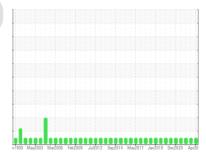


OIL ANALYSIS REPORT

BARRIER DEPARTMENT SAMPLES **REIFENHAUSER WEB 15 G**

Component **Gearbox**

TEXACO MEROPA 220 (10 GAL)



Sample Rating Trend



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

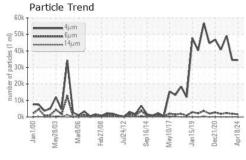
Fluid Condition

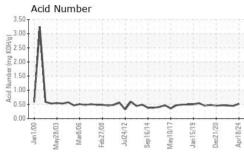
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

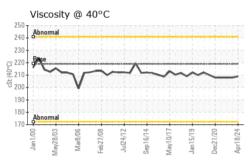
Sample Number Client Info WC0913466 WC0821050 WC082028 Sample Date Client Info 18 Apr 2024 20 Nov 2023 30 Oct 202 20 Nov 2023 30 Oct 202 30 Oct 202							
Sample Date Client Info 18 Apr 2024 20 Nov 2023 30 Oct 202	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		WC0913466	WC0821050	WC0692863
Oil Age hrs Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A CONTAMINATION method limit/base current history1 history1 WEAR METALS method limit/base current history1 hist	Sample Date		Client Info		18 Apr 2024	20 Nov 2023	30 Oct 2022
Oil Changed Status	Machine Age	hrs	Client Info		0	0	0
Sample Status	Oil Age	hrs	Client Info		0	0	0
Water WC Method So.2 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 history1 Iron ppm ASTM D5185m >200 7 7 7 7 Chromium ppm ASTM D5185m >15 0 <1	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >200 7 </th <th>CONTAMINATION</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATION		method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium ppm ASTM D5185m >15 0 <1 0 Nickel ppm ASTM D5185m >15 0 <1 0 Titanium ppm ASTM D5185m >15 0 <1 0 Silver ppm ASTM D5185m >25 <1 2 <1 Aluminum ppm ASTM D5185m >20 2 <1 2 <1 Lead ppm ASTM D5185m >20 2 2 2 <1 Copper ppm ASTM D5185m >200 2 2 2 2 Copper ppm ASTM D5185m >20 0 0 <1 Copper ppm ASTM D5185m >5 Tin ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0.5 0 0 0 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	7	7	7
Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>15	0	<1	0
Silver ppm ASTM D5185m <1 0 <1 Aluminum ppm ASTM D5185m >25 <1	Nickel	ppm	ASTM D5185m	>15	0	<1	0
Aluminum	Titanium	ppm	ASTM D5185m		0	<1	0
Lead ppm ASTM D5185m >100 0 <1 Copper ppm ASTM D5185m >200 2 2 2 2 Tin ppm ASTM D5185m >200 2 2 2 2 Antimony ppm ASTM D5185m >5 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0.5 0 0 0 Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 0.1 76 73 69 Manganese ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 0.1 59 <td>Silver</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th><1</th> <td>0</td> <td><1</td>	Silver	ppm	ASTM D5185m		<1	0	<1
Copper ppm ASTM D5185m >200 2 2 2 2 2 1 2 3 2 2	Aluminum	ppm	ASTM D5185m	>25	<1	2	<1
Tin	Lead	ppm	ASTM D5185m	>100	0	0	<1
Antimony ppm ASTM D5185m >5 0 0 0 ADDITVES method Imit/base current history1 history3 history4	Copper	ppm	ASTM D5185m	>200	2	2	2
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 3.2 6 4 7 Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 1.59 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1	Tin	ppm	ASTM D5185m	>25	0	0	<1
Cadmium ppm ASTM D5185m 0 <1 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 3.2 6 4 7 Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 76 73 69 Manganesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 1.59 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current <td< td=""><td>Antimony</td><td>ppm</td><td>ASTM D5185m</td><td>>5</td><th></th><td></td><td></td></td<>	Antimony	ppm	ASTM D5185m	>5			
ADDITIVES method limit/base current history1 history Boron ppm ASTM D5185m 3.2 6 4 7 Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 0 0 0 Magnesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 10.5 89 86 89 Sulfur ppm ASTM D5185m 10.342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m 2	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 3.2 6 4 7 Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 76 73 69 Manganesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m >50 2 3 2 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >20 <	Cadmium	ppm	ASTM D5185m		0	<1	0
Barium ppm ASTM D5185m 0.5 0 0 0 Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m 1.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 10.5 89 86 89 Sulfur ppm ASTM D5185m 10.342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m 2 0 <1 Potassium ppm ASTM D5185m 20 <	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 1.1 76 73 69 Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 20 <1 1 0 FLUID CLEANLINESS method limit/base	Boron	ppm	ASTM D5185m	3.2	6	4	7
Manganese ppm ASTM D5185m <1 0 0 Magnesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 20 <1 1 0 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4µm ASTM D7647 >5000 1665<	Barium	ppm	ASTM D5185m	0.5	0	0	0
Magnesium ppm ASTM D5185m 0.1 59 56 53 Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m >20 <1 1 0 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 >5000 1665 1898 2386 Particles >21μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >40 0 </td <td>Molybdenum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>1.1</td> <th>76</th> <td>73</td> <td>69</td>	Molybdenum	ppm	ASTM D5185m	1.1	76	73	69
Calcium ppm ASTM D5185m 1.6 21 19 19 Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m		<1	0	0
Phosphorus ppm ASTM D5185m 159 295 295 268 Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	0.1	59	56	53
Zinc ppm ASTM D5185m 0.5 89 86 89 Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 2 0 <1	Calcium	ppm	ASTM D5185m	1.6	21	19	19
Sulfur ppm ASTM D5185m 10342 14675 12858 13757 CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 2 0 <1	Phosphorus	ppm	ASTM D5185m	159	295	295	268
CONTAMINANTS method limit/base current history1 history Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 2 0 <1	Zinc	ppm	ASTM D5185m	0.5	89	86	89
Silicon ppm ASTM D5185m >50 2 3 2 Sodium ppm ASTM D5185m 2 0 <1	CIf				00		
Sodium ppm ASTM D5185m 2 0 <1	Sullur	ppm	ASTM D5185m	10342		12858	13757
Potassium ppm ASTM D5185m >20 <1 1 0 FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 34412 34512 49186 Particles >6μm ASTM D7647 >5000 1665 1898 2386 Particles >14μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0		ppm			14675		13757 history2
FLUID CLEANLINESS method limit/base current history1 history1 Particles >4μm ASTM D7647 34412 34512 49186 Particles >6μm ASTM D7647 >5000 1665 1898 2386 Particles >14μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS		method	limit/base	14675 current	history1	history2
Particles >4μm ASTM D7647 34412 34512 49186 Particles >6μm ASTM D7647 >5000 1665 1898 2386 Particles >14μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0	CONTAMINANTS	ppm	method ASTM D5185m	limit/base	14675 current	history1	history2
Particles >6μm ASTM D7647 >5000 1665 1898 2386 Particles >14μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS Silicon Sodium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base >50	14675 current 2 2	history1 3 0	history2 2 <1
Particles >14μm ASTM D7647 >640 63 61 39 Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >50 >20	14675 current 2 2 <1	history1 3 0 1	history2 2 <1
Particles >21μm ASTM D7647 >160 14 9 7 Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base >50 >20	14675 current 2 2 <1 current	history1 3 0 1 history1	history2 2 <1 0 history2
Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647	limit/base >50 >20 limit/base	14675	history1 3 0 1 history1 34512	history2 2 <1 0 history2 49186
Particles >38μm ASTM D7647 >40 0 0 0 Particles >71μm ASTM D7647 >10 0 0 0	CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647 ASTM D7647	limit/base >50 >20 limit/base >5000	14675	history1 3 0 1 history1 34512 1898	history2 2 <1 0 history2 49186 2386
	CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50	14675 current 2 2 <1 current 34412 1665 63	history1 3 0 1 history1 34512 1898 61	history2 2 <1 0 history2 49186 2386 39
	CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50	14675	history1 3 0 1 history1 34512 1898 61 9	history2 2 <1 0 history2 49186 2386 39 7
Oil Cleanliness ISO 4406 (c) >/19/16 22/18/13 22/18/13 23/18/12	CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm Particles >14µm Particles >21µm	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >50	14675 current 2 2 <1 current 34412 1665 63 14 0	history1 3 0 1 history1 34512 1898 61 9 0	history2 2 <1 0 history2 49186 2386 39 7 0

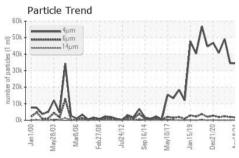


OIL ANALYSIS REPORT

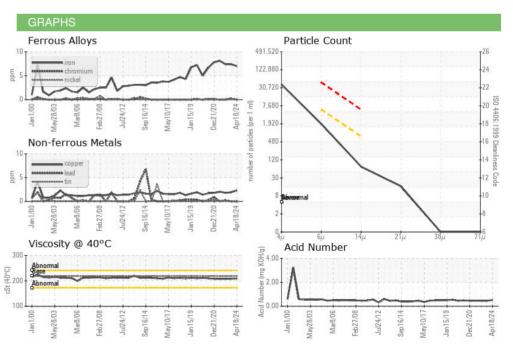








FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.52	0.45	0.46
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	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	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	219	209	208	208
SAMPLE IMAGES		method	limit/base	current	history1	history2







Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0913466 Lab Number : 06154326 Unique Number : 10989749

Color

Bottom

Received **Tested** Diagnosed

: 19 Apr 2024 : 23 Apr 2024 : 23 Apr 2024 - Angela Borella

SEALED AIR CORP - CRYOVAC DIVISION 1301 WEST MAGNOLIA AVE IOWA PARK, TX US 76367

Contact: KEVIN KETCHERSID kevin.a.ketchersid@sealedair.com

T: (940)592-2111 F: (940)592-2513

Test Package : IND 2 (Additional Tests: PrtCount) Certificate 12367 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)

Contact/Location: KEVIN KETCHERSID - CRYIOW