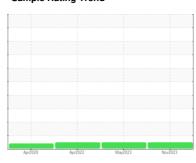


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **015-0068**

Component

1 Swing Drive

SCHAEFFER 267 80W90 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

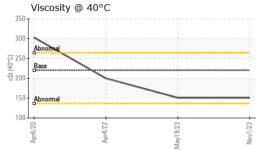
Fluid Condition

The condition of the oil is acceptable for the time in service.

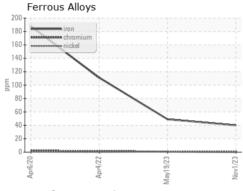
SAMPLE INFORMATION method limit/base current history1 history2			Apr202	0 Apr2022	May2023 N	ny2023	
Sample Number Client Info WC0868424 WC0815162 WC0548332 Sample Date Client Info O1 Nov 2023 19 May 2023 04 Apr 2022 04 Apr 2022 06 Apr 2022 06 Apr 2022 07 O O O O O O O O O O	SAMPLE INFORM	MATION	method			history1	history2
Client Info			Client Info				
Machine Age mths Client Info 0 0 0 Oil Age miths Client Info 0 0 0 0 Oil Changed Client Info Not Changd Not Changd <th>·</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	·						
Oil Age	•	mths					
Dil Changed Client Info Not Changd Not Changd NORMAL NORMAL					-		_
NORMAL NORMAL NORMAL NORMAL WEAR METALS method limit/base current history1 history2 history2 history2 limit history2 history3 history2 history3 history2 history3 history4 history5 history	•	111110			-		
	Sample Status						
Chromium ppm ASTM D5185m >10 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>400	40	49	111
Titanium	Chromium	ppm	ASTM D5185m	>10	<1	<1	1
Silver	Nickel	ppm	ASTM D5185m	>10	0	<1	0
Silver	Titanium		ASTM D5185m		0	<1	<1
Lead	Silver		ASTM D5185m		0	0	<1
Lead	Aluminum		ASTM D5185m	>25	2	<1	1
Copper ppm ASTM D5185m >200 <1	Lead				0		
Trin	Copper		ASTM D5185m	>200	<1	0	<1
Antimony	Tin						
Vanadium ppm ASTM D5185m 0 <1	Antimony		ASTM D5185m	>5			
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 35 51 149 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 376 400 397 Manganese ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <2 3 3 <1 <2 3 3 <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 <th>Vanadium</th> <th></th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th><1</th> <th>0</th>	Vanadium		ASTM D5185m		0	<1	0
Boron	Cadmium		ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 376 400 397 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		35	51	149
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m <1	Molybdenum	ppm	ASTM D5185m		376	400	397
Calcium ppm ASTM D5185m 12 20 31 Phosphorus ppm ASTM D5185m 732 871 1222 Zinc ppm ASTM D5185m 27 19 29 Sulfur ppm ASTM D5185m 16528 22350 18857 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m >20 <1 2 0 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE NONE </th <th>Manganese</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th><1</th> <th><1</th> <th><1</th>	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 732 871 1222 Zinc ppm ASTM D5185m 27 19 29 Sulfur ppm ASTM D5185m 16528 22350 18857 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m >20 <1 2 0 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	Magnesium	ppm	ASTM D5185m		<1	2	3
Zinc ppm ASTM D5185m 27 19 29 Sulfur ppm ASTM D5185m 16528 22350 18857 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m >50 8 11 1 Potassium ppm ASTM D5185m >20 <1 2 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER LIGHT 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 <	Calcium	ppm	ASTM D5185m		12	20	31
Sulfur ppm ASTM D5185m 16528 22350 18857 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m >50 8 11 1 Potassium ppm ASTM D5185m >20 <1 2 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER LIGHT 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 <td< th=""><th>Phosphorus</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>732</th><th>871</th><th>1222</th></td<>	Phosphorus	ppm	ASTM D5185m		732	871	1222
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m 1 <1 1 Potassium ppm ASTM D5185m >20 <1 2 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER LIGHT 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 NORML NORML NORML NORML Appearance scalar *Visual	Zinc	ppm	ASTM D5185m		27	19	29
Silicon ppm ASTM D5185m >50 8 11 8 Sodium ppm ASTM D5185m 1 <1	Sulfur	ppm	ASTM D5185m		16528	22350	18857
Sodium ppm ASTM D5185m 1 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 2 0 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance 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	Silicon	ppm	ASTM D5185m	>50	8	11	8
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER LIGHT 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	Sodium	ppm	ASTM D5185m		1	<1	1
White Metal scalar *Visual NONE NONE MODER LIGHT 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	Potassium	ppm	ASTM D5185m	>20	<1	2	0
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	VISUAL		method	limit/base	current	history1	history2
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	White Metal				_		
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	Yellow Metal						
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Precipitate	scalar					
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEG	Silt	scalar			NONE		NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Debris	scalar				NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Appearance	scalar	*Visual	NORML		NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG



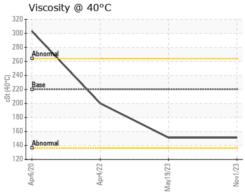
OIL ANALYSIS REPORT







Non-ferrous Metals







Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10728505 Test Package : CONST

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0868424 : 06000145

Received : 06 Nov 2023 Diagnosed Diagnostician : Doug Bogart

: 15 Nov 2023

SHIMMICK CONSTRUCTION

5535 TRAILHEAD DRIVE CHATTANOOGA, TN US 37415

Contact: DANIEL LISELLA

daniel.lisella@shimmick.com

T: F:

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)