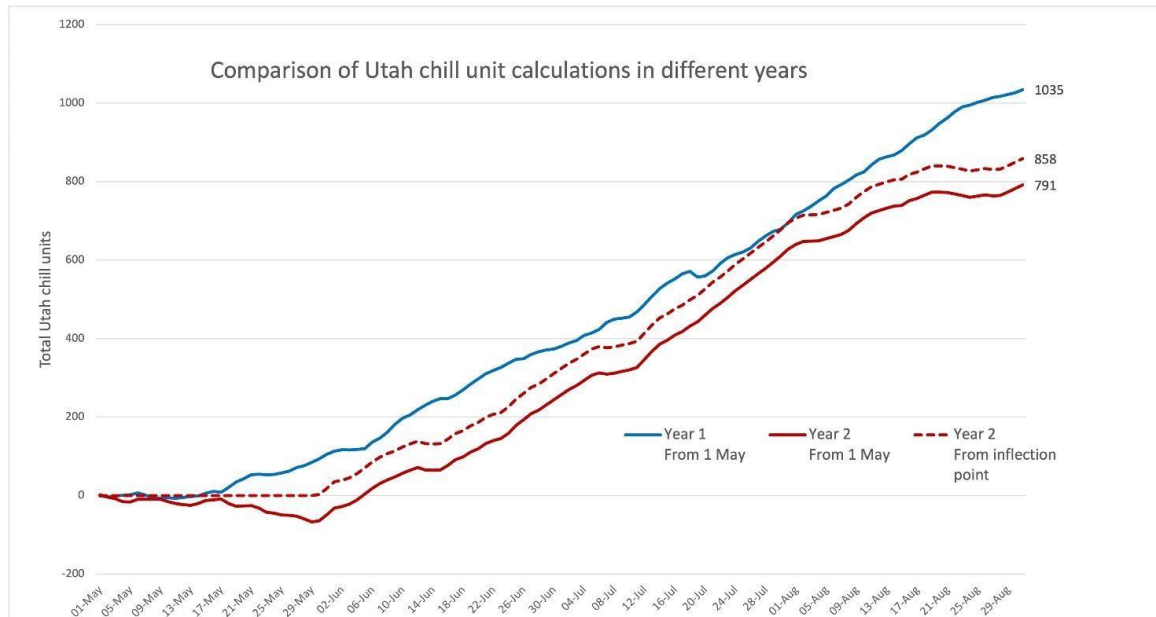


Temperature and Rainfall report for JUNE 2023 vs 2022

	JUNE																	
	Average Temp			MAX Temp			MIN Temp			Avg Daily MAX			Avg Daily MIN			Total Rain		
Area	2022	2023	23 vs '22	2022	2023	23 vs '22	2022	2023	23 vs '22	2022	2023	23 vs '22	2022	2023	23 vs '22	2022	2023	23 vs '22
Elgin	10.9	12.0	↑ 1.0	28.0	19.9	↓ -8.1	-1.0	-0.4	↑ 0.7	19.8	15.1	↓ -4.6	4.1	9.0	↑ 4.8	187	269	↑ 82
Ermelo	7.4	9.9	↑ 2.5	22.1	23.6	↑ 1.5	-5.6	-1.9	↑ 3.8	15.9	19.3	↑ 3.4	0.5	2.4	↑ 2.0	35	17	↓ -19
Franschhoek	14.1	12.9	↓ -1.2	29.4	20.8	↓ -8.6	4.3	4.5	↑ 0.2	21.4	16.1	↓ -5.3	9.1	10.4	↑ 1.3	125	410	↑ 284
Greyton	12.1	12.6	↑ 0.5	29.9	23.9	↓ -6.0	0.4	1.3	↑ 0.9	20.6	17.8	↓ -2.8	5.4	8.1	↑ 2.8	85	95	↑ 10
Koue Bokkeveld	8.8	8.3	↓ -0.6	23.2	18.3	↓ -4.9	-4.3	-1.5	↑ 2.8	17.3	12.2	↓ -5.1	2.1	4.6	↑ 2.5	110	214	↑ 104
Ladismith	11.6	11.7	↑ 0.1	22.6	27.6	↑ 5.0	1.6	-1.8	↓ -3.4	17.2	20.7	↑ 3.5	5.6	4.3	↓ -1.3	56	16	↓ -39
Langkloof - Oos	13.3	12.1	↓ -1.1	27.3	25.3	↓ -2.0	3.9	2.4	↓ -1.6	20.8	18.2	↓ -2.6	7.3	6.8	↓ -0.5	32	50	↑ 18
Langkloof - Wes	12.1	11.2	↓ -0.9	26.7	20.4	↓ -6.4	0.2	4.1	↑ 3.9	20.3	14.9	↓ -5.4	6.1	7.6	↑ 1.6	9	98	↑ 89
Montagu	11.5	12.1	↑ 0.6	29.0	22.5	↓ -6.6	-1.7	1.3	↑ 3.0	21.2	17.6	↓ -3.6	4.3	6.8	↑ 2.4	54	47	↓ -7
Nuy	11.4	12.9	↑ 1.5	30.3	22.8	↓ -7.5	-0.9	-0.1	↑ 0.8	20.9	17.6	↓ -3.3	4.1	8.1	↑ 4.0	48	50	↑ 2
Piketberg	13.9	10.0	↓ -3.9	24.6	19.9	↓ -4.7	4.7	3.9	↓ -0.8	17.9	12.4	↓ -5.5	10.3	7.7	↓ -2.5	137	357	↑ 220
Robertson	11.5	12.8	↑ 1.3	29.0	21.4	↓ -7.6	-1.7	1.7	↑ 3.4	21.2	17.2	↓ -4.0	4.3	8.8	↑ 4.5	54	47	↓ -7
Simondium	15.4	13.1	↓ -2.3	29.3	21.2	↓ -8.1	5.0	5.2	↑ 0.2	21.4	16.2	↓ -5.2	10.5	10.4	↓ -0.1	153	292	↑ 139
Stellenbosch	14.9	13.1	↓ -1.8	29.4	21.3	↓ -8.1	4.7	5.4	↑ 0.7	21.3	16.2	↓ -5.1	9.4	10.3	↑ 0.9	118	274	↑ 156
Tulbagh	11.8	12.4	↑ 0.6	28.8	21.0	↓ -7.7	0.1	1.4	↑ 1.3	21.1	16.5	↓ -4.5	4.3	8.4	↑ 4.1	55	150	↑ 95
Villiersdorp	13.2	12.8	↓ -0.4	27.4	20.6	↓ -6.8	2.2	4.5	↑ 2.3	19.0	16.0	↓ -3.1	7.8	10.0	↑ 2.2	84	231	↑ 148
Vrystaat	7.7	7.9	↑ 0.3	22.8	22.0	↓ -0.8	-5.4	-1.9	↑ 3.6	17.4	17.1	↓ -0.3	0.6	1.2	↑ 0.7	7	0	↓ -7
Vyeboom	12.3	12.8	↑ 0.5	27.9	21.2	↓ -6.7	0.3	2.0	↑ 1.7	19.9	15.4	↓ -4.5	5.9	10.2	↑ 4.3	145	299	↑ 154
Waterberg	12.6	14.7	↑ 2.1	25.1	27.5	↑ 2.4	1.2	3.3	↑ 2.1	20.1	23.4	↑ 3.3	6.0	7.1	↑ 1.1	3	1	↓ -2
WBV - Noord	11.1	11.1	↑ 0.0	27.5	21.6	↓ -5.9	0.0	1.0	↑ 1.0	20.3	15.7	↓ -4.6	4.5	6.9	↑ 2.4	68	203	↑ 135
WBV - Suid	9.8	9.7	↓ -0.1	26.8	20.2	↓ -6.6	-1.0	0.1	↑ 1.1	19.4	14.7	↓ -4.7	3.1	5.8	↑ 2.7	88	362	↑ 274
Wellington	16.4	13.0	↓ -3.3	29.2	20.0	↓ -9.2	7.7	7.0	↓ -0.7	21.1	16.1	↓ -5.0	12.4	10.2	↓ -2.2	96	180	↑ 84
Wolseley	12.0	12.3	↑ 0.2	30.2	22.0	↓ -8.2	-1.2	3.5	↑ 4.8	20.9	16.6	↓ -4.3	5.4	8.1	↑ 2.7	119	287	↑ 168

Correctly calculating Utah (Richardson) chill units

In our industry, Utah chill units have been calculated from the arbitrary date of 1 May. This is incorrect as according to the model, chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve. In warm areas and in a warm season, the inflection point might occur much later than 1 May while in cold seasons and in cold regions, it might occur before May. The figure below illustrates how different calibrations of the Utah model can affect the reported accumulated chill.



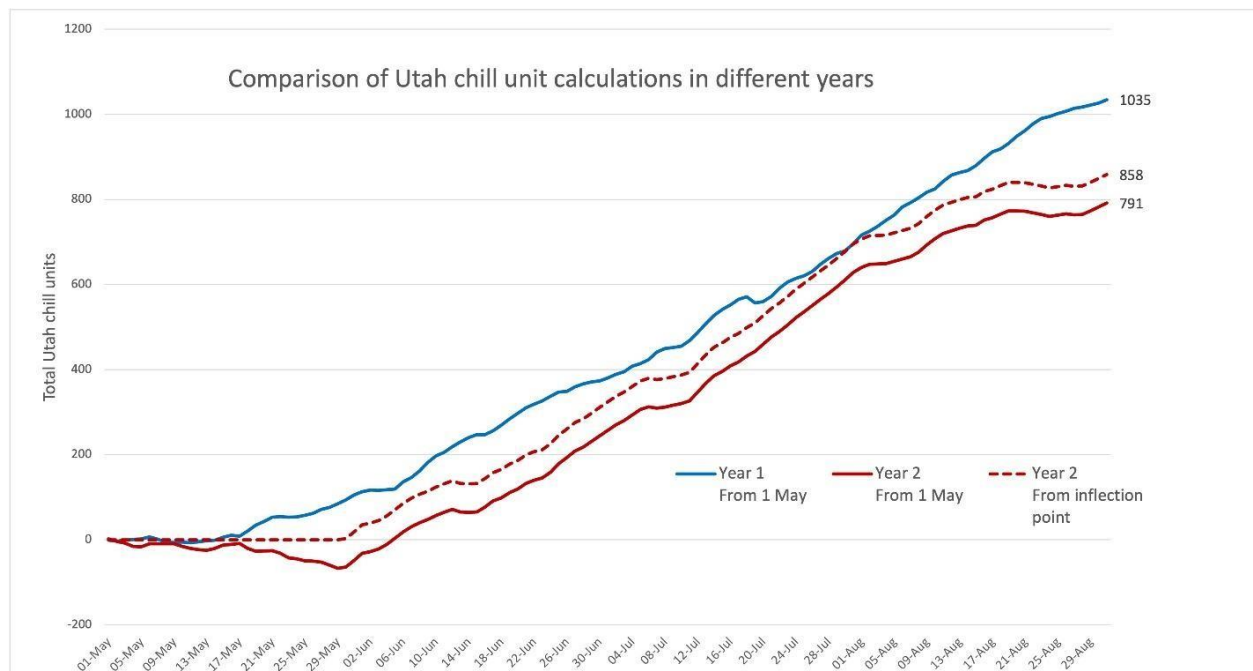
In the figure above, the blue solid line represents year 1, where the model has been correctly calibrated, so units only begin to accumulate from the inflection point, which happens to be 1 May. The red solid line, however, indicate that in year 2, chill units are also accumulated from 1 May, but the inflection point only occurs at the end of May. The result is an accumulation of negative chill units during May of year 2, which incorrectly reduces the reported data. The red dashed line indicate the accumulated chill units in year 2 if the model is correctly calibrated to start counting chill at the actual inflection point which is at the end of May. For more information, view issue 13 of the Fresh Quarterly - <https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/>

Thanks to Dr Nigel Cook for contributing the data set for this chart.

Since winter 2022, we've been reporting Utah chill units from the inflection point, as specified by the model. Since the inflection points can only be determined in retrospect, we could not report on the accumulated chill units at the end of May as some regions/stations were still busy reaching their inflection points. In this report, we reported the accumulated chill units to date (30 June), the date of the inflection points as well as the re-calculated chill units for previous years so that comparison between years is possible.

Die korrekte bepaling van Utah (Richardson) koue-eenhede

In ons bedryf is Utah koue-eenhede tot op hede vanaf die arbitrêre datum van 1 Mei bepaal. Dit is verkeerd, want volgens die model, moet koue-eenhede eers vanaf die onderste of mees negatiewe draaipunt van die jaarlikse geakkumuleerde koue-eenhede kurwe bepaal word. In warm areas en in 'n warm seisoen kan die draaipunt heelwat na 1 Mei bereik word terwyl in koue seisoene en areas dit voor Mei kan gebeur.



In die grafiek hierbo verteenwoordig die blou lyn jaar 1, waar die model korrek gekalibreer is sodat koue-eenhede eers begin akkumuleer vanaf die draaipunt, wat in die geval 1 Mei was. Die soliede rooi lyn verteenwoordig die 2de jaar waar koue-eenhede ook vanaf 1 Mei begin akkumuleer het, alhoewel die draaipunt eers teen einde Mei was. Laasgenoemde lei tot die akkumulasie van negatiewe koue-eenhede gedurende Mei wat gevolglik die gerapporteerde data verkeerdelik afwaarts aanpas. Die rooi stippellyn dui die koue-eenhede aan wat ge-akkumuleer word gedurende jaar 2 indien die model korrek gekalibreer word sodat koue eers vanaf die werklike draaipunt begin akkumuleer. Vir meer inligting, sien uitgawe 13 van die Fresh Quarterly - <https://www.freshquarterly.co.za/publication/fresh-quarterly-issue-13-june-2021/>.

Dankie aan Dr Nigel Cook vir die bydra tot die datastel vir die grafiek.

Sedert winter 2022 het ons Utah koue-eenhede korrek gerapporteer volgens die model, vanaf die draaipunt. Aangesiendie draaipunte net terugskouend bepaal kan word, kon ons nie die ge-akkumuleerde koue-eenhede teen einde Mei rapporteer nie omdat sommige areas/stasis nog nie hul draaipunte bereik het nie. In die verslag word die ge-akkumuleerde koue-eenhede tot en met 30 Junie gerapporteer asook die datums van die draaipunte en die herberekende koue-eenhede van vorige jare om vergelyking tussen jare moontlik te maak.

Accumulated Richardson cold units until 30 June 2020 - 2023

	Accumulated Richardson units to date (30 June)								
Area	Start date* 2020	RICH (2020)	Start date* 2021	RICH (2021)	Start date* 2022	RICH (2022)	Start date* 2023	RICH (2023)	RICH (22 vs 23)
Elgin	12 April 2020	321	27 April 2021	296	14 April 2022	349	07 April 2023	431	↑ 83
Ermelo	31 March 2020	511	15 April 2021	571	06 April 2022	718	07 May 2023	434	↓ -284
Franschhoek	22 May 2020	103	22 June 2021	56	13 June 2022	65	15 May 2023	176	↑ 112
Greyton	12 May 2020	210	15 May 2021	133	18 May 2022	190	10 May 2023	237	↑ 48
Koue Bokkeveld	05 April 2020	462	26 April 2021	535	29 March 2022	566	07 April 2023	903	↑ 338
Ladismith	25 May 2020	110	15 May 2021	135	23 April 2022	266	27 April 2023	454	↑ 188
Langkloof - Oos	10 May 2020	317	15 May 2021	286	21 April 2022	361	11 May 2023	291	↓ -70
Langkloof - Wes	09 June 2020	84	15 May 2021	132	18 May 2022	194	10 May 2023	500	↑ 307
Montagu	22 May 2020	137	15 May 2021	160	19 May 2022	185	07 May 2023	292	↑ 108
Nuy	12 May 2020	140	15 May 2021	92	26 May 2022	166	27 April 2023	209	↑ 44
Piketberg	09 June 2020	176	14 May 2021	241	05 May 2022	181	07 April 2023	635	↑ 455
Robertson	12 May 2023	285	15 May 2021	188	26 May 2022	177	11 May 2023	225	↑ 48
Simondium	21 May 2020	108	15 May 2021	76	12 June 2022	47	15 May 2023	140	↑ 93
Stellenbosch	09 June 2020	60	22 June 2021	59	02 July 2022	0	14 May 2023	200	↑ 200
Tulbagh	Pre-station date	-	22 June 2021	55	13 June 2022	109	28 April 2023	301	↑ 193
Villiersdorp	12 May 2020	145	15 May 2021	86	18 May 2022	116	10 May 2023	259	↑ 143
Vrystaat	01 April 2020	583	15 April 2021	602	05 April 2022	730	09 April 2023	548	↓ -182
Vyeboom	12 May 2020	301	15 May 2021	139	18 May 2022	183	10 May 2023	226	↑ 44
Waterberg	26 May 2020	122	30 May 2021	75	31 May 2022	120	10 June 2023	26	↓ -94
WBV - Noord	27 April 2020	334	06 May 2021	295	22 April 2022	358	19 April 2023	517	↑ 160
WBV - Suid	27 April 2020	424	27 April 2021	468	14 April 2022	497	08 April 2023	729	↑ 232
Wellington	09 June 2020	84	22 June 2021	41	13 June 2022	47	24 May 2023	158	↑ 112
Wolseley	12 May 2020	192	08 May 2021	134	18 May 2022	181	30 April 2023	298	↑ 117

*chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve.

Accumulated Infruitec cold units until 30 June 2020 - 2023

Area	Accumulated Infruitec units to date (30 June)								
	Start date* 2020	INF (2020)	Start date* 2021	INF (2021)	Start date* 2022	INF (2022)	Start date* 2023	INF (2023)	INF (22 vs 23)
Elgin	12 April 2020	405	27 April 2021	372	14 April 2022	432	07 April 2023	494	↑ 63
Ermelo	31 March 2020	557	15 April 2021	585	06 April 2022	737	07 May 2023	444	↓ -293
Franschhoek	22 May 2020	165	22 June 2021	57	13 June 2022	80	15 May 2023	210	↑ 130
Greyton	12 May 2020	286	15 May 2021	250	18 May 2022	283	10 May 2023	293	↑ 10
Koue Bokkeveld	05 April 2020	571	26 April 2021	586	29 March 2022	638	07 April 2023	931	↑ 294
Ladismith	25 May 2020	209	15 May 2021	277	23 April 2022	338	27 April 2023	473	↑ 135
Langkloof - Oos	10 May 2020	346	15 May 2021	313	21 April 2022	405	11 May 2023	304	↓ -101
Langkloof - Wes	09 June 2020	168	15 May 2021	264	18 May 2022	306	10 May 2023	519	↑ 213
Montagu	22 May 2020	192	15 May 2021	243	19 May 2022	235	07 May 2023	327	↑ 92
Nuy	12 May 2020	217	15 May 2021	208	26 May 2022	207	27 April 2023	272	↑ 66
Piketberg	09 June 2020	221	14 May 2021	415	05 May 2022	410	07 April 2023	676	↑ 266
Robertson	12 May 2020	631	15 May 2021	665	26 May 2022	204	11 May 2023	270	↑ 66
Simondium	21 May 2020	183	15 May 2021	186	12 June 2022	85	15 May 2023	195	↑ 110
Stellenbosch	09 June 2020	89	22 June 2021	60	02 July 2022	0	14 May 2023	200	↑ 200
Tulbagh	Pre-station date	-	22 June 2021	63	13 June 2022	126	28 April 2023	317	↑ 191
Villiersdorp	12 May 2020	238	15 May 2021	218	18 May 2022	257	10 May 2023	301	↑ 44
Vrystaat	01 April 2020	611	15 April 2021	611	05 April 2022	735	09 April 2023	584	↓ -151
Vyeboom	12 May 2020	343	15 May 2021	247	18 May 2022	276	10 May 2023	256	↓ -20
Waterberg	26 May 2020	143	30 May 2021	100	31 May 2022	133	10 June 2023	45	↓ -89
WBV - Noord	27 April 2020	386	06 May 2021	362	22 April 2022	415	19 April 2023	543	↑ 128
WBV - Suid	27 April 2020	446	27 April 2021	495	14 April 2022	522	08 April 2023	753	↑ 231
Wellington	09 June 2020	105	22 June 2021	47	13 June 2022	65	24 May 2023	190	↑ 125
Wolseley	12 May 2020	253	08 May 2021	224	18 May 2022	238	30 April 2023	323	↑ 85

*chill units should be counted from the lowermost inflection point, i.e. the lowermost or most negative turning point, of the annual accumulated chill unit curve.

Accumulated chill portions until 30 June 2020 - 2023

Area	Accumulated Chill Portions ¹ to date (30 June)								
	Start date* 2020	CP ¹ (2020)	Start date* 2021	CP ¹ (2021)	Start date* 2022	CP ¹ (2022)	Start date* 2023	CP ¹ (2023)	CP ¹ (22 vs 23)
Elgin	06 April 2020	25	29 April 2021	24	06 April 2022	26	08 April 2023	33	↑ 7
Ermelo	18 March 2020	25	21 April 2021	29	05 April 2022	43	28 March 2023	27	↓ -16
Franschhoek	07 April 2020	9	17 May 2021	12	07 April 2022	10	12 May 2023	17	↑ 7
Greyton	07 April 2020	16	30 April 2021	16	16 April 2022	20	09 April 2023	21	↑ 1
Koue Bokkeveld	06 April 2020	22	30 April 2021	30	05 April 2022	35	09 April 2023	48	↑ 13
Ladismith	07 April 2020	13	30 April 2021	20	08 April 2022	24	09 April 2023	30	↑ 6
Langkloof - Oos	07 April 2020	19	30 April 2021	18	07 April 2022	26	10 April 2023	19	↓ -7
Langkloof - Wes	07 April 2020	17	03 April 2021	20	07 April 2022	28	27 March 2023	41	↑ 13
Montagu	26 May 2020	9	30 April 2021	13	16 April 2022	15	22 April 2023	19	↑ 4
Nuy	07 April 2020	10	17 May 2021	11	16 April 2022	18	09 April 2023	18	↑ 0
Piketberg	06 April 2020	21	29 April 2021	24	05 April 2022	27	30 March 2023	42	↑ 15
Robertson	04 May 2020	12	17 May 2021	13	09 May 2022	19	09 April 2023	24	↑ 5
Simondium	07 April 2020	10	17 May 2021	14	07 April 2022	13	22 April 2023	15	↑ 2
Stellenbosch	07 April 2020	9	30 April 2021	14	25 April 2022	13	18 May 2023	16	↑ 3
Tulbagh	Pre-station date	-	30 April 2021	13	07 April 2022	17	21 April 2023	22	↑ 5
Villiersdorp	07 April 2020	16	29 April 2021	17	07 April 2022	20	31 March 2023	25	↑ 5
Vrystaat	18 March 2020	37	22 April 2021	29	05 April 2022	41	12 April 2023	32	↓ -9
Vyeboom	06 April 2020	23	30 April 2021	16	07 April 2022	22	08 April 2023	23	↑ 1
Waterberg	12 June 2020	6	19 May 2021	5	04 June 2022	6	17 May 2023	2	↓ -4
WBV - Noord	07 April 2020	20	08 May 2021	18	25 April 2022	20	21 April 2023	32	↑ 12
WBV - Suid	07 April 2020	17	08 May 2021	26	06 April 2022	27	21 April 2023	36	↑ 9
Wellington	26 May 2020	8	22 May 2021	8	20 May 2022	8	22 April 2023	15	↑ 7
Wolseley	07 April 2020	13	18 May 2021	13	25 April 2022	19	22 April 2023	21	↑ 2

¹ CP = Chill portions according to the dynamic model (Fishman *et al.*, 1987)

Stations used in report

Area	Station
Elgin	Beaulieu
Ermelo	The big apple
Franschhoek	La Motte
Greyton	Greymor
Koue Bokkeveld	Weltevrede
Ladismith	Fontein
Langkloof - Oos	Jagersbos
Langkloof - Wes	Klein langkloof
Montagu	Derdeheuvel
Nuy	Brugplaas
Piketberg	Moutonsvalley/Heldervue
Robertson	Bemchem Nelsrivier
Simondium	Babylonstoren
Stellenbosch	Kanonkop1
Tulbagh	Waveren Berries
Villiersdorp	Villiersdorp
Vrystaat	Ametis
Vyeboom	Riviera/Graymead
Waterberg	Waterberg berries
WBV - Noord	Lushof
WBV - Suid	Loxtonia
Wellington	Kalmoesfontein
Wolseley	Platvlei

Stations Replacements

AREA			CURRENT STATION			PREVIOUS STATION			FAULT INFO		
Vrystaat			Ametis			Lettie			Ametis back online		

