



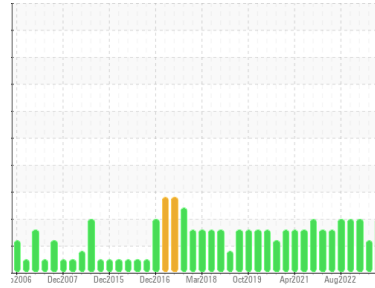
# PROBLEM SUMMARY

## Sample Rating Trend

ISO

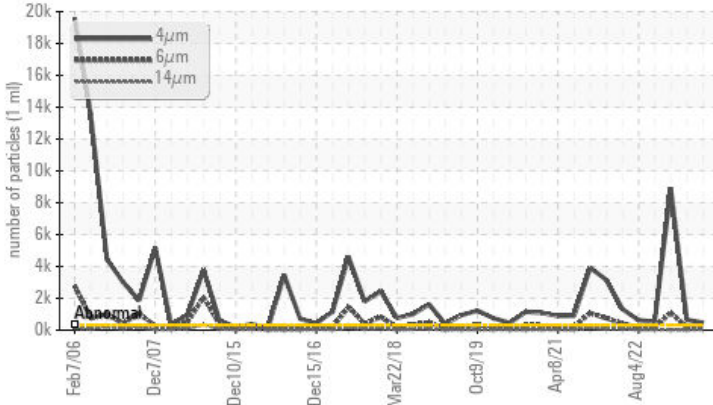


Machine Id  
**SM312/013 FEED WORKS OPTIMIL (S/N 0238-32110-00180-04801)**  
 Component  
**Hydraulic System**  
 Fluid  
**AW HYDRAULIC OIL ISO 68 (--- GAL)**



## COMPONENT CONDITION SUMMARY

### ▲ Particle Trend



## 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 perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. 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.

## PROBLEMATIC TEST RESULTS

Sample Status			ABNORMAL	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>320	▲ 470	▲ 647	▲ 8909
Particles >6µm	ASTM D7647	>80	▲ 169	▲ 183	▲ 1084
Particles >14µm	ASTM D7647	>10	▲ 25	8	▲ 24
Particles >21µm	ASTM D7647	>3	▲ 9	2	▲ 6
Oil Cleanliness	ISO 4406 (c)	>15/13/10	▲ 16/15/12	▲ 17/15/10	▲ 20/17/12

Customer Id: FLUMAR  
 Sample No.: FC0000568  
 Lab Number: 05932105  
 Test Package: IND 2



To manage this report scan the QR code







To discuss the diagnosis or test data:  
 Wes Davis +1 905-569-8600 x223  
[wesd@wearcheck.ca](mailto:wesd@wearcheck.ca)

To change component or sample information:  
 Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
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 brand, type, and viscosity of the oil on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

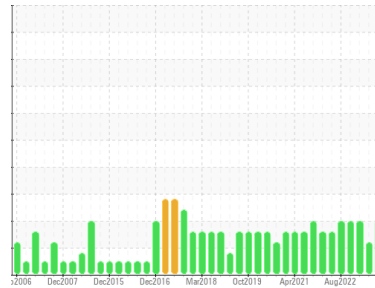
## HISTORICAL DIAGNOSIS

<p>ISO</p> 	<p><b>03 May 2023 Diag: Wes Davis</b>            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 recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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. All component wear rates are normal. There is a moderate amount of silt (particulates &lt; 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.</p>	<p>view report</p> 
<p>ISO</p> 	<p><b>26 Jan 2023 Diag: Jonathan Hester</b>            We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.</p>	<p>view report</p> 
<p>ISO</p> 	<p><b>03 Nov 2022 Diag: Don Baldrige</b>            We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of particulates present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.</p>	<p>view report</p> 



# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id  
**SM312/013 FEED WORKS OPTIMIL (S/N 0238-32110-00180-04801)**

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. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. 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

There is a moderate amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>FC0000568</b>	FC0000473	FC0000273
Sample Date	Client Info	<b>15 Aug 2023</b>	03 May 2023	26 Jan 2023
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Chromium	ppm	ASTM D5185m >20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185m >20	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m >20	<b>4</b>	3	4
Tin	ppm	ASTM D5185m >20	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 5	<b>0</b>	0	0
Barium	ppm	ASTM D5185m 5	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 5	<b>&lt;1</b>	<1	<1
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m 25	<b>2</b>	6	3
Calcium	ppm	ASTM D5185m 200	<b>65</b>	63	65
Phosphorus	ppm	ASTM D5185m 300	<b>321</b>	325	313
Zinc	ppm	ASTM D5185m 370	<b>371</b>	381	374
Sulfur	ppm	ASTM D5185m 2500	<b>3546</b>	3854	3447

## CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	<b>2</b>	2	2
Sodium	ppm	ASTM D5185m	<b>0</b>	5	<1
Potassium	ppm	ASTM D5185m >20	<b>0</b>	1	0

## FLUID CLEANLINESS

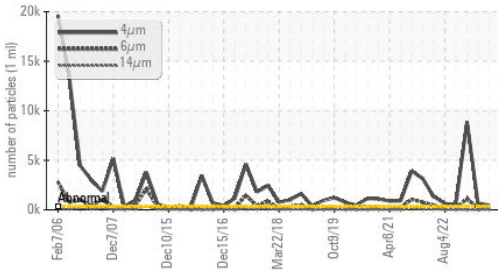
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >320	<b>▲ 470</b>	▲ 647	▲ 8909
Particles >6µm	ASTM D7647 >80	<b>▲ 169</b>	▲ 183	▲ 1084
Particles >14µm	ASTM D7647 >10	<b>▲ 25</b>	8	▲ 24
Particles >21µm	ASTM D7647 >3	<b>▲ 9</b>	2	▲ 6
Particles >38µm	ASTM D7647 >3	<b>0</b>	0	1
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >15/13/10	<b>▲ 16/15/12</b>	▲ 17/15/10	▲ 20/17/12

## FLUID DEGRADATION

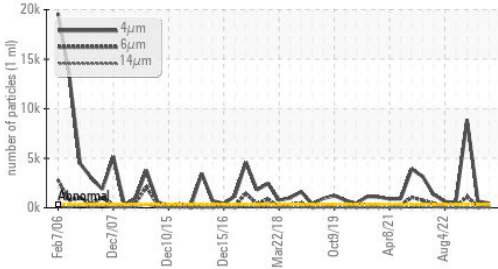
method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.57	<b>0.27</b>	0.28	0.30

# OIL ANALYSIS REPORT

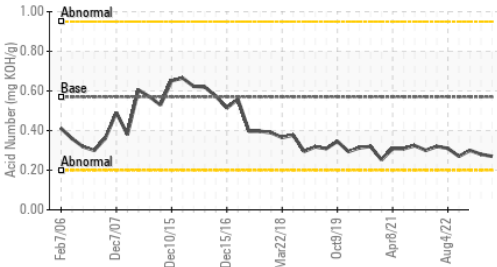
▲ Particle Trend



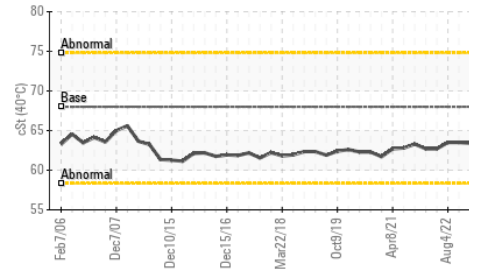
▲ Particle Trend



Acid Number



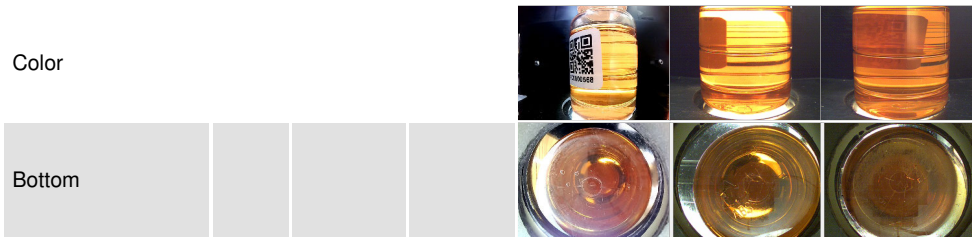
Viscosity @ 40°C



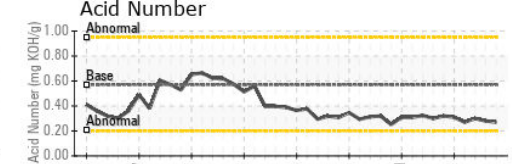
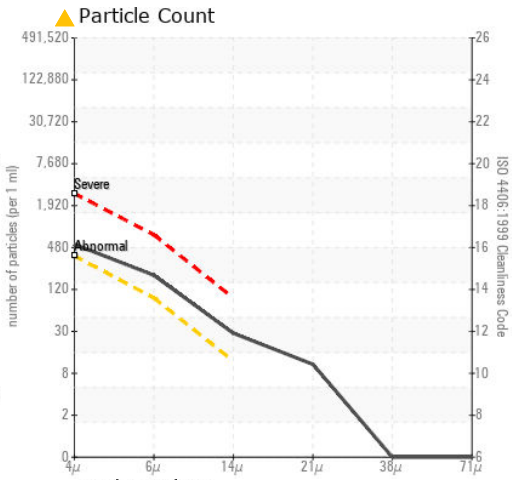
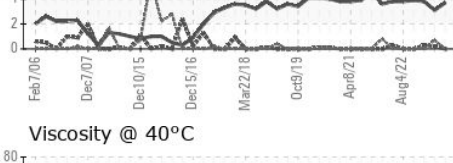
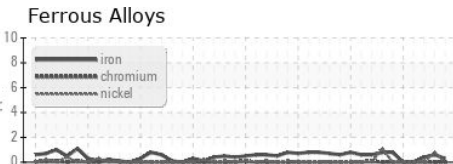
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 68	63.1	63.4	63.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : FC0000568 Received : 23 Aug 2023  
 Lab Number : 05932105 Diagnosed : 24 Aug 2023  
 Unique Number : 10617376 Diagnostician : Wes Davis  
 Test Package : IND 2

**FLUID CONTROL SERVICES, INC.**  
 1155 ALLGOOD ROAD, SUITE 15  
 MARIETTA, GA  
 US 30062  
 Contact: Duane Smith  
 dsmith.fcs@sealsaver.com  
 T: (770)509-5833  
 F: (770)509-5832

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)