

## **OIL ANALYSIS REPORT**

### Laurel Steel Machine Id 126-2A-M -CHAMFER

Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

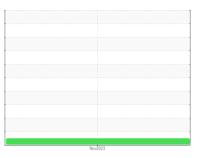
All component wear rates are normal.

#### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



Sample Rating Trend

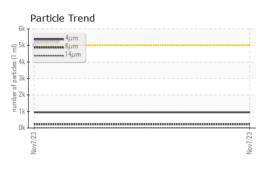


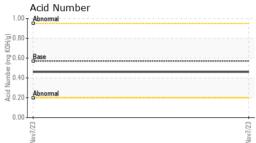
NORMAL

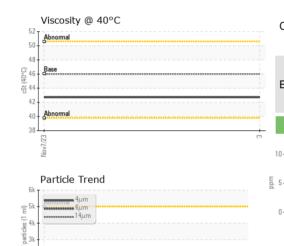
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0835326		
Sample Date		Client Info		07 Nov 2023		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water	N	WC Method	>0.05	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	0		
Chromium	ppm	ASTM D5185(m)	>20	0		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)		0		
Lead	ppm	ASTM D5185(m)	>20	<1		
Copper	ppm	ASTM D5185(m)	>20	<1		
Tin	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base 5	current	history1	history2
	ppm ppm		5			
Boron		ASTM D5185(m)	5	<1		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	<1 <1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5	<1 <1 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	<1 <1 0 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25	<1 <1 0 0 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200	<1 <1 0 0 <1 39	  	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300	<1 <1 0 0 <1 39 335	   	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370	<1 <1 0 0 <1 39 335 401		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370	<1 <1 0 <1 39 335 401 775	    	    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200 300 370 2500	<1 <1 0 <1 39 335 401 775 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200 300 370 2500	<1 <1 0 <1 39 335 401 775 <1 current	       history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 25 200 300 370 2500	<1 <1 0 <1 39 335 401 775 <1 <i>current</i> 0	      history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 <b>limit/base</b> >15	<1 <1 0 0 <1 39 335 401 775 <1 Current 0 <1	       history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 <b>limit/base</b> >15	<1 <1 0 0 <1 39 335 401 775 <1 <i>current</i> 0 <1 0	      history1  	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 25 200 300 370 2500 2500 <b>imit/base</b> >20 <b>imit/base</b>	<1 <ul> <li>&lt;1</li> <li>0</li> <li>0</li> <li>&lt;1</li> <li>39</li> <li>335</li> <li>401</li> <li>775</li> <li>&lt;1</li> </ul> Current <ul> <li>0</li> <li>&lt;1</li> <li>0</li> <li>Current</li> </ul>	      history1   history1	      history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	5 5 5 200 300 370 2500 2500 1 imit/base >20 1 imit/base >5000 >1300	<1 <1 0 0 <1 39 335 401 775 <1 0 <1 0 <1 0 <1 0 <1 0 <1 0 <1 0 <1	      history1  history1  history1	      history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647	5 5 5 200 300 370 2500 2500 2500 1 imit/base >20 1 imit/base >5000 >1300 >160	<1 <1 0 0 <1 39 335 401 775 <1 0 <1 0 <1 0 <1 0 <1 0 <1 0 <1 0 <1	      history1   history1  history1	      history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 <b>imit/base</b> >15 >20 <b>imit/base</b> >5000 >1300 >160 >40	<1 <1 0 0 <1 39 335 401 775 <1 0 current 0 <1 0 <1 0 21 0 221 14 4	       history1  history1	       history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 <b>imit/base</b> >15 20 <b>imit/base</b> >5000 >1300 >160 >40 >10	<1 <ul> <li>&lt;1</li> <li>0</li> <li>0</li> <li>&lt;1</li> <li>39</li> <li>335</li> <li>401</li> <li>775</li> <li>&lt;1</li> </ul> Current <ul> <li>0</li> <li>&lt;1</li> <li>0</li> <li>&lt;1</li> <li>0</li> <li>current</li> <li>949</li> <li>221</li> <li>14</li> <li>4</li> <li>0</li> </ul>	       history1  history1	       history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	5 5 5 25 200 300 370 2500 2500 <b>imit/base</b> >15 20 <b>imit/base</b> >5000 >1300 >160 >40 >10	<1 <1 0 0 <1 39 335 401 775 <1 0 current 0 <1 0 <1 0 21 0 221 14 4	       history1  history1	       history2  history2



# **OIL ANALYSIS REPORT**







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Nov7/23

	FLUID DEGRADA		method			history1	history2
-	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.46		
	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
7/23	Silt	scalar	Visual*	NONE	NONE		
Nov7/23	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water	scalar	Visual*	>0.05	NEG		
	Free Water	scalar	Visual*		NEG		
	FLUID PROPERT	IES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D7279(m)	46	42.7		
Nov7/23	SAMPLE IMAGES	S	method	limit/base	current	history1	history2
No							
	Color					no image	no image
1					-		
	_						
	Bottom					no image	no image
	GRAPHS						
<u></u>	Ferrous Alloys			101 500	Particle Count		
	10 iron			491,520			ľ
	E. 5-			122,880	Severe		-
				30,720	1		-
				S3 € 7,680	Abnormal		
	Nov7/23			Nov7/23 (per 1 ml) 1.920	1 mar 1 mar		-1
		_		ESC/L000 1000 1000 1000 1000 1000 1000 1000			
	Non-ferrous Metal	s		of part		•	
	copper			120 			
	5 tin			2 30			-1
				8	+		-1
	0			2 1/23	-		-
	Nov7/23			0 Nov7/23			
	Viscosity @ 40°C			2 0	Acid Number	14μ 21μ	38µ 71µ
	55 Abnormal			400 Number (mg KOH/g)	Abnormal		
0	50 - Base ± 45 - Abnormal			J K(	Base		
11 10	45 4 3 40 Abnormal			a 0.50	Abnormal		
				N Pic oo	Abnormal		
	Nov7/23			Ac Ac	7/23		
	Nov			Nov	Nov7/23		
oratory ple No. Number	: 02603466	75 Apple Recieved Diagnose Diagnost	d :15 l ed :18 l	lington, ON L Dec 2023 Dec 2023 s Davis	7L 5H9		LUBRICATIO CHATHAM S IAMILTON, ( CA L8P 2

CA L8P 2B5 Contact: HEIDI LEINGARTNER

Test Package : IND 2 To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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CALA

ISO 17025:2017 Accredited Laboratory

Submitted By: WIlliam Ridley

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