

McCrae landslide Incident

Displacement monitoring data

12am 7 March 2025 to 11.59pm 13 March 2025

- GPS
- Survey prisms
- Tilt sensors
- Radar

Please note: this is raw data only for the period indicated above. We are unable to form opinions from this data as yet – it still needs to be analysed, interpreted and peer reviewed. Monitoring is continuing and more data is required.



LEGEND

GNSS MONITORING POINT

TILT SENSOR MONITORING POINT

SURVEY PRISM MONITORING POINT

SURVEY CONTROL POINT

INDICATIVE TITLE BOUNDARIES

NOTES:

1. CO-ORDINATE SYSTEM: GDA2020 LOCAL MGA ZONE 55

2. ELEVATION DATUM: DERIVED AHD (AUSGEOD2020)

3. TITLE BOUNDARIES SOURCED FROM VICMAP PROPERTY DATA SET DOWNLOADED DATA.VIC.GOV.AU

CONTROL POINT LOCATIONS				
ID	EASTING	NORTHING	ELEVATION	TYPE
C01	319595.874	5753861.905	4.918	PRISM
C02	319627.019	5753860.621	5.123	PRISM
C03	319573.831	5753827.408	4.897	PRISM
C04	319534.083	5753802.569	4.941	PRISM
C05	319550.197	5753832.943	5.395	PRISM
C06	319347.239	5753713.073	4.746	PRISM





GPS monitoring summary

Table A1 – Summary of GPS monitoring results

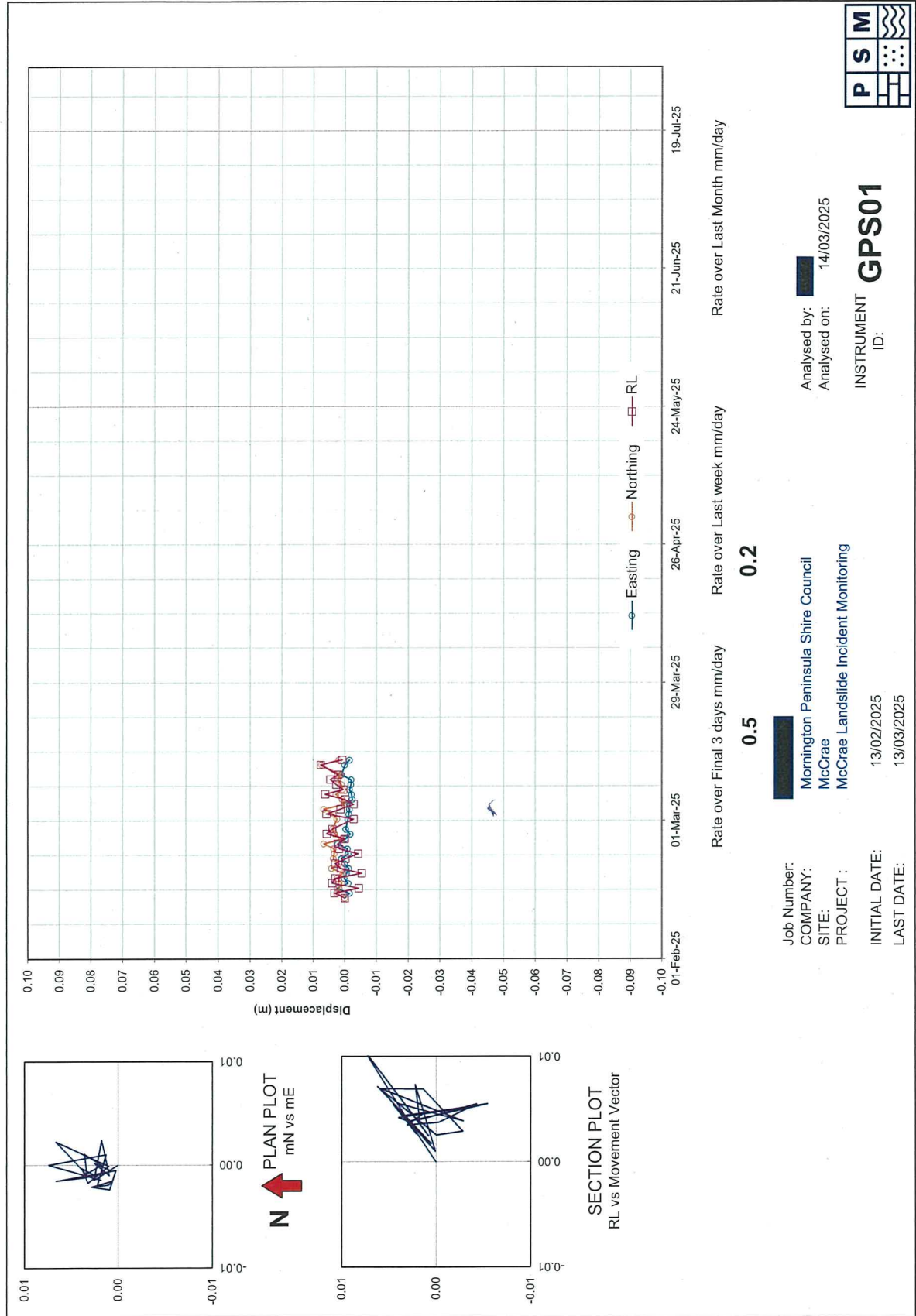
Prism ID	Start Date	Base (m)			Displacement (m)				Total Movement Vector			Average Rate (mm/day)		
		Easting	Northing	RL	Last Date	Δ Easting	Δ Northing	Δ RL	Magnitude	Plunge (°) (up is +)	Azimuth (°)	last 3 readings	last 7 readings	last 30 readings
GPS01	13-Feb-25	-9.699	38.335	-2.995	13-Mar-25	-0.001	0.002	0.001	0.002	18.4	321.7	0.5	0.2	
GPS02	13-Feb-25	-21.621	20.245	-2.725	13-Mar-25	0.001	0.001	0.004	0.004	72.4	45.6	-1.6	-1.0	
GPS03	13-Feb-25	-41.863	21.761	-4.007	9-Mar-25	-0.002	0.001	0.003	0.004	49.4	293.4	-1.2	-0.2	
GPS04	13-Feb-25	-48.756	16.672	-4.334	13-Mar-25	0.001	0.001	-0.002	0.002	-61.0	37.0	-2.9	-0.2	
GPS05	10-Mar-25	-10.886	29.671	-0.704	13-Mar-25	-0.001	0.000	0.005	0.005	79.7	291.4	0.5		
GPS06	10-Mar-25	-13.232	19.477	-2.897	13-Mar-25	-0.002	-0.002	0.006	0.007	65.4	236.7	-1.1		

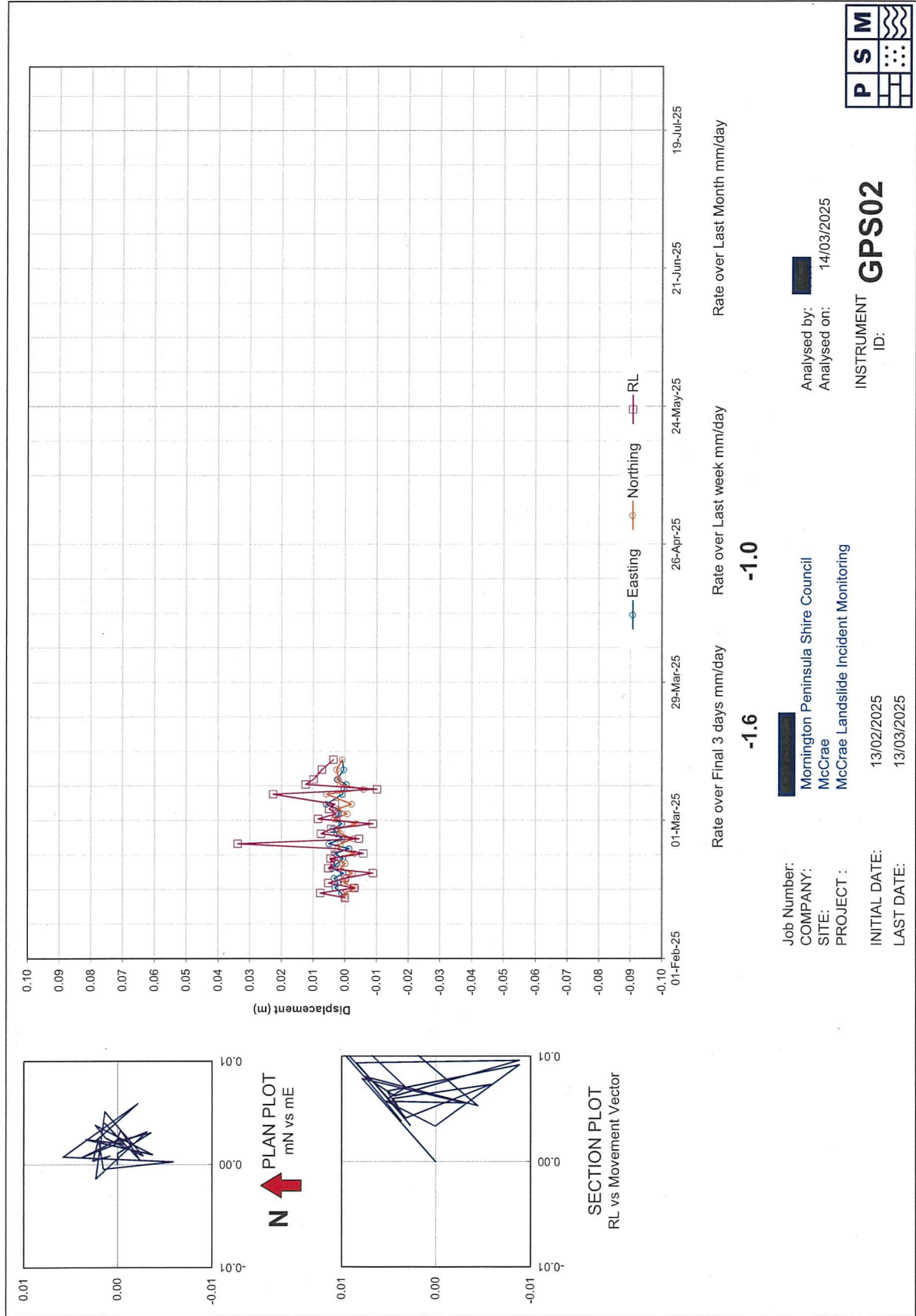
Notes:

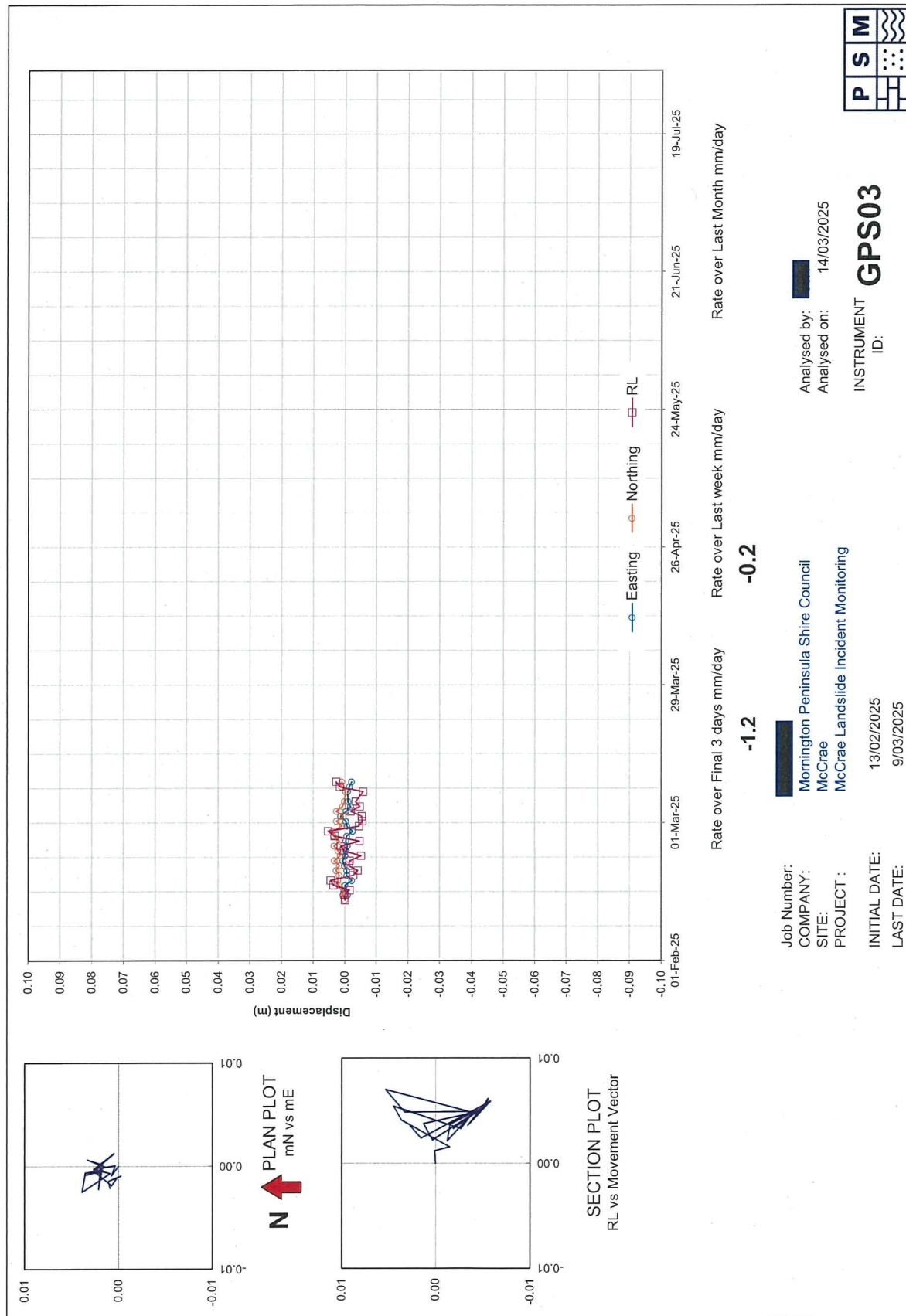
(1) Co-ordinates provided are local co-ordinates relative to the base reference station installed at the Site. Co-ordinates are orientated to the GDA2020 grid.

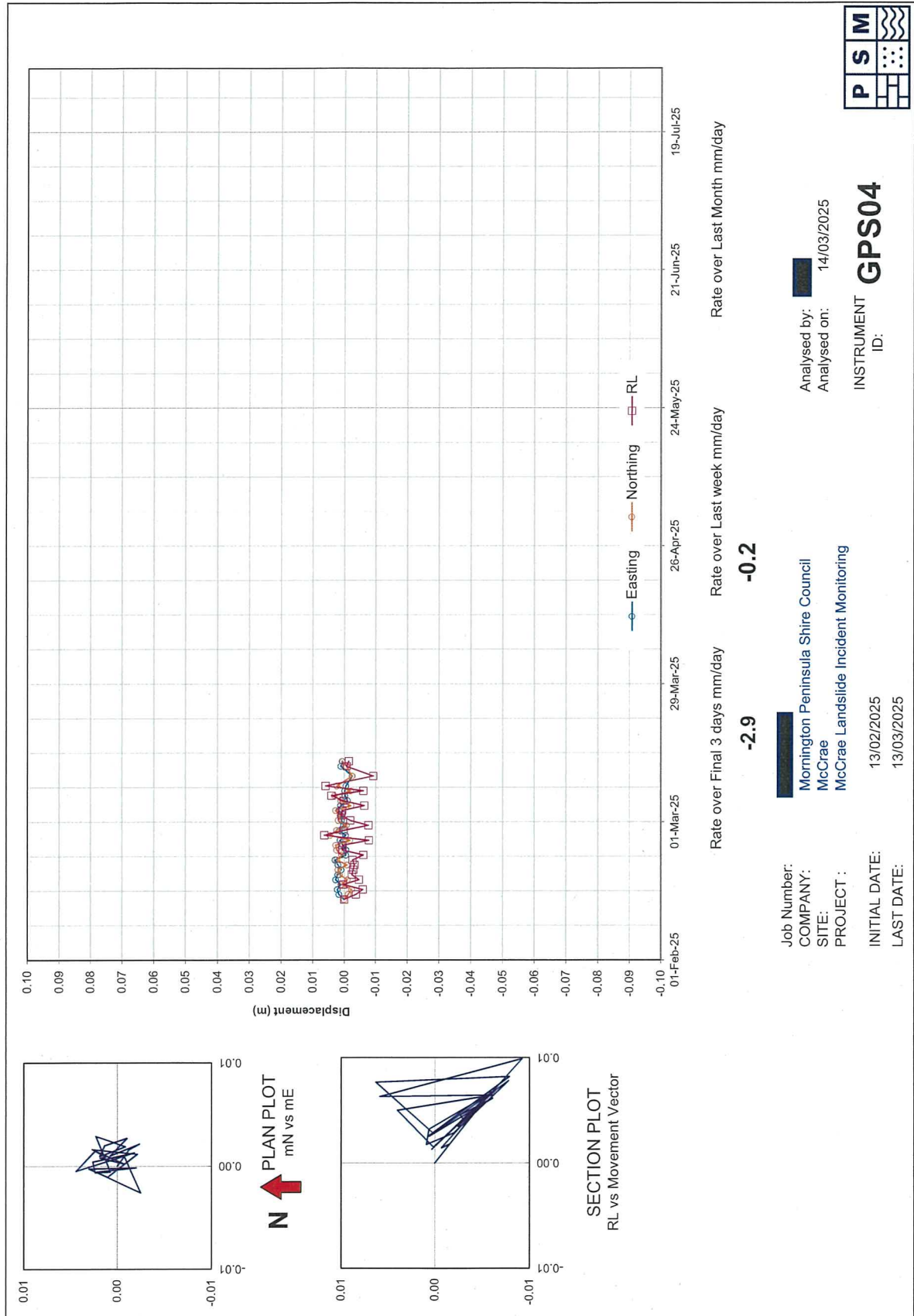


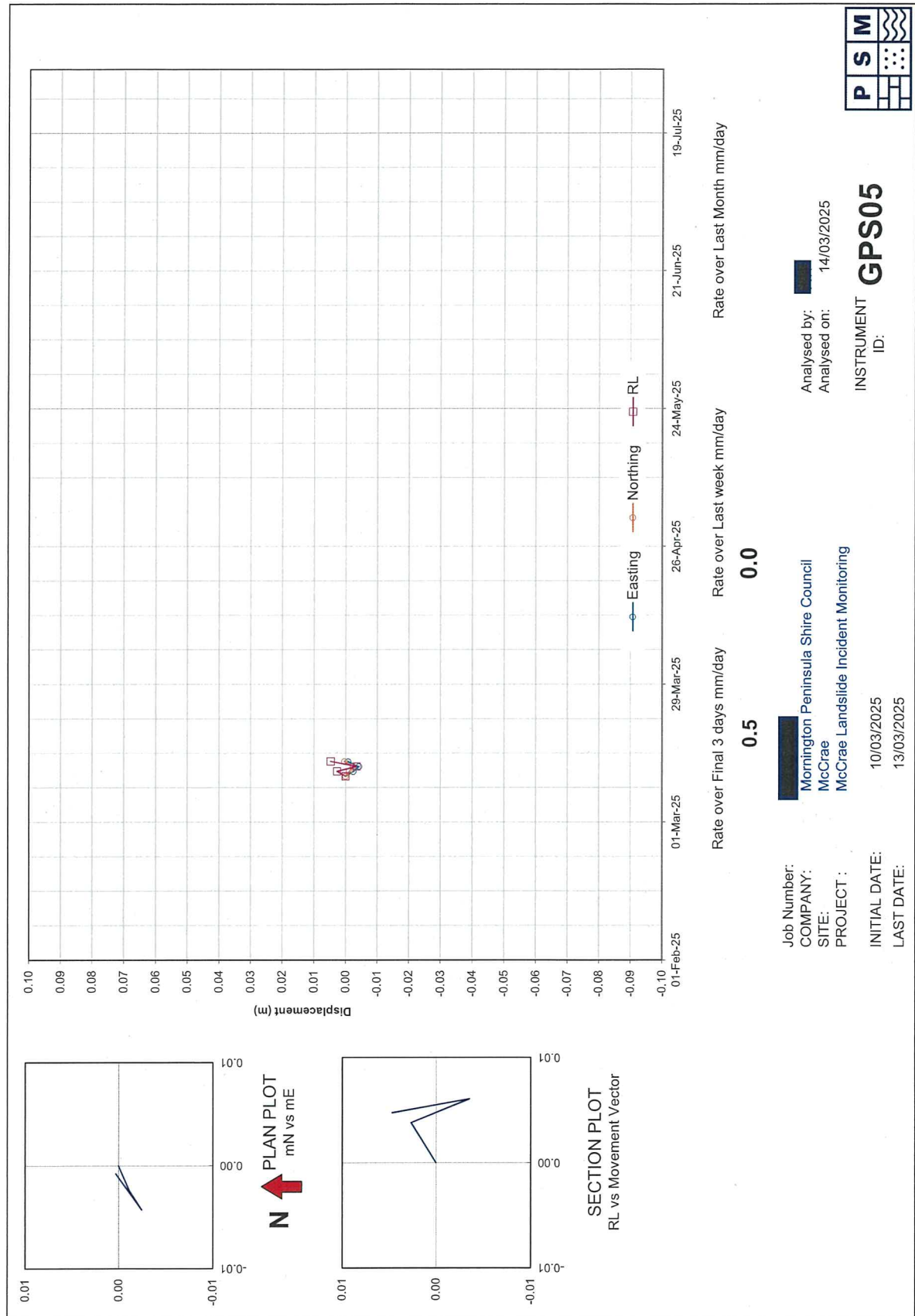
GPS monitoring plots















Survey prism measurements

Table C1 – Survey monitoring data

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S1P01	12/02/2025	319578.865	5753744.880	23.926
S1P01	20/02/2025	319578.866	5753744.882	23.926
S1P01	27/02/2025	319578.865	5753744.879	23.926
S1P01	6/03/2025	319578.865	5753744.879	23.926
S1P01	13/03/2025	319578.864	5753744.879	23.928
S1P02	12/02/2025	319573.541	5753749.185	22.991
S1P02	20/02/2025	319573.543	5753749.187	22.990
S1P02	27/02/2025	319573.541	5753749.184	22.990
S1P02	6/03/2025	319573.542	5753749.184	22.990
S1P02	13/03/2025	319573.542	5753749.184	22.991
S1P03	12/02/2025	319573.873	5753743.899	26.409
S1P03	20/02/2025	319573.875	5753743.900	26.409
S1P03	27/02/2025	319573.873	5753743.898	26.409
S1P03	6/03/2025	319573.873	5753743.898	26.409
S1P03	13/03/2025	319573.872	5753743.898	26.410
S3P05	12/02/2025	319569.139	5753745.501	25.419
S3P05	20/02/2025	319569.138	5753745.501	25.420
S3P05	27/02/2025	319569.139	5753745.502	25.419
S3P05	6/03/2025	319569.139	5753745.501	25.420
S3P05	13/03/2025	319569.140	5753745.502	25.419
S3P06	12/02/2025	319569.429	5753748.276	23.723
S3P06	20/02/2025	319569.428	5753748.277	23.723
S3P06	27/02/2025	319569.428	5753748.276	23.723
S3P06	6/03/2025	319569.428	5753748.276	23.723
S3P06	13/03/2025	319569.429	5753748.276	23.723
S3P07	12/02/2025	319565.757	5753753.050	20.181
S3P07	20/02/2025	319565.755	5753753.050	20.181
S3P07	27/02/2025	319565.756	5753753.050	20.181
S3P07	6/03/2025	319565.756	5753753.050	20.181
S3P07	13/03/2025	319565.757	5753753.050	20.180
S3P08	12/02/2025	319558.404	5753748.044	20.321
S3P08	20/02/2025	319558.403	5753748.045	20.321
S3P08	27/02/2025	319558.404	5753748.044	20.322
S3P08	6/03/2025	319558.404	5753748.043	20.322
S3P08	13/03/2025	319558.405	5753748.042	20.321
S3P09	12/02/2025	319551.813	5753749.725	15.989
S3P09	20/02/2025	319551.812	5753749.725	15.989
S3P09	27/02/2025	319551.812	5753749.725	15.990
S3P09	6/03/2025	319551.812	5753749.724	15.990
S3P09	13/03/2025	319551.813	5753749.724	15.989
S3P10	12/02/2025	319554.096	5753743.851	20.636
S3P10	20/02/2025	319554.095	5753743.851	20.636
S3P10	27/02/2025	319554.095	5753743.850	20.636
S3P10	6/03/2025	319554.096	5753743.850	20.636
S3P10	13/03/2025	319554.098	5753743.850	20.636

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S3P11	12/02/2025	319550.572	5753743.992	17.689
S3P11	20/02/2025	319550.571	5753743.992	17.689
S3P11	27/02/2025	319550.571	5753743.992	17.689
S3P11	6/03/2025	319550.572	5753743.992	17.689
S3P11	13/03/2025	319550.574	5753743.992	17.689
S3P12	12/02/2025	319556.438	5753719.653	30.063
S3P12	20/02/2025	319556.436	5753719.654	30.064
S3P12	27/02/2025	319556.436	5753719.653	30.063
S3P12	6/03/2025	319556.436	5753719.653	30.064
S3P12	13/03/2025	319556.437	5753719.653	30.063
S3P13	12/02/2025	319553.897	5753718.704	30.233
S3P13	20/02/2025	319553.896	5753718.705	30.234
S3P13	27/02/2025	319553.896	5753718.705	30.234
S3P13	6/03/2025	319553.896	5753718.705	30.234
S3P13	13/03/2025	319553.897	5753718.705	30.234
S3P14	12/02/2025	319550.979	5753723.316	26.793
S3P14	20/02/2025	319550.977	5753723.316	26.792
S3P14	27/02/2025	319550.978	5753723.316	26.793
S3P14	6/03/2025	319550.978	5753723.316	26.793
S3P14	13/03/2025	319550.978	5753723.315	26.793
S3P15	12/02/2025	319553.059	5753713.284	34.077
S3P15	20/02/2025	319553.057	5753713.284	34.076
S3P15	27/02/2025	319553.058	5753713.284	34.077
S3P15	6/03/2025	319553.057	5753713.283	34.077
S3P15	13/03/2025	319553.059	5753713.283	34.077
S3P16	12/02/2025	319545.480	5753722.252	28.079
S3P16	20/02/2025	319545.479	5753722.253	28.079
S3P16	27/02/2025	319545.479	5753722.253	28.080
S3P16	6/03/2025	319545.480	5753722.253	28.080
S3P16	13/03/2025	319545.481	5753722.253	28.079
S3P17	12/02/2025	319537.244	5753739.894	15.611
S3P17	20/02/2025	319537.242	5753739.894	15.611
S3P17	27/02/2025	319537.243	5753739.894	15.611
S3P17	6/03/2025	319537.243	5753739.894	15.611
S3P17	13/03/2025	319537.243	5753739.893	15.611
S3P18	12/02/2025	319535.799	5753733.932	20.813
S3P18	20/02/2025	319535.797	5753733.933	20.813
S3P18	27/02/2025	319535.797	5753733.933	20.813
S3P18	6/03/2025	319535.797	5753733.932	20.813
S3P18	13/03/2025	319535.799	5753733.932	20.812
S4P19	12/02/2025	319511.865	5753727.513	13.595
S4P19	20/02/2025	319511.865	5753727.513	13.596
S4P19	27/02/2025	319511.865	5753727.513	13.595
S4P19	6/03/2025	319511.865	5753727.513	13.595
S4P19	13/03/2025	319511.865	5753727.513	13.595
S4P20	12/02/2025	319513.882	5753723.875	16.356

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S4P20	20/02/2025	319513.882	5753723.874	16.358
S4P20	27/02/2025	319513.882	5753723.874	16.357
S4P20	6/03/2025	319513.882	5753723.874	16.357
S4P20	13/03/2025	319513.883	5753723.874	16.358
S4P21	12/02/2025	319516.370	5753719.111	20.014
S4P21	20/02/2025	319516.370	5753719.111	20.014
S4P21	27/02/2025	319516.370	5753719.110	20.014
S4P21	6/03/2025	319516.370	5753719.110	20.014
S4P21	13/03/2025	319516.370	5753719.110	20.014
S4P22	12/02/2025	319518.496	5753715.939	24.367
S4P22	20/02/2025	319518.496	5753715.939	24.368
S4P22	27/02/2025	319518.496	5753715.939	24.368
S4P22	6/03/2025	319518.496	5753715.938	24.368
S4P22	13/03/2025	319518.497	5753715.939	24.368
S4P23	12/02/2025	319519.446	5753711.080	28.188
S4P23	20/02/2025	319519.446	5753711.080	28.190
S4P23	27/02/2025	319519.446	5753711.080	28.189
S4P23	6/03/2025	319519.446	5753711.080	28.189
S4P23	13/03/2025	319519.446	5753711.080	28.189
S4P24	12/02/2025	319510.888	5753717.890	18.600
S4P24	20/02/2025	319510.888	5753717.889	18.602
S4P24	27/02/2025	319510.888	5753717.889	18.601
S4P24	6/03/2025	319510.888	5753717.889	18.601
S4P24	13/03/2025	319510.888	5753717.889	18.601
S5P25	12/02/2025	319464.805	5753661.480	20.644
S5P25	20/02/2025	319464.804	5753661.480	20.645
S5P25	27/02/2025	319464.803	5753661.481	20.644
S5P25	6/03/2025	319464.803	5753661.480	20.644
S5P25	13/03/2025	319464.804	5753661.480	20.643
S5P26	12/02/2025	319501.487	5753683.243	27.691
S5P26	20/02/2025	319501.485	5753683.243	27.691
S5P26	27/02/2025	319501.486	5753683.243	27.691
S5P26	6/03/2025	319501.488	5753683.244	27.691
S5P26	13/03/2025	319501.489	5753683.245	27.690
S5P27	12/02/2025	319500.816	5753699.365	22.092
S5P27	20/02/2025	319500.816	5753699.365	22.093
S5P27	27/02/2025	319500.816	5753699.365	22.092
S5P27	6/03/2025	319500.817	5753699.365	22.093
S5P27	13/03/2025	319500.817	5753699.365	22.092
S5P28	12/02/2025	319501.883	5753707.991	19.601
S5P28	20/02/2025	319501.883	5753707.991	19.602
S5P28	27/02/2025	319501.883	5753707.991	19.601
S5P28	6/03/2025	319501.883	5753707.991	19.602
S5P28	13/03/2025	319501.883	5753707.991	19.601
S5P29	12/02/2025	319510.670	5753705.418	26.674
S5P29	20/02/2025	319510.669	5753705.419	26.675

Prism ID	Survey Date	Easting (m)	Northing (m)	RL (m)
S5P29	27/02/2025	319510.669	5753705.420	26.674
S5P29	6/03/2025	319510.669	5753705.419	26.675
S5P29	13/03/2025	319510.669	5753705.420	26.674
S5P30	12/02/2025	319537.264	5753727.604	26.880
S5P30	20/02/2025	319537.264	5753727.604	26.881
S5P30	27/02/2025	319537.264	5753727.604	26.880
S5P30	6/03/2025	319537.264	5753727.604	26.881
S5P30	13/03/2025	319537.264	5753727.604	26.880
S6P34	20/02/2025	319458.812	5753656.785	19.662
S6P34	27/02/2025	319458.812	5753656.786	19.663
S6P34	6/03/2025	319458.812	5753656.786	19.663
S6P34	13/03/2025	319458.815	5753656.783	19.661
S6P35	20/02/2025	319457.955	5753658.070	18.866
S6P35	27/02/2025	319457.956	5753658.070	18.866
S6P35	6/03/2025	319457.957	5753658.070	18.866
S6P35	13/03/2025	319457.959	5753658.068	18.866
S6P36	27/02/2025	319460.138	5753656.446	25.933
S6P36	6/03/2025	319460.138	5753656.447	25.934
S6P36	13/03/2025	319460.141	5753656.444	25.933



Survey prism monitoring summary

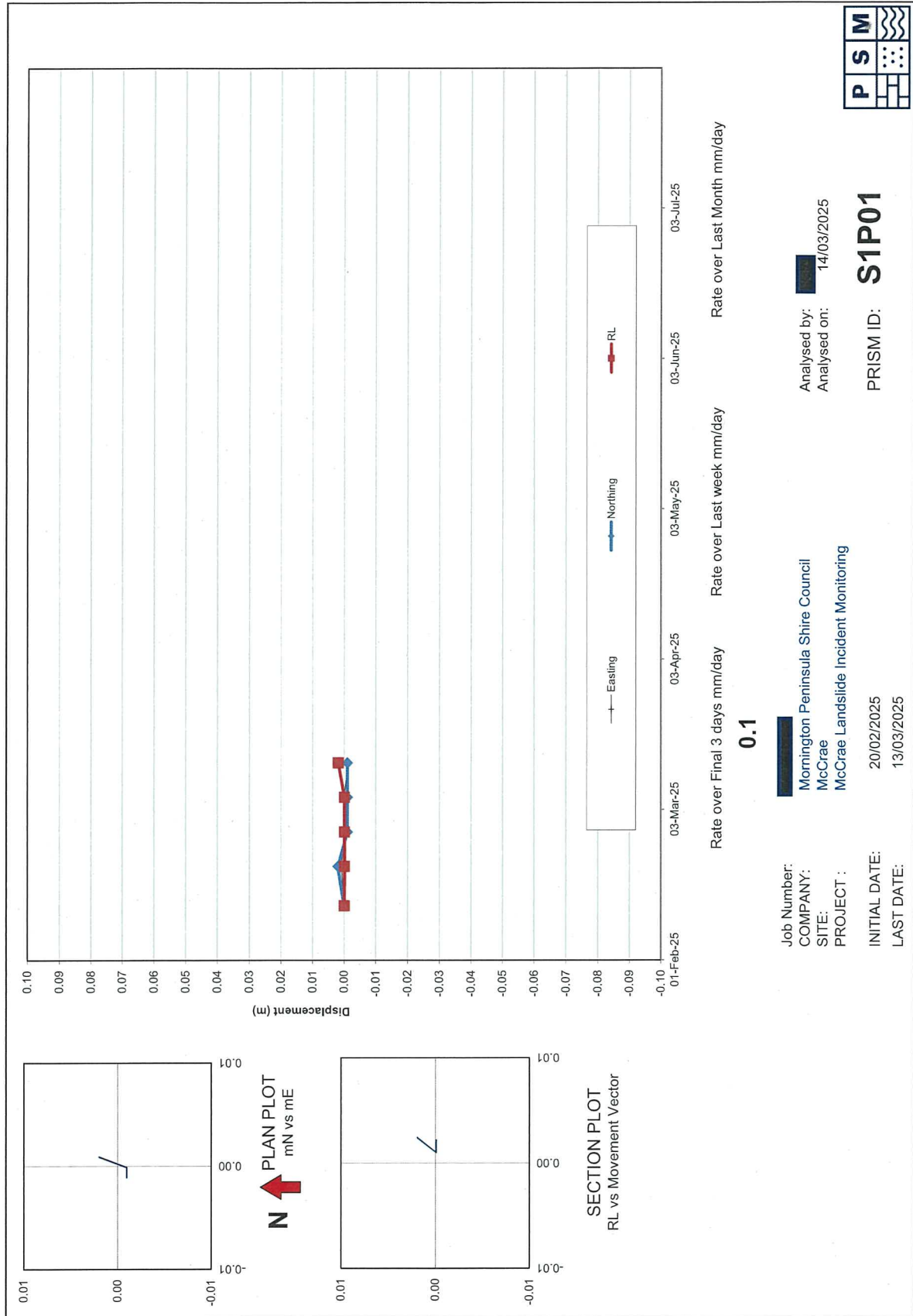
Table D1 – Survey monitoring summary

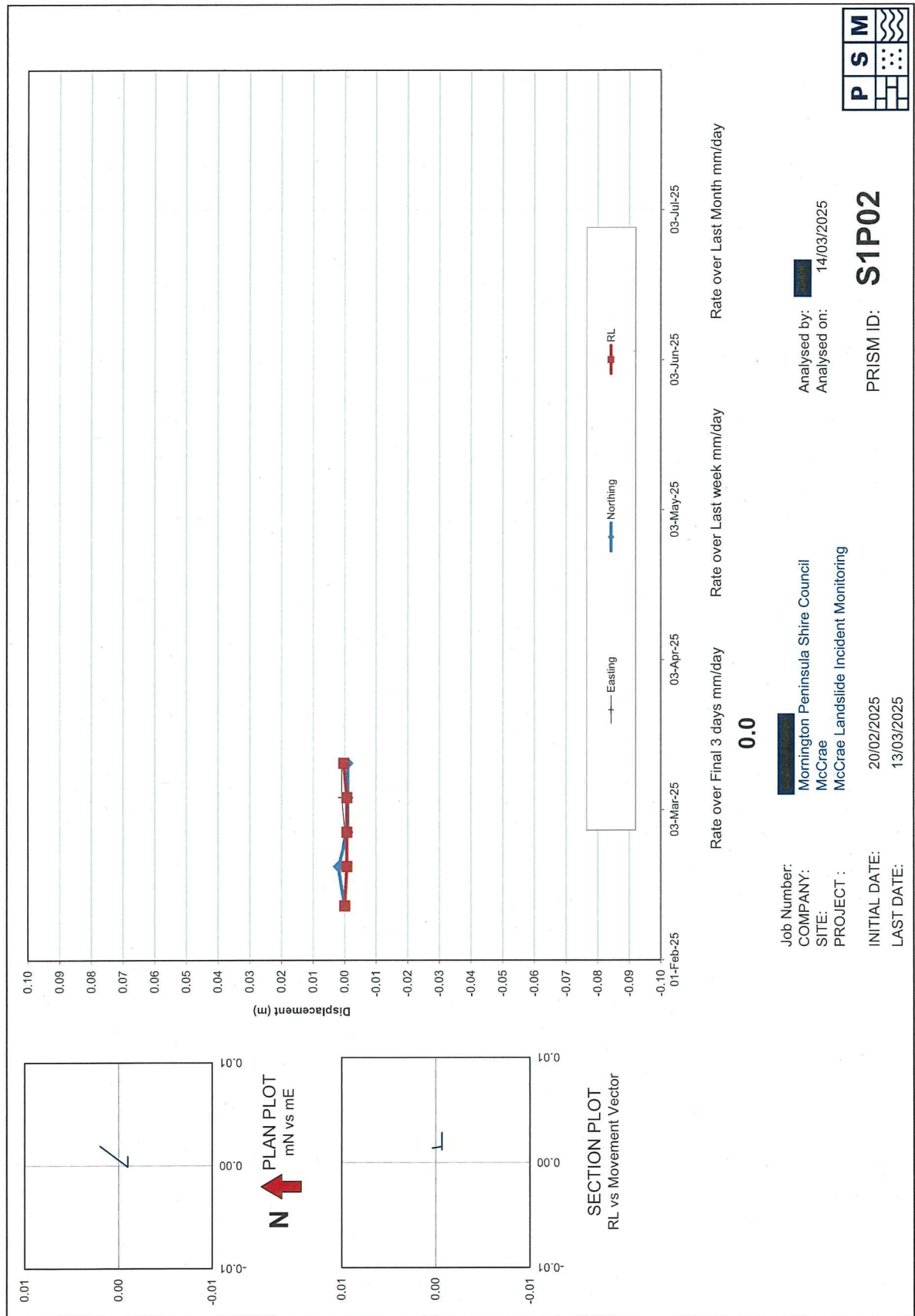
Prism ID	Start Date	Base (m)			Displacement (m)			Total Movement Vector			Average Rate (mm/day)		
		Easting	Northing	RL	Δ Easting	Δ Northing	Δ RL	Magnitude	Plunge (°) (up is +)	Azimuth (°)	last 3 readings	last 7 readings	last 30 readings
S1P01	12-Feb-25	319578.865	5753744.880	23.926	-0.001	-0.001	0.002	0.002	52.0	227.7	0.1		
S1P02	12-Feb-25	319573.541	5753749.185	22.991	0.001	-0.001	0.000	0.001	12.6	138.0	0.0		
S1P03	12-Feb-25	319573.873	5753743.899	26.409	-0.001	-0.001	0.001	0.002	23.1	232.4	0.0		
S3P05	12-Feb-25	319569.139	5753745.501	25.419	0.001	0.001	0.000	0.001	-4.3	42.0	0.0		
S3P06	12-Feb-25	319569.429	5753748.276	23.723	0.000	0.000	0.000	0.000	-14.0	90.0	0.0		
S3P07	12-Feb-25	319565.757	5753753.050	20.181	0.000	0.000	-0.001	0.001	-50.2	90.0	0.0		
S3P08	12-Feb-25	319558.404	5753748.044	20.321	0.001	-0.002	0.000	0.002	-9.3	145.0	0.1		
S3P09	12-Feb-25	319551.813	5753749.725	15.989	0.000	-0.001	0.000	0.001	-21.0	163.3	0.0		
S3P10	12-Feb-25	319554.096	5753743.851	20.636	0.002	-0.001	0.000	0.002	7.1	114.4	0.1		
S3P11	12-Feb-25	319550.572	5753743.992	17.689	0.002	0.000	0.000	0.002	14.7	90.0	0.1		
S3P12	12-Feb-25	319556.438	5753719.653	30.063	-0.001	0.000	0.000	0.001	21.8	270.0	-0.1		
S3P13	12-Feb-25	319553.897	5753718.704	30.233	0.000	0.001	0.001	0.001	35.0	0.0	0.0		
S3P14	12-Feb-25	319550.979	5753723.316	26.793	-0.001	-0.001	0.000	0.001	19.5	225.0	0.0		
S3P15	12-Feb-25	319553.059	5753713.284	34.077	0.000	-0.001	0.000	0.001	16.0	163.3	0.0		
S3P16	12-Feb-25	319545.480	5753722.252	28.079	0.001	0.001	0.000	0.001	0.0	45.0	0.0		
S3P17	12-Feb-25	319537.244	5753739.894	15.611	0.000	-0.001	0.000	0.001	19.7	206.6	0.0		
S3P18	12-Feb-25	319535.799	5753733.932	20.813	0.000	0.000	0.000	0.001	-78.7	90.0	-0.1		
S4P19	12-Feb-25	319511.865	5753727.513	13.595	0.000	0.000	0.000	0.000	71.6	270.0	0.0		
S4P20	12-Feb-25	319513.882	5753723.875	16.356	0.001	-0.001	0.002	0.002	52.7	145.0	0.1		
S4P21	12-Feb-25	319516.370	5753719.111	20.014	0.000	-0.001	0.000	0.001	25.6	196.7	0.0		
S4P22	12-Feb-25	319518.496	5753715.939	24.367	0.001	0.000	0.001	0.001	48.4	90.0	0.0		

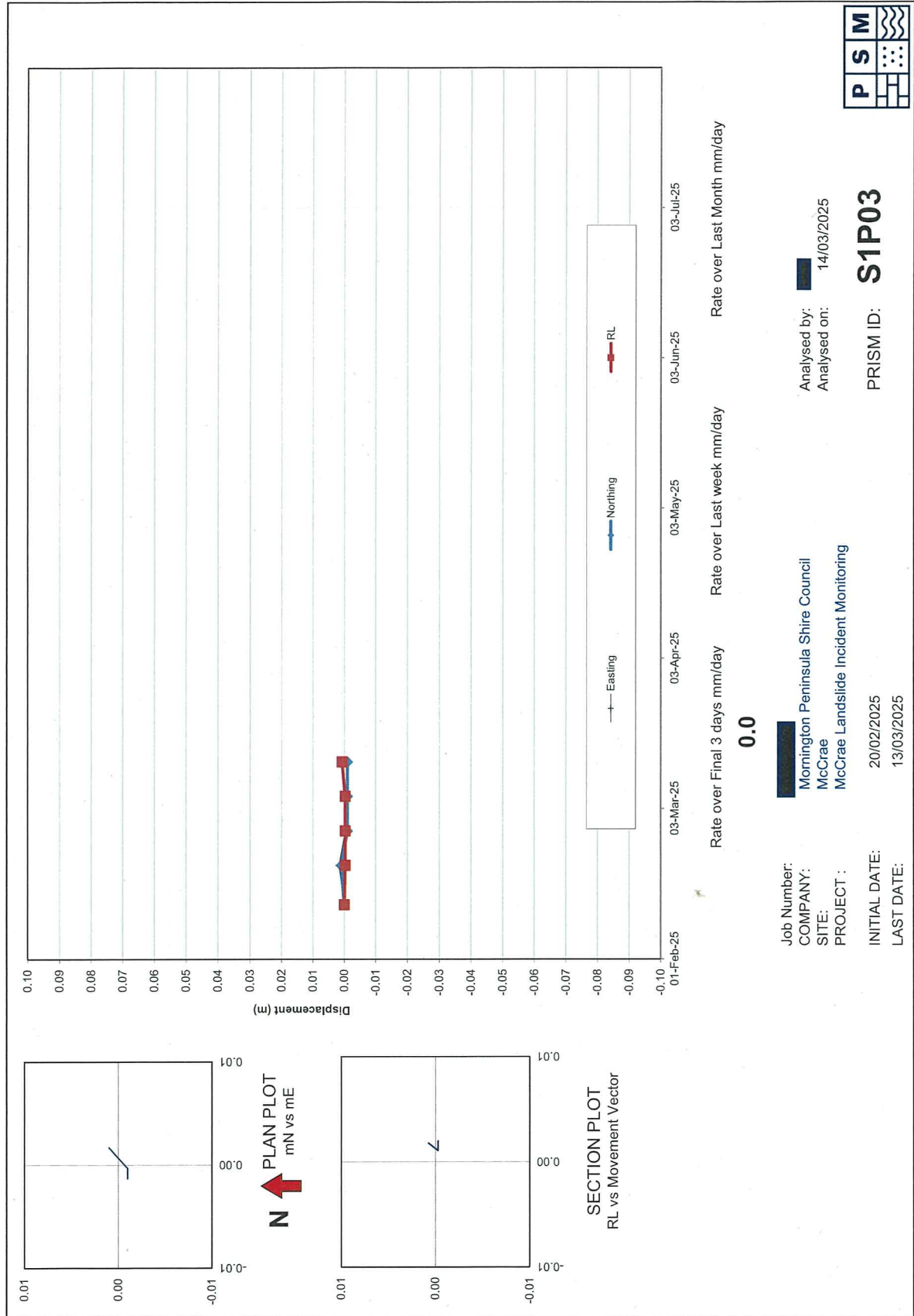
		Base (m)			Displacement (m)			Total Movement Vector			Average Rate (mm/day)		
S4P23	12-Feb-25	319519.446	5753711.080	28.188	13-Mar-25	0.000	0.000	0.001	90.0	0.0	0.0		
S4P24	12-Feb-25	319510.888	5753717.890	18.600	13-Mar-25	0.000	-0.001	0.001	42.0	180.0	0.0		
S5P25	12-Feb-25	319464.805	5753661.480	20.644	13-Mar-25	-0.001	0.000	-0.001	-50.2	270.0	-0.1		
S5P26	12-Feb-25	319501.487	5753683.243	27.691	13-Mar-25	0.003	0.002	0.000	-8.9	51.3	0.2		
S5P27	12-Feb-25	319500.816	5753699.365	22.092	13-Mar-25	0.001	0.000	0.001	20.6	90.0	0.0		
S5P28	12-Feb-25	319501.883	5753707.991	19.601	13-Mar-25	0.000	0.000	0.000	90.0	0.0	0.0		
S5P29	12-Feb-25	319510.670	5753705.418	26.674	13-Mar-25	-0.001	0.002	0.000	8.2	343.3	0.0		
S5P30	12-Feb-25	319537.264	5753727.604	26.880	13-Mar-25	0.000	0.000	0.000	63.4	270.0	0.0		
S6P34	20-Feb-25	319458.812	5753656.785	19.662	13-Mar-25	0.003	-0.002	-0.001	-15.6	120.5	0.2		
S6P35	20-Feb-25	319457.955	5753658.070	18.866	13-Mar-25	0.004	-0.002	0.000	-2.8	119.1	0.2		
S6P36	27-Feb-25	319460.138	5753656.446	25.933	13-Mar-25	0.003	-0.002	0.000	4.9	124.6	0.3		

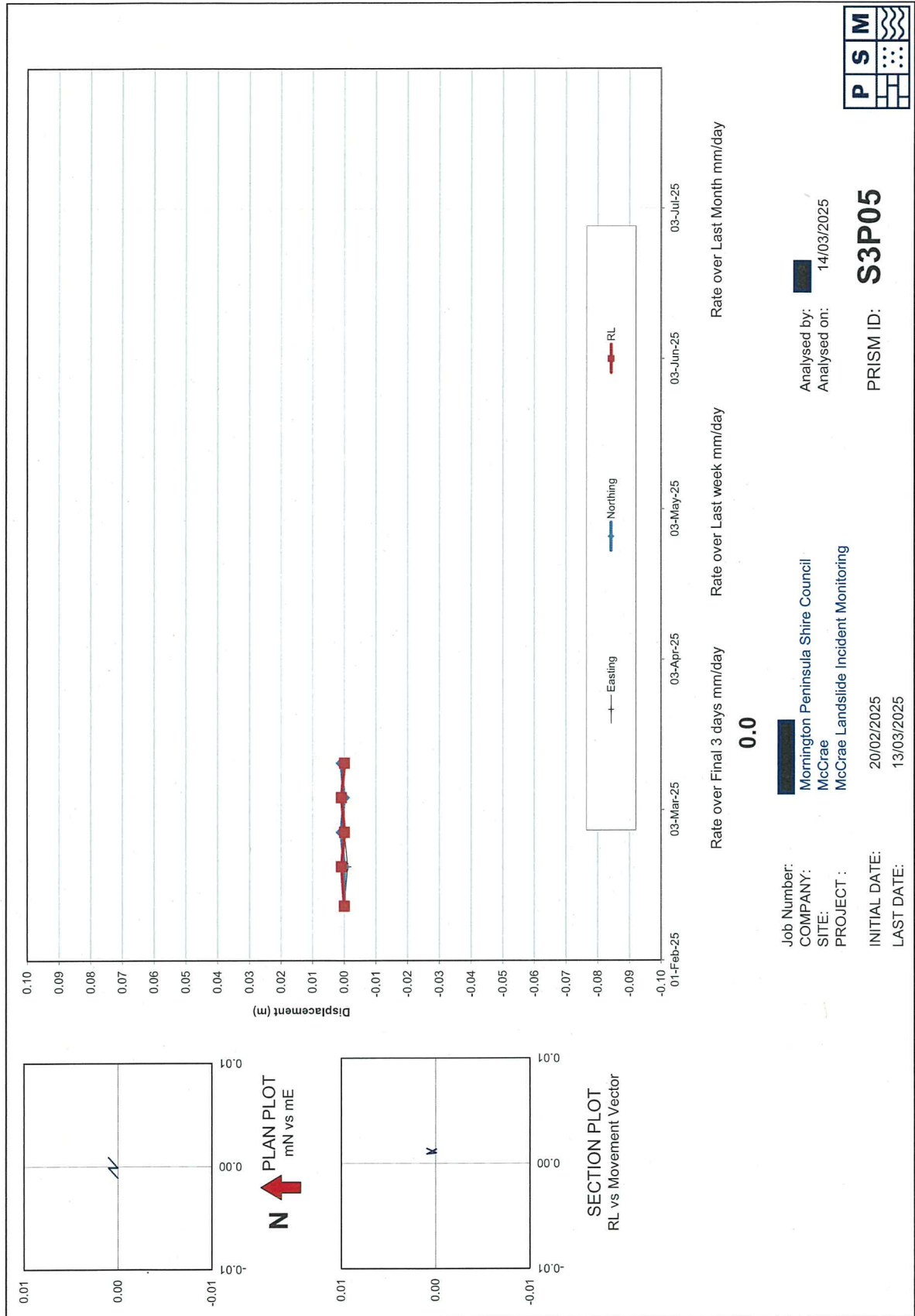


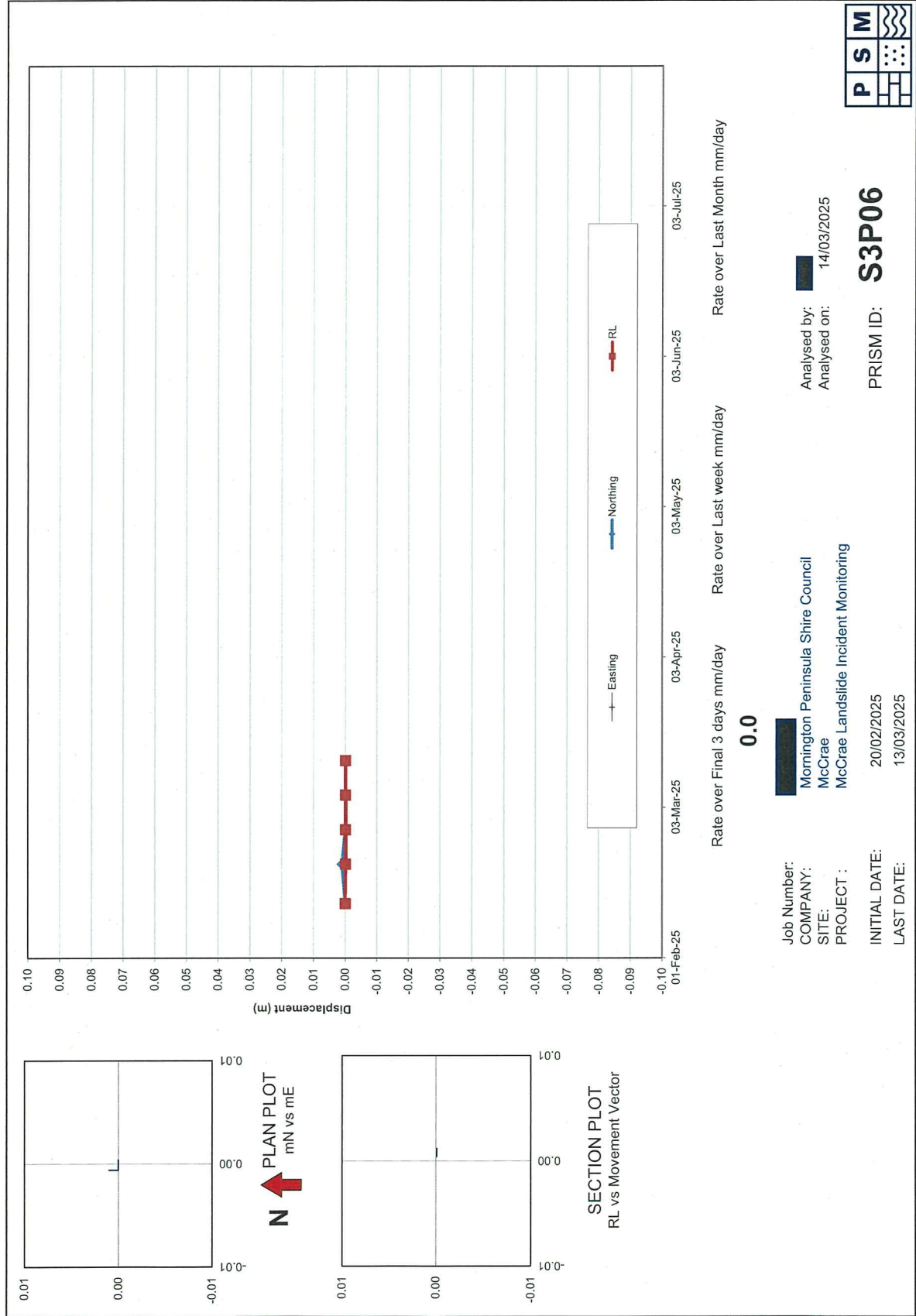
Survey prism monitoring plots

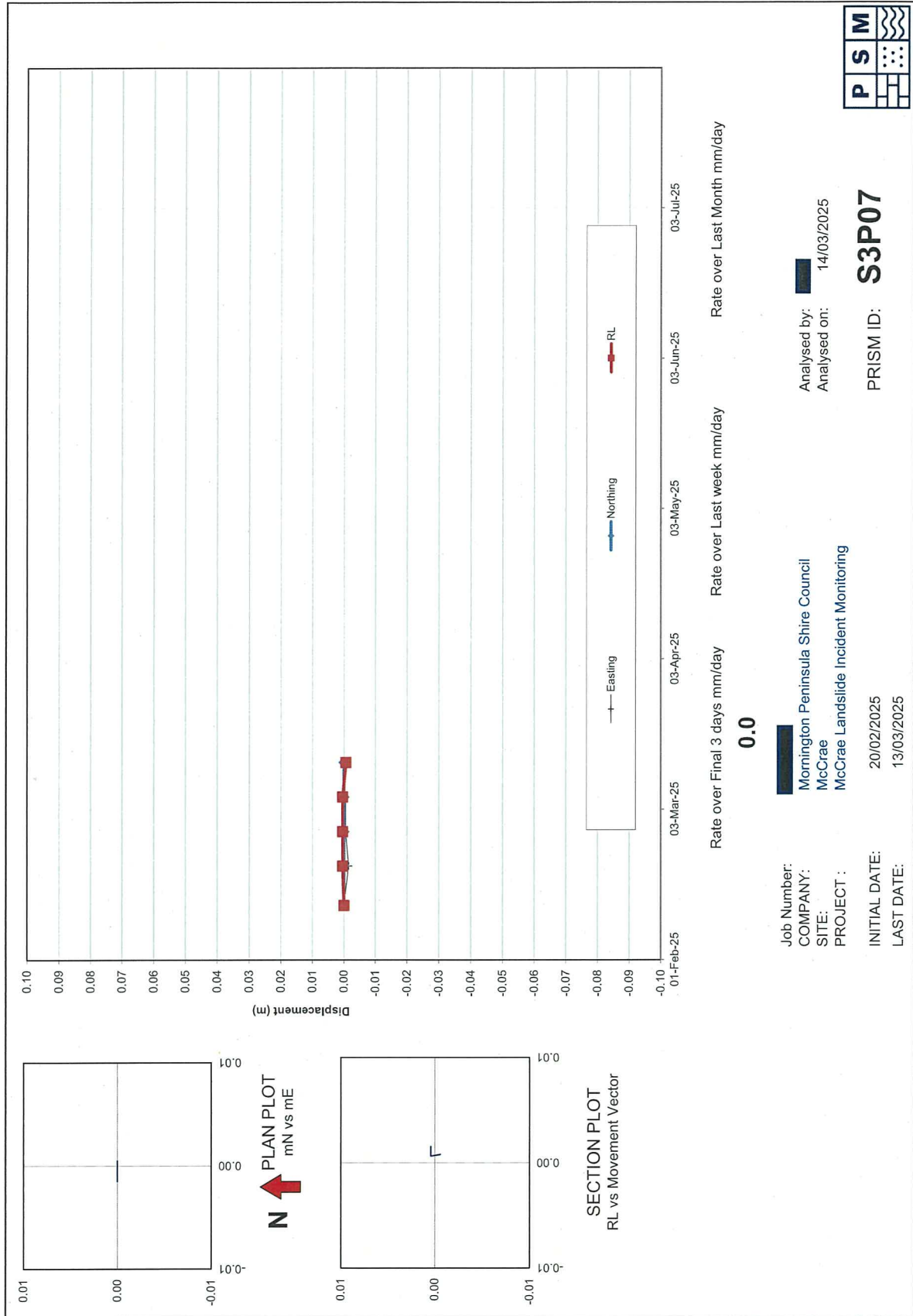


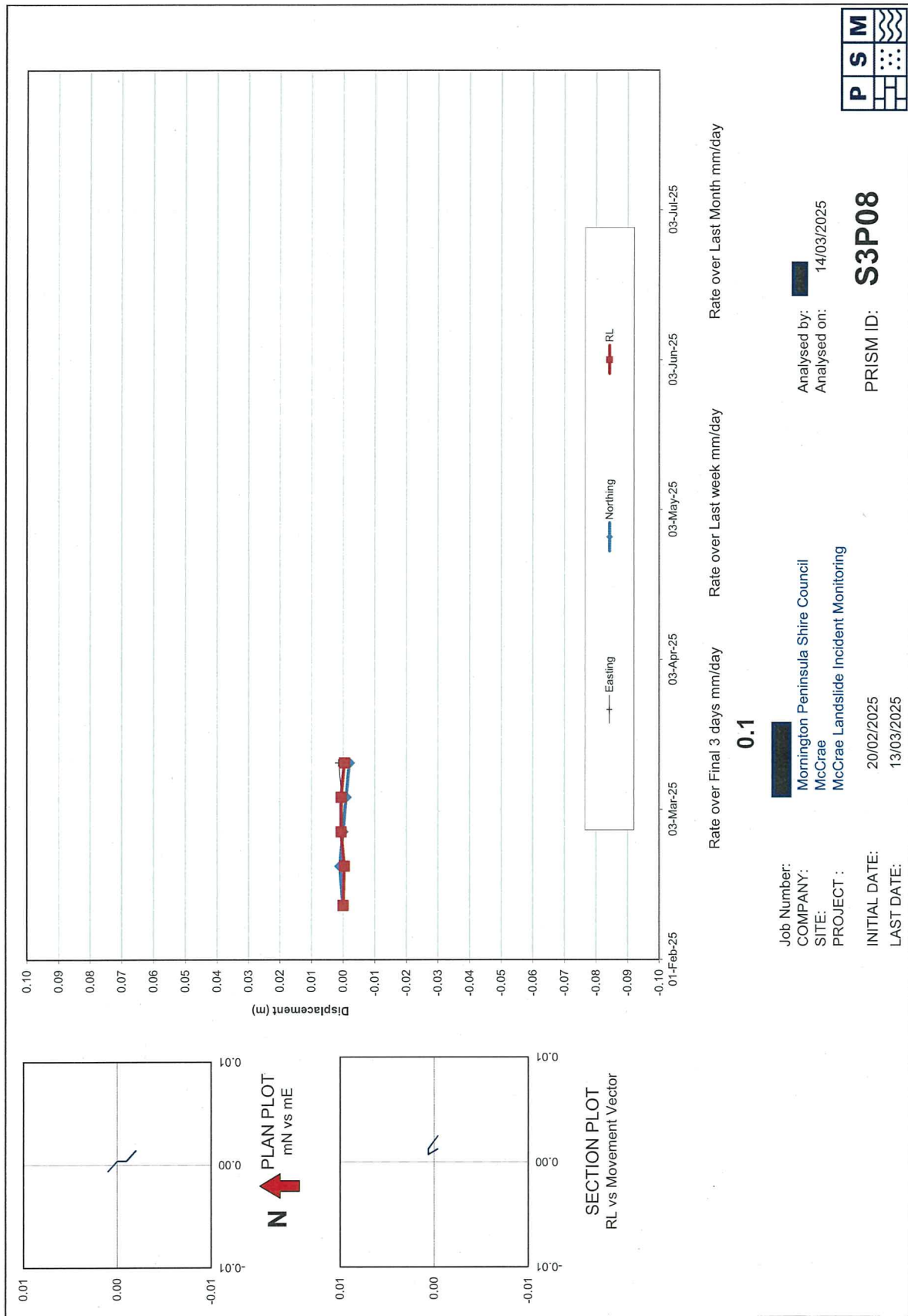


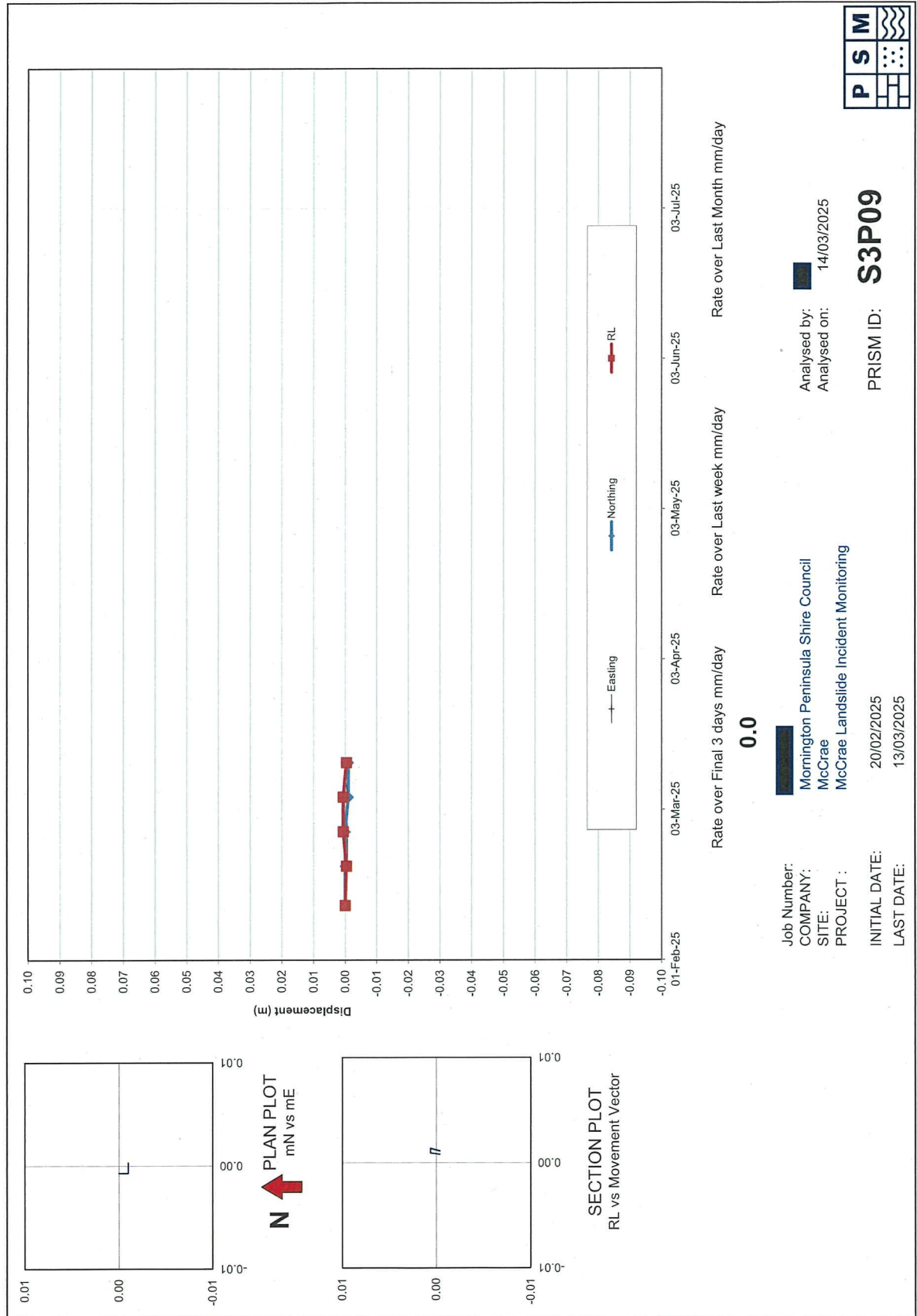


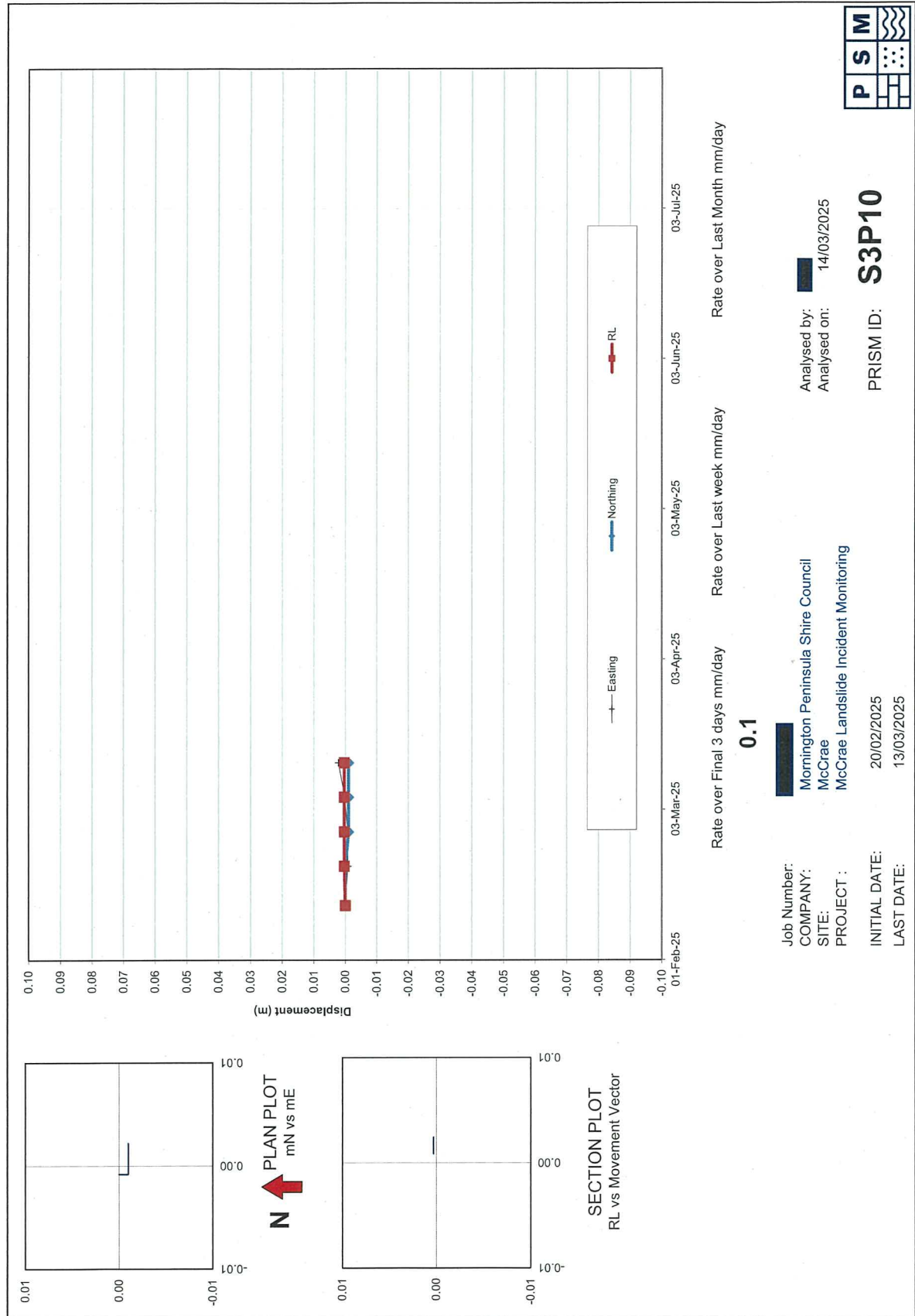


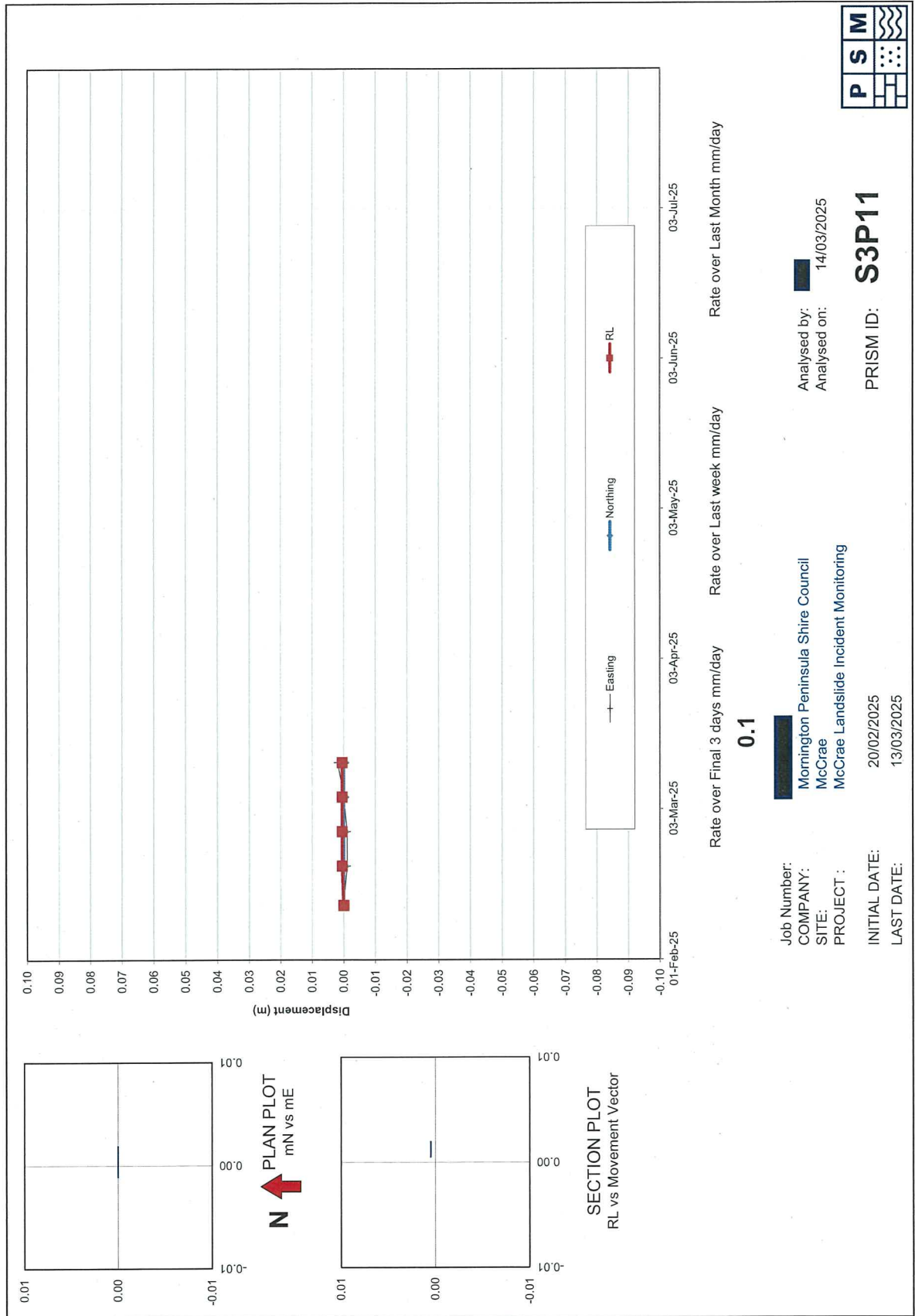


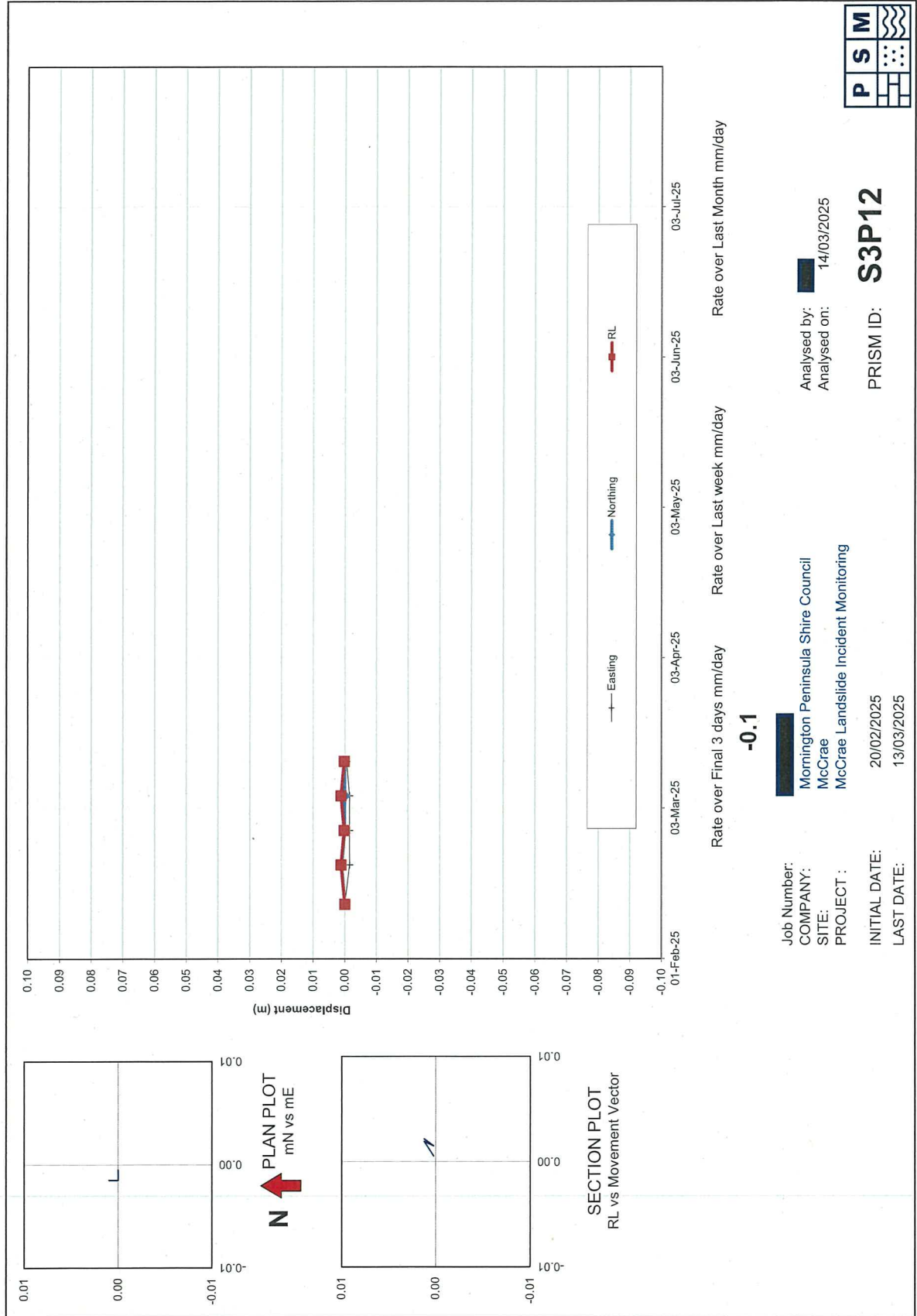




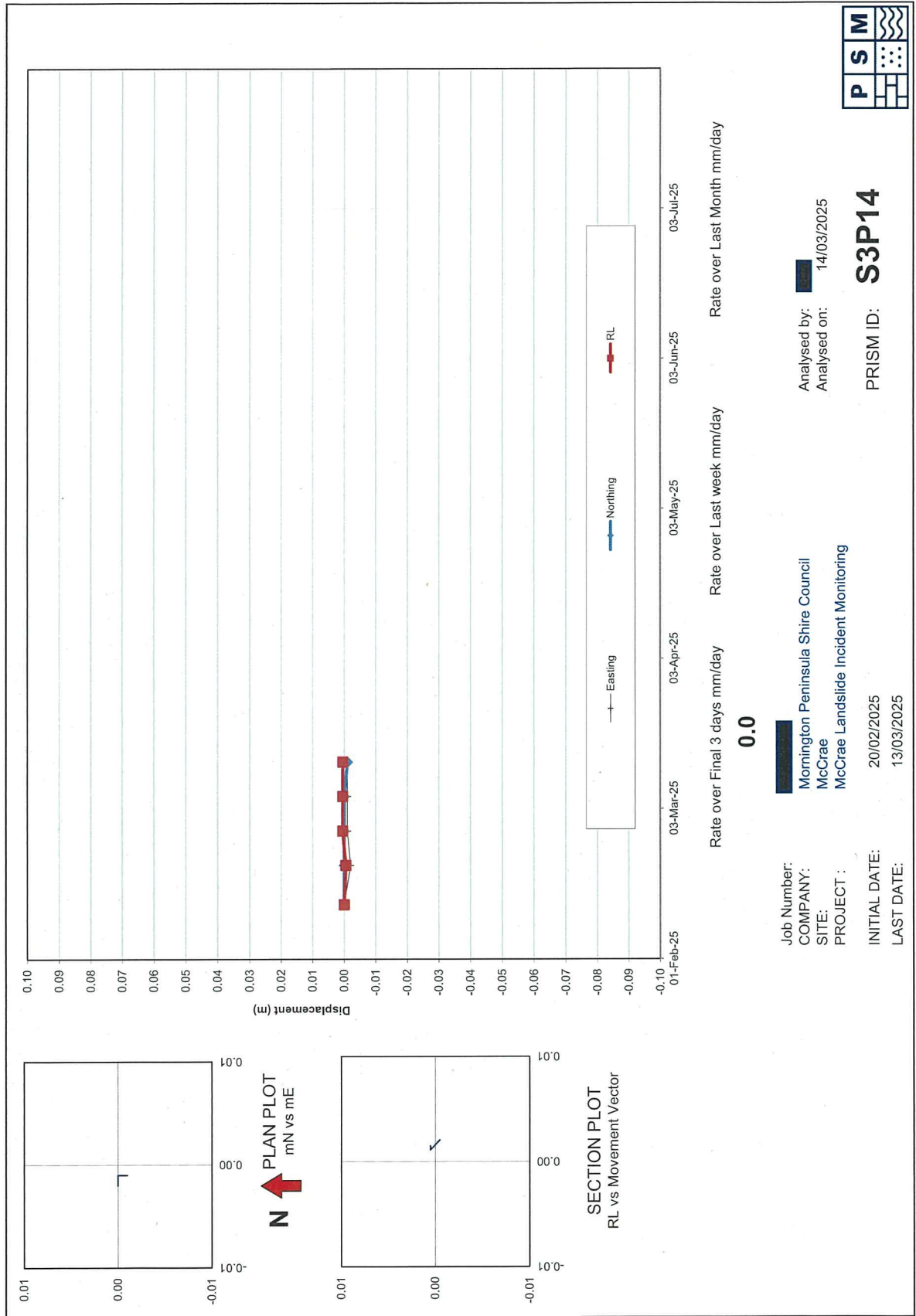


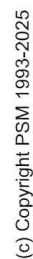


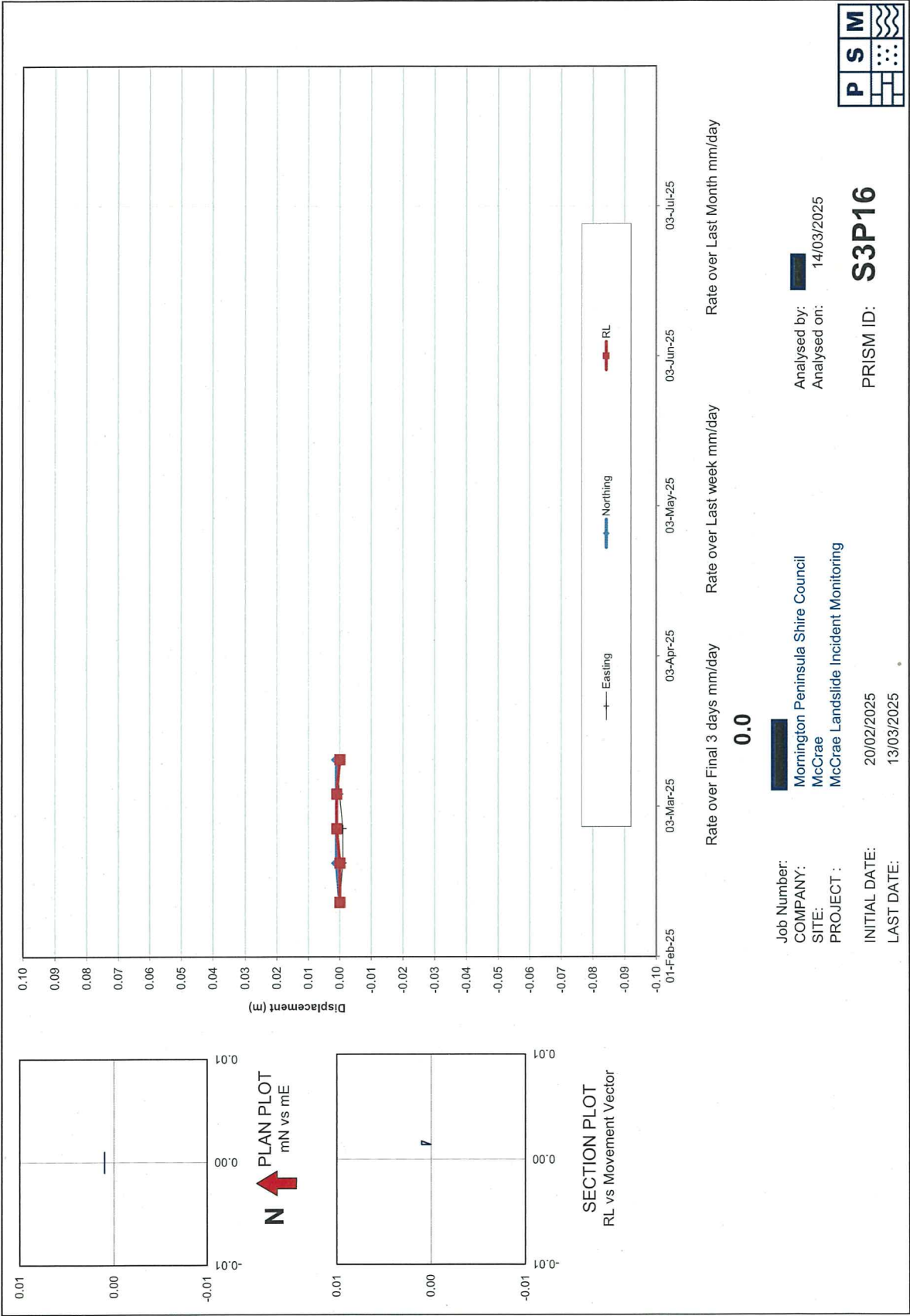


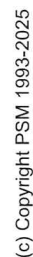


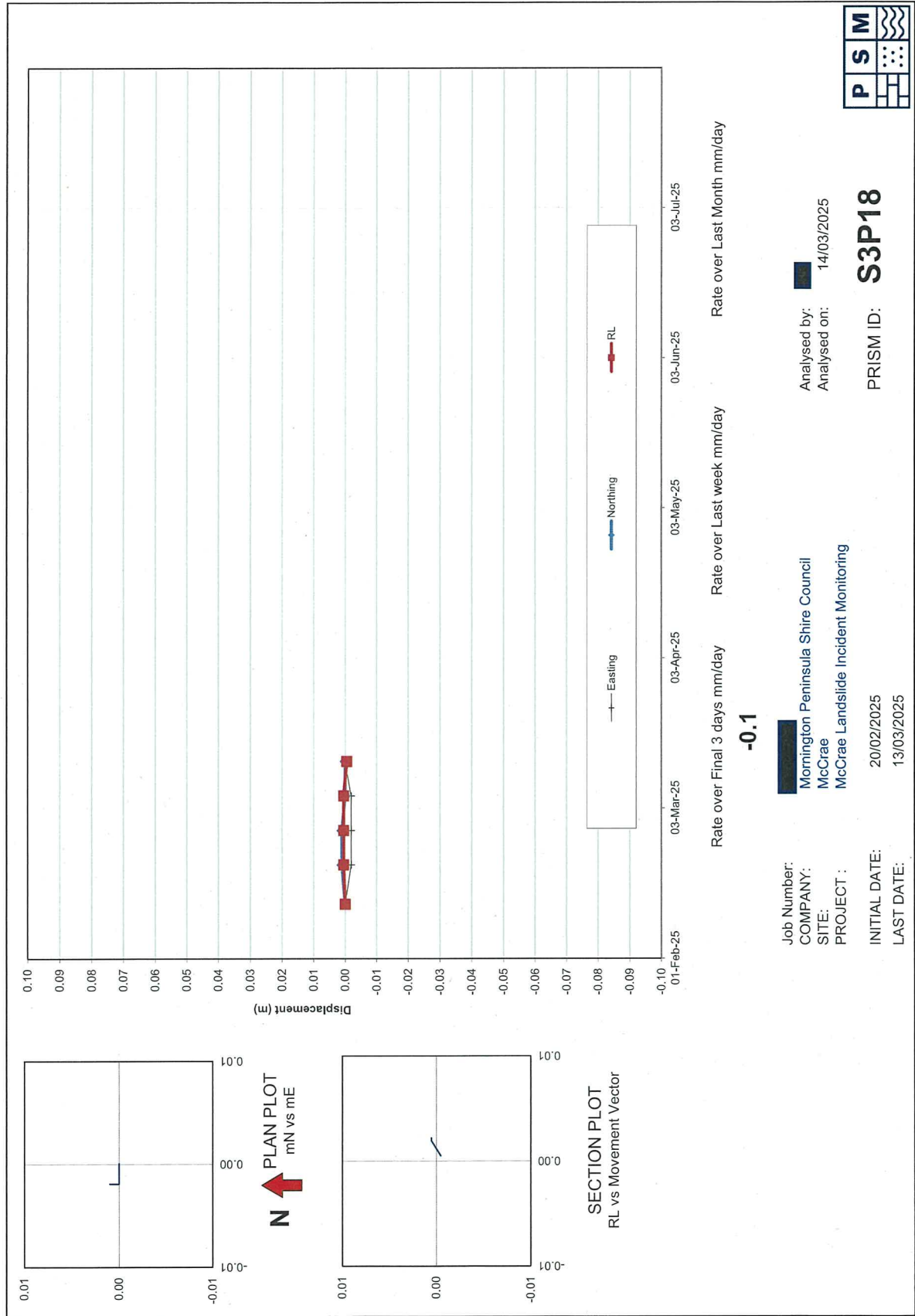


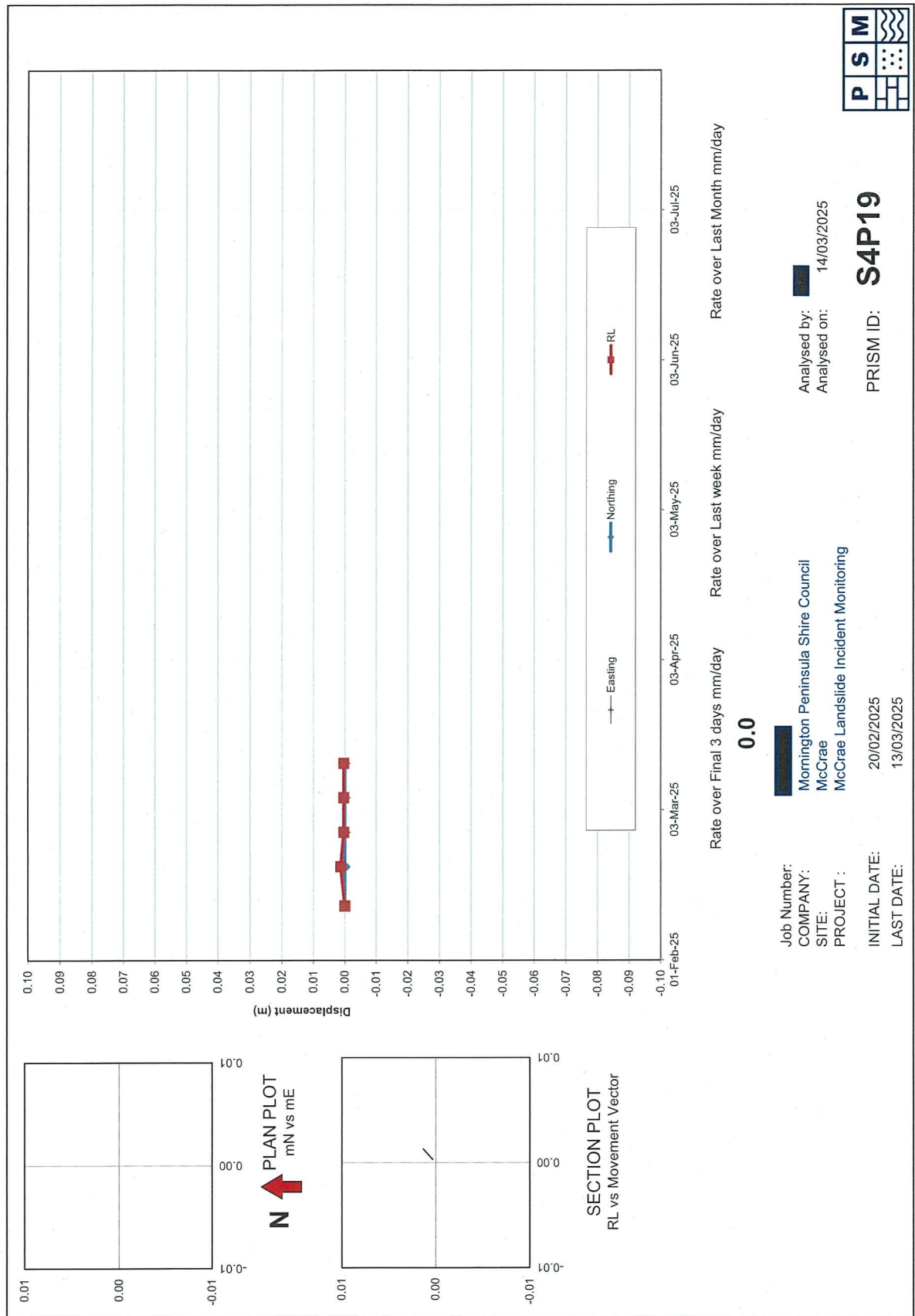


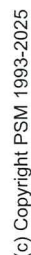


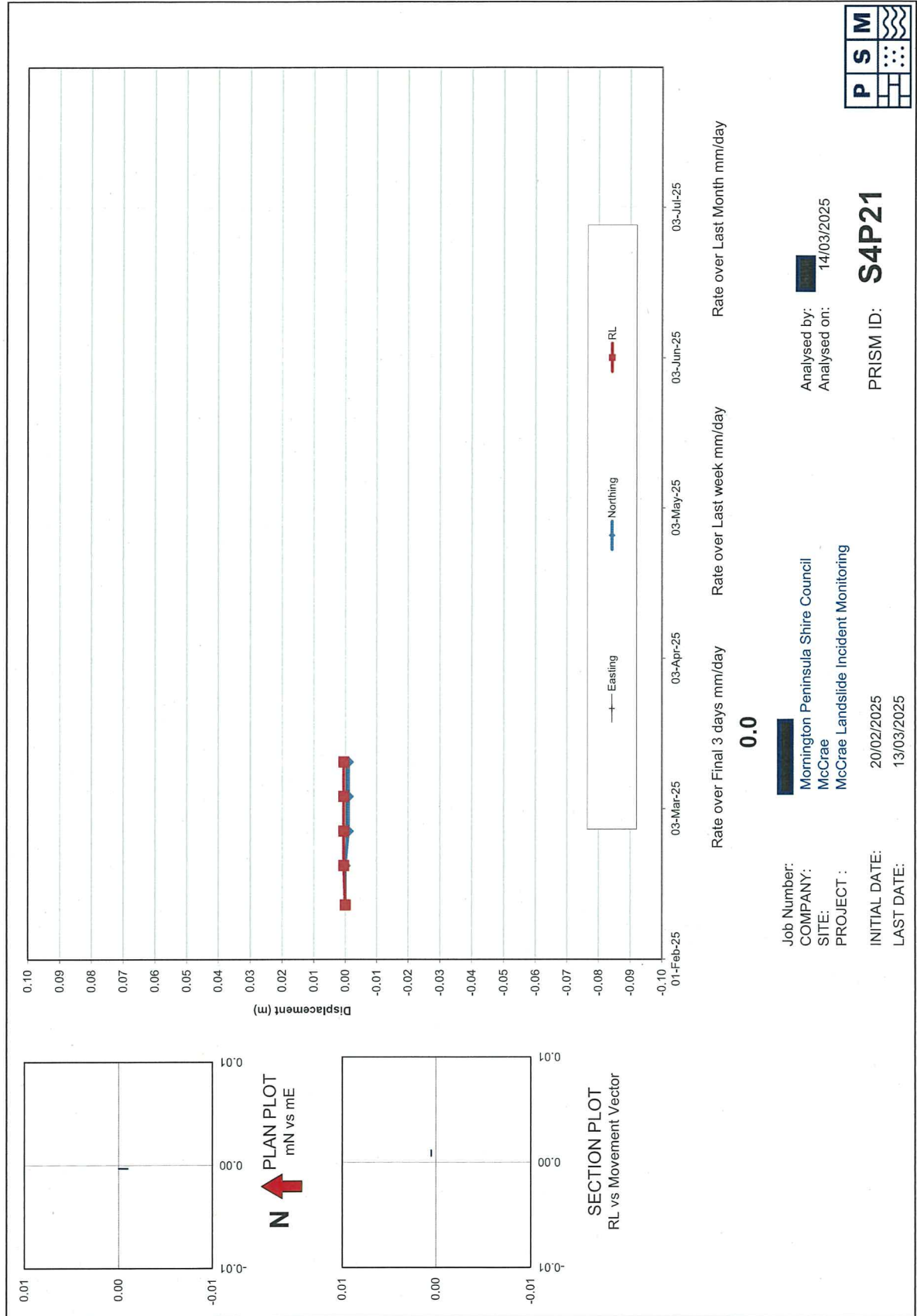


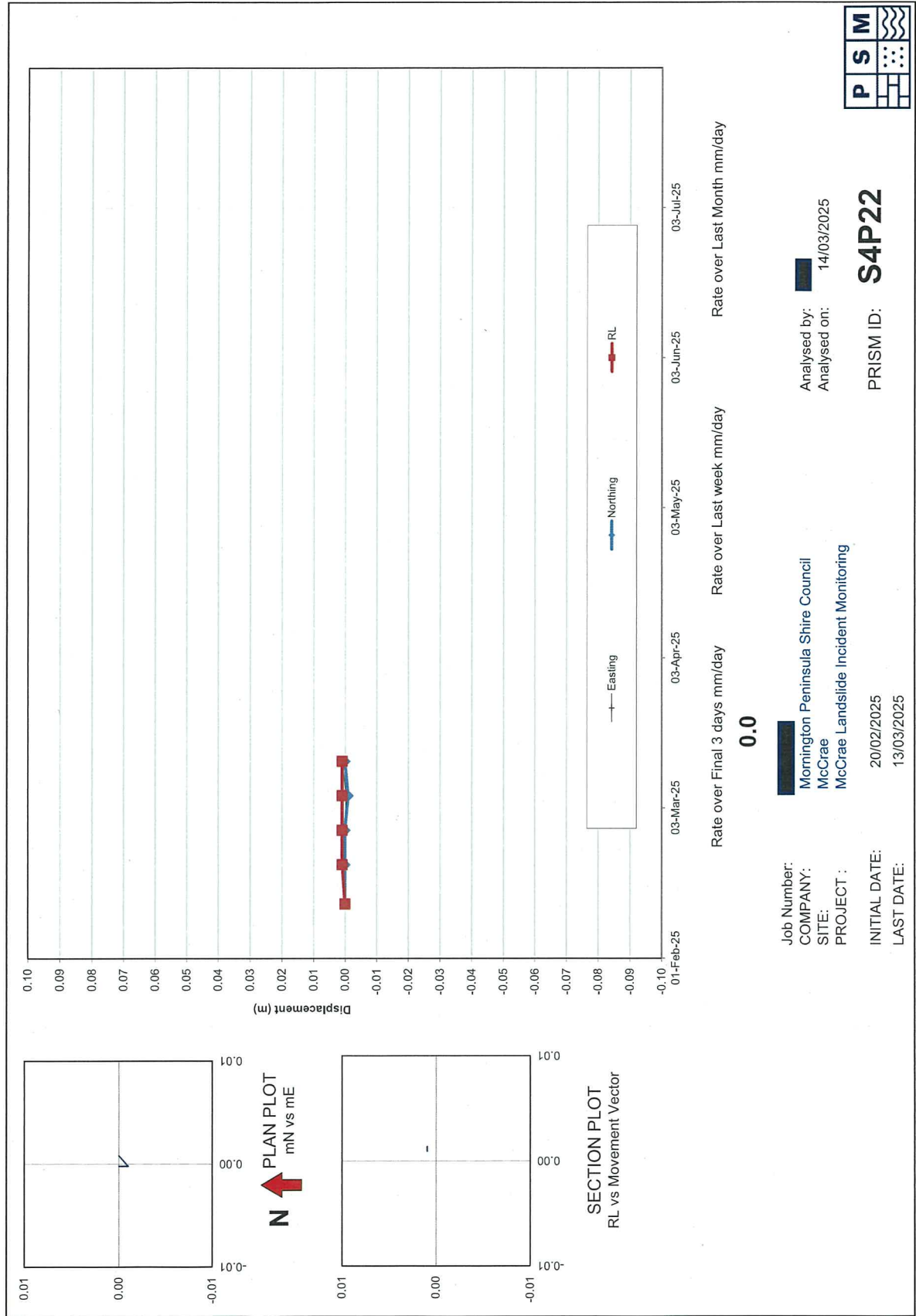


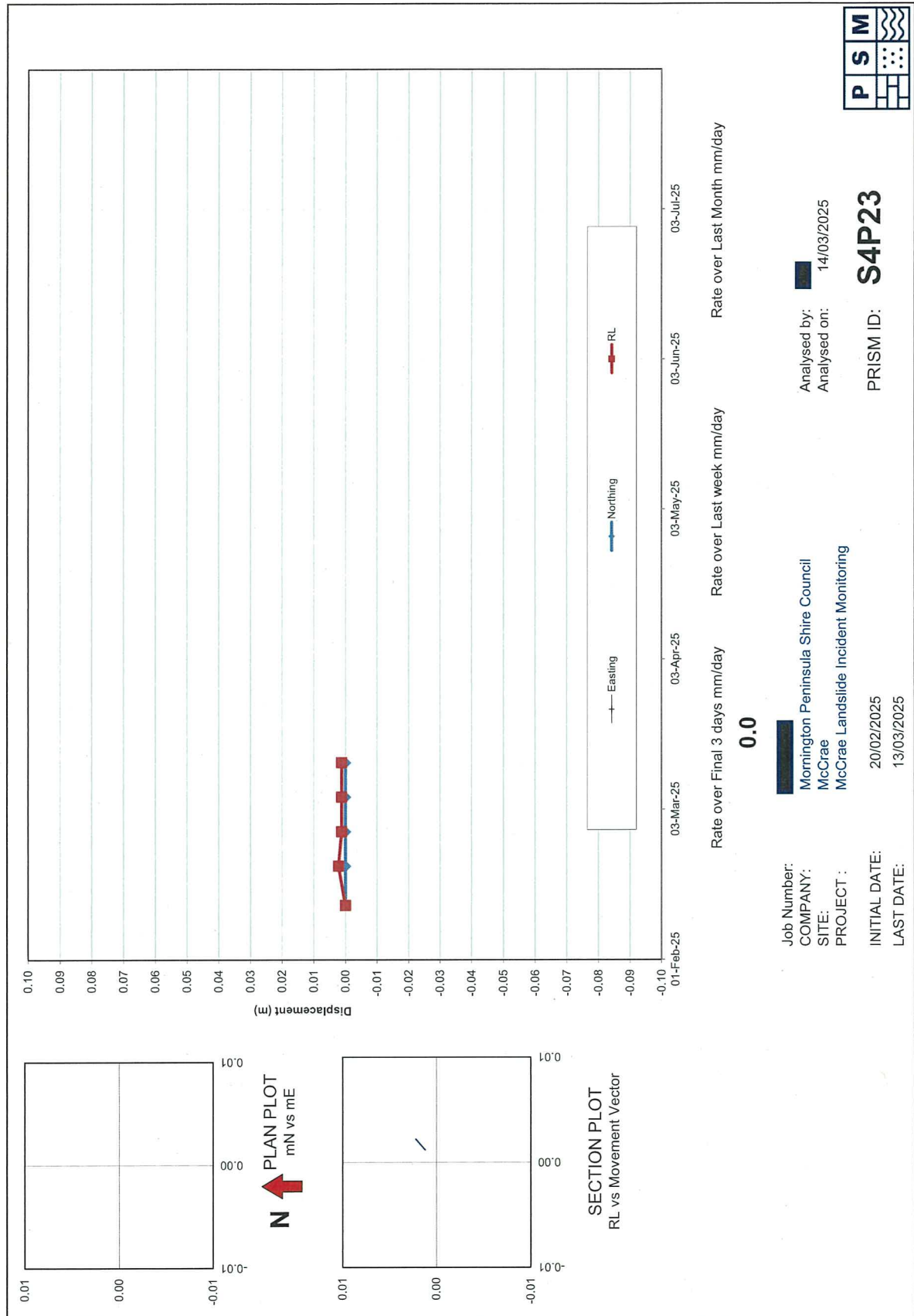




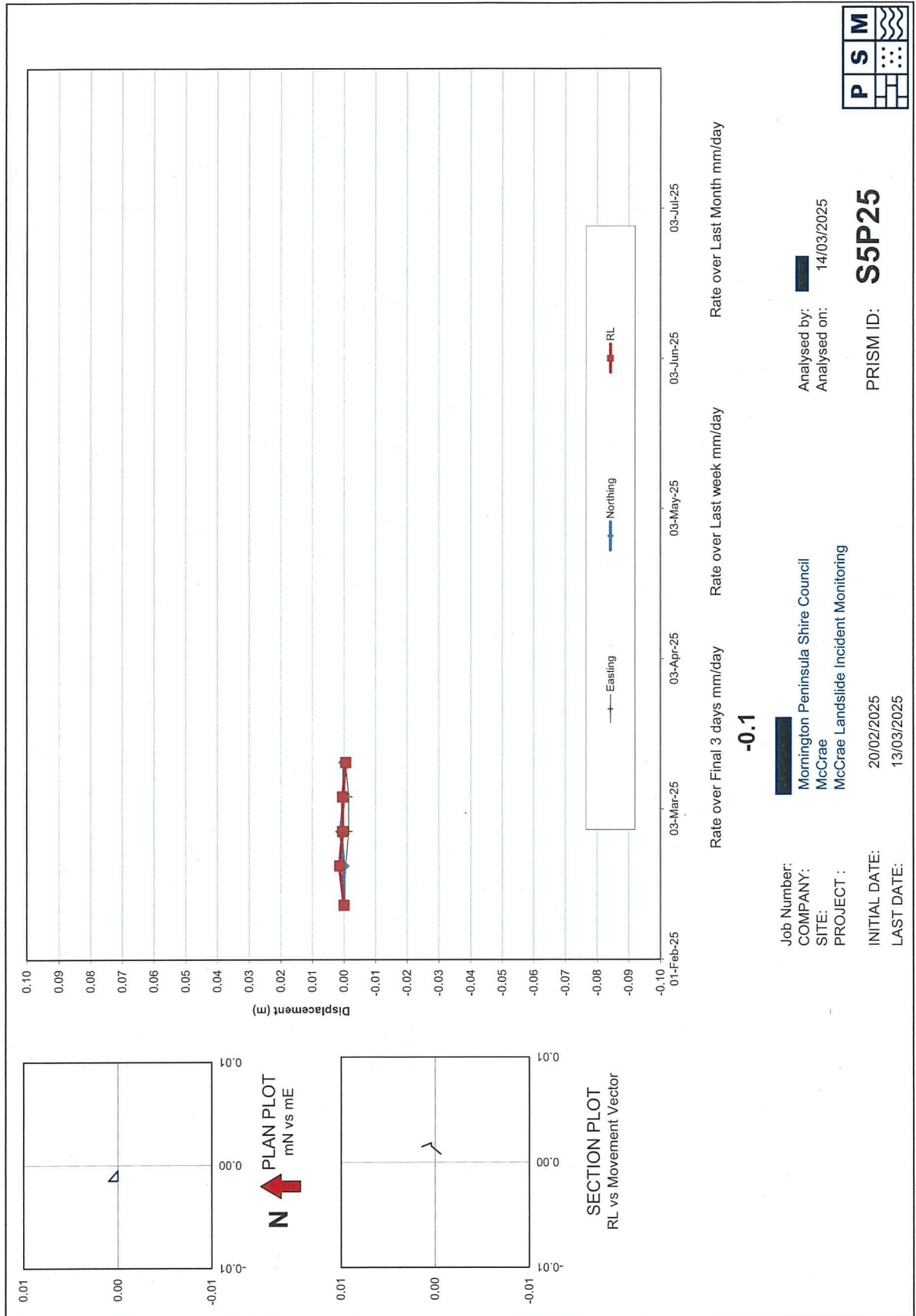


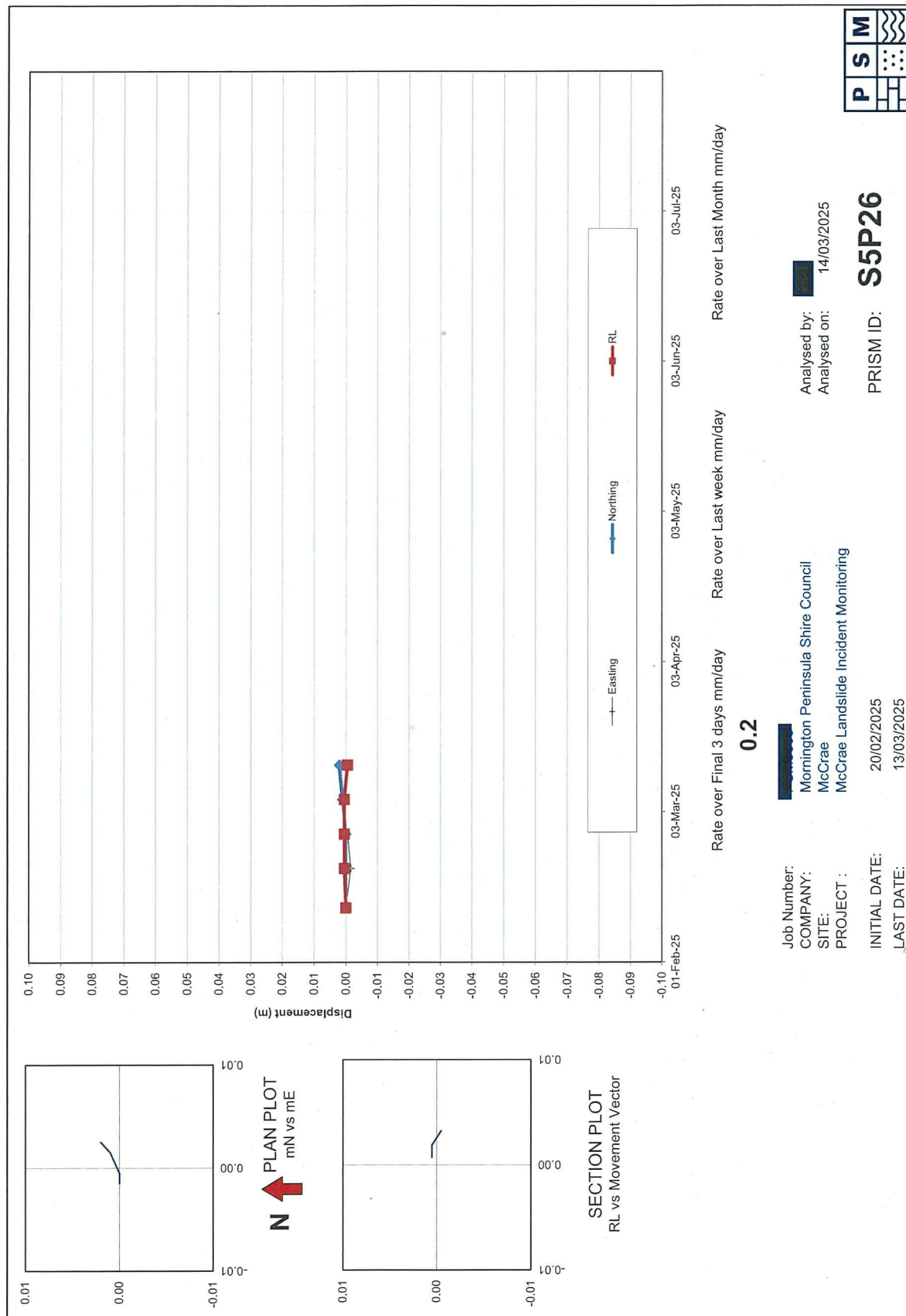


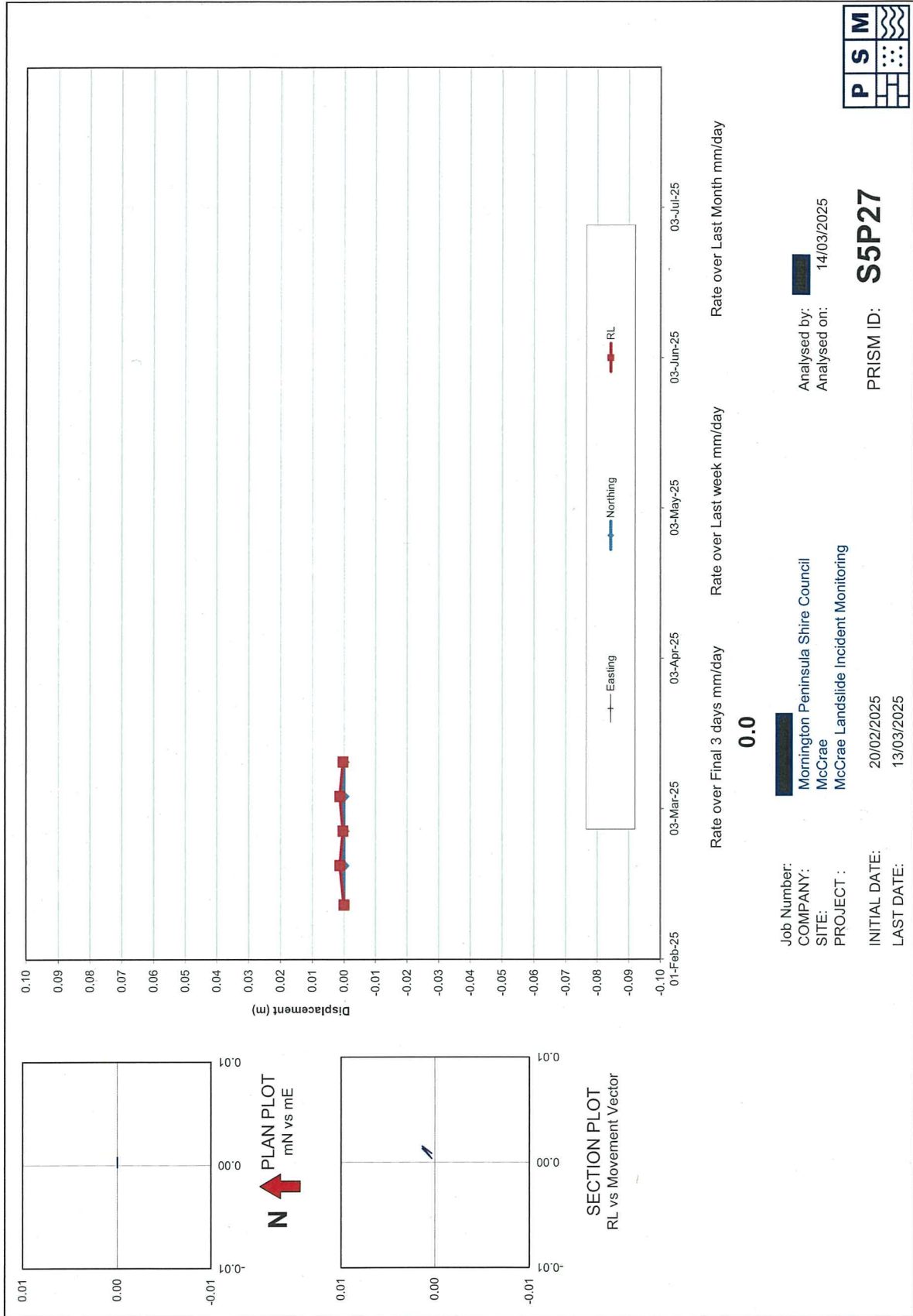


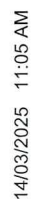


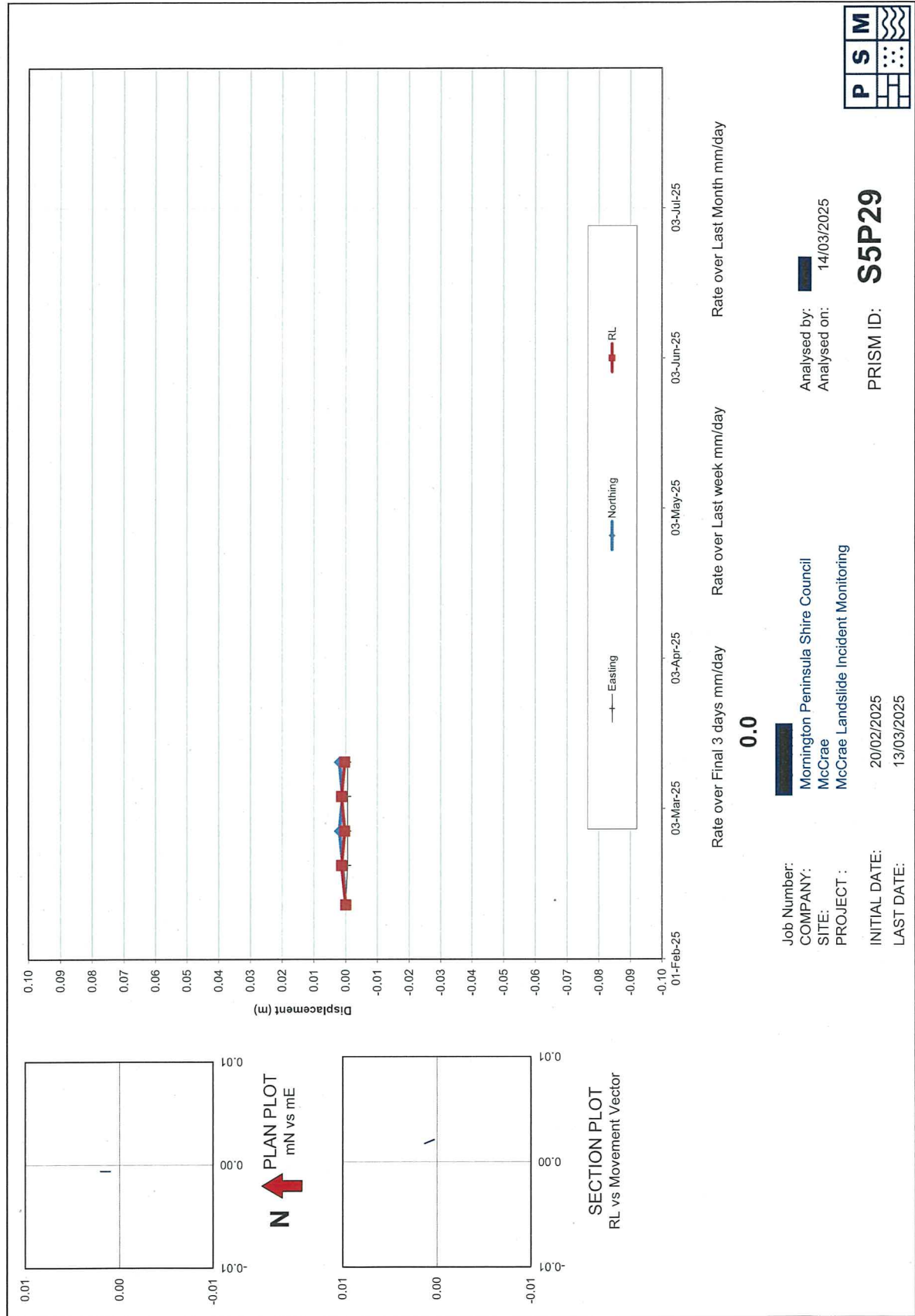


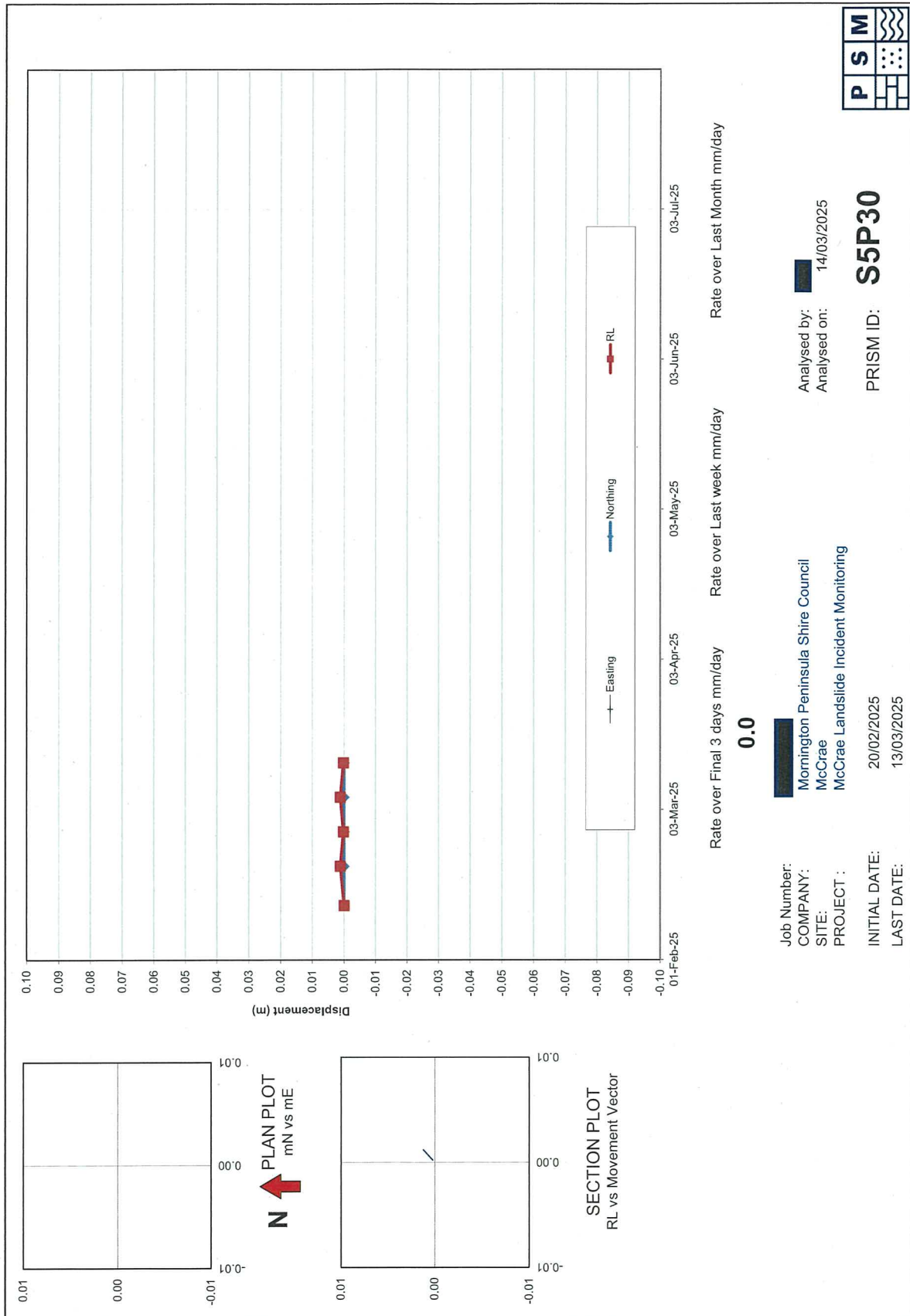


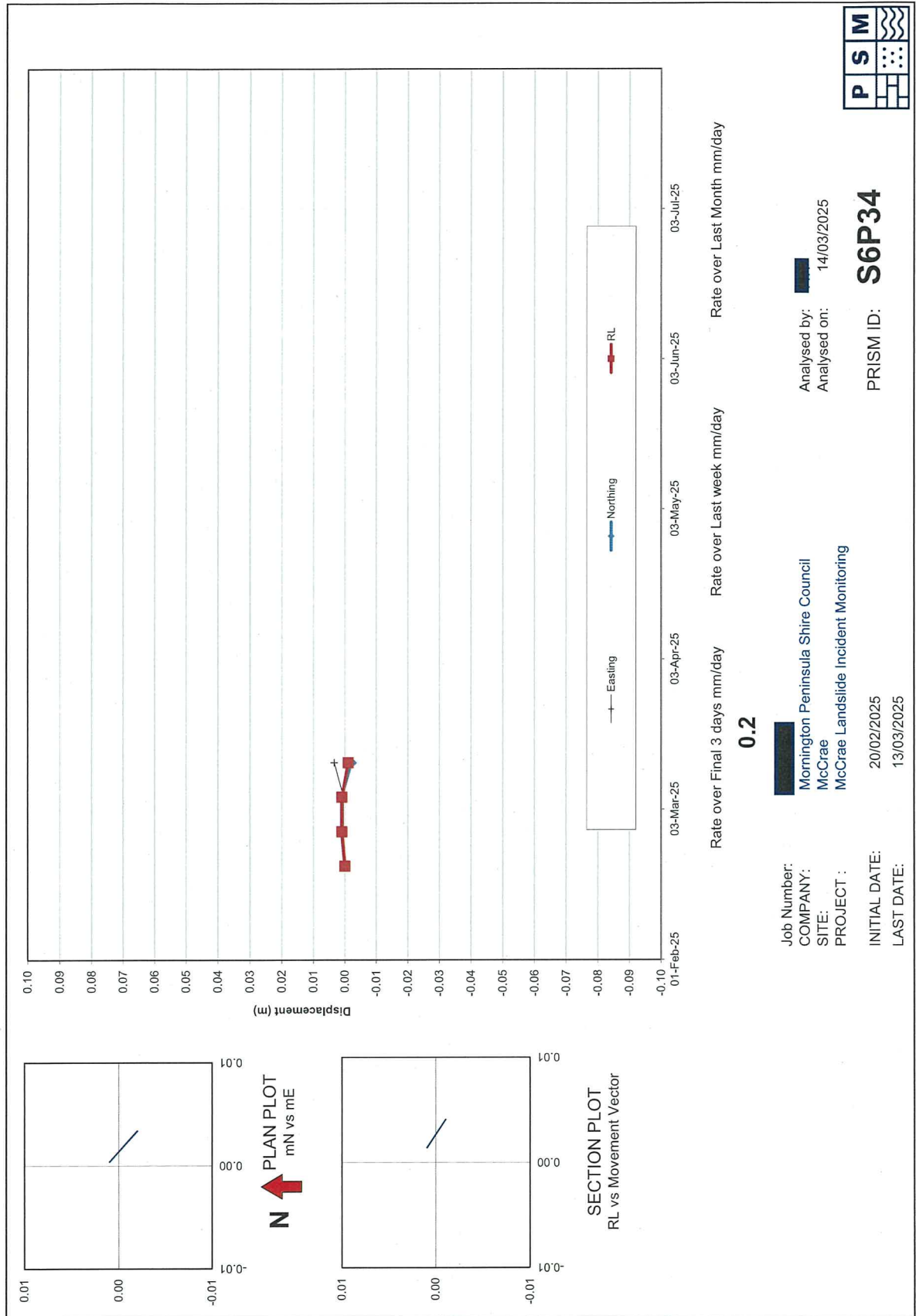


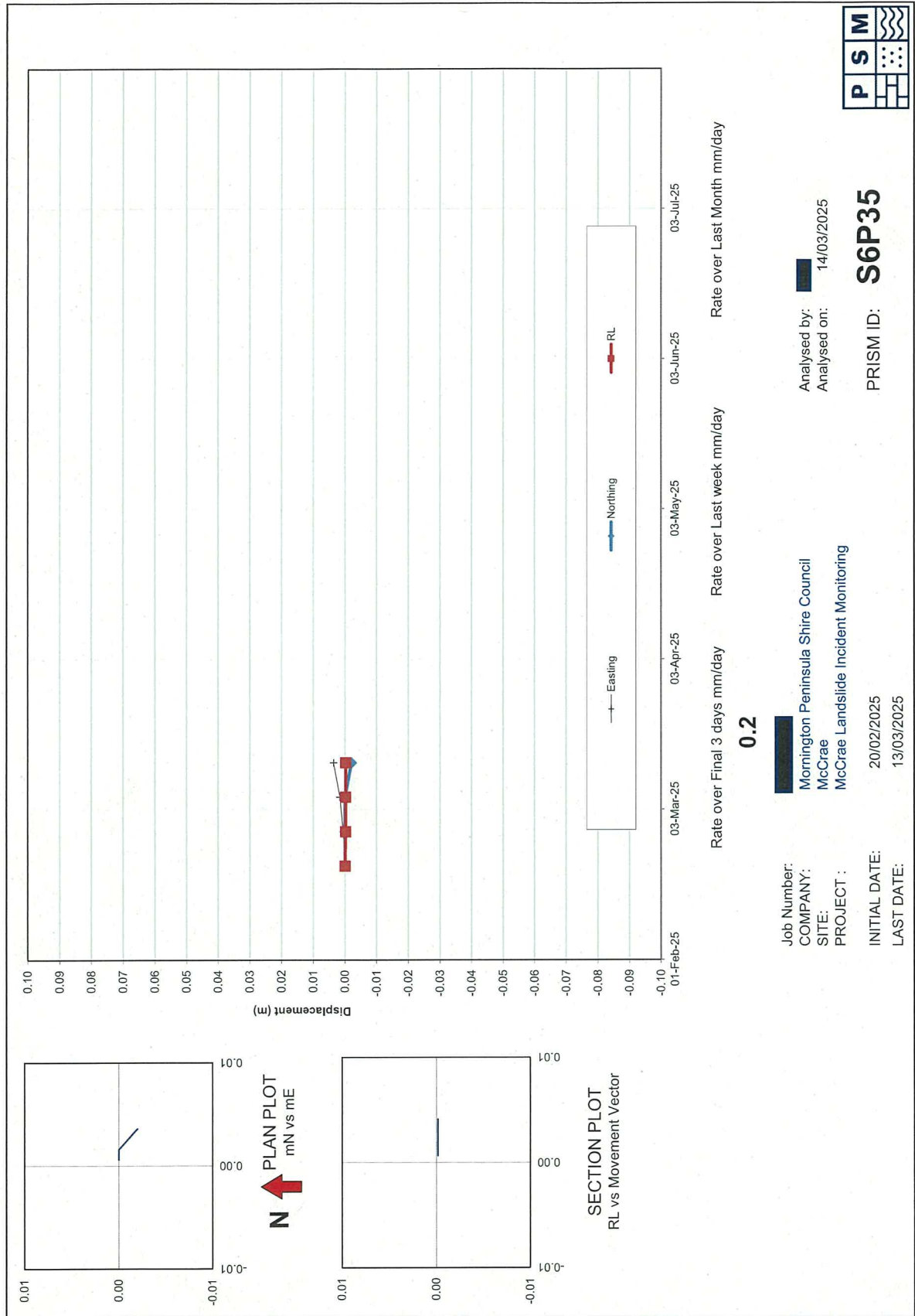


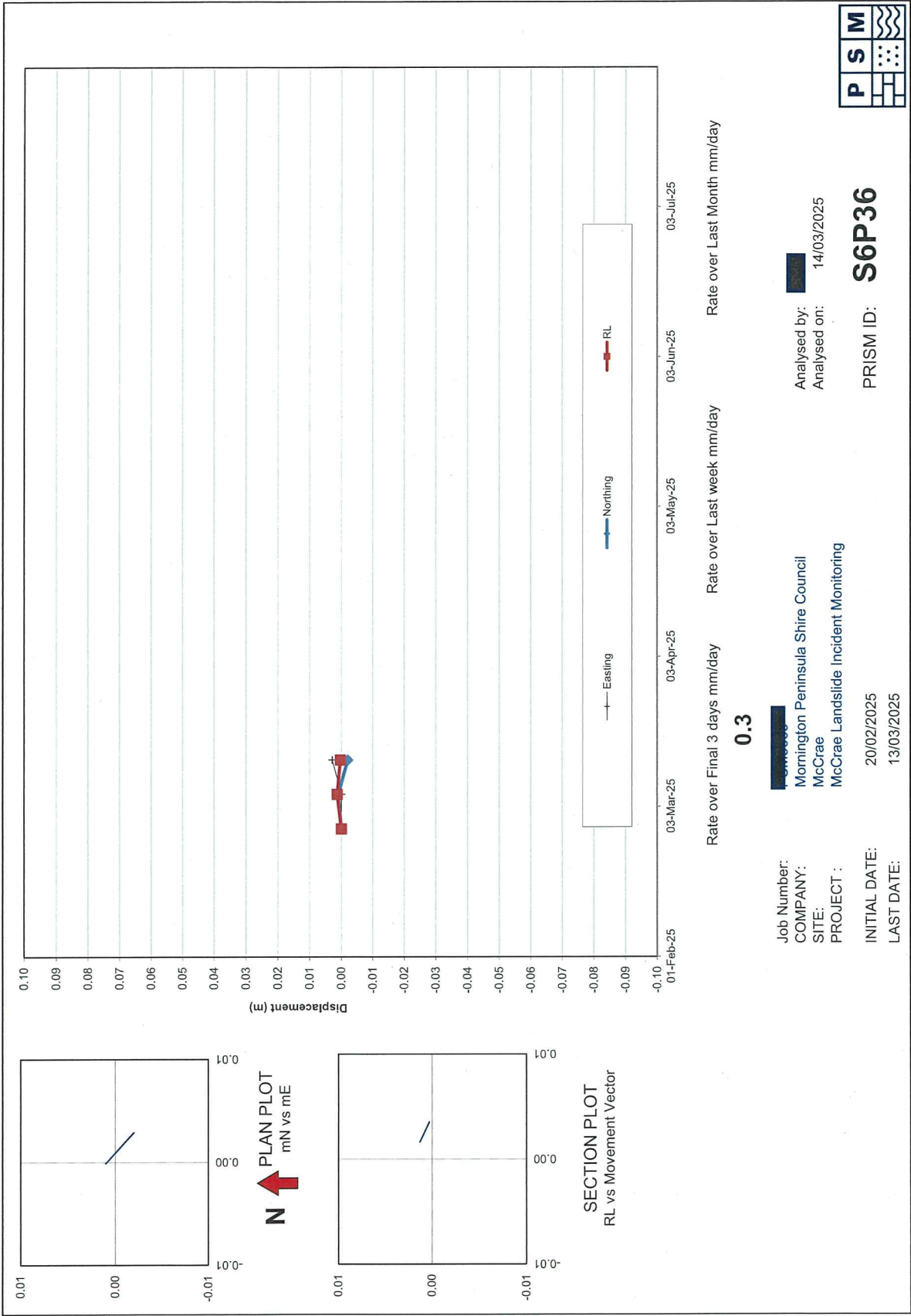






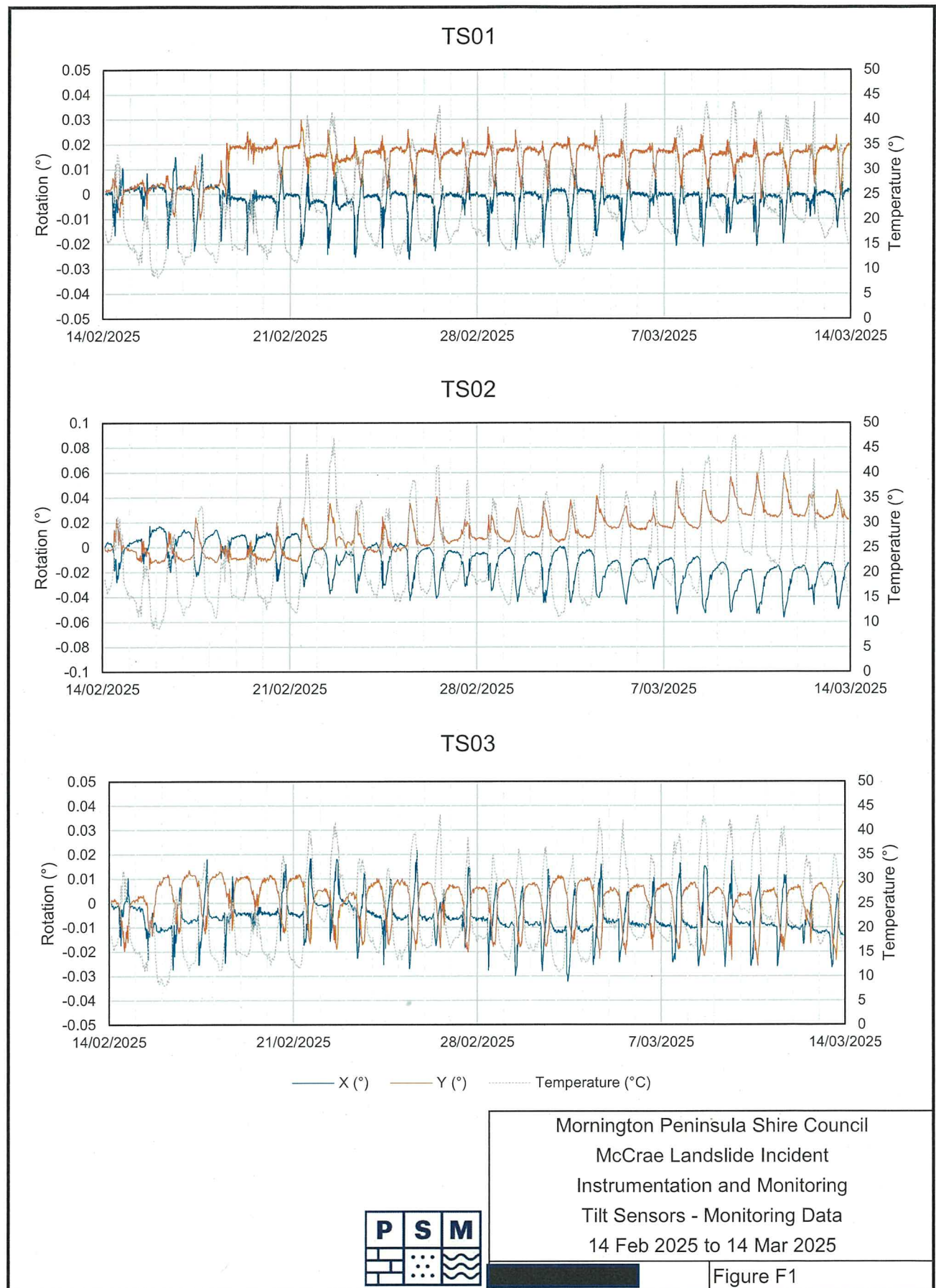


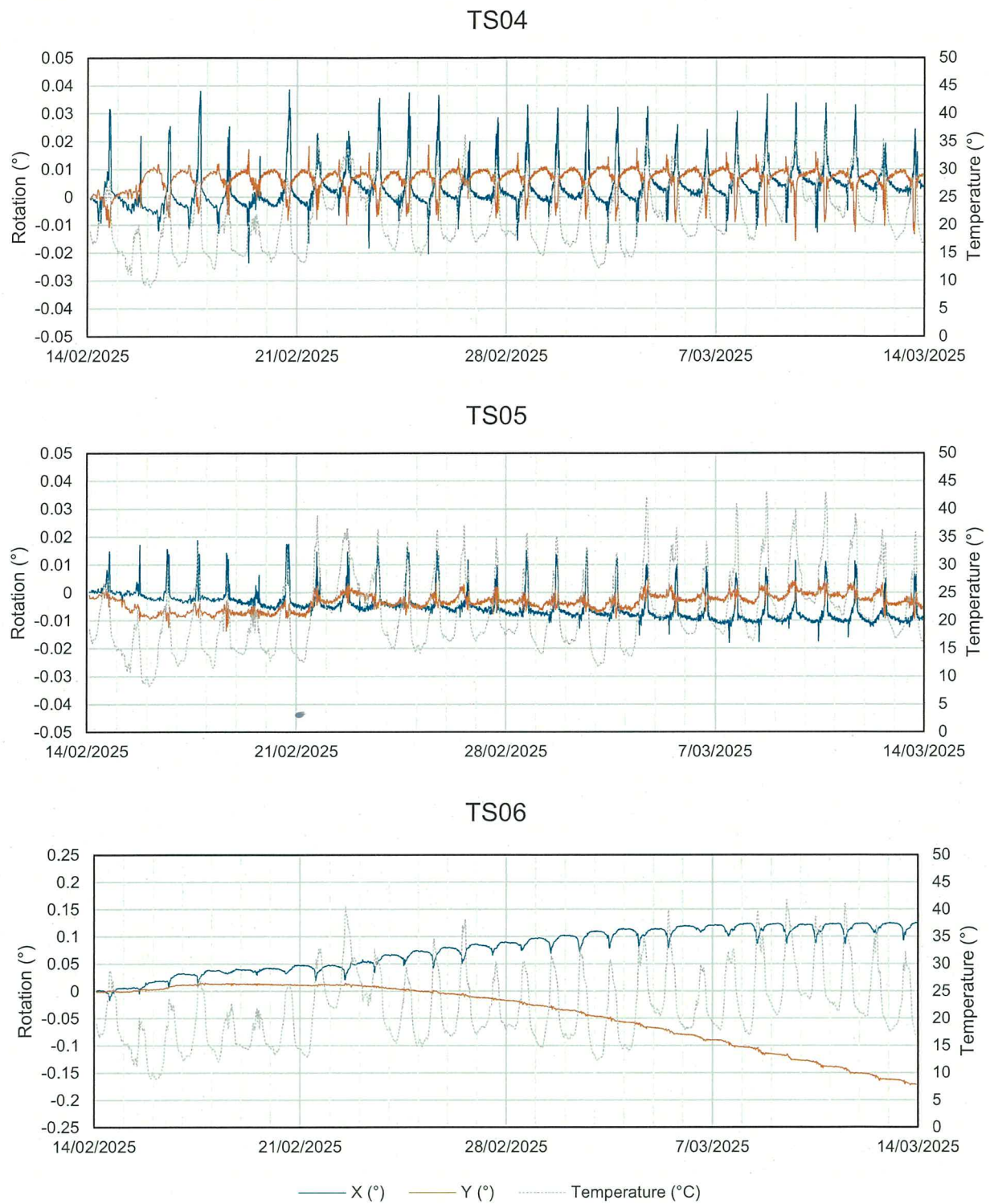






Tilt sensor monitoring plots

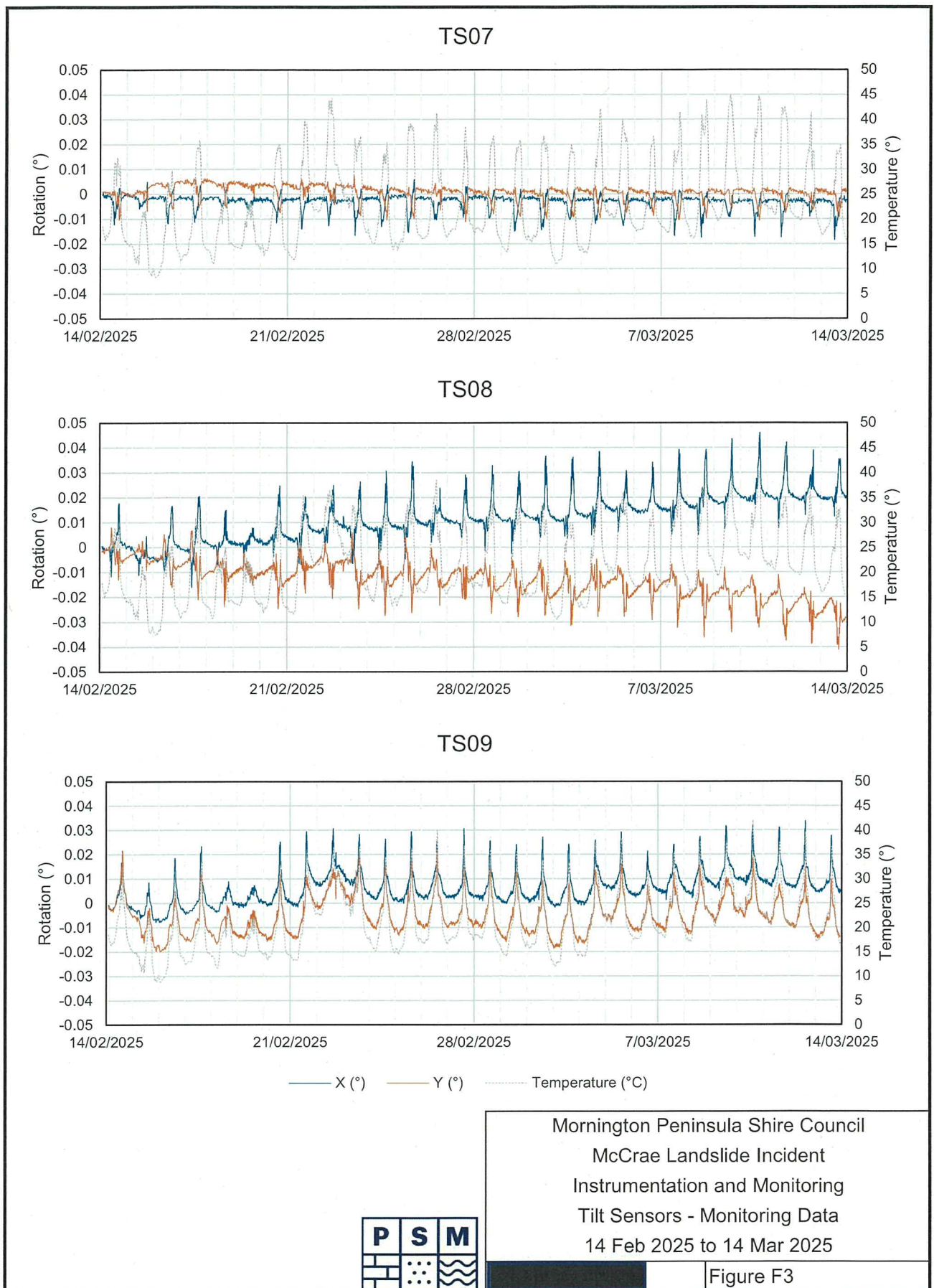


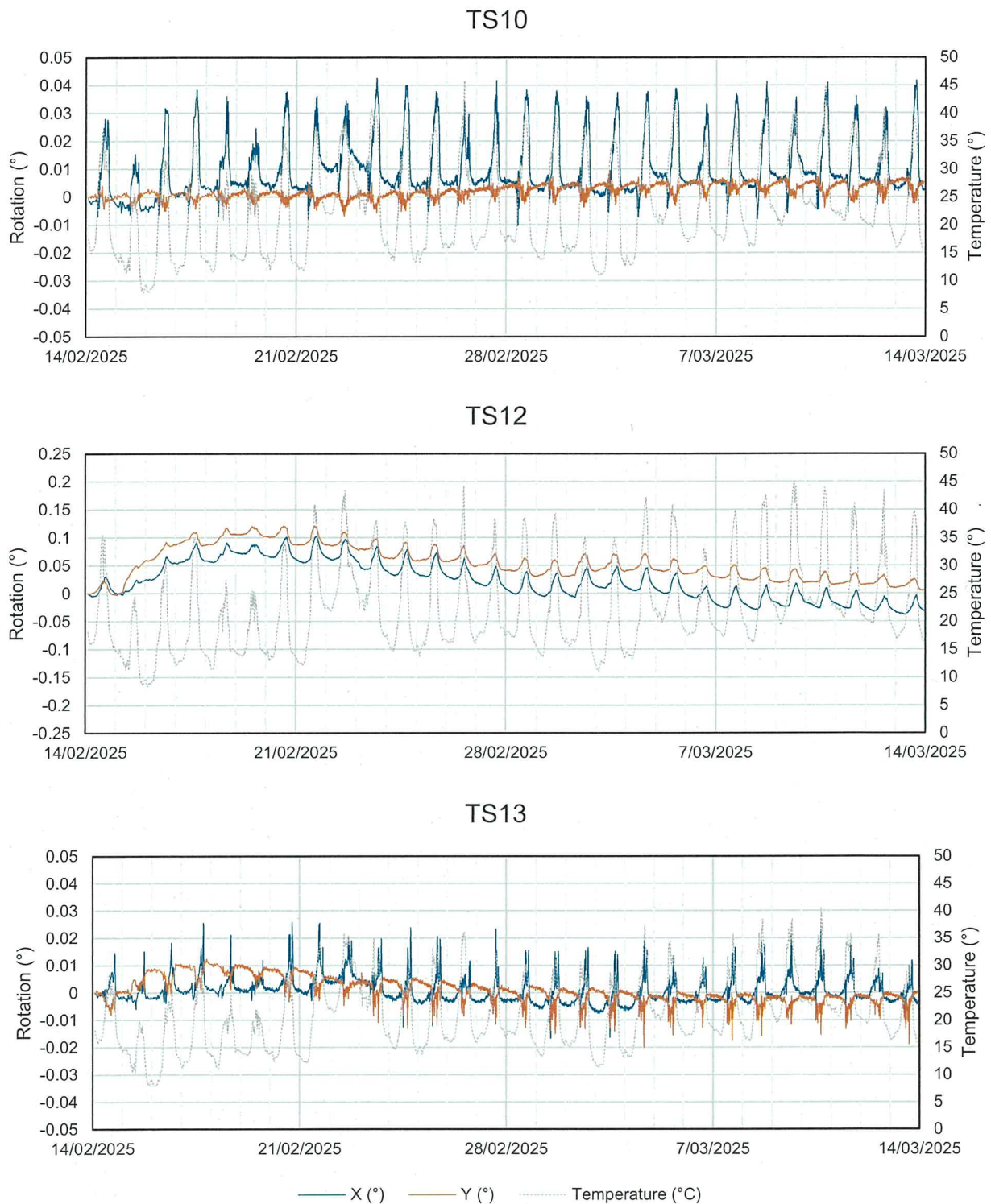


Mornington Peninsula Shire Council
 McCrae Landslide Incident
 Instrumentation and Monitoring
 Tilt Sensors - Monitoring Data
 14 Feb 2025 to 14 Mar 2025



Figure F2





Mornington Peninsula Shire Council

McCrae Landslide Incident

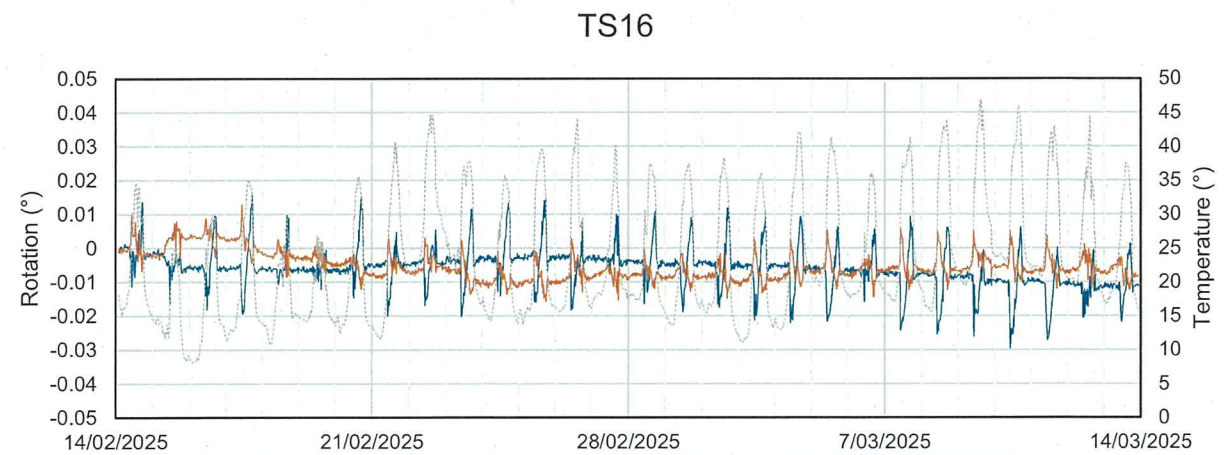
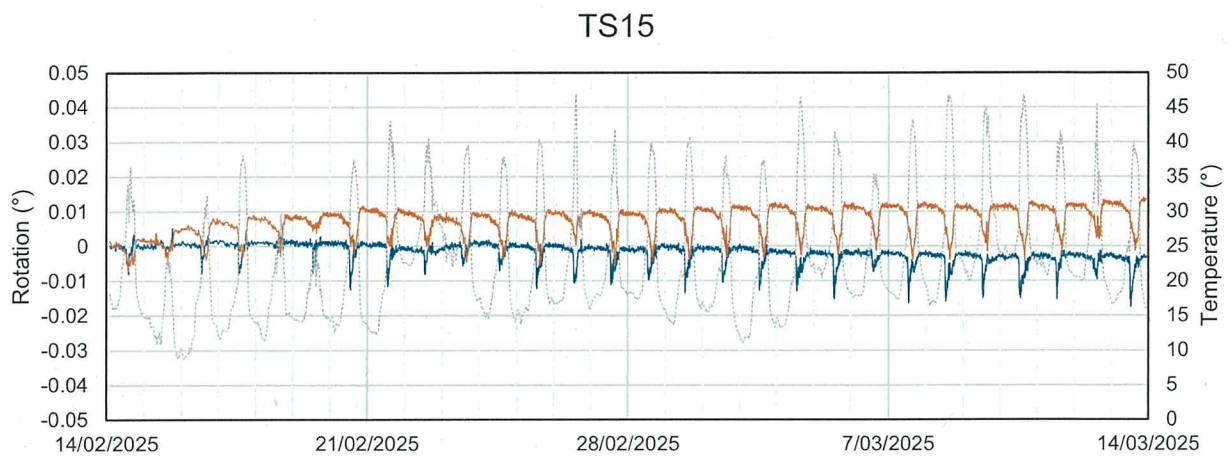
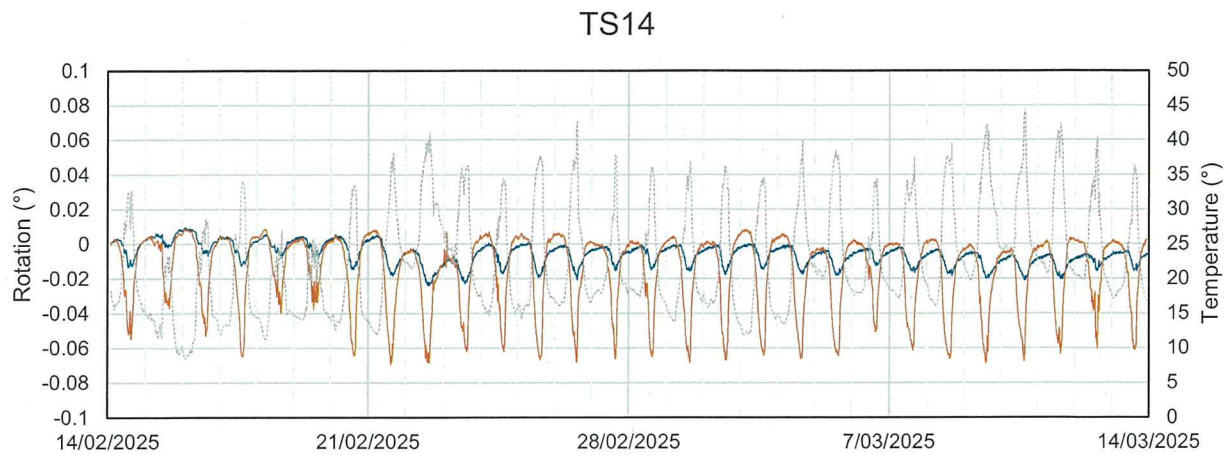
Instrumentation and Monitoring

Tilt Sensors - Monitoring Data

14 Feb 2025 to 14 Mar 2025



Figure F4

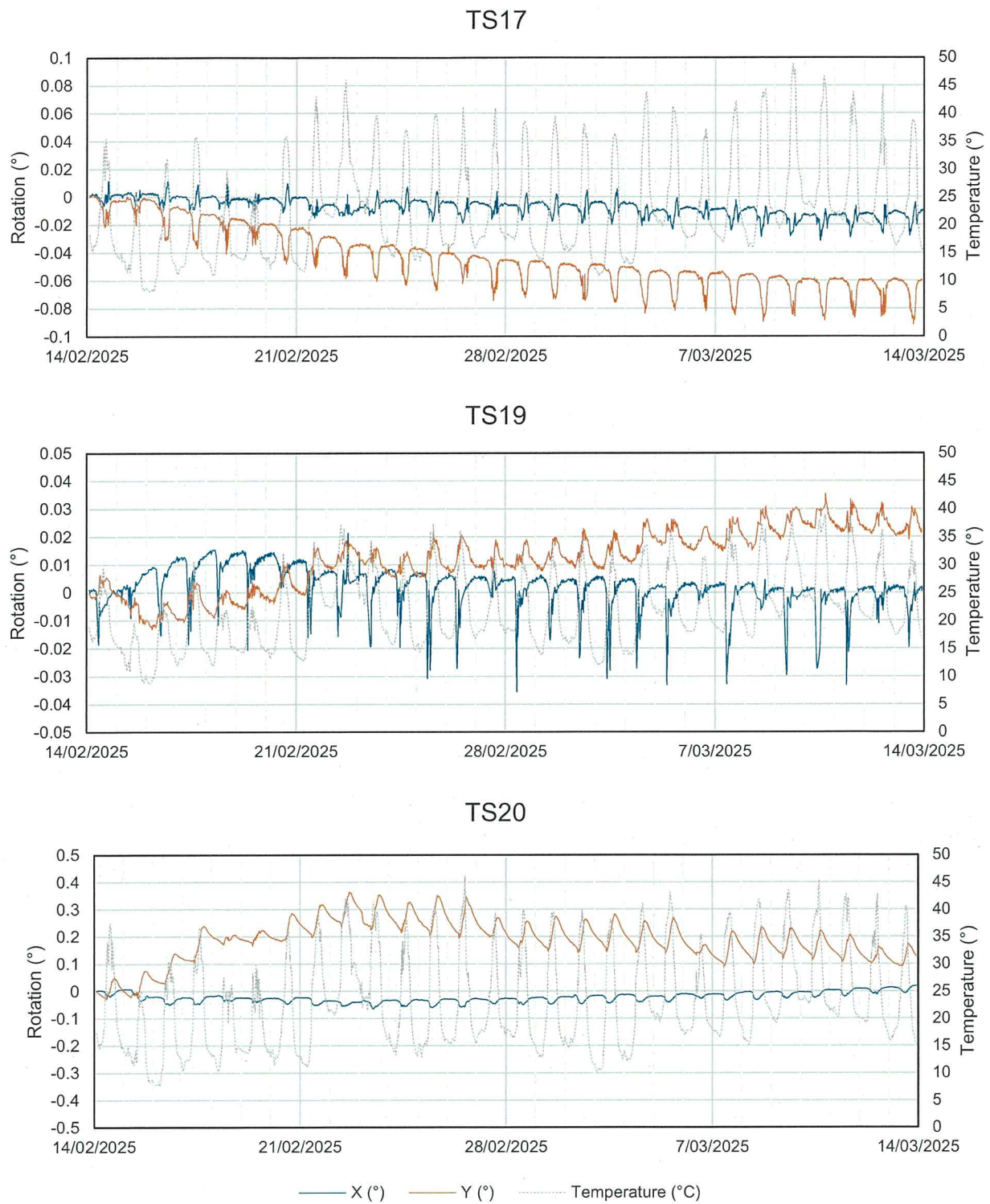


— X (°) — Y (°) Temperature (°C)



Mornington Peninsula Shire Council
McCrae Landslide Incident
Instrumentation and Monitoring
Tilt Sensors - Monitoring Data
14 Feb 2025 to 14 Mar 2025

Figure F5



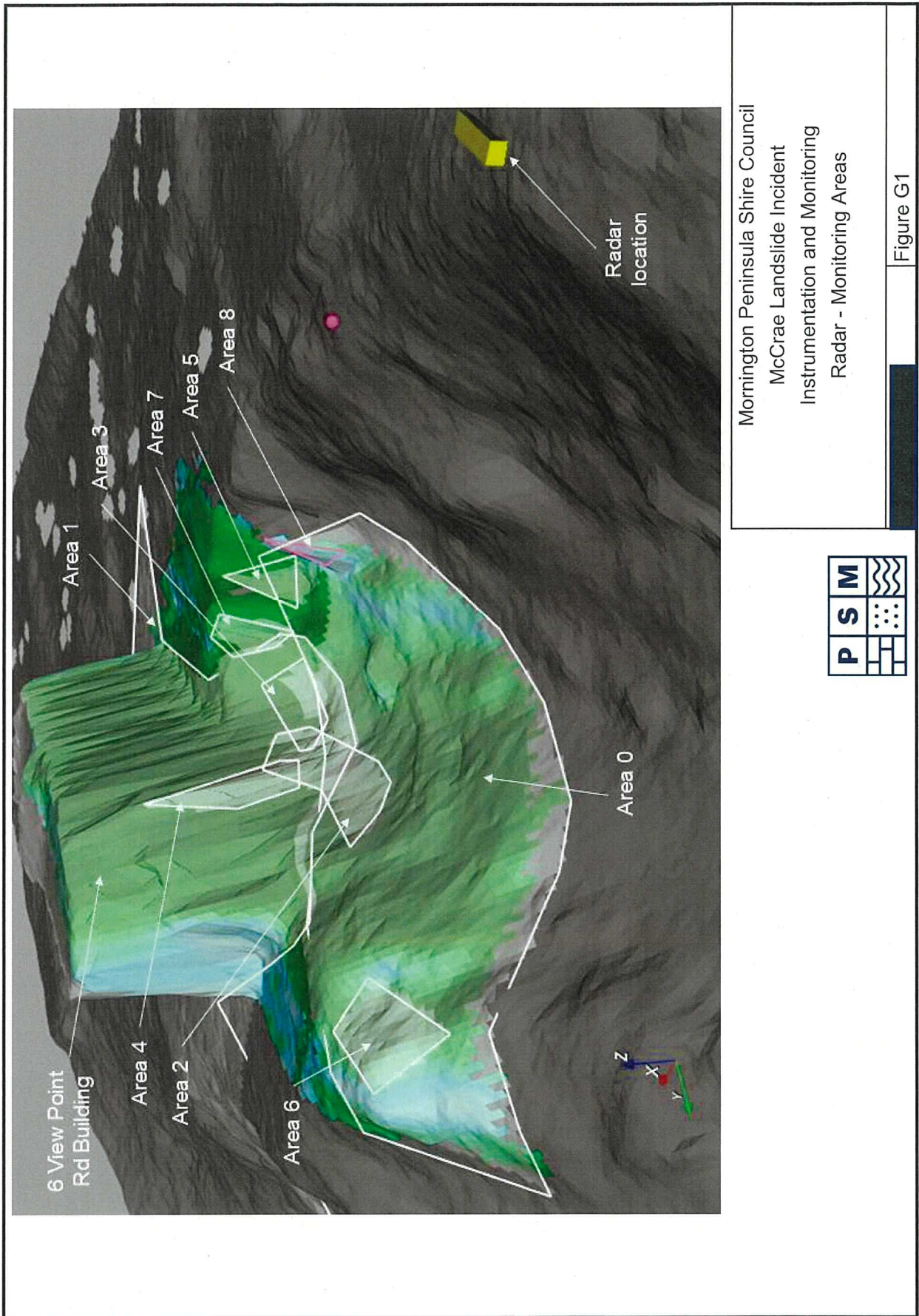
Mornington Peninsula Shire Council
 McCrae Landslide Incident
 Instrumentation and Monitoring
 Tilt Sensors - Monitoring Data
 14 Feb 2025 to 14 Mar 2025



Figure F6



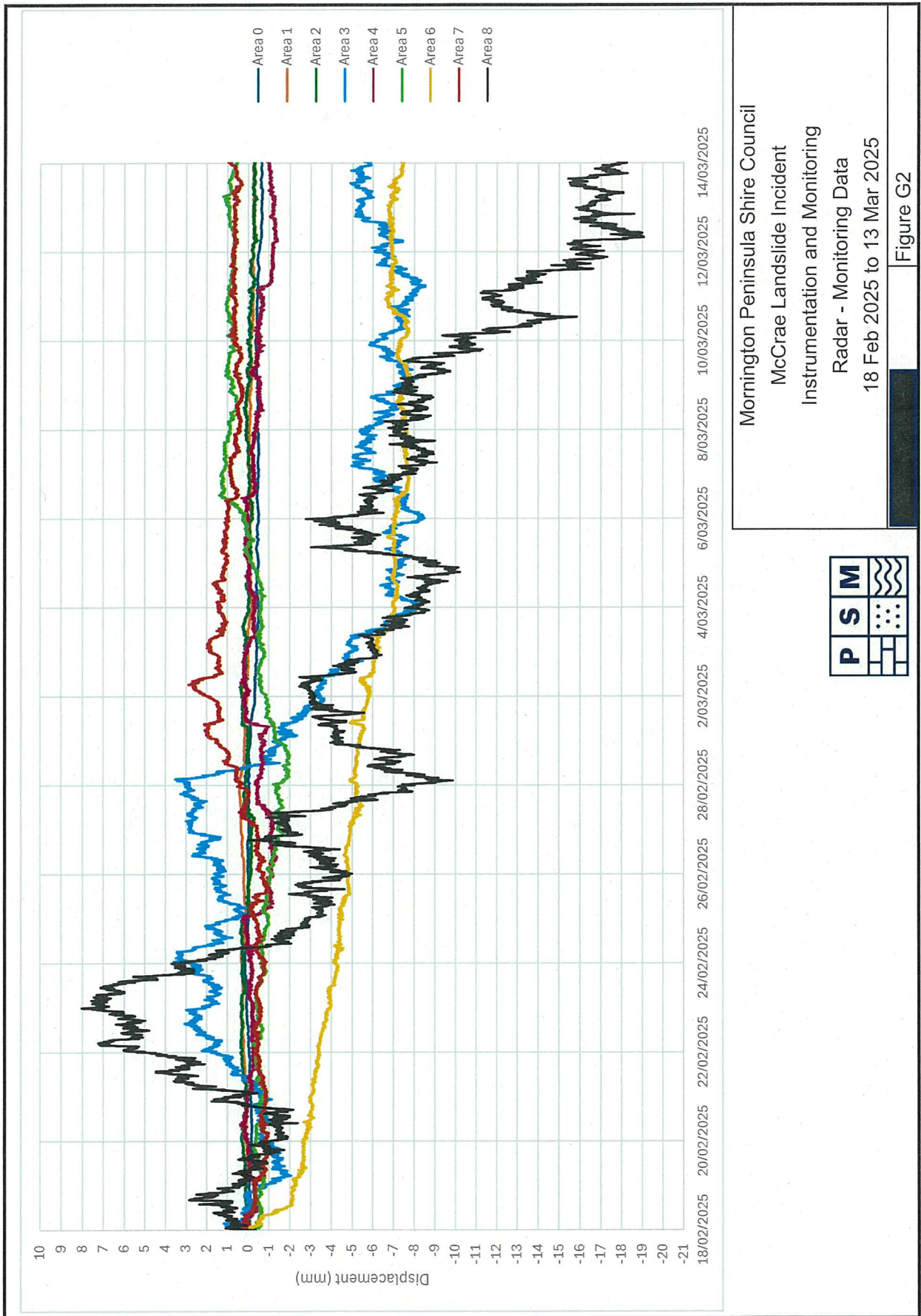
Radar monitoring plots



Mornington Peninsula Shire Council
 McCrae Landslide Incident
 Instrumentation and Monitoring
 Radar - Monitoring Areas



Figure G1



Mornington Peninsula Shire Council
 McCrae Landslide Incident
 Instrumentation and Monitoring
 Radar - Monitoring Data
 18 Feb 2025 to 13 Mar 2025

Figure G2

