

OIL ANALYSIS REPORT

ORMAL



HLK STATION SERVICE XMFR

Component

Transformer Oil

ESSO VOLTESSO 35 (345 GAL)

Recommendation

Resample at the next service interval to monitor.

{not applicable}

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

Fluid Condition

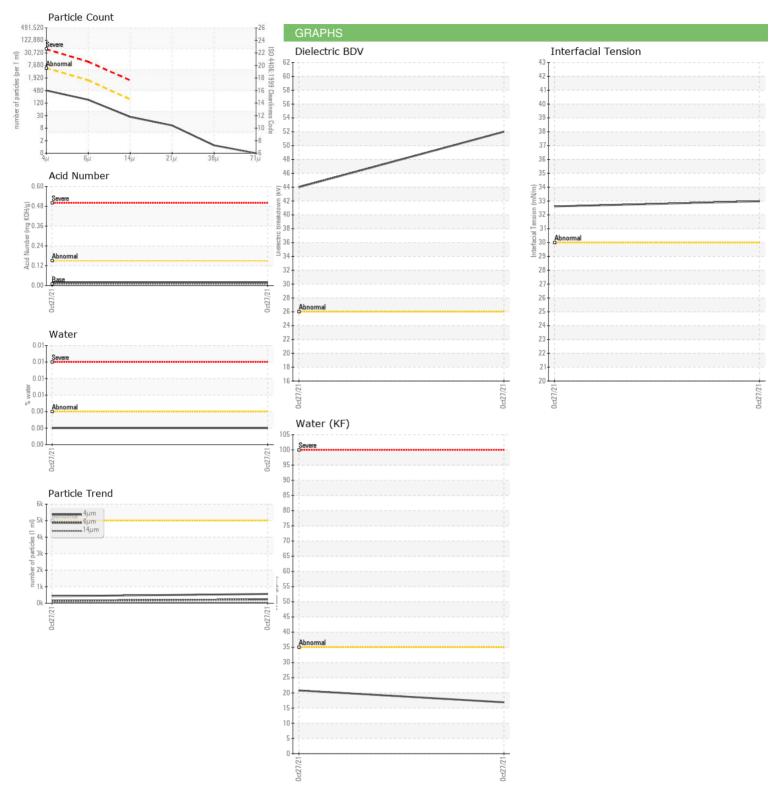
The AN level is acceptable for this fluid. The condition of the transformer oil is suitable for further service.

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0ct2021		

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0502017	WC0506216	
Sample Date		Client Info		27 Oct 2021	27 Oct 2021	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		0	0	
Oil Changed		Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINANTS	;	method	limit/base	current	history1	history2
Water	%	ASTM D6304*	>0.0035	0.002	0.002	
ppm Water	ppm	ASTM D6304*	>35	16.9	20.8	
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	427	561	
Particles >6µm		ASTM D7647	>1300	153	230	
Particles >14µm		ASTM D7647	>160	23	32	
Particles >21µm		ASTM D7647	>40	9	11	
Particles >38µm		ASTM D7647	>10	1	1	
Particles >71µm		ASTM D7647	>3	0	0	
Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/14/12	16/15/12	
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.01	0.02	0.02	
MOLIAL						
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	method Visual*	limit/base	current NONE	history1 NONE	history2
	scalar scalar					
White Metal		Visual*	NONE	NONE	NONE	
White Metal Yellow Metal	scalar	Visual* Visual*	NONE NONE	NONE NONE	NONE NONE	
White Metal Yellow Metal Precipitate	scalar scalar	Visual* Visual* Visual*	NONE NONE	NONE NONE	NONE NONE	
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	scalar scalar scalar	Visual* Visual* Visual* Visual*	NONE NONE NONE	NONE NONE NONE	NONE NONE NONE	
White Metal Yellow Metal Precipitate Silt Debris	scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual*	NONE NONE NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE NONE NONE NORML	
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual*	NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE NONE	
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	scalar scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual*	NONE NONE NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NONE NONE	NONE NONE NONE NONE NONE NONE NONE NORML	
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	scalar scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual*	NONE NONE NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NONE NONE NORML	NONE NONE NONE NONE NONE NONE NONE NORML	
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor FLUID PROPERT	scalar scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual*	NONE NONE NONE NONE NONE NONE NONE NORML NORML limit/base	NONE NONE NONE NONE NONE NONE NORML NORML CUrrent	NONE NONE NONE NONE NONE NONE NONE NORML NORML history1	 history2
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor FLUID PROPERT Specific Gravity	scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D4052(e)	NONE NONE NONE NONE NONE NONE NONE NORML NORML limit/base	NONE NONE NONE NONE NONE NONE NORML ORML Current	NONE NONE NONE NONE NONE NONE NORML NORML history1 0.862	 history2
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor FLUID PROPERT Specific Gravity Dielectric Breakdown	scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D4052(e) ASTM D3612(e)* ASTM D971(e)*	NONE NONE NONE NONE NONE NONE NORML NORML limit/base	NONE NONE NONE NONE NONE NONE NORML NORML Current 0.862 52	NONE NONE NONE NONE NONE NONE NONE NORML NORML history1 0.862 44	history2
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor FLUID PROPERT Specific Gravity Dielectric Breakdown Interfacial Tension	scalar scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D4052(e) ASTM D971(e)*	NONE NONE NONE NONE NONE NONE NORML NORML limit/base	NONE NONE NONE NONE NONE NONE NORML NORML Current 0.862 52 32.98	NONE NONE NONE NONE NONE NONE NONE NORML NORML history1 0.862 44 32.61	history2
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor FLUID PROPERT Specific Gravity Dielectric Breakdown Interfacial Tension ASTM Color	scalar scalar scalar scalar scalar scalar scalar	Visual* Visual* Visual* Visual* Visual* Visual* Visual* Visual* ASTM D4052(e) ASTM D3612(e)* ASTM D971(e)*	NONE NONE NONE NONE NONE NONE NORML NORML limit/base .877	NONE NONE NONE NONE NONE NONE NORML NORML Current 0.862 52 32.98 L2.0	NONE NONE NONE NONE NONE NONE NORML NORML NORML 0.862 44 32.61 L2.0	history2



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CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5591051

: WC0502017 : 02562010

Received

Diagnosed Diagnostician : Bill Quesnel Test Package : TRF 1 (Additional Tests: PrtCount)

: 05 Jun 2023 : 21 Jul 2023

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 NEWFOUNDLAND & LABRADOR HYDRO BAY D'ESPOIR WHSE,, 1 CAMP BOGGY RD., PO BOX 100 MILLTOWN, BAY D'ESPOIR, NL

CA A0H 1W0 Contact: Matthew Lambert matthewlambert@nlh.nl.ca T: (709)882-3126

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.