

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

1524201 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

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.

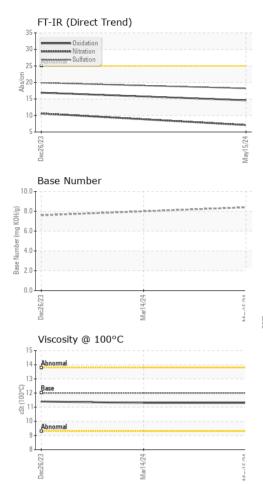
Fluid Condition

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

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0119228	PCA0119187	PCA0111363
Sample Date		Client Info		15 May 2024	14 Mar 2024	26 Dec 2023
Machine Age	mls	Client Info		170833	169147	141888
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL		ABNORMAL
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 METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	13	16
Chromium	ppm	ASTM D5185m	>20	1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 16	history2 8
	ppm ppm					
Boron		ASTM D5185m	2	12	16	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	12 0	16 0	8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	12 0 68	16 0 71	8 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	12 0 68 0	16 0 71 <1	8 0 61 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	12 0 68 0 896	16 0 71 <1 955	8 0 61 0 866
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	12 0 68 0 896 1068	16 0 71 <1 955 1198	8 0 61 0 866 1140
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	12 0 68 0 896 1068 967	16 0 71 <1 955 1198 1091	8 0 61 0 866 1140 951
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	12 0 68 0 896 1068 967 1202	16 0 71 <1 955 1198 1091 1297	8 0 61 0 866 1140 951 1188
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 limit/base	12 0 68 0 896 1068 967 1202 3268	16 0 71 <1 955 1198 1091 1297 3661	8 0 61 0 866 1140 951 1188 3060
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 limit/base	12 0 68 0 896 1068 967 1202 3268 current	16 0 71 <1 955 1198 1091 1297 3661 history1	8 0 61 0 866 1140 951 1188 3060 history2
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 ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	12 0 68 0 896 1068 967 1202 3268 current 6	16 0 71 <1 955 1198 1091 1297 3661 history1 6	8 0 61 0 866 1140 951 1188 3060 history2 6
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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	12 0 68 0 896 1068 967 1202 3268 <u>current</u> 6 26	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40	8 0 61 0 866 1140 951 1188 3060 history2 6 41
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	12 0 68 0 896 1068 967 1202 3268 <u>current</u> 6 26 26 24	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40 37	8 0 61 0 866 1140 951 1188 3060 history2 6 41 41 ▲ 60
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 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base	12 0 68 0 896 1068 967 1202 3268 current 6 26 24 24 current	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40 37 history1	8 0 61 0 866 1140 951 1188 3060 history2 6 41 41 ▲ 60 bistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	12 0 68 0 896 1068 967 1202 3268 <i>current</i> 6 26 24 24 <i>current</i>	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40 37 history1	8 0 61 0 866 1140 951 1188 3060 history2 6 41 41 6 41 6 41 6 0.6
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 .20 limit/base >3 >20	12 0 68 0 896 1068 967 1202 3268 current 6 26 24 24 current 0.2 7.1	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40 37 history1 	8 0 61 0 866 1140 951 1188 3060 history2 6 41 6 41 60 history2 0.6 10.6
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >3 >20	12 0 68 0 896 1068 967 1202 3268 current 6 26 24 24 current 0.2 7.1 18.2	16 0 71 <1 955 1198 1091 1297 3661 history1 6 40 37 history1 	8 0 61 0 866 1140 951 1188 3060 history2 6 41 41 ▲ 60 history2 0.6 10.6 10.6 19.9



OIL ANALYSIS REPORT



	VISUAL		method			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	
5/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
May15/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
	FLUID PROPER	RTIES	method	limit/base	current	history1	history2	
	Visc @ 100°C	cSt	ASTM D445		11.3	11.3	11.4	
	GRAPHS							
	Iron (ppm)				Lead (ppm)		
	250 T			100		/ 		
Mar14/24	200 - Severe) - Severe			
Mari	Abnormal			Ed 60	Abarantal			
				40				
	50-			20				
		/24-		24		/24		
	Dec26/23	Mar14/24		May15/24	Dec26/23	Mar14/24		
	– Aluminum (ppm)	-		2	_ Chromium			
	50 T			50				
	40 T C	1		40	1			
24 -	and a second sec			= ³⁰	Abnormal			
Marl 4/24								
2 2	10			10				
	0ec26/23	Mar14/24 -		May15/24 -	Dec26/23	Mar14/24 -		
	—	Mar		May	_			
	Copper (ppm)	,		80	Silicon (ppr	n)		
	300			60				
	툴 200			E.40	Abnormal			
	100-			20) +			
	0	4						
	Dec26/23	Mar14/24		May15/24	Dec26/23	Mar14/24		
	ి Viscosity @ 100°C	M		M	ළ Base Numb			
	¹⁶ T							
	14 Abnormal			B/HO 8.0	-			
	(Co-001) 12 ts			E 6.0)			
				- ⁴)			
	10 Abnormal			8.0 6.0 Base Mumber 82.0)			
	8 2 2	24 +-				24 -		
	Dec26/23	Mar14/24		May15/24	Dec26/23	Mar14/24		
		2		×		2		
Laboratory	: WearCheck USA - 501	Madiso		MILLER TRUCK LEASING #12 3 LINDEN AVE				
Sample No.	: PCA0119228	Rece						
Lob Number	: 06188481	Teste		May 2024		JERSEY CITY, N		
ISONEC 17025	: 11045233			May 2024 - W	les Davis	O a set a set	US 0730 BILL CUCCI :	
Unique Number		oto · TDN	1)					
tificate L2367 Unique Number Test Package	: MOB 1 (Additional Tes			9				
Unique Number	: MOB 1 (Additional Tes , contact Customer Servic	ce at 1-8	800-237-1369			Contact wcuccia@millert		

Report Id: MILJER [WUSCAR] 06188481 (Generated: 05/24/2024 01:06:15) Rev: 1

Page 2 of 2