

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

(TS57226) S0916A-Suamico Machine Id 514032

Component Front Center Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (44)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

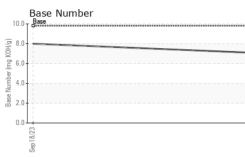
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

			Sep2023	Jan2024		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0095953	GFL0095969	
Sample Date		Client Info		03 Jan 2024	18 Sep 2023	
Machine Age	hrs	Client Info		1160	608	
Oil Age	hrs	Client Info		552	608	
Oil Changed		Client Info		Changed	Changed	
Sample Status		-		NORMAL	ABNORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	0.2	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	15	26	
Chromium	ppm	ASTM D5185m	>20	<1	0	
Nickel	ppm	ASTM D5185m	>2	1	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>30	5	3	
Lead	ppm	ASTM D5185m	>30	<1	<1	
Copper	ppm	ASTM D5185m	>30	49	<u> </u>	
Tin	ppm	ASTM D5185m	>15	2	1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	6	34	
Barium	ppm	ASTM D5185m	0	<1	12	
Molybdenum	ppm	ASTM D5185m	60	54	44	
Manganese	ppm	ASTM D5185m	0	1	2	
Magnesium	ppm	ASTM D5185m	1010	816	546	
Calcium	ppm	ASTM D5185m	1070	1115	1665	
Phosphorus	ppm	ASTM D5185m	1150	790	708	
Zinc	ppm	ASTM D5185m	1270	1046	854	
Sulfur	ppm	ASTM D5185m	2060	1751	2081	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	6	11	
Sodium	ppm	ASTM D5185m		4	9	
Potassium	ppm	ASTM D5185m	>20	16	40	
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.3	
Nitration	Abs/cm	*ASTM D7624	>20	8.7	9.1	
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	22.1	
FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.4	23.1	
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.1	8.0	

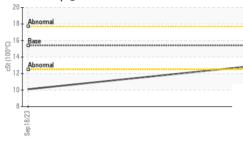


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VISUAL







	0.007	VISUAL					nistory i	
		White Metal	scalar	*Visual	NONE	NONE	NONE	
	-	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
		Precipitate	scalar	*Visual	NONE	NONE	NONE	
		Silt	scalar	*Visual	NONE	NONE	NONE	
		Debris	scalar	*Visual	NONE	NONE	NONE	
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	24							
	Jan3/24	Appearance	scalar	*Visual	NORML	NORML	NORML	
		Odor	scalar	*Visual	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	
		FLUID PROPE	RTIES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	15.4	12.8	1 0.1	
		GRAPHS						
		Ferrous Alloys						
		30 iron						
	2	25 - Research chromium						
	5	20 - nickel						
	u dd	15						
	1	10-						
		5						
					5			
		Sep 18/23			Jan 3/24			
					7			
		Non-ferrous Metal						
			S					
	30		S					
		00 50	S					
	25	50 - copper tin	s					
	25	00 50 copper 50 tin 00	s					
	25	00 50 copper 50 tin 00	5					
	25 20 E 15	00 50 copper 50 tin 00	s					
	25 20 톱 15	00 50 50 50 50 50 50 50 50	5		/			
	25 20 톱 15	00 50 - Lead 00 50 - Lead 50 - Lead	s		/			
	25 20 톱 15	00 50 50 50 50 50 50 50 50 50 50	s		24			
	25 20 톱 15	00 50 50 50 50 50 50 50 50 50 50	s		an3/24			
	25 20 톱 15	00 50 50 50 50 50 50 50 50 50 50 50 50 5			Jan324			
	25 20 토 15 10 5	Viscosity @ 100°C			Jan324	Base Numbe	21	
	25 20 <u>E</u> 15 10 5	00 50 50 50 50 50 50 50 50 50 50 50 50 5			10.0		21.	
	29 20 <u>E</u> 19 10 9	Viscosity @ 100°C			10.0		21	
	29 20 <u>E</u> <u></u> 19 10 9 11	00 50 50 50 50 50 50 50 50 50			10.0		21	
	29 20 10 5	Viscosity @ 100°C			10.0		27	
		00 50 50 50 50 50 50 50 50 50			10.0		27	
	25 20 Md 15 10 (0-001) 33	00 50 50 50 50 50 50 50 50 50			10.0	Base	27	
	225 20 Md 15 10 (0-001) 25 1	00 50 50 50 50 50 50 50 50 50			10.0 8.0 (0,10) 980 Wumper 4.0 900	Base	51.	
	25 2(Mdd 10 5 11 (2,001) 23 1 1 1 1 1 1 1 1 1 1 1 2,001) 23 2 1 1 1 2,001 24 20 1 2 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00 50 50 50 50 50 50 50 50 50			0.0 8.0 9.0 KOH(0) pet (m0	Base	21.	
	25 2(Mdd 10 5 11 (2,001) 23 1 1 1 1 1 1 1 1 1 1 1 2,001) 23 2 1 1 1 2,001 24 20 1 2 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00 50 50 50 50 50 50 50 50 50			10.0 (0, HOX HOX Bu) Jaquinny 4.0 Bu 2.0 0.0	Base	2r	
	25 2(Mdd 10 5 11 (2,001) 23 1 1 1 1 1 1 1 1 1 1 1 2,001) 23 2 1 1 1 2,001 24 20 1 2 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00 50 50 50 50 50 50 50 50 50			10.0 (0, HOX HOX Bu) Jaquinny 4.0 Bu 2.0 0.0	Base	2r	
	25 2(Mdd 10 5 11 (2,001) 23 1 1 1 1 1 1 1 1 1 1 1 2,001) 23 2 1 1 1 2,001 24 20 1 2 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	00 50 50 50 50 50 50 50 50 50			10.0 (0HO) 8.0 (0HO) 6.0 (0HO) 880 (0HO) 880 (0HO) 880 (0HO) 880 (0HO) 880 (0HO) 880 (0HO) 800 (0HO) 800 (Base	2r	
	25 20 8 115 10 10 10 10 10 10 10 1	00 50 50 50 50 50 50 50 50 50			10.0 (0)HOX 60 bul) Jangumy see 2.0 b7/Cump	EC.001 Geo		
Laboratory Samulo No	25 20 <u>E</u> 11 10 10 10 10 10 10 11 11 11 11 11 11	Viscosity @ 100°C	01 Madia		10.0 (0HO) 8.0 (0HO) 9400 6.0 (0HO)	EC.001 Geo	Environmental - 9	
Sample No	225 20 <u>Ed</u> 15 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 5 1 1 1 1	Viscosity @ 100°C	01 Madia	d : 26 .	10.0 (0HO) Bull 30 6.0 (0HO) Bull 30 6.0 (0HO) Bull 30 6.0 (0HO) 80 6.	EC.001 Geo	Environmental - 9	Deerfield Ave
Sample No Lab Numbe	22 2(Ea 15 10 10 10 10 10 10 10 10 10 10 10 10 10	00 50 50 50 50 50 50 50 50 50	01 Madia Recieved	d : 26 . ed : 26 .	۱۵.0 (۵,40) ۱۹۹۵ ۱۹۹۵ ۱۹۹۵ ۱۹۹۵ ۱۹۹۵ ۱۹۹۵ ۱۹۹۵ ۱۹۹	EC.001 Geo	Environmental - 9	Deerfield Ave Suamico,
Sample No	225 200 E 15 10 10 10 10 10 10 10 10 10 10 10 10 10	00 50 50 50 50 50 50 50 50 50	01 Madia	d : 26 . ed : 26 .	10.0 (0HO) Bull 30 6.0 (0HO) Bull 30 6.0 (0HO) Bull 30 6.0 (0HO) 80 6.	EC.001 Geo	Environmental - 9	Deerfield Ave Suamico, ' US 543

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

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