

## **OIL ANALYSIS REPORT**

### Area (P972002) Somerset Service-D-TRUCK [Somerset Service-D-TRUCK] 248D5302

Diesel Engine

PETRO CANADA DURON SHP 10W30 (8 GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

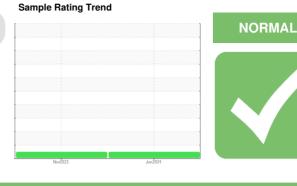
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

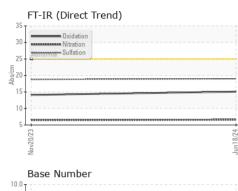
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

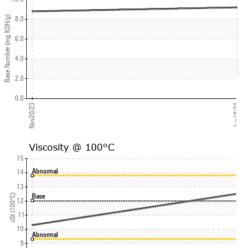


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2														
Sample Number		Client Info		PCA0126875	PCA0109450															
Sample Date		Client Info		18 Jun 2024	20 Nov 2023															
Machine Age	mls	Client Info		406281	403617															
Oil Age	mls	Client Info		2664	5529															
Oil Changed		Client Info		Not Changd	Changed															
Sample Status				NORMAL	NORMAL															
CONTAMINAT	ION	method	limit/base	current	history1	history2														
Fuel		WC Method	>2.0	<1.0	<1.0															
Water		WC Method	>0.2	NEG	NEG															
Glycol		WC Method		NEG	NEG															
WEAR METAL	S	method	limit/base	current	history1	history2														
Iron	ppm	ASTM D5185m	>100	22	45															
Chromium	ppm	ASTM D5185m	>20	<1	<1															
Nickel	ppm	ASTM D5185m	>4	0	1															
Titanium	ppm	ASTM D5185m		0	<1															
Silver	ppm	ASTM D5185m	>3	0	0															
Aluminum	ppm	ASTM D5185m	>20	3	4															
Lead	ppm	ASTM D5185m	>40	<1	2															
Copper	ppm	ASTM D5185m	>330	1	6															
Tin	ppm	ASTM D5185m	>15	0	<1															
Vanadium	ppm	ASTM D5185m		0	0															
Cadmium	ppm	ASTM D5185m		0	0															
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ADDITIVES	le le con	method	limit/base	current	history1	history2														
	ppm		limit/base	-	-															
ADDITIVES		method		current	history1	history2														
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 23	history1 7	history2														
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 23 0	history1 7 0	history2 														
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 23 0 51	history1 7 0 66	history2  														
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 23 0 51 <1	history1 7 0 66 0	history2   														
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 23 0 51 <1 594	history1 7 0 66 0 848	history2   														
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current           23           0           51           <1           594           1490	history1 7 0 66 0 848 1107	history2    														
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           23           0           51           <1           594           1490           1015	history1 7 0 66 0 848 1107 988	history2														
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	current           23           0           51           <1           594           1490           1015           1198	history1 7 0 66 0 848 1107 988 1157	history2														
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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           23           0           51           <1           594           1490           1015           1198           3456	history1 7 0 66 0 848 1107 988 1157 2981	history2														
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	current           23           0           51           <1           594           1490           1015           1198           3456           current	history1 7 0 66 0 848 1107 988 1157 2981 history1	history2 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 <b>imit/base</b> >25	current           23           0           51           <1           594           1490           1015           1198           3456           current           7	history1           7           0           66           0           848           1107           988           1157           2981           history1           7	history2 history2														
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 50 950 1050 995 1180 2600 <b>imit/base</b> >25	current           23           0           51           <1           594           1490           1015           1198           3456           current           7           33	history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16	history2														
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 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	current           23           0           51           <1           594           1490           1015           1198           3456           current           7           33           28	history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16           22	history2 history2														
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>	method           ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 -20 <b>Imit/base</b>	current         23         0         51         <1         594         1490         1015         1198         3456         current         7         33         28         current	history1         7         0         66         0         848         1107         988         1157         2981         history1         7         16         22         history1	history2                              history2               history2               history2                  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>limit/base</b> >25 >20 <b>limit/base</b>	current           23           0           51           <1           594           1490           1015           1198           3456           current           7           33           28           current           0.3	history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16           22           history1           0.6	history2                        history2                     history2               history2                           history2  history2														
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	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20	current           23           0           51           <1           594           1490           1015           1198           3456           current           7           33           28           current           0.3           6.6	history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16           22           history1           0.6           6.5	history2 <tr th="" tt<=""></tr> <tr><th>ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation</th><th>ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm ppm</th><th>method           ASTM D5185m           ASTM D5185m</th><th>2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> &gt;25 &gt;20 <b>imit/base</b> &gt;3 &gt;20 &gt;30</th><th>current           23           0           51           &lt;1           594           1490           1015           1198           3456           current           7           33           28           current           0.3           6.6           19.0</th><th>history1         7         0         66         0         848         1107         988         1157         2981         history1         7         16         22         history1         0.6         6.5         18.8</th><th>history2  history2                  history2  </th></tr> <tr><th>ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation</th><th>ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm</th><th>method         ASTM D5185m         ASTM D7844         *ASTM D7624         *ASTM D7415         method</th><th>2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> &gt;25 &gt;20 <b>imit/base</b> &gt;3 &gt;20 &gt;30</th><th>current         23         0         51         &lt;1         594         1490         1015         1198         3456         current         7         33         28         current         0.3         6.6         19.0         current</th><th>history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16           22           history1           0.6           6.5           18.8           history1</th><th>history2   history2            history2            history2            history2            history2            history2</th></tr>	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 <b>TS</b> ppm ppm ppm ppm	method           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	current           23           0           51           <1           594           1490           1015           1198           3456           current           7           33           28           current           0.3           6.6           19.0	history1         7         0         66         0         848         1107         988         1157         2981         history1         7         16         22         history1         0.6         6.5         18.8	history2  history2                  history2	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 D7844         *ASTM D7624         *ASTM D7415         method	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	current         23         0         51         <1         594         1490         1015         1198         3456         current         7         33         28         current         0.3         6.6         19.0         current	history1           7           0           66           0           848           1107           988           1157           2981           history1           7           16           22           history1           0.6           6.5           18.8           history1	history2   history2            history2            history2            history2            history2            history2
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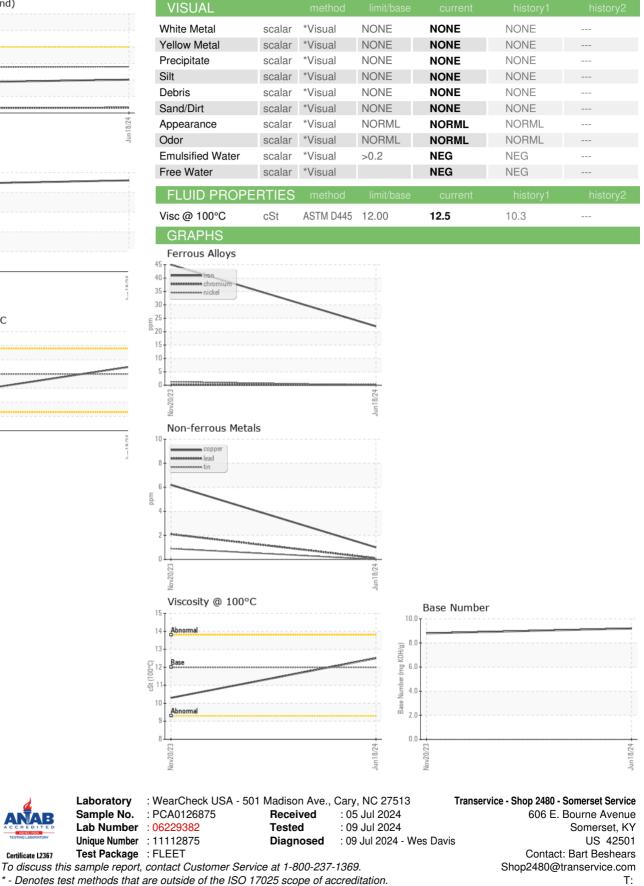


# **OIL ANALYSIS REPORT**





8 Nov20/23



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

Report Id: TSV2480 [WUSCAR] 06229382 (Generated: 07/09/2024 09:14:08) Rev: 1

Certificate 12367

Submitted By: Mario Krzysztofiak

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