ASX ANNOUNCEMENT

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Bucket Wear Liner Trial Results Point to a 6x Improvement in Lifespan

HIGHLIGHTS

- **Performance results from exhaustive tests of PureGRAPH® 20 enhanced wear liners greatly exceed expectations**
- **62-week trial showed a 6x longer life for liners due to significantly reduced abrasion wear rates**
- **Results prove that the addition of PureGRAPH® into bucket wear liners can lead to significantly extended lifespan, reduced downtime and serious improvements in productivity**
- **Results can be extended to a broad range of wear resistance applications in the mining industry and other sectors**

First Graphene Limited (ASX:FGR; "First Graphene" or "the Company") is pleased to provide results from field testing of PureGRAPH® enhanced bucket wear liner trials.

Rubber wear liners are an essential component on steel fabricated mining equipment, providing a resilient, sacrificial layer, which protects the steel equipment from abrasion wear during ore handling operations. The wear liners are replaced periodically and extending the periods between replacement is a critical need to maximise throughput at the mine.

The bucket wear liners were installed at a major iron ore producer's load-out facility in the West Australia Pilbara region beginning in mid-2019. A standard wear liner and a graphene enhanced ArmourGRAPH™ wear liner ran simultaneously in the same location for the 62-week period.

The ArmourGRAPH™ liners, manufactured by newGen Group, had been prepared using a low addition rate of PureGRAPH® 20 in hot cast polyurethane (PU). The PureGRAPH® enhanced liners were used side by side with standard PU liners throughout the 62-week trial before being returned to newGen Group for assessment. Figure 1 shows images of the liners as fitted in a reclaimer bucket after they were removed from service.

Fig.1: a) ArmourGRAPH™ Liner containing PureGRAPH® 20

Fig.1: b) Standard PU Liner

A detailed measurement of wear rates was carried out as shown in Figure 2. An Elcometer 456 thickness gauge was used to determine the liner thickness at each point. The results are summarised in Table 1., below.

Fig.2a): Control PU Liner

Fig.2b): Standard PU Liner After 62 Weeks

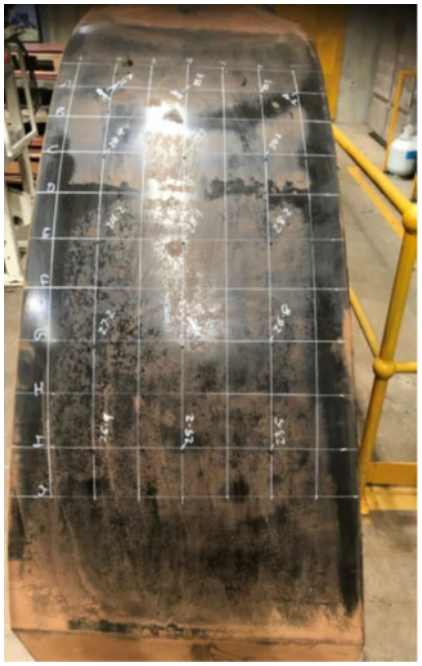

Fig.2c): ArmourGRAPH™ Liner After 62 weeks.

	PureGRAPH® 20 ArmourGRAPH™ liner	Standard PU liner	Calculated Improvement
Average abrasion loss - mm	1.16	7.17	~6.2x
Maximum abrasion loss - mm	2.20	8.90	~4.0x
Average wear rate on rear sliding face mm/week	0.019	0.12	~6.3x
Maximum wear rate on rear sliding face – mm/week	0.035	0.14	~4.0x

Table 1: Comparison of Average Wear Rate between a PureGRAPH® enhanced ArmourGRAPH™ liner and a standard PU liner. Measured with a Elcometer 456 thickness gauge.

The detailed abrasion analysis reported in Table 1 confirms that the abrasion loss is significantly reduced in the PureGRAPH® enhanced ArmourGRAPH™ liner, with a ~6x reduction in average abrasion loss (improved resistance to wear). As abrasion loss is the primary mechanism of failure, a significant 6x increase in lifespan of the wear liner is anticipated.

The abrasion analysis was performed on the rear sliding face of the bucket liner as this surface is well fitted to the steel bucket and provides the most representative analysis of liner wear life.

First Graphene CEO Mike Bell said the results indicated the benefits and value PureGRAPH® could provide to mining and mineral processing operators.

"Reducing production downtime is major area of focus in mining and these results show the significant improvements that can be gained from adding small amounts of PureGRAPH® to polymer formulations," Mr Bell said.

newGen Group Managing Director Ben Walker, added: "The results of this extended trial prove that our ArmourGRAPH™ liners can deliver vast improvements for operators. We anticipate strong demand for a broad range of graphene-enhanced consumable products across the mining and mineral processing sectors.

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About First Graphene Ltd (ASX: FGR)

First Graphene Ltd. is the leading supplier of high-performing, graphene products. The company has a robust manufacturing platform based upon captive supply of high-purity raw materials and an established 100 tonne/year graphene production capacity. Commercial applications are now being progressed in composites, elastomers, fire retardancy, construction and energy storage.

First Graphene Ltd. is publicly listed in Australia (ASX:FGR) and has a primary manufacturing base in Henderson, near Perth, WA. The company is incorporated in the UK as First Graphene (UK) Ltd. and is a Tier 1 partner at the Graphene Engineering and Innovation Centre (GEIC), Manchester, UK.

PureGRAPH® Range of Products

***PureGRAPH®** graphene powders are available in tonnage volumes with lateral platelet sizes of 20µm, 10µm and 5µm. The products are high performing additives, characterised by their high quality and ease of use.*

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With authority of the board, this announcement has been authorised for release by Peter R. Youd, Director, Chief Financial Officer and Company Secretary.