

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

#### 438691 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

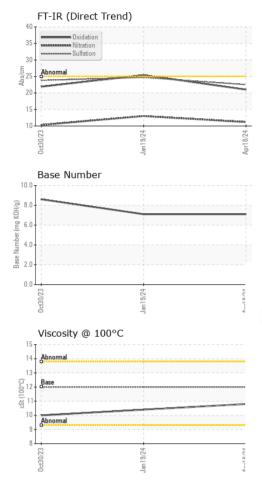
#### Fluid Condition

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

SAMPLE INFORI		method	limit/base	ourront	bistonul	history?
	WATION		-iiiiii/base	current	history1	history2
Sample Number		Client Info		PCA0123905	PCA0117047	PCA0110463
Sample Date	mls	Client Info Client Info		18 Apr 2024 58738	19 Jan 2024 40521	30 Oct 2023 25696
Machine Age	mls	Client Info		0	40521 0	25696
Oil Age Oil Changed	11115	Client Info		N/A	0 N/A	0 N/A
Sample Status		Client into		NORMAL	NORMAL	NORMAL
				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel			>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	93	177	132
Chromium	ppm	ASTM D5185m	>20	4	6	5
Nickel	ppm	ASTM D5185m	>4	2	2	2
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	42	75	58
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	25	43	38
Tin	ppm	ASTM D5185m	>15	3	4	3
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	nnm	ASTM D5185m		4	0	<1
Cadinium	ppm	ASTIVI DUTOUIII		<1	0	
ADDITIVES	ppm	method	limit/base	<i current</i 	history1	history2
	ppm		limit/base		-	
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 7	history1 21	history2 29
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 7 0	history1 21 3	history2 29 <1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 7 0 62	history1 21 3 52	history2 29 <1 49
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current     7     0     62     7     7     1325	history1 21 3 52 16	history2 29 <1 49 14 567 1756
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	Current 7 0 62 7 778 1325 825	history1 21 3 52 16 601 1782 813	history2 29 <1 49 14 567 1756 812
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	Current 7 0 62 7 778 1325 825 1122	history1 21 3 52 16 601 1782	history2 29 <1 49 14 567 1756
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	Current 7 0 62 7 778 1325 825	history1 21 3 52 16 601 1782 813	history2 29 <1 49 14 567 1756 812
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	Current 7 0 62 7 778 1325 825 1122	history1 21 3 52 16 601 1782 813 1020	history2   29   <1   49   14   567   1756   812   980
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	2 0 50 0 950 1050 995 1180 2600	Current 7 0 62 7 778 1325 825 1122 2689	history1 21 3 52 16 601 1782 813 1020 2459	history2 29 <1 49 14 567 1756 812 980 2450
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	2 0 50 950 1050 995 1180 2600	current   7   0   62   7   778   1325   825   1122   2689   current	history1 21 3 52 16 601 1782 813 1020 2459 history1	history2   29   <1   49   14   567   1756   812   980   2450   history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 950 1050 995 1180 2600	current     7     0     62     7     778     1325     825     1122     2689     current     18	history1     21     3     52     16     601     1782     813     1020     2459     history1     22	history2   29   <1   49   14   567   1756   812   980   2450   history2   17
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b>	current     7     0     62     7     78     1325     825     1122     2689     current     18     2	history1     21     3     52     16     601     1782     813     1020     2459     history1     22     2	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	current     7     0     62     7     778     1325     825     1122     2689     current     18     2     67	history1     21     3     52     16     601     1782     813     1020     2459     history1     22     2     126	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   12   13
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	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20	current   7   0   62   7   78   1325   825   1122   2689   current   18   2   67   current	history1   21   3   52   16   601   1782   813   1020   2459   history1   22   2   126   history1	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   103   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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current     7     0     62     7     778     1325     825     1122     2689     current     18     2     67     current     0.7	history1   21   3   52   16   601   1782   813   1020   2459   history1   22   2   126   history1   0.9	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   103   history2   0.6
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	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current   7   0   62   7   778   1325   825   1122   2689   current   18   2   67   current   0.7   11.2	history1   21   3   52   16   601   1782   813   1020   2459   history1   22   2   126   history1   0.9   13.0	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   103   history2   0.6   10.3
ADDITIVES 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 ppm ppm	method     ASTM D5185m     ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	current   7   0   62   7   778   1325   825   1122   2689   current   18   2   67   current   0.7   11.2   22.5   current	history1   21   3   52   16   601   1782   813   1020   2459   history1   22   2   126   history1   0.9   13.0   24.7	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   103   history2   0.6   10.3   23.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method   ASTM D5185m   ASTM D7844   *ASTM D7624   *ASTM D7415   method	2 0 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 20 >20 >30 >30 <b>imit/base</b>	current   7   0   62   7   778   1325   825   1122   2689   current   18   2   67   current   0.7   11.2   22.5	history1   21   3   52   16   601   1782   813   1020   2459   history1   22   2   126   history1   0.9   13.0   24.7   history1	history2   29   <1   49   14   567   1756   812   980   2450   history2   17   103   history2   0.6   10.3   23.8



# **OIL ANALYSIS REPORT**



						1.		
VISUAL		method	limit/base	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		
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 PROPER	RTIES	method	limit/base	current	history1	history2		
Visc @ 100°C	cSt	ASTM D445	12.00	10.8	10.4	10.0		
GRAPHS								
Iron (ppm)			100	Lead (ppm	ו)			
200 - Severe			80	Severe				
			0.0					
100 Abnormal			40	Abnormal				
50-			20					
0			0					
0ct30/23	Jan 19/24 -		Apr18/24	0ct30/23	Jan 19/24	Apr18/24		
Oct	Jan		Apr	Oct	Jan	Apr		
Aluminum (ppm)		Chromium (ppm)						
60		No. of Concession, Name	50 40	Severe				
		No. of Concession, Name	_ 30					
			20	Abnormal				
20 - Abnormal			10					
0			0					
0 ct3 0/2 3	Jan 19/24		Apr18/24	0ct30/23	Jan 19/24	Apr18/24		
_	La.		Ap	-	-	Ap		
Copper (ppm)			80	Silicon (pp	m)			
Abnormal 300			60					
200			튭. 40	Abnormal				
100-			20					
	+		0	Li				
0 ct30/23	Jan 19/24		Apr18/24	0ct30/23	Jan 19,24	Apr18/24		
	Ja		Ap			Ap		
16 T					Base Number			
Abnormal			( <sup>B</sup> /Ho; 8.0					
14 Abnormal	mnaaaaa		(10) HOX KOH Base Number 4.0 2.0					
12 - Base			a 4.0					
Abnormal			N as 2.0	1				
8			0.0	L				
0ct30/23	Jan 19/24		Apr18/24	0ct30/23	Jan 19/24	Apr18/24		
Dct	Jan		Apr	Oct	Jan	Apr		
WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0123905 <b>Received</b> : 23 Apr 2024 06157234 <b>Tested</b> : 24 Apr 2024 10992657 <b>Diagnosed</b> : 24 Apr 2024 - Wes Davis MOB 1 (Additional Tests: TBN ) ontact Customer Service at 1-800-237-1369. o outside of the USO 170025 cappe of apprediction					MILLER TRUCK LEASING #119 39 INDUSTRIAL AVE HASBROUCK HEIGHTS, NJ US 07604 Contact: MIKE LONGETTE mlongette@millertransgroup.com			

To discuss this sample report, \* - 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) F: (201)528-7053

Report Id: MILRUT [WUSCAR] 06157234 (Generated: 04/24/2024 04:30:08) Rev: 1

Certificate L2367

Laboratory Sample No. Lab Number **Unique Number Test Package** 

Contact/Location: MIKE LONGETTE - MILRUT

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