

## [W45968] Machine Id HITACHI 350LC-6 1FFDDR70PMF940930 Component Hydraulic System Fluid HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

## RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.



All component wear rates are normal.

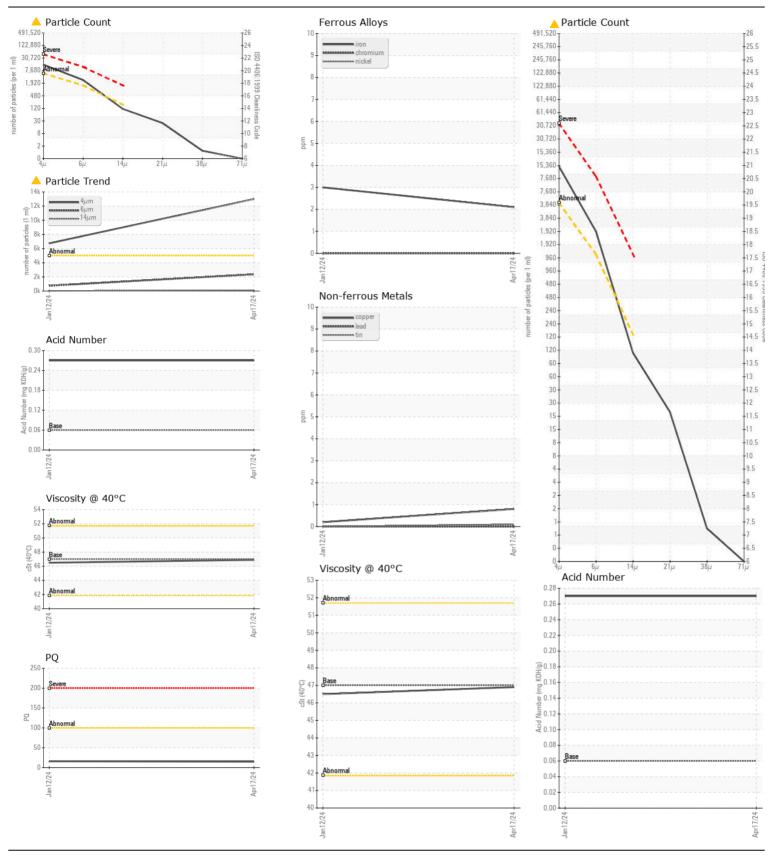
## CONTAMINATION

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

## FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

TestUOMMethodLimit/MCurrentHistory1History2Sample NumberClient InfoJR0211239JR0197499~Sample DateClient Info37913788Oil AgehrsClient Info00Filter AgehrsClient Info00Cil ChangedClient InfoChangedN/ASample StatusABNORMALATTENTIONPQASTM D81841516PQASTM D8185>1000NickelppmASTM D5185>1000NickelppmASTM D5185>1000NickelppmASTM D5185>1000NickelppmASTM D5185>1000NickelppmASTM D5185>1000AuminumppmASTM D5185>1000VanadiumppmASTM D5185>75<1<1< <td>VanadiumppmASTM D5185&gt;20&lt;1</td> NONENONEVellow Metalscalar*VisualNONENONENONENONEVellow Metalscalar*VisualNONENONENONEParticles >4µmASTM D7647>3000Particles >4µmASTM D7647>3000 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	VanadiumppmASTM D5185>20<1							
Sample Date     Client Info     I7 Apr 2024     12 Jan 2024        Machine Age     hrs     Client Info     0     0        Oil Age     hrs     Client Info     0     0        Cli Changed     Client Info     Changed     N/A        Gil Changed     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        Sample Status     ASTM D818     S20     3        Nickel     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     <1     <1        Auminum     ppm     ASTM D5185m     >10     <1     <1        Vanadium     ppm     ASTM D5185m     >10     0 </th <th>Test</th> <th>UOM</th> <th>Method</th> <th>Limit/Abn</th> <th>Current</th> <th>History1</th> <th>History2</th>	Test	UOM	Method	Limit/Abn	Current	History1	History2	
Machine Age Oil Age Filter Age     hrs Nrs     Client Info Client Info     0     0        Filter Age Filter Age     hrs     Client Info     0     0        Filter Age Filter Changed     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        PQ     ASTM D5185     >20     2     3        PQ     ASTM D5185     >20     2     3        Nickel     ppm     ASTM D5185     >10     0     0        Nickel     ppm     ASTM D5185     >10     0     0        Aluminum     ppm     ASTM D5185     >10     0     0        Lead     ppm     ASTM D5185     >10     0         Vanadium     ppm     ASTM D5185     >10     0         Vanadium     ppm     ASTM D5185     >20     1     1        Velow Me	Sample Number		Client Info		JR0211239	JR0197499		
Oil Age     hrs     Client Info     0     0        Filter Age     hrs     Client Info     Changed     N/A        Oil Changed     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        PQ     ASTM D5185m     >20     2     3        PQ     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     >10     0         Valed     scalar     *Visual     NONE     NONE     NONE        Valob     ppm     ASTM D5185m     >20     1     1        Valod     ppm     ASTM D5185m     <	Sample Date		Client Info		17 Apr 2024	12 Jan 2024		
Filter Age     hrs     Client Info     0     0        Oil Changed     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        Sample Status     ASTM D5185m     20     2     3        PQ     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0         Vanadium     ppm     ASTM D5185m     >20     1     1        Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Vellow Metal     scalar     <	Machine Age	hrs	Client Info		3791	3788		
Oil Changed     Client Info     Changed     N/A        Sample Status     Client Info     Changed     N/A        PQ     ASTM D8184     IS     Info        PQ     ASTM D8186     >20     2     3        PQ     ASTM D5185     >20     2     3        Nickel     ppm     ASTM D5185     >10     0     0        Nickel     ppm     ASTM D5185     0     0         Aluminum     ppm     ASTM D5185     >10     0     0        Aluminum     ppm     ASTM D5185     >10     0         Vanadium     ppm     ASTM D5185     >10     0         Vanadium     ppm     ASTM D5185     >20     <1     1        Vanadium     ppm     ASTM D5185     >20     <1     0        Vanadium     ppm     ASTM D5185     <	Oil Age	hrs	Client Info		0	0		
Filter Changed Sample Status     Client Info     Changed ABNORMAL     N/A ADDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD	Filter Age	hrs	Client Info		0	0		
Filter Changed Sample Status     Client Info     Changed ABNORMAL     N/A ATTENTION       PQ     ASTM D8184     15     16        Iron     ppm     ASTM D5185m     >20     2     3        Nickel     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     <1        Vanadium     ppm     ASTM D5185m     >10     <1        Valed     scalar     *Visual     NONE     NONE     NONE        Vellow Metal     scalar     *Visual     NONE     NONE         Vellow Metal     scalar     *Visual     NONE     NONE <th>J J</th> <th></th> <th>Client Info</th> <th></th> <th>Changed</th> <th>N/A</th> <th></th>	J J		Client Info		Changed	N/A		
Sample Status     ABNORMAL     ATTENTION        PQ     ASTM D8184     15     16        Iron     ppm     ASTM D5185m     >20     2     3        Nickel     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >20     1     1        Vanadium     ppm     ASTM D5185m     >20     1     1        Vellow Metal	U		Client Info		•	N/A		
PQ     ASTM D8184     15     16        Iron     ppm     ASTM D6185m     >20     2     3        Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >20     <1     1        Vanadium     ppm     ASTM D5185m     >20     <1     0        Vanadium     ppm     ASTM D5185m     >20     <1     0    <	•				Ű,	ATTENTION		
Iron     ppm     ASTM D5185m     >20     2     3        Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Titanium     ppm     ASTM D5185m     0     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >75     <1     <1        Vanadium     ppm     ASTM D5185m     >70     0     0        Vanadium     ppm     ASTM D5185m     >20     1     1        Vanadium     ppm     ASTM D5185m     >20     <1     0        Vallow     ASTM D5185m     >20     <1								
Chromium     ppm     ASTM D5185m     >10     0     0        Nickel     ppm     ASTM D5185m     >10     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >20     <1     0        Vanadium     ppm     ASTM D5185m     >20     <1     0        Vanadium     ppm     ASTM D5185m     >20     <1     0        Vallow Metal     scalar     Visual     NONE     NONE        Patticles >4µm     ASTM D7647     >100     21     6	PQ		ASTM D8184		15	16		
Nickel     pm     ASTM D5185m     >10     0     0        Titanium     pm     ASTM D5185m     I     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     <1         Copper     pm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <0     0        Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D7647     >20     <1     1        Particles >4µm     ASTM D7647     >100     0         Particles >5µm     ASTM D7647     >3     0 <t< th=""><th>Iron</th><th>ppm</th><th>ASTM D5185m</th><th>&gt;20</th><th>2</th><th>3</th><th></th></t<>	Iron	ppm	ASTM D5185m	>20	2	3		
Titanium     ppm     ASTM D5185m     0     0        Silver     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >0     0     0        Vanadium     ppm     ASTM D5185m     >20     1     1        Vellow Metal     scalar     *Visual     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     <1     0        Paticles >4µm     ASTM D7647     >5000     ▲ 13010     ● 6736        Paticles >14µm     ASTM D7647     >10     1     0	Chromium	ppm	ASTM D5185m	>10	0	0		
Silver     pr     ASTM D5185m     0     0     0        Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >75     <1     <1        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >100     ●2366     747        Particles >1µm     ASTM D7647     >10     1     0        Particles >1µm     ASTM D7647     >10     1     0        Particles >1µm     ASTM D7647     >10     1     0 </th <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;10</th> <th>0</th> <th>0</th> <th></th>	Nickel	ppm	ASTM D5185m	>10	0	0		
Aluminum     ppm     ASTM D5185m     >10     0     0        Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     NONE     NONE     NONE        Vanadium     ppm     ASTM D5185m     >20     1     1        Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Paticles >4µm     ASTM D7647     >100     ASTM 07647     >100     6736        Particles >6µm     ASTM D7647     >100     1     0        Particles >14µm     ASTM D7647     >100     1     0        Particles >14µm     ASTM D7647     >1	Titanium	ppm	ASTM D5185m		0	0		
Lead     ppm     ASTM D5185m     >10     0     0        Copper     ppm     ASTM D5185m     >75     <1     <1        Tin     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        White Metal     scalar     *Visual     NONE     NONE     NONE        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     1     1        Potassium     ppm     ASTM D5185m     >20     <1     0        Particles >4µm     ASTM D7647     >5000     ▲ 13010     €736        Particles >14µm     ASTM D7647     >40     21     6        Particles >14µm     ASTM D7647     >10     1     0        Particles >14µm     ASTM D7647     >3     0     0	Silver	ppm	ASTM D5185m		0	0		
Copper     ppm     ASTM D5185m     >75     <1	Aluminum	ppm	ASTM D5185m	>10	0	0		
Tin     ppm     ASTM D5185m     >10     <1	Lead	ppm	ASTM D5185m	>10	0	0		
Vanadium     ppm     ASTM D5185m     O     0        White Metal     scalar     *Visual     NONE     NONE     NONE     NONE        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     <1     0        Potassium     ppm     ASTM D5185m     >20     <1     0        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >100 <b>2366</b> 747        Particles >14µm     ASTM D7647     >10     1     0        Particles >38µm     ASTM D7647     >30     0     0        Particles >71µm     ASTM D7647     >30     0     0        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NORM     NORM     NORM	Copper	ppm	ASTM D5185m	>75	<1	<1		
White Metal     scalar     *Visual     NONE     NONE     NONE        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     <1     0        Potassium     ppm     ASTM D5185m     >20     <1     0        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >1300     •2366     747        Particles >21µm     ASTM D7647     >10     1     0        Particles >38µm     ASTM D7647     >10     1     0        Particles >71µm     ASTM D7647     >3     0     0        Silt     scalar     *Visual     NONE     NONE     NONE        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NORM     NORML     NORML	Tin	ppm	ASTM D5185m	>10	<1	0		
Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     <1     1        Potassium     ppm     ASTM D5185m     >20     <1     0        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >5000     ▲ 13010     ●6736        Particles >6µm     ASTM D7647     >100     99     25        Particles >14µm     ASTM D7647     >10     1     0        Particles >71µm     ASTM D7647     >10     0     0        Silt     scalar     *Visual     NONE     NONE     NONE        Silt     scalar     *Visual     NONE     NONE     NONE        Sodtof (c)     >1917/14     ▲ 2118/14     ●20/17/12         Sodtar     scalar     *Visual     NONE     NONE     NONE <t< th=""><th>Vanadium</th><th>ppm</th><th>ASTM D5185m</th><th></th><th>0</th><th>0</th><th></th></t<>	Vanadium	ppm	ASTM D5185m		0	0		
Silicon     ppm     ASTM D5185m     >20     1     1        Potassium     ppm     ASTM D5185m     >20     <1     0        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >5000     ▲ 13010     ● 6736        Particles >6µm     ASTM D7647     >100     ● 2366     7477        Particles >14µm     ASTM D7647     >100     99     25        Particles >21µm     ASTM D7647     >10     1     0.0        Particles >71µm     ASTM D7647     >10     1     0.0        Silt     scalar     *Visual     NONE     NONE     NONE        Silt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Appearance     scalar     *Visual     NORM     NORML     NORML	White Metal	scalar	*Visual	NONE	NONE	NONE		
Potassium     ppm     ASTM D5185m     >20     <1	Yellow Metal	scalar	*Visual	NONE	NONE	NONE		
Potassium     ppm     ASTM D5185m     >20     <1								
Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >5000     ▲ 13010     ● 6736        Particles >6µm     ASTM D7647     >1300     ● 2366     747        Particles >14µm     ASTM D7647     >160     99     25        Particles >21µm     ASTM D7647     >40     21     6        Particles >14µm     ASTM D7647     >3     0     0        Particles >1µm     ASTM D7647     >3     0     0        Particles >1µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >19171/4     ▲ 21/18/14     ● 20/17/12        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NOR     NORM     NORML        Appearance     scalar     *Visual     NORM     NORML	Silicon	ppm	ASTM D5185m	>20	1	1		
Particles >4µm     ASTM D7647     >5000     ▲ 13010     ● 6736        Particles >6µm     ASTM D7647     >1300     ● 2366     747        Particles >14µm     ASTM D7647     >100     99     25        Particles >21µm     ASTM D7647     >40     21     6        Particles >38µm     ASTM D7647     >10     1     0        Particles >31µm     ASTM D7647     >3     0     0        Particles >71µm     ASTM D7647     >3     0     0        Silt     scalar     *Visual     NONE     NONE     NONE        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NOR     NORM     NORML        Appearance     scalar     *Visual     NORM     NORM     NORML        Godor     scalar     *Visual     NOR     NORM     NORM <th>Potassium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;20</th> <th></th> <th></th> <th></th>	Potassium	ppm	ASTM D5185m	>20				
Particles >6μm     ASTM D7647     >1300     2366     747        Particles >14μm     ASTM D7647     >160     99     25        Particles >21μm     ASTM D7647     >40     21     6        Particles >38µm     ASTM D7647     >10     1     0        Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >19/17/14     21/18/14     20/17/12        Silt     scalar     *Visual     NONE     NONE     NONE        Sold Of Cleanliness     scalar     *Visual     NONE     NONE     NONE        Sold Of Cleanlines     scalar     *Visual     NONE     NONE     NONE        Sold Of Cleanlines     scalar     *Visual     NORE     NONE     NONE        Sold Of Cleanlines     scalar     *Visual     NORM     NORE        Soddor     scalar     *Visual     NORM     NO	Water		WC Method	>0.1	NEG	NEG		
Particles >14µm     ASTM D7647     >160     99     25        Particles >21µm     ASTM D7647     >40     21     6        Particles >38µm     ASTM D7647     >10     1     0        Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >19/17/14     21/18/14     20/17/12        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Codor     scalar     *Visual     NORM     NORML     NORML        Sodium     ppm     ASTM D5185m     Q     0     0        Boron     ppm     ASTM D5185m     Q     0         Manganese     ppm     ASTM D5185m     Q     1     0 <th></th> <th></th> <th>ASTM D7647</th> <th>&gt;5000</th> <th><u> </u></th> <th>6736</th> <th></th>			ASTM D7647	>5000	<u> </u>	6736		
Particles >21µm     ASTM D7647     >40     21     6        Particles >38µm     ASTM D7647     >10     1     0        Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >19/17/4     21/18/14     20/17/12        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Cdor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     2     <1        Manganese     ppm     ASTM D5185m     0     0        Manganesium     ppm     ASTM D5185m     32     31	Particles >6µm		ASTM D7647	>1300	<b>e</b> 2366			
Particles >38µmImage: ASTM D7647>1010Particles >71µmASTM D7647>300Oil CleanlinessISO 4406 (c)>19/17/1421/18/1420/17/12Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLCodorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m2<1BoronppmASTM D5185m000ManganeseppmASTM D5185m<10ManganeseppmASTM D5185m3231PhosphorusppmASTM D5185m3231SulfurppmASTM D5185m04150SulfurppmASTM D5185m13372275Acid Number (AN)mg K0HgASTM D80450.060.27	Particles >14µm		ASTM D7647	>160	99	25		
Particles >71µm     ASTM D7647     >3     0     0        Oil Cleanliness     ISO 4406 (c)     >19/17/14     ▲ 21/18/14     20/17/12        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     0     0     0        Manganese     ppm     ASTM D5185m     Image: Common Action Actio	Particles >21µm		ASTM D7647	>40	21	6		
NoticeISO 4406 (c)>19/17/1420/17/12Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m2<1BoronppmASTM D5185m000MalganeseppmASTM D5185m00MagnesiumppmASTM D5185m3231PhosphorusppmASTM D5185m04150SulfurppmASTM D5185m13372275Acid Number (AN)mg K0HlgASTM D5185m10.60.27	Particles >38µm		ASTM D7647	>10	1	0		
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Debrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLCodorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m2<1BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m00MagnesiumppmASTM D5185m<10PhosphorusppmASTM D5185m3231PinosphorusppmASTM D5185m04150SulfurppmASTM D5185m13372275Acid Number (AN)mg KOHlgASTM D80450.060.270.27	Oil Cleanliness		ISO 4406 (c)	>19/17/14	🔺 21/18/14	20/17/12		
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m2<1BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m<100ManganeseppmASTM D5185m<10MagnesiumppmASTM D5185m3231PhosphorusppmASTM D5185m04150ZincppmASTM D5185m13372275SulfurppmASTM D5185m13372275	Silt	scalar	*Visual	NONE	NONE	NONE		
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m2<1BoronppmASTM D5185m00BariumppmASTM D5185m00MolybdenumppmASTM D5185m00ManganeseppmASTM D5185m<10MagnesiumppmASTM D5185m3231PhosphorusppmASTM D5185m04150ZincppmASTM D5185m13372275SulfurppmASTM D5185m13372275Acid Number (AN)mg KOHlgASTM D80450.060.270.27	Debris	scalar	*Visual	NONE	NONE	NONE		
Odor     scalar     *Visual     NORML     NOR     NOR     NORML     N	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE		
Emulsified Water     scalar     *Visual     >0.1     NEG     NEG        Sodium     ppm     ASTM D5185m     2     <1        Boron     ppm     ASTM D5185m     0     0        Barium     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Magnesium     ppm     ASTM D5185m      <1     0        Calcium     ppm     ASTM D5185m      <1     0        Phosphorus     ppm     ASTM D5185m      <1     0        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27		scalar	*Visual	NORML				
Sodium     ppm     ASTM D5185m     2     <1			*Visual	NORML	NORML	NORML		
Boron     ppm     ASTM D5185m     0     0        Barium     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     <1     0        Magnesium     ppm     ASTM D5185m     <1     0        Calcium     ppm     ASTM D5185m     32     31        Phosphorus     ppm     ASTM D5185m     827     520     4999        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27	Emulsified Water	scalar	*Visual	>0.1	NEG	NEG		
Boron     ppm     ASTM D5185m     0     0        Barium     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     <1     0        Magnesium     ppm     ASTM D5185m     <1     0        Calcium     ppm     ASTM D5185m     32     31        Phosphorus     ppm     ASTM D5185m     827     520     4999        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27	Sodium	0000			0	.4		
Barium     ppm     ASTM D5185m     0     0        Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     <1     0        Magnesium     ppm     ASTM D5185m     <1     0        Calcium     ppm     ASTM D5185m     32     31        Phosphorus     ppm     ASTM D5185m     827     520     499        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27								
Molybdenum     ppm     ASTM D5185m     0     0        Manganese     ppm     ASTM D5185m     <1     0        Magnesium     ppm     ASTM D5185m     <1     0        Calcium     ppm     ASTM D5185m     32     31        Phosphorus     ppm     ASTM D5185m     827     520     499        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27								
Manganese     ppm     ASTM D5185m     <1								
Magnesium     ppm     ASTM D5185m     <1								
Calcium     ppm     ASTM D5185m     32     31        Phosphorus     ppm     ASTM D5185m     827     520     499        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27								
Phosphorus     ppm     ASTM D5185m     827     520     499        Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27	0							
Zinc     ppm     ASTM D5185m     0     41     50        Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27				007				
Sulfur     ppm     ASTM D5185m     13     372     275        Acid Number (AN)     mg KOH/g     ASTM D8045     0.06     0.27     0.27								
Acid Number (AN) mg KOH/g ASTM D8045 0.06 0.27 0.27								
Visc @ 40°C cSt ASTM D445 47 46.9 46.5	· · ·	0 0			-			
	Visc @ 40°C	cSt	ASTM D445	47	46.9	46.5		



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **JRE - MANASSAS PARK** Sample No. Received 9107 OWENS DRIVE : JR0211239 : 19 Apr 2024 ă Lab Number MANASSAS PARK, VA :06154208 Tested : 22 Apr 2024 : 22 Apr 2024 - Wes Davis US 20111 Unique Number : 10989631 Diagnosed Test Package : CONST (Additional Tests: PQ) Contact: DON VEST Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dvest@jamesriverequipment.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (703)631-8500 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (703)631-4715

Submitted By: RALEIGH SHOP Page 2 of 2