

Area  
**EBI DE COSTA RICA**  
Machine Id  
**INTERNATIONAL 1051**  
Component  
**Hydraulic System**  
Fluid  
**PETRO CANADA HYDREX AW 68 (70 GAL)**

**DIAGNOSIS**

**Recommendation**

Check seals and/or filters for points of contaminant entry. 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. The filter change at the time of sampling has been noted. Resample in 30-45 days to monitor this situation.

**Wear**

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 oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

**SAMPLE INFORMATION**

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>PC0069045</b>	PC0057891	PC0043579
Sample Date	Client Info	<b>31 May 2023</b>	22 Jan 2022	29 Apr 2021
Machine Age	hrs	<b>22584</b>	20640	19239
Oil Age	hrs	<b>2626</b>	682	1459
Oil Changed	Client Info	<b>Not Chngd</b>	N/A	N/A
Sample Status		<b>SEVERE</b>	NORMAL	SEVERE

**WEAR METALS**

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m) >20	<b>2</b>	2	14
Chromium	ppm	ASTM D5185(m) >10	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185(m) >10	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185(m)	<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m) >10	<b>&lt;1</b>	<1	12
Lead	ppm	ASTM D5185(m) >10	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185(m) >75	<b>2</b>	1	1
Tin	ppm	ASTM D5185(m) >10	<b>0</b>	0	<1
Antimony	ppm	ASTM D5185(m)	<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	<1

**ADDITIVES**

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m) 0	<b>&lt;1</b>	<1	<1
Barium	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185(m) 0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m) 0	<b>1</b>	0	2
Calcium	ppm	ASTM D5185(m) 50	<b>50</b>	37	50
Phosphorus	ppm	ASTM D5185(m) 330	<b>321</b>	331	311
Zinc	ppm	ASTM D5185(m) 430	<b>389</b>	385	406
Sulfur	ppm	ASTM D5185(m) 760	<b>705</b>	718	724
Lithium	ppm	ASTM D5185(m)	<b>&lt;1</b>	<1	<1

**CONTAMINANTS**

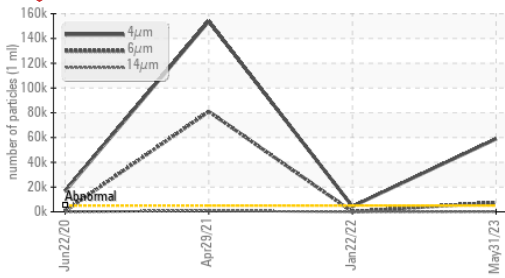
method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m) >20	<b>&lt;1</b>	<1	▲ 27
Sodium	ppm	ASTM D5185(m)	<b>&lt;1</b>	0	2
Potassium	ppm	ASTM D5185(m) >20	<b>0</b>	<1	3

**FLUID CLEANLINESS**

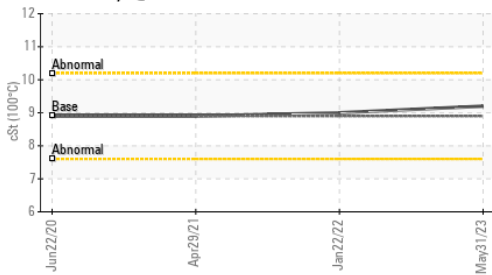
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	<b>58903</b>	4357	153828
Particles >6µm	ASTM D7647 >1300	<b>7623</b>	86	80993
Particles >14µm	ASTM D7647 >160	<b>86</b>	5	883
Particles >21µm	ASTM D7647 >40	<b>7</b>	1	68
Particles >38µm	ASTM D7647 >10	<b>0</b>	0	2
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	<b>23/20/14</b>	19/14/10	24/24/17

# OIL ANALYSIS REPORT

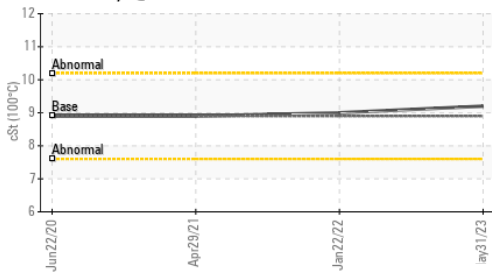
## Particle Trend



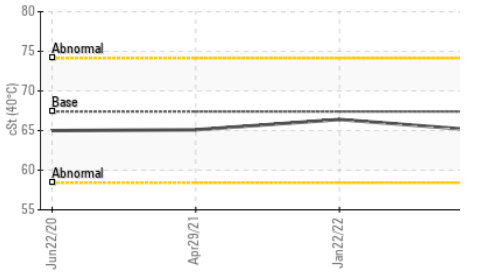
## Viscosity @ 100°C



## Viscosity @ 100°C



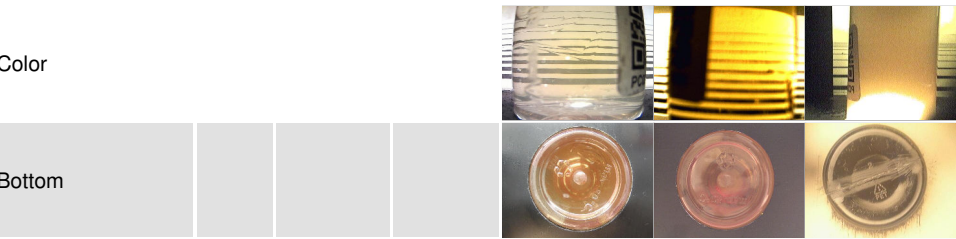
## Viscosity @ 40°C



PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	▲ LTMOD
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.1	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

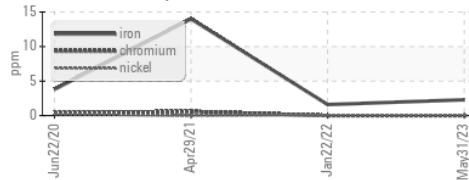
PARAMETER	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	67.4	65.0	66.4
Visc @ 100°C	cSt	ASTM D7279(m)	8.9	9.2	9
Viscosity Index (VI)	Scale	ASTM D2270*	105	118	110

## SAMPLE IMAGES

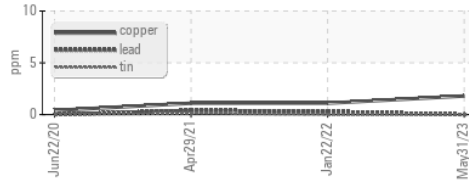


## GRAPHS

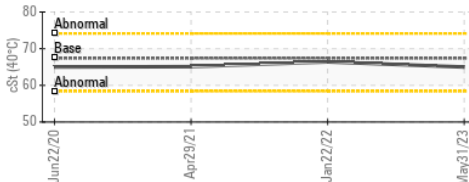
### Ferrous Alloys



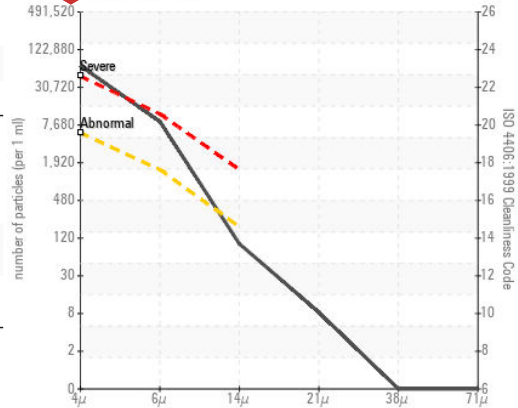
### Non-ferrous Metals



### Viscosity @ 40°C



### Particle Count



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **INDUSTRIAS del PETROLEO CANAD. SA**  
**Sample No.** : PC0069045 **Received** : 06 Jul 2023  
**Lab Number** : 02568274 **Diagnosed** : 07 Jul 2023  
**Unique Number** : 5605320 **Diagnostician** : Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: KV100, VI )

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.

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