

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 738214 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

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

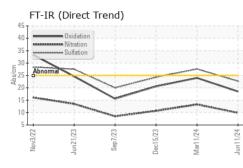
Fluid Condition

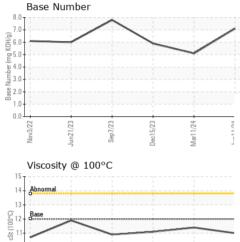
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

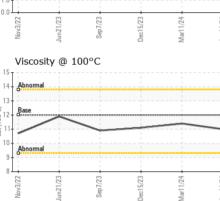
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0125185	PCA0119036	PCA0112279
Sample Date		Client Info		11 Jun 2024	11 Mar 2024	15 Dec 2023
Machine Age	mls	Client Info		42016	38204	210339
Oil Age	mls	Client Info		42016	38204	0
Oil Changed		Client Info		Changed	Changed	Not Changd
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 METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>100	36	80	50
Chromium	ppm ppm	ASTM D5185m	>100	2	3	2
Nickel		ASTM D5185m	>20	2 <1	<1	<1
Titanium	ppm ppm	ASTM D5185m	~	6	6	6
Silver	ppm	ASTM D5185m	>3	۰ <1	0	0
Aluminum	ppm		>20	10	22	16
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm		>330	11	28	23
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m	210	0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ouumum	pp			•	0	0
		method	limit/baco	ourrent	history1	history?
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	5	2	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	5 0	2 0	3 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	5 0 59	2 0 64	3 0 56
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	5 0 59 <1	2 0 64 1	3 0 56 <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	5 0 59 <1 978	2 0 64 1 930	3 0 56 <1 890
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	5 0 59 <1 978 1265	2 0 64 1 930 1317	3 0 56 <1 890 1209
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 9 950 1050 995	5 0 59 <1 978 1265 1174	2 0 64 1 930 1317 1095	3 0 56 <1 890 1209 999
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	5 0 59 <1 978 1265 1174 1426	2 0 64 1 930 1317 1095 1303	3 0 56 <1 890 1209 999 1251
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	5 0 59 <1 978 1265 1174 1426 3298	2 0 64 1 930 1317 1095 1303 2440	3 0 56 <1 890 1209 999 1251 2457
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	5 0 59 <1 978 1265 1174 1426 3298 current	2 0 64 1 930 1317 1095 1303 2440 history1	3 0 56 <1 890 1209 999 1251 2457 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 50 950 1050 995 1180 2600	5 0 59 <1 978 1265 1174 1426 3298 current 7	2 0 64 1 930 1317 1095 1303 2440 history1 11	3 0 56 <1 890 1209 999 1251 2457 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	5 0 59 <1 978 1265 1174 1426 3298 current 7 2	2 0 64 1 930 1317 1095 1303 2440 history1 11 1	3 0 56 <1 890 1209 999 1251 2457 history2 7 3
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 50 950 1050 995 1180 2600 limit/base >25 >20	5 0 59 <1 978 1265 1174 1426 3298 current 7 2 2 17	2 0 64 1 930 1317 1095 1303 2440 history1 11 11 46	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32
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	5 0 59 <1 978 1265 1174 1426 3298 current 7 2 17 2 17	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 46 history1	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32 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 TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	5 0 59 <1 978 1265 1174 1426 3298 <i>current</i> 7 2 17 2 17 <i>current</i>	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 46 history1 2	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 3 32 history2 1.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	5 0 59 <1 978 1265 1174 1426 3298 <i>current</i> 7 2 17 2 17 <i>current</i> 1.2 9.9	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 1 46 history1 2 13.3	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32 history2 1.4 10.7
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 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	5 0 59 <1 978 1265 1174 1426 3298 <i>current</i> 7 2 17 2 17 <i>current</i>	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 46 history1 2	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 3 32 history2 1.4
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	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	5 0 59 <1 978 1265 1174 1426 3298 <i>current</i> 7 2 17 2 17 <i>current</i> 1.2 9.9	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 1 46 history1 2 13.3	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32 history2 1.4 10.7
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	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 >30	5 0 59 <1 978 1265 1174 1426 3298 current 7 2 17 2 17 2 17 2 17 2 2 17 2 2 17 2 2 17	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 1 46 history1 2 13.3 27.6	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32 history2 1.4 10.7 24.3
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 ppm Abs/cm	ASTM D5185m ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 >30	5 0 59 <1 978 1265 1174 1426 3298 <i>current</i> 7 2 17 <i>current</i> 1.2 9.9 22.7	2 0 64 1 930 1317 1095 1303 2440 history1 11 1 1 46 history1 2 13.3 27.6 history1	3 0 56 <1 890 1209 999 1251 2457 history2 7 3 32 history2 1.4 10.7 24.3 history2



OIL ANALYSIS REPORT







VISUAL		method	limit/base	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
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	20.L	NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	11.4	11.1
GRAPHS						
Iron (ppm)			10	Lead (ppm)		
200 - Severe				Severe		
_ 150-			(50 -		
100 Abnormal			udd 2	Abnormal		
50				20-		
0				0		
Nov3/22 Jun21/23 Sep7/23	Dec15/23	Mar11/24	Jun11/24	Nov3/22 Jun21/23	Sep7/23 Dec15/23	Mar11/24
7	Dec	Mar	Jun	Jun ^L	Sel	Jun
Aluminum (ppm)			,	Chromium (p	pm)	
100				Severe		
60 × 1						
a 40 Severe		1	mqq	Abnormal		
20 Abnormal				10		-
20						
Nov3/22 -	Dec15/23 -	Mar11/24 -	Jun11/24 -	Nov3/22 -	Sep7/23 - Dec15/23 -	Mar11/24 - Jun11/24 -
	Dec	Mar	Jun	,		Mari
Copper (ppm)				Silicon (ppm)		
300 - Abriormal				io		
틆 200			E.	10-		
100-				Abnormal		
	/23	/24 -	/24	/23 0	/23	24
Nov3/22 Jun21/23 Sep7/23	Dec15/23	Mar11/24	Jun11/24	Nov3/22 Jun21/23	Sep7/23 Dec15/23	Mar11/24 Jun11/24
Viscosity @ 100°C			Base Num		-	
14 Abnormal		1	Base Number (mg KOH(g) 6 9)	0	\frown	/
	1	1	(Bm)	0		\sim
000112 - Base			- and the second	.0+		
10 - Abnormal			^N 2	.0 -		
84		***	0	.0		
Nov3/22 Jun21/23 Sep7/23	Dec15/23	Mar11/24	Jun11/24	Nov3/22 Jun21/23	Sep 7/23 Dec15/23	Mar11/24 Jun11/24
Jur Nr	Dec	Ma	Jur	Jur Ni	D Co	Ma
y : WearCheck USA - 50 o. : PCA0125185 per : 06222040 ber : 11100237		n Ave., Cary ved : 27 d : 27		М	ILLER TRUCK I 2196 BE	

Unique Number : 1 Test Package : MOB 1 (Additional Tests: TBN)

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)

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Certificate L2367

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