

## **OIL ANALYSIS REPORT**

# (P798362) Preferred Service-Tractor [Preferred Service-Tractor] 192A02019

**Diesel Engine** 

Fluid PETRO CANADA DURON SHP 10W30 (36 QTS)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

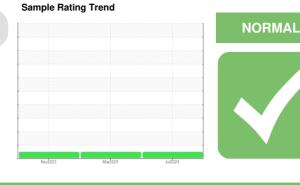
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

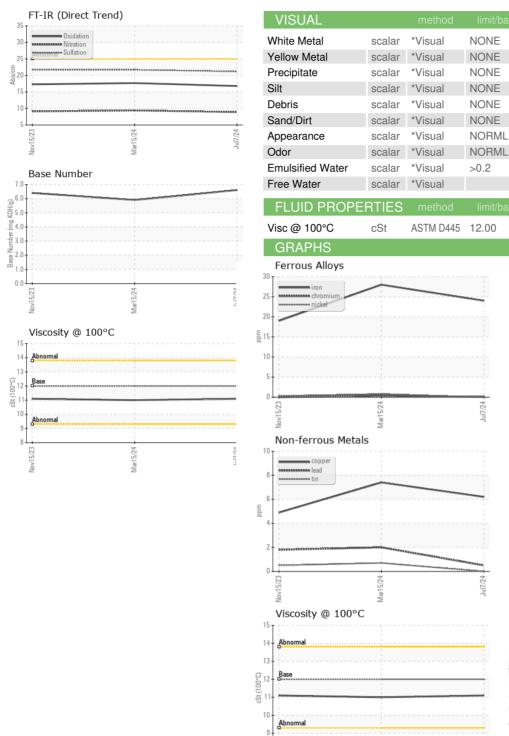
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



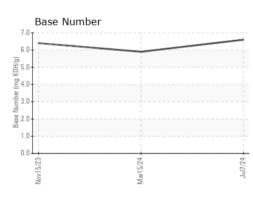
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0126900	PCA0120231	PCA0109422
Sample Date		Client Info		07 Jul 2024	15 Mar 2024	15 Nov 2023
Machine Age	mls	Client Info		399119	382961	364207
Oil Age	mls	Client Info		16158	18754	19995
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<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	>100	24	28	19
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	17	4	3
Lead	ppm	ASTM D5185m	>40	<1	2	2
Copper	ppm	ASTM D5185m	>330	6	7	5
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	nnm	ASTM D5185m	2	0	0	0
20.0	ppm	AOTIVI DOTODITI	<u>_</u>	U	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	0	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 50	0 58	0 62	0 54
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0	0 58 <1	0 62 <1	0 54 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950	0 58 <1 954	0 62 <1 963 1113 1058	0 54 <1 929 1057 989
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050	0 58 <1 954 1055	0 62 <1 963 1113	0 54 <1 929 1057
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 50 0 950 1050 995	0 58 <1 954 1055 1016	0 62 <1 963 1113 1058	0 54 <1 929 1057 989
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	0 50 0 950 1050 995 1180	0 58 <1 954 1055 1016 1174	0 62 <1 963 1113 1058 1265	0 54 <1 929 1057 989 1194
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	0 50 0 950 1050 995 1180 2600	0 58 <1 954 1055 1016 1174 3182	0 62 <1 963 1113 1058 1265 2943	0 54 <1 929 1057 989 1194 2523
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	0 50 0 950 1050 995 1180 2600	0 58 <1 954 1055 1016 1174 3182 current	0 62 <1 963 1113 1058 1265 2943 history1	0 54 <1 929 1057 989 1194 2523 history2
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	0 50 0 950 1050 995 1180 2600	0 58 <1 954 1055 1016 1174 3182 current 4	0 62 <1 963 1113 1058 1265 2943 history1 4	0 54 <1 929 1057 989 1194 2523 history2 3
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	0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	0 58 <1 954 1055 1016 1174 3182 current 4 6	0 62 <1 963 1113 1058 1265 2943 history1 4 1	0 54 <1 929 1057 989 1194 2523 history2 3 5
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	0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	0 58 <1 954 1055 1016 1174 3182 current 4 6 65	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2	0 54 <1 929 1057 989 1194 2523 history2 3 5 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >25 >20	0 58 <1 954 1055 1016 1174 3182 current 4 6 65 current	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2 2 history1	0 54 <1 929 1057 989 1194 2523 history2 3 5 0 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	0 58 <1 954 1055 1016 1174 3182 current 4 6 65 65 current 0.5	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2 history1 0.6	0 54 <1 929 1057 989 1194 2523 history2 3 5 0 0 history2 0.6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	0 58 <1 954 1055 1016 1174 3182 <u>current</u> 4 6 65 <u>current</u> 0.5 8.9	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2 history1 0.6 9.4	0 54 <1 929 1057 989 1194 2523 history2 3 5 0 0 history2 0.6 9.1
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	0 58 <1 954 1055 1016 1174 3182 <u>current</u> 4 6 65 <u>current</u> 0.5 8.9 21.2	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2 <u>history1</u> 0.6 9.4 21.7	0 54 <1 929 1057 989 1194 2523 history2 3 5 0 history2 0.6 9.1 21.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	0 58 <1 954 1055 1016 1174 3182 current 4 6 65 current 0.5 8.9 21.2 current	0 62 <1 963 1113 1058 1265 2943 history1 4 1 2 history1 0.6 9.4 21.7 history1	0 54 <1 929 1057 989 1194 2523 history2 3 5 0 0 history2 0.6 9.1 21.7 history2



# **OIL ANALYSIS REPORT**



Nov15/23



NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

11.1

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

NEG

NEG

11.0

NONE

NONE

NONE

NONE

NONE

NONE

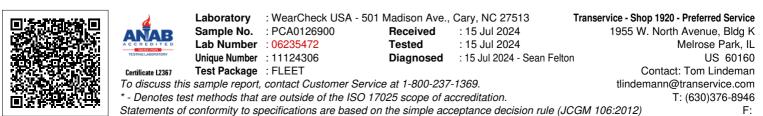
NORML

NORML

NEG

NEG

11.1



Mar15/24

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Submitted By: Tom Lindeman

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