

## **PROBLEM SUMMARY**

Sample Rating Trend

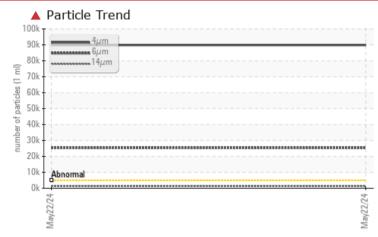
ISO

Machine Id

# NO UNIT PC0087791

Unknown Component Fluid {not provided} (--- GAL)

### COMPONENT CONDITION SUMMARY



### 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. We advise that you check all areas where contaminants can enter the system. We recommend an early resample to monitor this condition. Please provide more complete information on your next sample. Please specify the component make and model with your next sample.

### PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	 
Particles >4µm	ASTM D7647	>5000	<b>&amp;</b> 89864	 
Particles >6µm	ASTM D7647	>1300	<b>4</b> 25374	 
Particles >14µm	ASTM D7647	>160	<u> </u>	 
Particles >21µm	ASTM D7647	>40	<u> </u>	 
Oil Cleanliness	ISO 4406 (c)	>19/17/14	<b>4</b> 24/22/17	 

Customer Id: POWGUE Sample No.: PC0087791 Lab Number: 02637298 Test Package: IND 2



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*To discuss the diagnosis or test data:* Kevin Marson +1 (289)291-4644 x4644 Kevin.Marson@wearcheck.com

*To change component or sample information:* Gloria Gonzalez +1 (289)291-4643 x4643 <u>gloria.gonzalez@wearcheck.com</u>

RECOMMENDED	ACTIONS			
Action	Status	Date	Done By	Description
Resample			?	We recommend an early resample to monitor this condition.
Alert			?	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.
Information Required			?	Please specify the component make and model with your next sample. Please provide more complete information on your next sample.
Check Dirt Access			?	We advise that you check all areas where contaminants can enter the system.

## HISTORICAL DIAGNOSIS



## **OIL ANALYSIS REPORT**

ISO 

Machine Id

# **NO UNIT PC0087791**

Unknown Component Fluid {not provided} (--- 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. We advise that you check all areas where contaminants can enter the system. We recommend an early resample to monitor this condition. Please provide more complete information on your next sample. Please specify the component make and model with your next sample.

#### Wear

Component wear rates appear to be normal (unconfirmed).

#### Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the sample.

### Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORM	VIATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0087791		
Sample Date		Client Info		22 May 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				SEVERE		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)		1		
Chromium	ppm	ASTM D5185(m)		0		
Nickel	ppm	ASTM D5185(m)		0		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)		0		
Lead	ppm	ASTM D5185(m)		0		
Copper	ppm	ASTM D5185(m)		0		
Tin	ppm	ASTM D5185(m)		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	current 15	history1	history2
	ppm ppm		limit/base		history1 	history2 
Boron		ASTM D5185(m)	limit/base	15		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	15 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	15 0 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	15 0 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)	limit/base	15 0 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)	limit/base	15 0 0 <1 6	   	   
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) ASTM D5185(m)	limit/base	15 0 0 <1 6 145	   	   
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)	limit/base	15 0 0 <1 6 145 3	   	
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)	limit/base	15 0 0 <1 6 145 3 5599		
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)		15 0 0 <1 6 145 3 5599 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm 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)		15 0 0 <1 6 145 3 5599 <1 current	      history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185(m) ASTM D5185(m)		15 0 0 <1 6 145 3 5599 <1 <b>current</b>	      history1	        history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	15 0 0 <1 6 145 3 5599 <1 <i>current</i> <1 0	       history1	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANIL Particles >4µm	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	15 0 0 3 4 1 6 145 3 5599 <1	      history1	        history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANL	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base	15 0 0 ( 1 ( 1 45 3 5599 <1 ( 1 ( current 0 0 0 ( current	      history1   history1	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANIL Particles >4µm	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >20 limit/base >5000	15 0 0 3 4 1 6 145 3 5599 <1	      history1   history1 	        history2     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >6µm	ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >20 limit/base >5000 >1300 >160	15 0 0 3 4 6 145 3 5599 <1	      history1    history1	       history2      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANIL Particles >6µm Particles >14µm	ppm	ASTM D5185(m) ASTM D76477 ASTM D7647	limit/base >20 limit/base >5000 >1300 >160	15 0 0 3 4 1 6 145 3 5599 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	      history1   history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium FLUID CLEANL Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647	Iimit/base >20 Iimit/base >5000 >1300 >160 >40 >10	15 0 0 3 4 1 6 145 3 5599 4 1 5599 4 1 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	       history1  history1    history1	

Contact/Location: Peter Michalski - POWGUE



Particle Trend

Abnormal 0k May22/24

number of particles (1 ml) 40k 500

60k

17<sub>T</sub> 16 Abnorma 15 (0-014 13 12

> 10 Mav22/24

0.50 (B/HOX Ē0.30 - aq 0.20 Pio Qcit 0.00 Mav22/24

> 17 16 15 Abnorma

F

Abnormal 11-10 May22/24

Abnorma 100 90

Abnormal 80 May22/24

# **OIL ANALYSIS REPORT**

k <del>-</del>	Particle Trend	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
k-	-4μm 	Acid Number (AN)	mg KOH/g	ASTM D974*		0.44		
k-	14µm	VISUAL		method	limit/base	current	history1	history2
		White Metal	scalar	Visual*	NONE	NONE		
K		Yellow Metal			NONE	NONE		
k †	Abnormal	Precipitate	scalar	Visual*	NONE	NONE		
k L		Silt		Visual*	NONE	NONE		
	May2.2./24 May2.2./24	Debris	scalar	Visual*	NONE	VLITE		
		Sand/Dirt	scalar	Visual*	NONE	VLITE		
7т	Viscosity @ 100°C	Appearance	scalar	Visual*	NORML	NORML		
3-		Odor	scalar	Visual*	NORML	NORML		
5 -	Abnormal 9	Emulsified Water	scalar	Visual*		NEG		
+-		Free Water	scalar	Visual*		NEG		
2		FLUID PROPE	RTIES	method	limit/base	current	history1	history2
ł	Abnormal	Visc @ 40°C	cSt	ASTM D7279(m)		149		
±,		Visc @ 100°C	cSt	ASTM D7279(m)		15.5		
	May2.2/24 May2.2/24	Viscosity Index (VI)	Scale	ASTM D2270*		106		
		SAMPLE IMAG	ies	method	limit/base	current	history1	history2
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)		Color					no image	no image
ļ		0000					no image	no inage
ļ								
1		Bottom					no image	no image
ــــر								
	May22/24	GRAPHS						
	Viscosity @ 100°C	Ferrous Alloys				Particle Count		20
T		10			491,520			26
ļ	Abnormal	E 5 - nickel				Severe		+24
ļ		0			30,720			-22
ł		ay22/24			8 (per 1 ml 1,920 s (per 1 ml	Abnormal		+20
ł	Abnormal	×						-20
j		Non-ferrous Metal	S		10 40L		. )	-16
	*CC	copper			b 120 aquine 30	1		-14
	<i>чссс</i> ,	E 5 - management lead			= 30	-		-12
	Viscosity @ 40°C	0			3			10
T		ay22/2 <sup>,</sup>			May22/24			18
t						4μ 6μ	14µ 21µ	38µ 71µ
ţ		Viscosity @ 40°C			(B) H(d)	Acid Number		
Į					(DH0.60 M0.40			
+	Abnormal	(2) 140 ⊕ 120 <sup>1</sup> / <sub>3</sub> 100 <sup>1</sup> / <sub>3</sub> Abnormal			a 0.20			
ł	Abnormal	Abnormal			Acid Number 24	L		
T	4 + 47 	May22/24			May22/24	May22/24		Mav22/24
	, cc.−−₽₫	May			May	May		Mav
	To discuss this sample report Test denoted (*) outside scop	: 5786460 : IND 2 ( Additional Tests contact Customer Servi	Recei Teste Diagr BottomA ce at 1-8 ethod mo	ved : 23 d : 27 nosed : 27 nalysis, FILT 200-268-213 pdified, (e) te	May 2024 May 2024 May 2024 - Kev ERPATCH, K <sup>y</sup> sted at extern	in Marson /100, PrtCount, T nal Iab.	AN Maûolata)ct: peter.michalsk	45 Elmira Road Guelph, ON CA N1K 1C2 Peter Michalsk

Report Id: POWGUE [WCAMIS] 02637298 (Generated: 05/27/2024 12:26:07) Rev: 1

Contact/Location: Peter Michalski - POWGUE