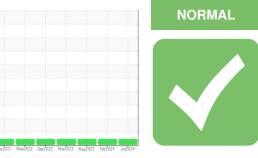


## **OIL ANALYSIS REPORT**

Sample Rating Trend



Component Diesel Engine PETRO CANADA DURON SHP 10W30 (--- QTS)

SAMPLE INFORMATION method

## DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id **DT752** 

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the oil.

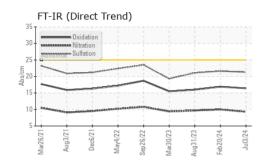
### Fluid Condition

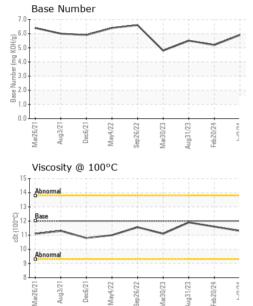
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number Sample Date Machine Age	mls	Client Info Client Info Client Info		PCA0121929 03 Jul 2024 226451	PCA0110894 20 Feb 2024 226451	PCA0104154 31 Aug 2023 202039
Oil Age Oil Changed	mls	Client Info Client Info		226451 N/A	226451 Changed	0 Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT		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	>120	13	12	13
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	3	3
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	3	0	3
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES			11 11 11	ourropt	binto mid	history.0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	limit/base	2	nistory i 2	nistory∠ 3
	ppm ppm					
Boron		ASTM D5185m	2	2	2	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	2 <1	2 2	3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	2 <1 64	2 2 57	3 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	2 <1 64 0	2 2 57 0	3 0 66 <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	2 <1 64 0 948	2 2 57 0 857	3 0 66 <1 908
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	2 <1 64 0 948 1133	2 2 57 0 857 1082	3 0 66 <1 908 1160
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	2 <1 64 0 948 1133 911	2 2 57 0 857 1082 957	3 0 66 <1 908 1160 958
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	2 0 50 0 950 1050 995 1180	2 <1 64 0 948 1133 911 1212	2 2 57 0 857 1082 957 1207	3 0 66 <1 908 1160 958 1242
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	2 <1 64 0 948 1133 911 1212 2370	2 2 57 0 857 1082 957 1207 2271	3 0 66 <1 908 1160 958 1242 3038
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	2 <1 64 0 948 1133 911 1212 2370 current	2 2 57 0 857 1082 957 1207 2271 history1	3 0 66 <1 908 1160 958 1242 3038 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 <b>method</b>	2 0 50 950 1050 995 1180 2600	2 <1 64 0 948 1133 911 1212 2370 current 7	2 2 57 0 857 1082 957 1207 2271 history1 6	3 0 66 <1 908 1160 958 1242 3038 history2 5
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 <b>method</b> ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	2 <1 64 0 948 1133 911 1212 2370 current 7 0	2 2 57 0 857 1082 957 1207 2271 <b>history1</b> 6 0	3 0 66 <1 908 1160 958 1242 3038 history2 5 2
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 <b>limit/base</b> >25	2 <1 64 0 948 1133 911 1212 2370 current 7 0 3	2 2 57 0 857 1082 957 1207 2271 history1 6 0 0	3 0 66 <1 908 1160 958 1242 3038 history2 5 2 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20	2 <1 64 0 948 1133 911 1212 2370 current 7 0 3 3	2 2 57 0 857 1082 957 1207 2271 history1 6 0 0 0 0	3 0 66 <1 908 1160 958 1242 3038 history2 5 2 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >20	2 <1 64 0 948 1133 911 1212 2370 current 7 0 3 current 0.6	2 2 57 0 857 1082 957 1207 2271 history1 6 0 0 0 history1 0.6	3 0 66 <1 908 1160 958 1242 3038 history2 5 2 <1 <1 history2 0.5
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>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	2 <1 64 0 948 1133 911 1212 2370 current 7 0 3 current 0.6 9.3	2 2 57 0 857 1082 957 1207 2271 history1 6 0 0 0 history1 0.6 10.0	3 0 66 <1 908 1160 958 1242 3038 history2 5 2 2 <1 history2 0.5 9.7
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 <b>imit/base</b> >25 20 <b>imit/base</b> >4 >20 >30	2 <1 64 0 948 1133 911 1212 2370 current 7 0 3 current 0.6 9.3 21.3	2 2 57 0 857 1082 957 1207 2271 history1 6 0 0 0 history1 0.6 10.0 21.6	3 0 66 <1 908 1160 958 1242 3038 <b>history2</b> 5 2 <1 <b>bistory2</b> 0.5 9.7 21.1

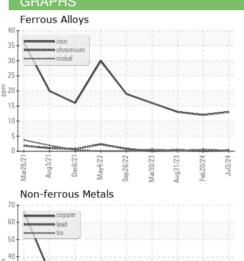


# **OIL ANALYSIS REPORT**

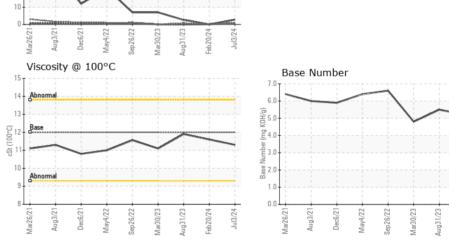




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	11.3	11.6	11.9
GRAPHS						



30 20



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **NW WHITE & CO - COLUMBIA DIVISION** Sample No. 100 INDEPENDENCE BLVD : PCA0121929 Received : 15 Jul 2024 Lab Number : 06235520 Tested : 15 Jul 2024 COLUMBIA, SC Unique Number : 11124354 Diagnosed : 15 Jul 2024 - Wes Davis US 29210 Test Package : FLEET Contact: GEORGE EDWARDS Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. gedwards@nwwhite.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

lul3/24

eb20/24