

# **OIL ANALYSIS REPORT**

Sample Rating Trend

## VISCOSITY

#### Machine Id **MIX CENTER 3 - WEST (S/N 10037016)** Component

Gearbox

#### Fluid PETRO CANADA PURITY FG EP GEAR FLUID 460 (--- GAL)

#### DIAGNOSIS

#### 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.

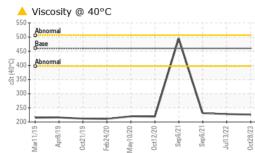
### Fluid Condition

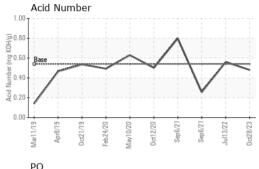
Viscosity of sample indicates oil is within ISO 220 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

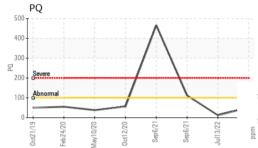
SAMPLE INFORM	/ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0851710	WC0483222	WC0621316
Sample Date		Client Info		28 Oct 2023	13 Jul 2022	06 Sep 2021
Machine Age	mths	Client Info		6	6	0
Oil Age	mths	Client Info		6	6	0
Oil Changed		Client Info		N/A	Not Changd	N/A
Sample Status				ATTENTION	ATTENTION	SEVERE
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		51	12	112
Iron	ppm	ASTM D5185m	>200	78	10	<b>4</b> 69
Chromium	ppm	ASTM D5185m	>15	0	0	1
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>25	0	<1	<1
Lead	ppm	ASTM D5185m	>100	0	0	<1
Copper	ppm	ASTM D5185m	>200	0	0	<1
Tin	ppm	ASTM D5185m	>25	0	<1	<1
Antimony	ppm	ASTM D5185m	>5			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	0	2
Barium	ppm	ASTM D5185m		2	2	<1
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	4
Magnesium	ppm	ASTM D5185m		0	<1	<1
Calcium	ppm	ASTM D5185m		0	5	3
Phosphorus	ppm	ASTM D5185m	135	463	535	527
Zinc	ppm	ASTM D5185m		0	0	0
Sulfur	ppm	ASTM D5185m	660	763	1071	519
CONTAMINANTS	;	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	2	3	6
Sodium	ppm	ASTM D5185m		<1	1	2
Potassium	ppm	ASTM D5185m	>20	<1	<1	2
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.54	0.48	0.56	0.257



# **OIL ANALYSIS REPORT**







	VISUAL		method	limit/base		history1	history2
	White Metal	scalar	*Visual	NONE	NONE	VLITE	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	VLITE	VLITE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Oct12/20 - Sep6/21 - Sep6/21 - Jul13/22 - Oct28/23 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sep Sep Jull: 0ct2	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	0.2%
	Free Water	scalar	*Visual		NEG	NEG	● >10%
				1			
$\wedge$	FLUID PROPERTI	IES	method	limit/base	e current	history1	history2
$\checkmark$	Visc @ 40°C	cSt	ASTM D445	460	<b>226</b>	<b>2</b> 28	<b>2</b> 30.9
	SAMPLE IMAGES	;	method	limit/base	e current	history1	history2
May 10/20 + Oct12/20 + Sep6/21 + Jul13/22 + Jul13/22 +	Color				no imoro	no imono	na imaga
Oct12/20 Sep6/21 Sep6/21 Jul13/22 Oct28/23	Color				no image	no image	no image
50 S S N							
٨	Bottom				no image	no image	no image
/\							
/ \	GRAPHS						
	GHAI HS						
	Ferrous Allovs						
	Ferrous Alloys			5	PQ		
	1500		^		500 T		
6/21 6/21 3/22	1500 1000		$\wedge$			٨	
Sep6/21 Sep6/21 Jult13/22	1500 1000 iron nickel		$\wedge$	4	500 T	Λ	
Sep 6/21 Sep 6/21 Juli 3/22	1500 1000		$\wedge$	4	150	Λ	
Sep6/21 Sep6/21 Jult3/22	1500 1000 500	20		4	500 - 150 - 100 -	$\wedge$	
Sep6/21	1500 1000 500	ay10/20 ct12/20	Sept6/21 Sept6/21	4 4 3 820827	600 - 150 - 1600 - 150 -	$\wedge$	
Sep6/21	1500 1000 1000 500 0 0 0 0 0 0 0 0 0 0 0 0	May10/20 Oct12/20	Sep6/21 Sep6/21 Juli 3/22	4	600 - 150 - 100 - 150 - 100 -	$\wedge$	
Sep6/21 Sep6/21	1500 1000 500		Sep6/21 Sep6/21 Jul13/22	4 4 3 520 00 00 00 00 00 00 00 00 00 00 00 00 00	600 - 150 - 1600 - 150 -	$\bigwedge$	
Sept6.21	1500 1000 500 6UVI Particle 6UVI		Septi21	4 4 3 5 2 2 2 2 2	000		
Sep 6/21	1500 1000 500 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 100		Sep6.21 Sep6.21 Jul13.22	4 4 3 5 5 7 8 7 7 2 2 2 1	600 - 150 - 150 - 150 - 150 - 250 - 25		
Sep6/21	1500 1000 500 6U10 6		Sept.6.21 Sept.6.21 Juli 3.22	4 4 3 5 5 7 8 7 7 2 2 2 1	600 - 150 - 100 - 155 - 100 - 155 - 100 - 155 - 100 - 10		
Sep6/21	1500 1000 500 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 6U1 1000 100		Sep6.21 Sep6.21	4 4 3 502 3 827 90 822 2 2 1 1	600 - 150 - 150 - 150 - 150 - 250 - 25		
Sep6/21	1000 1000	5		4 4 3 5 5 2 8 7 0 0 2 2 1 1	600		
SeptiS/21	1000 1000	5		4 4 3 5 5 2 8 7 0 0 2 2 1 1	600	10/20 12/20 p6/21	p6/21
Septi21	1500 1000 500 6 U1 U1 1000 6 U1 U1 1000 6 U1 U1 1000 6 U1 U1 1000 1		Sep6/21- Sep6/21 = Sep6/21	4 4 3 5 2 2 2 2 1 1	600	May1020 Oct1220 Sep6/21	Sap6/21 Juli3/22
Sept6[21	Non-ferrous Metals	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600		Sep6.21 - Juli3.22 - J
Sep 6.21	1000 1000	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600		Sep6.21 Juli322
7	1000 1000	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600		Sep6.21-
7	1000 1000	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600		Sep6.21- Juli 3.22-
7	1000 1000	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600		Sep6.21 Juli 3.22
7	1000 1000	5		4 4 3 508270 22 2 2 2 2 2 1 1 1 1 1	600 150 150 150 150 150 150 150 1		Septi21
7	1000 1000	May10/20	Sep6/21- Sep6/21-	4 4 3 3 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2	600	r	
7	1000 1000	May10/20		4 4 3 3 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2	600		Sep6/21 - Sep6/21 - Sep6/21 - Juli 3/22 -
	1000 1000	May10/20	Sep6/21 Sep6/21 Sep6/21 Sep6/21 Sep6/21 Sep6/21	4 4 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	600 150 150 150 150 150 150 150 1	L Feb24/20	Sep6/21 Sep6/21 Jul13/22
Laboratory	1000 10000 1000 1000 1000 1000 1000 1000 1000 1000	0et12/20 0et12/20 0et12/20 0et12/20	12/gdas t12/gdas t12/gdas t12/gdas t12/gdas t12/gdas t12/gdas t12/gdas	4 4 3 3 2 2 2 2 2 1 1 1 5 5 7 8270 0 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	600 150 150 150 150 150 150 150 1	r Heb24/20 Mav10/20 Oct12/20 Oct12/20 WBRTHINGT	-12/gdas ON FOODS IN
Laboratory Sample No.	1000 1000	0et12/20 0et12/20 0et12/20 0et12/20 0et12/20	12/3des 12/	(1) (1) (1) (1) (1) (1) (1) (1)	600 150 150 150 150 150 150 150 1	r 0276749 0076749 0076749 0076749 0076776776 007677677777777777777777777	Lizigdes ON FOODS IN AIRVIEW ROA
Laboratory Sample No. Lab Number	1000 10000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	0et1220 0et1220 0et1220 0et1220 0et1220 0et1220 0et1220 0et1220	12/39des 12/39d	(1) (1) (1) (1) (1) (1) (1) (1)	600 150 150 150 150 150 150 150 1	r 02/b2@4 WORTHINGT 1675 F Z	TON FOODS IN AIRVIEW ROA ANESVILLE, O
Laboratory Sample No. Lab Number Unique Number	1000 10000 1000 1000 1000 1000 1000 1000 1000 1000 1000 1000	0411220 0411220 0411220 0411220 0411220 0411220	tician : Dor	(1) (1) (1) (1) (1) (1) (1) (1)	600 150 150 150 150 150 150 150 1	r 0717 0717 0717 0717 0717 0717 0717 071	TON FOODS IN AIRVIEW ROA ANESVILLE, O US 43701-516
Laboratory Sample No. Lab Number Unique Number Test Package	Non-ferrous Metals	01 Madis Recievec Diagnost Sts: PQ ce at 1-8	12/994ag son Ave., Ca d : 11, ed : 14, tician : Dor ) 200-237-1365	(1) (1) (1) (1) (1) (1) (1) (1)	600 150 150 150 150 150 150 150 1	r 0717 0717 0717 0717 0717 0717 0717 071	TON FOODS IN AIRVIEW ROA ANESVILLE, O
Laboratory Sample No. Lab Number Unique Number	Non-ferrous Metals	01 Madis Recieved Diagnost ests: PQ ce at 1-8 7025 sco	12/99448 son Ave., Ca d : 11, ed : 14, tician : Dor ) 200-237-1365 ppe of accrea	Comparison of the second	600 150 150 150 150 150 150 150 1	r 	TON FOODS IN AIRVIEW ROA ANESVILLE, O US 43701-516

jii