

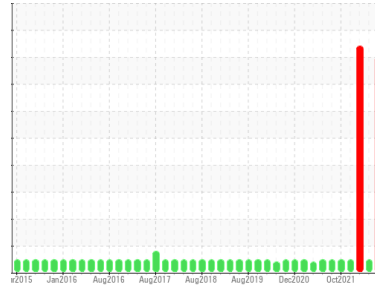
PROBLEM SUMMARY

Sample Rating Trend

ISO

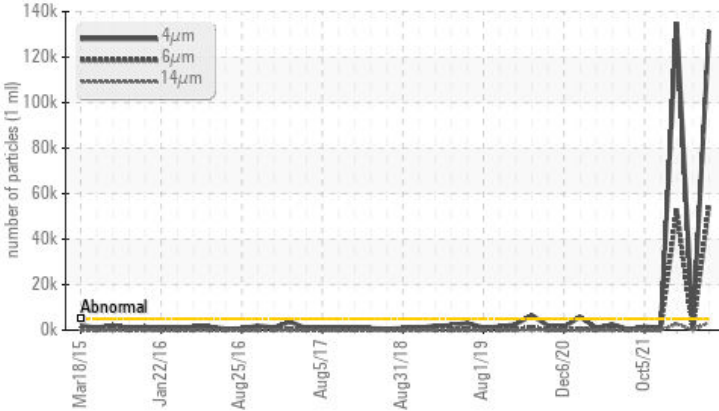


Area
Cranes [450255637]
Machine Id
Crane - Mid - Hydraulic System (Hoisting) (S/N Sample Tag MA-04002-S3)
Component
Hydraulic System
Fluid
PETRO CANADA ATF DEXRON III/MERCON (800 LTR)



COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	NORMAL	SEVERE
Particles >4µm	ASTM D7647	>5000	131591	795	134981
Particles >6µm	ASTM D7647	>1300	54884	115	52873
Particles >14µm	ASTM D7647	>160	3425	8	2788
Particles >21µm	ASTM D7647	>40	646	3	531
Particles >38µm	ASTM D7647	>10	35	1	18
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/23/19	17/14/10	24/23/19

Customer Id: TERHAM
Sample No.: PC0081063
Lab Number: 02614507
Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
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Kevin.Marson@wearcheck.com

To change component or sample information:
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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.
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

04 Oct 2023 Diag: Kevin Marson

NORMAL



Resample at the next service interval to monitor. 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



12 Aug 2023 Diag: Kevin Marson

ISO



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. 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. All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. Light concentration of visible dirt/debris present in the oil. 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



14 Jun 2023 Diag: Kevin Marson

NORMAL

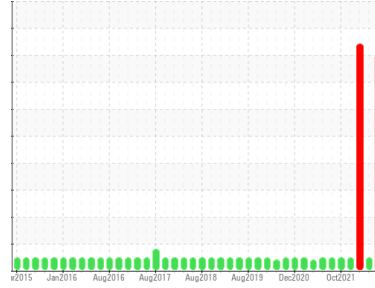


Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Area
Cranes [450255637]
Machine Id
Crane - Mid - Hydraulic System (Hoisting) (S/N Sample Tag MA-04002-S3)
Component
Hydraulic System
Fluid
PETRO CANADA ATF DEXRON III/MERCON (800 LTR)



DIAGNOSIS

Recommendation
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.

Wear
All component wear rates are normal.

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0081063	PC0076220	PC0052590
Sample Date	Client Info		20 Jan 2024	04 Oct 2023	12 Aug 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	NORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >20	2	<1	5
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	<1	0
Aluminum	ppm	ASTM D5185(m) >10	<1	0	<1
Lead	ppm	ASTM D5185(m) >20	<1	<1	2
Copper	ppm	ASTM D5185(m) >20	1	1	3
Tin	ppm	ASTM D5185(m) >10	0	0	<1
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

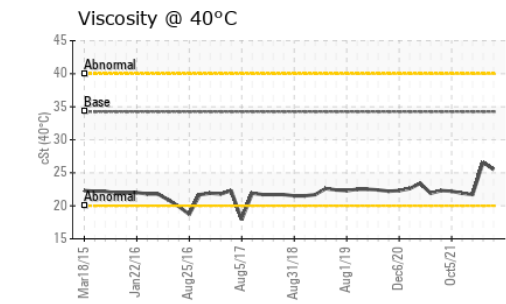
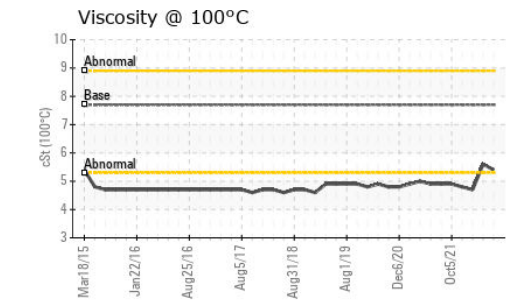
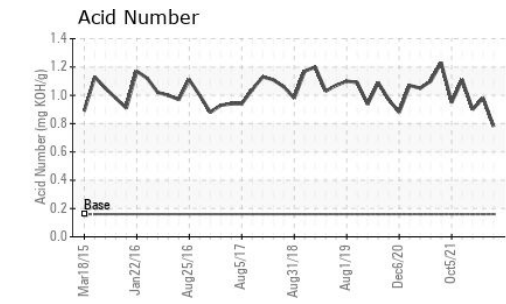
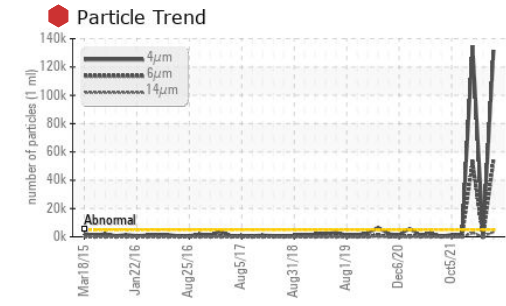
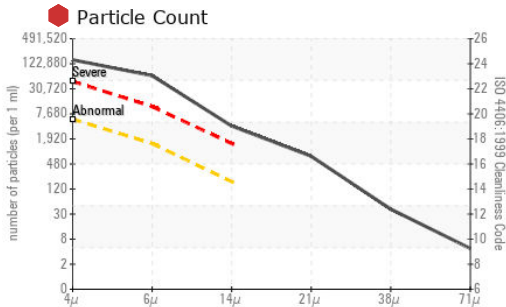
ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 130	92	102	81
Barium	ppm	ASTM D5185(m) 1.0	2	2	8
Molybdenum	ppm	ASTM D5185(m) 0.0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 1.0	2	2	<1
Calcium	ppm	ASTM D5185(m) 20	66	65	36
Phosphorus	ppm	ASTM D5185(m) 280	237	236	315
Zinc	ppm	ASTM D5185(m) 10	56	45	144
Sulfur	ppm	ASTM D5185(m) 440	756	727	822
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	2	2	2
Sodium	ppm	ASTM D5185(m)	3	1	4
Potassium	ppm	ASTM D5185(m) >20	<1	0	1

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0081063 **Received** : 09 Feb 2024
Lab Number : **02614507** **Tested** : 12 Feb 2024
Unique Number : 5723602 **Diagnosed** : 12 Feb 2024 - Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, VI)

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.

FLUID CLEANLINESS						
	method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647	>5000	131591	795	134981	
Particles >6µm	ASTM D7647	>1300	54884	115	52873	
Particles >14µm	ASTM D7647	>160	3425	8	2788	
Particles >21µm	ASTM D7647	>40	646	3	531	
Particles >38µm	ASTM D7647	>10	35	1	18	
Particles >71µm	ASTM D7647	>3	4	1	1	
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/23/19	17/14/10	24/23/19	

FLUID DEGRADATION						
	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g ASTM D974*	0.16	0.78	0.98	0.90	

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

FLUID PROPERTIES						
	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt ASTM D7279(m)	34.26	25.5	26.6	21.7	
Visc @ 100°C	cSt ASTM D7279(m)	7.7	5.4	5.6	4.7	
Viscosity Index (VI)	Scale ASTM D2270*	210	153	156	139	

SAMPLE IMAGES						
	method	limit/base	current	history1	history2	
Color						
Bottom						

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