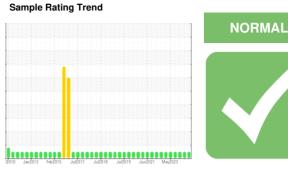


## **OIL ANALYSIS REPORT**

Area G.LOPES CONSTRUCTION INC./Off-Road





L67 Component Diesel Engine

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

SAMPLE INFO	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0122922	PCA0109540	PCA0109860
Sample Date		Client Info		24 Jun 2024	06 Mar 2024	20 Dec 2023
Machine Age	hrs	Client Info		30168	30168	29820
Oil Age	hrs	Client Info		27365	27713	27706
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINA	TION	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 META	ALS .	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	10	13	11
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	<1	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	4	4	5
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	3	8
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	58	56	58
Manganese	ppm	ASTM D5185m	0	0	0	0
Magnesium	ppm	ASTM D5185m	1010	920	856	923
Calcium	ppm	ASTM D5185m	1070			1010
		ASTIVI DOTOJITI	1070	1094	997	1013
Phosphorus	ppm	ASTM D5185m	1150	1094 954	997 953	1013
Phosphorus Zinc						
	ppm	ASTM D5185m	1150	954	953	1052
Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1150 1270	954 1303	953 1080	1052 1236
Zinc Sulfur CONTAMINA	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base	954 1303 3129	953 1080 3204	1052 1236 3037
Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m method	1150 1270 2060 limit/base	954 1303 3129 current	953 1080 3204 history1	1052 1236 3037 history2
Zinc Sulfur CONTAMINA Silicon	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1150 1270 2060 limit/base >25	954 1303 3129 current 2	953 1080 3204 history1 2	1052 1236 3037 history2 2
Zinc Sulfur CONTAMINA Silicon Sodium	ppm ppm ppm NTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	954 1303 3129 current 2 0	953 1080 3204 history1 2 1	1052 1236 3037 history2 2 0
Zinc Sulfur CONTAMINA Silicon Sodium Potassium INFRA-RED	ppm ppm ppm NTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	1150 1270 2060 <i>limit/base</i> >25 >20	954 1303 3129 current 2 0 2	953 1080 3204 history1 2 1 0	1052 1236 3037 history2 2 0 0
Zinc Sulfur CONTAMINA Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm NTS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25 >20 limit/base	954 1303 3129 current 2 0 2 2 current	953 1080 3204 history1 2 1 0 history1	1052 1236 3037 history2 2 0 0 0 history2
Zinc Sulfur CONTAMINA Silicon Sodium Potassium	ppm ppm ppm NTS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	954 1303 3129 current 2 0 2 2 current 0.5	953 1080 3204 history1 2 1 0 history1 0.6	1052 1236 3037 history2 2 0 0 0 history2 0.5
Zinc Sulfur CONTAMINA Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm wwwwwwwwwwwwwwwwwwwwwwwwwww	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	954 1303 3129 current 2 0 2 current 0.5 5.9	953 1080 3204 history1 2 1 0 history1 0.6 6.3	1052 1236 3037 history2 2 0 0 0 history2 0.5 6.2
Zinc Sulfur CONTAMINA Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm wwwwwwwwwwwwwwwwwwwwwwwwwww	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >30 <b>limit/base</b>	954 1303 3129 current 2 0 2 2 current 0.5 5.9 18.6	953 1080 3204 history1 2 1 0 history1 0.6 6.3 18.4	1052 1236 3037 history2 2 0 0 history2 0.5 6.2 18.5



### Recommendation

Resample at the next service interval to monitor.

## Wear

All component wear rates are normal.

#### Contamination

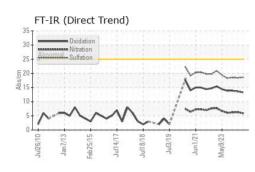
There is no indication of any contamination in the oil.

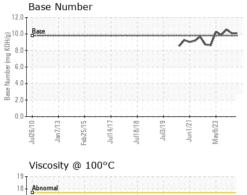
#### Fluid Condition

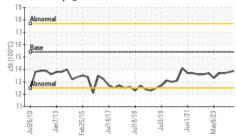
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



# **OIL ANALYSIS REPORT**







Laboratory

Sample No.

Lab Number

~~~~	May9/23	NONE NONE NONE NONE NORE NORE NORE NORE	ent		NE NE NE RML RML G G story			NE NE NE NE RML RML G G
ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ES method ASTM D445	NONE NONE NONE NONE NORML NORML >0.2 Iimit/base	NONE NONE NONE NONE NORE NORE NORE NORE	ent	NO NO NO NO NO NO NO NO NO	NE NE NE RML G G Story 8		NOI NOI NOI NOI NOI NOI NOI NOI NOI NOI	NE NE NE RML G G Story2 7
ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ES method ASTM D445	NONE NONE NONE NORML NORML >0.2 Iimit/base	NONE NONE NONE NORM NORM NEG e curr 13.9	E E AL AL AL oppm)	NO NO NO NO NO NO NO NO	NE NE NE RML RML G G Story 8		NOI NOI NOI NOI NOI NOI NOI NOI NOI NOI	NE NE RML RML G G Story2 7
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ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ES method ASTM D445	NONE NORML NORML >0.2 5 15.4	NONE NORM NORM NEG NEG e curr 13.9 Lead (p	ent	NO NO NE NE 13.	NE NE RML G G Story 8		NOI NOI NOI NEC NEC	NE NE RML G G Story2 7
ar *Visual ar *Visual ar *Visual ar *Visual ar *Visual ES method ASTM D445	NONE NORML >0.2 5 15.4	NONE NORM NORM NEG NEG e curr 13.9 Lead (p	ent	NO NO NE NE 13.	NE RML RML G G Story 8		NOI NOI NEC NEC	NE RML G G Story2 7
ar *Visual ar *Visual ar *Visual ar *Visual ES method ASTM D445	NORML NORML >0.2 5 15.4	NORM NORM NEG NEG e curr 13.9 Lead (p	AL AL ent	NO NE NE 13.	RML RML G Story 8		NO NE NE	RML RML G G Story2 7
ar *Visual ar *Visual ar *Visual ES method ASTM D445	NORML >0.2	NORM NEG NEG e curr 13.9 Lead (p	AL ent ppm)	NO NE hi 13.	RML G story 8		NOI NEC NEC 13.7	RML G Story2 7
ar *Visual ar *Visual ES method ASTM D445	>0.2 limit/base	NEG NEG e curr 13.9 Lead (p	ent opm)	NE NE 13.	G G istory 8		NEC NEC 13.7	G G story2 7
ar *Visual ES method ASTM D445	limit/base	e curr 13.9 Lead (p	(mdd	NE hi 13.	G story 8		NE(	G story2 7
S method ASTM D445	5 15.4	e curr 13.9 Lead (p	(mdd	hi 13 	story 8		hi: 13.7	story2 7
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il3/19	y9/23	26/10	5/15	14/17	18/18	13/19	n1/21	May9/23
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Unique Number : Diagno Contact: BUTCH MCGRATH Test Package : MOB 2 Certificate L2367 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. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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