

INSPECTION REPORT

UNDERCARRIAGE WEAR



| Site Visit / Machine Summary | |
|-------------------------------|------------|
| Inspection Date | 16/05/2023 |
| Customer / Site | Broadlea |
| Machine ID | 5491 |
| Machine Model | EX5500 |
| Total Machine Hours | 66,705 |
| Total Propel Hours | 3,300 |
| Undercarriage Hours | 27,752 |
| Undercarriage Propel Hours | 3,300 |
| Shoe Type (BK, OEM, Other) | BK |
| Tumbler Type (BK, OEM, Other) | BK |

| Component Wear Measurement Summary 16/05/2023 | | | | | | | | | | |
|---|----------------------|-----|------------------|-----|----------------|-----|---------------------|-----|-------------------|-----|
| | Shoe Pitch Extension | | Shoe Roller Path | | Shoe Drive Lug | | Tumbler Roller Path | | Tumbler Drive Lug | |
| | (mm) | (%) | (mm) | (%) | (mm) | (%) | (mm) | (%) | (mm) | (%) |
| LHS | 9.0 | 75% | 8.0 | 40% | 40.0 | 53% | 10.0 | 67% | 65.0 | 76% |
| RHS | 10.0 | 83% | 9.0 | 45% | 43.0 | 57% | 11.0 | 73% | 70.0 | 82% |

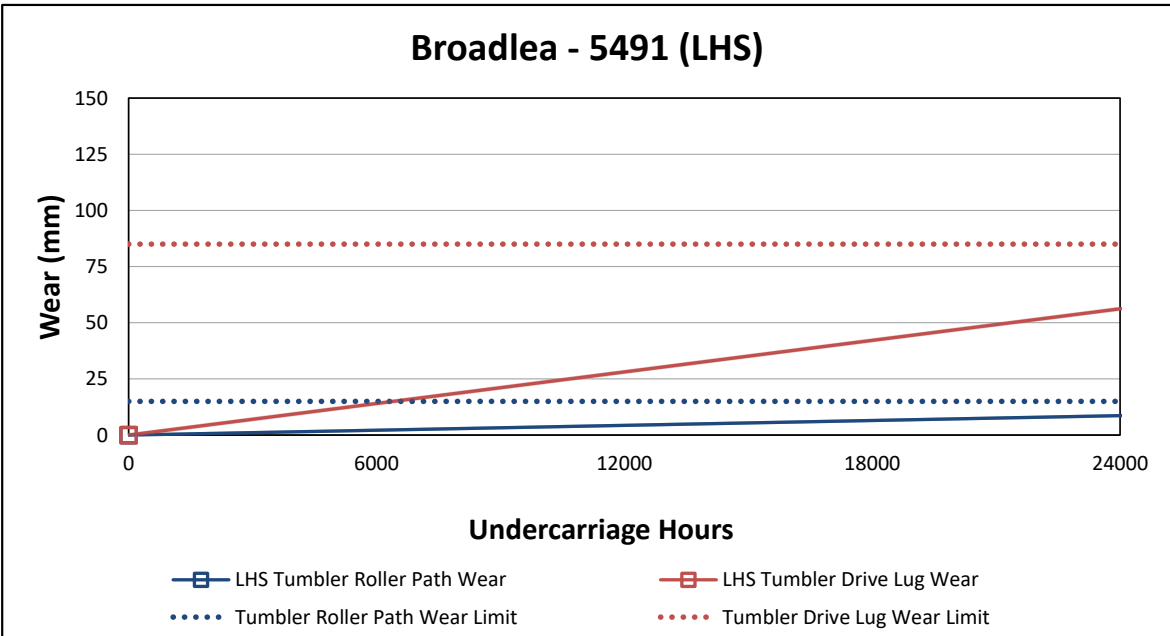
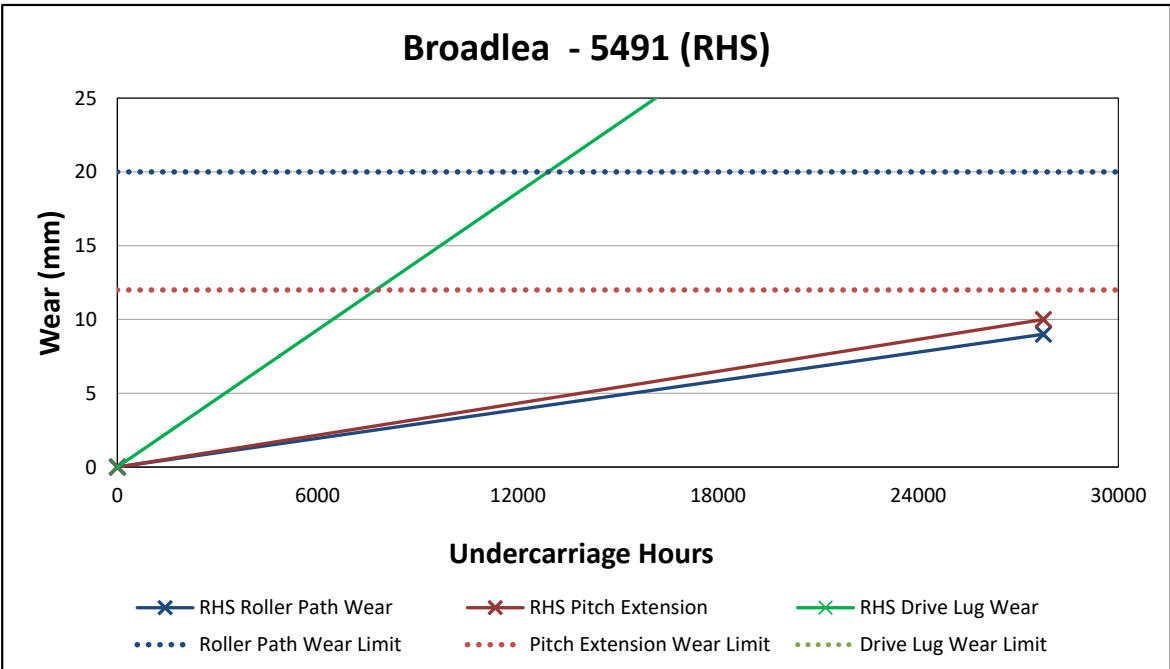
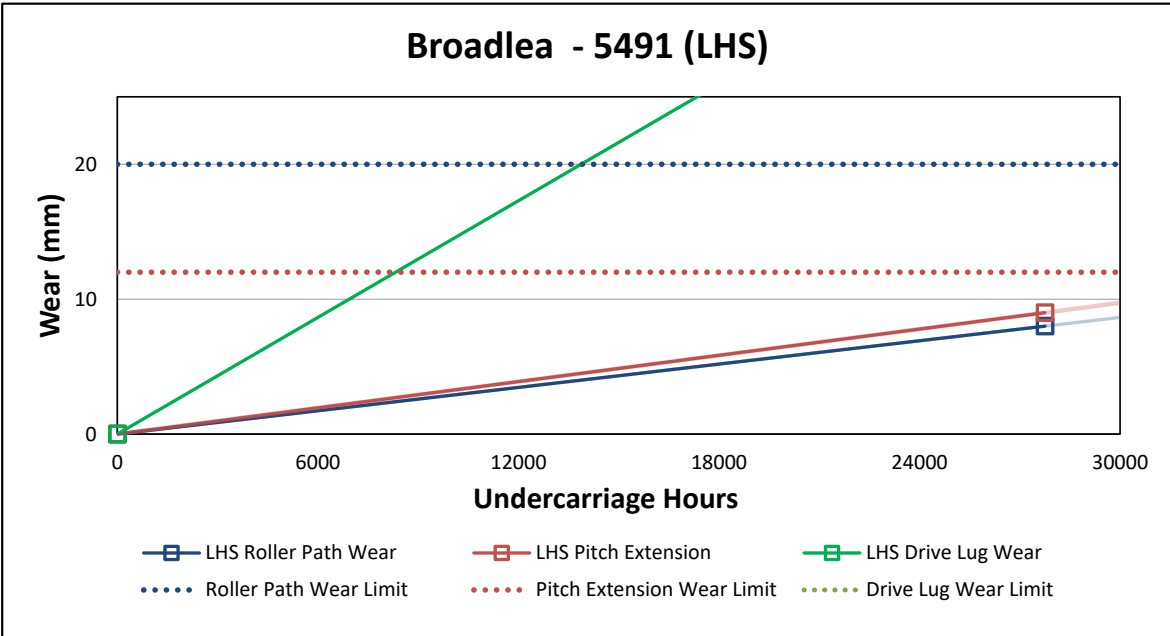
| Component Service Summary | | | | | | | | | | | | | | |
|---------------------------|------|---------|-------|------------------------|---|---|----------------------|---|---|---|---|---|---|-------|
| Machine ID | Side | Tumbler | Idler | Return Roller Position | | | Load Roller Position | | | | | | | Shoes |
| | LHS | | | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 0 |
| | RHS | | | 1 | 2 | 3 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 0 |

| | |
|----------------|--|
| Good | Serviceable condition, low to mid-life levels of wear |
| Monitor | Increase inspection frequency because wear may accelerate, or signs of fault |
| Replace | Schedule replacement due to high wear, or replace immediately due to failure |

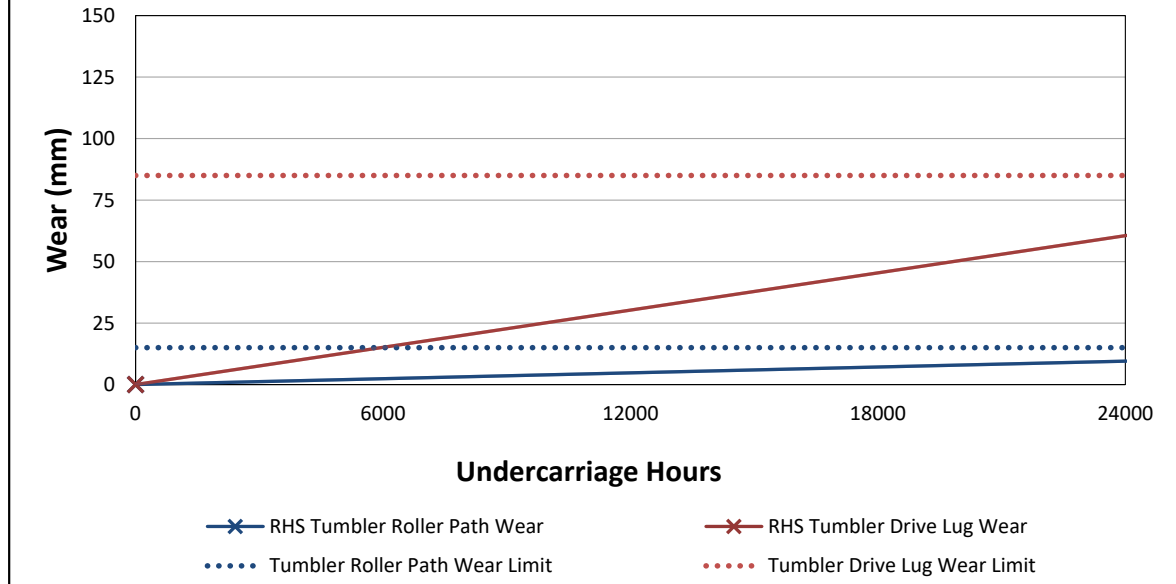
Note: Roller / Slider Positions are Defined Starting from the Idler End (Pos 1)

Recommendations:

- Schedule change out of undercarriage should be planned now as this undercarriage is at the end of life stages and wear will increase rapidly for the last hours left.



Broadlea - 5491 (RHS)



Please note that any overall wear life projections calculated from the measurements presented in this report are subject to the assumption that wear rates will remain constant. This is not always true of induction hardened wear faces (where applicable). It should also be noted that changes in the propel ratio can have a large impact on any projection of serviceable machine hours.

Component Wear Condition Report

This site visit report presents the findings from the mine site visit to Broadlea Mine during May 2023. The purpose of the visit was to perform an undercarriage inspection on the Hitachi 5500 (machine ID EX5491) currently on site.

Access to carry out this inspection was granted on Tuesday 6th May 2023.

The undercarriage consisted of Bradken supplied Crawler Shoes & Rollers, Sprockets and Idlers.

A visual inspection of all accessible undercarriage components was performed. Additionally, wear measurements were taken of the crawler shoe pitch extension, crawler shoe roller path wear, and Tumbler drive lug wear.

| | |
|----------------------------|--|
| Shoes | <p>Crawler shoe pitch extension was measured at 75%LHS and 83% RHS. The pins, bores, and retaining hardware were all in good condition at this stage of undercarriage life as shown in Figure 1.</p> <p>Crawler shoe roller path wear was measured at 40%LHS and 45% RHS. roller paths were in good condition.</p> <p>Crawler shoe drive lugs were in Good condition with no major defects found at the time of inspection. The condition is shown in Figure 3.</p> |
| Tumblers | <p>With 76% LH and 82% RH of drive face wear on the Tumblers they appear in reasonable condition, Roll path on Tumblers was measured at 67% LHS and 73% RHS indicating they are through the hardened surface and wear may increase at a more rapid pace., As wear progresses much more quickly through the softer parent material of the tumbler. The tumbler drive lug condition should be monitored to ensure replacement is appropriately scheduled as the tumbler lugs are reaching end of life.</p> |
| Front Idlers | <p>Both front idlers appeared to be in serviceable condition following the visual inspection. The roller paths were in good condition and there was no evidence of lubricant leakage. The alignment between the idler wheel and the end blocks was suitable, indicating good condition of the axle and bushes. Side frame clearances were appropriate. Figure 5 shows their condition.</p> |
| Load Rollers | <p>Load rollers were in a serviceable condition but have shards of steel missing from both sides of the roller indicating the hardened steel surface is starting to wear through and this will increase the wear rate moving forward an increased inspection should be scheduled.</p> |
| Return Rollers | <p>No visible issues were detected on any return rollers.</p> |
| Additional Comments | <p>Please note that any overall wear life projections calculated from the measurements presented in this report are subject to the assumption that wear rates will remain constant. This is not always true of induction hardened wear faces, especially when spalling and plastic deformation become prevalent. It should also be noted that changes in the propel ratio can have a large impact on any projection of serviceable machine hours.</p> |



Figure 1 - Typical pin, bore, and retaining hardware condition



Figure 2 - Typical crawler shoe roller path condition

Figure 3 - Typical crawler shoe drive lug condition



Figure 4 - Sprocket drive lug condition



Figure 5 - Front idler condition LHS (left above) and RHS (right above)

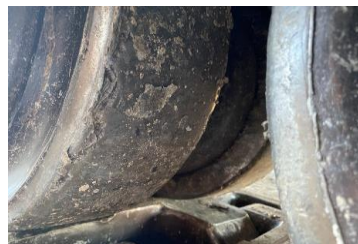
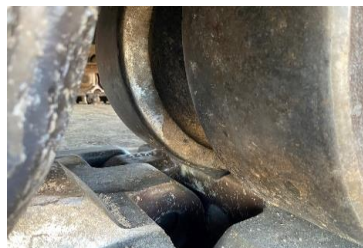




Figure 6 - LHS & RHS Rollers

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