

OIL ANALYSIS REPORT

Sample Rating Trend



DT638 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 10W30 (44 mls)

SAMPLE INFORMATION method

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.

Machine Id

Fluid Condition

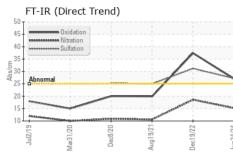
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

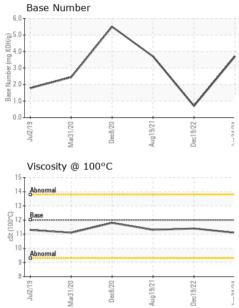
		methou	IIIIII/Dase	current	TIIStOLA	nistory2
Sample Number		Client Info		PCA0120541	PCA0080470	PCA0050633
Sample Date		Client Info		24 Jun 2024	19 Dec 2022	19 Aug 2021
Machine Age	mls	Client Info		246874	200163	0
Oil Age	mls	Client Info		46711	57245	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
				<1.0 NEG	<1.0 NEG	<1.0 NEG
Water		WC Method WC Method	>0.2	NEG		
Glycol	_			NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	50	82	22
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>5	1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	6	6	<1
Lead	ppm	ASTM D5185m	>40	4	2	<1
Copper	ppm	ASTM D5185m	>330	3	4	3
Tin	ppm	ASTM D5185m	>15	2	1	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 1	history2 7
	ppm ppm					
Boron		ASTM D5185m	2	4	1	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	4 1	1 2	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 1 69	1 2 55	7 0 36
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 1 69 1	1 2 55 1	7 0 36 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	4 1 69 1 943	1 2 55 1 875	7 0 36 <1 742
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	4 1 69 1 943 1110	1 2 55 1 875 1171	7 0 36 <1 742 1208
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	4 1 69 1 943 1110 961	1 2 55 1 875 1171 966	7 0 36 <1 742 1208 819
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	4 1 69 1 943 1110 961 1231	1 2 55 1 875 1171 966 1204	7 0 36 <1 742 1208 819 937
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	4 1 69 1 943 1110 961 1231 2230	1 2 55 1 875 1171 966 1204 2117	7 0 36 <1 742 1208 819 937 2316
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	4 1 69 1 943 1110 961 1231 2230 current	1 2 55 1 875 1171 966 1204 2117 history1	7 0 36 <1 742 1208 819 937 2316 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	4 1 69 1 943 1110 961 1231 2230 current 8	1 2 55 1 875 1171 966 1204 2117 history1 7	7 0 36 <1 742 1208 819 937 2316 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25	4 1 69 1 943 1110 961 1231 2230 current 8 4	1 2 55 1 875 1171 966 1204 2117 history1 7 5	7 0 36 <1 742 1208 819 937 2316 history2 3 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >4	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current 0.8	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1 1	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 9 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >4 >20 >30	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current 0.8 15.2 27.2	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1 1 18.6 31.2	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 9 history2 0.5 10.6 25
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >20 >30 imit/base	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current 0.8 15.2 27.2 current	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1 1 18.6 31.2 history1	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 history2 0.5 10.6 25 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 20 imit/base >4 >20 >30	4 1 69 1 943 1110 961 1231 2230 current 8 4 6 current 0.8 15.2 27.2	1 2 55 1 875 1171 966 1204 2117 history1 7 5 13 history1 1 18.6 31.2	7 0 36 <1 742 1208 819 937 2316 history2 3 6 9 history2 0.5 10.6 25

Submitted By: moved here from NWWGRE - Matt Quinlan



OIL ANALYSIS REPORT





nd)		VISUAL		method	limit/base	current	history1	history2	
		White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
	\wedge	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
6		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
1		Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
	And a service of the	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
and the second se		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Dec8/20 Aug19/21	Dec19/22 Jun24/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Au D	Jun De	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
\sim		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID PROPE		method	limit/base	current	history1	history2	
		Visc @ 100°C	cSt	ASTM D445	12.00	11.1	11.4	11.3	
		GRAPHS							
	\vee	Ferrous Alloys							
21	22	80 - iron		~					
ueco/zu . Aug19/21.	Dec19/22	70 - nickel							
		60		/					
		E 40		/					
		30		/					
		20							
		10							
		Jul2/19	Aug19/21-		Jun24/24 -				
		ີ ຼຼິິ Non-ferrous Metal		De	лſ				
Aug 19/21 -	Dec19/22 -	50 T		·					
Aug1	Decl	40 - copper							
		30 E							
		B: 20-							
		10							
		21	52						
	Jul2/19 Mar31/20	Aug19/2	Dec19/22	Jun24/24					
		≤ Viscosity @ 100°C		Ď	٦٢				
		¹⁵	• ;	· · · · · · · · · · · · · · · · · · ·	6.0	Base Number			
		14 - Abnormal							
	13			5.0 。					
	Dia 12 Base	-		(B)H 0,Y 4.0 H0,Y Bm Jao 3.0 Norman See B			1		
	(3-12- Base 11- 12- 12- 12- 12- 12- 12- 12- 12- 12-				/	$\langle \rangle$			
	10-			N 2.0			\backslash /		
	Abnormal			1.0			\bigvee		
	8						¥		
	Jul2/19	Aug19/21.	Dec19/22 -	Jun24/24	Jul2/19	Dec8/20 - Aug19/21 -	Dec19/22 - Jun24/24 -		
	Ju Marĉ	Aug	Deci	Juni	Ju Marâ	Aug	Deci Jun2		
	_								
	Laboratory Sample No.	: WearCheck USA - 50 : PCA0120541					VHITE & CO - GREER DIVISION 1060 ROGERS BRIDGE RD		
	Lab Number			Received : 28 Jun 2024 Tested : 28 Jun 2024				DUNCAN, SC	
TESTING LABORATORY	Jnique Number	: 11101325	Diagr			un 2024 - Don Baldridge		US 29334	
	Fest Package				、			t: Matt Quinlar	
		contact Customer Serv are outside of the ISO 1						@nwwhite.com (864)905-8506	
		are outside of the ISO T						(004)905-0500 E·	

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: moved here from NWWGRE - Matt Quinlan

F: