

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **T330** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 10W30 (--- QTS)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

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.

		methou	iimii/base	current	nistory i	nistoryz
Sample Number		Client Info		PCA0116129	PCA0116118	PCA0110914
Sample Date		Client Info		04 Jun 2024	24 Feb 2024	02 Dec 2023
Machine Age	mls	Client Info		74932	49522	25321
Oil Age	mls	Client Info		74932	49522	0
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAI	NORMAI	NORMAI
oumple oluce					NOT IN LE	NOT IN LE
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
	0	mathad	limit/booo	ourropt	biotomut	biotom/0
	5	method	iiiiii/base	current	nistoryi	nistory2
Iron	ppm	ASTM D5185m	>110	28	32	11
Chromium	ppm	ASTM D5185m	>4	<1	0	2
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	18	31	34
Lead	ppm	ASTM D5185m	>45	0	0	3
Copper	ppm	ASTM D5185m	>85	3	0	3
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	historv1	historv2
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 2	history1 6	history2 224
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 2 0	current 2 0	history1 6 2	history2 224 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 6 2 58	history2 224 0 1
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 6 2 58 0	history2 224 0 1 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950	current 2 0 61 <1 958	history1 6 2 58 0 978	history2 224 0 1 0 22
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 <1 958 1154	history1 6 2 58 0 978 1215	history2 224 0 1 0 22 2243 4274
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 50 0 950 1050 995	current 2 0 61 <1 958 1154 1041	history1 6 2 58 0 978 1215 1103	history2 224 0 1 0 22 2243 1071
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	current 2 0 61 <1 958 1154 1041 1292	history1 6 2 58 0 978 1215 1103 1302	history2 224 0 1 0 22 2243 1071 1207
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 <1 958 1154 1041 1292 3283	history1 6 2 58 0 978 1215 1103 1302 2872	history2 224 0 1 0 22 2243 1071 1207 4331
ADDITIVES Boron Barium Molybdenum Magnaese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm 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 <1 958 1154 1041 1292 3283 current	history1 6 2 58 0 978 1215 1103 1302 2872 history1	history2 224 0 1 0 22 2243 1071 1207 4331 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 5 0 5 0 9 5 0 105 0 9 9 5 118 0 2 6 0 0 limit/base >30	current 2 0 61 <1 958 1154 1041 1292 3283 current 9	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7	history2 224 0 1 0 22 2243 1071 1207 4331 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 50 0 950 1050 995 1180 2600 limit/base >30	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0
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	<pre>imit/base 2 0 50 0 950 1050 995 1180 2600 imit/base >30 </pre>	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9
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 50 0 950 1050 995 1180 2600 limit/base >30 >20	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9
ADDITIVES 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	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	<pre>limit/base 2 0 0 50 0 950 1050 995 1180 2600 s30 s20 limit/base >30</pre>	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1 0.3	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2
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 >30 limit/base >32 limit/base >3 >20	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5 11.6	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1 0.3 10.4	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2 10.1
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 t t t t	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >30	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5 11.6 23.2	history1 6 2 58 0 978 1215 1103 2872 history1 7 <1 68 history1 0.3 10.4 22.0	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2 10.1 23.5
ADDITIVES Boron Barium 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 ppm ppm ppm	method ASTM D5185m ASTM D5185m	<pre>limit/base 2 0 0 5 0 9 5 0 1050 9 9 5 1180 2 6 0 limit/base > 3 2 0 limit/base > 3 > 2 0 limit/base > 3 > 3 > 2 0 limit/base</pre>	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5 11.6 23.2 current	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1 0.3 10.4 22.0 history1	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2 10.1 23.5 history2
ADDITIVES Boron Barium 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 ppm ppm ppm	method ASTM D5185m ASTM D7115 ASTM D7414	<pre>imit/base 2 0 0 5 0 0 950 1050 995 1180 2600 imit/base >30 imit/base >30 imit/base >30 </pre>	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5 11.6 23.2 current	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1 0.3 10.4 22.0 history1 18.0	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2 10.1 23.5 history2 18.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (BN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D71841 ASTM D7414 ASTM D7844 ASTM D7414 ASTM D7414 ASTM D7846	imit/base 2 0 50 950 1050 995 1180 2600 imit/base >30 imit/base >30 imit/base >30 imit/base >20 imit/base >30 imit/base >20 imit/base >20 imit/base >20	current 2 0 61 <1 958 1154 1041 1292 3283 current 9 1 39 current 0.5 11.6 23.2 current 19.2	history1 6 2 58 0 978 1215 1103 1302 2872 history1 7 <1 68 history1 0.3 10.4 22.0 history1 18.0 5.6	history2 224 0 1 0 22 2243 1071 1207 4331 history2 5 0 9 history2 0.2 10.1 23.5 history2 18.6 4.8



OIL ANALYSIS REPORT





	VISUAL		method	limit/base	e 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	
n4/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
٦٢	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	e current	history1	history2	
	Visc @ 100°C	cSt	ASTM D445	12.00	11.7	11.8	11.9	
	GRAPHS							
	Ferrous Alloys							
VCIV	30 - iron							
_	25 - mickel							
	E 20							
	B 15							
	10							
	5-							
	0							
	sc2/23	24/24		in4/24				
	Ď	Feb		٦٢				
VC	Non-ferrous Metal	S						
1 m m	copper							
	8 - tin							
	6 -							
	Шdd							
	4							
	2			and the second se				
	0							
	52/23	:4/24		14/24.				
	Dec	Feb2		Jur				
	Viscosity @ 100°C				Base Number	lumber		
					6.0			
	12			(B	5.0			
	G , Base			KOH	4.0			
				er (mg	3.0			
	8 II			Numb	2.0			
	Abnormal			Base	10			
	9-				1.0			
	84	24		24	0.0	24 -	24 +	
	Dec2	Feb24/		Jun4,	Dec2	-eb24/	Jun4/	
						naha		
l aboratory	WearCheck USA - 50	1 Madiec	n Ave Carv	NC 27513		F & CO - SPECIAL	SERVICE DIVISION	
Sample No.	: PCA0116129	Rece	ived : 07	' Jun 2024		100 INDEPEN	IDENCE BLVD	
Lab Number	: 06202495	Teste	e d : 10	Jun 2024		C	OLUMBIA, SC	
Unique Number	: 11069956	Diagr	nosed : 10	Jun 2024 -	Wes Davis		US 29210	
iest Package sample report.	: FLEEI contact Customer Serv	ice at 1-8	300-237-1369	9.		Contact: Gedwards	eorge Edwards @nwwhite.com	

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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

> Submitted By: Paul Riddick Page 2 of 2

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