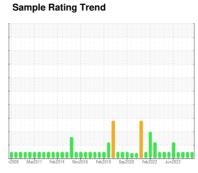


OIL ANALYSIS REPORT

LFC-1030-WP-01-WP001 [1980709] WP01SP02-1030 - WHEY SEPARATOR #2 (S/N 1695304)

Gearbox

{not provided} (2 GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

All component wear rates are normal.

Contamination

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

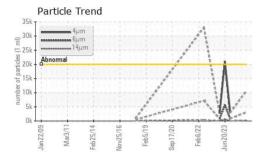
Fluid Condition

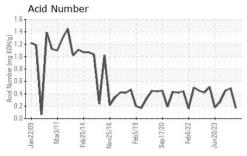
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

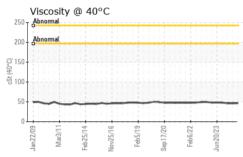
SAMPLE INFORMATION method limit/base current history1 history2							
Sample Date Client Info 28 May 2024 28 Feb 2024 05 Dec 2023 Machine Age hrs Client Info 0 0 0 0 Oil Age hrs Client Info N/A N/A N/A N/A Coll Changed Client Info N/A N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A N/A CONTAMINATION method Imititibase current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method Imititibase current history1 history2 Iron ppm ASTM 05185m >200 0 0 0 Iron ppm ASTM 05185m >10 0 0 0 Iron ppm ASTM 05185m 0 0 0 0 Iron ppm ASTM 05185m 20 0 <	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 Oil Age hrs Client Info 0 0 0 Oil Changed Client Info N/A N/A N/A Sample Status Image: Client Info N/A N/A N/A CONTAMINATION method Imitibase 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 0 0 Vickel ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m >25 0 <1	Sample Number		Client Info		WC0935403	WC0897651	WC0875136
Oil Age Oil Changed hrs Client Info N/A N/A N/A N/A Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL 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 0 0 Chromium ppm ASTM D5185m >200 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Lead ppm ASTM D5185m >25 0 <1	Sample Date		Client Info		28 May 2024	28 Feb 2024	05 Dec 2023
Oil Changed Sample Status Client Info N/A NORMAL NORMAL N/A NORMAL NORMAL N/A NORMAL NORMAL	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
Water WC Method O.22 NEG NEG NEG NEG	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 0 0 0 Chromium ppm ASTM D5185m >15 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >25 0 <1 0 Lead ppm ASTM D5185m >200 <1 <1 <1 Lead ppm ASTM D5185m >200 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>Sample Status</td> <td></td> <td></td> <td></td> <th>NORMAL</th> <td>NORMAL</td> <td>NORMAL</td>	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >200 0 0 0 0 Chromium ppm ASTM D5185m >15 0 0 0 0 Nickel ppm ASTM D5185m >15 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 0 Aluminum ppm ASTM D5185m >25 0 <1 0 0 Lead ppm ASTM D5185m >200 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <t< th=""><td>CONTAMINATIO</td><td>V</td><td>method</td><td>limit/base</td><th>current</th><td>history1</td><td>history2</td></t<>	CONTAMINATIO	V	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium ppm ASTM D5185m 15 0 0 0 Nickel ppm ASTM D5185m >15 0 <1 0 Titanium ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >25 0 <1 0 Lead ppm ASTM D5185m >200 <1 <1 <1 <1 Copper ppm ASTM D5185m >200 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	0	0	0
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 0 <1 0 Lead ppm ASTM D5185m >200 <1 <1 <1 Copper ppm ASTM D5185m >200 <1 <1 <1 Tin ppm ASTM D5185m >20 <1 <1 <1 <1 Cadmium ppm ASTM D5185m <1 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Chromium	ppm	ASTM D5185m	>15	0	0	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 0 <1	Nickel	ppm	ASTM D5185m	>15	0	<1	0
Aluminum ppm ASTM D5185m >25 0 <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >100 0 0 0 Copper ppm ASTM D5185m >200 <1	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >200 <1	Aluminum	ppm	ASTM D5185m	>25	0	<1	0
Tin	Lead	ppm	ASTM D5185m	>100	0	0	0
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>200	<1	<1	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 5 85 86 Phosphorus ppm ASTM D5185m 1177 288 271 Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 <1 Sodium ppm ASTM D5185m >2	Tin	ppm	ASTM D5185m	>25	0	0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 <1 0 Calcium ppm ASTM D5185m 5 85 86 Phosphorus ppm ASTM D5185m 117 288 271 Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 <1 Sodium ppm ASTM D5185m >20 </th <td>Vanadium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th><1</th> <td>0</td> <td><1</td>	Vanadium	ppm	ASTM D5185m		<1	0	<1
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 <1 0 Magnesium ppm ASTM D5185m <1 <1 0 Calcium ppm ASTM D5185m 5 85 86 Phosphorus ppm ASTM D5185m 117 288 271 Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 <1 Sodium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 5 85 86 Phosphorus ppm ASTM D5185m 117 288 271 Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 <1 Sodium ppm ASTM D5185m >50 <1 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >20000 10391 Particles >6µm ASTM D7647 >5000 3004 Particles >21µm ASTM D7647 >40 3	Manganese	ppm	ASTM D5185m		0	<1	0
Phosphorus ppm ASTM D5185m 117 288 271 Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 Sodium ppm ASTM D5185m >50 <1 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 10391 Particles >6μm ASTM D7647 >5000 3004 Particles >21μm ASTM D7647 >640 251 Particles >38μm ASTM D7647 >40 3	Magnesium	ppm	ASTM D5185m		<1	<1	0
Zinc ppm ASTM D5185m 84 310 300 Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 Sodium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 10391 Particles >6μm ASTM D7647 >5000 3004 Particles >14μm ASTM D7647 >640 251 Particles >21μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Calcium	ppm	ASTM D5185m		5	85	86
Sulfur ppm ASTM D5185m 1230 713 700 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 Sodium ppm ASTM D5185m >20 <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 10391 Particles >6μm ASTM D7647 >5000 3004 Particles >14μm ASTM D7647 >640 251 Particles >21μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Phosphorus	ppm	ASTM D5185m		117	288	271
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 <1 <1 <1 Sodium ppm ASTM D5185m <1 <1 3 Potassium ppm ASTM D5185m >20 <1 0 9 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 10391 Particles >6μm ASTM D7647 >5000 3004 Particles >1μm ASTM D7647 >640 251 Particles >21μm ASTM D7647 >160 52 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Zinc	ppm	ASTM D5185m		84	310	300
Silicon ppm ASTM D5185m >50 <1	Sulfur	ppm	ASTM D5185m		1230	713	700
Sodium ppm ASTM D5185m <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1	Silicon	ppm	ASTM D5185m	>50	<1	<1	<1
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >20000 10391 Particles >6μm ASTM D7647 >5000 3004 Particles >14μm ASTM D7647 >640 251 Particles >21μm ASTM D7647 >160 52 Particles >38μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Sodium	ppm	ASTM D5185m		<1	<1	3
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Potassium	ppm	ASTM D5185m	>20	<1	0	9
Particles >6μm ASTM D7647 >5000 3004 Particles >14μm ASTM D7647 >640 251 Particles >21μm ASTM D7647 >160 52 Particles >38μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Particles >4µm		ASTM D7647	>20000	10391		
Particles >21μm ASTM D7647 >160 52 Particles >38μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Particles >6µm		ASTM D7647	>5000	3004		
Particles >38μm ASTM D7647 >40 3 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Particles >14μm		ASTM D7647	>640	251		
Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Particles >21μm		ASTM D7647	>160	52		
Oil Cleanliness ISO 4406 (c) >21/19/16 21/19/15	Particles >38μm			>40			
()	Particles >71μm		ASTM D7647	>10	0		
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>21/19/16	21/19/15		
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2

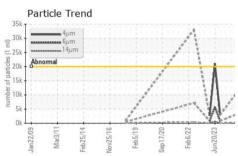


OIL ANALYSIS REPORT





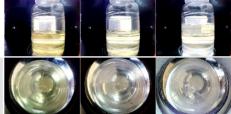


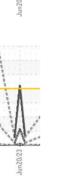


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIFS	method	limit/base	current	historv1	historv2

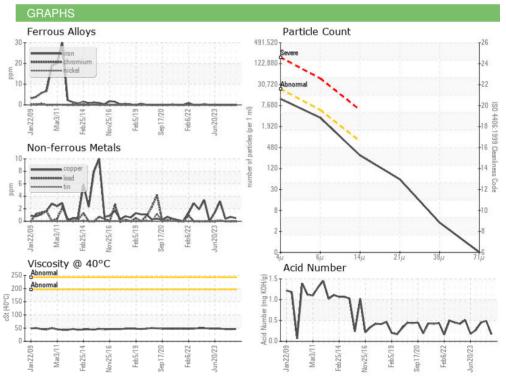
FLUID PROPE	N I I E O	method		riistory i	riistoryz
Visc @ 40°C	cSt	ASTM D445	46.5	46.1	46.1

SAIVII LL IIVIAGLS	memou	
Color		





Bottom







Certificate 12367

Laboratory

Sample No.

: WC0935403 Lab Number : 06196636 Unique Number : 11058759

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received : 31 May 2024 **Tested** Diagnosed

: 03 Jun 2024 : 03 Jun 2024 - Wes Davis

4700 RICH STREET ALLENDALE, MI US 49401

Contact: BILL FERRIER BFERRIER@LEPRINOFOODS.COM

LEPRINO FOODS - ALLENDALE

Test Package : IND 2 (Additional Tests: PrtCount) 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)

T:

F: