

OIL ANALYSIS REPORT

SAMPLE INFORMATION metho

Sample Rating Trend



Machine Id

Blue Bird 4799

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (18 QTS)

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.

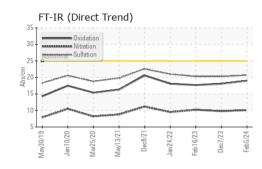
Fluid Condition

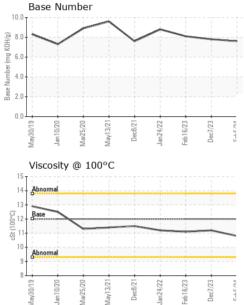
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0091595	PCA0091740	PCA0045497
Sample Date		Client Info		05 Feb 2024	07 Dec 2023	16 Feb 2023
Machine Age	mls	Client Info		201415	180021	158025
Oil Age	mls	Client Info		21394	21996	14825
Oil Changed	mio	Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
				NOTIMAL	NOTIVIAL	NOTIVIAL
CONTAMINAT	ION	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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	34	32	50
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	7	18
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm		>330	1	<1	1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	1-1-			-		
		method	limit/base	current	history1	history2
ADDITIVES	nnm	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	0	<1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	0 0	<1 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 63	<1 0 62	0 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 63 <1	<1 0 62 0	0 0 61 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 0 63 <1 1042	<1 0 62 0 960	0 0 61 1 946
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 0 63 <1 1042 1207	<1 0 62 0 960 1051	0 0 61 1 946 1123
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	0 0 63 <1 1042 1207 1124	<1 0 62 0 960 1051 859	0 0 61 1 946 1123 967
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	0 0 63 <1 1042 1207 1124 1413	<1 0 62 0 960 1051 859 1227	0 0 61 1 946 1123 967 1234
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	0 0 63 <1 1042 1207 1124	<1 0 62 0 960 1051 859 1227 2857	0 0 61 1 946 1123 967 1234 3124
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 63 <1 1042 1207 1124 1413	<1 0 62 0 960 1051 859 1227	0 0 61 1 946 1123 967 1234
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 63 <1 1042 1207 1124 1413 3620	<1 0 62 0 960 1051 859 1227 2857	0 0 61 1 946 1123 967 1234 3124
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 63 <1 1042 1207 1124 1413 3620 current	<1 0 62 0 960 1051 859 1227 2857 history1	0 0 61 1 946 1123 967 1234 3124 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 0 950 1050 995 1180 2600 limit/base >25	0 0 63 <1 1042 1207 1124 1413 3620 current 4	<1 0 62 0 960 1051 859 1227 2857 history1 3	0 0 61 1 946 1123 967 1234 3124 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4	<1 0 62 0 960 1051 859 1227 2857 history1 3 0	0 0 61 1 946 1123 967 1234 3124 history2 4 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 8	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 8 8	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7 history1	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i>	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 8 current 0.4	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7 history1 0.4	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >6 >20	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 8 current 0.4 10.1	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7 history1 0.4 9.8	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25 history2 0.6 10.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 20 20 20 20 20	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 4 8 current 0.4 10.1 20.7 current	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7 history1 0.4 9.8 20.3 history1	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25 history2 0.6 10.2 20.3 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >20 imit/base >20	0 0 63 <1 1042 1207 1124 1413 3620 current 4 4 8 <u>current</u> 0.4 10.1 20.7	<1 0 62 0 960 1051 859 1227 2857 history1 3 0 7 history1 0.4 9.8 20.3	0 0 61 1 946 1123 967 1234 3124 history2 4 3 25 history2 0.6 10.2 20.3

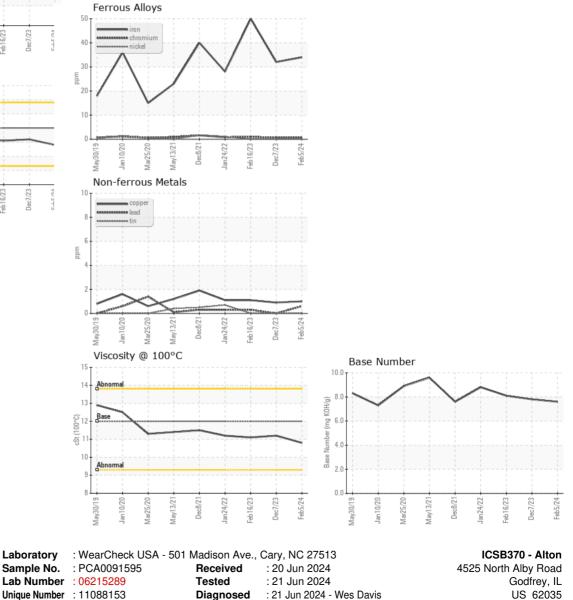


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.8	11.2	11.1
GRAPHS						





Unique Number : 11088153 Diagnosed : 21 Jun 2024 - Wes Davis Test Package : FLEET Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. c.ingold@illinois-central.com * - 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)

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