WEAR CONTAMINATION **FLUID CONDITION**

NORMAL NORMAL NORMAL

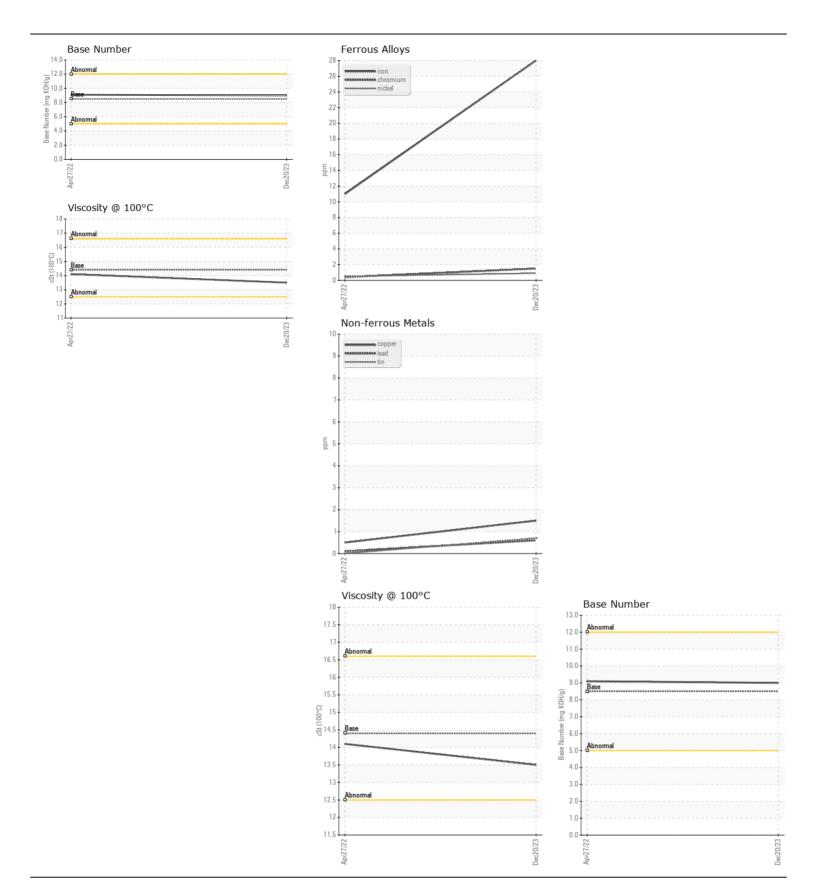
[16W15205]

Broce Broom KR350 409313

Component Diesel Engine

DIESEI ENGINE OII SAF 15W40 (13 OTS)

Recomment Hastory Ha	DIESEL ENGINE OIL SAE 15W40 (13 QTS)							
Resample at the next service interval to monitor. (Customer Sample Comment: 16W15205) Sample Date Client Info Sample Status Sa	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resemple at the next service interval to monitor. (Customer Sample Comment: 16W15205) Sample Date Machine Age hrs Cilient Info 300 171		Sample Number		Client Info				
Machine Ago hts Client Info 122 171								
Oil Age hrs Client Info 300 17-1 Filter Age hrs Client Info 300 17-1 Oil Changed Filter Changed Client Info Changed Chan			hrs					
Filter Age		•						
Oil Changed Client Info Changed Change								
Filter Changed Sample Status		•						
NORMAL N		•						
Iron						_	_	
All component wear rates are normal. Chromium ppm ASTM D5185m > 24 < 1 < 1 < 1								
Nicke	WEAR	Iron	ppm	ASTM D5185m	>100	28	11	
Titanium ppm ASTM D5185m < 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 < 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 < 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 < 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 < 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 < 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 < 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 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1 < 1	All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	2	<1	
Silver ppm		Nickel	ppm	ASTM D5185m	>4	<1	<1	
Aluminum ppm ASTM D5186m >20 7 2		Titanium	ppm	ASTM D5185m		<1	<1	
Lead ppm ASTM DS185m 340 <1		Silver	ppm	ASTM D5185m	>3	0	0	
Copper		Aluminum	ppm	ASTM D5185m	>20	7	2	
Copper		Lead	ppm	ASTM D5185m	>40	<1	<1	
Time Power ASTM 05185m >15 <1 0		Copper		ASTM D5185m	>330	2	<1	
White Metal Scalar *Visual NONE NO				ASTM D5185m	>15	<1	0	
Silicon ppm ASTM D5185m >25 19 4		Vanadium	ppm	ASTM D5185m		0	<1	
Potassium ppm ASTM D5185m >25 19 4		White Metal	scalar		NONE	NONE	NONE	
Silicon ppm ASTM D5185m >25 19 4		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium ppm ASTM D5185m >20 3 6								
Fuel WC Method So Color NEG NE	CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	19	4	
Water W.C. Method So.2 NEG NEG	There is no indication of any contamination in the oil.	Potassium	ppm	ASTM D5185m	>20	3	6	
Glycol Scot % % 'ASTM D7844 3 0.2		Fuel		WC Method	>5	<1.0	<1.0	
Soot %		Water		WC Method	>0.2	NEG	NEG	
Nitration		Glycol		WC Method		NEG	NEG	
Sulfation Abs/.fmm *ASTM D7415 >30 20.2 21.8		Soot %	%	*ASTM D7844	>3	0.2	0.2	
Silt Scalar *Visual NONE NO		Nitration	Abs/cm	*ASTM D7624	>20	7.4	6.8	
Debris Scalar *Visual NONE NORML N		Sulfation	Abs/.1mm	*ASTM D7415	>30	20.2	21.8	
Sand/Dirt Scalar *Visual NONE NONE NONE Appearance Scalar *Visual NORML NORM		Silt	scalar	*Visual	NONE	NONE	NONE	
Appearance Scalar *Visual NORML NORM		Debris	scalar	*Visual	NONE	NONE	NONE	
Odor Scalar *Visual NORML NORML		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Water scalar *Visual >0.2 NEG NEG		Appearance	scalar	*Visual	NORML	NORML	NORML	
Sodium ppm ASTM D5185m >158 0 2		Odor	scalar	*Visual	NORML	NORML	NORML	
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service. Boron ppm ASTM D5185m 250 257 187		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service. Boron ppm ASTM D5185m 250 257 187	ELUID CONDITION	0 "		AOTM DE CO	450			
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service. Barium ppm ASTM D5185m 100 220 15	FLUID CONDITION							
oil. The condition of the oil is acceptable for the time in service. Molybdenum ppm ASTM D5185m 100 220 15	, ,							
Molybdenum ppm ASIM D5185m 100 220 15 Manganese ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 450 719 98 Calcium ppm ASTM D5185m 3000 1434 2183 Phosphorus ppm ASTM D5185m 1150 803 1039 Zinc ppm ASTM D5185m 1350 1058 1282 Sulfur ppm ASTM D5185m 4250 3147 3135 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.4 Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1								
Magnesium ppm ASTM D5185m 450 719 98 Calcium ppm ASTM D5185m 3000 1434 2183 Phosphorus ppm ASTM D5185m 1150 803 1039 Zinc ppm ASTM D5185m 1350 1058 1282 Sulfur ppm ASTM D5185m 4250 3147 3135 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.4 Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1					100			
Calcium ppm ASTM D5185m 3000 1434 2183 Phosphorus ppm ASTM D5185m 1150 803 1039 Zinc ppm ASTM D5185m 1350 1058 1282 Sulfur ppm ASTM D5185m 4250 3147 3135 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.4 Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1					450			
Phosphorus ppm ASTM D5185m 1150 803 1039 Zinc ppm ASTM D5185m 1350 1058 1282 Sulfur ppm ASTM D5185m 4250 3147 3135 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.4 Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1		•						
Zinc ppm ASTM D5185m 1350 1058 1282 Sulfur ppm ASTM D5185m 4250 3147 3135 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.4 Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1								
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Base Number (BN) mg KOH/g ASTM D2896 8.5 9.0 9.1								
Visc @ 100°C cSt ASTM D445 14.4 13.5 14.1								
		Visc @ 100°C	cSt	ASTM D445	14.4	13.5	14.1	







Laboratory Sample No. Lab Number **Unique Number**

: JR0196204

: 06055162 : 10821111 Test Package : CONST (Additional Tests: TBN)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 09 Jan 2024 Diagnosed : 10 Jan 2024

Diagnostician : Sean Felton

Contact: RALEIGH SHOP sean.betts@jamesriverequipment.com;catherine.anastasio@wearcheck.com

T: (919)614-2260 F: (919)779-5432

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)

4161 AUBURN CHURCH RD

JRE - GARNER

GARNER, NC

US 27529