

OIL ANALYSIS REPORT

Sample Rating Trend



Area (89774X) Walgreens Machine Id [Walgreens] 136A69018 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 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

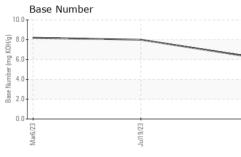
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

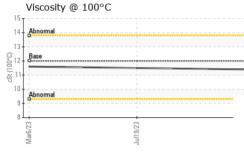
SAMPLE INFOR	VIATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105401	PCA0093816	PCA0087964
Sample Date		Client Info		12 Sep 2023	19 Jul 2023	06 Mar 2023
Machine Age	mls	Client Info		553237	544882	520508
Oil Age	mls	Client Info		13500	24374	30000
Oil Changed		Client Info		Changed	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	24	17	12
Chromium	ppm	ASTM D5185m	>5	2	<1	1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	8	5	6
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>150	5	2	4
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 1	history1 2	history2 <1
	ppm ppm		2			
Boron		ASTM D5185m	2	1	2	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	1 0	2 0	<1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	1 0 63	2 0 65	<1 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	1 0 63 <1	2 0 65 <1	<1 0 60 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	1 0 63 <1 993	2 0 65 <1 1021	<1 0 60 1 951
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	1 0 63 <1 993 1107	2 0 65 <1 1021 1119	<1 0 60 1 951 1118
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	1 0 63 <1 993 1107 1021	2 0 65 <1 1021 1119 1070	<1 0 60 1 951 1118 983
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	1 0 63 <1 993 1107 1021 1272	2 0 65 <1 1021 1119 1070 1322	<1 0 60 1 951 1118 983 1281
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 50 950 1050 995 1180 2600	1 0 63 <1 993 1107 1021 1272 3193	2 0 65 <1 1021 1119 1070 1322 3642	<1 0 60 1 951 1118 983 1281 3273
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	1 0 63 <1 993 1107 1021 1272 3193 current	2 0 65 <1 1021 1119 1070 1322 3642 history1	<1 0 60 1 951 1118 983 1281 3273 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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 method	2 0 50 950 1050 995 1180 2600 Limit/base	1 0 63 <1 993 1107 1021 1272 3193 current 6	2 0 65 <1 1021 1119 1070 1322 3642 history1 5	<1 0 60 1 951 1118 983 1281 3273 history2 5
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 50 950 1050 995 1180 2600 Limit/base	1 0 63 <1 993 1107 1021 1272 3193 current 6 6	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4	<1 0 60 1 951 1118 983 1281 3273 history2 5 2
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 50 950 1050 995 1180 2600 limit/base >20	1 0 63 <1 993 1107 1021 1272 3193 current 6 6 8	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >20 imit/base >3	1 0 63 <1 993 1107 1021 1272 3193 current 6 6 8 8	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4 4 history1	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6 history2
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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >20 imit/base >3	1 0 63 <1 993 1107 1021 1272 3193 current 6 6 8 8 current 0.7	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4 4 history1 0.4	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6 history2 0.5
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 limit/base >20 limit/base >20	1 0 63 <1 993 1107 1021 1272 3193 <i>current</i> 6 6 6 8 <i>current</i> 0.7 8.5	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4 4 history1 0.4 7.5	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6 history2 0.5 8.1
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30 30	1 0 63 <1 993 1107 1021 1272 3193 current 6 6 8 current 0.7 8.5 20.8	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4 4 history1 0.4 7.5 18.7	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6 6 history2 0.5 8.1 18.9
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20 >30 30	1 0 63 <1 993 1107 1021 1272 3193 <i>current</i> 6 6 6 8 <i>current</i> 0.7 8.5 20.8 <i>current</i>	2 0 65 <1 1021 1119 1070 1322 3642 history1 5 4 4 4 history1 0.4 7.5 18.7 history1	<1 0 60 1 951 1118 983 1281 3273 history2 5 2 6 history2 0.5 8.1 18.9 history2



OIL ANALYSIS REPORT

VISUAL





-	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
	FLUID PROF			limit/booo			
	Visc @ 100°C	cSt	method ASTM D445	limit/base 12.00	current	history1 11.5	history2 11.6
	GRAPHS	001	A3110 D443	12.00	11.4	11.5	11.0
	Ferrous Alloys						
	²⁵						
	20 - nickel						
1	15						
č	10						
	5-						
		-					
	Mar6/23	Jul19/23		Sep 12/23			
	Ma	Jult		Sep 1			
	Non-ferrous Me	tals					
	copper						
	8 - sessesses lead						
P							
¢	4						
	2						
	0						
	u6/23	19/23		12/23			
	Mar6/23	Jul19/23		Sep12/23			
	Viscosity @ 100	-		Sep12/23	Base Number		
	Viscosity @ 100	-		Sep 12/23	Base Number		
	Viscosity @ 100	-		9.0-	Base Number		
	Viscosity @ 100	-		9.0-	Base Number		
12°0	Viscosity @ 100	-		9.0-	Base Number		
2+ (1 0.0 °C)	Viscosity @ 100	-		9.0-	Base Number		
1000-01	Viscosity @ 100	-		9.0-	Base Number		
	Viscosity @ 100	-		9.0-	Base Number		
-0+ /100€/1	Viscosity @ 100	-		9.0 8.0 (0,7.0 	Base Number		
10000L1 100	Viscosity @ 100	°C		9.0 8.0 9.7.0 9.6.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9			
1,00UU	Viscosity @ 100	°C		9.0 8.0 9.7.0 9.6.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.5.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9			
CY Io. per nber	Viscosity @ 100	°C	: 20 : d : 21 :	9.0 8.0 (D)HOX (D)HOX (D) 9.0 (D)HOX (D) 9.0 9.0 0.0 0.0 9.0 0.0 9.0 0.0 0	Mat6/23	E26[Im] ice - Shop 1366 - E	Berkeley-Woodla East Main Stre Woodland, 0 US 957

To discuss this sample * - 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)

Certificate L2367

F: (530)406-7971

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