

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id DT779 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- GAL)

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

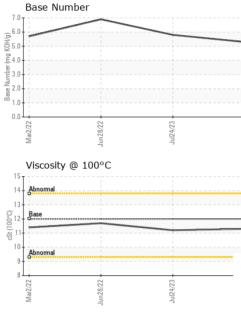
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Widt202	2 Jun2022	Jul2023 Di	102023	
SAMPLE INFORM	MATION	method				history2
Sample Number		Client Info		PCA0110874	PCA0100020	PCA0075873
Sample Date		Client Info		12 Dec 2023	24 Jul 2023	28 Jun 2022
Machine Age	mls	Client Info		154121	128127	0
Oil Age	mls	Client Info		154121	128127	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method	20.2	NEG	NEG	NEG
WEAR METALS	c	method	limit/base		history1	-
				current		history2
Iron	ppm	ASTM D5185m	>110	17	16	33
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	2	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm		>25	8	4	20
Lead	ppm	ASTM D5185m	>45	0	<1	<1
Copper	ppm		>85	1	14	40
Tin	ppm	ASTM D5185m	>4	0	<1	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	7	1	5
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	67	63	57
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	950	946	889	919
Calcium	ppm	ASTM D5185m	1050	1132	1155	1139
Phosphorus	ppm	ASTM D5185m	995	1068	842	939
Zinc	ppm	ASTM D5185m	1180	1314	1156	1220
Sulfur	ppm	ASTM D5185m	2600	2669	3021	2454
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	7	6	5
Sodium	ppm	ASTM D5185m		<1	2	1
Potassium	ppm	ASTM D5185m	>20	10	4	48
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.7	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.9	10.7	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.5	21.1	22.8
FLUID DEGRAD)AT <u>ION</u>	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	16.0	19.2
			. =•			
Base Number (BN)	mg KOH/g	ASTM D2896		5.3	5.8	6.9



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VISUAL



		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
23 -	- 23		scalar	*Visual	NORML	NORML	NORML	NORML
Jul24/23	Dec12/23	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water					NEG	
			scalar	*Visual	>0.2	NEG		NEG
1		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROP		method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	12.00	11.3	11.2	11.7
		GRAPHS						
		Ferrous Alloys						
4/23 -		120 - iron						
Jul24/23		100 - nickel						
		80						
		60						
		40						
		20						
		Mar2/22 un28/22		Jul24/23	2/23			
		Mar Jun2		Jul2	Dec12/23			
		Non-ferrous Met	als					
		45 T						
		40 - copper						
		35 tin						
		30-						
		E ²⁵						
		E ²⁵ 20						
		15						
		- I						
		15						
		15- 10- 5- 0-		1/3	123			
		15- 10- 5- 0-		Juit4/23	Dec12/23			
		15- 10- 5- 0-	PC	Jui24/23	Dec12/23	Baco Numbor		
		15 0 2772 EW Viscosity @ 100°	c	July 123		Base Number		
		15 10 5 0 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	ic .	Jul24/23	7.0 6.0	Base Number		
		15 0 2772 EW Viscosity @ 100°	rc	Juit24/23	7.0 6.0	Base Number		
		Viscosity @ 100°	rc	Jui24/23	7.0 6.0	Base Number		
		Viscosity @ 100°	rc	Jui24/23	7.0 6.0	Base Number		
		Viscosity @ 100°	PC	Jui24/23	7.0 6.0	Base Number		
		Viscosity @ 100°	nc	Jui24/23	7.0	Base Number		
		Viscosity @ 100°	nc	Jul24/23	7.0 6.0	Base Number		
		Viscosity @ 100°	nc		7.0 6.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0			
		Viscosity @ 100°	nc		7.0 6.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0		8/22	4/23
		Viscosity @ 100°	nc	Jui24/23	7.0 - 6.0 - (0) 5.0 - (0) 4.0 - - 	Base Number	Jun28/22	Jui24/23
		Viscosity @ 100°	nc		7.0 6.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0		Jun28/22	Jui24/23
	_aboratory	Viscosity @ 100°		Jul24/23	0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0 -0.0	Ma2/22	ITE & CO - COL	
	Sample No.	Viscosity @ 100° Viscosity @ 100° Abnomal Base CZCRW Viscosity @ 2000 CZCRW Viscosity @ 100° CZCRW CZCRW CZCRUN CZC	501 Madi Recieved	son Ave., Ca	ry, NC 27513 Dec 2023	Ma2/22	ITE & CO - COL 100 INDEPE	UMBIA DIVISIO
	Sample No. Lab Number	Viscosity @ 100°	501 Madi Recieved Diagnos	son Ave., Ca d : 21 l ed : 22 l	ry, NC 27513 Dec 2023 Dec 2023	Ma2/22	ITE & CO - COL 100 INDEPE	UMBIA DIVISIO NDENCE BLV COLUMBIA, S
	Sample No. Lab Number Jnique Number	Viscosity @ 100° Viscosity @ 100° Abnomal Abnomal Base CZURY Viscosity @ 100° CZURY Viscosity @ 100° CZURY CZUR	501 Madi Recieved	son Ave., Ca d : 21 l ed : 22 l	ry, NC 27513 Dec 2023	Nma2222	ITE & CO - COL 100 INDEPE	Umbia divisio Ndence BLV Columbia, S US 292
VELABORATORY L icate L2367	Sample No. Lab Number Jnique Number Fest Package	Viscosity @ 100° Viscosity @ 100° Abnomal Abnomal EVEry Control of the second seco	501 Madi Recieved Diagnos Diagnost	son Ave., Ca d : 21 ed : 22 tician : We	ry, NC 27513 Dec 2023 s Davis	Nma2222	ITE & CO - COL 100 INDEPE Contact: GEOF	UMBIA DIVISIO NDENCE BLV COLUMBIA, S US 292 RGE EDWARE
icate L2367	Sample No. Lab Number Jnique Number Test Package Sample report,	Viscosity @ 100° Viscosity @ 100° Abnomal Abnomal Base CZURY Viscosity @ 100° CZURY Viscosity @ 100° CZURY CZUR	501 Madi Recieved Diagnos Diagnosi	son Ave., Ca d : 21 ed : 22 tician : We	ry, NC 27513 Dec 2023 s Davis	Nma2222	ITE & CO - COL 100 INDEPE Contact: GEOF	UMBIA DIVISIO NDENCE BL\ COLUMBIA, S US 292