

OIL ANALYSIS REPORT

Sample Rating Trend



RNG

C-04-201 Product Compressor

Reciprocating Compressor

SCHAEFFER 158 MOLY PURE SYN COMP ISO 150 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

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

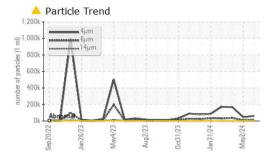
Sample Date Client Info 31 May 2024 02 May 2024 26 Mar 2024 Machine Age hrs Client Info 0 0 0 0 Dil Age hrs Client Info 0 0 0 0 Dil Changed Client Info N/A N/A N/A N/A Sample Status ABNORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >50 0 <1	SO 150 (GAL))	ep2022 Ja	n2023 May2023 Au	g2023 Oct2023 Jan2024	May2024	
Sample Date Client Info 31 May 2024 02 May 2024 26 Mar 2024	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age Dil Age hrs Client Info 0 0 0 Dil Age hrs Client Info 0 0 0 Dil Age hrs Client Info 0 0 0 Dil Changed Client Info N/A N/A N/A N/A ABMOSTABL ABNORMAL ABNO	Sample Number		Client Info		TWC0000002	WC0886396	WC0886371
Dil Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Date		Client Info		31 May 2024	02 May 2024	26 Mar 2024
Dil Changed Client Info	Machine Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >50 0 <1	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 iron ppm ASTM D5185m >50 0 <1	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 <1 <1 Chromium ppm ASTM D5185m 0 0 <1 <1 Nickel ppm ASTM D5185m 0 0 0 <1 Silver ppm ASTM D5185m 0 0 0 <1 Aluminum ppm ASTM D5185m >25 4 2 3 Lead ppm ASTM D5185m >25 0 <1 1 2 Lead ppm ASTM D5185m >50 1 1 2 3 Lead ppm ASTM D5185m >50 1 1 2 1 Lead ppm ASTM D5185m >50 1 1 2 1 Claid ppm ASTM D5185m 0	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 0 <1	CONTAMINATION	ı	method	limit/base	current	history1	history2
Post	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium ppm ASTM D5185m >10 0 <1 <1 Nickel ppm ASTM D5185m 0 0 0 Citiver ppm ASTM D5185m 0 0 <1 Siliver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m 225 4 2 3 Lead ppm ASTM D5185m >25 0 <1 <1 <2 Copper ppm ASTM D5185m >25 0 <1 <1 <2 Copper ppm ASTM D5185m >50 1 1 2 <1 <1 <1 <1 <2 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 </td <td>WEAR METALS</td> <td></td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	WEAR METALS		method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>50	0	<1	0
Description	Chromium	ppm	ASTM D5185m	>10	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m		0	0	0
Aluminum ppm ASTM D5185m >25 4 2 3 Lead ppm ASTM D5185m >25 0 <1 <1 Copper ppm ASTM D5185m >50 1 1 2 Tin ppm ASTM D5185m >15 <1 0 <1 Cadmium ppm ASTM D5185m >0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 <1 Cadmium ppm ASTM D5185m 10 0 0 0 0 Cadmium ppm ASTM D5185m 10 0 0 0 0 Cadmium ppm ASTM D5185m 10 0 0 0 0 Cadmium ppm ASTM D5185m 10 0 0 0 0 Cadmium ppm ASTM D5185m 11 <1 2 Calcium ppm ASTM D5185m 11 <1 0 0 Calcium ppm ASTM D5185m 12 5 5 4 Calcium ppm ASTM D5185m 12 5 5 4 Calcium ppm ASTM D5185m 12 5 5 4 Contakina ppm ASTM D5185m 17 7 6 Calcium ppm ASTM D5185m 17 7 7 6 Contakina ppm ASTM D5185m 17 7 7 7 6 Contakina ppm 18 7 7 7 7 6 Contakina ppm 18 7 7 7 7 6 Contakina ppm 18 7 7 7 7 7 7 7 6	Titanium	ppm	ASTM D5185m		0	0	<1
Lead ppm ASTM D5185m >25 0 <1 <1 Copper ppm ASTM D5185m >50 1 1 2 Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 0 0 0 Barium ppm ASTM D5185m 1 <1 2 2 Boron ppm ASTM D5185m 334 296 305 305 Manganese ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 1 1 2 Vanadium ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>25	4	2	3
Tin	Lead	ppm	ASTM D5185m	>25	0	<1	<1
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 0 0 Barium ppm ASTM D5185m 1 <1 2 Molybdenum ppm ASTM D5185m 334 296 305 Manganese ppm ASTM D5185m <1 <1 <1 0 Magnesium ppm ASTM D5185m 2 5 4 Phosphorus ppm ASTM D5185m 2 5 4 Phosphorus ppm ASTM D5185m 7 7 6 Sulfur ppm ASTM D5185m 920 890 822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185	Copper	ppm	ASTM D5185m	>50	1	1	2
Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 10 0 0 Barium ppm ASTM D5185m 1 <1	Tin	ppm	ASTM D5185m	>15	<1	0	<1
ADDITIVES	√anadium	ppm	ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 10 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	<1
Sarium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 334 296 305 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		10	0	0
Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		1	<1	2
Magnesium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <2 5 4 <phopsished< th=""> 2 5 4 <1 <1<td>Molybdenum</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>334</th><td>296</td><td>305</td></phopsished<>	Molybdenum	ppm	ASTM D5185m		334	296	305
Calcium ppm ASTM D5185m 2 5 4 Phosphorus ppm ASTM D5185m 622 611 459 Zinc ppm ASTM D5185m 7 7 6 Sulfur ppm ASTM D5185m 920 890 822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 4 Sodium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >1300 61524 45383 168501 Particles >6µm ASTM D7647 >640 14357 7151 36776 Particles >14µm ASTM D7647 >40 146 16 359 Particles >21µm ASTM D7647 >10 8 1 14 Particles >71µm	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus ppm ASTM D5185m 622 611 459 Zinc ppm ASTM D5185m 7 7 6 Sulfur ppm ASTM D5185m 920 890 822 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185m >25 7 3 4 Sodium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 61524 45383 168501 Particles >6μm ASTM D7647 >640 14357 7151 36776 Particles >14μm ASTM D7647 >160 596 125 1440 Particles >21μm ASTM D7647 >40 146 16 359 Particles >71μm ASTM D7647 >3 1 0 1 Dil Cleanliness	Magnesium	ppm	ASTM D5185m		<1	<1	<1
Zinc ppm ASTM D5185m 7 7 6 Sulfur ppm ASTM D5185m 920 890 822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 4 Sodium ppm ASTM D5185m >20 4 3 2 Potassium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 ♠ 61524 ♠ 45383 ♠ 168501 Particles >6μm ASTM D7647 >640 ♠ 14357 ♠ 7151 ♠ 36776 Particles >14μm ASTM D7647 >160 ♠ 596 125 ♠ 1440 Particles >21μm ASTM D7647 >40 ♠ 146 16 ♠ 359 Particles >71μm ASTM D7647 >3 1 ♠ 14	Calcium	ppm	ASTM D5185m		2	5	4
Sulfur ppm ASTM D5185m 920 890 822 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 4 Sodium ppm ASTM D5185m >20 4 3 2 Potassium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 61524 45383 168501 Particles >6μm ASTM D7647 >640 14357 7151 36776 Particles >14μm ASTM D7647 >160 596 125 1440 Particles >21μm ASTM D7647 >40 146 16 359 Particles >71μm ASTM D7647 >3 1 14 Particles >71μm ASTM D7647 >3 1 0 1 Dil Cleanliness	Phosphorus	ppm	ASTM D5185m		622	611	459
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 3 4 Sodium ppm ASTM D5185m <1	Zinc	ppm	ASTM D5185m			7	
Solicon ppm ASTM D5185m >25 7 3 4	Sulfur	ppm	ASTM D5185m		920	890	822
Sodium ppm ASTM D5185m <1 0 0 Potassium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 Δ 61524 Δ 45383 Δ 168501 Particles >6μm ASTM D7647 >640 Δ 14357 Δ 7151 Δ 36776 Particles >14μm ASTM D7647 >160 Δ 596 125 Δ 1440 Particles >21μm ASTM D7647 >40 Δ 146 16 Δ 359 Particles >38μm ASTM D7647 >10 8 1 Δ 14 Particles >71μm ASTM D7647 >3 1 0 1 Dil Cleanliness ISO 4406 (c) >17/16/14 Δ 23/21/16 Δ 23/20/14 Δ 25/22/18	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 4 3 2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 61524 45383 168501 Particles >6μm ASTM D7647 >640 14357 7151 36776 Particles >14μm ASTM D7647 >160 596 125 1440 Particles >21μm ASTM D7647 >40 146 16 359 Particles >38μm ASTM D7647 >10 8 1 14 Particles >71μm ASTM D7647 >3 1 0 1 Dil Cleanliness ISO 4406 (c) >17/16/14 23/21/16 23/20/14 25/22/18	Silicon	ppm	ASTM D5185m	>25	7	3	4
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >1300 Δ 61524 Δ 45383 Δ 168501 Particles >6μm ASTM D7647 >640 Δ 14357 Δ 7151 Δ 36776 Particles >14μm ASTM D7647 >160 Δ 596 125 Δ 1440 Particles >21μm ASTM D7647 >40 Δ 146 16 Δ 359 Particles >38μm ASTM D7647 >10 8 1 Δ 14 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 Δ 23/21/16 Δ 23/20/14 Δ 25/22/18	Sodium	ppm	ASTM D5185m		<1	0	0
Particles >4μm ASTM D7647 >1300 61524 45383 168501 Particles >6μm ASTM D7647 >640 14357 7151 36776 Particles >14μm ASTM D7647 >160 596 125 1440 Particles >21μm ASTM D7647 >40 146 16 359 Particles >38μm ASTM D7647 >10 8 1 14 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 23/21/16 23/20/14 25/22/18	Potassium	ppm	ASTM D5185m	>20	4	3	2
Particles >6μm ASTM D7647 >640 ▲ 14357 ▲ 7151 ▲ 36776 Particles >14μm ASTM D7647 >160 ▲ 596 125 ▲ 1440 Particles >21μm ASTM D7647 >40 ▲ 146 16 ▲ 359 Particles >38μm ASTM D7647 >10 8 1 ▲ 14 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 ▲ 23/21/16 ▲ 23/20/14 ▲ 25/22/18	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >160 ▲ 596 125 ▲ 1440 Particles >21μm ASTM D7647 >40 ▲ 146 16 ▲ 359 Particles >38μm ASTM D7647 >10 8 1 ▲ 14 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 ▲ 23/21/16 ▲ 23/20/14 ▲ 25/22/18	Particles >4µm		ASTM D7647	>1300			
Particles >21μm ASTM D7647 >40 46 16 359 Particles >38μm ASTM D7647 >10 8 1 44 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 23/21/16 23/20/14 25/22/18	Particles >6μm		ASTM D7647	>640	14357	<u>^</u> 7151	▲ 36776
Particles >38μm ASTM D7647 >10 8 1 △ 14 Particles >71μm ASTM D7647 >3 1 0 1 Oil Cleanliness ISO 4406 (c) >17/16/14 △ 23/21/16 △ 23/20/14 △ 25/22/18	Particles >14μm		ASTM D7647	>160	△ 596	125	1440
Particles >71μm ASTM D7647 >3 1 0 1 Dil Cleanliness ISO 4406 (c) >17/16/14 Δ 23/21/16 Δ 23/20/14 Δ 25/22/18	Particles >21µm		ASTM D7647	>40	146	16	△ 359
Dil Cleanliness ISO 4406 (c) >17/16/14 ▲ 23/21/16 ▲ 23/20/14 ▲ 25/22/18			ASTM D7647	>10	8	1	<u> </u>
\	Particles >71μm		ASTM D7647	>3	1	0	1
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>17/16/14	<u>23/21/16</u>	2 3/20/14	<u>\$\text{\Delta}\$ 25/22/18</u>
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2

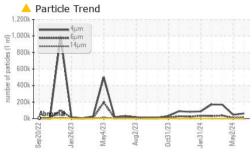
Submitted By: KYLE HUTCHINSON

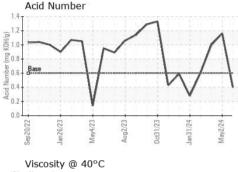
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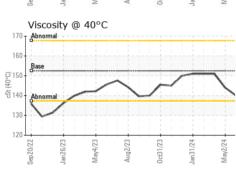


OIL ANALYSIS REPORT









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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2

Visc @ 40°C	cSt	ASTM D445	152.5	140	144	151

SAMPLE IMAGES

method

limit/base

current

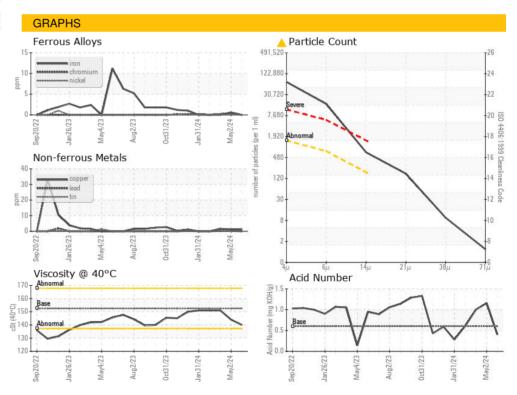
history1

history2

Color

Bottom









Certificate 12367

Laboratory Sample No.

Lab Number : 06200121

: TWC0000002 Unique Number : 11062244 Test Package : PLANT

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 05 Jun 2024

Tested : 07 Jun 2024

Diagnosed : 07 Jun 2024 - Jonathan Hester

GEVO Inc. 2498 250th Street Doon, IA US 51235

Contact: Service Manager

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

T:

F: