

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 621526

Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- QTS)

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.

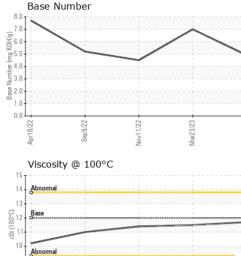
TS)		Apr2022	Sep2022	Nov2022 Mar2023	Aug2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104309	PCA0094278	PCA0083517
Sample Date		Client Info		31 Aug 2023	23 Mar 2023	11 Nov 2022
Machine Age	mls	Client Info		120086	93731	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	65	35	91
Chromium	ppm	ASTM D5185m	>20	4	3	7
Nickel	ppm	ASTM D5185m	>4	1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	2
Aluminum	ppm	ASTM D5185m	>20	16	13	38
Lead	ppm	ASTM D5185m	>40	<1	1	<1
Copper	ppm	ASTM D5185m	>330	146	123	397
Tin	ppm	ASTM D5185m	>15	3	2	7
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	7	11	15
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum			50			
•	ppm	ASTM D5185m	50	62	50	44
Manganese		ASTM D5185m ASTM D5185m		62 2	50 2	44 5
Manganese Magnesium	ppm ppm ppm			-		
Manganese Magnesium Calcium	ppm	ASTM D5185m	0	2	2	5
Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m	0 950	2 791	2 811	5 535
Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050	2 791 1325	2 811 1389	5 535 1697
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	2 791 1325 931	2 811 1389 842	5 535 1697 756
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	2 791 1325 931 1197	2 811 1389 842 1185	5 535 1697 756 970
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600	2 791 1325 931 1197 2424	2 811 1389 842 1185 2365	5 535 1697 756 970 2219
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base	2 791 1325 931 1197 2424 current	2 811 1389 842 1185 2365 history1	5 535 1697 756 970 2219 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	2 791 1325 931 1197 2424 current 7	2 811 1389 842 1185 2365 history1 5	5 535 1697 756 970 2219 history2 9
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	2 791 1325 931 1197 2424 current 7 3	2 811 1389 842 1185 2365 history1 5 2	5 535 1697 756 970 2219 history2 9 4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20	2 791 1325 931 1197 2424 current 7 3 36	2 811 1389 842 1185 2365 history1 5 2 2 27	5 535 1697 756 970 2219 history2 9 4 100
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	2 791 1325 931 1197 2424 current 7 3 36 current	2 811 1389 842 1185 2365 history1 5 2 27 history1	5 535 1697 756 970 2219 history2 9 4 100 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	2 791 1325 931 1197 2424 current 7 3 36 current 1.2	2 811 1389 842 1185 2365 history1 5 2 27 history1 0.6	5 535 1697 756 970 2219 history2 9 4 100 history2 1.5
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN CONTAMINAN Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 limit/base >25 	2 791 1325 931 1197 2424 current 7 3 36 current 1.2 12.8	2 811 1389 842 1185 2365 history1 5 2 27 history1 0.6 9.9	5 535 1697 756 970 2219 history2 9 4 100 history2 1.5 18.5
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	0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	2 791 1325 931 1197 2424 <u>current</u> 7 3 36 <u>current</u> 1.2 12.8 24.7	2 811 1389 842 1185 2365 history1 5 2 27 history1 0.6 9.9 21.7	5 535 1697 756 970 2219 history2 9 4 100 history2 1.5 18.5 30.3



Apr18/22

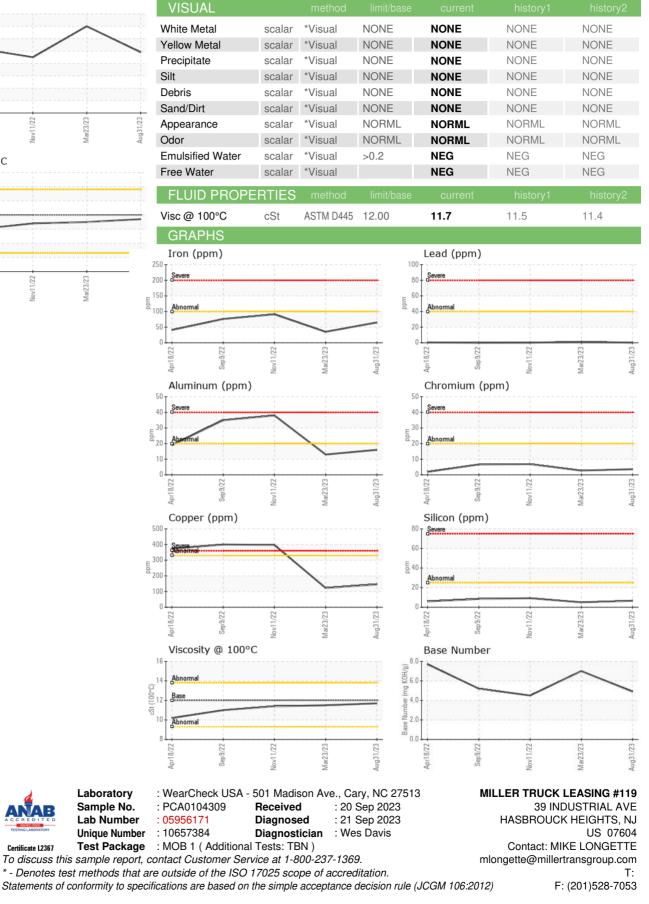
Sep9/22

OIL ANALYSIS REPORT



Nov11/22

Mar23/23



Certificate L2367

Contact/Location: MIKE LONGETTE - MILRUT