

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL

## Area (T495131) 600HP [0014686] Machine Id 531031 [600HP]

Component **Diesel Engine** 

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

# DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

Fluid

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.

-				OWNED -		
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0101213	PCA0073172	
Sample Date		Client Info		29 Jan 2024	27 May 2022	
Machine Age	hrs	Client Info		39675	33025	
Oil Age	hrs	Client Info		3000	4004	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ATTENTION	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS	0	method	limit/base	-	history1	history?
	5			current		history2
Iron	ppm	ASTM D5185m	>100	22	37	
Chromium	ppm		>20	<1	1	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		1	0	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm		>20	2	4	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m		<1	<1	
Tin	ppm	ASTM D5185m	>15	<1	0	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		<1	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 17	history1 3	history2
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	2	17	3	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	17 <1	3 1	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	17 <1 69	3 1 68	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	17 <1 69 <1	3 1 68 <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	17 <1 69 <1 963	3 1 68 <1 1076	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	17 <1 69 <1 963 1081	3 1 68 <1 1076 1251	   
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	17 <1 69 <1 963 1081 1062	3 1 68 <1 1076 1251 1155	   
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 0 950 1050 995 1180	17 <1 69 <1 963 1081 1062 1298	3 1 68 <1 1076 1251 1155 1498	
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	17 <1 69 <1 963 1081 1062 1298 3195	3 1 68 <1 1076 1251 1155 1498 2933	
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	2 0 50 950 1050 995 1180 2600	17 <1 69 <1 963 1081 1062 1298 3195 current	3 1 68 <1 1076 1251 1155 1498 2933 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	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 <b>limit/base</b> >25	17 <1 69 <1 963 1081 1062 1298 3195 current 5	3 1 68 <1 1076 1251 1155 1498 2933 history1 5	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 <b>limit/base</b> >25	17 <1 69 <1 963 1081 1062 1298 3195 current 5 2	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 -20 <b>limit/base</b>	17 <1 69 <1 963 1081 1062 1298 3195 <b>current</b> 5 2 2 2 2	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b>	17 <1 69 <1 963 1081 1062 1298 3195 Current 5 2 2 2 Current 0.7	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	17 <1 69 <1 963 1081 1062 1298 3195 current 5 2 2 2 current 0.7 11.2	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4 1.4 15.6	history2 history2 history2
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 t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	17 <1 69 <1 963 1081 1062 1298 3195 <b>current</b> 5 2 2 2 <b>current</b> 0.7 11.2 23.4	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4 1.4 15.6 28.8	     history2  history2  history2
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 <b>TS</b> ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	17 <1 69 <1 963 1081 1062 1298 3195 Current 5 2 2 2 Current 0.7 11.2 23.4 Current	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4 15.6 28.8 history1	history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	17 <1 69 <1 963 1081 1062 1298 3195 current 5 2 2 2 current 0.7 11.2 23.4 current	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4 15.6 28.8 history1 33.3	    history2  history2  history2
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 <b>TS</b> ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	17 <1 69 <1 963 1081 1062 1298 3195 Current 5 2 2 2 Current 0.7 11.2 23.4 Current	3 1 68 <1 1076 1251 1155 1498 2933 history1 5 3 1 history1 1.4 15.6 28.8 history1	    history2  history2  history2  history2

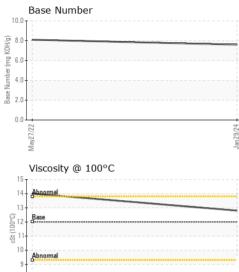


8. May27/22

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# **OIL ANALYSIS REPORT**

VISUAL



	VISUAL		methou	iiiiii/base	Guirent	пізіогут	Thistory Z
	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
- 24	Appearance	scalar	*Visual	NORML	NORML	NORML	
Jan 29/24	Odor	scalar	*Visual	NORML	NORML	NORML	
<u>د</u>	Emulsified Water						
2		scalar	*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROPE	RTIES	method				history2
	Visc @ 100°C	cSt	ASTM D445	12.00	12.8	14.0	
	GRAPHS						
	Ferrous Alloys						
۲ ۲	35 iron						
10	30 - nickel						
-	25						
	Ē 20-						
	15-						
	10						
	5						
	1/22			9/24 -			
	May27			Jan 29/24			
	Non-ferrous Metal	5					
	<sup>10</sup> T						
	copper						
	8 - tin						
	6						
	Edd						
	4						
	2						
	2						
			***************************************	********			
	22/12			Jan 29/24			
	May			Jan			
	Viscosity @ 100°C	;			Base Numbe	r	
	<sup>15</sup> T				9.0 <sub>T</sub>	·	
	14 - Abnormal				8.0		
	13-			(B/)	7.0		
	D 12 Base			(mg KOH/g)	6.0-		
	0 12 - Base 0 12 - G 0 11 - G 0 11 - G			er (m	5.0		
	ts 11-			Base Number (	4.0		
	10 - Abnormal			Base	2.0		
	9-				1.0		
	8				0.0		
	May27/22			Jan 29/24	May27/22		Jan 29/24
	Mayi			Janí	Mayi		Jan2
Laboratory Sample No. Lab Number Unique Number Test Package	: 10900573	1 Madiso <b>Rece</b> i <b>Teste</b> Diagr	ived : 27 ed : 28	y, NC 27513 7 Feb 2024 3 Feb 2024 8 Feb 2024 -			n Plains - 600HP East Loop 289 LUBBOCK, TX US 79403 RITA GARCIA
To discuss this sample report,		ice at 1-8	300-237-136	9.			mclaneco.com
* - Denotes test methods that						-	(806)766-2902
Statements of conformity to sp					n rule (JCGM 10		(000)/00 2002 F:

Contact/Location: RITA GARCIA - MCLLUB