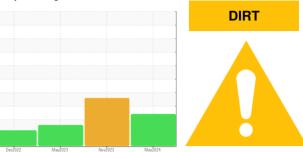


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id Machine Id HT 86

Agitator Gearbox

PETRO CANADA PURITY FG SYNTH EP GEAR 220 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

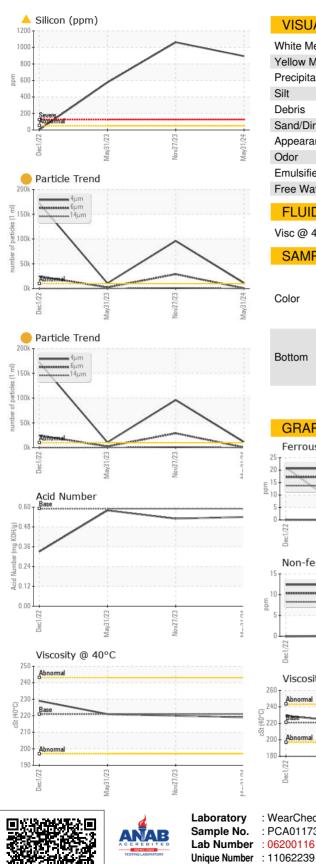
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117326	PCA0111049	USP234435
Sample Date		Client Info		31 May 2024	27 Nov 2023	31 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	2	5	2
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	0	1	0
Lead	ppm	ASTM D5185m	>100	0	0	0
Copper	ppm	ASTM D5185m	>50	<1	13	<1
Tin	ppm	ASTM D5185m	>10	<1	1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		2	0	0
Barium	ppm	ASTM D5185m		<1	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m		<1 0	0 1	0
Molybdenum	ppm	ASTM D5185m		0	1 0 <1	0 0 2
Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m		0 <1	1 0	0 0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0	1 0 <1	0 0 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0 6	1 0 <1 5	0 0 2 3
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0 6 507	1 0 <1 5 573	0 0 2 3 477
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 <1 0 6 507 5	1 0 <1 5 573 0	0 0 2 3 477 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 0 6 507 5 1277	1 0 <1 5 573 0 1449	0 0 2 3 477 0 1331
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		0 <1 0 6 507 5 1277 current	1 0 <1 5 573 0 1449 history1	0 0 2 3 477 0 1331 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	>50	0 <1 0 6 507 5 1277 current & 894	1 0 <1 5 573 0 1449 history1 ▲ 1062	0 0 2 3 477 0 1331 history2 ▲ 576
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50	0 <1 0 6 507 5 1277 current & 894 0	1 0 <1 5 573 0 1449 history1 ▲ 1062 0	0 0 2 3 477 0 1331 history2 \$76 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20	0 <1 0 6 507 5 1277 current ▲ 894 0 0 0	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1	0 0 2 3 477 0 1331 history2 ▲ 576 2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>50 >20 limit/base	0 <1 0 6 507 5 1277 current ▲ 894 0 0 0	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 history1	0 0 2 3 477 0 1331 history2 576 2 4 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4µm	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	>50 >20 limit/base >10000	0 <1 0 6 507 5 1277 current ▲ 894 0 0 0 current ▲ 1383	1 0 <1 5 573 0 1449 history1 1 0 1 1 0 1 1 history1 1 0 1 3 96143	0 0 2 3 477 0 1331 history2 2 4 history2 10675
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	>50 >20 limit/base >10000 >2500 >640	0 <1 0 6 507 5 1277 current 0 0 0 current 11383 552	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 1 history1 1 96143 ▲ 29015	0 0 2 3 477 0 1331 • history2 • 576 2 4 4 • history2 10675 2453
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4μm Particles >6μm Particles >14μm	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640	0 <1 0 6 507 5 1277 current 894 0 0 0 current 11383 552 22	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 1 0 1 0 1 0 1 0 2 0 1 0 1 0 1 0 1	0 0 2 3 477 0 1331
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4μm Particles >14μm Particles >21μm	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40	0 <1 0 6 507 5 1277 current 894 0 0 0 current 11383 552 22 7	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 1 history1 ▲ 96143 ▲ 99015 ▲ 1726 ▲ 456	0 0 2 3 477 0 1331
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Potassium FLUID CLEANI Particles >4μm Particles >5μm Particles >21μm Particles >38μm	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40	0 <1 0 6 507 5 1277	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 1 0 1 0 1 0 1 0 1 2 0 1 1 0 1 0 1	0 0 2 3 477 0 1331
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40 >40 >10	0 <1 0 6 507 5 1277 current ▲ 894 0 0 0 current 11383 552 22 7 2 22 7 2 1	1 0 <1 5 573 0 1449 history1 ▲ 1062 0 1 * 1062 0 1 * 1062 0 1 * 1062 0 1 * 1062 0 1 * 1062 0 1 * 1062 0 1 * 1062 0 * 1 * 1062 0 * 100 * 1062 0 * 1060 0 * 1000 0 * 1000 * 1000 0 * 10000000000	0 0 2 3 477 0 1331
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEANI Particles >4μm Particles >4μm Particles >21μm Particles >38μm Particles >38μm Particles >71μm Oil Cleanliness	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	>50 >20 limit/base >10000 >2500 >640 >160 >40 >10 >10 >20/18/16	0 <1 0 6 507 5 1277 current ▲ 894 0 0 0 current 11383 552 22 7 2 22 7 2 1 1 21/16/12	1 0 3 5 573 0 1449 history1 1 1062 0 1 1 history1 1 96143 4 96143 4 96143 4 29015 4 1726 4 1726 4 456 22 22 2 2	0 0 2 3 477 0 1331

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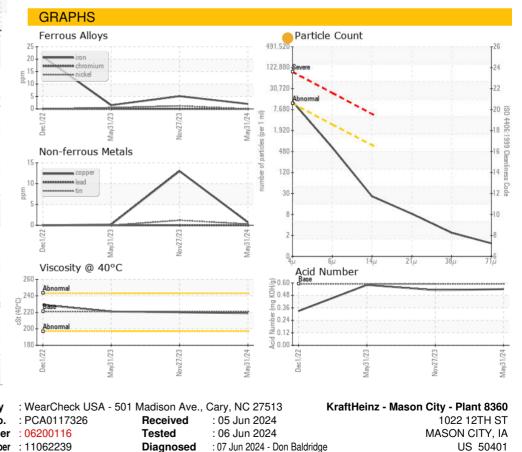


OIL ANALYSIS REPORT



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	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	221	219	220	221
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
				Contraction of the second seco		

Bottom



Test Package : IND 2 (Additional Tests: PrtCount) Certificate 12367 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) F: (641)421-2936

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Submitted By: Zachary Patterson

Contact: Service Manager

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