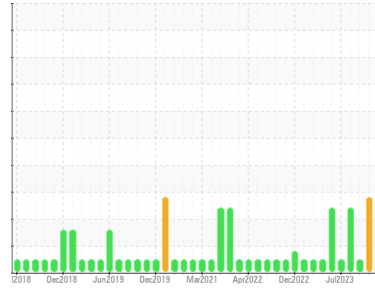




OIL ANALYSIS REPORT

Sample Rating Trend



WATER



Area
BOF/OG SYSTEM
 Machine Id
D - O.G. Motor Lube System # 8
 Component
Tank Hydraulic System
 Fluid
PETRO CANADA HARMONY AW 32 (45 GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. 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 advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Free water present. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

Fluid Condition

Viscosity of sample indicates oil is within ISO 46 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		WC0901973	WC0890393	WC0871210
Sample Date	Client Info		22 Jan 2024	15 Dec 2023	16 Oct 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			ABNORMAL	ABNORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>5	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184*	>DFLT	0	0	0
Iron	ppm	ASTM D5185(m) >20	<1	<1	<1
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >20	0	<1	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	0	<1	<1
Aluminum	ppm	ASTM D5185(m) >20	<1	0	0
Lead	ppm	ASTM D5185(m) >20	2	2	2
Copper	ppm	ASTM D5185(m) >20	<1	<1	<1
Tin	ppm	ASTM D5185(m) >20	0	0	0
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	<1	<1
Barium	ppm	ASTM D5185(m)	0	<1	<1
Molybdenum	ppm	ASTM D5185(m)	0	0	0
Manganese	ppm	ASTM D5185(m)	0	0	0
Magnesium	ppm	ASTM D5185(m) 110	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 60	50	49	49
Phosphorus	ppm	ASTM D5185(m) 330	349	340	336
Zinc	ppm	ASTM D5185(m) 390	428	434	434
Sulfur	ppm	ASTM D5185(m) 660	4440	4059	4337
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

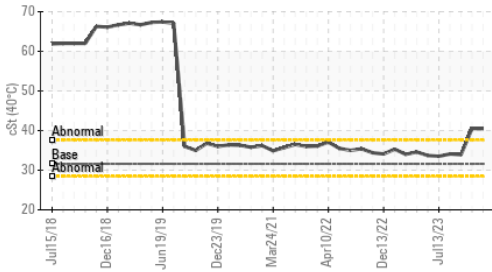
CONTAMINANTS

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



OIL ANALYSIS REPORT

▲ Viscosity @ 40°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		12425	30620	15630
Particles >6µm	ASTM D7647	>10240000	3573	6680	4239
Particles >14µm	ASTM D7647	>10240000	228	379	205
Particles >21µm	ASTM D7647	>25600000	42	80	35
Particles >38µm	ASTM D7647	>6400000	2	3	1
Particles >71µm	ASTM D7647	>1600000	1	0	0
Oil Cleanliness	ISO 4406 (c)	>--/30/30	21/19/15	22/20/16	21/19/15

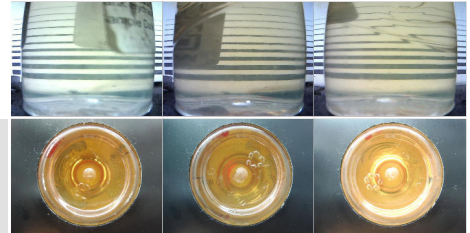
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.28	0.42	0.43	0.42

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	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ WGOIL	▲ WGOIL	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>5	NEG	.2%	.2%
Free Water	scalar	Visual*		▲ 1%	▲ 1%	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 40°C	cSt	ASTM D7279(m)	31.61	▲ 40.5	▲ 40.5	33.9

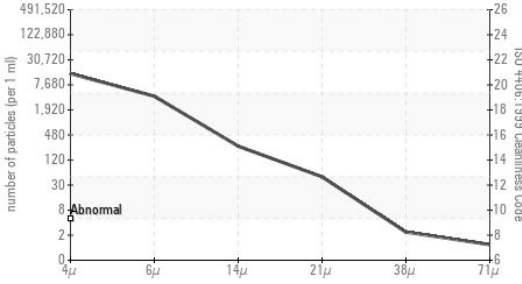
SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

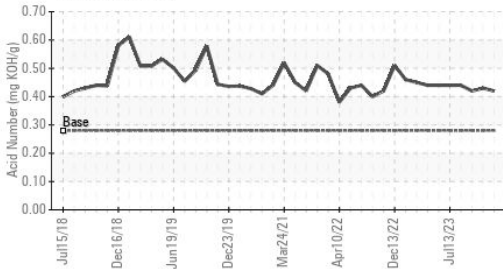


Bottom

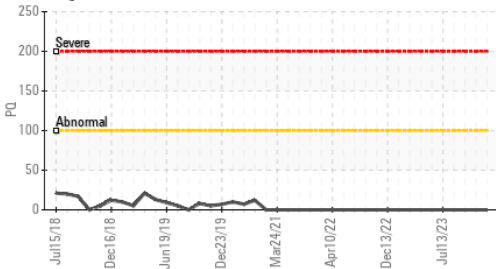
Particle Count



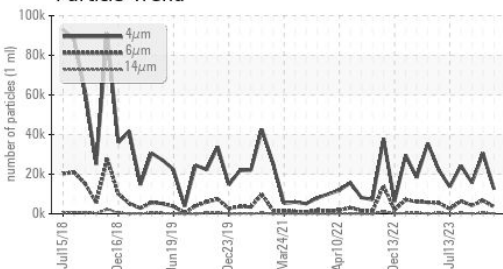
Acid Number



PQ



Particle Trend



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0901973
Lab Number : 02610735
Unique Number : 5711821
Test Package : IND 2 (Additional Tests: PQ)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **STELCO - BOSC - Basic Oxygen Slab Caster**
 2330 Regional Road #3, Door: BOSC8
 NANTICOKE, ON
 CA N0A 1L0
 Contact: Tom Walden
 Thomas.Walden@stelco.com
 T: (519)587-4541
 F: (519)587-7702

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.