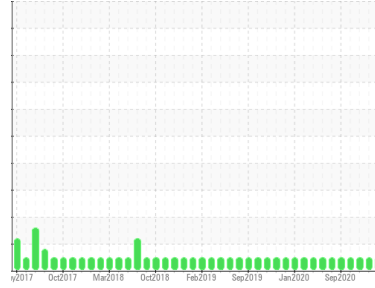


Area
Water Injection
Machine Id
Pump Sea Water Injection (A) - Lube System (S/N Sample Tag PA-29002A-S1)
Component
Pump
Fluid
PETRO CANADA TURBOFLO 46 (1264 LTR)



DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

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

SAMPLE INFORMATION method limit/base current history1 history2

Sample Number	Client Info	PC0052561	PC0052564	PC
Sample Date	Client Info	10 Sep 2023	07 Sep 2023	11 May 2022
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	Filtered	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

WEAR METALS method limit/base current history1 history2

PQ	ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m) >75	0	0	0
Chromium	ppm	ASTM D5185(m) >5	0	0	0
Nickel	ppm	ASTM D5185(m)	<1	0	<1
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<1	0
Aluminum	ppm	ASTM D5185(m) >5	0	<1	0
Lead	ppm	ASTM D5185(m) >10	<1	0	<1
Copper	ppm	ASTM D5185(m) >15	<1	<1	<1
Tin	ppm	ASTM D5185(m)	0	0	0
Antimony	ppm	ASTM D5185(m)	0	0	0
Vanadium	ppm	ASTM D5185(m)	0	0	0
Beryllium	ppm	ASTM D5185(m)	0	0	0
Cadmium	ppm	ASTM D5185(m)	0	0	0

ADDITIVES method limit/base current history1 history2

Boron	ppm	ASTM D5185(m) 0	0	<1	0
Barium	ppm	ASTM D5185(m) 0	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m) 0	0	0	0
Magnesium	ppm	ASTM D5185(m) 0	0	0	0
Calcium	ppm	ASTM D5185(m) 0	0	<1	0
Phosphorus	ppm	ASTM D5185(m) 110	144	148	147
Zinc	ppm	ASTM D5185(m) 0.0	<1	<1	<1
Sulfur	ppm	ASTM D5185(m)	185	191	189
Lithium	ppm	ASTM D5185(m)	<1	<1	<1

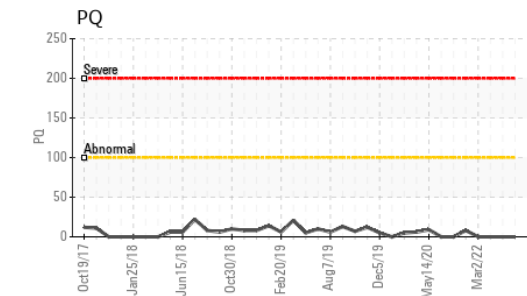
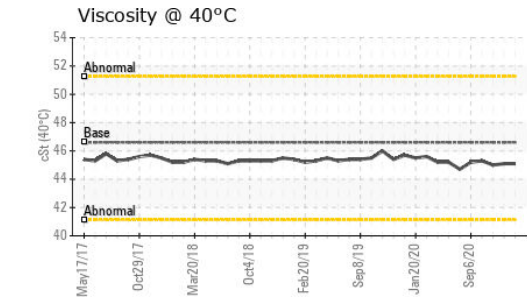
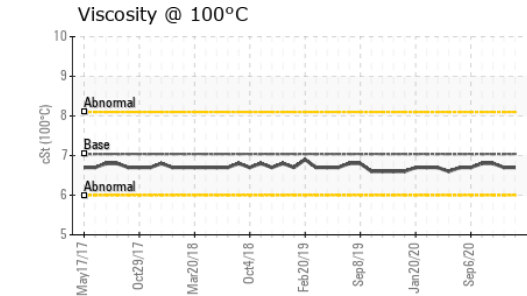
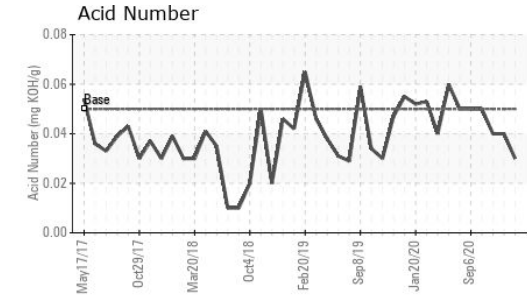
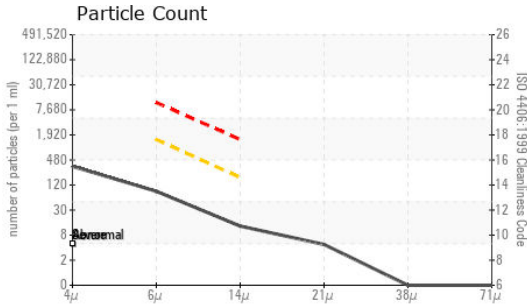
CONTAMINANTS method limit/base current history1 history2

Silicon	ppm	ASTM D5185(m) >20	2	2	2
Sodium	ppm	ASTM D5185(m)	0	0	0
Potassium	ppm	ASTM D5185(m) >20	22	0	<1

FLUID CLEANLINESS method limit/base current history1 history2

Particles >4µm	ASTM D7647		297	1739	500
Particles >6µm	ASTM D7647	>1300	75	494	92
Particles >14µm	ASTM D7647	>160	11	56	9
Particles >21µm	ASTM D7647	>40	4	19	3
Particles >38µm	ASTM D7647	>10	0	1	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/17/14	15/13/11	18/16/13	16/14/10

OIL ANALYSIS REPORT

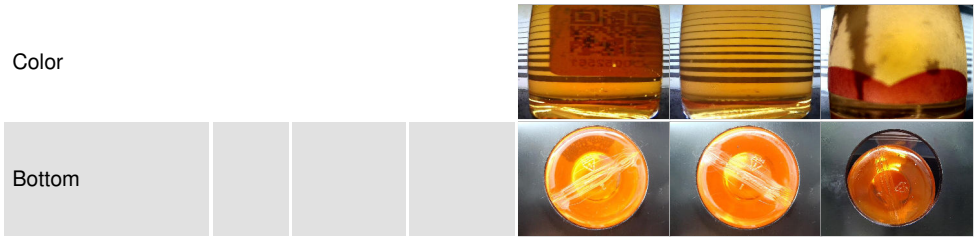


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.05	0.03	0.04	0.04

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*	>.1	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46.6	45.1	45.1	45.0
Visc @ 100°C	cSt	ASTM D7279(m)	7.04	6.7	6.7	6.8
Viscosity Index (VI)	Scale	ASTM D2270*	107	100	100	105

SAMPLE IMAGES



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0052561 **Received** : 25 Sep 2023
Lab Number : **02584952** **Diagnosed** : 26 Sep 2023
Unique Number : 5646017 **Diagnostician** : Bill Quesnel
Test Package : IND 2 (Additional Tests: KV100, PQ, VI)

Suncor - Terra Nova Projects
 Scotia Centre, 235 Water Strret
 St. John's, NL
 CA A1C 1B6
 Contact: Josh Hynes
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 T: (709)778-3575
 F: (709)724-2835

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.