

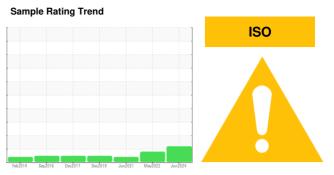
OIL ANALYSIS REPORT



G.LOPES CONSTRUCTION INC./Off-Road D615

Component Hydraulic System

PETRO CANADA DURATRAN (--- GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

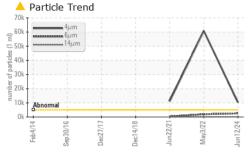
Fluid Condition

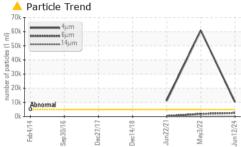
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

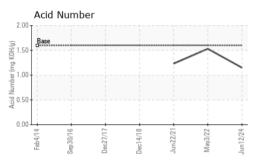
Sample Date Client Info 12 Jun 2024 03 May 2022 22 Jun 2021 Machine Age hrs Client Info 13103 12152 11829 Oil Age hrs Client Info 11829 323 0 Oil Changed Client Info N/A N/A Changed	ATTIAIT (MAL)						
Sample Date Client Info 12 Jun 2024 03 May 2022 22 Jun 2021 Machine Age hrs Client Info 13103 12152 11829 Oil Age hrs Client Info NA N/A N/A Changed Coll Changed Client Info N/A N/A N/A Changed Sample Status ABNORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >10 <1	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 13103 12152 11829 Oil Age hrs Client Info 11829 323 0 Oil Changed Client Info N/A N/A N/A Changed Sample Status Image: Control of the property of the propert	Sample Number		Client Info		PCA0122964	PCA0072217	PCA0018417
Oil Age hrs Client Info 11829 323 0 Oil Changed Client Info N/A N/A Changed Sample Status ABNORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 10 8 5 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Aluminum ppm ASTM D5185m >10 2 2 2 2 Lead ppm ASTM D5185m >10 2 2 2 2 Copper ppm ASTM D5185m >10 0 <1	Sample Date		Client Info		12 Jun 2024	03 May 2022	22 Jun 2021
Oil Changed Sample Status Client Info N/A ABNORMAL A	Machine Age	hrs	Client Info		13103	12152	11829
Sample Status ABNORMAL	Oil Age	hrs	Client Info		11829	323	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 10 8 5 Chromium ppm ASTM D5185m >10 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Oil Changed		Client Info		N/A	N/A	Changed
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 10 8 5 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m >10 2 2 2 2 Aluminum ppm ASTM D5185m >10 2 2 2 2 Aluminum ppm ASTM D5185m >10 2 2 2 2 Lead ppm ASTM D5185m >10 0 <1 <1 1 Aluminum ppm ASTM D5185m >10 0 <1 <1 <1 Aluminum ppm ASTM D5185m >10 0 <1 <1 <1 Copper	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 10 8 5 Chromium ppm ASTM D5185m >10 <1 <1 <1 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m <1 <1 <1 0 Aluminum ppm ASTM D5185m >10 2	CONTAMINATI	ON	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium ppm ASTM D5185m >10 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 </td <td>WEAR METALS</td> <td>3</td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	WEAR METALS	3	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>20	10	8	5
Titanium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>Chromium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>10</td> <th><1</th> <td><1</td> <td><1</td>	Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum ppm ASTM D5185m >10 2 2 2 Lead ppm ASTM D5185m >10 2 2 2 Copper ppm ASTM D5185m >75 11 11 8 Tin ppm ASTM D5185m >10 0 <1	Titanium	ppm	ASTM D5185m		<1	<1	<1
Lead ppm ASTM D5185m >10 2 2 2 Copper ppm ASTM D5185m >75 11 11 8 Tin ppm ASTM D5185m >10 0 <1 <1 Antimony ppm ASTM D5185m 2 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 10 68 70 80 Boron ppm ASTM D5185m 110 68 70 80 Barium ppm ASTM D5185m 0.0 0 0 0 Manganesium ppm ASTM D5185m 0.0 6 6 6 6 Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 149 2121 1778 1915 Phosphorus ppm ASTM D5185m 1492	Silver	ppm	ASTM D5185m				
Copper ppm ASTM D5185m >75 11 11 8 Tin ppm ASTM D5185m >10 0 <1	Aluminum	ppm	ASTM D5185m	>10			
Tin ppm ASTM D5185m >10 0 <1 <1 <1 <1 Antimony ppm ASTM D5185m	Lead	ppm	ASTM D5185m	>10			
Antimony ppm ASTM D5185m 2 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 68 70 80 Barium ppm ASTM D5185m 0.0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 1455 1234 1097 1	Copper	ppm	ASTM D5185m	>75	11	11	8
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 110 68 70 80 Barium ppm ASTM D5185m 0.0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Tin	ppm	ASTM D5185m	>10		<1	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 110 68 70 80 Barium ppm ASTM D5185m 0.0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 Manganese ppm ASTM D5185m 1 <1	Antimony	ppm	ASTM D5185m				2
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 110 68 70 80 Barium ppm ASTM D5185m 0.0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 Manganese ppm ASTM D5185m 1 <1	Vanadium	ppm	ASTM D5185m				
Boron ppm ASTM D5185m 110 68 70 0 Barium ppm ASTM D5185m 0.0 0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 6 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 192 939 881 934 Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0.0 0 0 0 Molybdenum ppm ASTM D5185m 0.0 6 6 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 3610 2121 1778 1915 Phosphorus ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 <1 0 0 FLUID CLEANLINESS method limit/bas	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0.0 6 6 6 6 Manganese ppm ASTM D5185m 1 <1 <1 <1 Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 3610 2121 1778 1915 Phosphorus ppm ASTM D5185m 1492 939 881 934 Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 4 3 5 Potassium ppm ASTM D518	Boron	ppm	ASTM D5185m	110	68	70	80
Manganese ppm ASTM D5185m 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>Barium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0.0</td> <th>0</th> <td>0</td> <td>0</td>	Barium	ppm	ASTM D5185m	0.0	0	0	0
Magnesium ppm ASTM D5185m 13 59 57 56 Calcium ppm ASTM D5185m 3610 2121 1778 1915 Phosphorus ppm ASTM D5185m 1192 939 881 934 Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	0.0	6	6	6
Calcium ppm ASTM D5185m 3610 2121 1778 1915 Phosphorus ppm ASTM D5185m 1192 939 881 934 Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	1	<1	<1	<1
Phosphorus ppm ASTM D5185m 1192 939 881 934 Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m >20 4 3 5 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	13	59	57	56
Zinc ppm ASTM D5185m 1455 1234 1097 1135 Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m 4 3 5 Potassium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	3610	2121	1778	1915
Sulfur ppm ASTM D5185m 2641 4920 3545 3998 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m 4 3 5 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	1192	939	881	934
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m 4 3 5 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	1455	1234	1097	1135
Silicon ppm ASTM D5185m >20 9 6 7 Sodium ppm ASTM D5185m 4 3 5 Potassium ppm ASTM D5185m >20 <1 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 ▲ 10252 ▲ 60769 ▲ 11087 Particles >6μm ASTM D7647 >1300 ▲ 2535 ■ 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Sulfur	ppm	ASTM D5185m	2641	4920	3545	3998
Sodium ppm ASTM D5185m 4 3 5 Potassium ppm ASTM D5185m >20 <1 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 ▲ 10252 ▲ 60769 ▲ 11087 Particles >6μm ASTM D7647 >1300 ▲ 2535 ■ 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 ▲ 10252 ▲ 60769 ▲ 11087 Particles >6μm ASTM D7647 >1300 ▲ 2535 ■ 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Silicon	ppm	ASTM D5185m	>20	9	6	7
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 ▲ 10252 ▲ 60769 ▲ 11087 Particles >6μm ASTM D7647 >1300 ▲ 2535 ■ 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Sodium	ppm	ASTM D5185m		4	3	5
Particles >4μm ASTM D7647 >5000 ▲ 10252 ▲ 60769 ▲ 11087 Particles >6μm ASTM D7647 >1300 ▲ 2535 ■ 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Potassium	ppm	ASTM D5185m	>20	<1	0	0
Particles >6μm ASTM D7647 >1300 Δ 2535 1921 362 Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	FLUID CLEANL	INESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >160 100 22 14 Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Particles >4µm		ASTM D7647	>5000	<u> </u>	△ 60769	<u> </u>
Particles >21μm ASTM D7647 >40 12 5 5 Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Particles >6µm		ASTM D7647	>1300	<u>^</u> 2535	1921	362
Particles >38μm ASTM D7647 >10 0 0 0 Particles >71μm ASTM D7647 >3 0 0 0	Particles >14μm		ASTM D7647	>160			
Particles >71 μ m ASTM D7647 >3 0 0	Particles >21μm		ASTM D7647	>40	12	5	5
			A OTA 4 D TO 4 T	10	_	0	0
Oil Cleanliness ISO 4406 (c) >19/17/14 🛕 21/19/14 🛕 23/18/12 🛕 21/16/11						U	U
	Particles >71µm		ASTM D7647	>3	0	0	0

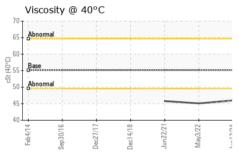


OIL ANALYSIS REPORT

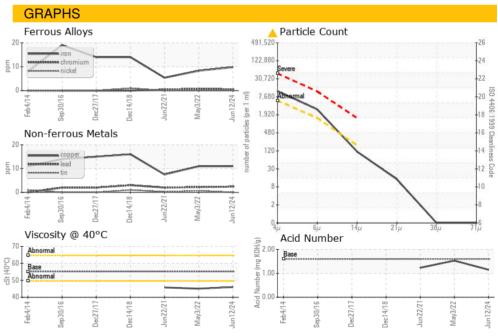








FLUID DEGRAD	OATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.6	1.15	1.53	1.233
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	55.14	46.0	45.1	45.8
SAMPLE IMAG	ES	method	limit/base	current	history1	history2
				ig _e	Milta	







Certificate 12367

Laboratory

Sample No.

Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Lab Number : 06210071

: PCA0122964 Unique Number : 11082935

Color

Bottom

Received

: 14 Jun 2024 **Tested** : 17 Jun 2024 Diagnosed

: 17 Jun 2024 - Angela Borella

US 02780 Contact: BUTCH MCGRATH

G LOPES CONSTRUCTION

bmcgrath@glopes.com T:

565 WINTHROP ST

TAUNTON, MA

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) Report Id: GLOTAU [WUSCAR] 06210071 (Generated: 06/17/2024 16:09:17) Rev: 1

Submitted By: MATT MANOLI

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