

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

490284 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

🔺 Wear

The aluminum level is abnormal. All other 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.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0110677	PCA0110659	PCA0071751
Sample Date		Client Info		26 Mar 2024	01 Feb 2024	24 Jul 2022
Machine Age	mls	Client Info		277278	267385	162853
Oil Age	mls	Client Info		56149	46256	56072
Oil Changed		Client Info		Changed	Not Change	Changed
Sample Status				ABNORMAI	NORMAI	NORMAI
					Northinte	HOT IN AL
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		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	mqq	ASTM D5185m	>100	58	47	45
Chromium	ppm	ASTM D5185m	>20	3	2	4
Nickel	maa	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		15	15	<1
Silver	maa	ASTM D5185m	>3	0	<1	0
Aluminum	maa	ASTM D5185m	>20	<u> </u>	24	28
Lead	maa	ASTM D5185m	>40	0	0	<1
Copper	mag	ASTM D5185m	>330	8	9	22
Tin	maa	ASTM D5185m	>15	- <1	<1	2
Vanadium	maa	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
		mathad	limit/bass	ourropt	biotond	history?
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 4	history2 7
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 2 0	current 4 0	history1 4 25	history2 7 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50	current 4 0 53	history1 4 25 54	history2 7 0 56
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0	current 4 0 53 <1	history1 4 25 54 <1	history2 7 0 56 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950	Current 4 0 53 <1 927	history1 4 25 54 <1 803	history2 7 0 56 <1 853
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050	Current 4 0 53 <1 927 1316	history1 4 25 54 <1 803 1162	history2 7 0 56 <1 853 1078
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995	Current 4 0 53 <1 927 1316 1078	history1 4 25 54 <1 803 1162 1010	history2 7 0 56 <1 853 1078 793
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180	current 4 0 53 <1 927 1316 1078 1310	history1 4 25 54 <1 803 1162 1010 1163	history2 7 0 56 <1 853 1078 793 1054
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600	Current 4 0 53 <1 927 1316 1078 1310 3386	history1 4 25 54 <1 803 1162 1010 1163 2936	history2 7 0 56 <1 853 1078 793 1054 2349
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600	current 4 0 53 <1 927 1316 1078 1310 3386 current	history1 4 25 54 <1 803 1162 1010 1163 2936 history1	history2 7 0 56 <1 853 1078 793 1054 2349 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 0 50 0 950 1050 995 1180 2600 limit/base >25	current 4 0 53 <1 927 1316 1078 1310 3386 current 9	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 2 0 5 0 5 0 9 5 0 105 0 9 9 5 118 0 2 6 0 limit/base > 25	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm	method ASTM D5185m	limit/base 2 0 0 50 0 950 1050 995 1180 2600 limit/base >25	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 0 50 0 950 1050 995 1180 2600 limit/base >25	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 s20 limit/base >20	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5 11.7	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1 10.8	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6 11.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base 2 0 50 0 950 1050 995 1180 2600 limit/base >25 limit/base >3 >20 >30 >30	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5 11.7 26.5	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1 10.8 25.3	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6 11.8 26.3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation ELUID DEGRAF	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base 2 0 50 950 1050 995 1180 2600 limit/base >25 - >20 limit/base >3 >20 jant >3 >20	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5 11.7 26.5	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1 10.8 25.3	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6 11.8 26.3 history2
ADDITIVES 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	method ASTM D5185m ASTM D78424 *ASTM D7415	limit/base 2 0 50 950 1050 995 1180 2600 limit/base >20 s3 >20 limit/base >30	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5 11.7 26.5 current	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1 10.8 25.3 history1	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6 11.8 26.3 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844	limit/base 2 0 50 950 1050 995 1180 2600 limit/base >25 limit/base >20 s3 >20 limit/base >30 s25	current 4 0 53 <1 927 1316 1078 1310 3386 current 9 4 18 current 2.5 11.7 26.5 current 19.6	history1 4 25 54 <1 803 1162 1010 1163 2936 history1 6 0 20 history1 2.1 10.8 25.3 history1 18.4	history2 7 0 56 <1 853 1078 793 1054 2349 history2 6 4 38 history2 1.6 11.8 26.3 history2 19.1



OIL ANALYSIS REPORT









	VISUAL		method	limit/base	e current	history1	history2
	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
Contrast and a speed and and and a	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
b1/24 26/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Mai	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PROPE	RTIES	method	limit/base	e current	history1	history2
**************************************	Visc @ 100°C	cSt	ASTM D445	12.00	12.2	12.0	11.3
	GRAPHS						
Contrast and and and and	Iron (ppm)				Lead (ppm)		
24	200 - Severe				80 Severe		
Feb1//	_ 150 -				60-		
4	Abnormal			udd	40 Abnormal		
	50-				20-		
		2	+ 5			2	4
	c17/1	ull 3/2 ar16/2	il24/2.	ar26/2	1/// 11 1// 13	ul13/2 sr16/2	ul24/2/
		n ž	η H	Ma	Chromium (~~~` <u>~</u>	
	⁵⁰ T				⁵⁰ T	ppm)	
	40 - Severe				40 - Severe		
	5 ³⁰	\searrow		§	30		
eb 1/24	a Abnormal	~		id	20 - Abnormal		
E E	10				10		
	0 4 6 7 7 9	22	22	24	61 61	/21- /21-	22 -
	Jull7, Dec17, Apr4,	Jull 3 Mar16,	Jul24, Feb1,	Mar26.	Jul17, Dec17,	Jul13 Mar16	Jul24, Feb1,
	Copper (ppm)				Silicon (ppm)	
	400				80 Severe		
	_ 300	ļ			60		
	E 200			dd	40 Abnormal		
t. 1	100				20-		
Feb1/2	0	5	2	4		2	2 + 4
P.U.	ul17/1 sc17/1	ull 3/2 ar16/2	ul24/2 eb 1/2	ar26/2	oc17/1	ul13/2 ul13/2 ar16/2	ul24/2 eb1/2
	Viscosity @ 100°C	ΓW	- -	Ň	Baco Numbo		
	¹⁶			B			
	14 Abnormal			KOH	6.0		
	00012 Base			er (mg	4.0		
	रहें 10			Numb	2.0		
	Abnormal			Base	0.0		
	7/19 +	3/21+	4/22 + 1/24 -	6/24 +	- 61/1 + 61/1	3/21+	4/22 +
	Jul17 Dec17 Apr4	Mar16	Jul24 Feb1	Mar26	Jull7 Dec17	Jull: Mar16	Jul24 Feb1
Laboratorv	: WearCheck USA - 50	1 Madiso	n Ave., Carv	, NC 27513	3 N	MILLER TRUCK	LEASING #12
Sample No.	: PCA0110677	Recei	ved : 08	3 Apr 2024		66 KI	ELLER AVENU

NG #123



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.

Test Package : MOB 1 (Additional Tests: TBN)

Lab Number : 06140814

Unique Number : 10965622

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

Diagnosed

: 08 Apr 2024

: 10 Apr 2024 - Sean Felton

Tested

Report Id: MILLAN [WUSCAR] 06140814 (Generated: 04/10/2024 08:49:10) Rev: 1

Certificate 12367

Contact/Location: RON ROBERTS - MILLAN

Page 2 of 2

/ar26/24

lar26/24