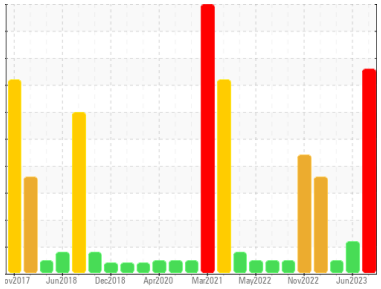
PROBLEM SUMMARY

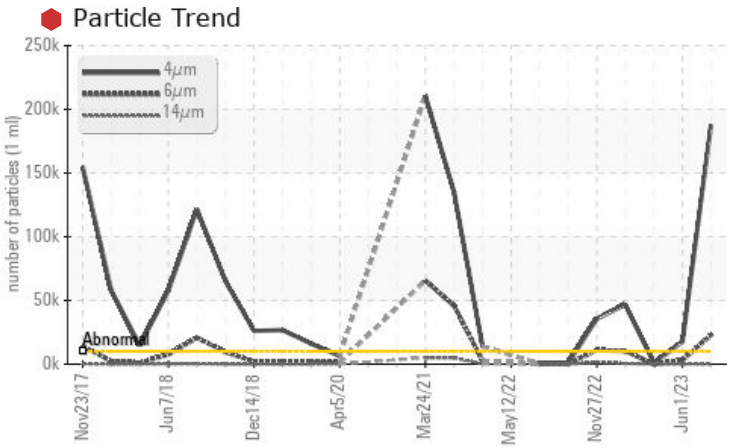
Sample Rating Trend

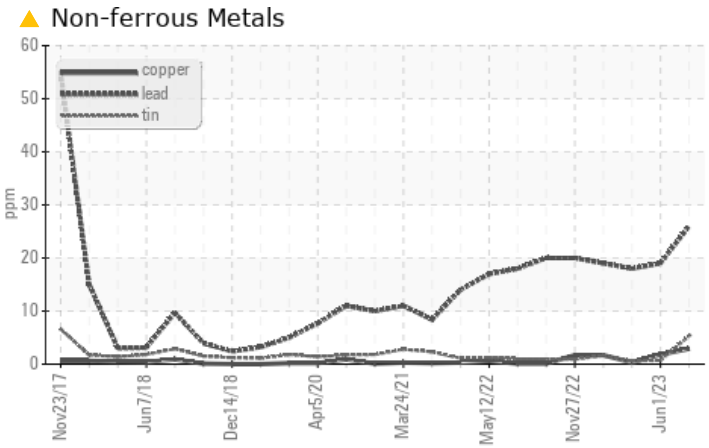


ISO

Area
106 Mill
Machine Id
106 MILL MOTOR STAND (PLS078)
Component
Bearing Lube
Fluid
PETRO CANADA TURBOFLO R&O 68 (--- GAL)

COMPONENT CONDITION SUMMARY

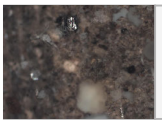




RECOMMENDATION

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ATTENTION	NORMAL
Tin	ppm	ASTM D5185(m)	>10	▲ 5	<1	<1
Antimony	ppm	ASTM D5185(m)		▲ 3	<1	<1
Particles >4µm		ASTM D7647	>10000	⬢ 187571	▲ 17712	829
Particles >6µm		ASTM D7647	>2500	⬢ 22792	▲ 3150	68
Oil Cleanliness		ISO 4406 (c)	>20/18/14	⬢ 25/22/14	▲ 21/19/14	17/13/10
Debris	scalar	Visual*	NONE	▲ LIGHT	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ WGOIL	NORML	NORML
Free Water	scalar	Visual*		▲ 1%	NEG	NEG
PrtFilter					*no image*	*no image*

Customer Id: ALGSSM
Sample No.: WC0837495
Lab Number: 02578465
Test Package: IND 2

To manage this report scan the QR code

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
gloria.gonzalez@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.
Water Drain-off	---	---	?	We advise that you follow the water drain-off procedure for this component.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Alert	---	---	?	We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.
Check Breathers	---	---	?	The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Check Seals	---	---	?	Check seals and/or filters for points of contaminant entry.
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

01 Jun 2023 Diag: Wes Davis

ISO

We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

02 Apr 2023 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

26 Jan 2023 Diag: Kevin Marson

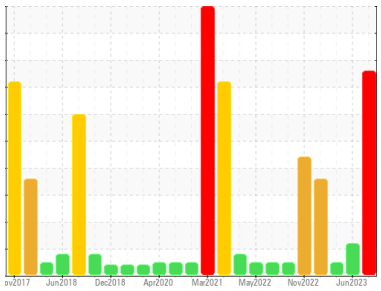
WATER

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. 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.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. Free water present. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
106 Mill
Machine Id
106 MILL MOTOR STAND (PLS078)
Component
Bearing Lube
Fluid
PETRO CANADA TURBOFLO R&O 68 (--- GAL)

DIAGNOSIS

Recommendation

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you follow the water drain-off procedure for this component. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique. DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

Wear

Tin and antimony ppm levels are noted. All other component wear rates are normal.

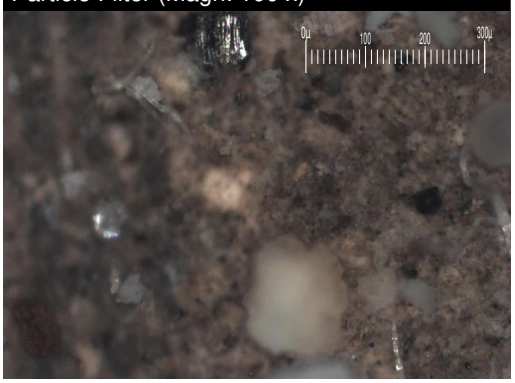
Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. Free water present. Light concentration of visible dirt/debris present in the oil.

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.

Particle Filter (Magn: 100 x)



SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0837495**	WC0496455	WC0714600
Sample Date		Client Info		**24 Aug 2023**	01 Jun 2023	02 Apr 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>120	**3**	2	2
Chromium	ppm	ASTM D5185(m)	>5	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>4	**0**	0	0
Lead	ppm	ASTM D5185(m)	>30	**26**	19	18
Copper	ppm	ASTM D5185(m)	>17	**3**	2	<1
Tin	ppm	ASTM D5185(m)	>10	▲ **5**	<1	<1
Antimony	ppm	ASTM D5185(m)		▲ **3**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

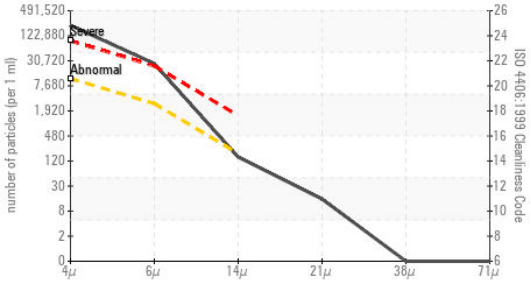
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**<1**	0	<1
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**<1**	0	<1
Magnesium	ppm	ASTM D5185(m)		**<1**	0	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	0	0
Phosphorus	ppm	ASTM D5185(m)	4	**16**	17	17
Zinc	ppm	ASTM D5185(m)	0	**11**	14	10
Sulfur	ppm	ASTM D5185(m)		**199**	219	210
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**0**	0	0
Sodium	ppm	ASTM D5185(m)		**<1**	0	<1
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	1
Water	%	ASTM D6304*	>0.2	**0.025**	0.009	---
ppm Water	ppm	ASTM D6304*	>2000	**253.5**	94.5	---

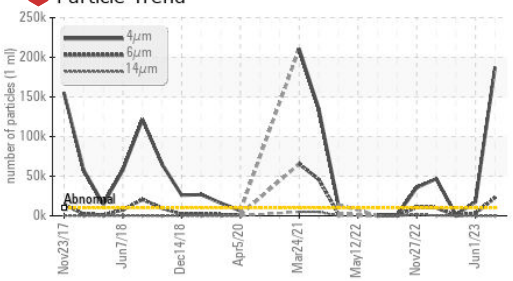
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	● **187571**	▲ 17712	829
Particles >6µm	ASTM D7647	>2500	● **22792**	▲ 3150	68
Particles >14µm	ASTM D7647	>160	**132**	115	7
Particles >21µm	ASTM D7647	>40	**13**	22	2
Particles >38µm	ASTM D7647	>10	**0**	1	0
Particles >71µm	ASTM D7647	>3	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	● **25/22/14**	▲ 21/19/14	17/13/10

OIL ANALYSIS REPORT

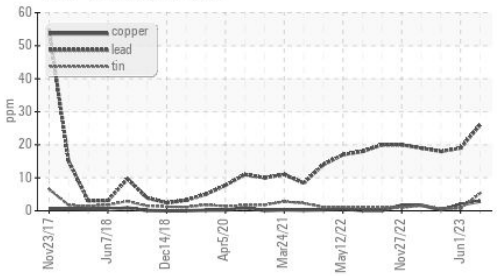
Particle Count



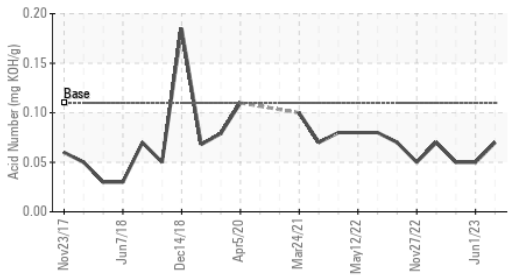
Particle Trend



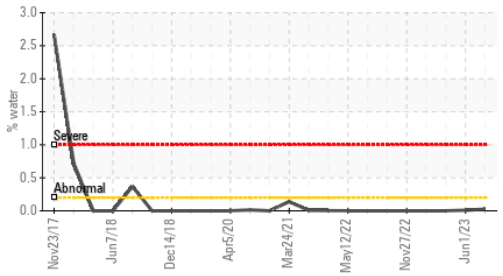
Non-ferrous Metals



Acid Number



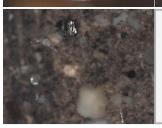
Water



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.11	**0.07**	0.05	0.05

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**VLITE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**LIGHT**	NONE	NONE
Debris	scalar	Visual*	NONE	▲ **LIGHT**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ **WGOIL**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**.5%**	.2%	NEG
Free Water	scalar	Visual*		▲ **1%**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	64.9	**63.8**	64.3	63.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter				*no image*	*no image*

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGOMA STEEL INC. - STORES DEPT.**
Sample No. : WC0837495 **Received** : 25 Aug 2023 301 WALLACE TERRACE
Lab Number : 02578465 **Diagnosed** : 01 Sep 2023 SAULT STE MARIE, ON
Unique Number : 5631525 **Diagnostician** : Kevin Marson CA P6C 1K8
Test Package : IND 2 (Additional Tests: BottomAnalysis, FILTERPATCH, KF, PQ, PrtCount, PrtFilter, TAN Man) Contact: Algoma Reliability

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.

algomareliability@algoma.com
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F: (705)945-3585