**WEAR** CONTAMINATION **FLUID CONDITION** 

**NORMAL ABNORMAL NORMAL** 

Machine Id

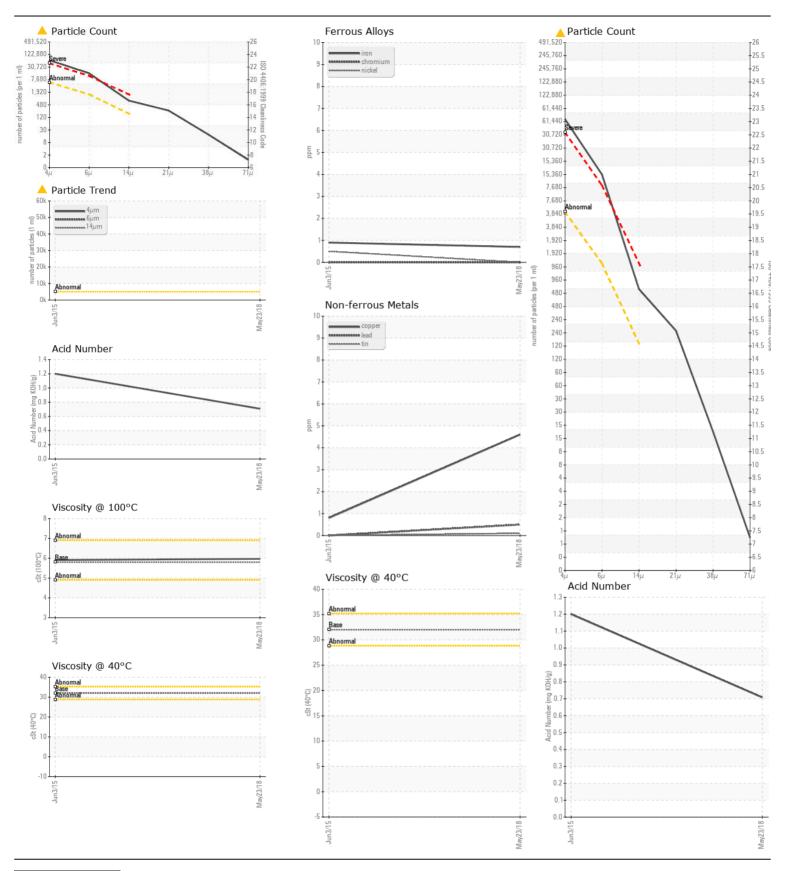
## **HYDRAULIC SHEAR**

**OIL ANALYSIS REPORT** 

Hydraulic System

TRC HYDRAULIC OIL ISO 32- SAF10W (60 GAL)

Sample Number Sample Date Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	mths mths mths mths mths	Client Info ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	TR04494887 23 May 2018 0 12 12 N/A N/A ABNORMAL <1 0 0	TR03763580 03 Jun 2015 12 12 12 12 Not Changd Not Changd ABNORMAL <1 0 <1	
Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info Client Info ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	0 12 12 N/A N/A ABNORMAL <1 0	12 12 12 Not Changd Not Changd ABNORMAL <1 0	
Oil Age Filter Age Oil Changed Filter Changed Sample Status  Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm ppm	Client Info Client Info Client Info Client Info ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	12 12 N/A N/A ABNORMAL <1 0	12 12 Not Changd Not Changd ABNORMAL <1 0	
Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm ppm ppm	Client Info Client Info Client Info ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	12 N/A N/A ABNORMAL <1 0	12 Not Changd Not Changd ABNORMAL <1 0	
Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm ppm	Client Info Client Info ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	N/A N/A ABNORMAL <1 0	Not Changd Not Changd ABNORMAL <1 0	
Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	N/A ABNORMAL <1 0	Not Changd ABNORMAL <1 0	
Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	ABNORMAL <1 0	ABNORMAL <1 0	
Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	<1 0	<1 0	
Chromium Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	-	0	0	
Nickel Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	>10		1	
Titanium Silver Aluminum Lead Copper Tin	ppm ppm ppm	ASTM D5185m ASTM D5185m		0	<i>_</i> 1	
Silver Aluminum Lead Copper Tin	ppm ppm	ASTM D5185m			<u> </u>	
Silver Aluminum Lead Copper Tin	ppm ppm	ASTM D5185m		<1	0	
Aluminum Lead Copper Tin	ppm			<1	0	
Lead Copper Tin		ASTM D5185m	>10	<1	0	
Copper Tin		ASTM D5185m		<1	0	
Tin	ppm	ASTM D5185m		5	<1	
	ppm	ASTM D5185m		<1	0	
Vanadium	ppm	ASTM D5185m	>10	0	0	
			NONE	-	1	
reliow Metal	Scalai	VISUAI	NONE	INOINE	INOINE	
Silicon	ppm	ASTM D5185m	>20	3	2	
Potassium	ppm	ASTM D5185m	>20	0	4	
Water		WC Method	>0.1	NEG	NEG	
Particles >4µm		ASTM D7647	>5000	<b>56743</b>		
Particles >6µm		ASTM D7647	>1300	<b>13276</b>		
Particles >14μm		ASTM D7647	>160	<b>664</b>		
Particles >21µm		ASTM D7647	>40	<b>223</b>		
Particles >38µm		ASTM D7647	>10	<b>1</b> 6		
Particles >71µm		ASTM D7647	>3	1		
Oil Cleanliness		ISO 4406 (c)	>19/17/14	<b>23/21/17</b>		
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	LIGHT	▲ HEAVY	
Sand/Dirt	scalar	*Visual		NONE	NONE	
Appearance	scalar	*Visual		NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	
Sodium	nnm	ASTM D5185m		<i>-</i> 1	<i>z</i> 1	
					1	
					1	
_						
•					1	
			1000			
			1000			
			- 0	0.708 5.97		
	Potassium Water Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness Silt Debris Sand/Dirt Appearance Odor	Yellow Metal       scalar         Silicon       ppm         Potassium       ppm         Water       Particles >4µm         Particles >56µm       Particles >14µm         Particles >21µm       Particles >38µm         Particles >71µm       Oil Cleanliness         Silt       scalar         Debris       scalar         Sand/Dirt       scalar         Appearance       scalar         Godor       scalar         Emulsified Water       scalar         Sodium       ppm         Boron       ppm         Barium       ppm         Molybdenum       ppm         Magnesium       ppm         Calcium       ppm         Phosphorus       ppm         Sulfur       ppm         Acid Number (AN)       mg KOH/g	Yellow Metalscalar*VisualSiliconppmASTM D5185mPotassiumppmASTM D5185mWaterWC MethodParticles >4µmASTM D7647Particles >54µmASTM D7647Particles >21µmASTM D7647Particles >38µmASTM D7647Particles >71µmASTM D7647Oil CleanlinessISO 4406 (c)Siltscalar*VisualDebrisscalar*VisualSand/Dirtscalar*VisualAppearancescalar*VisualOdorscalar*VisualEmulsified Waterscalar*VisualSodiumppmASTM D5185mBoronppmASTM D5185mBariumppmASTM D5185mManganeseppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mSulfurppmASTM D5185mAcid Number (AN)mg KOH/gASTM D5185mASTM D5185mASTM D5185m	Yellow Metalscalar*VisualNONESiliconppmASTM D5185m>20PotassiumppmASTM D5185m>20WaterWC Method>0.1Particles >4µmASTM D7647>5000Particles >6µmASTM D7647>1300Particles >14µmASTM D7647>160Particles >21µmASTM D7647>40Particles >38µmASTM D7647>10Particles >71µmASTM D7647>3Oil CleanlinessISO 4406 (c)>19/17/14Siltscalar*VisualNONESand/Dirtscalar*VisualNONEAppearancescalar*VisualNORMLOdorscalar*VisualNORMLEmulsified Waterscalar*VisualNORMLSodiumppmASTM D5185mBoronppmASTM D5185mBariumppmASTM D5185mMolybdenumppmASTM D5185mMagnesiumppmASTM D5185mCalciumppmASTM D5185mPhosphorusppmASTM D5185mZincppmASTM D5185mAcid Number (AN)mg KOH/gASTM D5185m	Yellow Metal         scalar         *Visual         NONE         NONE           Silicon         ppm         ASTM D5185m         >20         3           Potassium         ppm         ASTM D5185m         >20         0           Water         WC Method         >0.1         NEG           Particles >4μm         ASTM D7647         >5000         ▲ 56743           Particles >54μm         ASTM D7647         >1300         ▲ 13276           Particles >21μm         ASTM D7647         >160         ▲ 664           Particles >38μm         ASTM D7647         >40         ▲ 223           Particles >71μm         ASTM D7647         >10         ▲ 16           Particles >71μm         ASTM D7647         >3         1           Oil Cleanliness         ISO 4406 (c)         >19/17/14         ▲ 23/21/17           Silt         scalar         *Visual         NONE         NONE           Debris         scalar         *Visual         NONE         NONE           Sand/Dirt         scalar         *Visual         NORML         NORML           Appearance         scalar         *Visual         NORML         NORML           Codor         scalar         *Visual	Yellow Metal         scalar         *Visual         NONE         NONE           Silicon         ppm         ASTM D5185m         >20         3         2           Potassium         ppm         ASTM D5185m         >20         0         4           Water         WC Method         >0.1         NEG         NEG           Particles >4µm         ASTM D7647         >5000         56743            Particles >6µm         ASTM D7647         >1300         13276            Particles >6µm         ASTM D7647         >160         664            Particles >21µm         ASTM D7647         >40         223            Particles >38µm         ASTM D7647         >10         16            Particles >71µm         ASTM D7647         >3         1            Particles >71µm         ASTM D7647         >3         1            Particles >71µm         ASTM D7647         >3         1            Oil Cleanliness         ISO 4406 (c)         19/17/14         23/21/17            Silt         scalar         *Visual         NONE         NONE         NONE





Certificate L2367

Laboratory Sample No. Lab Number

: TR04494887 : 04494887 Unique Number : 8238681

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Jun 2018 **Tested** : 21 Jun 2018 : 21 Jun 2018 - Don Baldridge

Diagnosed Test Package : MOB 2 ( Additional Tests: KV100 )

To discuss this sample report, contact Customer Service at 1-800-827-0711.

\* - 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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US 90021

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