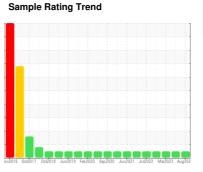


# **OIL ANALYSIS REPORT**

# G.LOPES CONSTRUCTION INC./On-Road

Component **Diesel Engine** 

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





## DIAGNOSIS

#### 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

### **Fluid Condition**

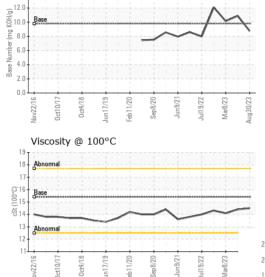
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104700	PCA0098519	PCA0083138
Sample Date		Client Info		30 Aug 2023	07 Jun 2023	08 Mar 2023
Machine Age	mls	Client Info		198765	198765	198765
Oil Age	mls	Client Info		48000	48000	48000
Oil Changed		Client Info		N/A	N/A	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	18	18	25
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	4	8
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	3	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	1-1-			•		
ADDITIVES	1-1-	method	limit/base	current	history1	history2
	ppm	method ASTM D5185m	limit/base			history2
ADDITIVES				current	history1	
ADDITIVES Boron	ppm	ASTM D5185m	0	current 0	history1 <1	2
ADDITIVES Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	current 0 0	history1 <1 0	2
ADDITIVES Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 62	history1 <1 0 62	2 2 61
ADDITIVES  Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 0 0 62 <1	history1 <1 0 62 <1	2 2 61 <1
ADDITIVES  Boron  Barium  Molybdenum  Manganese  Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 0 0 62 <1 1037	history1 <1 0 62 <1 1041	2 2 61 <1 928
ADDITIVES  Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 0 0 62 <1 1037 1168	history1 <1 0 62 <1 1041 1167	2 2 61 <1 928 1100
ADDITIVES  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 ASTM D5185m	0 0 60 0 1010 1070 1150	current 0 0 62 <1 1037 1168 1020	history1 <1 0 62 <1 1041 1167 1046	2 61 <1 928 1100 997
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 0 0 62 <1 1037 1168 1020 1307	history1 <1 0 62 <1 1041 1167 1046 1307	2 2 61 <1 928 1100 997 1225
ADDITIVES  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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 0 0 62 <1 1037 1168 1020 1307 3497	history1 <1 0 62 <1 1041 1167 1046 1307 3473	2 61 <1 928 1100 997 1225 2716
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current  0  0  62  <1  1037  1168  1020  1307  3497  current	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1	2 2 61 <1 928 1100 997 1225 2716 history2
ADDITIVES  Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current  0  0  62  <1  1037  1168  1020  1307  3497  current  4	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1 4	2 2 61 <1 928 1100 997 1225 2716 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 0 0 62 <1 1037 1168 1020 1307 3497 current 4	history1 <1 0 62 <1 1041 1167 1046 1307 3473 history1 4	2 61 <1 928 1100 997 1225 2716 history2 4 <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	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current  0  0  62  <1  1037  1168  1020  1307  3497  current  4  2  1	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1  4 2 0	2 2 61 <1 928 1100 997 1225 2716 history2 4 <1
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	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current  0 0 62 <1 1037 1168 1020 1307 3497 current 4 2 1 current	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1  4 2 0 history1	2 2 61 <1 928 1100 997 1225 2716 history2 4 <1 4
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	ASTM D5185m  method  *ASTM D5185m  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	current 0 0 62 <1 1037 1168 1020 1307 3497 current 4 2 1 current 0.8	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1 4 2 0 history1 0.7	2 2 61 <1 928 1100 997 1225 2716 history2 4 <1 4 history2 0.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current  0  0  62  <1  1037  1168  1020  1307  3497  current  4  2  1  current  0.8  8.9	history1 <1 0 62 <1 1041 1167 1046 1307 3473 history1 4 2 0 history1 0.7 9.1	2 2 61 <1 928 1100 997 1225 2716 history2 4 <1 4 history2 0.7 9.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	current  0  0  62  <1  1037  1168  1020  1307  3497  current  4  2  1  current  0.8  8.9  20.9	history1  <1 0 62 <1 1041 1167 1046 1307 3473 history1  4 2 0 history1 0.7 9.1 20.3	2 2 61 <1 928 1100 997 1225 2716 history2 4 <1 4 history2 0.7 9.2 20.0



Base Number

## **OIL ANALYSIS REPORT**



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
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2

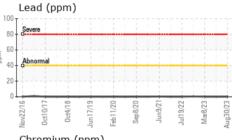
I LOID I NOI	LITTLO	method			Thistory	riistory
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.4	14.1

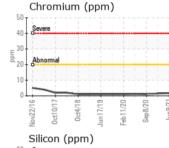
Iron (	(ppm)								
Severe									
									_
Abnorm	al						-	-	mdd
16	8	19	Z0	20+	12/	22	23	13	
Nov22/16	Oct4/18	Jun17/19	Feb11/20	Sep8/20	Jun9/21	Jul19/22	Mar8/23	Aug30/23	
Alumi	inum (	ppm)							
Severe									
Į									
Abnorm	al	-		-	-			-	200

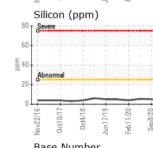
**GRAPHS** 

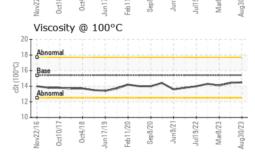
Copper (ppm)

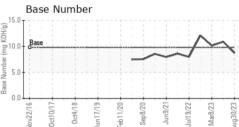
500













Certificate L2367

Laboratory Sample No. Lab Number

**Unique Number** Test Package : MOB 2

: PCA0104700 : 05942417 : 10633029

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 05 Sep 2023 : 06 Sep 2023 Diagnostician : Wes Davis

TAUNTON, MA US 02780 Contact: BUTCH MCGRATH

bmcgrath@glopes.com

**G LOPES CONSTRUCTION** 

T: F:

565 WINTHROP ST

\* - 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)