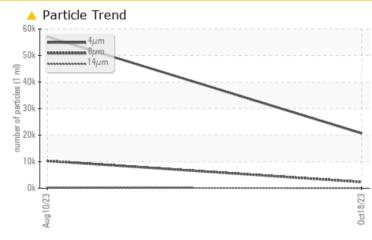


PROBLEM SUMMARY

Area Site Services - TEMTEMMD Machine Id N/A TM-465-315-501 #2 Allis Chalmers Compressor Motor Component Drive End Bearing

Fluid ESSO NUTO H ISO 32 (1000 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST	RESULTS				
Sample Status			ABNORMAL	SEVERE	
Particles >6µm	ASTM D7647	>320	<u> </u>	10296	
Oil Cleanliness	ISO 4406 (c)	>/15/13	A 22/18/12	23/21/15	

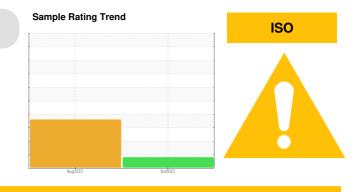
Customer Id: TEMTEMMD Sample No.: WC0836635 Lab Number: 02591028 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Kevin Marson +1 (289)291-4644 x4644 Kevin.Marson@wearcheck.com

To change component or sample information: Gloria Gonzalez +1 (289)291-4643 x4643 <u>gloria.gonzalez@wearcheck.com</u>



RECOMMENDED ACTIONS								
Action	Status	Date	Done By	Description				
Change Filter			?	We recommend you service the filters on this component.				
Resample			?	We recommend an early resample to monitor this condition.				

HISTORICAL DIAGNOSIS



10 Aug 2023 Diag: Kevin Marson

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use offline 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. Resample in 30-45 days to monitor this situation. Please note that this is a corrected copy for data entry updates. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using IND 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid.All component wear rates are normal. There is a high amount of particulates (2 to 100 microns in size) present in the oil. The water content is negligible. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.





OIL ANALYSIS REPORT

Area Site Services - TEMTEMMD Machine Id N/A TM-465-315-501 #2 Allis Chalmers Compressor Motor Component

Drive End Bearing

ESSO NUTO H ISO 32 (1000 LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

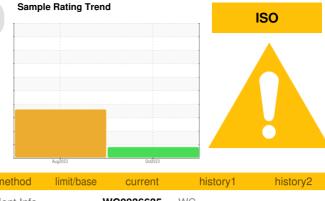
All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.



SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0836635	WC	
Sample Date		Client Info		18 Oct 2023	10 Aug 2023	
Machine Age	mths	Client Info		0	0	
Oil Age	mths	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				ABNORMAL	SEVERE	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	0	<1	
Chromium	ppm	ASTM D5185(m)	>20	0	0	
Nickel	ppm	ASTM D5185(m)	>20	0	0	
Titanium	ppm	ASTM D5185(m)		0	0	
Silver	ppm	ASTM D5185(m)		<1	0	
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	
Lead	ppm	ASTM D5185(m)	>20	<1	<1	
Copper	ppm	ASTM D5185(m)	>20	1	6	
Tin	ppm	ASTM D5185(m)	>20	<1	2	
Antimony	ppm	ASTM D5185(m)		0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	
Cadmium	ppm	ASTM D5185(m)		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<1	<1	
Barium	ppm	ASTM D5185(m)	0	<1	0	
Molybdenum	ppm	ASTM D5185(m)	0	0	0	
Manganese	ppm	ASTM D5185(m)		0	0	
Magnesium	ppm	ASTM D5185(m)	5	0	<1	
Calcium	ppm	ASTM D5185(m)	50	52	57	
Phosphorus	ppm	ASTM D5185(m)	330	351	360	
Zinc	ppm	ASTM D5185(m)	420	444	440	
Sulfur	ppm	ASTM D5185(m)	2700	4585	4487	
Lithium	ppm	ASTM D5185(m)		<1	<1	
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	0	0	
Sodium	ppm	ASTM D5185(m)		0	<1	
Potassium	ppm	ASTM D5185(m)	>20	0	<1	
Water						
	%	ASTM D6304*	>2	0.003	0.001	
ppm Water	% ppm	ASTM D6304* ASTM D6304*	>2	0.003 36.9	0.001 10.9	
ppm Water FLUID CLEANLIN	ppm		>2 limit/base			
	ppm	ASTM D6304*		36.9	10.9	
FLUID CLEANLIN	ppm	ASTM D6304* method	limit/base	36.9 current	10.9 history1	 history2
Particles >4µm	ppm	ASTM D6304* method ASTM D7647	limit/base	36.9 current 20646	10.9 history1 57082	 history2
FLUID CLEANLIN Particles >4μm Particles >6μm	ppm	ASTM D6304* method ASTM D7647 ASTM D7647	limit/base >320 >80	36.9 current 20646 ▲ 2348	10.9 history1 57082 10296	 history2
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm	ppm	ASTM D6304* method ASTM D7647 ASTM D7647 ASTM D7647	limit/base >320 >80	36.9 current 20646 ▲ 2348 27	10.9 history1 57082 ● 10296 ▲ 244	 history2
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm	ppm	ASTM D6304* method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >320 >80 >20 >4	36.9 current 20646 ▲ 2348 27 4	10.9 history1 57082 ● 10296 ▲ 244 ▲ 45	 history2
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm Particles >38μm	ppm	ASTM D6304* method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >320 >80 >20 >4	36.9 current 20646 ▲ 2348 27 4 0	10.9 history1 57082 ● 10296 ▲ 244 ▲ 45 1	 history2



OIL ANALYSIS REPORT

kT	FLUID DEGRAD	AHON	method	limit/base	current	history1	history
4µm 6µm 14µm	Acid Number (AN)	mg KOH/g	ASTM D974*	.40	0.50	0.47	
	VISUAL		method	limit/base	current	history1	history
	White Metal	scalar	Visual*	NONE	NONE	NONE	
	Yellow Metal	scalar	Visual*	NONE	NONE	NONE	
	Precipitate	scalar	Visual*	NONE	NONE	NONE	
223	Silt	scalar	Visual*	NONE	NONE	NONE	
Aug 10/23	Silt Debris	scalar	Visual*	NONE	NONE	NONE	
	Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	
Water (KF)	Appearance	scalar	Visual*	NORML	NORML	NORML	
0 + Severe	Odor	scalar	Visual*	NORML	NORML	NORML	
D -	Emulsified Water	scalar	Visual*	>2	NEG	NEG	
)+	Free Water	scalar	Visual*		NEG	NEG	
	FLUID PROPER	TIES	method	limit/base	current	history1	histor
Abnormal	Visc @ 40°C	cSt	ASTM D7279(m)	32.6	31.7	31.4	
Aug 10/23	SAMPLE IMAGE	S	method	limit/base	current	history1	histor
ہے۔ Acid Number	Color						no imag
Base	Bottom						no imag
	GRAPHS						
Aug 10/23	Ferrous Alloys			491,520	Particle Count		
A	iron						
Water (KF)	a. 5- chromium			122,880			
0 Servere				30,720			
0				S = 7,680			
0 -	Aug 10/23			0ct18/23 (per 1 ml) 056'1	7-		
9	∝ Non-ferrous Meta	le		Oct18/23 9articles (per 1 m)) 900'1			
	¹⁰ T				- A		
Abnormal	copper			120 120		<	
	ā 5-			≅ 30	+	\mathbf{i}	
Aug10/23				8	Sibrearmal		
Viscosity @ 40°C	0/23			2 2/23	Į		
	Aug10/23			0 0ct18/23			
Abnormal	Viscosity @ 40°C			4	µ 6µ Acid Number	14μ 21μ	38µ 7
	38 36 Abnormal			(^D H0.60			
Base	36 Anorma			(PH 0.60 NOX 0.40	Base		
	() 34 Base 32			ja 20 20	1		
Abnormal	30 Abnormal			0.20			
8				Ac. Ac.	0/23		
g 10/23	Aug ¹ 0/23			0ct18/23 A	Aug10/23		
	: 02591028	Received Diagnos Diagnost ests: KF	ed : 23 (ed : 25 (iician : Kev	Oct 2023 Oct 2023 vin Marson	F	Rayonier Advan 2.O.Box 6000, 33 Ter Contact: Ado niss.Elyaqoti@ra	B Kipawa F niscaming CA J0Z uniss El Ya

Contact/Location: Temboard - Adouniss El Yaqoti - TEMTEMMD