

# **OIL ANALYSIS REPORT**

## Area **STUFF ROOM C [98983051] KR-GR-003479 - FEED SCREW (S/N STUFF C - 11513124)**

Gearbox Eluid

### SCHAEFFER 293A SUPREME GEAR LUBE NO TACK 220 (2 QTS)

#### DIAGNOSIS

#### Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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 advise that you inspect for the source(s) of wear. Resample at the next service interval to monitor.

#### 📥 Wear

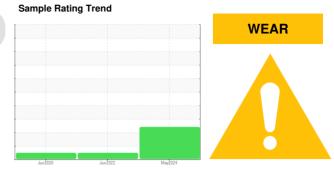
The iron level is abnormal. All other component wear rates are normal.

#### 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 acceptable for the time in service.



Sample Date     Client Info     24 May 2024     18 Jun 2022     14 Jun 2       Machine Age     hrs     Client Info     0     0     0       Oil Age     hrs     Client Info     0     0     0       Oil Age     hrs     Client Info     N/A     N/A     N/A       Sample Status     Imathema     Imathema     ABNORMAL     NORMAL     NORMAL       CONTAMINATION     method     Imit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG       WeAR METALS     method     Imit/base     current     history1     hist       Iron     ppm     ASTM D5185m     >15     <1     0     0       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Silver     ppm     ASTM D5185m     >10     <1     0     0       Copper     ppm     ASTM D5185m     >200     <1     0     0       Antimony     ppm	AMPLE INFORMA	ATION method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     0     0     0     0       Oil Age     hrs     Client Info     N/A     N/A     N/A     N/A       Sample Status     Client Info     N/A     N/A     N/A     N/A     N/A       CONTAMINATION     method     limit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG       Wetar     WC Method     >0.2     NEG     NEG     NEG       Wetar     WC Method     >0.2     NEG     NEG     1       Nickel     ppm     ASTM D5185m     >200     A 268     18     15       Chromium     ppm     ASTM D5185m     >15     0     0     0       Silver     ppm     ASTM D5185m     >25     2     <1     0     0       Aluminum     ppm     ASTM D5185m     >25     2     <1     0     0       Astm D5185m     >25     1     0     0     0 <td>mple Number</td> <td>Client Info</td> <td>)</td> <th>PCA0124754</th> <td>PCA0071643</td> <td>PCA0021083</td>	mple Number	Client Info	)	PCA0124754	PCA0071643	PCA0021083
Oil Age     hrs     Client Info     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A     N/A       Sample Status     Image     Image     Current     history1     hist       CONTAMINATION     method     Imit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     hist       Iron     ppm     ASTM D5185m     >200     A 268     18     15       Chromium     ppm     ASTM D5185m     >15     0     0     0       Nickel     ppm     ASTM D5185m     >10     0     0     0       Aluminum     ppm     ASTM D5185m     >20     1     0     0       Aluminum     ppm     ASTM D5185m     >20     0     0     0       Copper     ppm     ASTM D5185m     >20     0     0     0	mple Date	Client Info	)	24 May 2024	18 Jun 2022	14 Jun 2020
Oil Changed Sample Status     Client Info     N/A     N/A     N/A     N/A       Sample Status     method     limit/base     current     history1     hist       CONTAMINATION     method     limit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Uron     ppm     ASTM D5185m     >200     268     18     15       Chromium     ppm     ASTM D5185m     >15     4     0     0       Nickel     ppm     ASTM D5185m     15     <1	chine Age h	nrs Client Info	)	0	0	0
Sample Status     ABNORMAL     NORMAL     NORMAL     NORMAL     NORMAL       CONTAMINATION     method     limit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG       Wear     WC Method     >0.2     NEG     NEG     NEG       Wear     WC Method     >0.2     NEG     NEG     NEG       Wear     ppm     ASTM D5185m     >200     268     18     15       Chromium     ppm     ASTM D5185m     >15     <1     0     0       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Silver     ppm     ASTM D5185m     >100     <1     0     0       Aluminum     ppm     ASTM D5185m     >200     <1     0     0       Aluminum     ppm     ASTM D5185m     >20     <1     0     0       Aluminum     ppm     ASTM D5185m     >20     <1     0     0	Age h	nrs Client Info	)	0	0	0
CONTAMINATION     method     limit/base     current     history1     hist       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     hist       Iron     ppm     ASTM D5185m     >200     ▲ 268     18     15       Chromium     ppm     ASTM D5185m     >15     <1     0     0       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Aluminum     ppm     ASTM D5185m     >200     <1     0     0       Aluminum     ppm     ASTM D5185m     >200     <1     0     <1       Lead     ppm     ASTM D5185m     >200     <1     0     <1       Copper     ppm     ASTM D5185m     >200     <1     0     0       Cadmium     ppm     ASTM D5185m     >25     <1     0     0       Cadmium     ppm     ASTM D5185m      <1     3     <	Changed	Client Info	)	N/A	N/A	N/A
Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     hist       Iron     ppm     ASTM D5185m     >200     268     18     15       Chromium     ppm     ASTM D5185m     >15     4     0     <1       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Silver     ppm     ASTM D5185m     >15     <1     0     0       Aluminum     ppm     ASTM D5185m     >25     2     <1     <1       Lead     ppm     ASTM D5185m     >25     2     <1     <1       Copper     ppm     ASTM D5185m     >20     <1     0     <1       Vanadium     ppm     ASTM D5185m     >25     <1     0     0       Cadmium     ppm     ASTM D5185m        2       Vanadium     ppm     ASTM D5185m      <1     0     0 </th <td>mple Status</td> <td></td> <td></td> <th>ABNORMAL</th> <td>NORMAL</td> <td>NORMAL</td>	mple Status			ABNORMAL	NORMAL	NORMAL
WEAR METALS     method     limit/base     current     history1     hist       Iron     ppm     ASTM D5185m     >200     ▲ 268     18     15       Chromium     ppm     ASTM D5185m     >15     4     0     <1       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Titanium     ppm     ASTM D5185m     >15     <1     0     0       Aluminum     ppm     ASTM D5185m     >25     2     <1     <1       Lead     ppm     ASTM D5185m     >200     <1     0     <1       Copper     ppm     ASTM D5185m     >200     <1     0     <1       Chadium     ppm     ASTM D5185m     >200     <1     0     <1       Cademium     ppm     ASTM D5185m     >200     <1     0     <1       Cademium     ppm     ASTM D5185m     >5       2       Vanadium     ppm     ASTM D5185m     0     0	ONTAMINATIO	N method	limit/base	current	history1	history2
Iron     ppm     ASTM D5185m     >200     A 268     18     15       Chromium     ppm     ASTM D5185m     >15     4     0     <1       Nickel     ppm     ASTM D5185m     >15     <1     0     0       Titanium     ppm     ASTM D5185m     <1     0     0     0       Silver     ppm     ASTM D5185m     >25     2     <1     <1       Lead     ppm     ASTM D5185m     >25     2     <1     <1       Lead     ppm     ASTM D5185m     >200     <1     0     <1       Copper     ppm     ASTM D5185m     >200     <1     0     <1       Tin     ppm     ASTM D5185m     >25     <1     0     0       Antimony     ppm     ASTM D5185m     >5       2       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     \$1     0     1	ıter	WC Method	d >0.2	NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >15     4     0     <1	VEAR METALS	method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     >15     <1	n p	opm ASTM D5185m	n >200	<u> </u>	18	15
Titanium     ppm     ASTM D5185m     <1	romium p	opm ASTM D5185m	1 >15	4	0	<1
Silver     ppm     ASTM D5185m     0     0     0     0       Aluminum     ppm     ASTM D5185m     >25     2     <1     <1       Lead     ppm     ASTM D5185m     >100     <1     0     <1       Copper     ppm     ASTM D5185m     >200     <1     0     <1       Tin     ppm     ASTM D5185m     >200     <1     0     0       Antimony     ppm     ASTM D5185m     >25     <1     0     0       Antimony     ppm     ASTM D5185m     >5       2       Vanadium     ppm     ASTM D5185m     >5       2       Vanadium     ppm     ASTM D5185m     >0     0     0     0       Cadmium     ppm     ASTM D5185m     <1     0     0     0       Magnaese     ppm     ASTM D5185m     <1     3     0     1     1     1     1     1     1     1     1	kel p	opm ASTM D5185m	1 >15	<1	0	0
Aluminum     ppm     ASTM D5185m     >25     2     <1	anium p	ASTM D5185m	1	<1	0	0
Lead     ppm     ASTM D5185m     >100     <1	/er p	opm ASTM D5185m	1	0	0	0
Copper     ppm     ASTM D5185m     >200     <1	minum p	ASTM D5185m	1 >25	2	<1	<1
Tin     ppm     ASTM D5185m     >25     <1	ad p	opm ASTM D5185n	n >100	<1	0	<1
Antimony     ppm     ASTM D5185m     >5      2       Vanadium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     hist       Boron     ppm     ASTM D5185m     8     9     4       Barium     ppm     ASTM D5185m     4     0     1       Molybdenum     ppm     ASTM D5185m     <1     3     0       Manganese     ppm     ASTM D5185m     <1     3     0       Magnesium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist	pper p	ASTM D5185m	n >200	<1	0	<1
Vanadium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     <1     0     0       ADDITIVES     method     limit/base     current     history1     hist       Boron     ppm     ASTM D5185m     8     9     4       Barium     ppm     ASTM D5185m     4     0     1       Molybdenum     ppm     ASTM D5185m     4     0     1       Magnesium     ppm     ASTM D5185m     2     <1     <1       Calcium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3	р	opm ASTM D5185n	1 >25	<1	0	0
CadmiumppmASTM D5185m<1	timony p	opm ASTM D5185m	n >5			2
ADDITIVESmethodlimit/basecurrenthistory1histBoronppmASTM D5185m894BariumppmASTM D5185m401MolybdenumppmASTM D5185m<130ManganeseppmASTM D5185m2<1<1MagnesiumppmASTM D5185m3<11CalciumppmASTM D5185m3<11CalciumppmASTM D5185m331395322ZincppmASTM D5185m331395322ZincppmASTM D5185m1512951661507CONTAMINANTSmethodlimit/basecurrenthistory1histSiliconppmASTM D5185m<313SodiumppmASTM D5185m<201<11FLUID CLEANLINESSmethodlimit/basecurrenthistory1hist	n <b>adium</b> p	opm ASTM D5185n	n	0	0	0
Boron     ppm     ASTM D5185m     8     9     4       Barium     ppm     ASTM D5185m     4     0     1       Molybdenum     ppm     ASTM D5185m     <1     3     0       Manganese     ppm     ASTM D5185m     <1     3     0       Magnesium     ppm     ASTM D5185m     2     <1     <1       Magnesium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3	dmium p	opm ASTM D5185m	n	<1	0	0
Barium     ppm     ASTM D5185m     4     0     1       Molybdenum     ppm     ASTM D5185m     <1     3     0       Manganese     ppm     ASTM D5185m     2     <1     <1       Magnesium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     3     <1     1       Calcium     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3       Sodium     ppm     ASTM D5185m     >20     1     2     2       Potassium     ppm     ASTM D5185m     >20     1     1<	DDITIVES	method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     <1	r <b>on</b> p	opm ASTM D5185m	n	8	9	4
Manganese     ppm     ASTM D5185m     2     <1	r <b>ium</b> p	opm ASTM D5185m	1	4	0	1
Magnesium     ppm     ASTM D5185m     3     <1	lybdenum p	opm ASTM D5185m	n	<1	3	0
Calcium     ppm     ASTM D5185m     19     5     3       Phosphorus     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3       Sodium     ppm     ASTM D5185m     >50     3     1     3       Potassium     ppm     ASTM D5185m     >20     1     <1     1       FLUID CLEANLINESS     method     limit/base     current     history1     hist	nganese p	opm ASTM D5185m	1	2	<1	<1
Phosphorus     ppm     ASTM D5185m     331     395     322       Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3       Sodium     ppm     ASTM D5185m     >50     3     1     3       Potassium     ppm     ASTM D5185m     >20     1     <1	gnesium p	opm ASTM D5185n	n	3	<1	1
Zinc     ppm     ASTM D5185m     42     0     14       Sulfur     ppm     ASTM D5185m     15129     5166     1507       CONTAMINANTS     method     limit/base     current     history1     hist       Silicon     ppm     ASTM D5185m     >50     3     1     3       Sodium     ppm     ASTM D5185m     >20     1     <1	lcium p	ASTM D5185m	1	19	5	3
SulfurppmASTM D5185m1512951661507CONTAMINANTSmethodlimit/basecurrenthistory1histSiliconppmASTM D5185m>50313SodiumppmASTM D5185m<102PotassiumppmASTM D5185m>201<11FLUID CLEANLINESSmethodlimit/basecurrenthistory1hist	osphorus p	opm ASTM D5185n	n	331	395	322
CONTAMINANTSmethodlimit/basecurrenthistory1histSiliconppmASTM D5185m<>50313SodiumppmASTM D5185m<102PotassiumppmASTM D5185m>201<11FLUID CLEANLINESSmethodlimit/basecurrenthistory1hist	c p	opm ASTM D5185m	1	42	0	14
Silicon     ppm     ASTM D5185m     >50     3     1     3       Sodium     ppm     ASTM D5185m     <1	i <b>fur</b> p	opm ASTM D5185m	n	15129	5166	15075
Sodium ppm ASTM D5185m <1	ONTAMINANTS	S method	limit/base	current	history1	history2
Potassium     ppm     ASTM D5185m     >20     1     <1				3	1	
FLUID CLEANLINESS method limit/base current history1 hist		ASTM D5185m	1	<1	0	2
	assium p	opm ASTM D5185n	n >20	1	<1	1
Particles >4um ASTM D7647 >10000	LUID CLEANLIN	NESS method	limit/base	current	history1	history2
	rticles >4µm	ASTM D7647	7 >10000	<u> </u>		
Particles >6μm     ASTM D7647     >2500     Δ 325130		ASTM D7647	7 >2500	<u> </u>		
Particles >14μm ASTM D7647 >640 ▲ 5245	rticles >14µm	ASTM D7647	7 >640	<b>6</b> 5245		

ASTM D7647 >160

ASTM D7647 >40

ASTM D7647 >10

ISO 4406 (c) >20/18/16 A 26/26/20

72

0

0

Particles >21µm

Particles >38µm

Particles >71µm

**Oil Cleanliness** 



50

0.70

0.60 (B/HO) (B/H

Ê 0.40

-e 0.30

0.10

0.00

24 Abno

23

220

200

190

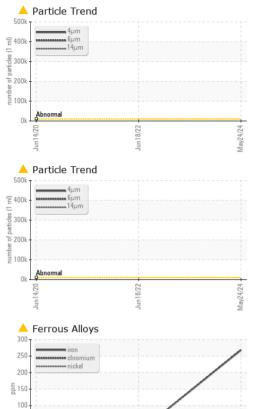
180

Abnorma

1

Acid Number

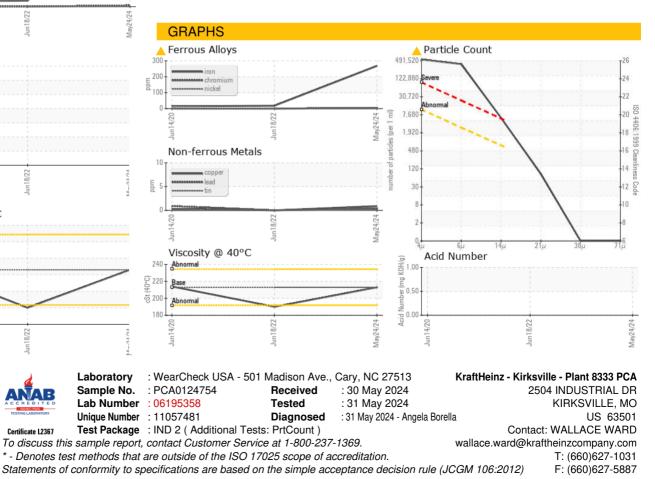
Viscosity @ 40°C





FLUID DEGRA		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.69		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213	213	190	214
SAMPLE IMAC	GES	method	limit/base	current	history1	history2
Color				a.	no image	

Bottom



Report Id: KRAKIR [WUSCAR] 06195358 (Generated: 05/31/2024 20:23:33) Rev: 1

Submitted By: Wilberto Pacheco Garcia

no image