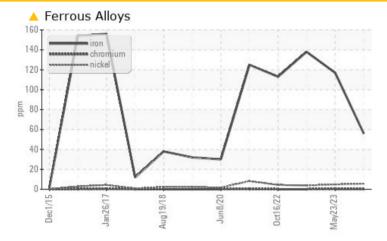


COMP 6-PO (S/N 056-00985)

Component Refrigeration Compressor Fluid FRICK COMPRESSOR OIL #3 (--- GAL)

COMPONENT CONDITION SUMMARY



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.

PROBLEMATIC TEST RESULTS								
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL		
Iron	ppm	ASTM D5185m	>8	<u> </u>	1 17	1 38		
Debris	scalar	*Visual	NONE	🔺 MODER	NONE	🔺 MODER		
Appearance	scalar	*Visual	NORML	🔺 HAZY	NORML	NORML		

Customer Id: TYSTRA Sample No.: USP0003504 Lab Number: 06016458 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Doug Bogart +1 (800)237-1369 x4016 <u>dougb@wearcheckusa.com</u>

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

RECOMMENDED ACTIONS					
Action	Status	Date	Done By	Description	
Change Filter			?	We recommend you service the filters on this component.	
Alert			?	We were unable to perform a particle count due to a high concentration of particles present in this sample.	

HISTORICAL DIAGNOSIS



23 May 2023 Diag: Doug Bogart

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. The iron level is abnormal. There is a high amount of visible silt present in the sample. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.



view report

01 Dec 2022 Diag: Doug Bogart



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. The iron level is abnormal. Moderate concentration of visible dirt/debris present in the oil. An increase in the AN level is noted. Confirmed. The AN level is acceptable for this fluid.

16 Oct 2022 Diag: Doug Bogart



Resample at the next service interval to monitor. The iron level is abnormal. There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.







OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

COMP 6-PO (S/N 056-00985)

Refrigeration Compressor

FRICK COMPRESSOR OIL #3 (--- GAL)

DIAGNOSIS

A 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

The iron level has decreased but is still abnormal.

Contamination

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

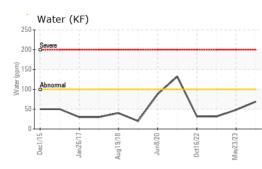
Fluid Condition

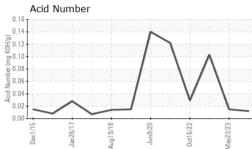
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

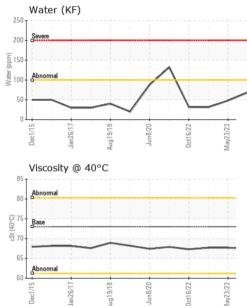
SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info USP0003504 USP249526 USP239418 Sample Date Client Info 12193 0 0 Oil Age hrs Client Info 0 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >8 56 117 138 Chromium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 1 2 2 Copper ppm ASTM D5185m >2 1 2 2 Copper ppm ASTM D5185m >2 1 2 2 Copper ppm			Dec2015	Jan2017 Aug2018	Jun2020 Oct2022 M	lay2023	
Sample Date Client Info 15 Nov 2023 23 May 2023 01 Dec 2022 Machine Age hrs Client Info 12193 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Client Info N/A N/A N/A ABNORMAL ABNORMAL WEAR METALS method Imitbase current history1 history2 Iron ppm ASTM 05185m >2 <1 <1 0 Nickel ppm ASTM 05185m >2 <1 <1 0 Silver ppm ASTM 05185m >2 <1 2 2 Copper ppm ASTM 05185m >2 <1 2 2 Vanadium ppm ASTM 05185m >2 <1 2 2 Addinium ppm ASTM 05185m 0 0 0 0 Adaminum ppm ASTM 05185m <1 0 0 0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 12193 0 0 Oil Age hrs Client Info N/A N/A N/A Sample Status Image N/A ABNORMAL ABNORMAL ABNORMAL ABNORMAL WEAR METALS method Imit/base current history! history! Iron ppm ASTM D5185m >8 56 117 138 Chromium ppm ASTM D5185m >2 <1	Sample Number		Client Info		USP0003504	USP249526	USP239418
Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >8 56 117 138 Chromium ppm ASTM D5185m >2 -1 -1 0 Nickel ppm ASTM D5185m >2 0 0 -1 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >3 2 0 -1 1 0 Silver ppm ASTM D5185m >2 -1 2 2 -1 1 -1 1 0 </td <td>Sample Date</td> <td></td> <td>Client Info</td> <td></td> <td>15 Nov 2023</td> <td>23 May 2023</td> <td>01 Dec 2022</td>	Sample Date		Client Info		15 Nov 2023	23 May 2023	01 Dec 2022
Oil Changed Mathematical Mathmater Mathmatrelase Mathmatical Mathematical Mathmatical Mathemat	Machine Age	hrs	Client Info		12193	0	0
Sample Status method Imit/base current history1 ABNORMAL ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185n >8 56 117 133 Chromium ppm ASTM D5185n >2 <1	Oil Age	hrs	Client Info		0	0	0
WEAR METALS metod limit/base current history1 history2 Iron ppm ASTM D5185m >8 56 117 138 Chromium ppm ASTM D5185m >2 <1	Oil Changed		Client Info		N/A	N/A	N/A
Iron ppm ASTM D5185m >8 56 117 138 Chromium ppm ASTM D5185m >2 <1 <1 0 Nickel ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 <1 <1 0 0 Adamatium ppm ASTM D5185m >2 <1 2 2 2 Copper ppm ASTM D5185m >8 5 4 4 Tin ppm ASTM D5185m >4 <1 3 3 2 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Garium ppm ASTM D5185m 1 1 0 0 Garium ppm ASTM D5185m 1	Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Dromium ppm ASTM D5185m >2 <1 <1 0 Nickel ppm ASTM D5185m 6 5 4 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m 6 5 4 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 1 2 2 Copper ppm ASTM D5185m >2 1 2 2 Copper ppm ASTM D5185m >4 4 4 Tin ppm ASTM D5185m >4 4 1 3 3 Vanadium ppm ASTM D5185m >4 <1	Iron	ppm	ASTM D5185m	>8	5 6	🔺 117	1 38
Titanium ppm ASTM D5185m <1 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >3 2 0 <1	Chromium	ppm	ASTM D5185m	>2	<1	<1	0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >3 2 0 <1	Nickel	ppm	ASTM D5185m		6	5	4
Aluminum ppm ASTM D5185m >3 2 0 <1 Lead ppm ASTM D5185m >2 <1	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead ppm ASTM D5185m >2 <1 2 2 Copper ppm ASTM D5185m >8 5 4 4 Tin ppm ASTM D5185m >8 5 4 4 Tin ppm ASTM D5185m >4 <1	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >8 5 4 4 Tin ppm ASTM D5185m >4 <1	Aluminum	ppm	ASTM D5185m	>3	2	0	<1
Tin ppm ASTM D5185m >4 <1 3 3 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m <1	Lead	ppm	ASTM D5185m	>2	<1	2	2
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>8	5	4	4
Cadmium ppm ASTM D5185m <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 0 0 Galdium ppm ASTM D5185m 0 1 1 0 0 Galdium ppm ASTM D5185m 0 1 3 3 3 Zinc ppm ASTM D5185m 0 1 3 3 3 Silicon ppm ASTM D5185m 22 2 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 2 Sodium <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>4</td> <td><1</td> <td>3</td> <td>3</td>	Tin	ppm	ASTM D5185m	>4	<1	3	3
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m <1	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m <1 0 0 0 Manganese ppm ASTM D5185m <1 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 0 Calcium ppm ASTM D5185m 0 1 1 0 0 Phosphorus ppm ASTM D5185m 0 1 3 3 Zinc ppm ASTM D5185m 0 0 2 2 Sulfur ppm ASTM D5185m 20 1 2 2 Sodium ppm ASTM D5185m >15 2 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Water % ASTM D6185m >20 0	Cadmium	ppm	ASTM D5185m		<1	<1	<1
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	0	0
Manganesse ppm ASTM D5185m <1 0 1 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 1 1 0 Phosphorus ppm ASTM D5185m 0 1 3 Zinc ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 1 1 0 Phosphorus ppm ASTM D5185m 0 1 3 Zinc ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D7647 >1000 Particles >4µm ASTM D7647 >2500 Particles >5µm ASTM D7647 220 <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <td><1</td> <td>0</td> <td>0</td>	Molybdenum	ppm	ASTM D5185m		<1	0	0
Calcium ppm ASTM D5185m 1 1 0 Phosphorus ppm ASTM D5185m 0 1 3 Zinc ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Water % ASTM D504 >0.01 0.006 0.004 0.003 ppm ASTM D7647 >1000 Particles >4µm ASTM D7647 >2500 Particles >4µm ASTM D7647 >20 Particles >14µm ASTM D7647 >20	Manganese	ppm	ASTM D5185m		<1	0	1
Phosphorus ppm ASTM D5185m 0 1 3 Zinc ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Vater % ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm ASTM D7647 >10000 Particles >4µm ASTM D7647 >200 Particles >14µm ASTM D7647 >20 Particl	Magnesium	ppm	ASTM D5185m		0	0	0
Zinc ppm ASTM D5185m 0 0 2 Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >4µm ASTM D7647 >2500 Particles >21µm ASTM D7647 >320	Calcium	ppm	ASTM D5185m		1	1	0
Sulfur ppm ASTM D5185m 42 0 55 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Potassium ppm ASTM D5185m >20 1 2 0 Water % ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 Particles >21µm ASTM D7647 >20 -	Phosphorus	ppm	ASTM D5185m		0	1	3
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 2 0 Potassium ppm ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >6µm ASTM D7647 >2500 Particles >1µm ASTM D7647 >320 Particles >21µm ASTM D7647 >80 Particles >38µm ASTM D7647 >20	Zinc	ppm	ASTM D5185m		0	0	2
Silicon ppm ASTM D5185m >15 2 2 2 Sodium ppm ASTM D5185m >20 1 <1	Sulfur	ppm	ASTM D5185m		42	0	55
Sodium ppm ASTM D5185m 0 <1 <1 Potassium ppm ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >6µm ASTM D7647 >2500 Particles >6µm ASTM D7647 >320 Particles >14µm ASTM D7647 >320 Particles >14µm ASTM D7647 >80 Particles >38µm ASTM D7647 >20 Particles >71µm ASTM D7647 >4 O	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 2 0 Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >6µm ASTM D7647 >2500 Particles >14µm ASTM D7647 >320 Particles >14µm ASTM D7647 >320 Particles >14µm ASTM D7647 >20 Particles >38µm ASTM D7647 >20 Particles >71µm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID	Silicon	ppm	ASTM D5185m	>15	2	2	2
Water % ASTM D6304 >0.01 0.006 0.004 0.003 ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >6µm ASTM D7647 >2500 Particles >14µm ASTM D7647 >320 Particles >21µm ASTM D7647 >80 Particles >38µm ASTM D7647 >20 Particles >71µm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		0	<1	<1
ppm Water ppm ASTM D6304 >100 69 48.2 31.5 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 Particles >6µm ASTM D7647 >2500 Particles >6µm ASTM D7647 >320 Particles >14µm ASTM D7647 >320 Particles >21µm ASTM D7647 >20 Particles >38µm ASTM D7647 >4 Particles >71µm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	1	2	0
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Particles >6μm ASTM D7647 >2500 Particles >6μm ASTM D7647 >320 Particles >14μm ASTM D7647 >320 Particles >21μm ASTM D7647 >320 Particles >21μm ASTM D7647 >80 Particles >38μm ASTM D7647 >20 Particles >71μm ASTM D7647 >4	Water	%	ASTM D6304	>0.01	0.006	0.004	0.003
Particles >4μm ASTM D7647 >10000 Particles >6μm ASTM D7647 >2500 Particles >14μm ASTM D7647 >320 Particles >14μm ASTM D7647 >320 Particles >21μm ASTM D7647 >80 Particles >21μm ASTM D7647 >20 Particles >38μm ASTM D7647 >20 Particles >71μm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	ppm Water	ppm	ASTM D6304	>100	69	48.2	31.5
Particles >6µm ASTM D7647 >2500 Particles >14µm ASTM D7647 >320 Particles >14µm ASTM D7647 >320 Particles >21µm ASTM D7647 >80 Particles >38µm ASTM D7647 >20 Particles >38µm ASTM D7647 >20 Particles >71µm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >14µm ASTM D7647 >320 Particles >21µm ASTM D7647 >80 Particles >38µm ASTM D7647 >20 Particles >38µm ASTM D7647 >20 Particles >71µm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>10000			
Particles >21μm ASTM D7647 >80 Particles >38μm ASTM D7647 >20 Particles >38μm ASTM D7647 >20 Particles >71μm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500			
Particles >38μm ASTM D7647 >20 Particles >71μm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >14µm		ASTM D7647	>320			
Particles >71μm ASTM D7647 >4 Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >21µm		ASTM D7647	>80			
Oil Cleanliness ISO 4406 (c) >20/18/15 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20			
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>4			
	Oil Cleanliness		ISO 4406 (c)	>20/18/15			
Acid Number (AN) mg KOH/g ASTM D974 0.012 0.015 ▲ 0.103	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974		0.012	0.015	▲ 0.103



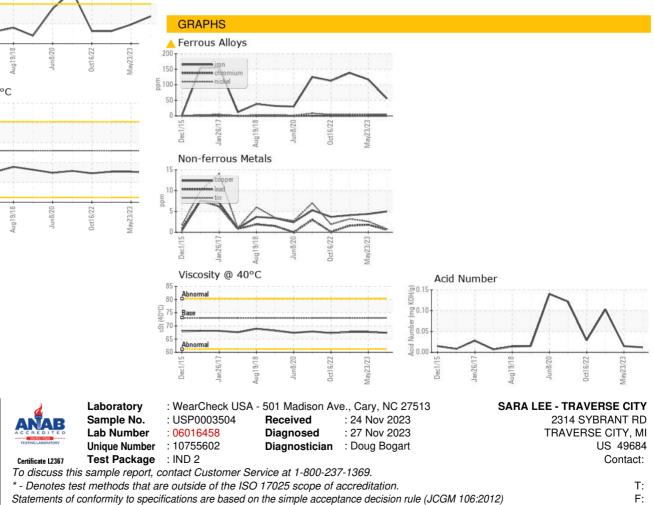
OIL ANALYSIS REPORT







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	A HEAVY	NONE
Debris	scalar	*Visual	NONE	A MODER	NONE	🔺 MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	🔺 HAZY	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	73	67.4	67.7	67.7
SAMPLE IMAGE	S	method	limit/base	current	history1	history2
Color				466-PO 400 400 400 400 400 400 400 400 400 40		1915 50 19228
Bottom						



Contact/Location: ? ? - TYSTRA Page 4 of 4