

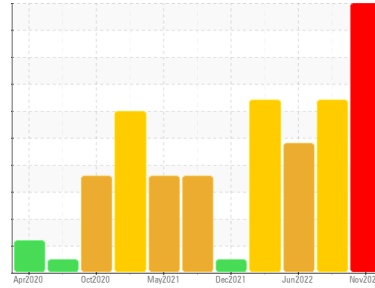
PROBLEM SUMMARY

Sample Rating Trend

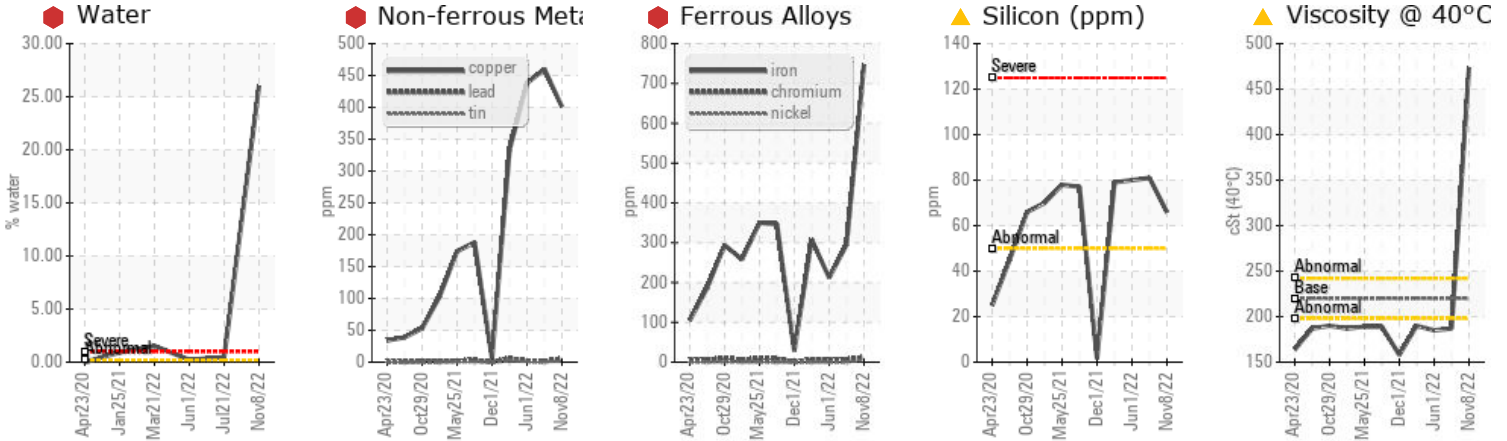
WEAR



Area
[97853728]
 Machine Id
KR-GR-002930 - GRINDER A1 (EAST) (S/N GRIND A - 11513021)
 Component
Gearbox
 Fluid
GEAR OIL ISO 220 (6 QTS)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>200	747	295	212
Aluminum	ppm	ASTM D5185m	>25	15	13	11
Copper	ppm	ASTM D5185m	>200	401	460	438
Silicon	ppm	ASTM D5185m	>50	66	81	80
Water	%	ASTM D6304	>0.2	26.0	0.473	0.219
ppm Water	ppm	ASTM D6304	>2000	260000	4730	2190
Appearance	scalar	*Visual	NORML	MILKY	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	0.2%	0.2%	0.2%
Free Water	scalar	*Visual		1.0	1.0	NEG
Visc @ 40°C	cSt	ASTM D445	220	473.3	187	185

Customer Id: KRAKIR
 Sample No.: PCA0081591
 Lab Number: 05690638
 Test Package: IND 1



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	MISSED	Feb 28 2023	?	We advise that you inspect for the source(s) of wear.
Change Fluid	MISSED	Feb 28 2023	?	We recommend that you drain the oil from the component if this has not already been done.
Resample	MISSED	Feb 28 2023	?	We recommend an early resample to monitor this condition.
Check Dirt Access	MISSED	Feb 28 2023	?	We advise that you check all areas where dirt can enter the system.
Check Water Access	MISSED	Feb 28 2023	?	We advise that you check for the source of water entry.

HISTORICAL DIAGNOSIS

21 Jul 2022 Diag: Don Baldrige

WATER



We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition. Bearing and/or gear wear is indicated. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a moderate concentration of water present in the oil. Free water present. The condition of the oil is acceptable for the time in service.

view report



01 Jun 2022 Diag: Jonathan Hester

WATER



No corrective action is recommended at this time. We recommend an early resample to monitor this condition. Bearing and/or gear wear is indicated. Elemental level of silicon (Si) above normal indicating ingress of seal material. There is a light concentration of water present in the oil. The condition of the oil is acceptable for the time in service.

view report



21 Mar 2022 Diag: Don Baldrige

WATER



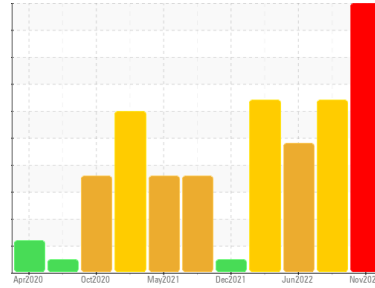
We advise that you check for the source of water entry. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. Resample at the next service interval to monitor. Bearing and/or gear wear is indicated. Elemental level of silicon (Si) above normal. There is a high concentration of water present in the oil. The condition of the oil is acceptable for the time in service.

view report



OIL ANALYSIS REPORT

Sample Rating Trend



Area
[97853728]
 Machine Id
KR-GR-002930 - GRINDER A1 (EAST) (S/N GRIND A - 11513021)
 Component
Gearbox
 Fluid
GEAR OIL ISO 220 (6 QTS)

DIAGNOSIS

Recommendation
 We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Wear
 Bearing and/or gear wear is indicated.

Contamination
 Appearance is milky. Free water present. There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
 Viscosity of sample indicates oil is within ISO 460 range, advise investigate. Confirm oil type. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PCA0081591	PCA0078676	PCA0074005
Sample Date	Client Info	08 Nov 2022	21 Jul 2022	01 Jun 2022
Machine Age	hrs	0	0	0
Oil Age	hrs	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		SEVERE	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >200	747	295	212
Chromium	ppm	ASTM D5185m >15	13	7	6
Nickel	ppm	ASTM D5185m >15	4	0	0
Titanium	ppm	ASTM D5185m	<1	<1	<1
Silver	ppm	ASTM D5185m	0	0	2
Aluminum	ppm	ASTM D5185m >25	15	13	11
Lead	ppm	ASTM D5185m >100	6	1	2
Copper	ppm	ASTM D5185m >200	401	460	438
Tin	ppm	ASTM D5185m >25	1	1	1
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m 50	24	0	8
Barium	ppm	ASTM D5185m 15	0	0	0
Molybdenum	ppm	ASTM D5185m 15	101	105	115
Manganese	ppm	ASTM D5185m	3	<1	<1
Magnesium	ppm	ASTM D5185m 50	2	0	0
Calcium	ppm	ASTM D5185m 50	21	2	3
Phosphorus	ppm	ASTM D5185m 350	534	650	623
Zinc	ppm	ASTM D5185m 100	264	268	240
Sulfur	ppm	ASTM D5185m 12500	15721	18582	15705

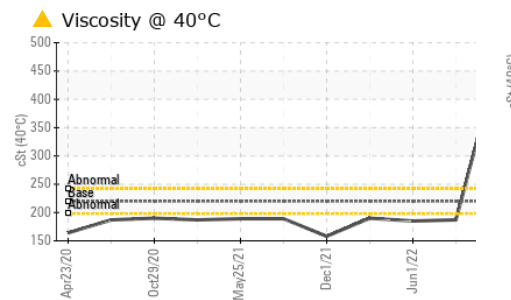
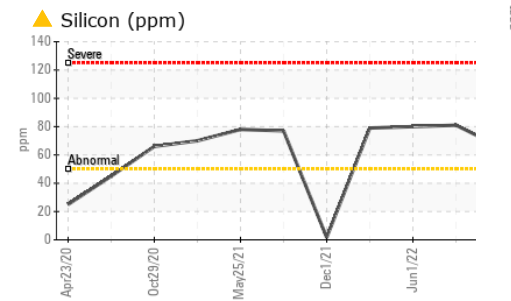
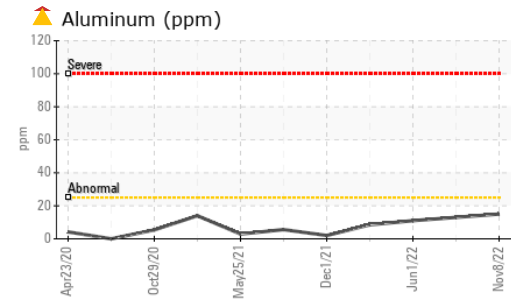
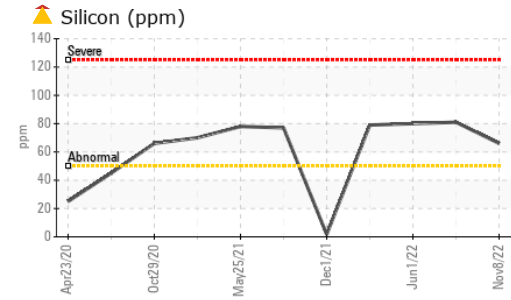
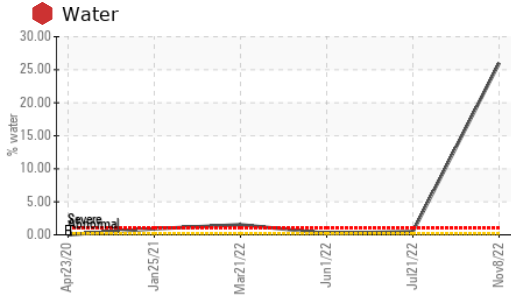
CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >50	66	81	80
Sodium	ppm	ASTM D5185m	2	0	0
Potassium	ppm	ASTM D5185m >20	1	0	0
Water	%	ASTM D6304 >0.2	26.0	0.473	0.219
ppm Water	ppm	ASTM D6304 >2000	260000	4730	2190

VISUAL

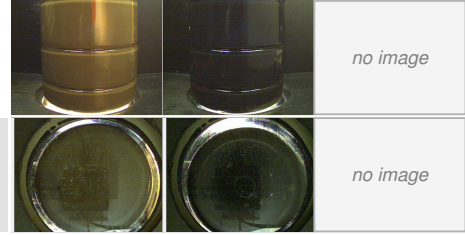
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White Metal	scalar	*Visual NONE	MODER	MODER	MODER
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	MODER
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	NONE	NONE	NONE
Appearance	scalar	*Visual NORML	MILKY	NORML	NORML
Odor	scalar	*Visual NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual >0.2	0.2%	0.2%	0.2%
Free Water	scalar	*Visual	1.0	1.0	NEG

OIL ANALYSIS REPORT

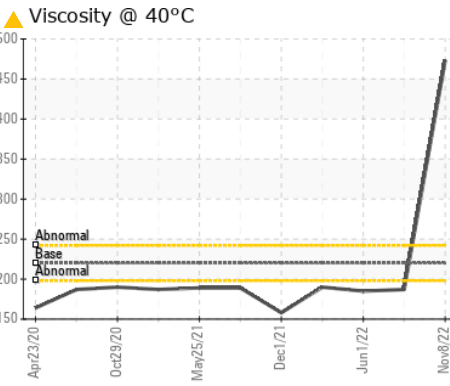
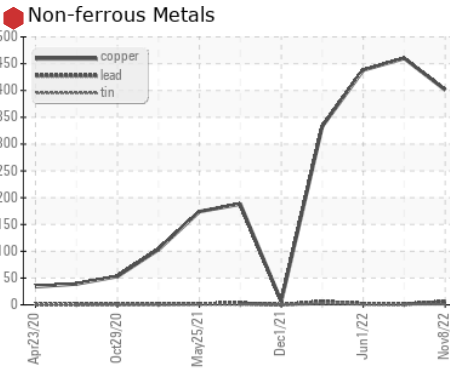
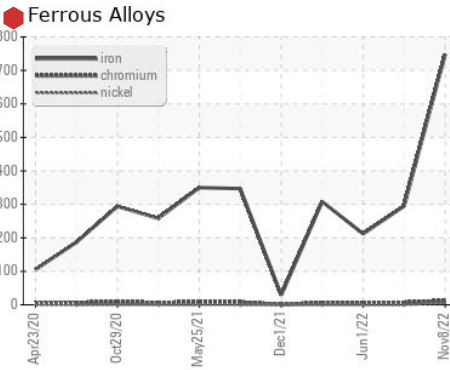


FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	220	▲ 473.3	187	185

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						no image
Bottom						no image



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0081591 **Received** : 10 Nov 2022
Lab Number : 05690638 **Diagnosed** : 15 Nov 2022
Unique Number : 10215211 **Diagnostician** : Jonathan Hester
Test Package : IND 1 (Additional Tests: KF)

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)

KraftHeinz - Kirksville - Plant 8333 PCA
 2504 INDUSTRIAL DR
 KIRKSVILLE, MO
 US 63501
 Contact: WALLACE WARD
 wallace.ward@kraftheinzcompany.com
 T: (660)627-1031
 F: (660)627-5887