

OIL ANALYSIS REPORT

Sample Rating Trend





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

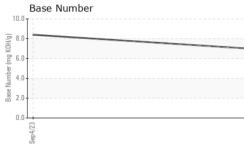
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

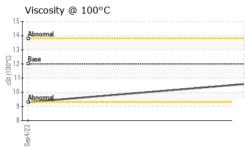
15)			Sep2023	Nov2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0106354	PCA0101161	
Sample Date		Client Info		04 Nov 2023	04 Sep 2023	
Machine Age	mls	Client Info		38250	18100	
Oil Age	mls	Client Info		40000	15000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	22	33	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	2	<1	
Titanium	ppm	ASTM D5185m	T.4	<1	<1	
Silver	ppm	ASTM D5185m	>3	3	18	
Aluminum	ppm	ASTM D5185m	>20	13	39	
Lead	ppm	ASTM D5185m	>40	5	<1	
Copper	ppm	ASTM D5185m	>330	452	150	
Tin		ASTM D5185m	>15	2	4	
Vanadium	ppm ppm	ASTM D5185m	>10	0	4	
Cadmium		ASTM D5185m		0	0	
	ppm				-	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	13	249	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	50	68	112	
Manganese	ppm	ASTM D5185m	0	1	4	
Magnesium	ppm	ACTM DE10Em	050	875		
		ASTM D5185m	950		687	
	ppm	ASTM D5185m	1050	1190	1576	
Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m		1190 987	1576 719	
Phosphorus Zinc		ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180	1190	1576 719 907	
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m	1050 995	1190 987	1576 719	
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180	1190 987 1135	1576 719 907	
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600	1190 987 1135 2378	1576 719 907 3054	
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1050 995 1180 2600 limit/base	1190 987 1135 2378 current	1576 719 907 3054 history1	 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1050 995 1180 2600 limit/base	1190 987 1135 2378 current 11	1576 719 907 3054 history1 ▲ 45	 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25	1190 987 1135 2378 current 11 2	1576 719 907 3054 history1 ▲ 45 4	 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1050 995 1180 2600 <i>limit/base</i> >25 >20	1190 987 1135 2378 current 11 2 31	1576 719 907 3054 history1 ▲ 45 4 93	 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base	1190 987 1135 2378 current 11 2 31 current	1576 719 907 3054 history1 ▲ 45 4 93 history1	 history2 history2
Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base >3	1190 987 1135 2378 current 11 2 31 current 0.2	1576 719 907 3054 history1 ▲ 45 4 93 history1 0.2	 history2 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	1190 987 1135 2378 current 11 2 31 current 0.2 8.3	1576 719 907 3054 ▲ 45 4 93 history1 0.2 8.0	 history2 history2 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1050 995 1180 2600 Imit/base >25 >20 Imit/base >3 >20 >30	1190 987 1135 2378 current 11 2 31 current 0.2 8.3 19.8	1576 719 907 3054 history1 ▲ 45 4 93 history1 0.2 8.0 24.0	 history2 history2



OIL ANALYSIS REPORT

VISUAL





C2/Pool	White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water Free Water FLUID PROPE Visc @ 100°C GRAPHS Ferrous Alloys	scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NONE NONE NORML NORML NEG NEG	NONE NONE NONE NONE NORML NORML NEG NEG	
27000 3 3 2	Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NORML NORML NEG	NONE NONE NONE NORML NORML NEG	
CC/MON 3 3 2	Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NORML NORML >0.2	NONE NONE NORML NORML NEG	NONE NONE NORML NORML NEG	
2 2 2 2 2	Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual	NONE NORML NORML >0.2	NONE NONE NORML NORML NEG	NONE NORML NORML NEG	
3 3 2	Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual	NONE NORML NORML >0.2	NONE NORML NORML NEG	NONE NORML NORML NEG	
2 2 2	Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar scalar RTIES	*Visual *Visual *Visual *Visual	NORML NORML >0.2	NORML NORML NEG	NORML NORML NEG	
3	Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar scalar RTIES	*Visual *Visual *Visual	NORML >0.2	NORML NEG	NORML NEG	
3	Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar scalar RTIES	*Visual *Visual	>0.2	NEG	NEG	
3	Free Water FLUID PROPE Visc @ 100°C GRAPHS	scalar RTIES	*Visual				
3	FLUID PROPE Visc @ 100°C GRAPHS	RTIES		1	NEG	NF(i	
3	Visc @ 100°C GRAPHS		method		-		
3	GRAPHS	cSt		limit/base	current	history1	history2
3			ASTM D445	12.00	10.57	9.3	
3	Ferrous Allovs						
3	15 ₁						
2	iron						
	nickel						
2 8 1	20 +						
-1	15						
1	10-						
	5						
	Sep4/23			Nov4/23			
	ö			Nc			
Fr	Non-ferrous Metal	s					
50	copper			-			
40	00 - nearest lead		and the second second	Contraction -			
20	10	- Martin Contractor	Concernance -				
30 틒		and the second se					
20	00						
10	10						
	0						
	Sep 4/23			Nov4/23			
	Set			Nov			
	Viscosity @ 100°C	2			Base Number		
1	¹⁵ T:			ç			
1	4 Abnormal			8	3.0		
1	3			(B/H	7.0 -		
Î.	2 Base			Base Number (mg KOH(g)	5.0		
cst (100°C)	11			per C			
				- Num	3.0		
	Abnormal			ase 2	2.0		
	9-			1	1.0 -		
	84				0.0		
	Sep4/23			Nov4/23	Sep ⁴ /23		
Sample No. : Lab Number : Unique Number :	: 06003987 : 10737749 : FLEET	Received Diagnose Diagnosti	ad :101 ad :161 ician :Wes	Nov 2023 Nov 2023 es Davis	13 PE	RDUE FARMS 7036 ZION CH SA Contact: RICH richard.oneal	HURCH ROA LISBURY, M US 2180 HARD O`NEA

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

F: (410)341-2164