

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **2227114** Component **Diesel Engine** Fluid **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.

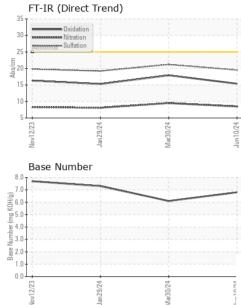
Fluid Condition

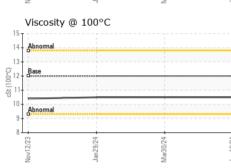
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0124279	PCA0114781	PCA0114815	
Sample Date		Client Info		10 Jun 2024	30 Mar 2024	29 Jan 2024	
Machine Age	mls	Client Info		0	0	610000	
Oil Age	mls	Client Info		0	20000	20000	
Oil Changed		Client Info		N/A	Changed	N/A	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINAT	ION	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	
WEAR METALS method limit/base current history1 history2							
Iron	ppm	ASTM D5185m	>100	14	29	20	
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1	
Nickel	ppm	ASTM D5185m	>4	2	3	5	
Titanium	ppm	ASTM D5185m		14	6	4	
Silver	ppm	ASTM D5185m	>3	1	<1	3	
Aluminum	ppm	ASTM D5185m	>20	5	11	8	
Lead	ppm	ASTM D5185m	>40	0	0	<1	
Copper	ppm	ASTM D5185m	>330	133	201	438	
Tin	ppm	ASTM D5185m	>15	<1	2	2	
Vanadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	<1	
ADDITIVES		method	limit/base	current	history1	history2	
ADDITIVES Boron	ppm		limit/base	current 8	history1 5	history2 4	
	ppm ppm						
Boron		ASTM D5185m	2	8	5	4	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	8 0	5 0	4 13	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	8 0 50	5 0 57	4 13 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	8 0 50 0	5 0 57 1	4 13 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	8 0 50 0 842	5 0 57 1 910	4 13 60 1 875	
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	8 0 50 0 842 1271	5 0 57 1 910 1217	4 13 60 1 875 1121	
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 50 950 1050 995	8 0 50 0 842 1271 959	5 0 57 1 910 1217 939	4 13 60 1 875 1121 985	
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	8 0 50 0 842 1271 959 1281 2605	5 0 57 1 910 1217 939 1202	4 13 60 1 875 1121 985 1151	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	8 0 50 0 842 1271 959 1281 2605	5 0 57 1 910 1217 939 1202 2449	4 13 60 1 875 1121 985 1151 3011	
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	8 0 50 0 842 1271 959 1281 2605 current	5 0 57 1 910 1217 939 1202 2449 history1 8 2	4 13 60 1 875 1121 985 1151 3011 history2 7 0	
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	8 0 50 0 842 1271 959 1281 2605 current 6	5 0 57 1 910 1217 939 1202 2449 history1 8	4 13 60 1 875 1121 985 1151 3011 history2 7	
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 Limit/base	8 0 50 0 842 1271 959 1281 2605 <i>current</i> 6 1 1	5 0 57 1 910 1217 939 1202 2449 history1 8 2	4 13 60 1 875 1121 985 1151 3011 history2 7 0	
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 0 950 1050 995 1180 2600 limit/base >25 >20	8 0 50 0 842 1271 959 1281 2605 <i>current</i> 6 1 1	5 0 57 1 910 1217 939 1202 2449 history1 8 2 25 history1 0.3	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 history2 0.2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	8 0 50 0 842 1271 959 1281 2605 current 6 1 1 14 current	5 0 57 1 910 1217 939 1202 2449 history1 8 2 25 history1	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	8 0 50 0 842 1271 959 1281 2605 <i>current</i> 6 1 1 14 <i>current</i> 0.3	5 0 57 1 910 1217 939 1202 2449 history1 8 2 25 history1 0.3	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 history2 0.2	
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	8 0 50 0 842 1271 959 1281 2605 <u>current</u> 6 1 1 14 <u>current</u> 0.3 8.5 19.5	5 0 57 1 910 1217 939 1202 2449 history1 8 2 25 history1 0.3 9.5	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 history2 0.2 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20	8 0 50 0 842 1271 959 1281 2605 <u>current</u> 6 1 1 14 <u>current</u> 0.3 8.5 19.5	5 0 57 1 910 1217 939 1202 2449 history1 8 2 25 history1 0.3 9.5 21.2	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 history2 0.2 8.1 19.2	
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 D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	8 0 50 0 842 1271 959 1281 2605 <i>current</i> 6 1 14 <i>current</i> 0.3 8.5 19.5 <i>current</i>	5 0 57 1 910 1217 939 1202 2449 history1 8 225 history1 0.3 9.5 21.2 history1	4 13 60 1 875 1121 985 1151 3011 history2 7 0 22 history2 0.2 8.1 19.2 history2	

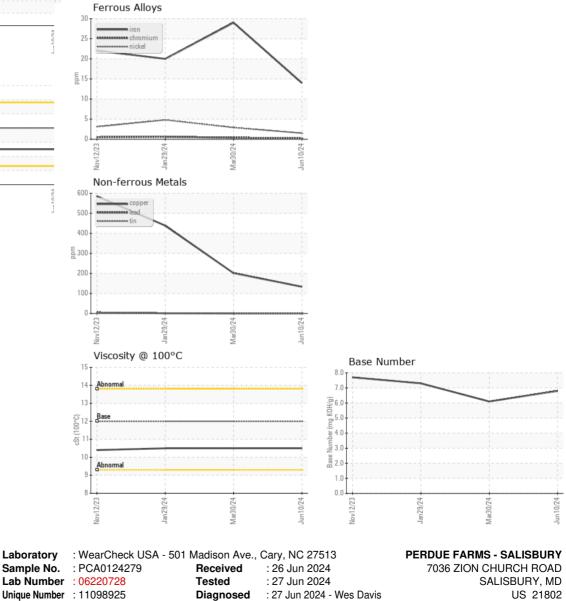


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VISUAL		method	limit/base	current	nistory i	nistory2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	10.5	10.5	10.5
GRAPHS						





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.

Test Package : FLEET

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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