

OIL ANALYSIS REPORT

(P798438) Preferred Service-Tractor [Preferred Service-Tractor] 192A02015

Diesel Engine

PETRO CANADA DURON SHP 10W30 (36 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

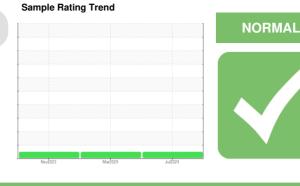
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

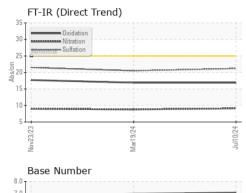
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

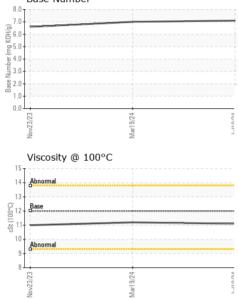


SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0130205	PCA0120236	PCA0112170
Sample Date		Client Info		10 Jul 2024	19 Mar 2024	23 Nov 2023
Machine Age	mls	Client Info		359473	342716	328494
Oil Age	mls	Client Info		16757	14222	18111
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<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	19	17
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	2
Lead	ppm	ASTM D5185m	>40	2	2	1
Copper	ppm	ASTM D5185m	>330	3	4	6
Tin	ppm	ASTM D5185m	>15	0	<1	<1
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	<1	0	<1
		ASTM D5185m	0	0	0	0
Barium	ppm				0	0
Barium Molybdenum	ppm ppm	ASTM D5185m	50	61	62	56
				61 0		
Molybdenum	ppm	ASTM D5185m		-	62	56
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	0	0	62 <1	56 <1
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 950	0 966	62 <1 965	56 <1 975
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050	0 966 1072	62 <1 965 1102	56 <1 975 1134
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	0 966 1072 915	62 <1 965 1102 1103	56 <1 975 1134 1058
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	0 966 1072 915 1267	62 <1 965 1102 1103 1275	56 <1 975 1134 1058 1257
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	0 950 1050 995 1180 2600 limit/base	0 966 1072 915 1267 2720	62 <1 965 1102 1103 1275 2966	56 <1 975 1134 1058 1257 2720
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base	0 966 1072 915 1267 2720 current	62 <1 965 1102 1103 1275 2966 history1	56 <1 975 1134 1058 1257 2720 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	0 966 1072 915 1267 2720 current 4	62 <1 965 1102 1103 1275 2966 history1 4	56 <1 975 1134 1058 1257 2720 history2 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	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	0 966 1072 915 1267 2720 current 4 22	62 <1 965 1102 1103 1275 2966 history1 4 4	56 <1 975 1134 1058 1257 2720 history2 3 7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	0 950 1050 995 1180 2600 limit/base >25	0 966 1072 915 1267 2720 current 4 22 2	62 <1 965 1102 1103 1275 2966 history1 4 4 2	56 <1 975 1134 1058 1257 2720 history2 3 7 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm 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 ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	0 966 1072 915 1267 2720 current 4 22 2 2 current	62 <1 965 1102 1103 1275 2966 history1 4 4 2 history1	56 <1 975 1134 1058 1257 2720 history2 3 7 0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	0 966 1072 915 1267 2720 current 4 22 2 2 current 0.5	62 <1 965 1102 1103 1275 2966 history1 4 4 2 <u>history1</u> 0.4	56 <1 975 1134 1058 1257 2720 history2 3 7 0 history2 0.5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	0 966 1072 915 1267 2720 current 4 22 2 2 current 0.5 9.1	62 <1 965 1102 1103 1275 2966 history1 4 4 2 kistory1 0.4 8.8	56 <1 975 1134 1058 1257 2720 history2 3 7 0 0 history2 0.5 9.0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 >30	0 966 1072 915 1267 2720 current 4 22 2 2 current 0.5 9.1 21.2 current	62 <1 965 1102 1103 1275 2966 history1 4 4 2 history1 0.4 8.8 20.5	56 <1 975 1134 1058 1257 2720 history2 3 7 0 history2 0.5 9.0 21.5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20 30 imit/base	0 966 1072 915 1267 2720 <u>current</u> 4 22 2 2 <u>current</u> 0.5 9.1 21.2	62 <1 965 1102 1103 1275 2966 history1 4 4 2 history1 0.4 8.8 20.5 history1	56 <1 975 1134 1058 1257 2720 history2 3 7 0 history2 0.5 9.0 21.5 history2



OIL ANALYSIS REPORT





)	VISUAL		method	limit/base	current	history1	history2	
	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	
Mar19/24 Jul10/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Jul	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2	
	Visc @ 100°C	cSt	ASTM D445	12.00	11.1	11.2	11.0	
	GRAPHS							
	Ferrous Alloys							
24	20 iron							
Mar19/24 x.ctt	15 - nickel							
<u>1</u>								
	톱 10-							
	5-							
	0							
	Nov23/23	Mar19/24 -		Jul10/24 -				
	Nov2	Mar1		Jult				
	Non-ferrous Metal	S						
Mar19/24	10 copper							
ž -	8 - sessessesses lead							
	6-							
	udd							
	4							
	2-		********					

	3/23	3/24	and the set of the set	0/24				
	Nov23/23	Mar19/24		Jul10/24				
	 Viscosity @ 100°C				Base Number			
	15							
	14 - Abnormal			7.0				
	13			(B/HO)	0-			
	Co 12 Base 11 to 11			(B/HOX) B HOX B HO	0			
	रहु 11-				0			
	10			2 3.1 8 2.1	0			
	Abnormal 9			1.0	1			
	8	-				100 m		
	Nov23/23	Mar19/24		Jul10/24	Nov23/23	Mar19/24		
	No	Ma		٦٢	No	Ma		
Laboratory Sample No.	: PCA0130205	Received : 16 Jul 2024			Transer	ervice - Shop 1920 - Preferred Servic 1955 W. North Avenue, Bldg k		
Lab Number Unique Number			Tested : 17 Jul 2024			Ν	Allerose Park,	
		Diagr	Diagnosed : 17 Jul 2024 - Wes Davis			Contact	US 6016 Tom Lindema	
		ico at 1 G	e at 1-800-237-1369.			Contact: Tom Lindema tlindemann@transervice.com		
o discuss this sample report	, contact Customer Servi	ice al 1-c	00-207-1003	<i>.</i>		liniacinalinia	anservice.com	

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