

# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

### 612493 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

# DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

# 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.

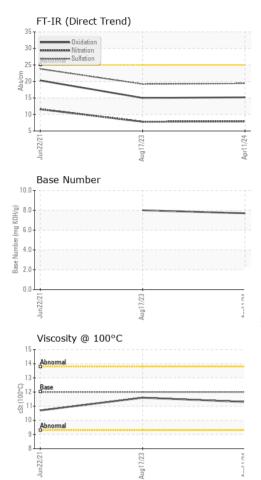
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0121412	PCA0100799	PCA0053289
Sample Date		Client Info		11 Apr 2024	17 Aug 2023	22 Jun 2021
Machine Age	mls	Client Info		76171	56907	17305
Oil Age	mls	Client Info		76171	56907	12000
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	16	11	29
Chromium	ppm	ASTM D5185m	>20	1	1	3
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		10	3	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m		11	7	12
Lead	ppm	ASTM D5185m	>40	0	0	4
Copper	ppm	ASTM D5185m	>330	22	36	2
Tin	ppm	ASTM D5185m	>15	2	2	1
Antimony	ppm	ASTM D5185m		-		0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	mag	ASTM D5185m		0	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m	limit/base	0 current	0 historv1	0 historv2
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current	history1 6	history2 7
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 13 0	history1 6 0	history2 7 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 13 0 52	history1 6 0 55	history2 7 0 65
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 13 0 52 <1	history1 6 0 55 <1	history2 7 0 65 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 13 0 52 <1 903	history1 6 0 55 <1 948	history2 7 0 65 <1 972
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current       13       0       52       <1       903       1299	history1 6 0 55 <1 948 1206	history2 7 0 65 <1 972 1085
ADDITIVES 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 ASTM D5185m	2 0 50 0 950 1050 995	current       13       0       52       <1       903       1299       1088	history1 6 0 55 <1 948 1206 1096	history2 7 0 65 <1 972 1085 1017
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method       ASTM D5185m	2 0 50 0 950 1050 995 1180	current       13       0       52       <1       903       1299       1088       1325	history1 6 0 55 <1 948 1206 1096 1343	history2 7 0 65 <1 972 1085 1017 1267
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current       13       0       52       <1       903       1299       1088       1325       3713	history1 6 0 55 <1 948 1206 1096 1343 3574	history2 7 0 65 <1 972 1085 1017 1267 2417
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current       13       0       52       <1       903       1299       1088       1325       3713       current	history1 6 0 55 <1 948 1206 1096 1343 3574 history1	history2     7     0     65     <1     972     1085     1017     1267     2417     history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method       ASTM D5185m	2 0 50 950 1050 995 1180 2600	current       13       0       52       <1       903       1299       1088       1325       3713       current       4	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3	history2       7       0       65       <1       972       1085       1017       1267       2417       history2       5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25	current       13       0       52       <1       903       1299       1088       1325       3713       current       4       3	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1	history2       7       0       65       <1       972       1085       1017       1267       2417       history2       5       3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method       ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 >20	current       13       0       52       <1       903       1299       1088       1325       3713       current       4       3       25	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b>	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2
ADDITIVES 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	method   ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4
ADDITIVES 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 <b>TS</b> ppm ppm ppm	method   ASTM D5185m   Method   ASTM D5185M	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3     7.9	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3     7.8	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4     11.6
ADDITIVES 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	method   ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4     11.6     23.8
ADDITIVES 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	method   ASTM D5185m   Method   ASTM D5185M	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3     7.9	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3     7.8	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4     11.6
ADDITIVES 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	method     ASTM D5185m     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 20 <i>imit/base</i> >3 >20 30	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3     7.9     19.4	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3     7.8     19.2	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4     11.6     23.8
ADDITIVES 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 TS ppm ppm ppm ppm	method     ASTM D5185m     ASTM D7844     *ASTM D7624     *ASTM D7415     method	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 20 <i>imit/base</i> >3 >20 30	current     13     0     52     <1     903     1299     1088     1325     3713     current     4     3     25     current     0.3     7.9     19.4     current	history1     6     0     55     <1     948     1206     1096     1343     3574     history1     3     1     7     history1     0.3     7.8     19.2     history1	history2     7     0     65     <1     972     1085     1017     1267     2417     history2     5     3     37     history2     0.4     11.6     23.8     history2

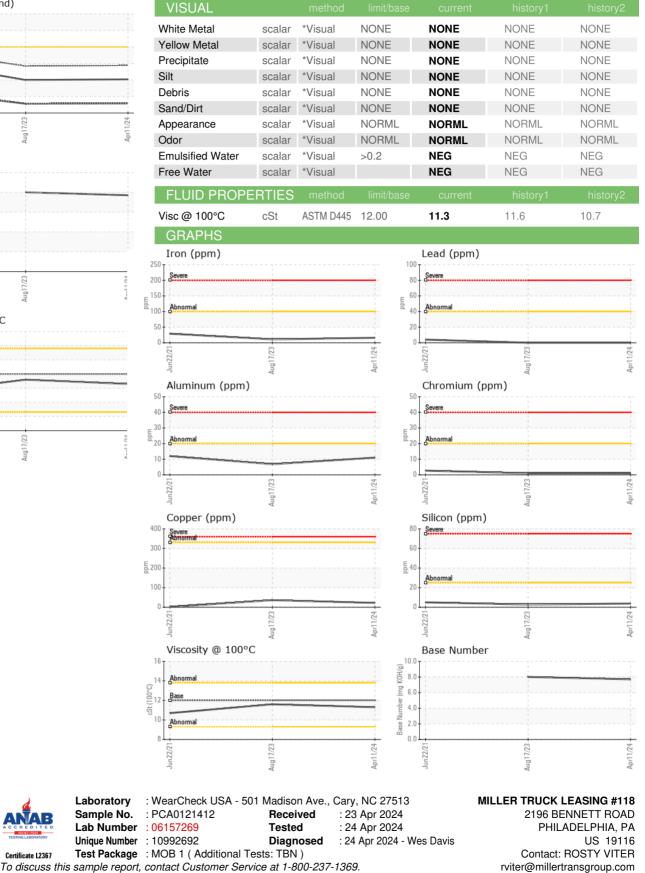
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\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

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Certificate 12367

Laboratory

Sample No.

Lab Number

Contact/Location: ROSTY VITER - MILPHINE

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