

## **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL





Area Lac Seul GS Machine Id FP5HPU Component

Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 68 (--- 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. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 68. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with 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.

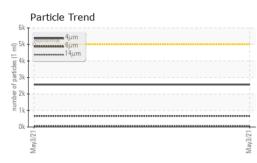
#### **Fluid Condition**

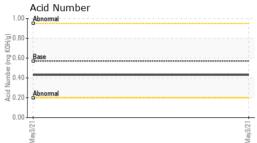
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

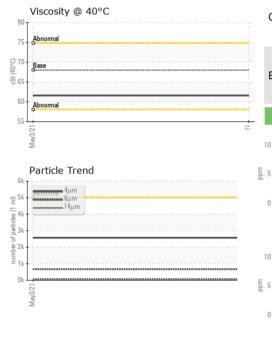
				May2021		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC		
Sample Date		Client Info		03 May 2021		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATION	٧	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	3		
Chromium	ppm	ASTM D5185(m)	>20	0		
Nickel	ppm	ASTM D5185(m)	>20	0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>20	<1		
Lead	ppm	ASTM D5185(m)	>20	<1		
Copper	ppm	ASTM D5185(m)	>20	4		
Tin	ppm	ASTM D5185(m)	>20	<1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
	pp	/ lo / li 20/ loo(lii)		•		
ADDITIVES			limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	5	<1		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	5 5	<1 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5	<1 0 <1		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 5	<1 0 <1 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 25 25	<1 0 <1 0 21		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200	<1 0 <1 0 21 75		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 0 <1 0 21 75 332		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 0 <1 0 21 75 332 424	  	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	<1 0 <1 0 21 75 332 424 2454	  	   
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) ASTM D5185(m)	5 5 5 25 200 300 370	<1 0 <1 0 21 75 332 424	  	
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 0 <1 0 21 75 332 424 2454	  	
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) <b>method</b> ASTM D5185(m)	5 5 25 200 300 370 2500	<1 0 <1 0 21 75 332 424 2454 <1 current 3		
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 0 <1 0 21 75 332 424 2454 <1 current	       history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	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) <b>method</b> ASTM D5185(m)	5 5 25 200 300 370 2500	<1 0 <1 0 21 75 332 424 2454 <1 current 3	      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 0 <1 0 21 75 332 424 2454 <1 current 3 3 3	       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 >20	<1 0 <1 0 21 75 332 424 2454 <1 2454 <1 2454 <1 3 3 3 <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> >250 20	<1 0 <1 0 21 75 332 424 2454 <1 <i>current</i> 3 3 <1 <i>current</i>	      history1   history1	       history2   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 0 <1 0 21 75 332 424 2454 <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 >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 1 1 1 5 2 0 1 1 1 1 1 2 5 0 0 1 1 1 1 1 2 1 5 1 5 1 2 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<1 0 <1 0 21 75 332 424 2454 <1 <i>current</i> 3 3 <1 <i>current</i> 2568 669	       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 5 200 300 370 2500 2500 <b>limit/base</b> >15 20 <b>limit/base</b> >5000 >1300 >160	<1 0 <1 0 21 75 332 424 2454 <1 <i>current</i> 3 3 3 <1 <i>current</i> 2568 669 56	       history1  history1	       history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Patticles >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	5 5 5 25 200 300 370 2500 2500 <b>limit/base</b> >15 >20 <b>limit/base</b> >5000 >1300 >160 >40	<1 0 <1 0 21 75 332 424 2454 <1 Current 3 3 <1 Current 2568 669 56 16	       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 ASTM D7647	5 5 5 25 200 300 370 2500 2500 <b>limit/base</b> >15 >20 <b>limit/base</b> >5000 >1300 >160 >40 >10	<1 0 <1 0 21 75 332 424 2454 <1 Current 3 3 <1 Current 2568 669 56 16 0	         history1  history1  history1	        history2  history2  history2



# **OIL ANALYSIS REPORT**







	FLUID DEGRADATION		method limit/base			history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.43		
	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	Visual*	NONE	NONE		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Precipitate	scalar	Visual*	NONE	NONE		
May3/21	Silt	scalar	Visual*	NONE	NONE		
Ma	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water Free Water	scalar scalar	Visual* Visual*	>0.05	NEG NEG		
	FLUID PROPERT		method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D7279(m)	68	61.6		
May3/21	SAMPLE IMAGES		method	limit/base	current	history1	history2
re M	Color				TREASE OF THE	no image	no image
	Bottom					no image	no image
	GRAPHS						
	Ferrous Alloys			491,52	Particle Count		т2
	iron chromium			122,88			-2
E d	5 - nickel				Severe		
				30,72			+2
	2	*************	**********************	E 7,68	Abnormal		-2
	May3/2'			May3/21 (per 1 ml)		•	+2 -1 -1 -1
	Non-ferrous Metals	5		<u>동</u> 11년 48	· ``.		
	<sup>10</sup> T			May3/21 number of particles (per 1 ml) 15.1 8 8 9 15.1 1 10.1 10.1 10.1 10.1 10.1 10.1 10		<b>N</b>	1
E	copper			numbe			
d	5			3	J+		<sup>1</sup>
					3-		+1
	May3/21			May3/21	2-		-8
	Ma			Ma	ο 4μ 6μ	14µ 21µ	38µ 71µ
	Viscosity @ 40°C			_	A -1 -1 AL	2114	30µ 11µ
	75 Abnormal			%1.0 Hoy	Abnormal		
cSt (40°C)	70 - Base			E O G	Base		
cst (	65 - Abnormal			21+ 400H(d) 0.0	Abnormal		
	55			0.0 ge 1	) L <u>i</u>		
	May3/2'			May3/21	May3/21		
Sample No.   025:2017 Lab Number   valued Unique Number	: WearCheck - C8-117 : WC F : 02423563 E	75 Applel Received Diagnose Diagnost	i : 26   ed : 27		.7L 5H9	Ontario Pow DDUCTION CENTRE, 200	

Report Id: ONTKEE [WCAMIS] 02423563 (Generated: 11/27/2023 13:24:52) Rev: 1

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.

Contact/Location: Josh Robinson - ONTKEE

Т:

F: