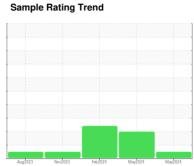


OIL ANALYSIS REPORT





Machine Id DZ-8 Component

Diesel Engine

PETRO CANADA DURON HP 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

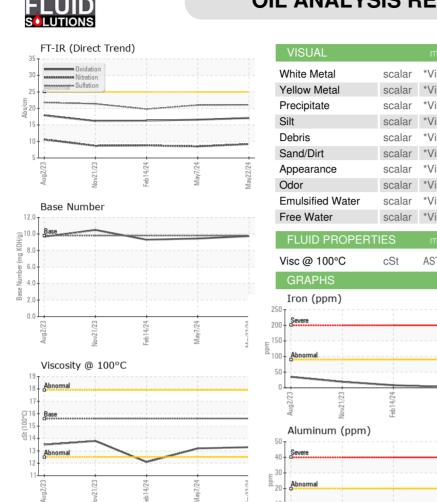
Fluid Condition

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

AL)		Aug2023	Nov2023	Feb2024 May2024	May2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		KFS0006084	KFS0003902	KFS0004052
Sample Date		Client Info		22 May 2024	07 May 2024	14 Feb 2024
Machine Age	hrs	Client Info		6958	6880	6632
Oil Age	hrs	Client Info		200	0	0
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	ATTENTION	SEVERE
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	△ 2.5	▲ 6.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	6	3	8
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	0	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		35	42	2
Barium	ppm	ASTM D5185m		0	1	0
Molybdenum	ppm	ASTM D5185m		38	37	51
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		498	447	809
Calcium	ppm	ASTM D5185m		1603	<u> </u>	1043
Phosphorus	ppm	ASTM D5185m		1058	1009	899
Zinc	ppm	ASTM D5185m		1249	1160	1121
Sulfur	ppm	ASTM D5185m		3606	3497	3074
CONTAMINANTS	6	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	4	3
Sodium	ppm	ASTM D5185m		4	3	1
Potassium	ppm	ASTM D5185m	>20	4	1	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	0.7	0.6	0.7
Nitration	Abs/cm	*ASTM D7624	>20	9.2	8.5	8.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	21.0	19.8
FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	16.6	16.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.74	9.45	9.31



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2	2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	NEG	
FLUID PROPERT	TES	method	limit/base	current	history1	history?	2
Visc @ 100°C	cSt	ASTM D445	15.6	13.3	13.2	<u>▲</u> 12.1	
GRAPHS							
Iron (ppm)			10	Lead (ppm)			
Severe	1			Severe	į		
150 100 - Abnormal				60			
100 Abnormal			Ed (Abnormal			-
50-				20			
0 0	4		-	0 💆	4	4	-
Aug2/23 Nov21/23	-eb14/24	May7/24	May22/24	Aug2/23	-eb14/24	May7/24.	May22/24
_	프	Σ	Ma	_		Σ	Ma
Aluminum (ppm)				Chromium (pr	om) 		
40 Severe				Severe			
E 30				10			
Abnormal			mdd	Abnormal			-
10				0			
2 2	4.	4	45	0 2 2	4:	4	4
Aug2/23	-eb14/24	May7/24	May22/24	Aug2/23	-eb14/24	May7/24.	May22/24
Copper (ppm)	Œ.	~	Ξ	Silicon (ppm)	ű.	~	M
400				Sincori (ppiri)			,-
Severe Publication and 300				50			
E 200 -			Edd				
				Abnormal			
100				20			
23 23 23	24	24	24	23 23 2	24-	24	24
Aug2/23	-eb14/24	May7/24	May22/24	Aug2/23	Feb14/24	May7/24	May22/24
Viscosity @ 100°C		_	≥	Base Number	ш	_	M
20 7 7			= 12	.0T:T0			
18 - Abnormal			Base Number (mg KOH/g)				-
(2-16 Base Abnormal			er (mg				
Abnormal			4	.0			
12			Base 2	.0			
10 10 23	724	724		- Z3 - Z3 - O.	24+	724	724
Aug2/23 Nov21/23	Feb14/24	May7/24.	May22/24	Aug2/23	Feb14/24	May7/24	May22/24
Z		_	2	2	<u>.</u>	_	2





Certificate 12367

Laboratory

Sample No. : KFS0006084 Lab Number : 06216354 Unique Number : 11089218

Test Package : MOB 2

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Jun 2024

Tested : 22 Jun 2024 : 23 Jun 2024 - Don Baldridge Diagnosed

HARNESS LLC 855 N JAMES CAMPBELL BLVD COLUMBIA, TN

US 38401 Contact: BEN HARNESS ben@slectharness.com T: (615)733-4480

* - 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)