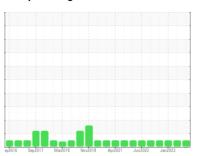


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id 9143 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (38 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

Fluid Condition

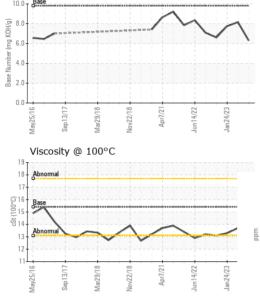
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

N SHP 15W40 (3	8 LIK)	ay2016 Se	2017 Mar2018 Nov2	018 Apr2021 Jun2022 J	an 2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0091574	GFL0084285	GFL0063753
Sample Date		Client Info		16 Oct 2023	13 Jul 2023	24 Jan 2023
Machine Age	kms	Client Info		630186	18778	17978
Oil Age	kms	Client Info		0	396	444
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	17	11	9
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>5	0	0	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	2	2
Lead	ppm	ASTM D5185(m)	>40	2	1	<1
Copper	ppm	ASTM D5185(m)	>330	3	2	2
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	3	2	2
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	59	58	58
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	946	969	917
Calcium	ppm	ASTM D5185(m)	1070	1072	1039	1091
Phosphorus	ppm	ASTM D5185(m)	1150	924	1031	1012
Zinc	ppm	ASTM D5185(m)	1270	1180	1180	1171
Sulfur	ppm	ASTM D5185(m)	2060	2093	2344	2415
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	7	7	5
Sodium	ppm	ASTM D5185(m)		8	14	30
Potassium	ppm	ASTM D5185(m)	>20	0	<1	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	0.6	0.3	0.1
Nitration	Abs/cm	ASTM D7624*	>20	9.3	8.0	7.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	23.6	21.2	19.5



Base Number

OIL ANALYSIS REPORT



	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation Base Number (BN)	Abs/.1mm mg KOH/g	ASTM D7414* ASTM D2896*	>25 9.8	21.6 6.31	17.3 8.15	15.2 7.76
	VISUAL		method	limit/base	current	history1	history2
	Emulsified Water Free Water	scalar scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	NEG NEG
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.4	13.7	13.3
	GRAPHS						
30	Iron (ppm)			100	Lead (ppm)		
25				80	Severe		
20 E 15				60 Ed.			
10	Q			40	Abnormal		
5	0+	_		20			
	3/17	ov22/18 -	4/22	0	3/17	ov22/18	4,72
	May25/16 Sep13/17 Mar29/18	Nov22/18 Apr7/21	Jun14/22		May25/16 Sep13/17	_	Jun14/22 Jan24/23
5	Aluminum (ppm)		-,	50	Chromium (p	pm)	
4	Severe 0			40	Severe		
E 3	0-			= 30			
E 2	0 - Abnormal			Ed. 20	Abnormal		
1	0+			10			
	19 19 19 19 19 19 19 19 19 19 19 19 19 1	12/	22	0	110	/21	722
	May25/16 Sep13/17 Mar29/18	Nov22/18 Apr7/21	Jun14/22		May25/16 Sep13/17	Nov22/18 Apr7/21	Jun14/22 Jan24/23
40	Copper (ppm)			80	Silicon (ppm)		
	Abnormal				Severe		
30				60			
E 20	0			E 40	Abnormal		
10	0			20			
	0	21	22	0	9 1	21.2	23
	May25/16 - Sep13/17 - Mar29/18 -	Nov22/18 Apr7/21	Jun14/22 Jan24/23		May25/16	Nov22/18 Apr7/21	Jun14/22 Jan24/23
	Viscosity @ 100°C				Base Number	-	
	8 Abnormal				Dase		
	The second secon			HOX 80.0			
cSt (100°C)	6 Base		~	4.0			
	Abnorma			0.8 Base Number (mg KOH/g)			
1	0 1	80	2	0.0	9 7		3
	May25/16 Sep13/17 Mar29/18	Nov22/18 Apr7/21	Jun14/22		May25/16 Sep13/17	Nov22/18 Apr7/21	Jun14/22 Jan24/23
	-				-		



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5658551 Test Package : MOB 2

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County : GFL0091574

: 02589485

Received : 17 Oct 2023 Diagnosed

: 18 Oct 2023 Diagnostician : Wes Davis

220 Carmek Blvd Rocky View County, AB **CA T1X 1X1**

Contact: GFL Calgary calgarymaintenance@gflenv.com

T:

Submitted By: GFL Calgary

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

F: (403)369-6163