

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

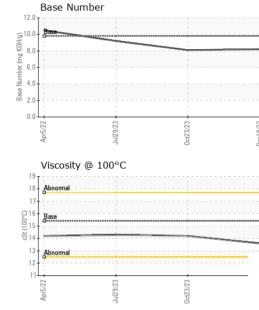
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

N 50P 15W40 (- GAL)	Apr202	2 Jul2023	0ct2023 D	ec2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0106647	GFL0097652	GFL0084874
Sample Date		Client Info		19 Dec 2023	23 Oct 2023	29 Jul 2023
Machine Age	hrs	Client Info		25792	25495	200714
Oil Age	hrs	Client Info		600	0	200714
Dil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
⁼ uel		WC Method	>3.0	<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
ron	ppm	ASTM D5185m	>90	27	40	44
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	5	8
_ead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	2	1
Fin	ppm	ASTM D5185m	>15	0	<1	0
/anadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	1	1	4
Barium	ppm	ASTM D5185m	0	0	0	0
Volybdenum	ppm	ASTM D5185m	60	43	57	62
Vanganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	799	909	976
Calcium	ppm	ASTM D5185m	1070	990	1039	1092
Phosphorus	ppm	ASTM D5185m	1150	820	949	1052
Zinc	ppm	ASTM D5185m	1270	1095	1253	1227
Sulfur	ppm	ASTM D5185m	2060	2571	2577	3578
CONTAMINAN	ITS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	5	8	17
Sodium	ppm	ASTM D5185m		8	13	12
Potassium	ppm	ASTM D5185m	>20	<1	5	4
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	0.4	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.3	9.1	6.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	20.0	18.3
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	16.4	14.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.2	8.1	9.2



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VISUAL



		: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0106647 Recieved : 26 Dec 2023 : 06044584 Diagnosed : 27 Dec 2023 : 10805192 Diagnostician : Wes Davis : FLEET contact Customer Service at 1-800-237-1369. are outside of the ISO 17025 scope of accreditation.					GFL Environmental - 405 - Arbor Hills 7400 Napier Re NORTHVILLE, M US 48168 Contact: Anthony Hopkins ahopkins@gflenv.con		
	11	Jul29/23	0ct23/23	0.0	Apro/22	0ct23/23	0.00 June 1		
	13 - Abnormal			ag 6.0 - Juny 4.0 - Sea 2.0 -					
	17 ¹⁷ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶ ¹⁶				Date				
	19 18 - Abnormal]		12.0					
			0		Base Number				
	0 00127	129/23	:423/23	c19/23					
	4 - 2								
	6								
	10 copper	letals							
		Jul29/23 -	0ct23/23 -	Dec19/23 -					
	15 10 5								
	₫ ²⁵ 20								
	40 - 35 - iron iron chromium nickel								
	Ferrous Alloys	;							
	Visc @ 100°C	cSt	ASTM D445	15.4	13.6	14.2	14.3		
			method	limit/base	current	history1	history2		
			*Visual *Visual	>0.2	NEG	NEG	NEG NEG		
Dec19	Odor	scalar	*Visual	NORML	NORML	NORML	NORML		
							NONE NORML		
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE		
							NONE NONE		
		Debris Sand/Dirt Appearance Odor Emulsified Wate Free Water FLUID PRC Visc @ 100°C GRAPHS Ferrous Alloys Usc @ 100°C GRAPHS Ferrous Alloys Visc @ 100°C Corport Chromum Sector Corport Corport Sector Corport Corport Sector Corport Sector Corport Se	Yellow Metal scalar Precipitate scalar Silt scalar Debris scalar Appearance scalar Emulsified Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Free Water scalar Non-ferrous Alloys Terrous Alloys Terrous Metals Usc @ 100°C cSt GRAPHS Ferrous Alloys Usc @ 100°C Cog Usc @ 100°C	Yellow Metal Precipitate Silt Scalar Visual Sand/Dirt Scalar Visual Sand/Dirt Scalar Visual Sand/Dirt Scalar Visual Appearance Scalar Visual Cdor Scalar Visual Emulsified Water Scalar Visual Free Water Scalar Visual FLUID PROPERTIES method Visc @ 100°C CSt ASTM D445 CRAPHS Ferrous Alloys Competing Competin	Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Debris scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual NORML Emulsified Water scalar *Visual Scalar *Visual NORML Emulsified Water scalar *Visual NORML Emulsified Water scalar *Visual NORML Visc @ 100°C cSt ASTM D445 15.4 CRAPHS Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C	Yellow Metal scalar 'Visual NONE NONE Precipitate scalar 'Visual NONE NONE Sitt scalar 'Visual NONE NONE Debris scalar 'Visual NONE NONE Sand/Dirt scalar 'Visual NONE NONE Sand/Dirt scalar 'Visual NORML NORML Appearance scalar 'Visual NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NORML NEG FLUID PROPERTIES method imit/base current Visc @ 100°C cSt ASTM D445 15.4 13.6 CRAPHS Ferrous Alloys Uscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Sear Non-ferrous Metals Sear Number Sear Number Sear Number Sear Number Sear Number Sear Number Sear Number Sear Number Sear Number Sear Number Non-ferrous Metals Sear Number Sear Number S	Yellow Metal scalar Visual NONE NONE NONE NONE Precipitate scalar Visual NONE NONE NONE NONE Stit scalar Visual NONE NONE NONE NONE Appearance scalar Visual NORML NORML NORML Odor scalar Visual NORML NORML NORML Debris scalar Visual NORM NORML NO		

Submitted By: John Nahal Page 2 of 2