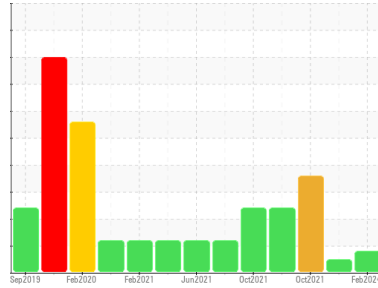


Machine Id
DR176

Component
Hydraulic System

Fluid
PETRO CANADA ENVIRON MV 46 (60 LTR)



DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

Viscosity of sample indicates oil is within ISO 32 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION	method	limit/base	current	history1	history2
Sample Number	Client Info		PC0080523	PC0080571	PC0052150
Sample Date	Client Info		12 Feb 2024	14 Jan 2024	20 Oct 2021
Machine Age	hrs	Client Info	9709	1121	7165
Oil Age	hrs	Client Info	0	250	0
Oil Changed	Client Info		Changed	Changed	N/A
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Water	WC Method	>0.1	NEG	NEG	NEG

WEAR METALS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	2	4	2
Chromium	ppm	ASTM D5185(m) >10	0	0	0
Nickel	ppm	ASTM D5185(m) >10	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	0	0
Aluminum	ppm	ASTM D5185(m) >10	<1	<1	<1
Lead	ppm	ASTM D5185(m) >10	<1	<1	1
Copper	ppm	ASTM D5185(m) >75	<1	7	<1
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

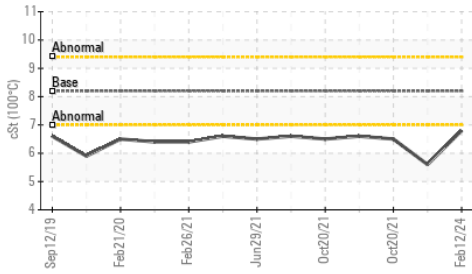
ADDITIVES	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	0	175	<1
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	5	4	10
Calcium	ppm	ASTM D5185(m) 0	4	753	▲ 6
Phosphorus	ppm	ASTM D5185(m) 650	452	166	268
Zinc	ppm	ASTM D5185(m) 0	31	32	▲ 44
Sulfur	ppm	ASTM D5185(m) 1420	1250	1903	▲ 972
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

CONTAMINANTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >20	<1	3	1
Sodium	ppm	ASTM D5185(m)	4	5	5
Potassium	ppm	ASTM D5185(m) >20	1	1	<1

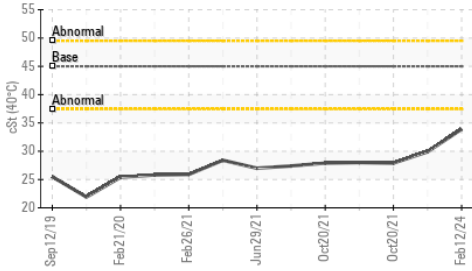
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	911	1040	▲ 13260
Particles >6µm	ASTM D7647	>1300	230	233	▲ 3506
Particles >14µm	ASTM D7647	>160	11	9	▲ 188
Particles >21µm	ASTM D7647	>40	3	4	39
Particles >38µm	ASTM D7647	>10	0	2	2
Particles >71µm	ASTM D7647	>3	0	2	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	17/15/11	17/15/10	▲ 21/19/15

OIL ANALYSIS REPORT

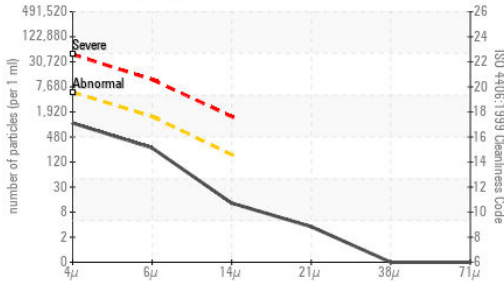
▲ Viscosity @ 100°C



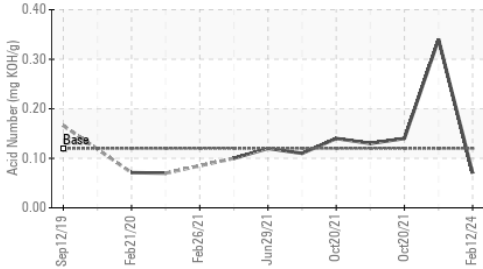
▲ Viscosity @ 40°C



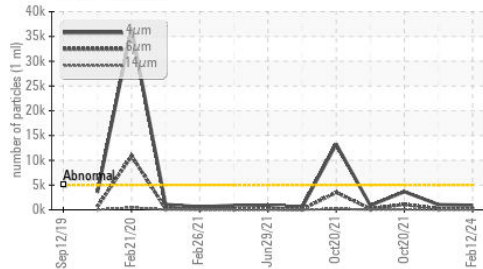
Particle Count



Acid Number



Particle Trend



FLUID DEGRADATION method limit/base current history1 history2

Acid Number (AN)	mg KOH/g	ASTM D974*	0.12	0.07	0.34	0.14
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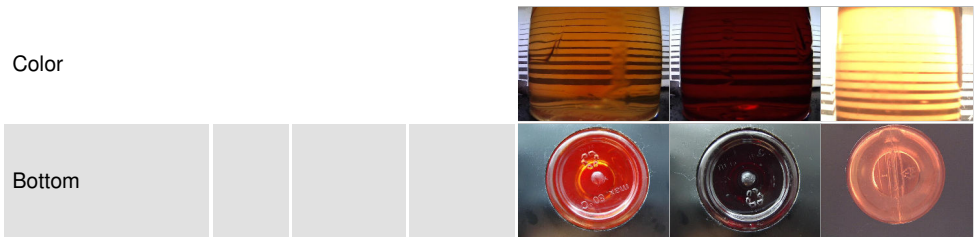
VISUAL method limit/base current history1 history2

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 PROPERTIES method limit/base current history1 history2

Visc @ 40°C	cSt	ASTM D7279(m)	45.0	▲ 33.9	29.9	▲ 27.9
Visc @ 100°C	cSt	ASTM D7279(m)	8.2	▲ 6.8	5.6	▲ 6.5
Viscosity Index (VI)	Scale	ASTM D2270*	158	164	128	▲ 199

SAMPLE IMAGES method limit/base current history1 history2



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080523
Lab Number : **02617414**
Unique Number : 5734524
Test Package : IND 2 (Additional Tests: KV100, VI)

Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations
 151 Ram Forest Rd,
 Stouffville, ON
 CA L4A 2G8
 Contact: Shannon Abbott
 sabbott@gipi.com
 T: (905)750-5900
 F:

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.