

OIL ANALYSIS REPORT

Area MINING ME-601 JOHN DEERE 944K 1DW944KSCNL703678

Diesel Engine

Fluid SHELL RIMULA SUPER SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

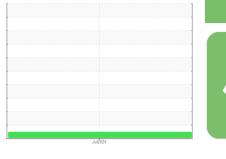
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



Sample Rating Trend



NORMAL

SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0944248		
Sample Date		Client Info		01 Jul 2024		
Machine Age	hrs	Client Info		9364		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	<1.0		
Water		WC Method	>0.21	NEG		
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>51	22		
Chromium	ppm	ASTM D5185m	>11	0		
Nickel	ppm	ASTM D5185m	>5	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>31	4		
Lead	ppm	ASTM D5185m	>26	5		
Copper	ppm	ASTM D5185m	>26	10		
Tin	ppm	ASTM D5185m	>4	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES	1-1-	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		129		
Doron		AGTIVI DJTOJITI		129		
Barium		ASTM D5185m		0		
Barium	ppm	ASTM D5185m		0		
Molybdenum	ppm ppm	ASTM D5185m		32		
Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m		32 <1		
Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2840	32 <1 120		
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2840	32 <1 120 2178		
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150	32 <1 120 2178 1007		
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		32 <1 120 2178		
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270	32 <1 120 2178 1007 1157	 	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base	32 <1 120 2178 1007 1157 4194 current	 history1	 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22	32 <1 120 2178 1007 1157 4194 current 3	 history1 	 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31	32 <1 120 2178 1007 1157 4194 current 3 4	 history1 	 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31 >20	32 <1 120 2178 1007 1157 4194 current 3 4 9	 history1 	 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31 >20 limit/base	32 <1 120 2178 1007 1157 4194 current 3 4 9 current	 history1 history1	 history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31 >20 limit/base >3	32 <1 120 2178 1007 1157 4194 current 3 4 9 current 0.3	 history1 history1 history1	 history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31 >20 limit/base >3 >20	32 <1 120 2178 1007 1157 4194 <u>current</u> 3 4 9 <u>current</u> 0.3 7.0	 history1 history1 history1	 history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	1150 1270 2829 limit/base >22 >31 >20 limit/base >3	32 <1 120 2178 1007 1157 4194 current 3 4 9 current 0.3	 history1 history1 history1	 history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1150 1270 2829 limit/base >22 >31 >20 limit/base >3 >20	32 <1 120 2178 1007 1157 4194 <i>current</i> 3 4 9 <i>current</i> 0.3 7.0 21.7 <i>current</i>	 history1 history1 history1	 history2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	1150 1270 2829 limit/base >22 >31 >20 limit/base >3 >20 >3 >20	32 <1 120 2178 1007 1157 4194 current 3 4 9 current 0.3 7.0 21.7	 history1 history1 history1	 history2 history2 history2



35

30

12.0 Base

(b/HOX gm) radmuV asse 6 4 5 8.0 6.0 Ab S 0.0 Jul1/24

> 19. 18. Abnormal

> 13 Abnormal 12 11 Jul1/24

OIL ANALYSIS REPORT

T-IR (Direct Trend)		VISUAL		method	limit/base	current	history1	history2
Oxidation Nitration		White Metal	scalar	*Visual	NONE	NONE		
tononnam Sulfation		Yellow Metal	scalar	*Visual	NONE	NONE		
		Precipitate	scalar	*Visual	NONE	NONE		
		Silt	scalar	*Visual	NONE	NONE		
		Debris	scalar	*Visual	NONE	NONE		
		Sand/Dirt	scalar	*Visual	NONE	NONE		
- \ \ -	Jul1/24	Appearance	scalar	*Visual	NORML	NORML		
	٦٢	Odor	scalar	*Visual	NORML	NORML		
Base Number		Emulsified Water	scalar	*Visual	>0.21	NEG		
Base		Free Water	scalar	*Visual		NEG		
		FLUID PROPER	TIES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445		14.0		
Abnormal		GRAPHS			1010			
Severe		Ferrous Alloys						
		²⁵ T						
++771000	V Cr	iron						
5	-	20 - nickel						
(ii'		15-						
/iscosity @ 100°C								
Abnormal		10						
		5-						
Base		0						
1		∩+24/1luL		***********************	Jul1/24			
Abnormal					Jul			
		Non-ferrous Meta	ls					
+7/IIInc	V LI	10 copper			-			
~	2	8 - sessesses lead						
		6- 8-						
		4						
		2 -						
		0						
		11/24			11/24			
		Jal			Jul			
		Viscosity @ 100°C	2			Base Number		
		19			12.0	T		
		18 - Abnormal			10.0	Base		
		17			(B/HO) 8.0			
		Co ¹⁶ Base 0015 to 15			Buj			
		53 14			ы 6.0 	Abnormal		
		12			N 4.0)		
		13 Abnormal			2.0	Severe		
		12			0.0			
		Jul1/24			Jul1/24	Jul1/24		Jul1/24 -
		lut			Jul	Jul		Jult
	h a wata wa	: WearCheck USA - 50	1 Madiso	n Ave Carv	NC 27513		COVIA - (OREGON - 004
la	IDOratory							
	boratory	: WC0944248	Recei		5 Jul 2024	144		KBONE ROAD
	ample No. Ib Number			ived :15 ed :18			6 DEVILS BAC	

Test Package : CONST (Additional Tests: TBN) Certificate L2367 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)

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