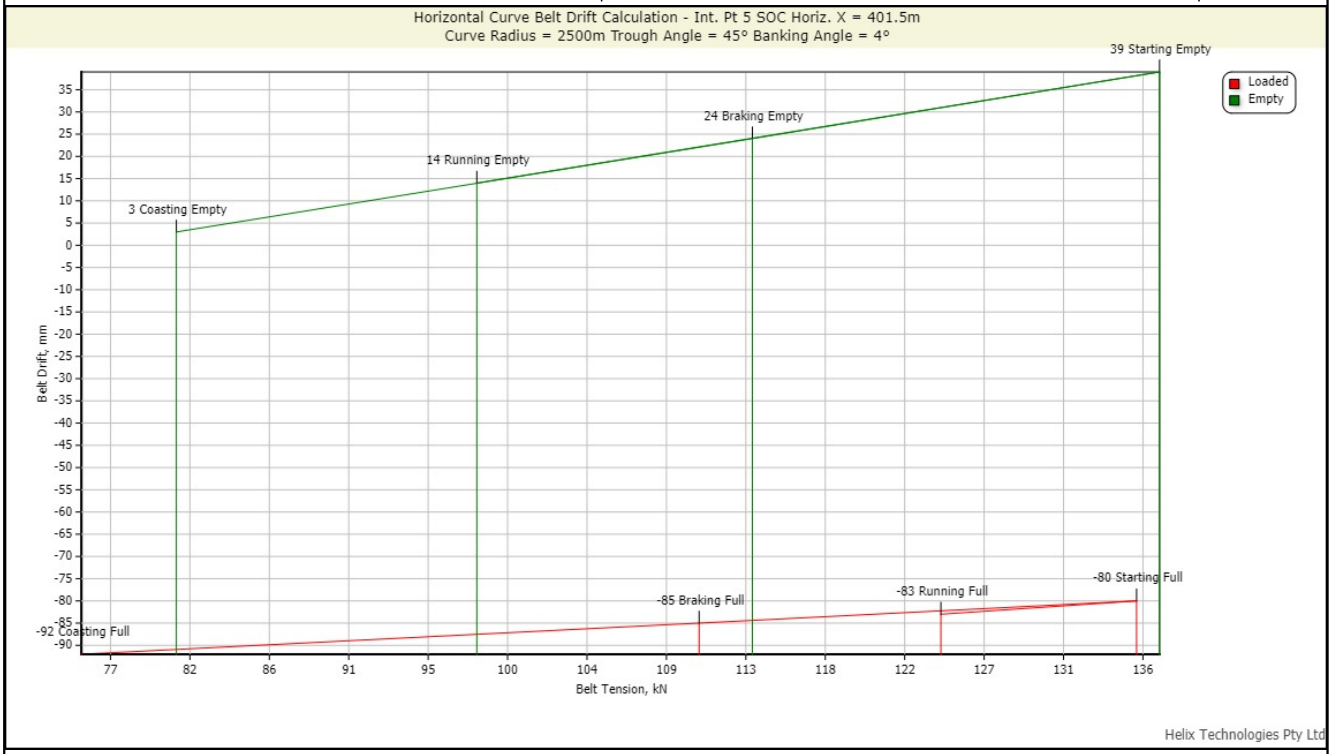
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 0 Point: 5** **Carry**

Station / Point no.	***5 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***SOC***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***401.500*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***0.000*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***84.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	124.47	94.8	-38.6	133.5	0.0	94.9	-83
Starting Full	135.64	103.3	-35.1	142.0	0.0	106.9	-80
Braking Full	110.67	84.3	-40.9	127.9	0.0	87.0	-85
Coasting Full	75.41	57.5	-49.1	108.2	0.0	59.1	-92
Running Empty	97.98	73.9	74.6	0.0	0.0	74.6	14
Starting Empty	136.95	103.1	103.8	0.0	0.0	103.8	39
Braking Empty	113.71	85.7	86.3	0.0	0.0	86.3	24
Coasting Empty	80.83	61.0	61.8	0.0	0.0	61.8	3



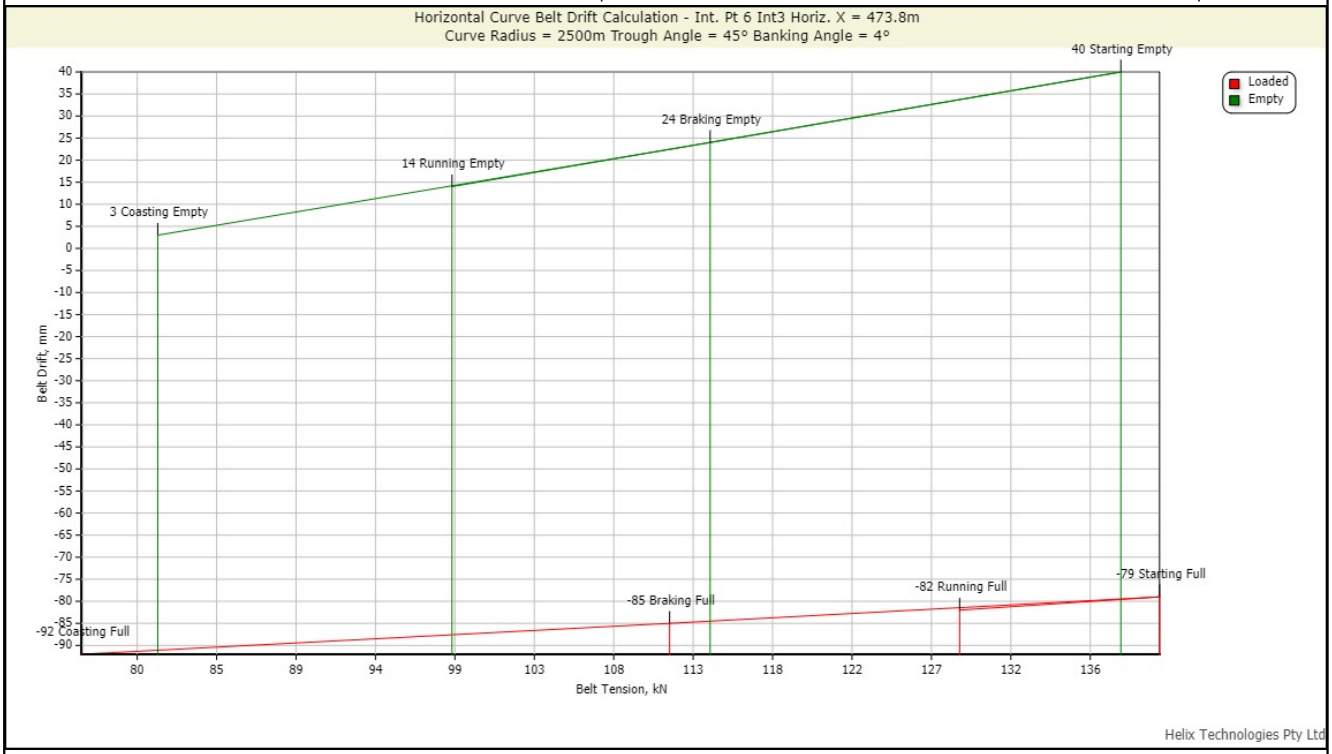
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 1 Point: 6** **Carry**

Station / Point no.	***6 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int3***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***473.800*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1.000*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***82.2*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	128.69	98.0	-37.4	136.3	0.0	98.9	-82
Starting Full	140.53	107.0	-33.9	144.8	0.0	110.9	-79
Braking Full	111.51	84.9	-40.9	127.9	0.0	87.0	-85
Coasting Full	76.67	58.4	-49.1	108.2	0.0	59.1	-92
Running Empty	98.62	74.4	74.6	0.0	0.0	74.6	14
Starting Empty	138.24	104.0	105.0	0.0	0.0	105.0	40
Braking Empty	113.91	85.8	86.3	0.0	0.0	86.3	24
Coasting Empty	81.19	61.3	61.8	0.0	0.0	61.8	3



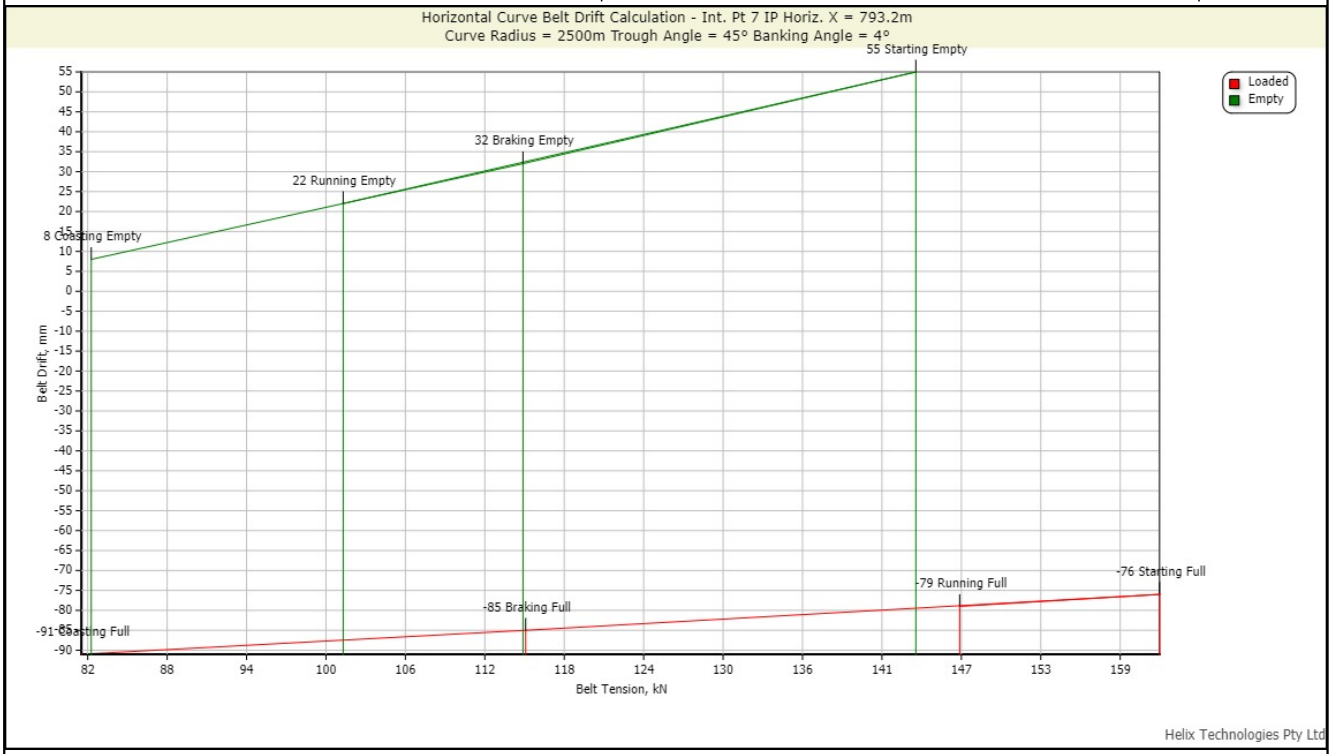
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 2 Point: 7** **Carry**

Station / Point no.	***7 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***793.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***30.700*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***85.1*** N
Vertical Curve Type	***Concave***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	147.19	112.1	-30.2	144.8	0.0	114.6	-79
Starting Full	162.02	123.3	-26.7	153.3	0.0	126.6	-76
Braking Full	114.99	87.6	-37.4	127.9	0.0	90.5	-85
Coasting Full	82.03	62.5	-45.0	111.0	0.0	66.0	-91
Running Empty	101.45	76.5	77.5	0.0	0.0	77.5	22
Starting Empty	143.94	108.1	109.2	0.0	0.0	109.2	55
Braking Empty	114.79	86.4	87.3	0.0	0.0	87.3	32
Coasting Empty	82.76	62.5	63.4	0.0	0.0	63.4	8



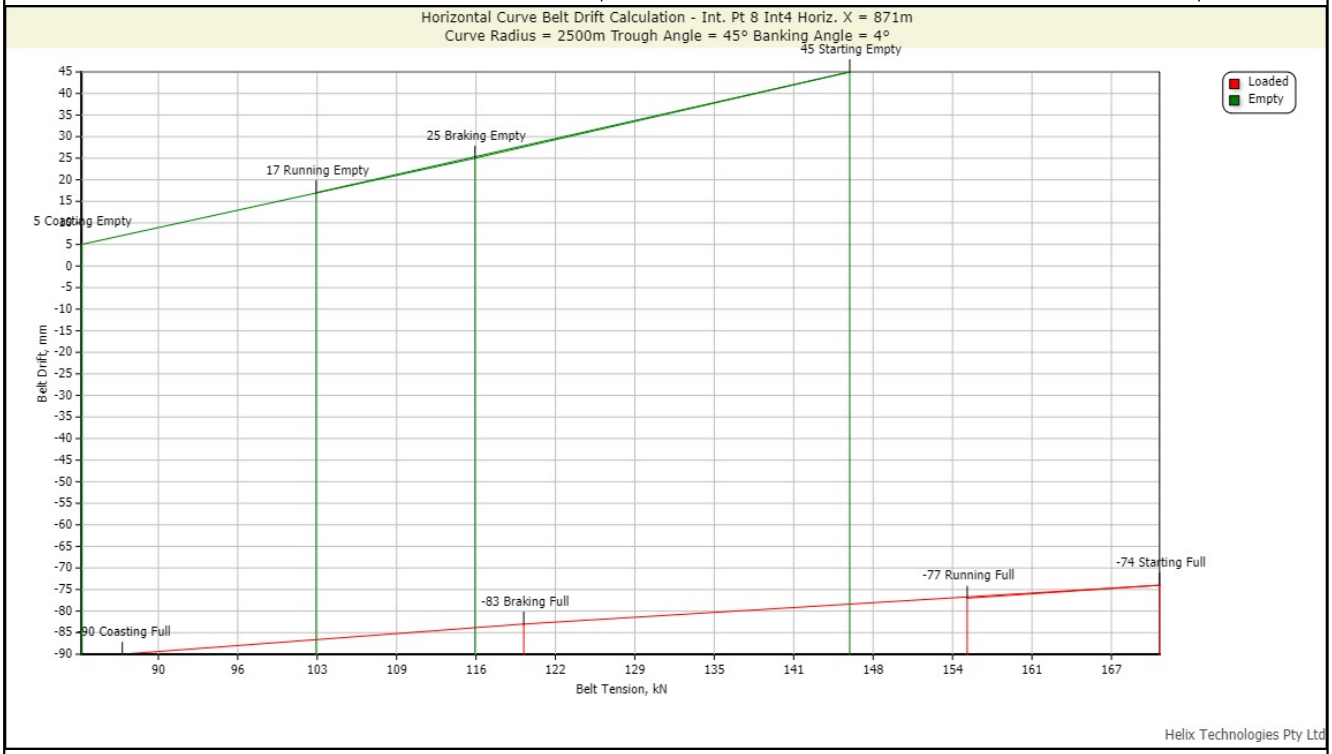
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 3 Point: 8** **Carry**

Station / Point no.	***8 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int4***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***871.000*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***44.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***1.460*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***79.7*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	155.50	118.4	-31.6	150.5	0.0	118.9	-77
Starting Full	171.07	130.2	-28.1	159.0	0.0	130.9	-74
Braking Full	119.60	91.1	-38.6	133.5	0.0	94.9	-83
Coasting Full	87.10	66.4	-46.8	113.8	0.0	67.0	-90
Running Empty	102.79	77.5	78.1	0.0	0.0	78.1	17
Starting Empty	145.99	109.8	110.8	0.0	0.0	110.8	45
Braking Empty	115.65	87.2	87.5	0.0	0.0	87.5	25
Coasting Empty	83.79	63.3	64.1	0.0	0.0	64.1	5



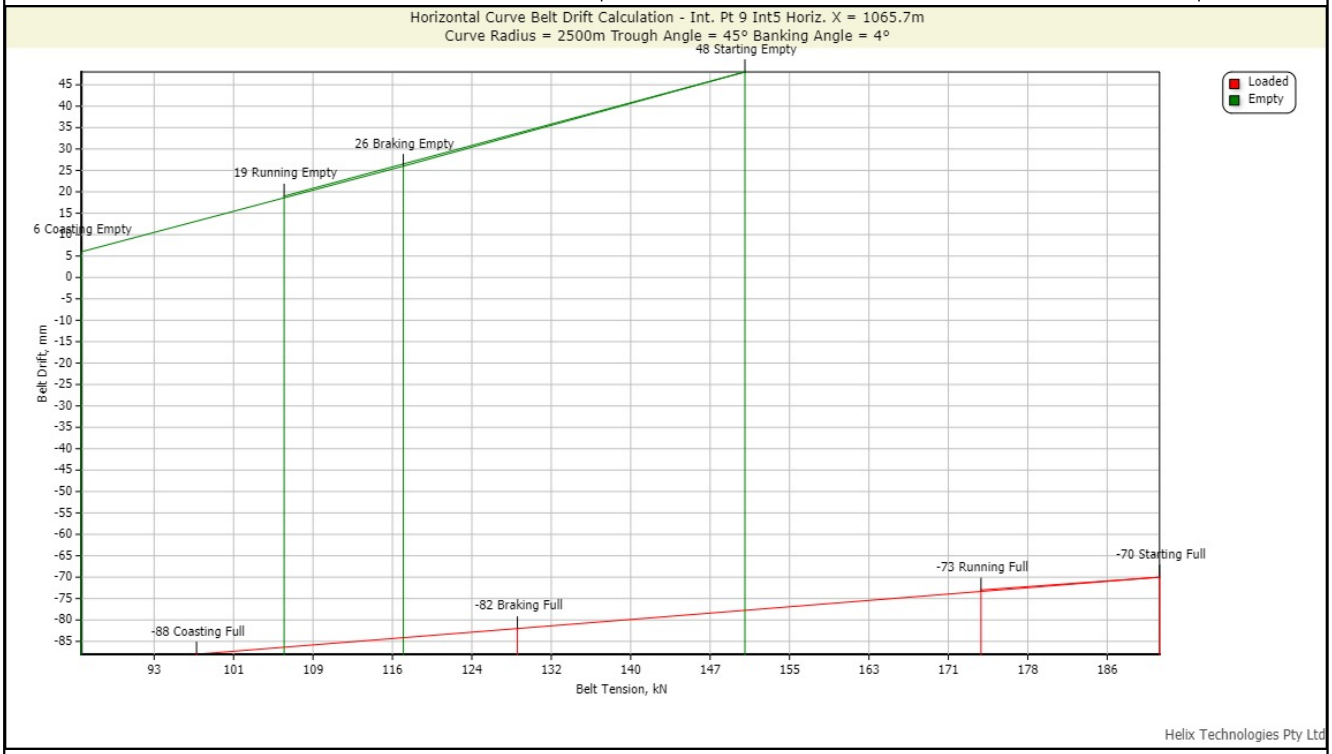
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 4 Point: 9** **Carry**

Station / Point no.	***9 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int5***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1065.700*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***89.900*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***4.160*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***71.3*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	173.78	132.2	-26.9	161.8	0.0	134.9	-73
Starting Full	191.21	145.4	-23.4	170.3	0.0	146.9	-70
Braking Full	128.52	97.9	-37.4	136.3	0.0	98.9	-82
Coasting Full	97.19	74.1	-44.4	119.4	0.0	75.0	-88
Running Empty	105.74	79.7	80.5	0.0	0.0	80.5	19
Starting Empty	150.73	113.3	114.3	0.0	0.0	114.3	48
Braking Empty	117.38	88.4	88.6	0.0	0.0	88.6	26
Coasting Empty	85.95	64.9	65.3	0.0	0.0	65.3	6



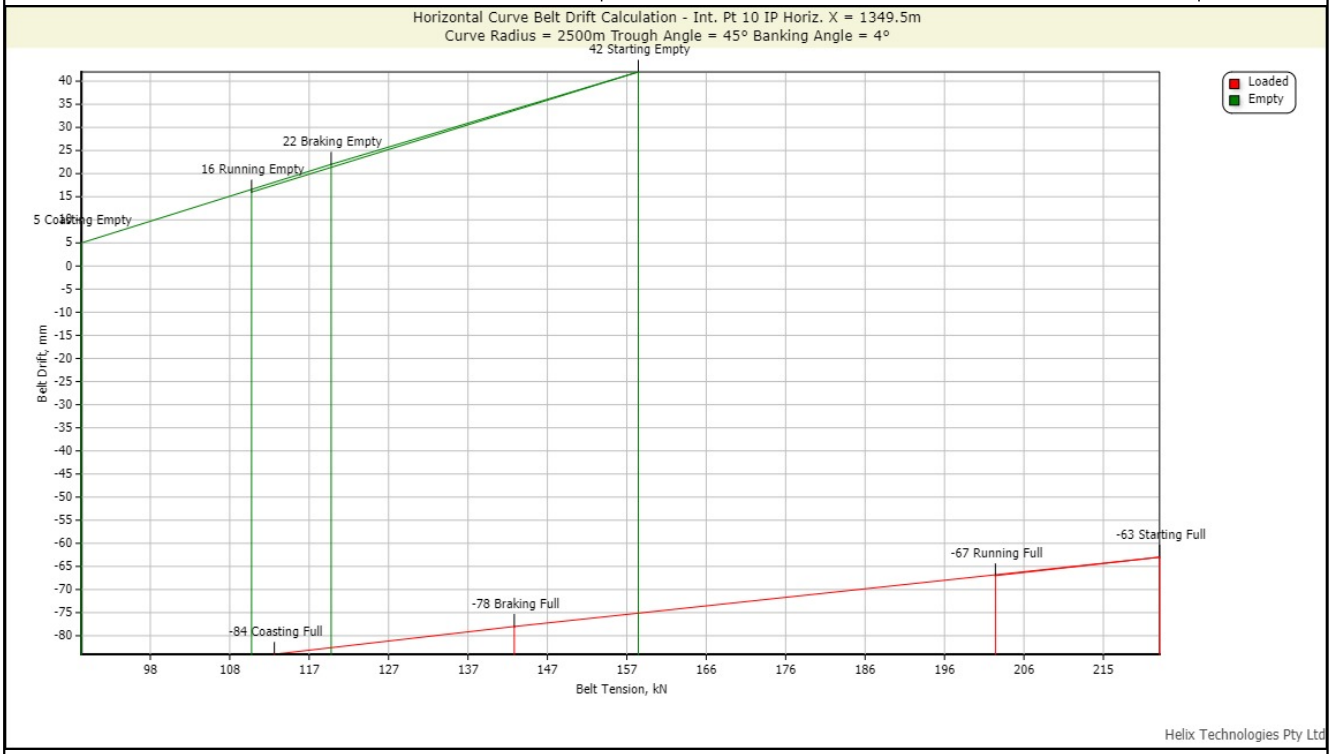
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 5 Point: 10** **Carry**

Station / Point no.	***10 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1349.500*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***186.700*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***8.660*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***55.2*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	202.05	153.6	-23.0	178.9	0.0	155.9	-67
Starting Full	222.28	169.0	-17.8	190.2	0.0	172.4	-63
Braking Full	142.75	108.7	-36.3	147.6	0.0	111.3	-78
Coasting Full	113.18	86.2	-43.2	130.7	0.0	87.5	-84
Running Empty	110.37	83.2	83.4	0.0	0.0	83.4	16
Starting Empty	158.04	118.9	120.1	0.0	0.0	120.1	42
Braking Empty	120.18	90.6	91.6	0.0	0.0	91.6	22
Coasting Empty	89.40	67.5	68.4	0.0	0.0	68.4	5



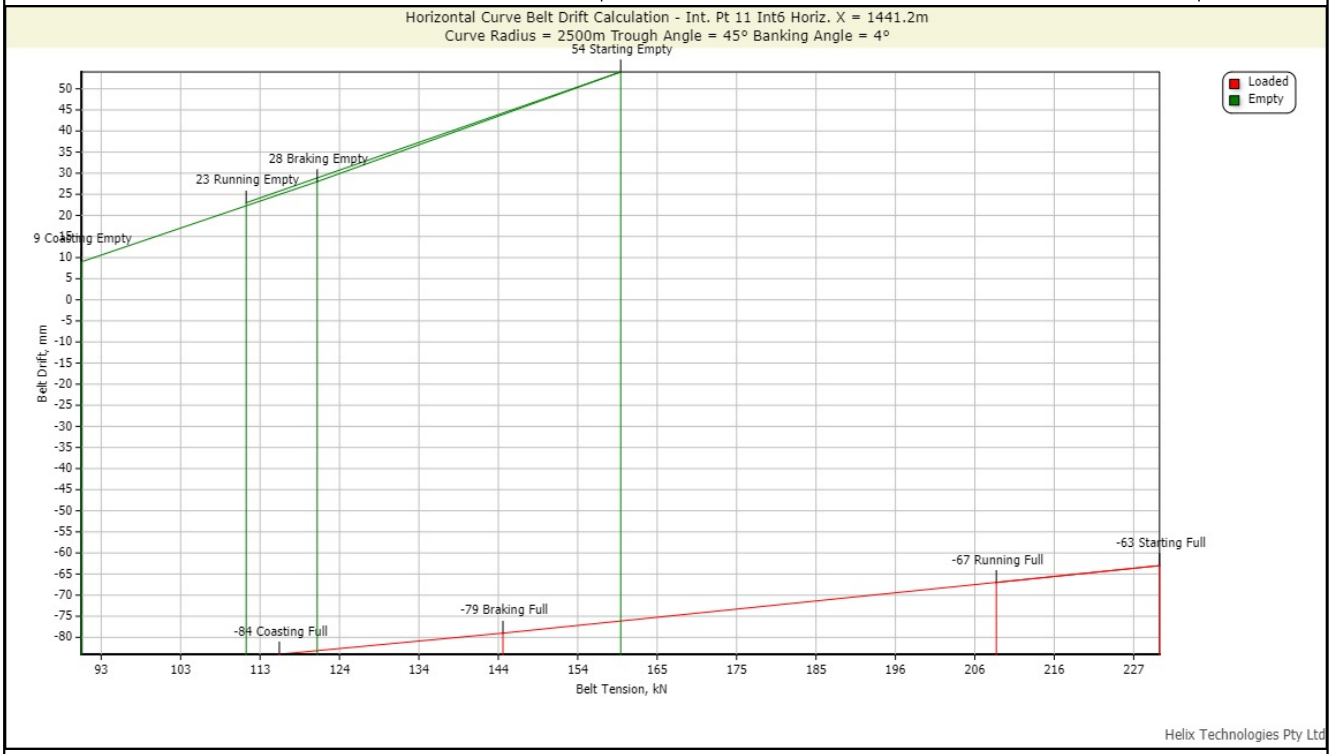
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 6 Point: 11** **Carry**

Station / Point no.	***11 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int6***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1441.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***226.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***9.160*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***57.7*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	208.73	158.7	-19.9	178.9	0.0	159.0	-67
Starting Full	229.89	174.7	-15.3	190.2	0.0	174.9	-63
Braking Full	144.76	110.2	-33.9	144.8	0.0	110.9	-79
Coasting Full	115.77	88.2	-39.8	130.7	0.0	90.9	-84
Running Empty	111.47	84.0	85.1	0.0	0.0	85.1	23
Starting Empty	160.03	120.3	121.3	0.0	0.0	121.3	54
Braking Empty	120.68	90.9	91.0	0.0	0.0	91.0	28
Coasting Empty	90.11	68.0	68.8	0.0	0.0	68.8	9



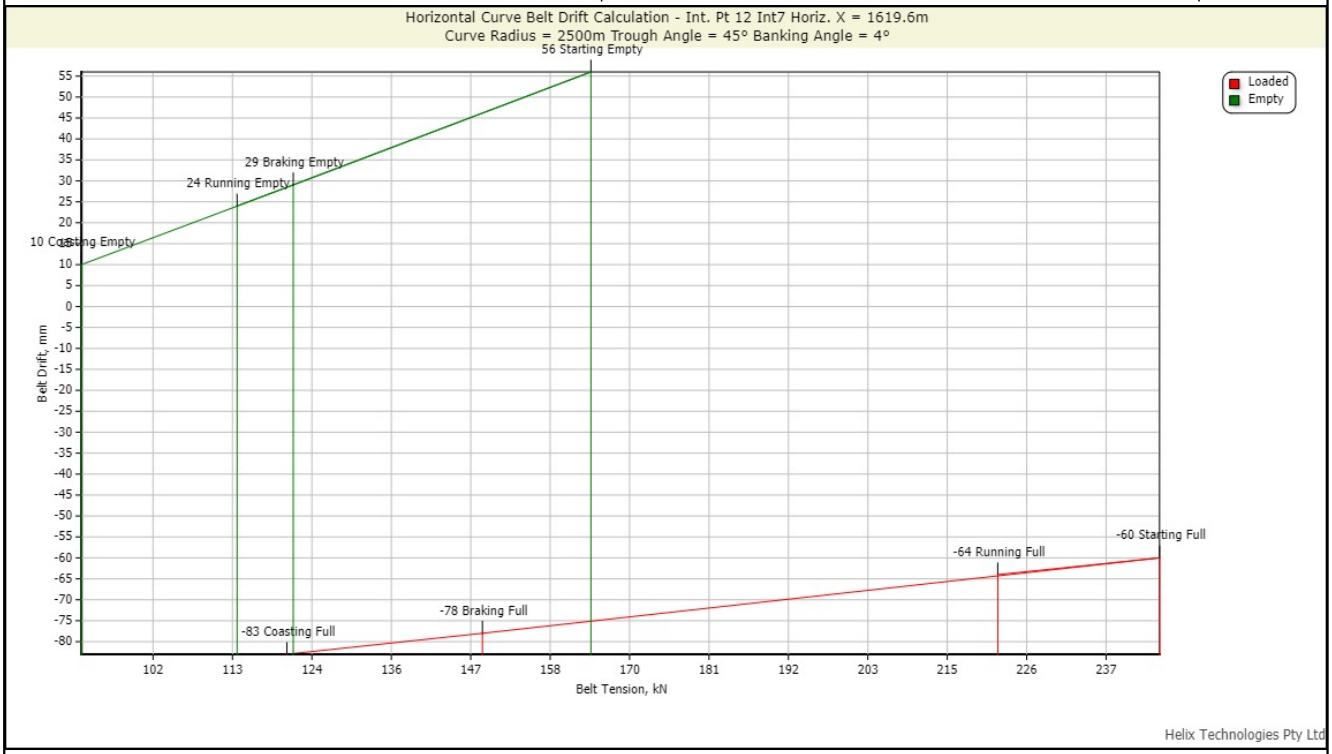
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 7 Point: 12** **Carry**

Station / Point no.	***12 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int7***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1619.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***316.800*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***10.160*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***53.2*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	221.91	168.7	-16.4	187.4	0.0	171.0	-64
Starting Full	244.93	186.1	-11.8	198.8	0.0	187.0	-60
Braking Full	148.58	113.1	-32.8	147.6	0.0	114.8	-78
Coasting Full	120.76	92.0	-38.6	133.5	0.0	94.9	-83
Running Empty	113.67	85.7	86.3	0.0	0.0	86.3	24
Starting Empty	164.02	123.2	123.6	0.0	0.0	123.6	56
Braking Empty	121.66	91.6	92.1	0.0	0.0	92.1	29
Coasting Empty	91.52	69.1	70.0	0.0	0.0	70.0	10



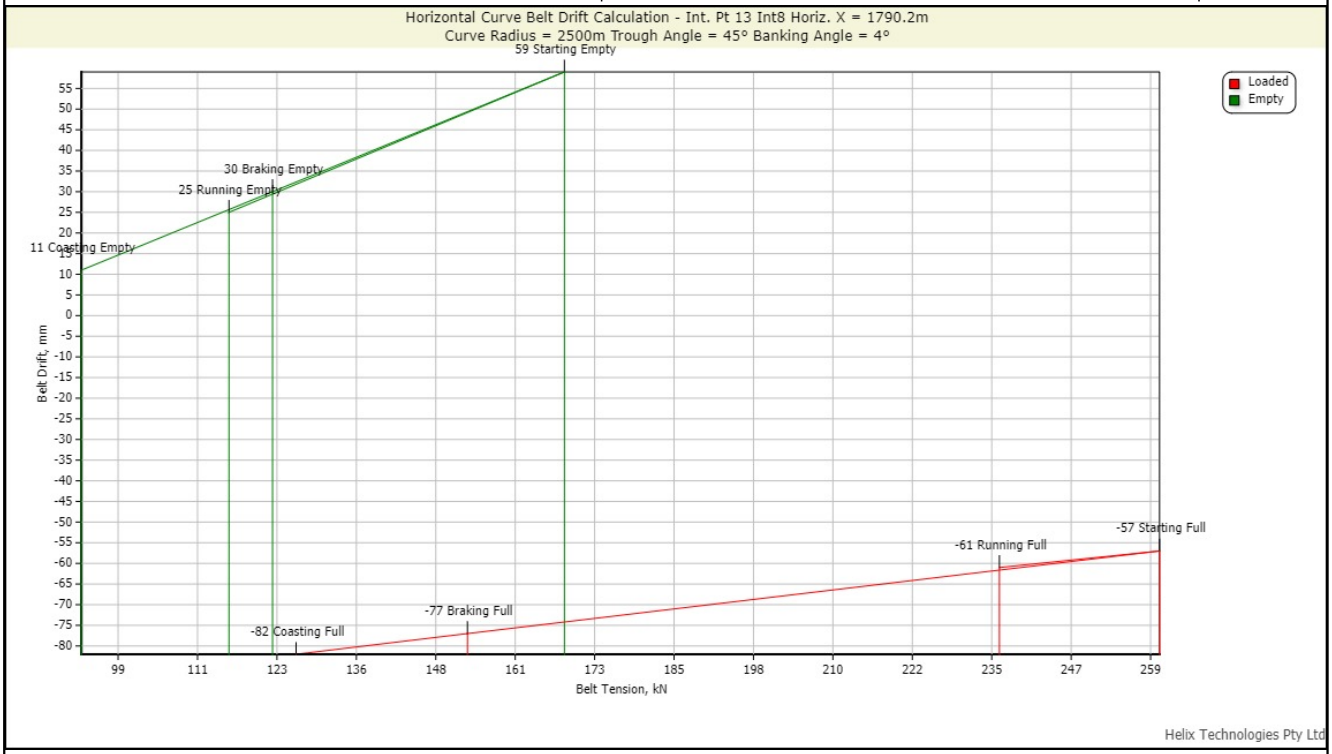
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 8 Point: 13** **Carry**

Station / Point no.	***13 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int8***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1790.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***421.100*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***11.460*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***48.8*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	235.78	179.2	-12.9	196.0	0.0	183.1	-61
Starting Full	260.67	198.0	-8.3	207.4	0.0	199.1	-57
Braking Full	153.08	116.5	-31.6	150.5	0.0	118.9	-77
Coasting Full	126.44	96.3	-37.4	136.3	0.0	98.9	-82
Running Empty	116.01	87.4	87.5	0.0	0.0	87.5	25
Starting Empty	168.15	126.3	127.1	0.0	0.0	127.1	59
Braking Empty	122.78	92.5	93.3	0.0	0.0	93.3	30
Coasting Empty	93.07	70.2	71.1	0.0	0.0	71.1	11



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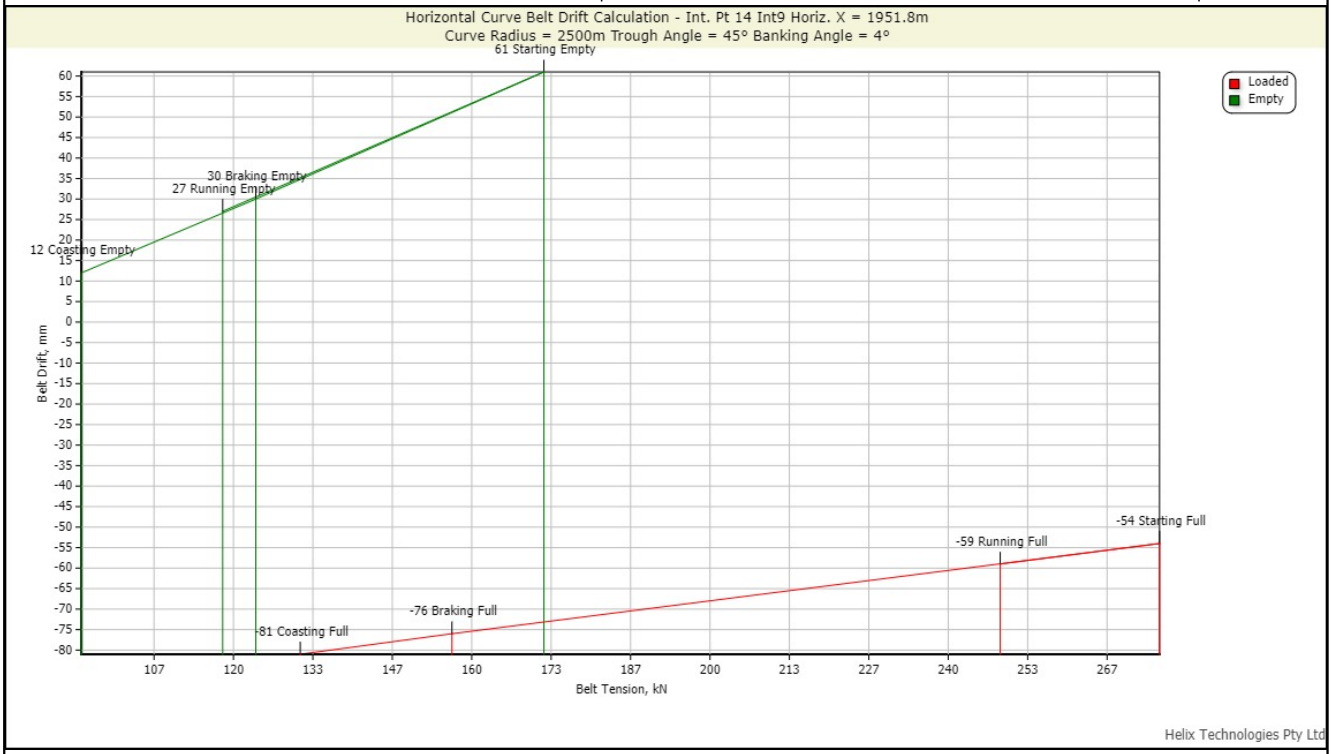
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 9 Point: 14** **Carry**

Station / Point no.	***14 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int9***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***1951.800*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***538.800*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***12.460*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***44.5*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	248.76	189.0	-10.6	201.7	0.0	191.1	-59
Starting Full	275.51	209.2	-4.8	216.0	0.0	211.2	-54
Braking Full	156.70	119.3	-30.4	153.3	0.0	122.9	-76
Coasting Full	131.23	99.9	-36.3	139.2	0.0	102.9	-81
Running Empty	118.21	89.1	89.8	0.0	0.0	89.8	27
Starting Empty	172.14	129.3	129.5	0.0	0.0	129.5	61
Braking Empty	123.76	93.2	93.3	0.0	0.0	93.3	30
Coasting Empty	94.49	71.3	72.3	0.0	0.0	72.3	12



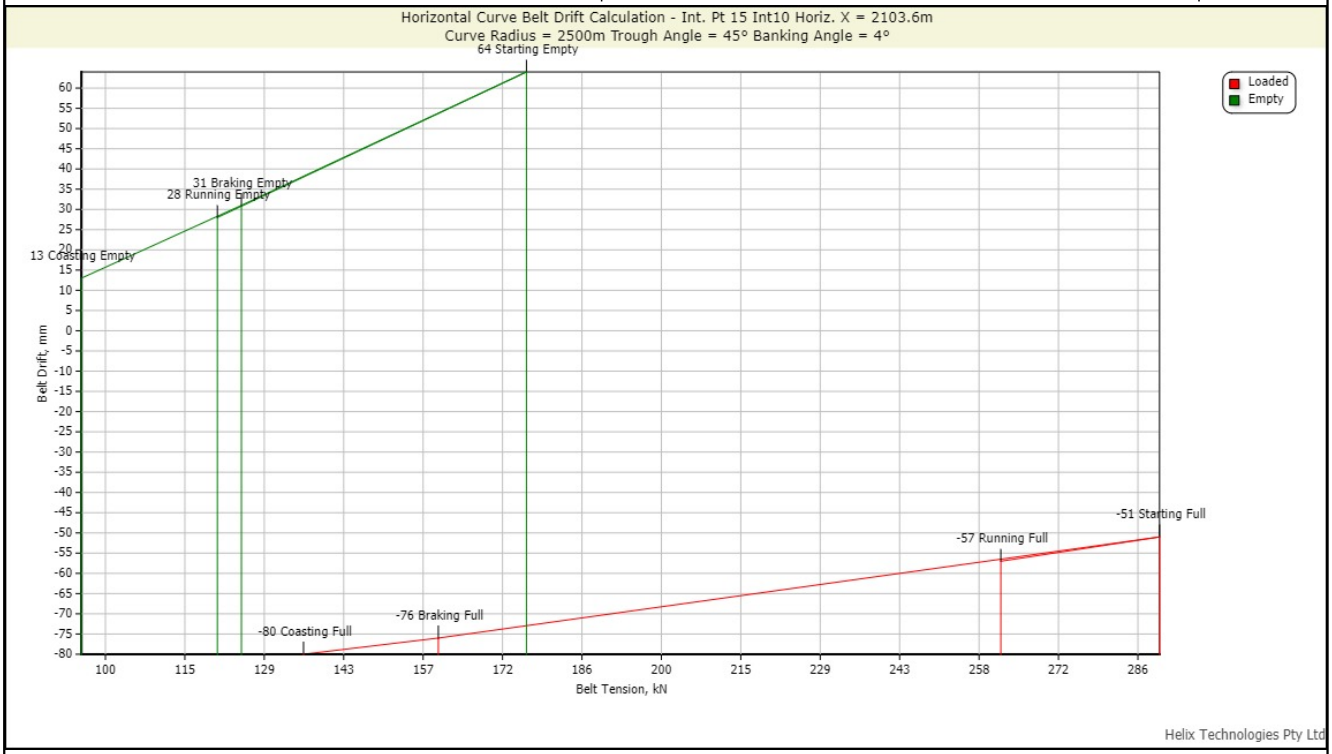
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 10 Point: 15** **Carry**

Station / Point no.	***15 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int10***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2103.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***668.900*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***13.460*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***70*** mm	Side Guide Roller Force (per idler)	***40.3*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	261.65	198.8	-8.3	207.4	0.0	199.1	-57
Starting Full	290.26	220.4	-1.3	224.6	0.0	223.3	-51
Braking Full	160.24	121.9	-30.4	153.3	0.0	122.9	-76
Coasting Full	135.94	103.5	-35.1	142.0	0.0	106.9	-80
Running Empty	120.41	90.7	91.0	0.0	0.0	91.0	28
Starting Empty	176.13	132.2	133.0	0.0	0.0	133.0	64
Braking Empty	124.74	93.9	94.5	0.0	0.0	94.5	31
Coasting Empty	95.90	72.4	73.5	0.0	0.0	73.5	13



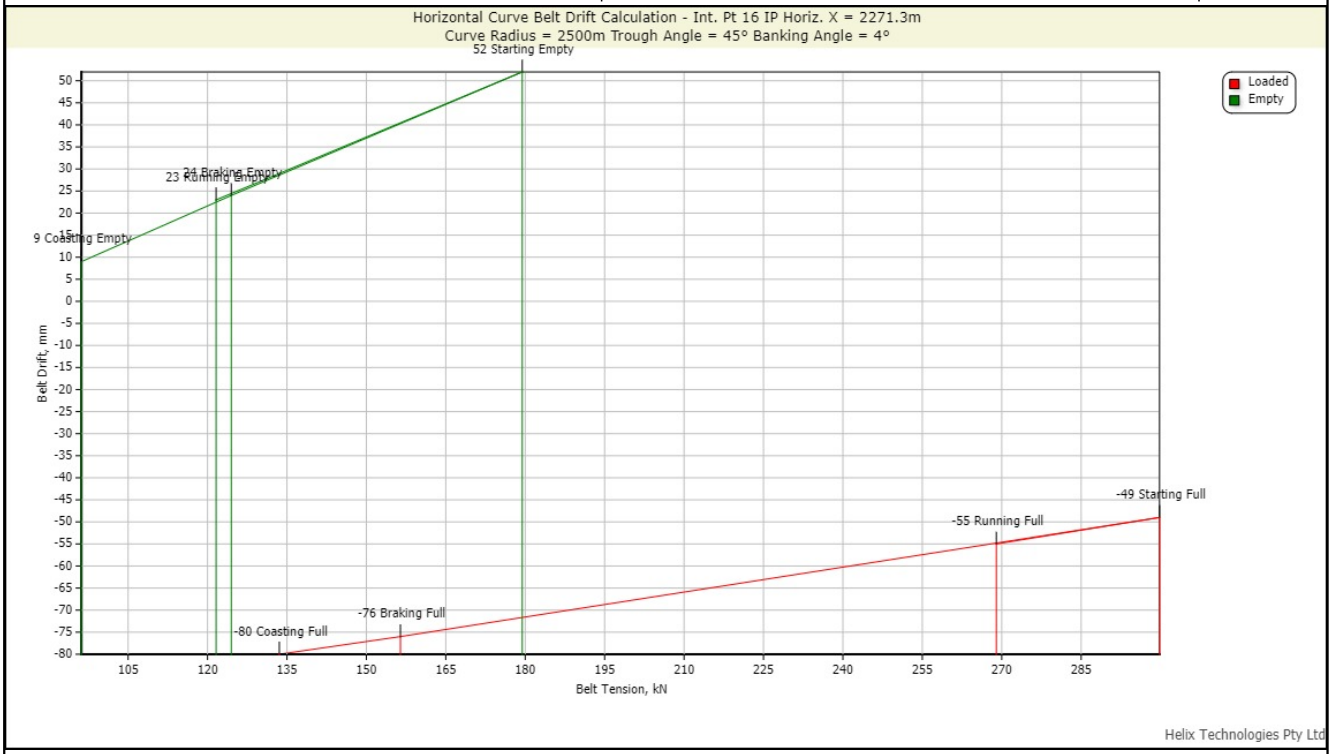
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 11 Point: 16** **Carry**

Station / Point no.	***16 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2271.300*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***840.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***11.660*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***325.2*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	269.22	204.5	-7.1	213.1	0.0	206.0	-55
Starting Full	300.07	227.8	1.3	230.3	0.0	231.6	-49
Braking Full	156.57	119.2	-34.0	153.3	0.0	119.3	-76
Coasting Full	133.68	101.8	-38.7	142.0	0.0	103.3	-80
Running Empty	121.73	91.8	93.0	0.0	0.0	93.0	23
Starting Empty	179.60	135.0	135.1	0.0	0.0	135.1	52
Braking Empty	124.60	93.9	94.4	0.0	0.0	94.4	24
Coasting Empty	96.27	72.7	73.8	0.0	0.0	73.8	9



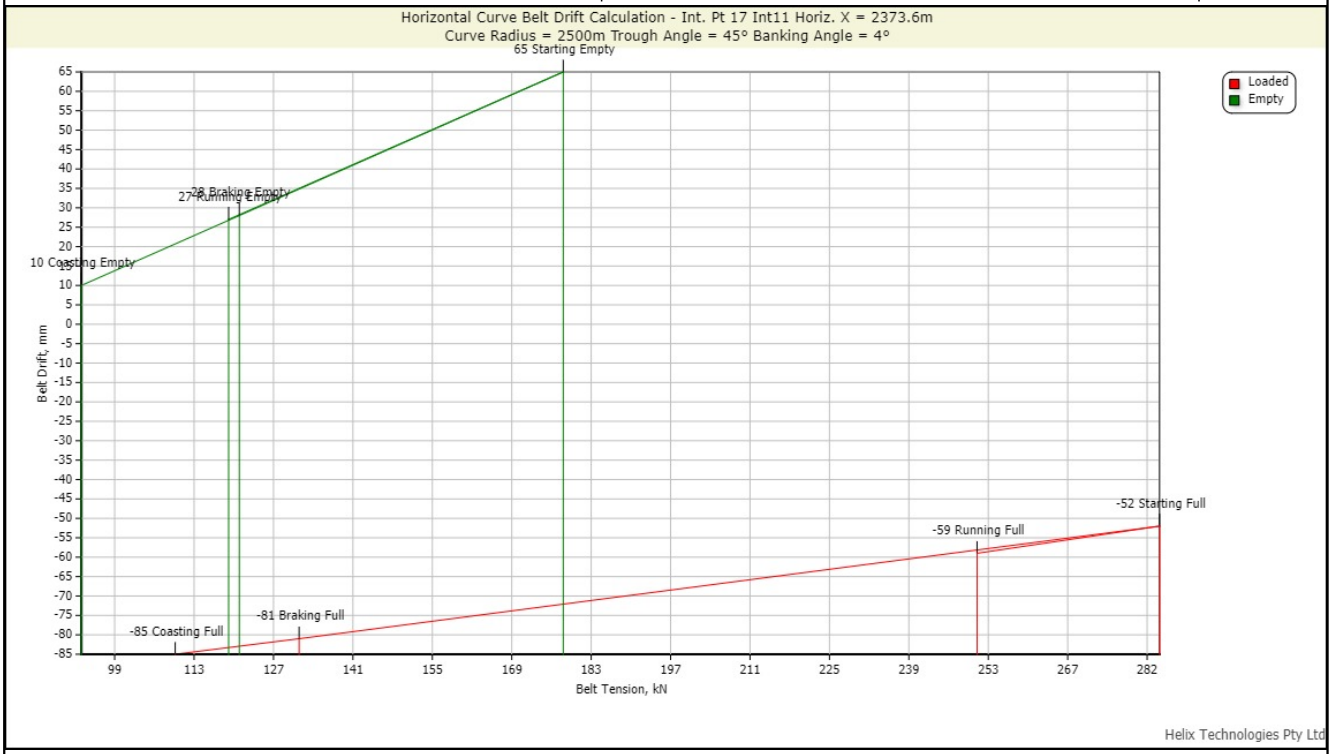
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 12 Point: 17** **Carry**

Station / Point no.	***17 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int11***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2373.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***963.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***1.660*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***340.5*** N
Vertical Curve Type	***Concave***	Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	251.37	191.0	-10.6	201.7	0.0	191.1	-59
Starting Full	283.71	215.4	-2.4	221.7	0.0	219.3	-52
Braking Full	131.22	99.9	-36.3	139.2	0.0	102.9	-81
Coasting Full	109.26	83.2	-40.9	127.9	0.0	87.0	-85
Running Empty	118.73	89.5	89.8	0.0	0.0	89.8	27
Starting Empty	178.03	133.6	134.2	0.0	0.0	134.2	65
Braking Empty	120.62	90.9	91.0	0.0	0.0	91.0	28
Coasting Empty	92.64	69.9	70.0	0.0	0.0	70.0	10



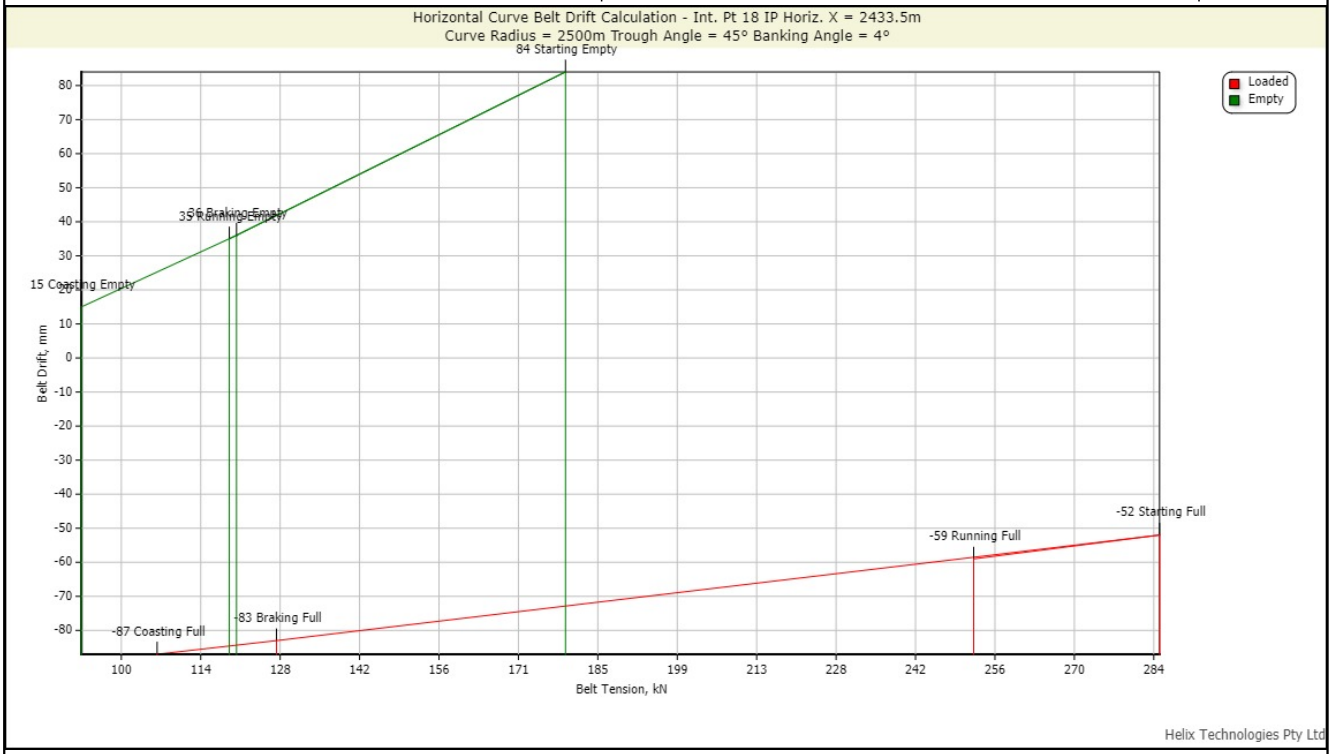
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 13 Point: 18** **Carry**

Station / Point no.	***18 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2433.500*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1043.600*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***338.1*** N
Vertical Curve Type	***Concave***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	252.15	191.6	-8.6	201.7	0.0	193.1	-59
Starting Full	285.43	216.7	-1.9	221.7	0.0	219.8	-52
Braking Full	127.32	97.0	-34.9	133.5	0.0	98.6	-83
Coasting Full	105.95	80.7	-39.8	122.2	0.0	82.4	-87
Running Empty	118.88	89.5	90.2	0.0	0.0	90.2	35
Starting Empty	179.07	134.2	135.2	0.0	0.0	135.2	84
Braking Empty	120.17	90.5	91.2	0.0	0.0	91.2	36
Coasting Empty	92.40	69.7	70.5	0.0	0.0	70.5	15



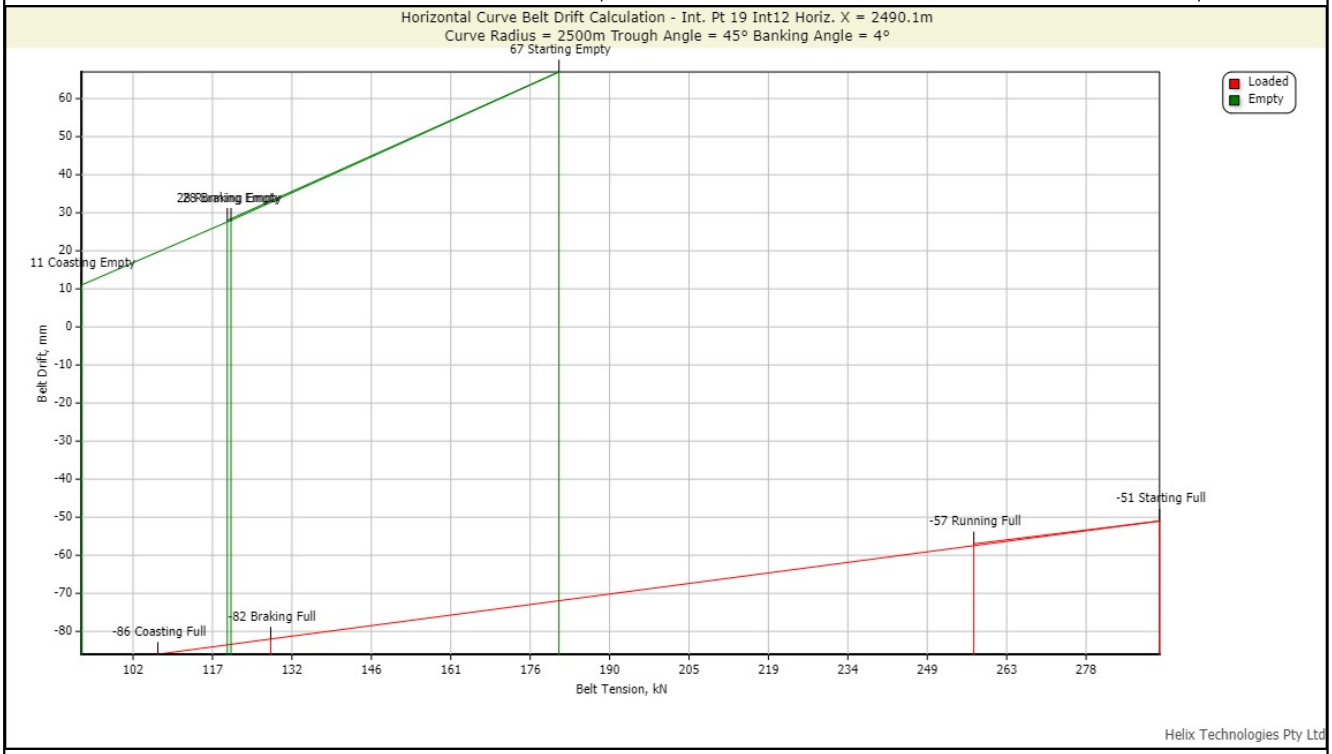
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 14 Point: 19** **Carry**

Station / Point no.	***19 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int12***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2490.100*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1126.000*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***343.5*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	257.26	195.4	-8.3	207.4	0.0	199.1	-57
Starting Full	291.47	221.3	-1.3	224.6	0.0	223.3	-51
Braking Full	127.75	97.3	-37.4	136.3	0.0	98.9	-82
Coasting Full	106.97	81.5	-42.1	125.1	0.0	83.0	-86
Running Empty	119.76	90.2	91.0	0.0	0.0	91.0	28
Starting Empty	180.85	135.7	136.5	0.0	0.0	136.5	67
Braking Empty	120.44	90.7	91.0	0.0	0.0	91.0	28
Coasting Empty	92.89	70.1	71.1	0.0	0.0	71.1	11



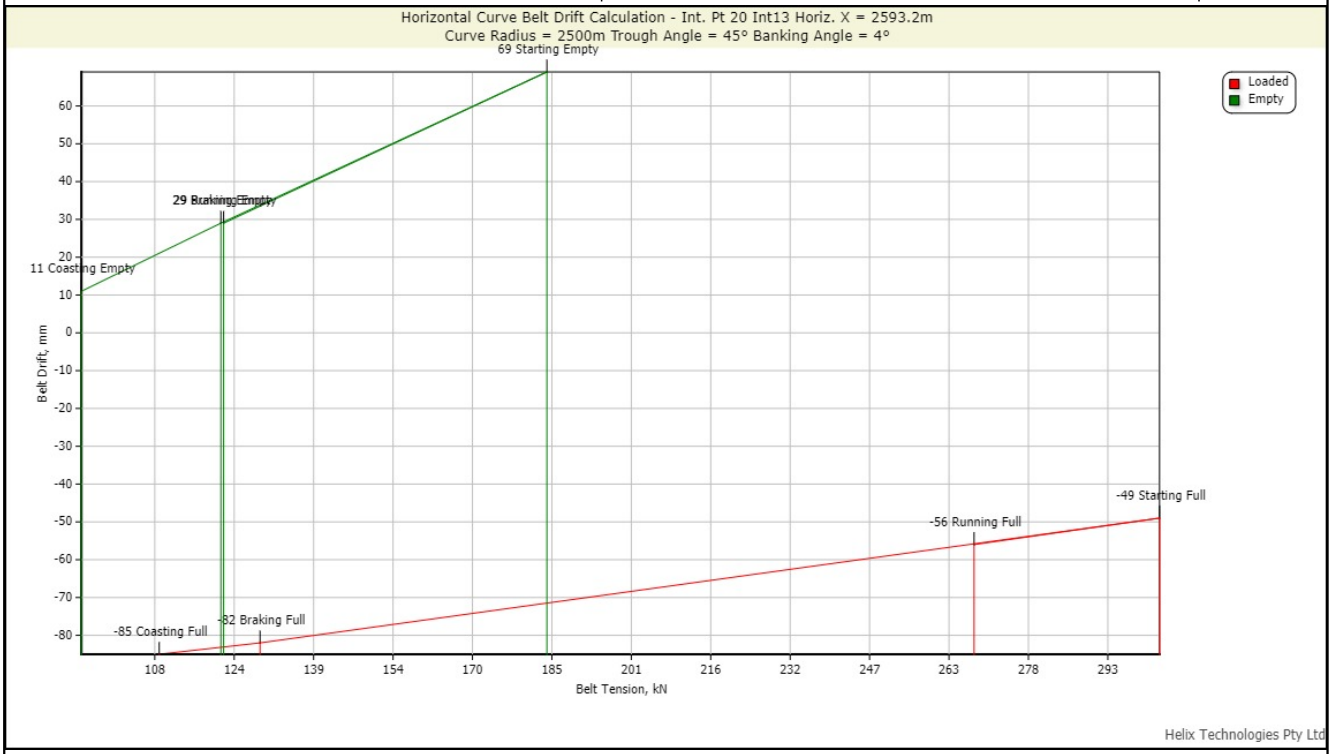
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 15 Point: 20** **Carry**

Station / Point no.	***20 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int13***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2593.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1297.300*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***348.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	267.47	203.2	-7.1	210.3	0.0	203.2	-56
Starting Full	303.54	230.4	1.1	230.3	0.0	231.4	-49
Braking Full	128.60	97.9	-37.4	136.3	0.0	98.9	-82
Coasting Full	108.99	83.0	-40.9	127.9	0.0	87.0	-85
Running Empty	121.52	91.5	92.1	0.0	0.0	92.1	29
Starting Empty	184.39	138.4	138.8	0.0	0.0	138.8	69
Braking Empty	120.98	91.1	92.1	0.0	0.0	92.1	29
Coasting Empty	93.86	70.8	71.1	0.0	0.0	71.1	11



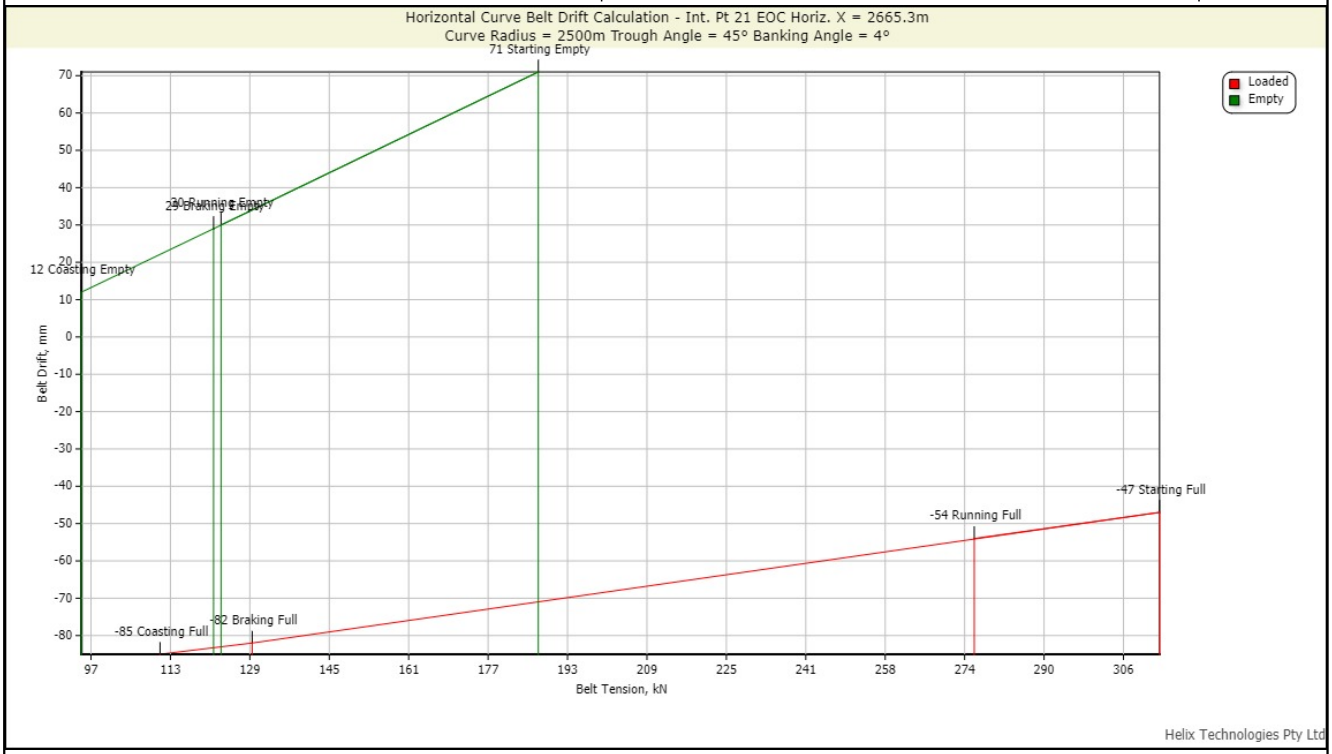
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 16 Point: 21** **Carry**

Station / Point no.	***21 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***EOC***	Idler Spacing	***2.25*** m
Curve X co-ordinate	***2665.300*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1439.200*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***4431*** tph	Idler packing Height	***101*** mm
Material Load	***219.8*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***343.1*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	275.56	209.3	-4.8	216.0	0.0	211.2	-54
Starting Full	313.11	237.6	3.4	236.1	0.0	239.5	-47
Braking Full	129.24	98.4	-37.4	136.3	0.0	98.9	-82
Coasting Full	110.56	84.2	-40.9	127.9	0.0	87.0	-85
Running Empty	122.92	92.6	93.3	0.0	0.0	93.3	30
Starting Empty	187.22	140.4	141.2	0.0	0.0	141.2	71
Braking Empty	121.41	91.5	92.1	0.0	0.0	92.1	29
Coasting Empty	94.63	71.4	72.3	0.0	0.0	72.3	12



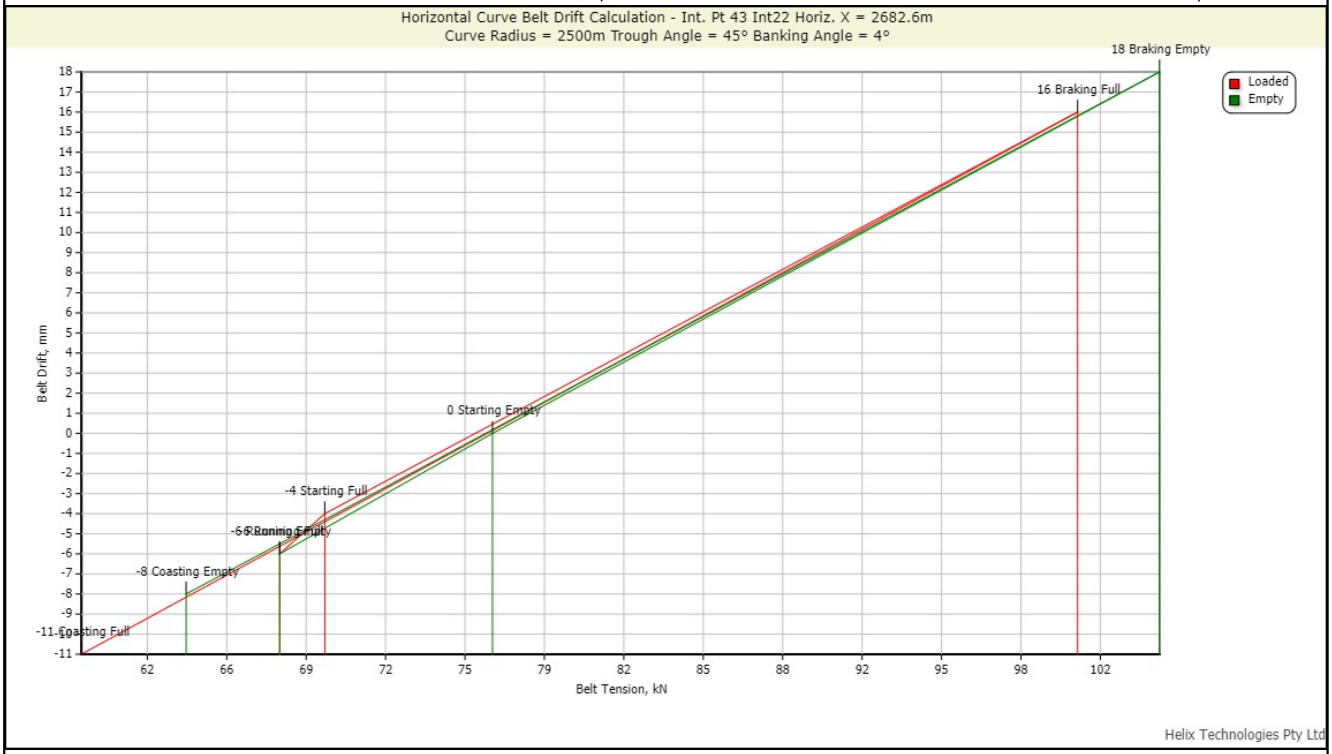
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 17 Point: 43** **Return**

Station / Point no.	***43 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int22***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2682.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1476.200*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results		**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	67.72	102.4	102.5	0.0	0.0	102.5	-6
Starting Full	69.58	105.2	107.2	0.0	0.0	107.2	-4
Braking Full	100.64	151.8	153.9	0.0	0.0	153.9	16
Coasting Full	59.54	90.1	90.9	0.0	0.0	90.9	-11
Running Empty	67.72	102.4	102.5	0.0	0.0	102.5	-6
Starting Empty	76.50	115.6	116.6	0.0	0.0	116.6	0
Braking Empty	104.02	156.9	158.6	0.0	0.0	158.6	18
Coasting Empty	63.86	96.6	97.9	0.0	0.0	97.9	-8



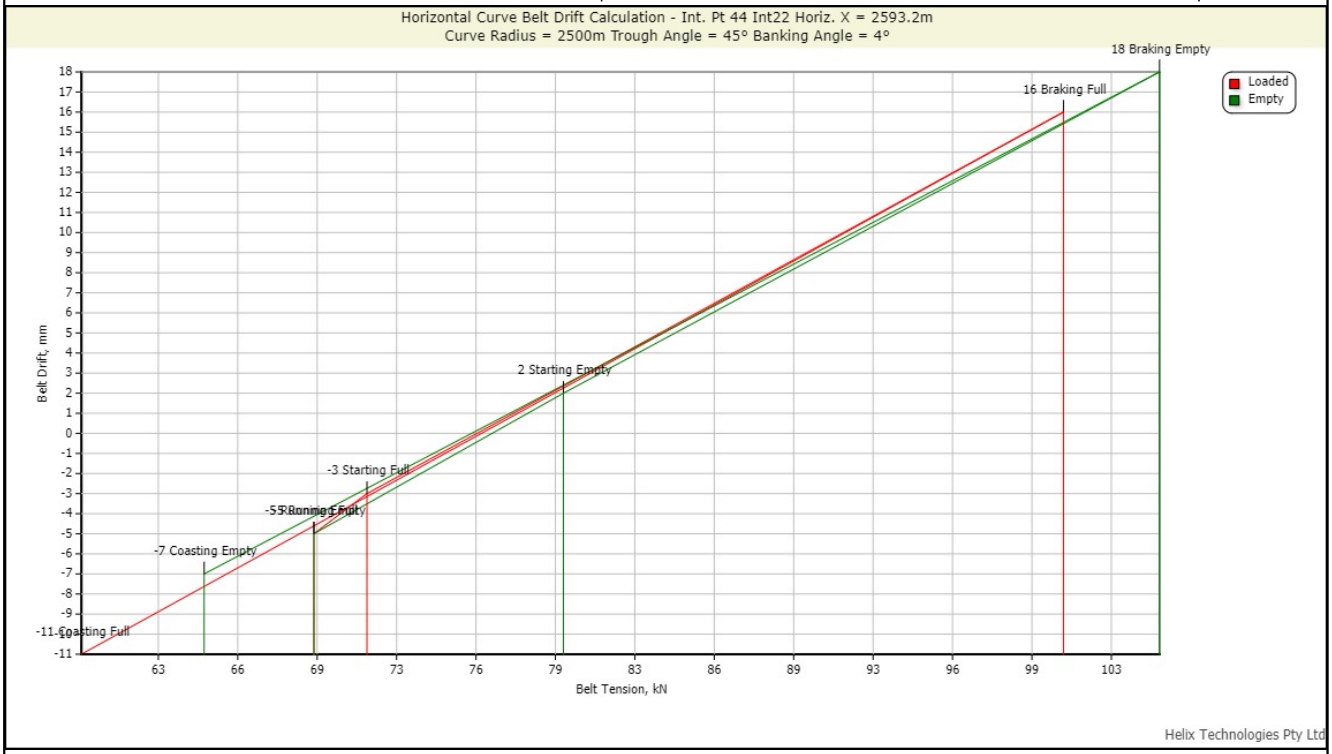
Helix Technologies Pty Ltd

Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 18 Point: 44** **Return**

Station / Point no.	***44 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int22***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2593.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1297.300*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	69.31	104.8	104.9	0.0	0.0	104.9	-5
Starting Full	71.52	108.1	109.6	0.0	0.0	109.6	-3
Braking Full	100.52	151.6	153.9	0.0	0.0	153.9	16
Coasting Full	59.63	90.2	90.9	0.0	0.0	90.9	-11
Running Empty	69.31	104.8	104.9	0.0	0.0	104.9	-5
Starting Empty	79.70	120.4	121.2	0.0	0.0	121.2	2
Braking Empty	104.52	157.6	158.6	0.0	0.0	158.6	18
Coasting Empty	64.74	97.9	100.2	0.0	0.0	100.2	-7



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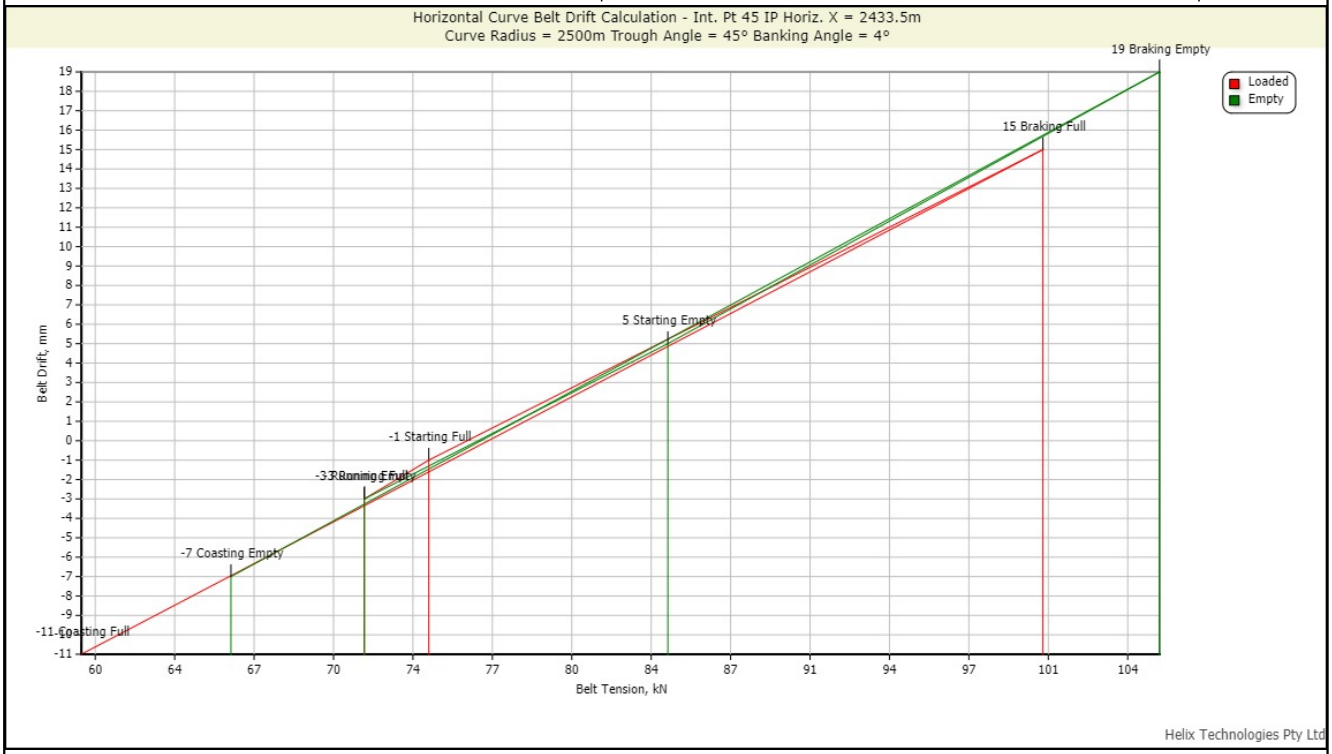
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 19 Point: 45** **Return**

Station / Point no.	***45 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2433.500*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***1043.600*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	71.69	108.3	109.6	0.0	0.0	109.6	-3
Starting Full	74.41	112.4	114.2	0.0	0.0	114.2	-1
Braking Full	100.33	151.4	151.6	0.0	0.0	151.6	15
Coasting Full	59.75	90.4	90.9	0.0	0.0	90.9	-11
Running Empty	71.69	108.3	109.6	0.0	0.0	109.6	-3
Starting Empty	84.50	127.6	128.2	0.0	0.0	128.2	5
Braking Empty	105.25	158.7	160.9	0.0	0.0	160.9	19
Coasting Empty	66.06	99.9	100.2	0.0	0.0	100.2	-7



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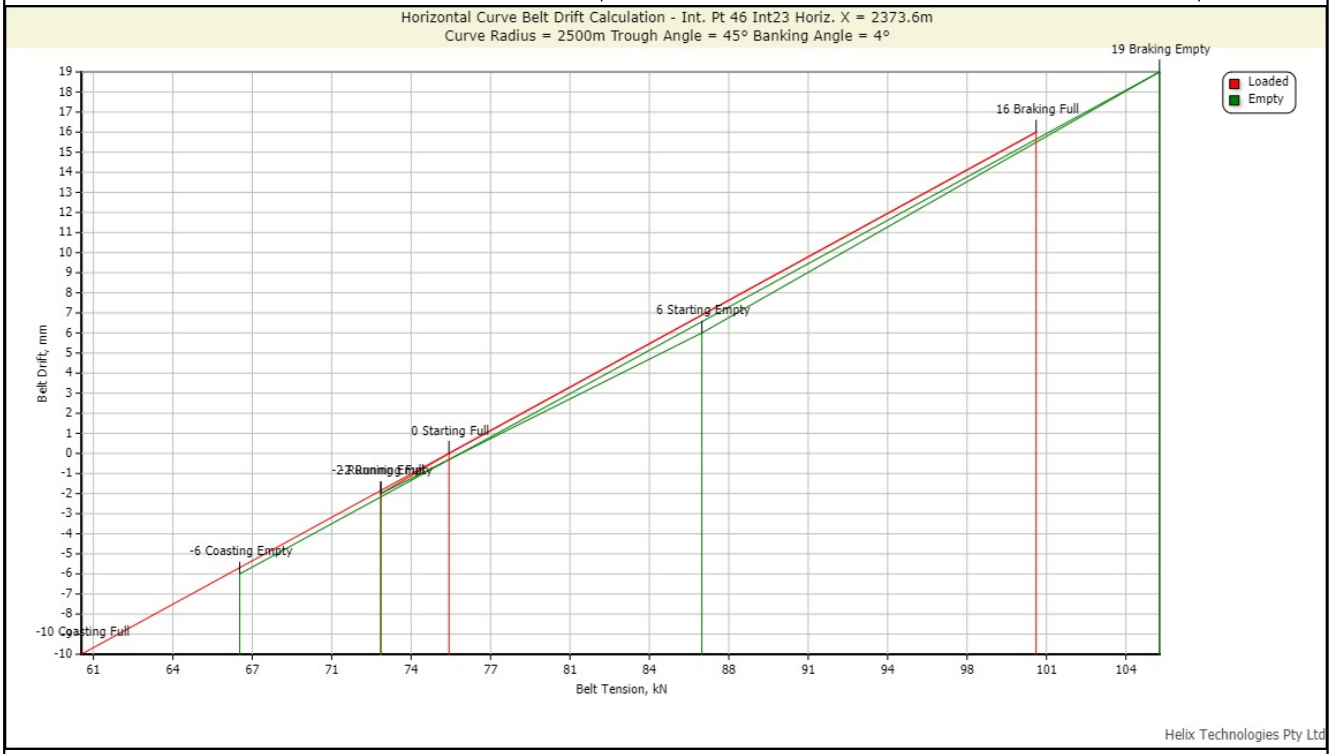
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 20 Point: 46** **Return**

Station / Point no.	***46 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int23***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2373.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***963.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.660*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type	***Concave***	Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	72.78	110.0	111.9	0.0	0.0	111.9	-2
Starting Full	75.67	114.3	116.6	0.0	0.0	116.6	0
Braking Full	100.56	151.7	153.9	0.0	0.0	153.9	16
Coasting Full	60.09	90.9	93.2	0.0	0.0	93.2	-10
Running Empty	72.78	110.0	111.9	0.0	0.0	111.9	-2
Starting Empty	86.39	130.4	130.6	0.0	0.0	130.6	6
Braking Empty	105.79	159.5	160.9	0.0	0.0	160.9	19
Coasting Empty	66.80	101.0	102.5	0.0	0.0	102.5	-6



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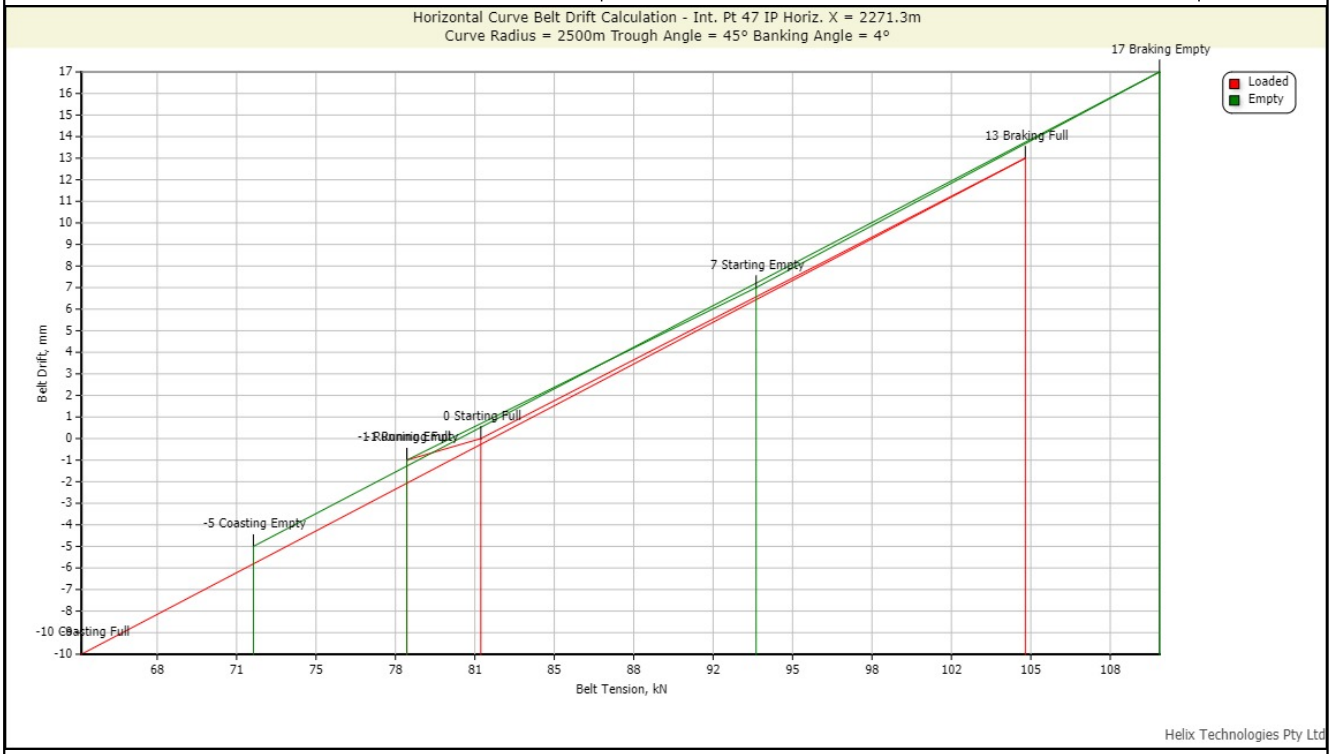
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 21 Point: 47** **Return**

Station / Point no.	***47 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2271.300*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***840.500*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***10.660*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	78.46	118.6	121.0	0.0	0.0	121.0	-1
Starting Full	81.62	123.3	123.7	0.0	0.0	123.7	0
Braking Full	104.86	158.2	158.5	0.0	0.0	158.5	13
Coasting Full	64.57	97.7	97.8	0.0	0.0	97.8	-10
Running Empty	78.46	118.6	121.0	0.0	0.0	121.0	-1
Starting Empty	93.37	141.0	142.3	0.0	0.0	142.3	7
Braking Empty	110.59	166.8	169.3	0.0	0.0	169.3	17
Coasting Empty	71.91	108.7	110.6	0.0	0.0	110.6	-5



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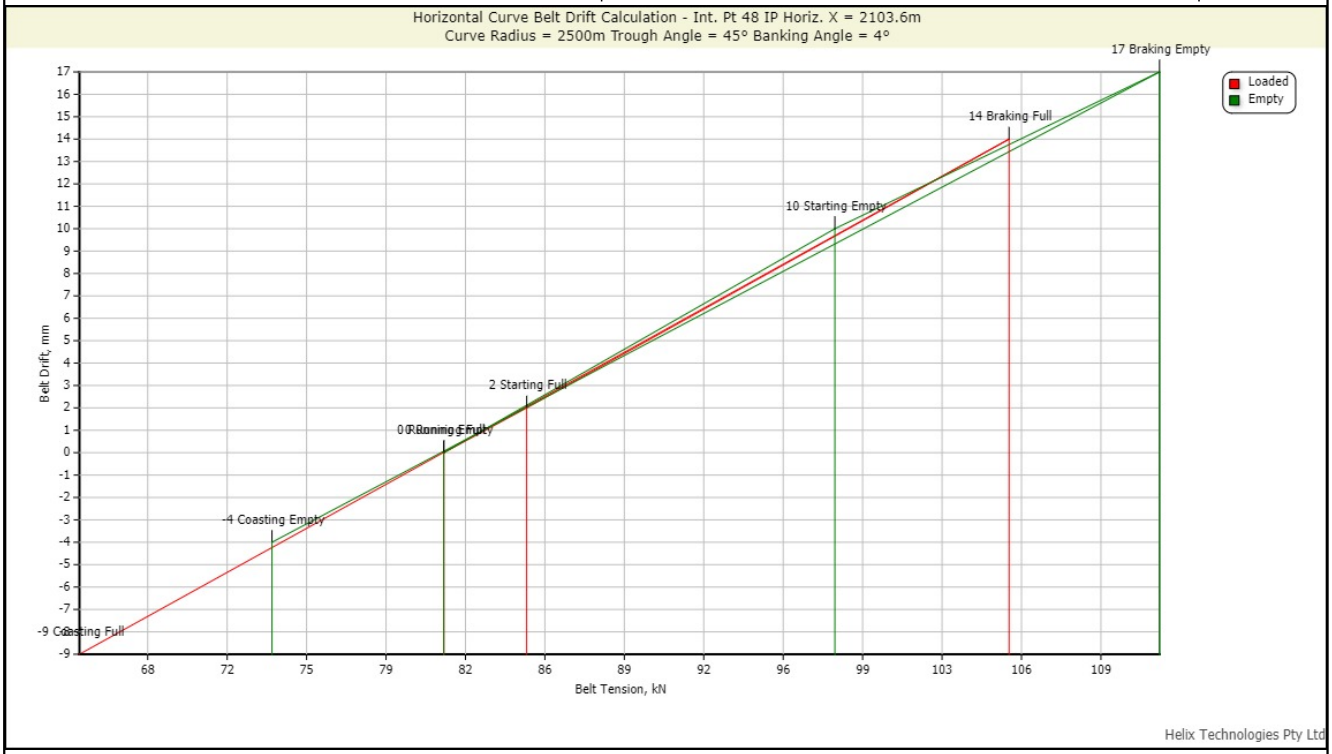
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 22 Point: 48** **Return**

Station / Point no.	***48 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***2103.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***668.900*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***12.460*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	81.16	122.6	123.7	0.0	0.0	123.7	0
Starting Full	84.73	128.0	129.0	0.0	0.0	129.0	2
Braking Full	105.50	159.2	161.1	0.0	0.0	161.1	14
Coasting Full	65.47	99.0	100.3	0.0	0.0	100.3	-9
Running Empty	81.16	122.6	123.7	0.0	0.0	123.7	0
Starting Empty	98.00	147.9	150.3	0.0	0.0	150.3	10
Braking Empty	111.98	168.9	169.5	0.0	0.0	169.5	17
Coasting Empty	73.76	111.5	113.2	0.0	0.0	113.2	-4



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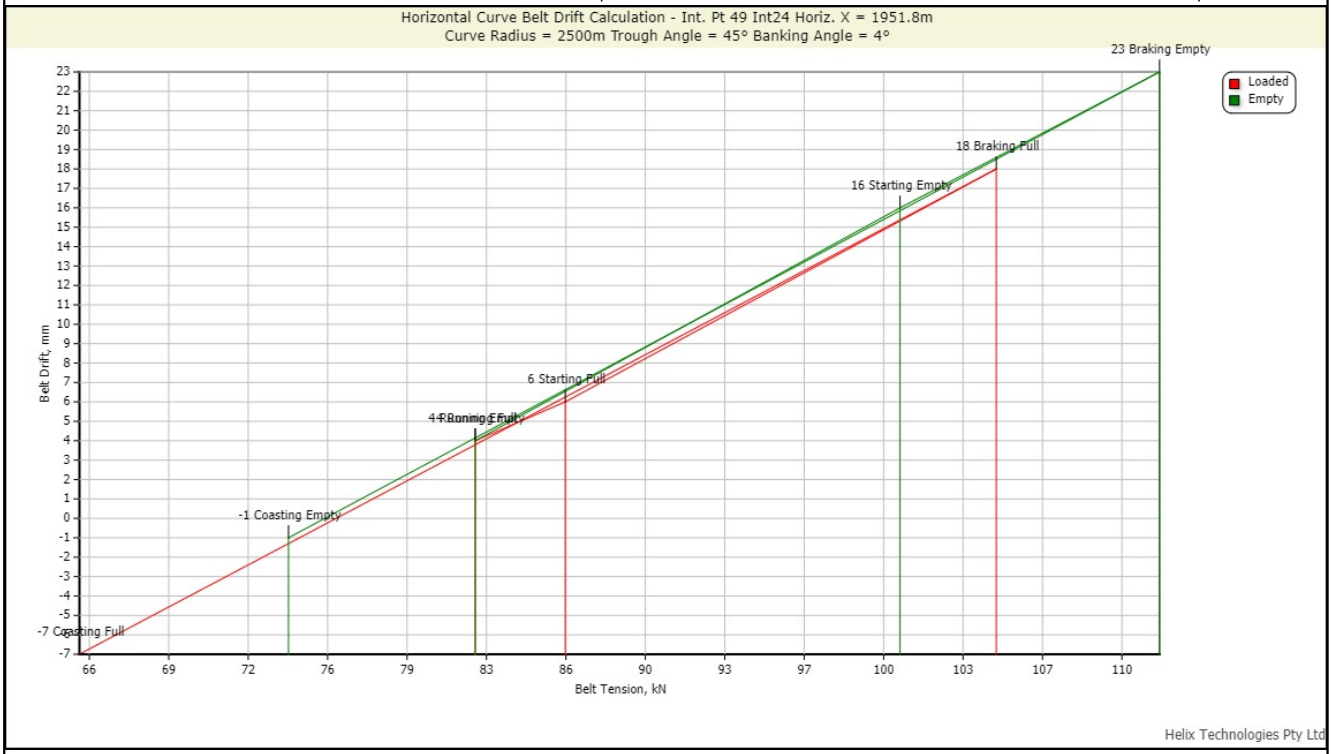
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 23 Point: 49** **Return**

Station / Point no.	***49 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int24***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***1951.800*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***538.800*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***11.460*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	82.31	124.3	125.9	0.0	0.0	125.9	4
Starting Full	86.22	130.2	130.6	0.0	0.0	130.6	6
Braking Full	104.94	158.3	158.6	0.0	0.0	158.6	18
Coasting Full	65.12	98.5	100.2	0.0	0.0	100.2	-7
Running Empty	82.31	124.3	125.9	0.0	0.0	125.9	4
Starting Empty	100.76	152.0	153.9	0.0	0.0	153.9	16
Braking Empty	112.03	168.9	170.3	0.0	0.0	170.3	23
Coasting Empty	74.20	112.1	114.2	0.0	0.0	114.2	-1



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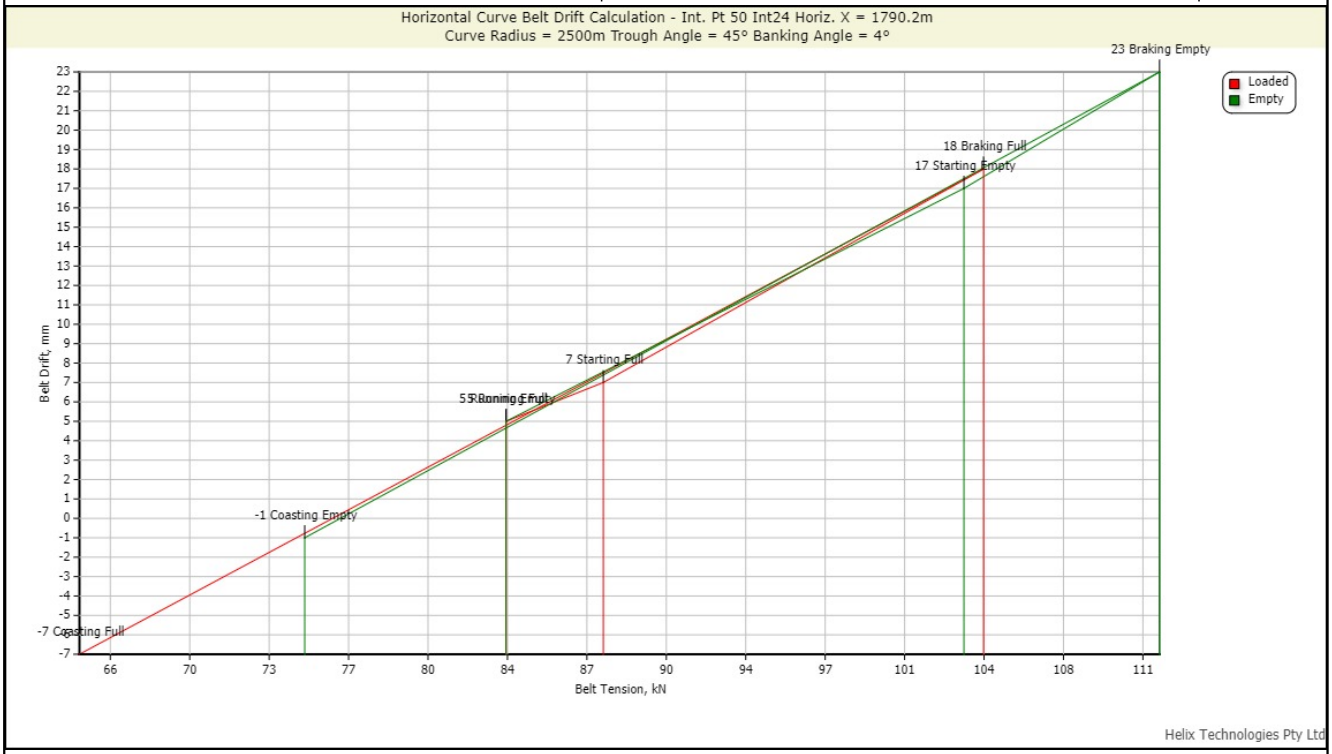
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 24 Point: 50** **Return**

Station / Point no.	***50 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int24***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***1790.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***421.100*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***10.460*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	83.46	126.0	128.2	0.0	0.0	128.2	5
Starting Full	87.72	132.4	132.9	0.0	0.0	132.9	7
Braking Full	104.38	157.4	158.6	0.0	0.0	158.6	18
Coasting Full	64.77	97.9	100.2	0.0	0.0	100.2	-7
Running Empty	83.46	126.0	128.2	0.0	0.0	128.2	5
Starting Empty	103.52	156.1	156.2	0.0	0.0	156.2	17
Braking Empty	112.09	169.0	170.3	0.0	0.0	170.3	23
Coasting Empty	74.64	112.8	114.2	0.0	0.0	114.2	-1



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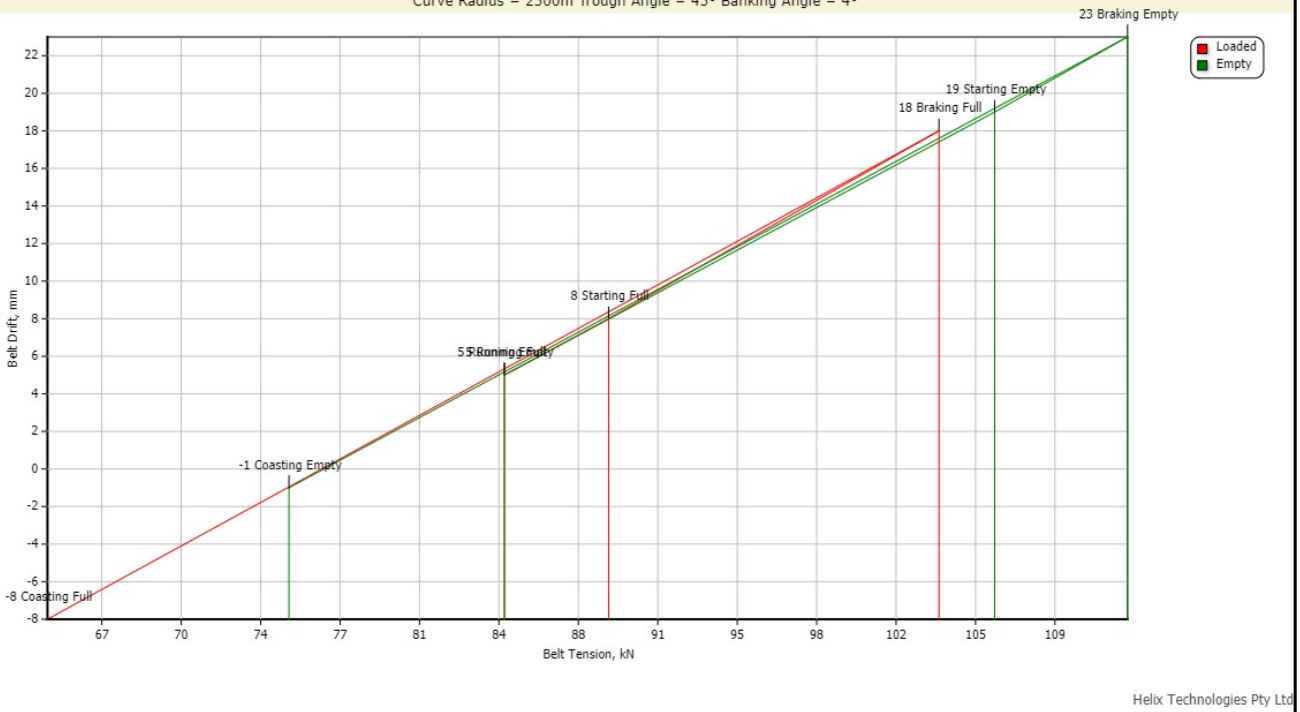
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 25 Point: 51** **Return**

Station / Point no.	***51 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int25***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***1619.600*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***316.800*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***9.160*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	84.47	127.6	128.2	0.0	0.0	128.2	5
Starting Full	89.07	134.5	135.2	0.0	0.0	135.2	8
Braking Full	103.67	156.4	158.6	0.0	0.0	158.6	18
Coasting Full	64.28	97.2	97.9	0.0	0.0	97.9	-8
Running Empty	84.47	127.6	128.2	0.0	0.0	128.2	5
Starting Empty	106.13	160.0	160.9	0.0	0.0	160.9	19
Braking Empty	112.00	168.8	170.3	0.0	0.0	170.3	23
Coasting Empty	74.95	113.2	114.2	0.0	0.0	114.2	-1

Horizontal Curve Belt Drift Calculation - Int. Pt 51 Int25 Horiz. X = 1619.6m
Curve Radius = 2500m Trough Angle = 45° Banking Angle = 4°



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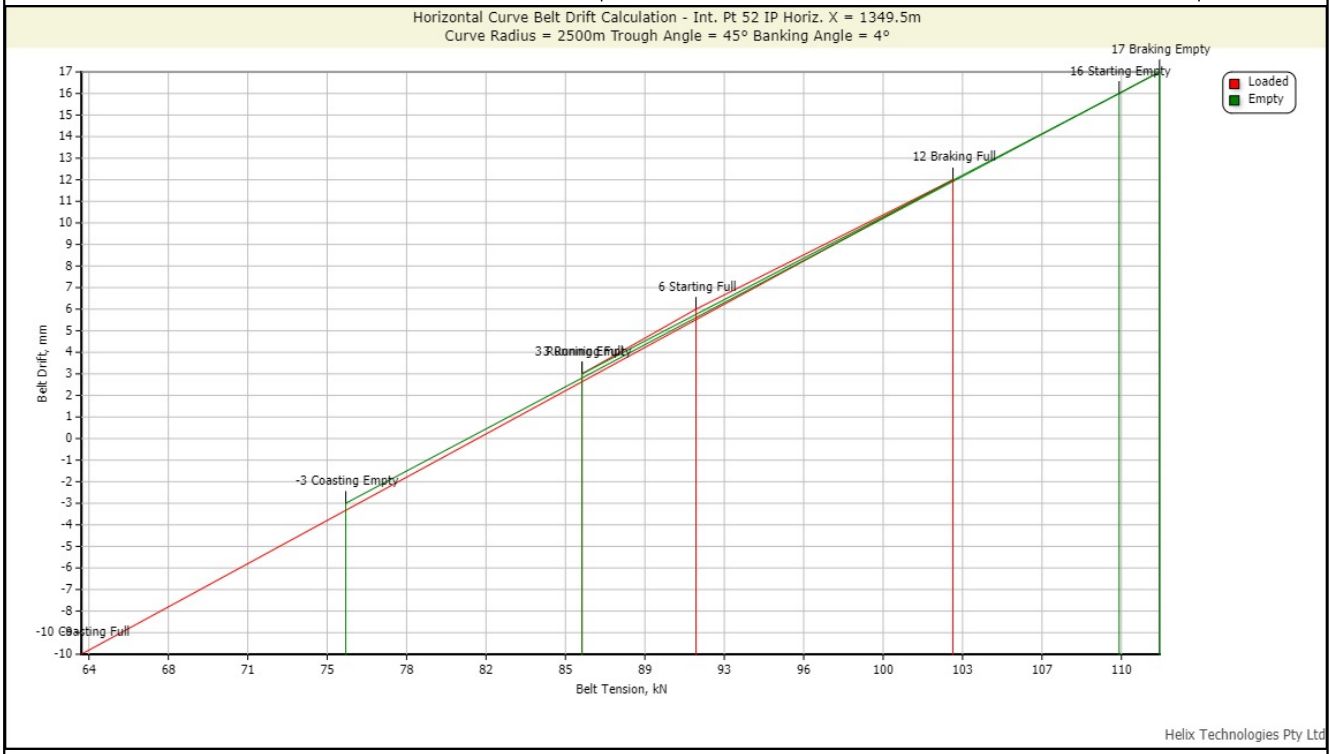
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 26 Point: 52** **Return**

Station / Point no.	***52 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***1349.500*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***186.700*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***7.660*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***80*** mm	Side Guide Roller Force (per idler)	***0.0*** N
Vertical Curve Type	***Convex***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	86.19	130.2	131.6	0.0	0.0	131.6	3
Starting Full	91.30	137.9	139.6	0.0	0.0	139.6	6
Braking Full	102.82	155.2	155.8	0.0	0.0	155.8	12
Coasting Full	63.75	96.4	97.7	0.0	0.0	97.7	-10
Running Empty	86.19	130.2	131.6	0.0	0.0	131.6	3
Starting Empty	110.27	166.3	166.7	0.0	0.0	166.7	16
Braking Empty	112.08	169.1	169.5	0.0	0.0	169.5	17
Coasting Empty	75.60	114.3	115.8	0.0	0.0	115.8	-3



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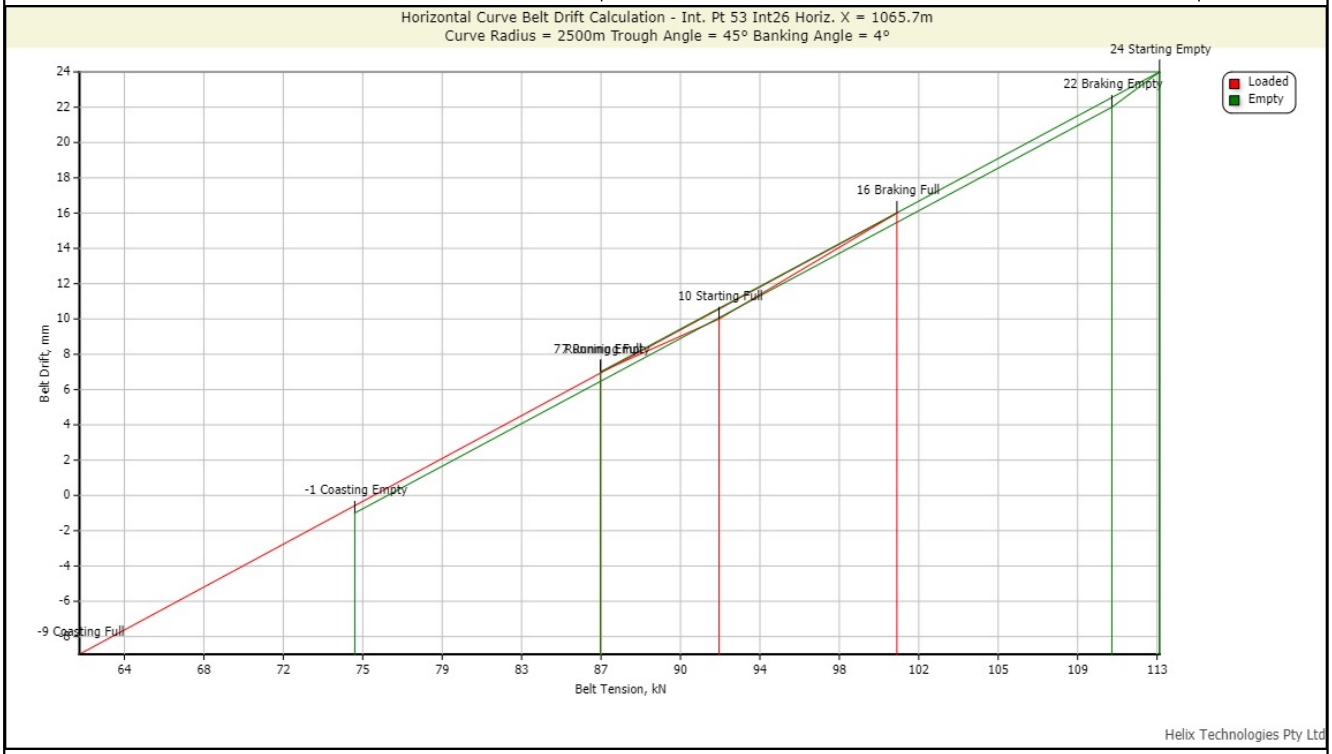
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 27 Point: 53** **Return**

Station / Point no.	***53 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int26***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***1065.700*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***89.900*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***3.160*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***56.0*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	86.58	130.7	132.9	0.0	0.0	132.9	7
Starting Full	92.20	139.2	139.9	0.0	0.0	139.9	10
Braking Full	100.63	151.8	153.9	0.0	0.0	153.9	16
Coasting Full	61.88	93.6	95.5	0.0	0.0	95.5	-9
Running Empty	86.58	130.7	132.9	0.0	0.0	132.9	7
Starting Empty	113.08	170.4	172.6	0.0	0.0	172.6	24
Braking Empty	110.82	167.1	167.9	0.0	0.0	167.9	22
Coasting Empty	74.93	113.2	114.2	0.0	0.0	114.2	-1



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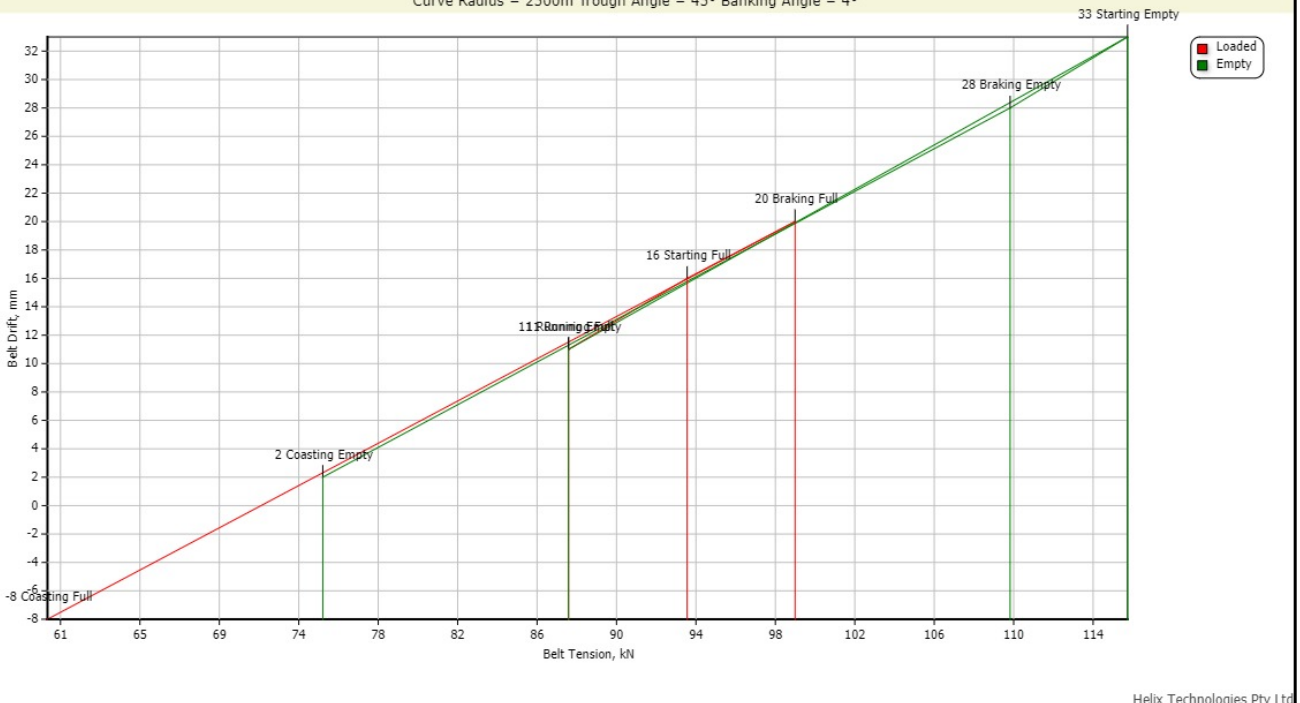
Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 28 Point: 54** **Return**

Station / Point no.	***54 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***IP***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***792.200*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***30.700*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***Infinity*** N
Vertical Curve Type	***Concave***	Vertical Curve Radius	***3000*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	87.41	131.9	132.8	0.0	0.0	132.8	11
Starting Full	93.51	141.1	143.0	0.0	0.0	143.0	16
Braking Full	99.06	149.4	151.0	0.0	0.0	151.0	20
Coasting Full	60.61	91.6	93.4	0.0	0.0	93.4	-8
Running Empty	87.41	131.9	132.8	0.0	0.0	132.8	11
Starting Empty	116.16	174.9	176.6	0.0	0.0	176.6	33
Braking Empty	110.12	165.9	166.8	0.0	0.0	166.8	28
Coasting Empty	74.77	112.9	114.4	0.0	0.0	114.4	2

Horizontal Curve Belt Drift Calculation - Int. Pt 54 IP Horiz. X = 792.2m
Curve Radius = 2500m Trough Angle = 45° Banking Angle = 4°



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Project	Demo 04 Iron ore deposit A	Client	ABC Mining
Project No.	P9014	Prepared By	Peter Burrow
Conveyor No.	CV 814	Design Date	01 Oct 2019

Horizontal Curve Data **Curve: 29 Point: 55** **Return**

Station / Point no.	***55 Int. Pt***	Horizontal Curve Radius	***2500*** m
Description	***Int27***	Idler Spacing	***4.5*** m
Curve X co-ordinate	***473.800*** m	Idler Trough Angle	***45*** °
Curve Y co-ordinate	***0.000*** m	No. of Idler Rolls	***3***
Curve Z co-ordinate	***0.000*** m	Idler Banking Angle	***4*** °
Capacity	***0*** tph	Idler packing Height	***101*** mm
Material Load	***0.0*** kg/m	Centre Roll Face Width	***444*** mm
Belt Mass	***45.00*** kg/m	Wing Roll Face Width	***444*** mm
Idler Fixing Width	***1450*** mm	Idler - Belt Friction um, us1, us2	***0.00, 0.00, 0.00***
Load Shift Factor ks, km	***1.10, 0.90***	Calculated Edge Tension Rise	***42.29*** kN
Allowable Belt Drift	***0*** mm	Side Guide Roller Force (per idler)	***Infinity*** N
Vertical Curve Type		Vertical Curve Radius	***0*** m
Takeup Tension	***59.14*** kN	Total Braking Torque	***30.00*** kNm

Horizontal Curve Results	**Tension**	**Resisting Forces**			**Total**	
Load & Running Case	**Belt Tension kN**	**Motivating Force Ftt N**	**Belt Mass Fb N**	**Material Mass Fg N**	**Friction Force Fu N**	**Resisting Force Fr N**	**Belt Drift mm**
Running Full	89.95	135.8	137.6	0.0	0.0	137.6	9
Starting Full	96.60	145.8	146.9	0.0	0.0	146.9	13
Braking Full	98.85	149.1	149.2	0.0	0.0	149.2	14
Coasting Full	60.75	91.9	93.2	0.0	0.0	93.2	-10
Running Empty	89.95	135.8	137.6	0.0	0.0	137.6	9
Starting Empty	121.28	182.7	184.3	0.0	0.0	184.3	29
Braking Empty	110.90	167.2	167.9	0.0	0.0	167.9	22
Coasting Empty	76.18	115.1	116.6	0.0	0.0	116.6	0