

# **OIL ANALYSIS REPORT**

### Sample Rating Trend



#### Area **Process Cheese [98843093]** Machine Id **BLENDER 1** Component

Gearbox Fluid GEAR OIL ISO 320 (--- GAL)

# DIAGNOSIS

#### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

# Wear

All component wear rates are normal.

#### Contamination

Moderate concentration of visible dirt/debris present in the oil.

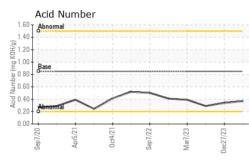
# Fluid Condition

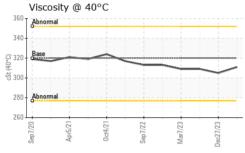
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number     Client Info     PCA0117984     PCA0114268     PCA009686       Sample Date     Client Info     22 Feb 2024     27 Dec 2023     24 May 2023       Machine Age     hrs     Client Info     0     0     0       Oil Age     hrs     Client Info     0     0     0       Oil Age     hrs     Client Info     0     0     0     0       Oil Age     Client Info     0     0     0     0     0       Oil Age     Client Info     0     0     0     0     0       Sample Status     method     limit/base     current     history!     Mistory!       Water     WC Method     >.200     0     <1			otproto	April Galact	our maroro o		
Sample Date     Client Info     22 Feb 2024     27 Dec 2023     24 May 2023       Machine Age     hrs     Client Info     0     0     0       Dil Age     hrs     Client Info     0     0     0       Sample Status     Client Info     Filtered     Filtered     Filtered     Filtered       Sample Status     ContrAtMINATION     method     Imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     Imit/base     current     history1     history2       Vice     ppm     ASTM 05185m     >15     0     0     0       Nickel     ppm     ASTM 05185m     >15     0     0     0       Lead     ppm     ASTM 05185m     >220     0     0     0     0       Vanadium     ppm     ASTM 05185m     >200     0     0     0       Vanadium     ppm     ASTM 05185m     50     0     0	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     0     0     0       Oil Qanged     Client Info     0     0     0     0       Sample Status     Client Info     Filtered     Filtered     Filtered     Filtered       Sample Status     Client Info     Sample Status     NCR     ABNORMAL     ABNORMAL       CONTAMINATION     method     Imitbase     current     history1     history1       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     Imitbase     current     history1     history1       Nickel     ppm     ASTM 05185m     >200     0     -1     0       Nickel     ppm     ASTM 05185m     >10     0     0     -1       Aluminum     ppm     ASTM 05185m     >20     0     0     -1       Quandium     ppm     ASTM 05185m     >20     0     0     0       Claramum     ppm     ASTM 05185m     >20     0     0     -1	Sample Number		Client Info		PCA0117984	PCA0114268	PCA0096862
Oil Age     hrs     Client Info     0     0     0       Oil Changed     Client Info     Filtered     Filtered     Filtered     Filtered       Sample Status     Image     Image     Image     NoRMAL     ABNORMAL       CONTAMINATION     method     Imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Othornium     ppm     ASTM 05185m     >200     0     <1	Sample Date		Client Info		22 Feb 2024	27 Dec 2023	24 May 2023
Oil Changed     Client Info     Filtered     Filtered	Machine Age	hrs	Client Info		0	0	0
Sample Status     ABNORMAL     NORMAL     ABNORMAL       CONTAMINATION     method     limit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >515     0     0     0       Chromium     ppm     ASTM D5185m     >15     0     0     0       Silver     ppm     ASTM D5185m     >220     0     0     -1     0       Copper     ppm     ASTM D5185m     >220     0     0     0     -1       Cadmium     ppm     ASTM D5185m     >200     0     0     0     0       Cadmium     ppm     ASTM D5185m     >200     0     0     0     0       Cadmium     ppm     ASTM D5185m     50     0     0     0     0       Manadum     ppm     ASTM D5185m     50	Oil Age	hrs	Client Info		0	0	0
CONTAMINATION     method     limit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Wear METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >200     0     <1	Oil Changed		Client Info		Filtered	Filtered	Filtered
Water     WC Method     >0.2     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >200     0     <1	Sample Status				ABNORMAL	NORMAL	ABNORMAL
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >200     0     <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
ron     ppm     ASTM D5185m     >200     0     <1     0       Nickel     ppm     ASTM D5185m     >15     <1	Water		WC Method	>0.2	NEG	NEG	NEG
Dromium     ppm     ASTM D5185m     >15     <1     <1     <1     <1       Nickel     ppm     ASTM D5185m     >15     0     0     0       Silver     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     225     0     2     -1       Lead     ppm     ASTM D5185m     >200     0     0     -1       Copper     ppm     ASTM D5185m     >200     0     0     0       Cadmium     ppm     ASTM D5185m     >200     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     15     0     0     0       Magaaese     ppm     ASTM D5185m     50     <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     >15     0     0     0       Titanium     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     0     0     0     0       Aluminum     ppm     ASTM D5185m     >25     0     2     -1       Lead     ppm     ASTM D5185m     >200     0     0     -1       Copper     ppm     ASTM D5185m     >200     0     0     -1       Vanadium     ppm     ASTM D5185m     >200     0     0     0     0       Cadmium     ppm     ASTM D5185m     50     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     15     0     0     0       Magnesum     ppm     ASTM D5185m     50     1     <1	Iron	ppm	ASTM D5185m	>200	0	<1	0
Titanium     ppm     ASTM D5185m     0     0     0       Silver     ppm     ASTM D5185m     S25     0     2     <1	Chromium	ppm	ASTM D5185m	>15	<1	<1	<1
Silver     ppm     ASTM D5185m     0     0     <1       Aluminum     ppm     ASTM D5185m     >25     0     2     <1	Nickel	ppm	ASTM D5185m	>15	0	0	0
Silver     ppm     ASTM D5185m     0     0     <1       Aluminum     ppm     ASTM D5185m     >25     0     2     <1	Titanium		ASTM D5185m		0	0	0
Aluminum     ppm     ASTM D5185m     >25     0     2     <1       Lead     ppm     ASTM D5185m     >100     0     0     <1	Silver		ASTM D5185m			0	<1
Lead     ppm     ASTM D5185m     >100     0     0     <11       Copper     ppm     ASTM D5185m     >200     0     0     0     0       Tin     ppm     ASTM D5185m     >25     0     0     0     0       Vanadium     ppm     ASTM D5185m     0     0     0     0     0       Cadmium     ppm     ASTM D5185m     50     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     50     0     0     0     0       Manganese     ppm     ASTM D5185m     15     0     0     10     10       Calcium     ppm     ASTM D5185m     50     1     <1     0     7       Sulfur     ppm     ASTM D5185m     50     1     <100     0     <100       CONTAMINANTS     method     limit/base     current     history1     history2	Aluminum			>25		2	<1
Copper     ppm     ASTM D5185m     >200     0     0     0       Tin     ppm     ASTM D5185m     >25     0     0     <1	Lead		ASTM D5185m	>100	0	0	
Tin     ppm     ASTM D5185m     >25     0     0     <1       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     50     0     0     0       Barium     ppm     ASTM D5185m     15     0     0     <1						0	
Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     50     0     0     0     0       Barium     ppm     ASTM D5185m     15     0     0     <1	Tin				-		
Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     50     0     0     0     0       Barium     ppm     ASTM D5185m     15     0     0     0     0       Manganese     ppm     ASTM D5185m     15     0     0     <1       Magnesium     ppm     ASTM D5185m     50     <1     0     10       Calcium     ppm     ASTM D5185m     50     <1     0     0     0       Magnesium     ppm     ASTM D5185m     50     1     <1     0     0       Calcium     ppm     ASTM D5185m     50     1     <1     0     0       Stifur     ppm     ASTM D5185m     12500     1085     1130     1006       CONTAMINANTS     method     limit/base     current     history1     history2       Stolium     ppm	Vanadium						
Boron     ppm     ASTM D5185m     50     0     0     0       Barium     ppm     ASTM D5185m     15     0     0     0       Molybdenum     ppm     ASTM D5185m     15     0     0     <1	Cadmium						
Barium     ppm     ASTM D5185m     15     0     0     0       Molybdenum     ppm     ASTM D5185m     15     0     0     <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     15     0     0     <1       Manganese     ppm     ASTM D5185m     50     <1	Boron	ppm	ASTM D5185m	50	0	0	0
Manganese     ppm     ASTM D5185m     <1     0     <1       Magnesium     ppm     ASTM D5185m     50     <1	Barium	ppm	ASTM D5185m	15	0	0	0
Magnesium     ppm     ASTM D5185m     50     <1     0     10       Calcium     ppm     ASTM D5185m     50     1     <1	Molybdenum	ppm	ASTM D5185m	15	0	0	<1
Calcium     ppm     ASTM D5185m     50     1     <1     0       Phosphorus     ppm     ASTM D5185m     350     434     451     489       Zinc     ppm     ASTM D5185m     100     0     0     7       Sulfur     ppm     ASTM D5185m     12500     1085     1130     1006       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >20     0     <1	Manganese	ppm	ASTM D5185m		<1	0	<1
Phosphorus     ppm     ASTM D5185m     350     434     451     489       Zinc     ppm     ASTM D5185m     100     0     0     7       Sulfur     ppm     ASTM D5185m     12500     1085     1130     1006       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >20     0     <1	Magnesium	ppm	ASTM D5185m	50	<1	0	10
Zinc     ppm     ASTM D5185m     100     0     0     7       Sulfur     ppm     ASTM D5185m     12500     1085     1130     1006       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >20     0     <1	Calcium	ppm	ASTM D5185m	50	1	<1	0
Sulfur     ppm     ASTM D5185m     12500     1085     1130     1006       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     >50     2     3     2       Potassium     ppm     ASTM D5185m     >20     0     <11     1       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >1300      183        Particles >6µm     ASTM D7647     >30      42        Particles >14µm     ASTM D7647     >80      3        Particles >21µm     ASTM D7647     >3      1	Phosphorus	ppm	ASTM D5185m	350	434	451	489
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>50232SodiumppmASTM D5185m>50232PotassiumppmASTM D5185m>200<1	Zinc	ppm	ASTM D5185m	100	0	0	7
Silicon     ppm     ASTM D5185m     >50     2     3     2       Sodium     ppm     ASTM D5185m     0     0     0     <1	Sulfur	ppm	ASTM D5185m	12500	1085	1130	1006
Sodium     ppm     ASTM D5185m     0     0     <1       Potassium     ppm     ASTM D5185m<>20     0     <1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium     ppm     ASTM D5185m     >20     0     <1     1       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >1300      183        Particles >6µm     ASTM D7647     >320      42        Particles >6µm     ASTM D7647     >80      6        Particles >14µm     ASTM D7647     >20      3        Particles >21µm     ASTM D7647     >20      3        Particles >38µm     ASTM D7647     >4      1        Particles >71µm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29 <	Silicon	ppm	ASTM D5185m	>50	2	3	2
FLUID CLEANLINESS   method   limit/base   current   history1   history2     Particles >4µm   ASTM D7647   >1300    183      Particles >6µm   ASTM D7647   >320    42      Particles >6µm   ASTM D7647   >80    6      Particles >14µm   ASTM D7647   >80    6      Particles >21µm   ASTM D7647   >20    3      Particles >21µm   ASTM D7647   >20    3      Particles >38µm   ASTM D7647   >4    1      Particles >71µm   ASTM D7647   >3    0      Oil Cleanliness   ISO 4406 (c)   >17/15/13    15/13/10      FLUID DEGRADATION   method   limit/base   current   history1   history2     Acid Number (AN)   mg KOH/g   ASTM D8045   0.85   0.37   0.34   0.29	Sodium	ppm	ASTM D5185m		0	0	<1
Particles >4μm     ASTM D7647     >1300      183        Particles >6μm     ASTM D7647     >320      42        Particles >14μm     ASTM D7647     >80      6        Particles >14μm     ASTM D7647     >80      6        Particles >21μm     ASTM D7647     >20      3        Particles >21μm     ASTM D7647     >4      3        Particles >38μm     ASTM D7647     >4      1        Particles >71μm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Potassium	ppm	ASTM D5185m	>20	0	<1	1
Particles >6µm     ASTM D7647     >320      42        Particles >14µm     ASTM D7647     >80      6        Particles >14µm     ASTM D7647     >20      3        Particles >21µm     ASTM D7647     >20      3        Particles >38µm     ASTM D7647     >4      1        Particles >38µm     ASTM D7647     >3      0        Particles >71µm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	FLUID CLEAN	LINESS	method	limit/base	current	history1	history2
Particles >14µm     ASTM D7647     >80      6        Particles >21µm     ASTM D7647     >20      3        Particles >21µm     ASTM D7647     >20      3        Particles >38µm     ASTM D7647     >4      1        Particles >71µm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >4µm		ASTM D7647	>1300		183	
Particles >21µm     ASTM D7647     >20      3        Particles >38µm     ASTM D7647     >4      1        Particles >38µm     ASTM D7647     >4      1        Particles >71µm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >6µm		ASTM D7647	>320		42	
Particles >38μm     ASTM D7647     >4      1        Particles >71μm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >14µm		ASTM D7647	>80		6	
Particles >71µm     ASTM D7647     >3      0        Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >21µm		ASTM D7647	>20		3	
Oil Cleanliness     ISO 4406 (c)     >17/15/13      15/13/10        FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >38µm		ASTM D7647	>4		1	
FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg KOH/g     ASTM D8045     0.85     0.37     0.34     0.29	Particles >71µm		ASTM D7647	>3		0	
Acid Number (AN) mg KOH/g ASTM D8045 0.85 0.37 0.34 0.29	Oil Cleanliness		ISO 4406 (c)	>17/15/13		15/13/10	
	FLUID DEGRAI		method	limit/base	current	history1	history2
:19:55) Rev: 1 Contact/Location: Service Manager - KRASPRM	Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	0.37	0.34	0.29
				Co	ntact/l ocation:	Service Manage	r - KRASPRM



# **OIL ANALYSIS REPORT**





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	🔺 MODER
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	A MODER	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	0.2%
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	311	305	309
SAMPLE IMAG	iES	method	limit/base	current	history1	history2
Color						
Bottom						

