



PROBLEM SUMMARY

Sample Rating Trend

ISO



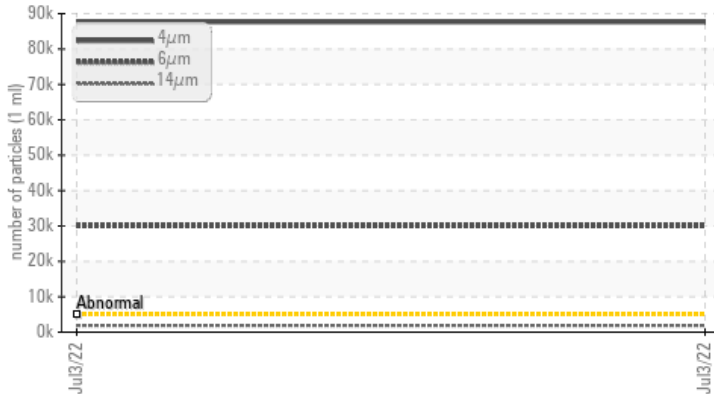
Machine Id
GM-3701A CRUDE LOADING LUBE OIL

Component
Lube System

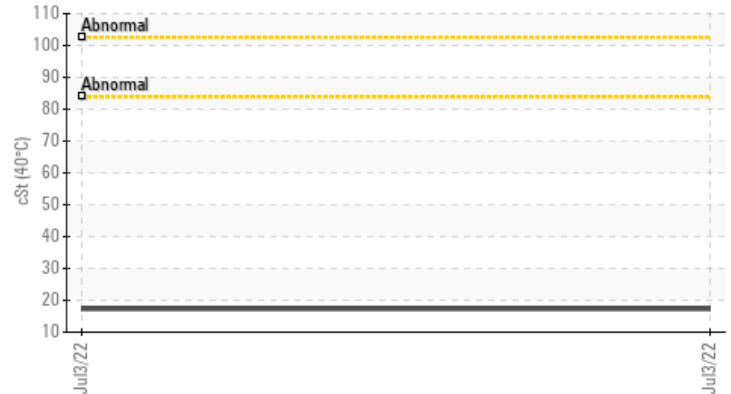
Fluid
NOT GIVEN (--- GAL)

COMPONENT CONDITION SUMMARY

Particle Trend



Viscosity @ 40°C



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 advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation. 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			SEVERE	---	---
Particles >4µm	ASTM D7647	>5000	87630	---	---
Particles >6µm	ASTM D7647	>1300	30009	---	---
Particles >14µm	ASTM D7647	>160	1871	---	---
Particles >21µm	ASTM D7647	>40	384	---	---
Particles >38µm	ASTM D7647	>10	16	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/22/18	---	---

Customer Id: HIBSTJ
Sample No.: PP
Lab Number: 02501976
Test Package: MAR 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.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
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.
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.
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



OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Machine Id
GM-3701A CRUDE LOADING LUBE OIL

Component
Lube System
Fluid
NOT GIVEN (--- 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 advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation. 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

Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Oil Cleanliness are severely high. Particles >4µm are severely high. Particles >38µm are notably high.

Fluid Condition

Viscosity of sample indicates oil is within ISO 15 range, advise investigate. 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		PP	---	---
Sample Date	Client Info		03 Jul 2022	---	---
Machine Age	hrs	Client Info	0	---	---
Oil Age	hrs	Client Info	0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			SEVERE	---	---

CONTAMINATION

	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	2	---	---
Chromium	ppm	ASTM D5185(m) >10	0	---	---
Nickel	ppm	ASTM D5185(m) >10	0	---	---
Titanium	ppm	ASTM D5185(m)	0	---	---
Silver	ppm	ASTM D5185(m)	0	---	---
Aluminum	ppm	ASTM D5185(m) >10	0	---	---
Lead	ppm	ASTM D5185(m) >20	0	---	---
Copper	ppm	ASTM D5185(m) >20	0	---	---
Tin	ppm	ASTM D5185(m) >10	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
Boron	ppm	ASTM D5185(m)	2	---	---
Barium	ppm	ASTM D5185(m)	0	---	---
Molybdenum	ppm	ASTM D5185(m)	0	---	---
Manganese	ppm	ASTM D5185(m)	0	---	---
Magnesium	ppm	ASTM D5185(m)	0	---	---
Calcium	ppm	ASTM D5185(m)	0	---	---
Phosphorus	ppm	ASTM D5185(m)	66	---	---
Zinc	ppm	ASTM D5185(m)	2	---	---
Sulfur	ppm	ASTM D5185(m)	2882	---	---
Lithium	ppm	ASTM D5185(m)	<1	---	---

CONTAMINANTS

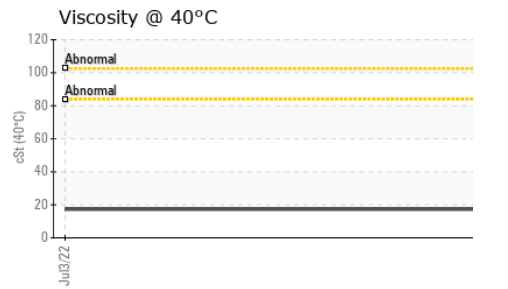
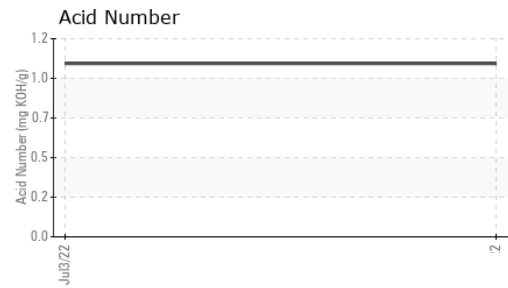
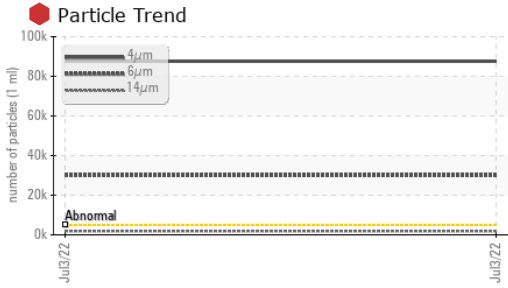
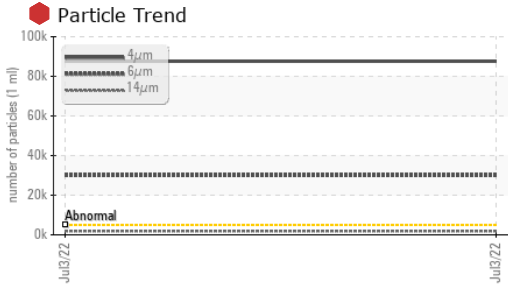
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	<1	---	---
Sodium	ppm	ASTM D5185(m)	<1	---	---
Potassium	ppm	ASTM D5185(m) >20	<1	---	---

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	87630	---	---
Particles >6µm	ASTM D7647	>1300	30009	---	---
Particles >14µm	ASTM D7647	>160	1871	---	---
Particles >21µm	ASTM D7647	>40	384	---	---
Particles >38µm	ASTM D7647	>10	16	---	---
Particles >71µm	ASTM D7647	>3	1	---	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/22/18	---	---



OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		1.05	---	---

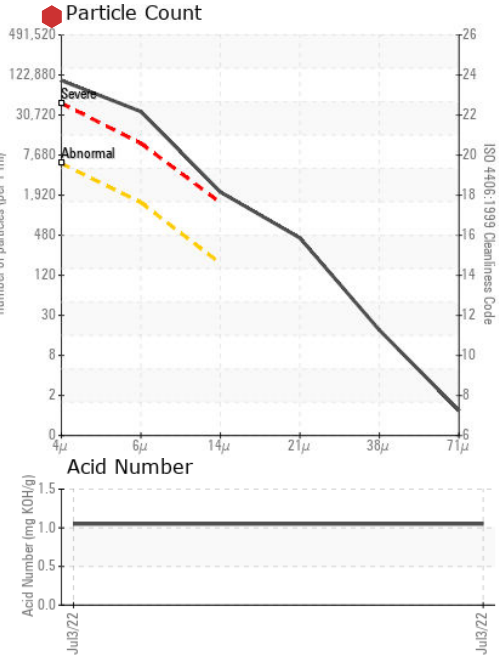
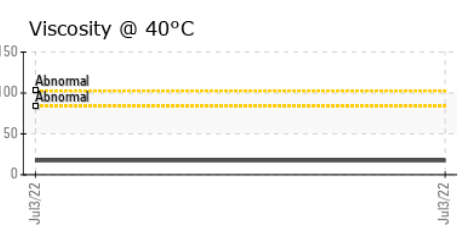
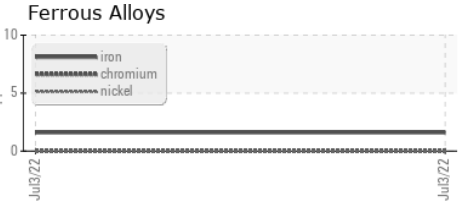
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Precipitate	scalar	Visual*	NONE	NONE	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	VLITE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		17.3	---	---

SAMPLE IMAGES

method	limit/base	current	history1	history2
Color			no image	no image
Bottom			no image	no image

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **HIBERNIA MGMT & DEVELOPMENT CO. LTD**
Sample No. : PP **Received** : 26 Jul 2022 **SUITE 1000,, 100 NEW GOWER STREET**
Lab Number : **02501976** **Diagnosed** : 27 Jul 2022 **ST. JOHNS, NL**
Unique Number : 5434937 **Diagnostician** : Kevin Marson **CA A1C 6K3**
Test Package : MAR 2 (Additional Tests: TAN Man) **Contact: Sam Nash**

To discuss this sample report, contact Customer Service at 1-800-268-2131. **samantha.m.nash@exxonmobil.com**
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. **T:**
 Validity of results and interpretation are based on the sample and information as supplied. **F: (709)722-3766**