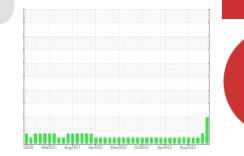


# **PROBLEM SUMMARY**

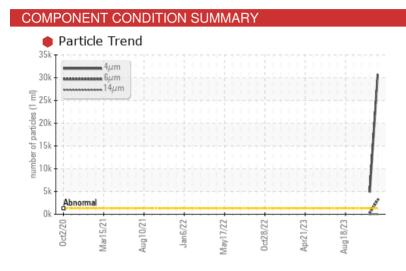


Sample Rating Trend



## Machine Id K611 Component Recipro Fluid

Component Reciprocating Compressor Fluid PETRO CANADA SENTRON LD 3000 (--- LTR)



# 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. We recommend you service the filters on this component. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS										
Sample Status			SEVERE	ABNORMAL	NORMAL					
Particles >4µm	ASTM D7647	>1300	<b>ම</b> 30720	<b>4837</b>						
Particles >6µm	ASTM D7647	>640	<b>A</b> 3133	267						
Oil Cleanliness	ISO 4406 (c)	>17/16/14	<b>e</b> 22/19/12	▲ 19/15/10						

Customer Id: NUVGRA Sample No.: PC0085499 Lab Number: 02617664 Test Package: PLANT



To manage this report scan the QR code

To discuss the diagnosis or test data: Wes Davis +1 905-569-8600 x223 wesd@wearcheck.ca

*To change component or sample information:* Gloria Gonzalez +1 (289)291-4643 x4643 <u>gloria.gonzalez@wearcheck.com</u>

RECOMMENDED ACTIONS										
Action Status Dat		Date	Done By	Description						
Change Filter			?	We recommend you service the filters on this component.						
Resample			?	Resample in 30-45 days to monitor this situation.						
Check Breathers			?	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.						
Check Seals			?	Check seals and/or filters for points of contaminant entry.						

# HISTORICAL DIAGNOSIS



17 Jan 2024 Diag: Bill Quesnel

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.



## 30 Oct 2023 Diag: Wes Davis

NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



## NORMAL



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



view report





# **OIL ANALYSIS REPORT**

Sample Rating Trend





Component Reciprocating Compressor

PETRO CANADA SENTRON LD 3000 (--- LTR)

		t2020 Mar20	021 Aug2021 Jan2022	May2022 Oct2022 Apr2023	Aug2023	
SAMPLE INFOR	RMATIO	N method	limit/base	current	history1	history2
Sample Number		Client Info		PC0085499	PC0085485	PC90000452
Sample Date		Client Info		16 Feb 2024	17 Jan 2024	30 Oct 2023
Machine Age	hrs	Client Info		19159	19000	18685
Oil Age	hrs	Client Info		0	0	2084
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				SEVERE	ABNORMAL	NORMAL
WEAR META	LS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	2	2	3
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)		0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	0	0
Aluminum	ppm	ASTM D5185(m)	>25	1	1	2
Lead	ppm	ASTM D5185(m)	>25	<1	1	0
Copper	ppm	ASTM D5185(m)		20	17	23
Tin	ppm	ASTM D5185(m)	>15	<1	<1	1
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
	ppin	· · ·		-		-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	5	<1	1	1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)	2	0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	5	7	6	6
Calcium	ppm	ASTM D5185(m)	1220	1383	1303	1238
Phosphorus	ppm	ASTM D5185(m)	298	272	264	283
Zinc	ppm	ASTM D5185(m)	350	239	256	298
Sulfur	ppm	ASTM D5185(m)	1995	2150	2087	
Lithium	ppm	ASTM D5185(m)		<1	<1	0
CONTAMINA	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	6	4	2
Sodium	ppm	ASTM D5185(m)		<1	<1	0
Potassium	ppm	ASTM D5185(m)	>20	<1	1	0
Water	%	ASTM D6304*	>0.1	0.003	0.001	
ppm Water	ppm	ASTM D6304*	>1000	36	7	
FLUID CLEAN	ILINES	S method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>1300	<b>30720</b>	<b>4837</b>	
Particles >6µm		ASTM D7647		▲ 3133	267	
Particles >14µm		ASTM D7647	>160	40	10	
Particles >21µm		ASTM D7647		5	3	
Particles >38µm		ASTM D7647	>10	1	1	
. anioioo >00µm			210	•		

ASTM D7647 >3

1

ISO 4406 (c) >17/16/14 **22/19/12** 

# 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. We recommend you service the filters on this component. 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. The water content is negligible.

### Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Particles >71µm

**Oil Cleanliness** 

1

▲ 19/15/10



# **OIL ANALYSIS REPORT**

35k -	Particle T	rend					FLUID DEGRA		method	limit/base	current	history1	history2
€ 30k -	********************************	m m					Acid Number (AN)	mg KOH/g	ASTM D974*	0.86	0.24	0.20	
25k - 왕일 20k -		μm					VISUAL		method	limit/base	current	history1	history2
5 15k -							White Metal	scalar	Visual*	NONE	NONE	NONE	
10k -							Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
5k -	Abnormal					1	Precipitate	scalar	Visual*	NONE	NONE	NONE	
Ok L	5/21-	0/21	Jan6/22 -	1/22 -	1/23 -	3/23	Silt	scalar	Visual*	NONE	NONE	NONE	
0	Uct2/20	Aug10/21	Janf	May17/22 0ct28/22	Apr21/23	Aug18/23	Debris	scalar	Visual*	NONE	NONE	NONE	
<b>_</b> ,	Water (K	۲ <b>۲</b> )					Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
12000 T							Appearance	scalar	Visual*	NORML	NORML	NORML	
10000 -	Severe						Odor	scalar	Visual*	NORML	NORML	NORML	
8000 -							Emulsified Water	scalar	Visual*	>0.1	NEG	NEG	
6000							Free Water	scalar	Visual*		NEG	NEG	
1000							FLUID PROPE	RTIES	method	limit/base	current	history1	history2
2000 -	Abnormal						Visc @ 40°C	cSt	ASTM D7279(m)	124.3	134	128	122
0 L	+7//					3/24	Visc @ 100°C	cSt	ASTM D7279(m)	13.7	14.2	13.8	13.14
5	Jan					Feb16/24	Viscosity Index (VI)	Scale	ASTM D2270*	106	103	104	101
,	Viscosity	@ 100	)°C				SAMPLE IMAG	ES	method	limit/base	current	history1	history2
18 17- 16- (0.001) 14- 153 13-	Abnormal Base			~	$\sim$		Color						no image
	Mar15/21	Aug10/21	Jan6/22	May17/22	Apr21/23 -	Aug18/23	Bottom						no image
	2			ž O	A	Aı	GRAPHS Ferrous Alloys				Particle Count		
12000 T	Water (K	(F)					15 I	monterer	100000000	491,52			I <sup>26</sup>
10000 -	Severe						E 10 chromium chromium			122,88	0 -		-24
8000-							5 - John Mickel	$\sim$	~~~	30,72	0		-22
6000-							20 21 121	/22	23		Devoe		-20
4000-							0ct2/20 Mar15/21 Aug10/21 Jan6/22	May17/22	Oct28/22 Apr21/23 Aurt18/23	ad 1.92	0 Abnormal		-18
2000-	Abnormal						Non-ferrous Metal			alpite 48			-20 -18 -16
	+7					VC	30 copper		٨	<u>.</u>	0-		-14
ŗ	Jan 1 // 24					E-h10/	E 20 lead	-	SV		0		-14 -12
								$\sim$			8-		-10
18 T	Viscosity	@ 100	0°C					1/22	8/22 -		2-		-8
17	Abnormal						0ct2/20 Mar15/21 Aug10/21 Jan6/22	May17/22	Oct28/22 Apr21/23 Aurt18/23		0.		6
16-	0						Viscosity @ 40°C			(B	<sup>4μ</sup> 6μ Acid Number	14μ 21μ	38µ 71µ
(J-15 001) 14 13 13	Base						140 Abnormal			(B/H0,4.0	O Abnormal		
<sup>4</sup> उँ 13 -	~~		~	$\sim$	~	~	8 120 Base			1 2.0	0-		
12 - 11 -	Abnormal						Abnormal	$\sim$	$\sim\sim\sim$	Number	Base		
10							110-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	122-	723-			/22 /22	/23
0	uctz/zu Mar15/21	Aug10/21	Jan6/22	May17/22 0ct28/22	Apr21/23	Aug18/23	0ct2/20 Mar15/21 Aug10/21 Jan6/22	May17/22	Oct28/22 Apr21/23 Aurc18/23	2	0ct2/20 Mar15/21 Aug10/21	Jan 6/22 May 17/22 Oct 28/22	Apr21/23 Aug18/23
			<b>ISO 1</b> 7	CALA COLLA 2025:2017 credited	La Sa La	boratory mple No.	: WearCheck - C8-1175 : PC0085499 : 02617664	Recei Teste	ived : 23 d : 27	gton, ON L7 3 Feb 2024 7 Feb 2024 7 Feb 2024 - W		10508	J <b>Vista Energy</b> 67 Ave, #20 <sup>-</sup> nde Prairie, AE CA T8W 0K8