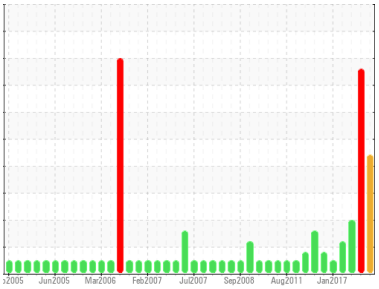
PROBLEM SUMMARY

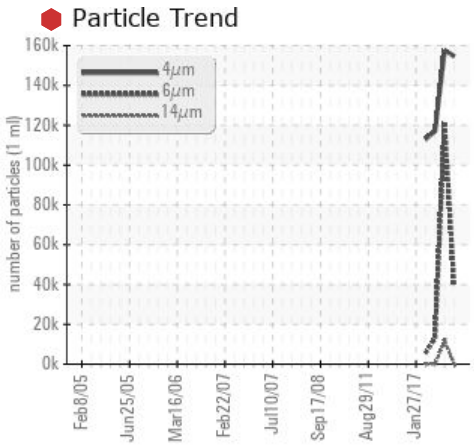
Sample Rating Trend

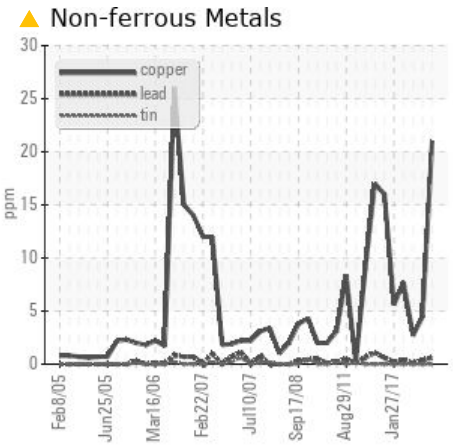


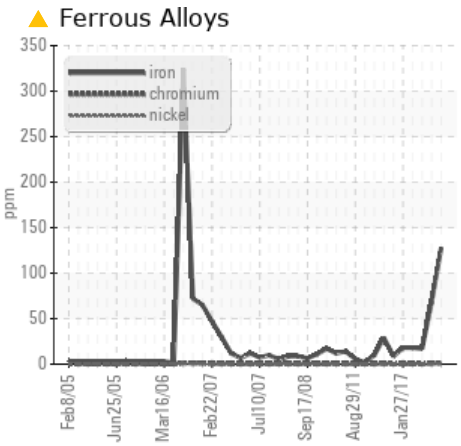
ISO

Area
Gas Compression [450248645]
Machine Id
Pump Crude Oil (C) - Lube System (S/N Sample Tag PA-21001C-S1)
Component
Pump
Fluid
PETRO CANADA HYDREX MV 36 (10 LTR)

COMPONENT CONDITION SUMMARY







RECOMMENDATION

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 recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Iron	ppm	ASTM D5185(m)	>75	▲ **128**	68	17
Copper	ppm	ASTM D5185(m)	>15	▲ **21**	4	3
Particles >6µm		ASTM D7647	>1300	⬢ **39255**	⬢ 120916	⬢ 13089
Oil Cleanliness		ISO 4406 (c)	>--/17/14	⬢ **24/22/14**	⬢ 24/24/21	⬢ 24/21/13

Customer Id: TERHAM
Sample No.: PC0076409
Lab Number: 02609360
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 Fluid	---	---	?	We recommend that you drain the oil from the component if this has not already been done.
Change Filter	---	---	?	We recommend you service the filters on this component.
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 Seals	---	---	?	Check seals and/or filters for points of contaminant entry.

HISTORICAL DIAGNOSIS

ISO

11 Nov 2019 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We advise that you check for visible metal particles in the oil. We recommend that you drain the oil from the component if this has not already been done. 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.Moderate concentration of visible metal present. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >38µm are abnormally high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

view report

ISO

01 Oct 2018 Diag: Kevin Marson

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 recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.All component wear rates are normal. Particles >6µm are severely high. The system cleanliness code is much higher than 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.

view report

VISCOSITY

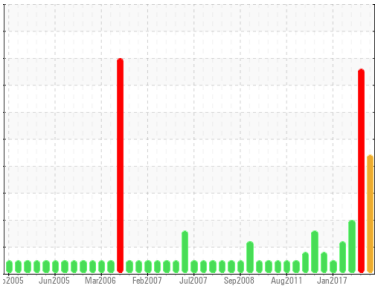
09 Oct 2017 Diag: Kevin Marson

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Particles >6µm are abnormally high. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. Viscosity of sample indicates oil is within ISO 22 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service. 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
Gas Compression [450248645]
Machine Id
Pump Crude Oil (C) - Lube System (S/N Sample Tag PA-21001C-S1)
Component
Pump
Fluid
PETRO CANADA HYDREX MV 36 (10 LTR)

DIAGNOSIS

Recommendation

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 recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

Wear

Copper and iron ppm levels are abnormal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0076409**	PC	PC
Sample Date		Client Info		**03 Jan 2024**	11 Nov 2019	01 Oct 2018
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**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>.1	**NEG**	NEG	NEG

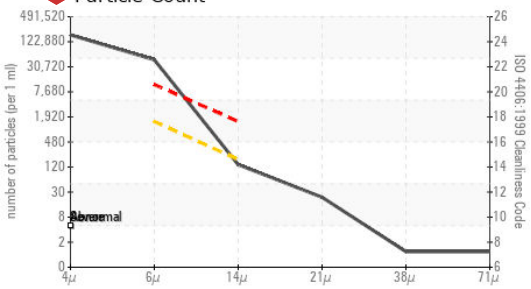
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**3**	57	7
Iron	ppm	ASTM D5185(m)	>75	▲ **128**	68	17
Chromium	ppm	ASTM D5185(m)	>5	**1**	1	0
Nickel	ppm	ASTM D5185(m)		**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	<1	0
Silver	ppm	ASTM D5185(m)		**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>5	**2**	1	<1
Lead	ppm	ASTM D5185(m)	>10	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>15	▲ **21**	4	3
Tin	ppm	ASTM D5185(m)		**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**<1**	<1	0
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)	1	**1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	**5**	2	<1
Calcium	ppm	ASTM D5185(m)	135	**49**	60	45
Phosphorus	ppm	ASTM D5185(m)	236	**310**	321	310
Zinc	ppm	ASTM D5185(m)	317	**311**	416	393
Sulfur	ppm	ASTM D5185(m)	561	**727**	729	717
Lithium	ppm	ASTM D5185(m)		**<1**	<1	0

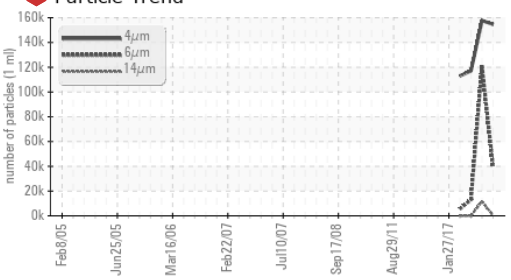
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**3**	3	<1
Sodium	ppm	ASTM D5185(m)		**35**	1	1
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	0

OIL ANALYSIS REPORT

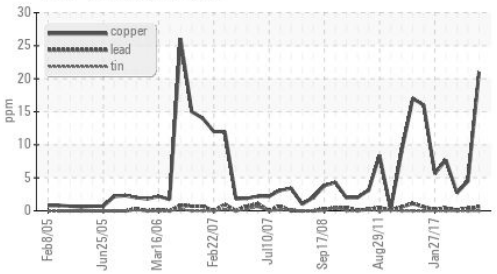
Particle Count



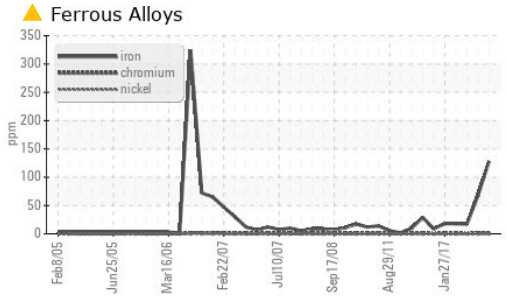
Particle Trend



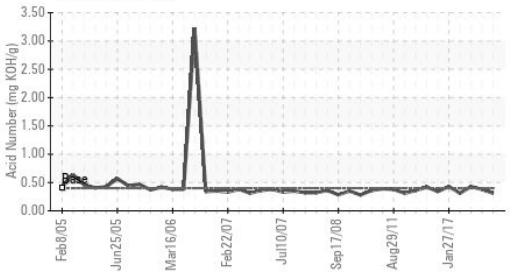
Non-ferrous Metals



Ferrous Alloys



Acid Number



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**154646**	157688	117109
Particles >6µm		ASTM D7647	>1300	**39255**	120916	13089
Particles >14µm		ASTM D7647	>160	**121**	11741	66
Particles >21µm		ASTM D7647	>40	**20**	1936	13
Particles >38µm		ASTM D7647	>10	**1**	34	0
Particles >71µm		ASTM D7647	>3	**1**	2	0
Oil Cleanliness		ISO 4406 (c)	>--/17/14	**24/22/14**	24/24/21	24/21/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.40	**0.31**	0.377	0.43

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	LTMOD	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Debris	scalar	Visual*	NONE	**NONE**	NONE	NONE
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*	>.1	**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)	32.25	**31.6**	31.3	29.7
Visc @ 100°C	cSt	ASTM D7279(m)	6.3	**6.1**	5.8	5.8
Viscosity Index (VI)	Scale	ASTM D2270*	148	**144**	129	141

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
Sample No. : PC0076409 **Recieved** : 17 Jan 2024
Lab Number : 02609360 **Diagnosed** : 18 Jan 2024
Unique Number : 5710446 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: KV100, PQ, PrtCount, 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.

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