WEAR CONTAMINATION FLUID CONDITION **NORMAL NORMAL NORMAL**

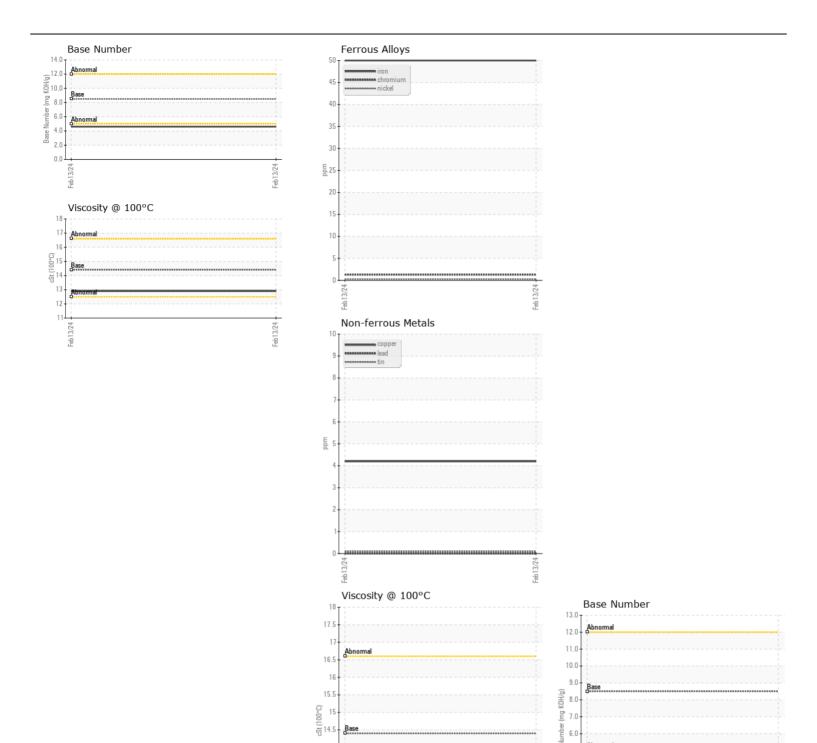
[W64342]

Hyundai (S/N HHKHK701HE0000378)

Rear Diesel Engine

DIESEL ENGINE OIL SAF 15W40 (6 GAL)

Recomment wear rates are normal.	DIESEL ENGINE OIL SAE 15W40 (6 GAL)							
Resample at the next service interval to monitor. (Customer Sample Comment. W94342) Sample Date Client Info Sample Date Client Info Sample Date Client Info Safe 2024	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. (Customer Sample Comment: W64342.) Sample Date Client Info 31 Feb 2024 .		Sample Number		Client Info		JR0203454		
Machine Age Instruction Sists		Sample Date				13 Feb 2024		
Oil Age hrs Client Info Oil Changed Filter Age hrs Client Info Oil Changed Cha			hrs	Client Info				
Filter Age Oil Changed Client Info Changed Changed Client Info Changed		•						
Oil Changed Client Info Changed Change								
Filter Changed Sample Status								
NORMAL N								
Iron		_				_		
All component wear rates are normal. Chromium ppm ASTM DSISS 4 41 Titanium ppm ASTM DSISS 54 51 Titanium ppm ASTM DSISS 54 51 All uminium ppm ASTM DSISS 52 4 All uminium ppm ASTM DSISS 52 51 ASTM DSISS 54 54 ASTM D								
All component wear rates are normal. Nicke	WEAR	Iron	ppm	ASTM D5185m	>100	50		
Titanium Dim ASTM 0588m 21	All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	1		
Silver ppm ASTM D5185m >20 4		Nickel	ppm	ASTM D5185m	>4	<1		
Aluminum ppm ASTM D5186m >20 4		Titanium	ppm	ASTM D5185m		1		
Lead ppm ASTM DS185m >40 0		Silver	ppm	ASTM D5185m	>3	0		
Copper		Aluminum	ppm	ASTM D5185m	>20	4		
Copper		Lead		ASTM D5185m	>40	0		
Time ppm ASTM D5185m >15 <1		Copper		ASTM D5185m	>330	4		
Vanadium ppm ASTM D5185m NONE NONE				ASTM D5185m	>15	<1		
White Metal Scalar Visual NONE NON		Vanadium				0		
Silicon ppm ASTM D5185m 2-2 7		White Metal			NONE	NONE		
Silicon ppm ASTM D5185m 2-2 7		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM 05185m >20 7								
Fuel WC Method So Sol Sol	CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	16		
Water W.C. Method So.2 NEG NEG		Potassium	ppm	ASTM D5185m	>20	7		
Glycol		Fuel		WC Method	>5	<1.0		
Soot %		Water		WC Method	>0.2	NEG		
Nitration		Glycol		WC Method		NEG		
Sulfation Abs/.tmm *ASTM D7415 >30 27.1 Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML		Soot %	%	*ASTM D7844	>3	0.5		
Silt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE		Nitration	Abs/cm	*ASTM D7624	>20	9.5		
Debris Scalar *Visual NONE NORML N		Sulfation	Abs/.1mm	*ASTM D7415	>30	27.1		
Sand/Dirt Scalar *Visual NONE NONE NORML Appearance Scalar *Visual NORML NOR		Silt	scalar	*Visual	NONE	NONE		
Appearance		Debris	scalar	*Visual	NONE	NONE		
Codor Scalar *Visual NORML NORML Emulsified Water Scalar *Visual NORML NOR		Sand/Dirt	scalar	*Visual	NONE	NONE		
Emulsified Water scalar *Visual >0.2 NEG		Appearance	scalar	*Visual	NORML	NORML		
Sodium ppm ASTM D5185m >158 0		Odor	scalar	*Visual	NORML	NORML		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Boron ppm ASTM D5185m 250 80 Mary D5185m 10 12 Manganese ppm ASTM D5185m 100 100 Manganese ppm ASTM D5185m 450 407 Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6		Emulsified Water	scalar	*Visual	>0.2	NEG		
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Boron ppm ASTM D5185m 250 80 Mary D5185m 10 12 Manganese ppm ASTM D5185m 100 100 Manganese ppm ASTM D5185m 450 407 Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6								
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service. Barium ppm ASTM D5185m 100 100	FLUID CONDITION		ppm					
oil. The condition of the oil is suitable for further service. Molybdenum ppm ASTM D5185m 100 100 Manganese ppm ASTM D5185m 450 407 Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6	The RN result indicates that there is suitable alkalinity remaining in the		ppm					
Molybdenum ppm ASTM D5185m 100 100 Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 450 407 Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6	, ,		• •					
Magnesium ppm ASTM D5185m 450 407 Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6			ppm		100			
Calcium ppm ASTM D5185m 3000 1469 Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6			ppm					
Phosphorus ppm ASTM D5185m 1150 1096 Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6		•						
Zinc ppm ASTM D5185m 1350 1303 Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6								
Sulfur ppm ASTM D5185m 4250 3431 Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6								
Oxidation Abs/.1mm *ASTM D7414 >25 22.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6								
Base Number (BN) mg KOH/g ASTM D2896 8.5 4.6								
Visc @ 100°C cSt ASTM D445 14.4 12.9								
		Visc @ 100°C	cSt	ASTM D445	14.4	12.9		







Laboratory Sample No.

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

: JR0203454 Lab Number : 06088637 Unique Number : 10876082

13.

12.

11.5 Feb13/24

Tested

Received : 14 Feb 2024 : 15 Feb 2024 Diagnosed

: 15 Feb 2024 - Sean Felton

5.0

JRE - CHARLOTTE 9550 STATESVILLE ROAD CHARLOTTE, NC

US 28269 Contact: CHARLOTTE SHOP

myoung@jamesriverequipment.com

T: (704)597-0211 F: (704)596-6198

Test Package : CONST (Additional Tests: TBN) 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)