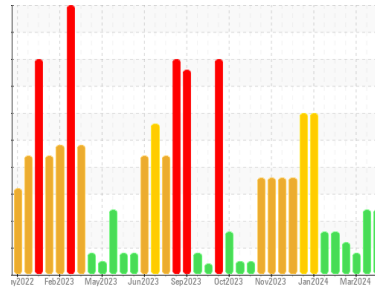




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area
BRUCE B/0B/54300 [POST RUN]
 Machine Id
0B-54300-EPG1-E2
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T4 15W40 (30 LTR)

DIAGNOSIS

▲ Recommendation

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

▲ Contamination

There is a high amount of fuel present in the oil. The water content is negligible. Tests confirm the presence of fuel in the oil.

▲ Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The AN level is acceptable for this fluid. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0896802	WC0896801	WC0896856
Sample Date	Client Info		07 Jun 2024	06 Jun 2024	13 Mar 2024
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	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>200	4	4	2
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>30	<1	<1	1
Lead	ppm	ASTM D5185(m)	>30	<1	0	<1
Copper	ppm	ASTM D5185(m)	>30	1	1	<1
Tin	ppm	ASTM D5185(m)	>15	<1	<1	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)		242	240	241
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		25	24	26
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		10	7	8
Calcium	ppm	ASTM D5185(m)		2134	2093	2217
Phosphorus	ppm	ASTM D5185(m)		621	610	653
Zinc	ppm	ASTM D5185(m)		705	695	719
Sulfur	ppm	ASTM D5185(m)		2236	2210	2455
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

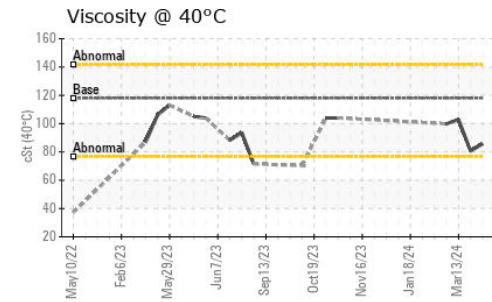
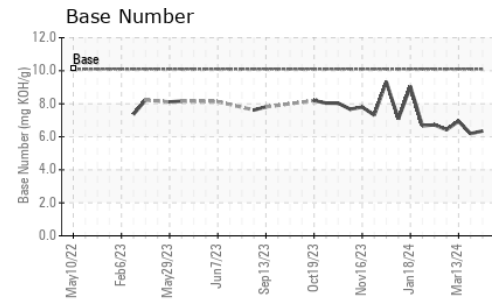
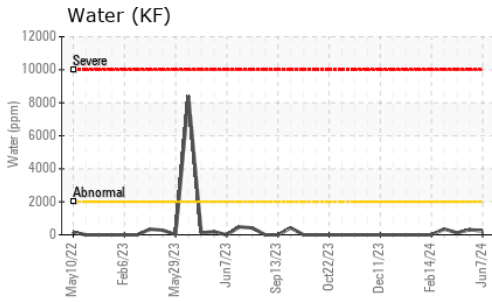
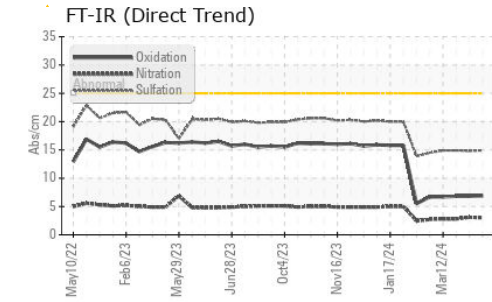
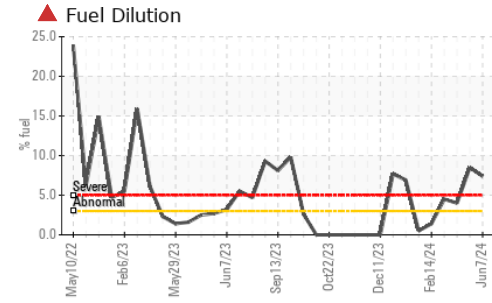
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>30	19	18	21
Sodium	ppm	ASTM D5185(m)		6	6	6
Potassium	ppm	ASTM D5185(m)	>20	3	3	3
Fuel	%	ASTM D7593*	>3.0	▲ 7.4	▲ 8.5	▲ 4
Water	%	ASTM D6304*	>0.2	0.022	0.031	0.012
ppm Water	ppm	ASTM D6304*	>2000	225	311	123

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	3.0	3.1	2.8
Sulfation	Abs./1mm	ASTM D7415*	>30	14.9	14.8	14.9



OIL ANALYSIS REPORT

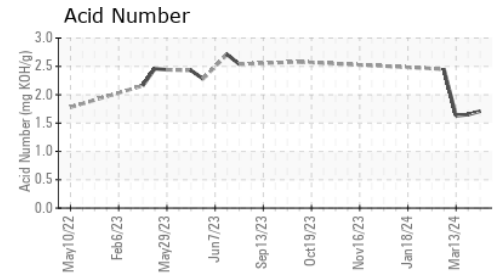
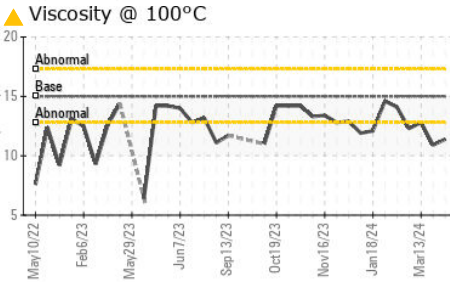
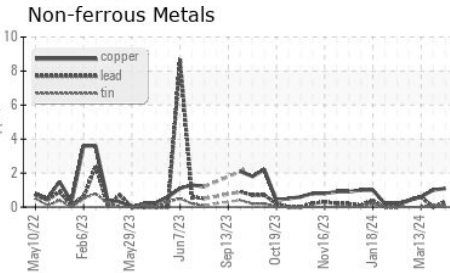
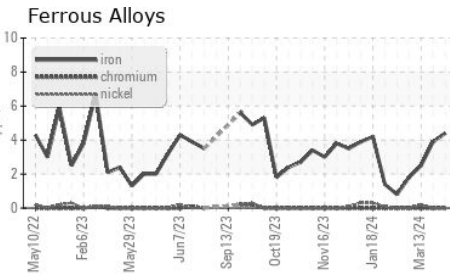


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	6.9	6.8	6.8
Acid Number (AN)	mg KOH/g	ASTM D974*		1.71	1.65	1.63
Base Number (BN)	mg KOH/g	ASTM D2896*	10.1	6.35	6.19	6.94

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	Visual*	NONE	NONE	NONE	
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
Precipitate	scalar	Visual*	NONE	NONE	NONE	
Silt	scalar	Visual*	NONE	NONE	NONE	
Debris	scalar	Visual*	NONE	NONE	NONE	
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Appearance	scalar	Visual*	NORML	NORML	NORML	
Odor	scalar	Visual*	NORML	NORML	NORML	
Emulsified Water	scalar	Visual*	>0.2	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)	118	85.7	80.6	103
Visc @ 100°C	cSt	ASTM D7279(m)	15	11.4	10.9	12.8
Viscosity Index (VI)	Scale	ASTM D2270*	133	122	122	119

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0896802
Lab Number : 02640980
Unique Number : 5798519
Test Package : MOB 2 (Additional Tests: KF, KV40, PercentFuel, PrtCount, Tan Auto, TAN Man, OilVisat

Bruce Power - Bruce A PdM
 P.O.Box 1540, 177 Tie Road, RM-222 U2 Column 2N11 615'
 Tiverton, ON CA N0G 2T0
 Contact: Bradley Mangotich
 bradley.mangotich@brucepower.com

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.

Diagnosed : 12 Jun 2024 - Kevin Marson
 T: (519)361-2673
 F: