

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 913077 Component

Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (36 LTR)

			Sep2023	Nov2023		
SAMPLE INFOF	RMATION	method	limit/base	current	history1	history
Sample Number		Client Info		GFL0059240	GFL0084893	
Sample Date		Client Info		15 Nov 2023	14 Sep 2023	
Machine Age	hrs	Client Info		3303	2773	
Oil Age	hrs	Client Info		0	2773	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAI	LS	method	limit/base	current	history1	history
Iron	ppm	ASTM D5185m	>120	24	30	
Chromium	ppm	ASTM D5185m	>20	1	2	
Nickel	ppm	ASTM D5185m	>5	0	9	
Titanium	ppm	ASTM D5185m	>2	<1	<1	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	4	3	
Lead	ppm	ASTM D5185m	>40	3	<1	
Copper	ppm	ASTM D5185m	>330	1	92	
Tin	ppm	ASTM D5185m	>15	<1	1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history
Boron	ppm	ASTM D5185m	0	4	21	
Barium	ppm	ASTM D5185m		0	0	
Molybdenum	ppm	ASTM D5185m	60	58	18	
Manganese	ppm	ASTM D5185m	0	<1	<1	
Magnesium	ppm	ASTM D5185m	1010	958	239	
Calcium	ppm	ASTM D5185m	1070	1078	2051	
Phosphorus	ppm	ASTM D5185m	1150	1034	951	
Zinc	ppm	ASTM D5185m	1270	1256	1236	
Sulfur	ppm	ASTM D5185m	2060	3106	2963	
CONTAMINA	NTS	method	limit/base	current	history1	history
Silicon	ppm	ASTM D5185m	>25	9	10	
Sodium	ppm	ASTM D5185m		4	2	
Potassium	ppm	ASTM D5185m	>20	2	6	
INFRA-RED		method	limit/base	current	history1	history
Soot %	%	*ASTM D7844	>4	0.4	0.8	
Nitration	Abs/cm	*ASTM D7624		9.5	10.0	
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	24.9	
FLUID DEGRA	DATION	method	limit/base	current	history1	history
Oxidation	Abs/.1mm	*ASTM D7414	>25	10 5	00.0	
Base Number (BN)		ASTM D7414 ASTM D2896		19.5	20.9	

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.

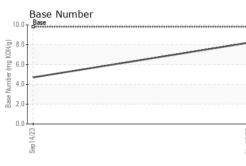
Fluid Condition

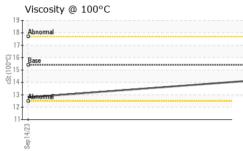
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



OIL ANALYSIS REPORT

VISUAL





	White Metal						
	winte 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	
5/23	Appearance	scalar	*Visual	NORML	NORML	NORML	
Nov15/23	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROP		method	limit/base		history1	history2
	Visc @ 100°C	cSt	ASTM D445		current 14.1	12.8	
	GRAPHS	001	A0110 0443	13.4	14.1	12.0	
	Ferrous Alloys						
	³⁰ I						
	25 - iron						
	nickel						
	20 -						
	ls						
	10						
	A constant of the line is a first of the distance is the state of the						
	5 -	and the second second second second	and the state of the				
	0			C C			
	Sep 14/23			Nov15/23			
	⁸			No			
	Non-ferrous Met	als					
	Non-ferrous Met	als					
		als					
	80 copper lead	als					
E	100 80 60	als					
	100 80 60	als					
Mun	100 80 60	als					
	100 80 60	als					
MUN	100 80 60 40	als					
, and an	100 80 60 40 20 0	als		153			
	100 80 60 40 20 0	als		lov15/23			
	100 80 60 60 40 20 0 EX EX EX EX EX EX EX EX EX EX			Nov15/23			
	100 80 60 40 20 0				Base Numbe	r	
MUN	Viscosity @ 100°			EZ/SI/NooN		r	
, mana	100 80 60 40 20 Viscosity @ 100°			10.	0 - Base	r	
	100 80 60 60 40 20 0 152 152 152 152 152 152 152 152			10.	0 - Base	r	
	100 80 60 60 40 20 0 152 152 152 152 152 152 152 152			10.	0 - Base	r	
	100 80 60 60 40 20 0 152 152 152 152 152 152 152 152			10.	0 - Base	r	
	100 80 60 60 40 20 0 EXAMPLE AND			10.	0 - Base	r	
	100 80 60 60 40 20 0 Viscosity @ 100° 19 16 Base 15 6 6 6 6 6 6 6 6 6 7 7 8 7 8 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8			10. (6)HOX (8) (6)HOX (8) 10 10 10 10 10 10 10 10 10 10 10 10 10	0 - Base 0	r	
	100 80 60 60 40 20 0 Viscosity @ 100° 19 18 40 10 19 18 40 10 10 10 10 10 10 10 10 10 1			10.1 (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0 - Asse	r	
	100 80 60 60 60 60 60 60 60 60 60 6			10.1 8.1 10.0 10.0 10.0 10.0 10.0 10.0 1	0	r	
	100 80 60 60 60 60 60 60 60 60 60 6			10.1 8.1 10.00H(0) 10.00H(0	r	
	100 80 60 60 40 20 0 Viscosity @ 100° 19 18 40 10 19 18 40 10 10 10 10 10 10 10 10 10 1			10.1 (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0 - Asse	r	
	100 80 60 60 40 20 0 EZZ File Viscosity @ 100° 19 16 Base 17 16 Base 11 12 11 EZZ 14 10 15 14 15 16 16 16 16 16 16 16 16 16 16	c	son Ave Ca	10.1 (0)HOX 60.1 Base Number 2.1 CZCS 1200 Nov 12/2 CZCS 1000) - Michigan W
ory	100 80 60 60 60 60 60 60 60 60 60 6	c		10.1 (0)HOX 60.1 Base Number 2.1 CZCS 1200 Nov 12/2 CZCS 1000		vironmental - 410	
	100 80 60 60 40 20 0 19 16 10 10 10 10 10 10 10 10 10 10	C 501 Madia	d : 22	10.1 (0)HOX 00,1 4,1 EZCJSINON ary, NC 27513		vironmental - 410	00 Van Born I
cory No. mber Jumber	¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰¹ ¹⁰ ¹⁰	C 501 Madia Received	d : 22 ed : 23	10.1 (9)HO 80 10.1 10		vironmental - 410	00 Van Born I Wayne,
tory No. mber lumber ckage	¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰⁰ ¹⁰¹ ¹⁰ ¹⁰	501 Madia Received Diagnost	d : 22 ed : 23 tician : We	10.1 (0)(10.0) (0)(1		nvironmental - 410 3900 Contac	9 - Michigan We Do Van Born F Wayne, I US 4811 t: Belal Dghei sh@gflenv.cc



 Centificate 12367
 Test Package
 : FLEET

 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.

 * - 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)



T: (734)714-2340