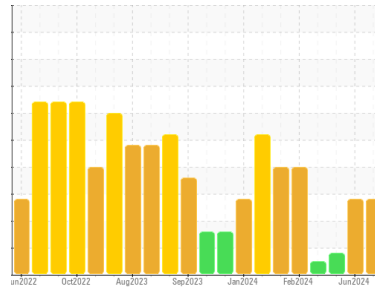




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Area

BRUCE B/0B/54300

Machine Id

0B-54300-EPG2-E2

Component

Diesel Engine

Fluid

CHEVRON URSA SUPER PLUS 40 (7 GAL)

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. Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate. 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		WC0896805	WC0896858	WC0871718
Sample Date	Client Info		24 Jun 2024	23 Jun 2024	28 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	MARGINAL

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)	>100	6	6	1
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>4	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>40	<1	<1	0
Copper	ppm	ASTM D5185(m)	>330	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)		262	261	261
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		29	28	30
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		5	7	8
Calcium	ppm	ASTM D5185(m)		2172	2089	2303
Phosphorus	ppm	ASTM D5185(m)	1000	590	584	625
Zinc	ppm	ASTM D5185(m)	1090	667	653	711
Sulfur	ppm	ASTM D5185(m)		2191	2178	2312
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	20	21	16
Sodium	ppm	ASTM D5185(m)		4	4	1
Potassium	ppm	ASTM D5185(m)	>20	4	4	<1
Fuel	%	ASTM D7593*	>5	▲ 8.1	▲ 8.2	▲ 2
Water	%	ASTM D6304*	>0.2	0.023	0.026	0.013
ppm Water	ppm	ASTM D6304*	>2000	235	269	138

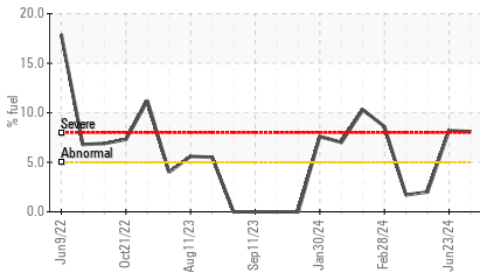
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	2.8	2.8	2.5
Sulfation	Abs.1mm	ASTM D7415*	>30	13.7	13.7	14.0

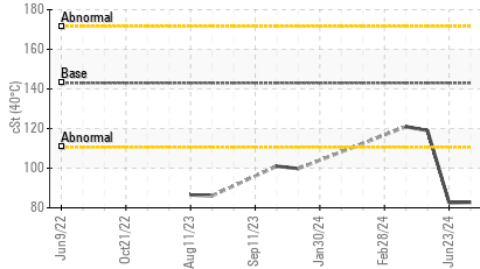


OIL ANALYSIS REPORT

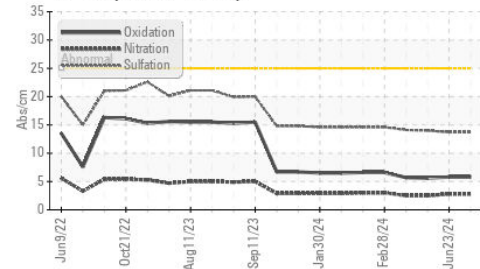
Fuel Dilution



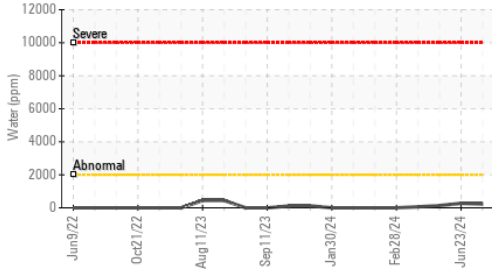
Viscosity @ 40°C



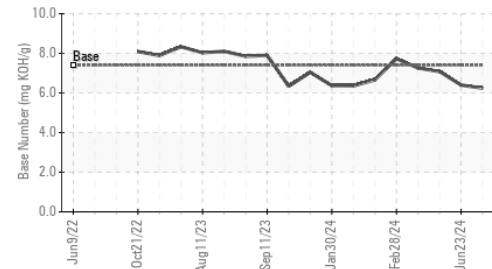
FT-IR (Direct Trend)



Water (KF)



Base Number



FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	ASTM D7414*	>25	5.8	5.8	5.6
Acid Number (AN)	mg KOH/g	ASTM D974*	2.24	1.36	1.45	
Base Number (BN)	mg KOH/g	ASTM D2896*	7.4	6.24	6.40	7.08

VISUAL

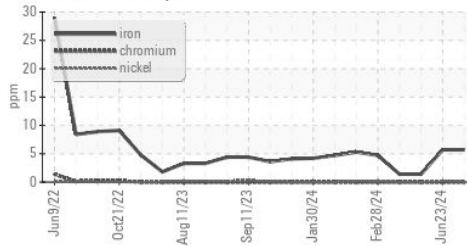
	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES

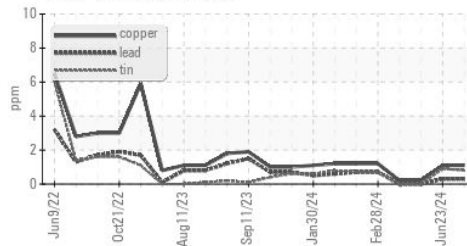
	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	143	82.6	119
Visc @ 100°C	cSt	ASTM D7279(m)	14.7	11.0	13.6
Viscosity Index (VI)	Scale	ASTM D2270*	102	120	111

GRAPHS

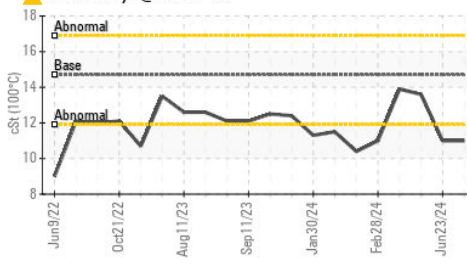
Ferrous Alloys



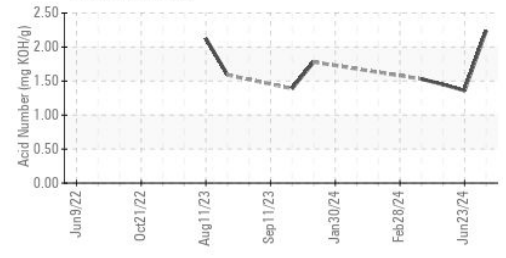
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0896805
Lab Number : 02644314
Unique Number : 5801853
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.

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