

## Area (P798348) Preferred Service-Tractor [Preferred Service-Tractor] 192A01998

**Diesel Engine** Fluid

PETRO CANADA DURON SHP 10W30 (36 QTS)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

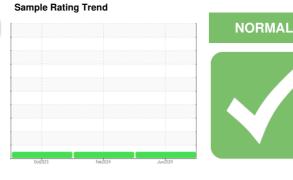
All component wear rates are normal.

#### 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.

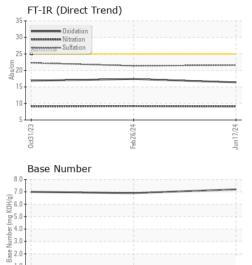


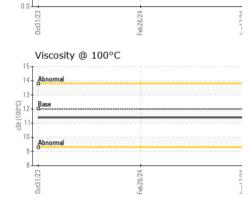


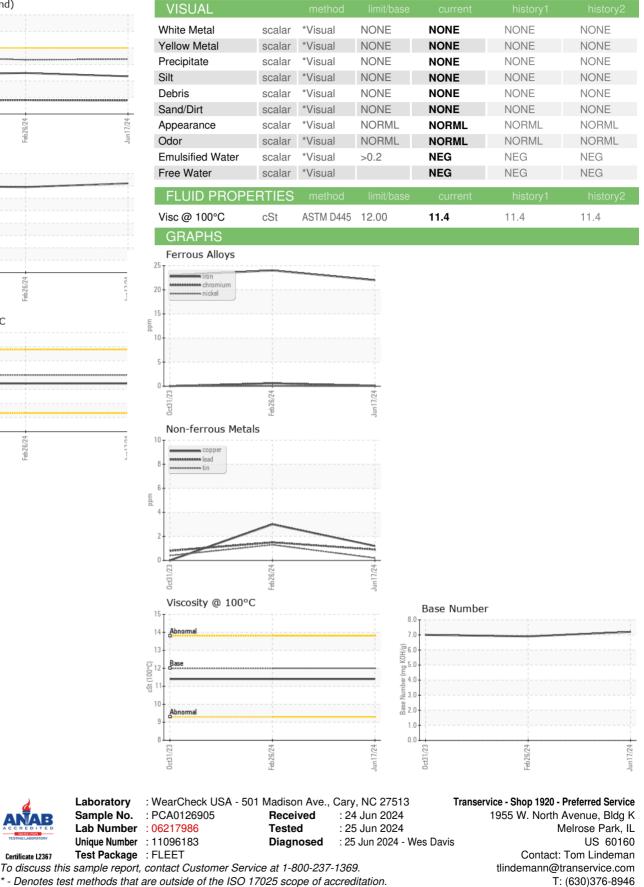
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0126905	PCA0116691	PCA0109413
Sample Date		Client Info		17 Jun 2024	26 Feb 2024	31 Oct 2023
Machine Age	mls	Client Info		443096	427979	410626
Oil Age	mls	Client Info		15117	17353	17818
Oil Changed		Client Info		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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	22	24	23
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	4	3
Lead	ppm	ASTM D5185m	>40	۲ ۲	2	<1
Copper	ppm	ASTM D5185m	>330	1	3	0
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m	210	<1	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
	1-1-					
ADDITIVES		method			history1	history2
ADDITIVES	nnm		limit/base		history1	history2
Boron	ppm	ASTM D5185m	2	4	8	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	4 0	8 0	3 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 64	8 0 70	3 0 58
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 64 <1	8 0 70 <1	3 0 58 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	4 0 64 <1 1025	8 0 70 <1 1002	3 0 58 0 909
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	4 0 64 <1 1025 1154	8 0 70 <1 1002 1124	3 0 58 0 909 1022
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	4 0 64 <1 1025 1154 1075	8 0 70 <1 1002 1124 1092	3 0 58 0 909 1022 910
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 0 950 1050 995 1180	4 0 64 <1 1025 1154 1075 1371	8 0 70 <1 1002 1124 1092 1267	3 0 58 0 909 1022 910 1218
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm 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	4 0 64 <1 1025 1154 1075	8 0 70 <1 1002 1124 1092	3 0 58 0 909 1022 910
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 0 950 1050 995 1180 2600	4 0 64 <1 1025 1154 1075 1371 3457 current	8 0 70 <1 1002 1124 1092 1267 3097 history1	3 0 58 0 909 1022 910 1218 2636 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus 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 0 950 1050 995 1180 2600	4 0 64 <1 1025 1154 1075 1371 3457 current 3	8 0 70 <1 1002 1124 1092 1267 3097 history1 9	3 0 58 0 909 1022 910 1218 2636 history2 3
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 <b>limit/base</b> >25	4 0 64 <1 1025 1154 1075 1371 3457 current 3 4	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2	3 0 58 0 909 1022 910 1218 2636 history2 3 4
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 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	4 0 64 <1 1025 1154 1075 1371 3457 current 3 4 0	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0
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 <b>Imit/base</b> >25 >20 <b>Imit/base</b>	4 0 64 <1 1025 1154 1075 1371 3457 current 3 4 0 0	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 3 history1	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0 0
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 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> >3	4 0 64 <1 1025 1154 1075 1371 3457 current 3 4 0 current 1.2	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 3 history1 1.1	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0 history2 1.5
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	4 0 64 <1 1025 1154 1075 1371 3457 <i>current</i> 3 4 0 <i>current</i> 1.2 9.1	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 3 history1 1.1 9.2	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0 history2 1.5 9.1
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> >3	4 0 64 <1 1025 1154 1075 1371 3457 current 3 4 0 current 1.2	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 3 history1 1.1	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0 history2 1.5
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 D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	4 0 64 <1 1025 1154 1075 1371 3457 <i>current</i> 3 4 0 <i>current</i> 1.2 9.1 21.6	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 8 history1 1.1 9.2 21.4 history1	3 0 58 0 909 1022 910 1218 2636 history2 3 4 0 history2 1.5 9.1 22.3 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 <b>imit/base</b> >25 20 <b>imit/base</b> >3 >20 >30	4 0 64 <1 1025 1154 1075 1371 3457 <u>current</u> 3 4 0 <u>current</u> 1.2 9.1 21.6	8 0 70 <1 1002 1124 1092 1267 3097 history1 9 2 3 3 history1 1.1 9.2 21.4	3 0 58 0 909 1022 910 1218 2636 <b>history2</b> 3 4 0 <b>history2</b> 1.5 9.1 22.3



# **OIL ANALYSIS REPORT**







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

Certificate 12367

Laboratory

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