

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id DT756 Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- 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 INFORI	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0113222	PCA0096985	PCA0080923	
Sample Date		Client Info		23 Jan 2024	23 May 2023	17 Nov 2022	
Machine Age	mls	Client Info		181630	155134	129650	
Oil Age	mls	Client Info		26496	25484	25509	
Oil Changed		Client Info		Changed	Changed	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	historv1	historv2	
Fuel		WC Mothod	> 2 0	-1.0	<1.0	<1.0	
Wator		WC Mothod	>0.0	NEC	NEG	NEG	
Glycol		WC Mothod	20.2	NEG	NEG	NEG	
	•	WC Welliou		NEG	NLG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	16	18	15	
Chromium	ppm	ASTM D5185m	>20	<1	1	<1	
Nickel	ppm	ASTM D5185m	>5	<1	2	1	
Titanium	ppm	ASTM D5185m	>2	0	<1	0	
Silver	ppm	ASTM D5185m	>2	0	<1	<1	
Aluminum	ppm	ASTM D5185m	>20	4	4	3	
Lead	ppm	ASTM D5185m	>40	1	2	<1	
Copper	ppm	ASTM D5185m	>330	4	14	6	
Tin	ppm	ASTM D5185m	>15	1	1	<1	
Vanadium	ppm	ASTM D5185m		0	<1	0	
Cadmium	ppm	ASTM D5185m		0	<1	0	
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history1 2	history2 3	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 2 0	current 2 0	history1 2 0	history2 3 0	
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50	current 2 0 61	history1 2 0 66	history2 3 0 59	
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0	current 2 0 61 <1	history1 2 0 66 1	history2 3 0 59 <1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950	current 2 0 61 <1 892	history1 2 0 66 1 863	history2 3 0 59 <1 915	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050	current 2 0 61 <1 892 1054	history1 2 0 66 1 863 1128	history2 3 0 59 <1 915 1117	
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	limit/base 2 0 50 0 950 1050 995	current 2 0 61 <1 892 1054 972	history1 2 0 66 1 863 1128 891	history2 3 0 59 <1 915 1117 955	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180	Current 2 0 61 <1 892 1054 972 1213	history1 2 0 66 1 863 1128 891 1147	history2 3 0 59 <1 915 1117 955 1248	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600	current 2 0 61 <1 892 1054 972 1213 2402	history1 2 0 66 1 863 1128 891 1147 2387	history2 3 0 59 <1 915 1117 955 1248 2559	
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	limit/base 2 0 50 0 950 1050 995 1180 2600	current 2 0 61 <1 892 1054 972 1213 2402 current	history1 2 0 66 1 863 1128 891 1128 891 1147 2387 history1	history2 3 0 59 <1 915 1117 955 1248 2559 history2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base	current 2 0 61 <1 892 1054 972 1213 2402 current 5	history1 2 0 66 1 863 1128 891 1147 2387 history1 6	history2 3 0 59 <1 915 1117 955 1248 2559 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	limit/base 2 0 9 5 0 9 5 0 105 0 9 9 5 118 0 2 6 0 limit/base > 25	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6	
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	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 6 5	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	limit/base 2 0 0 50 0 950 1050 995 1180 2600 limit/base >25	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 6 5 6 5 6 5	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 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	<pre>limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 </pre>	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 6 5 6 5 0.7	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0 0 0 0 0 2 0.8	
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	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 6 5 0.7 11.0	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7 11.0	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0.8 11.8	
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	method ASTM D5185m	limit/base 2 0 50 950 1050 995 1180 2600 limit/base >25 limit/base >20 limit/base >4 >20 >30	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 0.7 11.0 23.4	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7 11.0 23.5	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0.8 11.8 25.8	
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 ppm	method ASTM D5185m ASTM D7185M ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >4 >20 sa0 limit/base	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 6 5 0.7 11.0 23.4	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7 11.0 23.5 history1	history2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0.8 11.8 25.8 history2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7415 Method	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 limit/base >20 limit/base >20 limit/base >30 limit/base	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 0.7 11.0 23.4	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7 11.0 23.5 history1	Aistory2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0.8 11.8 25.8 history2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7414 ASTM D74144	limit/base 2 0 50 950 1050 995 1180 26000 255 20 limit/base >20 s20 limit/base >30 s30 s25	current 2 0 61 <1 892 1054 972 1213 2402 current 5 6 5 0.7 11.0 23.4 current 19.0	history1 2 0 66 1 863 1128 891 1147 2387 history1 6 8 3 history1 0.7 11.0 23.5 history1 18.5	Aistory2 3 0 59 <1 915 1117 955 1248 2559 history2 5 6 2 history2 0.8 11.8 25.8 history2 20.3	



10 Abnorma

Jan5/21

Jun9/21.

Dec6/21.

OIL ANALYSIS REPORT

VISUAL



C	May23/23 	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual action Date	NONE NONE NONE NONE NONE NORML NORML >0.2 Iimit/base	NONE NONE NONE NONE NORE NORML NORML NEG NEG	NONE NONE NONE NONE NONE NORML NORML NEG NEG history1	NONE NONE NONE NONE NONE NORML NORML NEG NEG history2
May12/22 	May(23/23 +	Non-ferrous Metal	22721/vew Is	Z2/LIVON	12:00			
Certificate 12367 To discuss this * - Denotes tes Statements of c	Laboratory Sample No. Lab Number Unique Number Test Package sample report, of tmethods that a ponformity to speci	Viscosity @ 100°C	501 Madis Becieved Diagnost rice at 1-80 7025 sco he simple	con Ave., Ca czzzwew con Ave., Ca cad : 30 c ician : We pe of accred acceptance of	P P P P P P P P P P P P P P	Base Number	E & CO - ANDE 201 P Contact: jthreatto T:	RSON DIVISION 605 RIVER RD IEDMONT, SC US 29673 James Threatt @nwwhite.com (864)918-4646 E:

Submitted By: Under NWWDUN - James Threatt