

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 610704

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

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

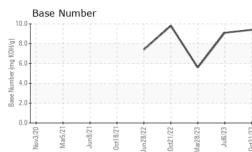
Fluid Condition

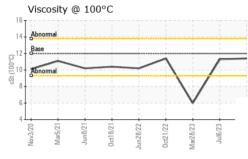
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		NovŽ020 Ma		Jun2022 Oct2022 Mar2023 Jul202		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0110472	PCA0101314	PCA0094234
Sample Date		Client Info		31 Oct 2023	06 Jul 2023	28 Mar 2023
Machine Age	mls	Client Info		29880	27007	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Changed	N/A
Sample Status				NORMAL	NORMAL	SEVERE
CONTAMINATIO	NC	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.2	19.2
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	;	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	5	60
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m		2	2	<u> </u>
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m	>330	22	34	18
Tin	ppm	ASTM D5185m	>15	2	2	1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	13	33
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	62	63	30
Manganese	ppm	ASTM D5185m	0	<1	<1	1
-	ppm ppm	ASTM D5185m ASTM D5185m	0 950	<1 941	<1 845	1 418
Magnesium Calcium	ppm	ASTM D5185m	950	941	845	418
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	950 1050	941 1106	845 1100	418 636
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995	941 1106 1048	845 1100 1012	418 636 514
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180	941 1106 1048 1235	845 1100 1012 1156	418 636 514 616
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600	941 1106 1048 1235 3184	845 1100 1012 1156 3217	418 636 514 616 1860
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	950 1050 995 1180 2600 limit/base	941 1106 1048 1235 3184 current	845 1100 1012 1156 3217 history1	418 636 514 616 1860 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm ppm ppm S	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	950 1050 995 1180 2600 limit/base >25	941 1106 1048 1235 3184 current 2	845 1100 1012 1156 3217 history1 2	418 636 514 616 1860 history2 9
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm ppm ppm S ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25	941 1106 1048 1235 3184 current 2 0	845 1100 1012 1156 3217 history1 2 0	418 636 514 616 1860 history2 9 76
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm S ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20	941 1106 1048 1235 3184 current 2 0 4	845 1100 1012 1156 3217 history1 2 0 4	418 636 514 616 1860 history2 9 76 26
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm S ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	941 1106 1048 1235 3184 current 2 0 4 current	845 1100 1012 1156 3217 history1 2 0 4 history1	418 636 514 616 1860 history2 9 76 26 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	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	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	941 1106 1048 1235 3184 <u>current</u> 2 0 4 <u>current</u> 0.1	845 1100 1012 1156 3217 history1 2 0 4 4 history1 0.1	418 636 514 616 1860 history2 9 76 26 history2 0.8
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm 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 D7844 *ASTM D7844 *ASTM D7624	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	941 1106 1048 1235 3184 <u>current</u> 2 0 4 <u>current</u> 0.1 5.0	845 1100 1012 1156 3217 history1 2 0 4 history1 0.1 5.1	418 636 514 616 1860 history2 9 76 26 history2 0.8 8.9
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm 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 D7844 *ASTM D7844 *ASTM D7624	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20 >30	941 1106 1048 1235 3184 <u>current</u> 2 0 4 <u>current</u> 0.1 5.0 17.7	845 1100 1012 1156 3217 history1 2 0 4 history1 0.1 5.1 17.4	418 636 514 616 1860 history2 9 76 26 history2 0.8 8.9 20.0



OIL ANALYSIS REPORT





· · · · · · · · · · · · · · · · · · ·	VISUAL		method	limit/base	current	history1	history2
$\wedge \square$	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
V	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
Jun28/22 - 0ct21/22 - Jul6/23 - 0ct31/23 -		scalar	*Visual	NORML	NORML	NORML	NORML
Jun28/22 0ct21/22 Mar28/23 Jul6/23 0ct31/23	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		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		11.4	11.3	▲ 6
- $/-$	GRAPHS	COL	AOTIM D443	12.00	11.4	11.5	0
	Iron (ppm)				Lead (ppm)		
	²⁵⁰			100			
/22 - /22 - /23 - /	200 - Severe				0 - Severe		
Jun28/22 0ct21/22 Mar28/23 Jul6/23	E 150			E 60	D		
—	E 150 - Abnormal			E 4	0 - Abnormal		
	50 -	-	\wedge	20	D -	~	
	Nov3/20 Mar5/21 Jun8/21 Oct18/21	Jun28/22	Ucc. 1/22 Mar28/23 Jul6/23	0ct31/23	Nov3/20 Mar5/21 Jun8/21	0ct18/21 Jun28/22 0ct21/22	Mar28/23 Jul6/23
		Jun	Mai	00		-	N N
	Aluminum (ppm)			-	Chromium (pr	om)	
	50 40 Severe			51	Sama		
	a 20 - Abnormal		^	E 30	Abnormal		
		-			1.		
	10			1			
	Mov3/20 + Mar5/21 + Jun8/21 +	8/22	ar28/23 - Jul6/23 -		Nov3/20	0ct18/21 - un28/22 - 0ct21/22 -	ar28/23 - Jul6/23 -
	Nov: Juni Oct18	Jun28/22	Mar28/23 Jul6/23	0ct31/23	Nov. Mar	0ct18/21 Jun28/22 0ct21/22	Mar28/23 Jul6/23
	Copper (ppm)				Silicon (ppm)		
				81			
	600-			61 E a			
	툪 400 - Styfformal			톱 4	Abnormal		
	200			21			\sim
	Nov3/20 Mar5/21 Jun8/21 Oct18/21	Jun28/22 -	Mar28/23	0ct31/23	Mar5/20	0ct18/21	Mar28/23 - Jul6/23
	≥ ెెెం Viscosity @ 100°C		Ma C	00	≝ ≤ ⊰ Base Number	Jun Oct	Ma
	16 ₁						· · · · · · · · · · · · · · · · · · ·
	14 Abnormal Base	1		1.8 KOH	0 -		
				(b) HOX Bull Bull Bull Bull Bull Bull Bull Bull	D		V
	은 10 Atthormal · · · · · · · · · · · · · · · · · · ·		$\backslash /$	e 4.0	0		
	6		V	2.0	D		
	4 02 12 12	2		0.0		21	33 33
	Nov3/20 Mar5/21 Jun8/21 Oct18/21	Jun28/22	Votiz 1/22 Mar28/23 Jul6/23	0ct31/23	Nov3/20 Mar5/21	0ct18/21 Jun28/22 0ct21/22	Mar28/23 Jul6/23
Laboratory Sample No. Lab Number Unique Number	: WearCheck USA - 5 : PCA0110472 I : 06005355 I r : 10739117 I	501 Madis Received Diagnose Diagnost	son Ave., Ca I : 13 ed : 15 ician : We			LLER TRUCK 39 INI	LEASING #11 DUSTRIAL AV K HEIGHTS, N US 0760
icate L2367 Test Package							

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

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