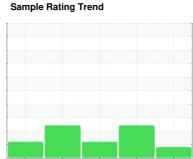


## **OIL ANALYSIS REPORT**

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ISO



# Machine Id 12

Component **Hydraulic System** 

PETRO CANADA CALFLO AF (21 GAL)

### DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is a light 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.

		Sep 2020	Dec2022	Apr2023 Oct2023	Feb2024	
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0111460	PCA0096796	PCA0088492
Sample Date		Client Info		07 Feb 2024	25 Oct 2023	04 Apr 2023
Machine Age	mths	Client Info		3	10	4
Oil Age	mths	Client Info		3	10	4
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ATTENTION	ABNORMAL	ATTENTION
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG	NEG	NEG
WEAR METAI	_S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	0	2	<1
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	<1	0
Lead	ppm	ASTM D5185m	>20	0	0	0
Copper	ppm	ASTM D5185m	>20	<1	4	2
Tin	ppm	ASTM D5185m	>20	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 0
Boron	ppm				•	·
Boron Barium	- ' '	ASTM D5185m	0	0	0	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0	0 20	0
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	0 0 0	0 20 0	0 0 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0	0 0 0 <1	0 20 0	0 0 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0	0 0 0 <1 0	0 20 0 0	0 0 0 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0	0 0 0 <1 0	0 20 0 0 0	0 0 0 <1 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 270	0 0 0 <1 0 0 234	0 20 0 0 0 0 0 280	0 0 0 <1 <1 <1 <1 251
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 270	0 0 0 <1 0 0 234 <1	0 20 0 0 0 0 0 280 45	0 0 0 <1 <1 <1 <1 251
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI	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	0 0 0 0 0 0 0 270 0	0 0 0 <1 0 0 234 <1	0 20 0 0 0 0 0 280 45	0 0 0 <1 <1 <1 <1 251 16 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 0 0 0 270 0 10	0 0 0 <1 0 0 234 <1 4	0 20 0 0 0 0 0 280 45 0	0 0 0 <1 <1 <1 <1 251 16 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI Silicon Sodium	ppm	ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base	0 0 0 <1 0 0 234 <1 4 current	0 20 0 0 0 0 0 280 45 0 history1	0 0 0 <1 <1 <1 <1 251 16 6 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI Silicon Sodium	ppm	ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base	0 0 0 <1 0 0 234 <1 4 current	0 20 0 0 0 0 280 45 0 history1	0 0 0 <1 <1 <1 <1 251 16 6 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm	ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base >15	0 0 0 <1 0 0 234 <1 4 current 3 0	0 20 0 0 0 0 0 280 45 0 history1 5 3	0 0 0 <1 <1 <1 251 16 6 history2 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm	ppm	ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base >15	0 0 0 0 <1 0 0 234 <1 4 current 3 0 0	0 20 0 0 0 0 0 280 45 0 history1 5 3 0 history1	0 0 0 <1 <1 <1 251 16 6 history2 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAL Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm	ppm	ASTM D5185m  method ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base >20 limit/base	0 0 0 0 <1 0 0 234 <1 4 current 3 0 0	0 20 0 0 0 0 0 280 45 0 history1 5 3 0 history1	0 0 0 <1 <1 <1 251 16 6 history2 3 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAL Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm	ppm	ASTM D5185m Method ASTM D5185m	0 0 0 0 0 0 270 0 10 limit/base >15 >20 limit/base >5000 >1300	0 0 0 -1 0 0 234 -1 4 current 3 0 0 current ▲ 6286 1031	0 20 0 0 0 0 280 45 0 history1 5 3 0 history1  ▲ 9424 ▲ 2145	0 0 0 <1 <1 <1 251 16 6 history2 3 0 0 history2 ▲ 9363 ▲ 1961
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 270 0 10 limit/base >15 >20 limit/base >5000 >1300 >160	0 0 0 <1 0 0 234 <1 4 current 3 0 0 current ▲ 6286 1031 31	0 20 0 0 0 0 280 45 0 history1 5 3 0 history1 ▲ 9424 ▲ 2145 79	0 0 0 <1 <1 <1 251 16 6 history2 3 0 0 0 history2 ▲ 9363 ▲ 1961 69
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium FLUID CLEAN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm	ASTM D5185m  method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 <1 0 0 234 <1 4 current 3 0 0 current  6286 1031 31 9	0 20 0 0 0 0 280 45 0 history1 5 3 0 history1	0 0 0 <1 <1 <1 251 16 6 history2 3 0 0 0 history2 ▲ 9363 ▲ 1961 69 15
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAL Silicon Sodium Potassium	ppm	ASTM D5185m  Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 21 0 0 234 <1 4 current 3 0 0 current ▲ 6286 1031 31 9 1	0 20 0 0 0 0 280 45 0 history1  5 3 0 history1  ▲ 9424  ▲ 2145 79 21 2	0 0 0 <1 <1 <1 251 16 6 history2 3 0 0 history2 ▲ 9363 ▲ 1961 69 15 1

Acid Number (AN)

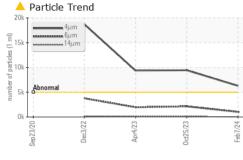
mg KOH/g ASTM D8045 0.03

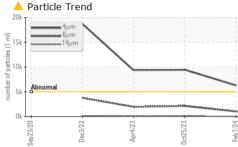
▲ 0.97

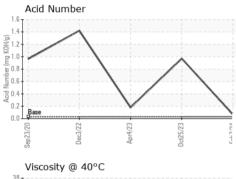
0.18

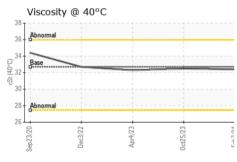


## **OIL ANALYSIS REPORT**









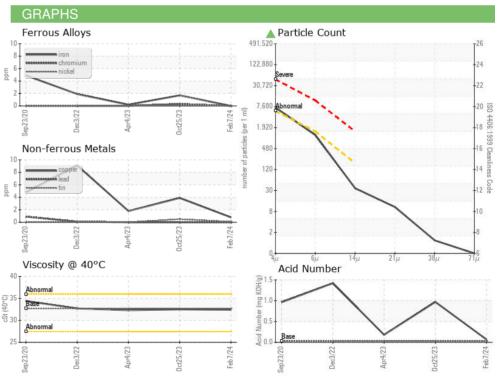
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIFS	method	limit/base	current	historv1	history2

FLUID PROP	EKITES	methoa	ilmit/base	current	nistory i	nistory
Visc @ 40°C	cSt	ASTM D445	32.7	32.4	32.5	32.3

Color

**Bottom** 









Certificate L2367

Laboratory Sample No.

Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0111460 Lab Number : 06090103 Unique Number: 10882956

Received **Tested** 

: 16 Feb 2024 : 16 Feb 2024 - Wes Davis Diagnosed

: 15 Feb 2024

**GALLAGHER CORPORATION** 

3908 MORRISON DR GURNEE, IL US 60031

Contact: BRAD CLIFF bcliff@gallaghercorp.com T: (847)249-3440

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) F: (847)249-3473 Contact/Location: BRAD CLIFF - GALGURIL