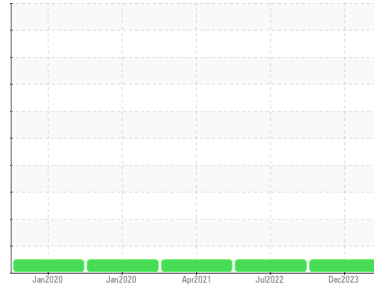


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
Blue Bird 4941
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0091672	PCA0045408	PCA0013066
Sample Date	Client Info		07 Dec 2023	24 Jul 2022	02 Apr 2021
Machine Age	mls	Client Info	83501	70307	62618
Oil Age	mls	Client Info	13194	7689	8318
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	53	53	47
Chromium	ppm	ASTM D5185m >20	1	1	<1
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m >2	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	6	14	10
Lead	ppm	ASTM D5185m >40	<1	0	0
Copper	ppm	ASTM D5185m >330	12	58	2
Tin	ppm	ASTM D5185m >15	<1	<1	<1
Antimony	ppm	ASTM D5185m	---	---	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	0	3	3
Barium	ppm	ASTM D5185m 0	0	2	0
Molybdenum	ppm	ASTM D5185m 50	61	61	62
Manganese	ppm	ASTM D5185m 0	<1	<1	<1
Magnesium	ppm	ASTM D5185m 950	902	863	934
Calcium	ppm	ASTM D5185m 1050	993	1041	1062
Phosphorus	ppm	ASTM D5185m 995	856	873	1007
Zinc	ppm	ASTM D5185m 1180	1172	1177	1169
Sulfur	ppm	ASTM D5185m 2600	2597	2903	2610

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	5	4	3
Sodium	ppm	ASTM D5185m	2	2	2
Potassium	ppm	ASTM D5185m >20	5	8	10

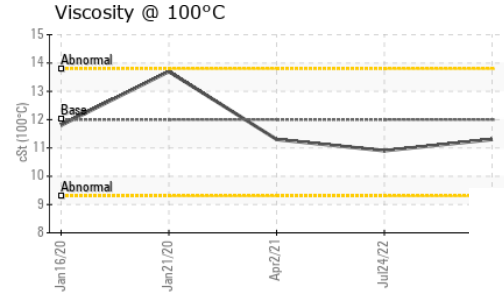
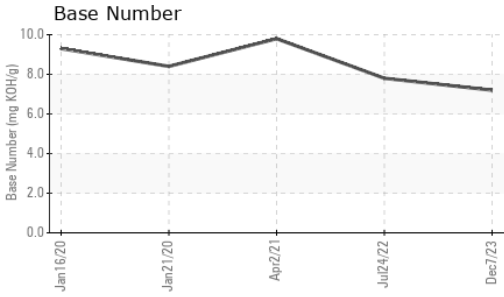
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	1.2	1.1	0.6
Nitration	Abs/cm	*ASTM D7624 >20	12.8	13.4	9.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	23.7	24.3	19.9

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	21.5	21.9	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	7.2	7.8	9.8

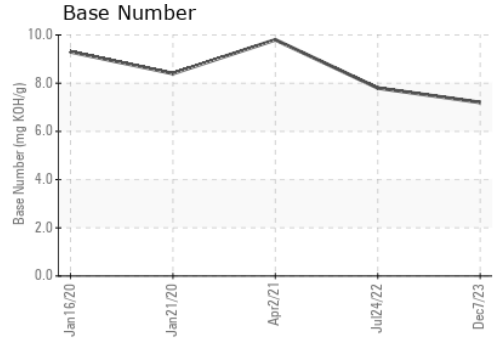
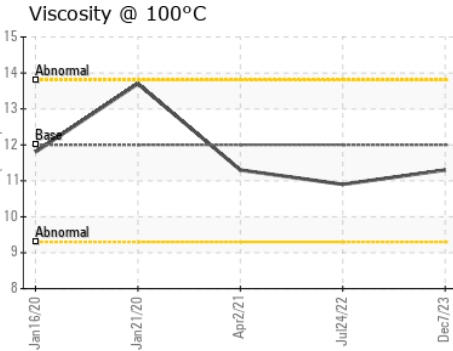
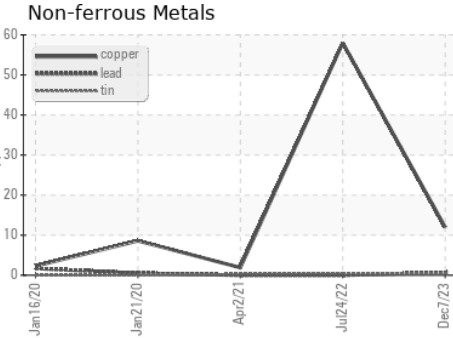
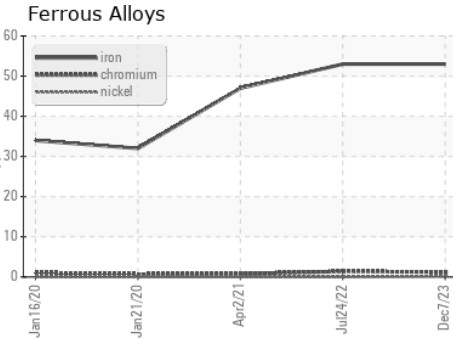
OIL ANALYSIS REPORT



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
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	12.00	11.3	10.9	11.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0091672 **Received** : 20 Dec 2023
Lab Number : **06040306** **Diagnosed** : 21 Dec 2023
Unique Number : 10795535 **Diagnostician** : Angela Borella
Test Package : FLEET (Additional Tests: FT-IR(Diff))

ICSB370 - Alton
 4525 North Alby Road
 Godfrey, IL
 US 62035
 Contact: Chad Ingold
 c.ingold@illinois-central.com
 T: (618)466-5400
 F:

Certificate L2367
 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)