

Area

**Gas Compression [450310863]**

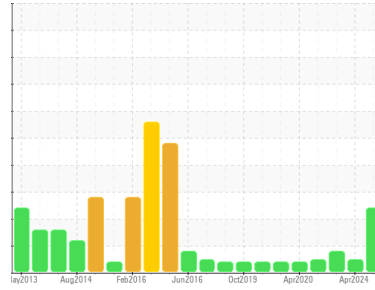
Machine Id  
**Methanol Wellhead Injection Pump C - Gearbox (S/N Sample Tag PD-42010C-S1)**

Component

**Gearbox**

Fluid

**PETRO CANADA ENDURATEX SYNTHETIC EP 220 (120 LTR)**



**DIAGNOSIS**

**Recommendation**

The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We recommend an early resample to monitor this condition.

**Wear**

All component wear rates are normal.

**Contamination**

There is a trace of moisture 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 INFORMATION**

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC</b>	PC	PC0076323
Sample Date	Client Info	<b>09 Apr 2024</b>	09 Apr 2024	09 Jan 2024
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>MARGINAL</b>	NORMAL	ATTENTION

**WEAR METALS**

method	limit/base	current	history1	history2	
PQ	ASTM D8184*	<b>0</b>	0	0	
Iron	ppm	ASTM D5185(m) >150	<b>6</b>	4	2
Chromium	ppm	ASTM D5185(m) >10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m) >10	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m) >5	<b>0</b>	<1	<1
Lead	ppm	ASTM D5185(m) >65	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m) >80	<b>&lt;1</b>	4	2
Tin	ppm	ASTM D5185(m) >8	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m) >5	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)	<b>0</b>	0	0

**ADDITIVES**

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 33	<b>11</b>	42	37
Barium	ppm	ASTM D5185(m) 5	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m)	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m) 5	<b>&lt;1</b>	<1	<1
Calcium	ppm	ASTM D5185(m) 5	<b>1</b>	0	<1
Phosphorus	ppm	ASTM D5185(m) 437	<b>370</b>	387	388
Zinc	ppm	ASTM D5185(m) 5	<b>5</b>	2	2
Sulfur	ppm	ASTM D5185(m) 5000	<b>4919</b>	5424	5769
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

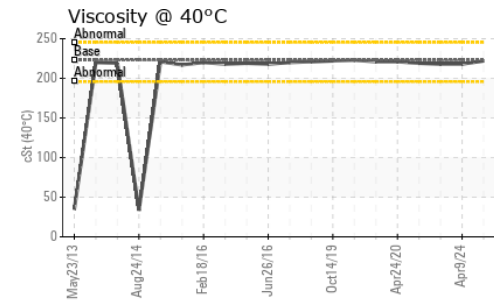
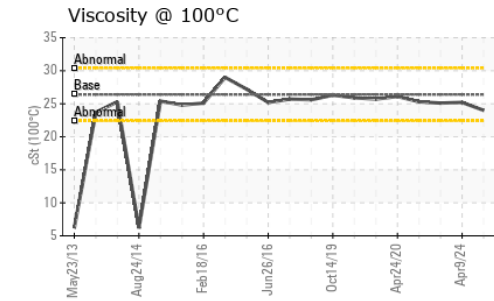
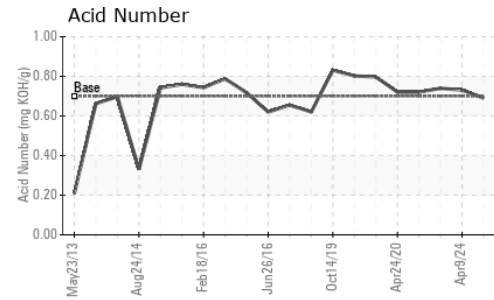
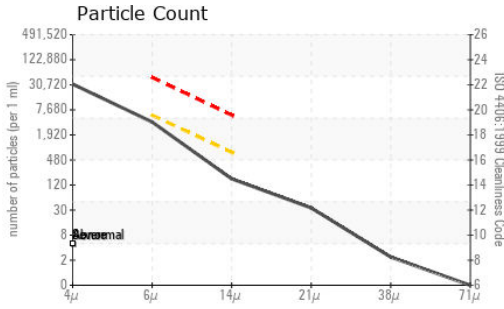
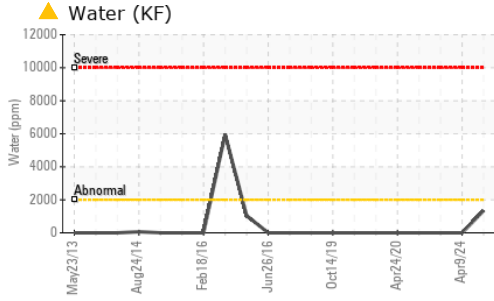
**CONTAMINANTS**

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	<b>0</b>	0	<1
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	0
Potassium	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Water	%	ASTM D6304* >0.2	<b>▲ 0.134</b>	---	---
ppm Water	ppm	ASTM D6304* >2000	<b>▲ 1345</b>	---	---

**FLUID CLEANLINESS**

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	<b>27697</b>	68521	52088
Particles >6µm	ASTM D7647 >5000	<b>3419</b>	4748	● 6553
Particles >14µm	ASTM D7647 >640	<b>149</b>	43	103
Particles >21µm	ASTM D7647 >160	<b>30</b>	6	16
Particles >38µm	ASTM D7647 >40	<b>2</b>	1	1
Particles >71µm	ASTM D7647 >10	<b>0</b>	1	1
Oil Cleanliness	ISO 4406 (c) >--/19/16	<b>22/19/14</b>	23/19/13	● 23/20/14

# OIL ANALYSIS REPORT

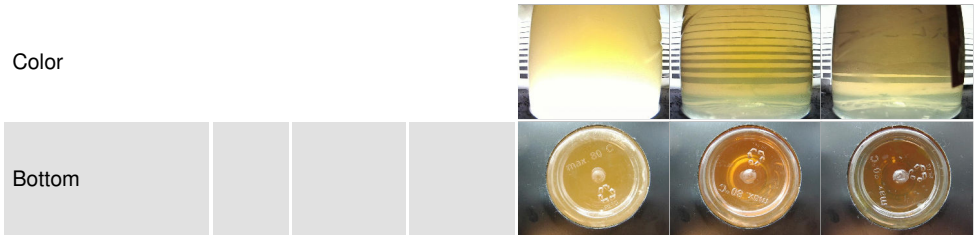


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.7	<b>0.69</b>	0.73	0.74

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>VLITE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>HAZY</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>.2%</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	223	<b>222</b>	218	218
Visc @ 100°C	cSt	ASTM D7279(m)	26.39	<b>24.0</b>	25.2	25.1
Viscosity Index (VI)	Scale	ASTM D2270*	151	<b>134</b>	146	145

## SAMPLE IMAGES



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC  
**Lab Number** : 02631772  
**Unique Number** : 5772925  
**Test Package** : MAR 2 ( Additional Tests: KF, KV100, PQ, PrtCount, TAN Man, VI )

**Suncor - Terra Nova Projects**  
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*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.*