

## WEAR **SEVERE** CONTAMINATION **SEVERE** FLUID CONDITION NORMAL



## Store 9 - Marietta JOHN DEERE 850K SB4 (S/N EE256189) **Diesel Engine**

## CHEVRON DELO 400 MULTIGRADE 15W40 (--- GAL)

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

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Cylinder, crank, or cam shaft wear is indicated.

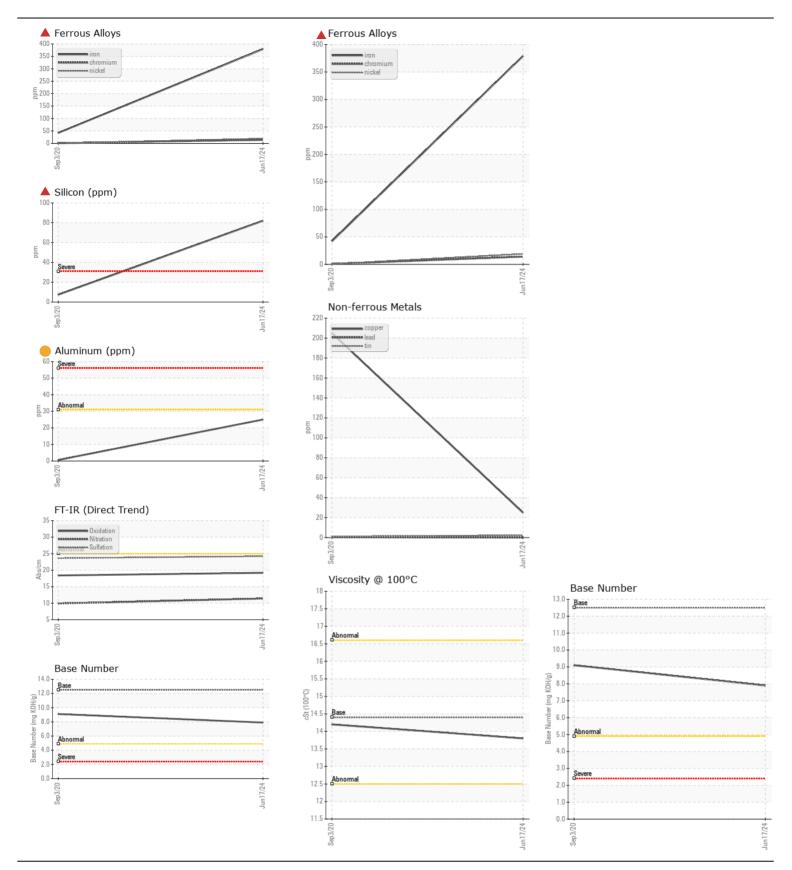
CONTAMINATION	
Flammantal laurale of alliana (Ol) and al	

Elemental levels of silicon (Si) and aluminum (Al) indicate aluminasilicate (coarse dirt) ingress.

**FLUID CONDITION** 

The oil is no longer serviceable due to the presence of contaminants.

Test  UOM  Method  LimitAbs  Current  History1  History2    Sample Number  Client Info  17 Ju 2024  03 Sep 2020							
Sample Date  Client Info  17 Jun 2024  03 Sep 2020     Machine Age  hrs  Client Info  2835  1775     Oil Age  hrs  Client Info  500  500     Filter Age  hrs  Client Info  Changed  Changed     Filter Changed  Client Info  Changed  Changed     Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m  >51 <b>4</b> 379  42     Chromium  ppm  ASTM D5185m  >5 <b>1</b> 9  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Silver  ppm  ASTM D5185m  >31 <b>25</b> <1     Lead  ppm  ASTM D5185m  >4  2  1     Silver  ppm  ASTM D5185m  >120  7      Yanadium  ppm  ASTM D5	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age  hrs  Client Info  2835  1775     Cil Age  hrs  Client Info  500  500     Filter Age  hrs  Client Info  Changed  Changed     Cil Changed  Client Info  Changed  Changed     Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m  >1  4 14  <1     Chromium  ppm  ASTM D5185m  >1  4 14  <1     Nickel  ppm  ASTM D5185m  >3  0  <1     Aluminum  ppm  ASTM D5185m  >3  0  <1     Aluminum  ppm  ASTM D5185m  >26  0  <1     Vanadium  ppm  ASTM D5185m  >26  2  1     Vanadium  ppm  ASTM D5185m  >20  <1      Veladu  scalar	Sample Number		Client Info		LEC0049310	LEC0015560	
Oil Age  hrs  Client Info  500  500     Filter Age  hrs  Client Info  Changed  Changed     Gil Changed  Client Info  Changed  Changed     Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m  >51  ▲ 379  42     Chromium  ppm  ASTM D5185m  >5  ▲ 19  <1     Nickel  ppm  ASTM D5185m  >3  0  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Auminum  ppm  ASTM D5185m  >26  0  <1     Lead  ppm  ASTM D5185m  >26  25  205     Vanadium  ppm  ASTM D5185m  >20  7  4     Yellow Metal  scalar  *Visual  NONE  NONE  NONE     Yellow Metal	Sample Date		Client Info		17 Jun 2024	03 Sep 2020	
Filter Age  hrs  Client Info  500  500     Gil Changed  Client Info  Changed  Changed     Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m  >51  ▲ 379  42     Chromium  ppm  ASTM D5185m  >11  ▲ 14  <1     Nickel  ppm  ASTM D5185m  >11  ▲ 19  <1     Titanium  ppm  ASTM D5185m  >3  0  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Copper  ppm  ASTM D5185m  >26  25  205     Vanadium  ppm  ASTM D5185m  >20  <1      Velow Metal  scalar  *Visual  NONE  NONE  NONE  NONE     Silicon  ppm  ASTM D5185m  >20  7  4	Machine Age	hrs	Client Info		2835	1775	
Filter Age  hrs  Client Info  500  500     Gil Changed  Client Info  Changed  Changed     Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m  >51  ▲ 379  42     Chromium  ppm  ASTM D5185m  >11  ▲ 14  <1     Nickel  ppm  ASTM D5185m  >11  ▲ 19  <1     Titanium  ppm  ASTM D5185m  >3  0  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Copper  ppm  ASTM D5185m  >26  25  205     Vanadium  ppm  ASTM D5185m  >20  <1      Velow Metal  scalar  *Visual  NONE  NONE  NONE  NONE     Silicon  ppm  ASTM D5185m  >20  7  4	Oil Age	hrs	Client Info		500	500	
Oil Changed  Client Info  Changed  Changed     Filter Changed  Client Info  Changed  Changed     Iron  ppm  ASTM D5185m  >511  ▲ 379  42     Iron  ppm  ASTM D5185m  >11  ▲ 14  <1     Nickel  ppm  ASTM D5185m  >1  ● 19  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Aluminum  ppm  ASTM D5185m  >26  0  <1     Aluminum  ppm  ASTM D5185m  >26  25  205     Vanadium  ppm  ASTM D5185m  >26  2  1     Vanadium  ppm  ASTM D5185m  >26  2  1     Vanadium  ppm  ASTM D5185m  >20  7  4     Vanadium  ppm  ASTM D5185m  >20  7  4  <		hrs	Client Info		500	500	
Filter Changed Sample Status  Client Info  Changed SEVERE  Changed NORMAL	Oil Changed		Client Info		Changed	Changed	
Sample Status  SEVERE  NORMAL     Iron  ppm  ASTM D5185m<>51  ▲ 379  4.2     Chromium  ppm  ASTM D5185m<>5  ▲ 19  <1     Nickel  ppm  ASTM D5185m<>5  ▲ 19  <1     Silver  ppm  ASTM D5185m<>31  © 25  <1     Aluminum  ppm  ASTM D5185m<>26  0  <1     Lead  ppm  ASTM D5185m<>26  0  <1     Copper  ppm  ASTM D5185m<>26  0  <1     Vanadium  ppm  ASTM D5185m<>26  0  <1     Vanadium  ppm  ASTM D5185m<>20  NONE  NONE  NONE     Yellow Metal  scalar  "Visual  NONE  NONE  NONE     Yellow Metal  scalar  "Visual  NONE  NORE  NORE     Yellow Metal  scalar  "Visual <th></th> <th></th> <th>Client Info</th> <th></th> <th>-</th> <th></th> <th></th>			Client Info		-		
Iron  ppm  ASTM D5185m  >51  ▲ 379  42     Chromium  ppm  ASTM D5185m  >11  ▲ 14  <1     Nickel  ppm  ASTM D5185m  >5  ▲ 19  <1     Titanium  ppm  ASTM D5185m  >3  0  <1     Silver  ppm  ASTM D5185m  >3  0  <1     Lead  ppm  ASTM D5185m  >26  0  <1     Copper  ppm  ASTM D5185m  >26  25  205     Vanadium  ppm  ASTM D5185m  >4  2  1     Vanadium  ppm  ASTM D5185m  >20  7  4     Vanadium  ppm  ASTM D5185m  >120  A 82  7     Vellow Metal  scalar  *Visual  NONE  NONE  NONE     Silicon  ppm  ASTM D7624  <						-	
Chromium  ppm  ASTM D5185m  >11  ▲ 14  <1	· · · · · · · · · · · · · · · · · · ·						
Nickel  ppm  ASTM D5185m  >5  ▲ 19  <1	Iron	ppm	ASTM D5185m	>51	<b>A</b> 379	42	
Titanium  ppm  ASTM D5185m  2  <1	Chromium	ppm	ASTM D5185m	>11	🔺 14	<1	
Silver  ppm  ASTM D5185m  >3  0  <1	Nickel	ppm	ASTM D5185m	>5	🔺 19	<1	
Aluminum  ppm  ASTM D5185m  >31  25  <1	Titanium	ppm	ASTM D5185m		2	<1	
Lead  ppm  ASTM D5185m  >26  0  <1	Silver	ppm	ASTM D5185m	>3	0	<1	
Copper  ppm  ASTM D5185m  >26  25  205     Tin  ppm  ASTM D5185m  >4  2  1     Vanadium  ppm  ASTM D5185m  <1  <1     White Metal  scalar  *Visual  NONE  NONE  NONE     Yellow Metal  scalar  *Visual  NONE  NONE  NONE     Silicon  ppm  ASTM D5185m  >120  ▲  82  7     Potassium  ppm  ASTM D5185m  >120  ▲  82  7     Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  >0.21  NEG  NEG     Soot %  %  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sand/Dirt  scalar  *Visual  NO	Aluminum	ppm	ASTM D5185m	>31	<u> </u>	<1	
Tin  ppm  ASTM D5185m  >4  2  1     Vanadium  ppm  ASTM D5185m  <1  <1     White Metal  scalar  *Visual  NONE  NONE  NONE     Yellow Metal  scalar  *Visual  NONE  NONE  NONE     Silicon  ppm  ASTM D5185m  >120  ▲ 82  7     Potassium  ppm  ASTM D5185m  >120  ▲ 82  7     Water  WC Method  >2.1  <1.0  <1.0      Water  WC Method  >2.1  NEG  NEG     Soot %  %  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.1m  *ASTM D715  >30  24.2  23.6     Debris  scalar  *Visual  NONE  NONE  NONE     Appearance  scalar  *Visual  NORML	Lead	ppm	ASTM D5185m	>26	0	<1	
Vanadium  ppm  ASTM D5185m  <1	Copper	ppm	ASTM D5185m	>26	25	205	
White Metal  scalar  *Visual  NONE  NONE  NONE  NONE     Yellow Metal  scalar  *Visual  NONE  NONE  NONE     Silicon  ppm  ASTM D5185m  >120  ▲ 82  7     Potassium  ppm  ASTM D5185m  >20  7  4     Fuel  WC Method  >2.1  <1.0  <1.0     Water  WC Method  >0.21  NEG  NEG     Soot %  %  *ASTM D7844<>3  0.6  0.4     Soot %  %  *ASTM D7844<>30  0.6  0.4     Soot %  %  *ASTM D7844<>30  0.6  0.4     Solfation  Abs/cm  *ASTM D7844<>30  0.6  0.4     Sulfation  Abs/ar  *Visual  NONE  NONE  NONE     Debris  scalar  *Visual  NORE  NORML  NORML	Tin	ppm	ASTM D5185m	>4	2	1	
Yellow Metal  scalar  *Visual  NONE  NONE     Silicon  ppm  ASTM D5185m  >120  ▲ 82  7     Potassium  ppm  ASTM D5185m  >20  7  4     Fuel  WC Method  >2.1  <1.0  <1.0     Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  >0.21  NEG  NEG     Soot %  %  *ASTM D7844  >3  0.6  0.4     Solt %  %  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.mm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.tmm  *ASTM D764  >20  11.4  9.9     Sulfation  Abs/.tmm  *ASTM D764  >20  11.4  9.9     Sadn/Dirt  scalar  *Visual  NONE  NONE	Vanadium	ppm	ASTM D5185m		<1	<1	
Silicon  ppm  ASTM D5185m  >120  ▲ 82  7     Potassium  ppm  ASTM D5185m  >20  7  4     Fuel  WC Method  >2.1  <1.0  <1.0     Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  >0.21  NEG  NEG     Soot %  %  *ASTM D7624  >20  11.4  9.9     Solt %  %  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.mm  *ASTM D7624  >20  10.6  NONE     Debris  scalar  *Visual  NONE  NOR	White Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium  ppm  ASTM D5185m  >20  7  4     Fuel  WC Method  >2.1  <1.0  <1.0     Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  >0.6  0.4     Soot %  %  *ASTM D7844  >3  0.6  0.4     Nitration  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.m  *ASTM D7624  >0  NORE  NORE     Debris  scalar  *Visual  NONE  NORM  <	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium  ppm  ASTM D5185m  >20  7  4     Fuel  WC Method  >2.1  <1.0  <1.0     Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  >0.6  0.4     Soot %  %  *ASTM D7844  >3  0.6  0.4     Nitration  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.m  *ASTM D7624  >0  NORE  NORE     Debris  scalar  *Visual  NONE  NORM  <							
Fuel  WC Method  >2.1  <1.0	Silicon	ppm	ASTM D5185m	>!20		7	
Water  WC Method  >0.21  NEG  NEG     Glycol  WC Method  NEG  NEG     Soot %  %  *ASTM D7844  >3  0.6  0.4     Nitration  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/cm  *ASTM D7615  >30  24.2  23.6     Silt  scalar  *Visual  NONE  NONE  NONE     Debris  scalar  *Visual  NONE  NONE  NONE     Sand/Dirt  scalar  *Visual  NONE  NORML  NORML     Appearance  scalar  *Visual  NORML  NORML  NORML     Odor  scalar  *Visual  NORML  NORML  NORML     Boron  ppm  ASTM D5185m  >31  4  3     Molybdenum  pm  ASTM D5185m  0.4  0 <th>Potassium</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;20</th> <th>7</th> <th>4</th> <th></th>	Potassium	ppm	ASTM D5185m	>20	7	4	
Glycol  WC Method  NEG  NEG     Soot %  %  *ASTM D7844  >3  0.6  0.4     Nitration  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/cm  *ASTM D7624  >30  24.2  23.6     Sulfation  Abs/cm  *ASTM D7624  >30  24.2  23.6     Sulfation  Abs/cm  *Visual  NONE  NONE  NONE     Debris  scalar  *Visual  NONE  NONE  NONE     Appearance  scalar  *Visual  NORML  NORML  NORML     Odor  scalar  *Visual  NORML  NORML  NORML     Sodium  ppm  ASTM D5185m  51  186  243     Baron  ppm  ASTM D5185m				>2.1	<1.0	<1.0	
Soot %  %  *ASTM D7844  >3  0.6  0.4     Nitration  Abs/cm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.1mm  *ASTM D7624  >20  11.4  9.9     Sulfation  Abs/.1mm  *ASTM D7415  >30  24.2  23.6     Silt  scalar  *Visual  NONE  NONE  NONE     Debris  scalar  *Visual  NONE  NONE  NONE     Sand/Dirt  scalar  *Visual  NORML  NORML  NORML     Appearance  scalar  *Visual  NORML  NORML  NORML     Odor  scalar  *Visual  >0.21  NEG  NEG     Boron  ppm  ASTM D5185m  151  186  243     Molybdenum  ppm  ASTM D5185m  0.4  0  <11     Magnesium	Water		WC Method	>0.21	NEG	NEG	
NitrationAbs/cm*ASTM D7624>2011.49.9SulfationAbs/.1mm*ASTM D7415>3024.223.6Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNORNONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLCdorscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m>3143BoronppmASTM D5185m151186243MolybdenumppmASTM D5185m0.40<1MagnesiumppmASTM D5185m250114251MagnesiumppmASTM D5185m0723749PhosphorusppmASTM D5185m1043756935ZincppmASTM D5185m9438951078SulfurppmASTM D5185m501230042649OxidationAbs/.1mm*ASTM D7141>2519.218.4Base Number (BN)mg KOH/gASTM D518612.57.99.1	Glycol		WC Method		NEG	NEG	
SulfationAbs/.Imm*ASTM D7415>3024.223.6Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLCdorscalar*Visual>0.21NEGNEGSodiumppmASTM D5185m51186243BoronppmASTM D5185m0.40<1MolybdenumppmASTM D5185m250114251MagnesiumppmASTM D5185m0723749CalciumppmASTM D5185m1043756935PhosphorusppmASTM D5185m51230042649ZincppmASTM D5185m501230042649OxidationAbs/.Imm*ASTM D7141>2519.218.4Base Number (BN)mg KOHgASTM D286612.57.99.1	Soot %	%	*ASTM D7844	>3	0.6	0.4	
Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*VisualNORLNORMLNORMLSodiumppmASTM D5185m>3143BoronppmASTM D5185m5<1MalganeseppmASTM D5185m250114251MagnesiumppmASTM D5185m20415691533PhosphorusppmASTM D5185m1043756935ZincppmASTM D5185m51230042649SulfurppmASTM D5185m501230042649OxidationAbs/1mm*ASTM D5185m501230042649Base Number (BN)mg KOHgASTM D286612.57.99.1	Nitration	Abs/cm	*ASTM D7624	>20	11.4	9.9	
Debrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.21NEGNEGSodiumppmASTM D5185m>3143BoronppmASTM D5185m151186243BariumppmASTM D5185m0.40<1MolybdenumppmASTM D5185m250114251MagnesiumppmASTM D5185m0723749CalciumppmASTM D5185m204615691533PhosphorusppmASTM D5185m9438951078ZincppmASTM D5185m501230042649OxidationAbs/.1mm*ASTM D5185m501230042649Mase Number (BN)mg KOHgASTM D286612.57.99.1	Sulfation	Abs/.1mm	*ASTM D7415	>30	24.2	23.6	
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.21NEGNEGSodiumppmASTM D5185m>3143BoronppmASTM D5185m151186243BariumppmASTM D5185m0.40<1MolybdenumppmASTM D5185m250114251MaganeseppmASTM D5185m0723749CalciumppmASTM D5185m204615691533PhosphorusppmASTM D5185m9438951078ZincppmASTM D5185m501230042649SulfurppmASTM D5185m501230042649OxidationAbs/1mm*ASTM D7141>2519.218.4Base Number (BN)mg KOHgASTM D286612.57.99.1	Silt	scalar	*Visual	NONE	NONE	NONE	
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.21NEGNEGSodiumppmASTM D5185m>3143BoronppmASTM D5185m151186243BariumppmASTM D5185m0.40<1MolybdenumppmASTM D5185m250114251MaganeseppmASTM D5185m0723749CalciumppmASTM D5185m204615691533PhosphorusppmASTM D5185m1043756935ZincppmASTM D5185m501230042649SulfurppmASTM D5185m501230042649OxidationAbs/.1mm*ASTM D7414>2519.218.4Base Number (BN)mg KOH/gASTM D289612.57.99.1	Debris	scalar	*Visual	NONE	NONE	NONE	
Odor  scalar  *Visual  NORML  NORML  NORML  NORML     Emulsified Water  scalar  *Visual  >0.21  NEG  NEG     Sodium  ppm  ASTM D5185m  >31  4  3     Boron  ppm  ASTM D5185m  151  186  243     Barium  ppm  ASTM D5185m  0.4  0  <1     Molybdenum  ppm  ASTM D5185m  0.4  0  <1     Manganese  ppm  ASTM D5185m  250  114  251     Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  046  1569  1533     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Sulfur  pp	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Water  scalar  *Visual  >0.21  NEG  NEG     Sodium  ppm  ASTM D5185m  >31  4  3     Boron  ppm  ASTM D5185m  151  186  243     Barium  ppm  ASTM D5185m  0.4  0  <1     Molybdenum  ppm  ASTM D5185m  0.4  0  <1     Manganese  ppm  ASTM D5185m  0.4  0  <1     Magnesium  ppm  ASTM D5185m  0.4  0  <1     Calcium  ppm  ASTM D5185m  0.4  0  723  749     Calcium  ppm  ASTM D5185m  0.4  1569  1533     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm<	Appearance	scalar	*Visual	NORML	NORML	NORML	
Sodium  ppm  ASTM D5185m  >31  4  3     Boron  ppm  ASTM D5185m  151  186  243     Barium  ppm  ASTM D5185m  0.4  0  <1     Molybdenum  ppm  ASTM D5185m  0.4  0  <1     Manganese  ppm  ASTM D5185m  250  114  251     Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  0  723  749     Phosphorus  ppm  ASTM D5185m  2046  1569  1533     Zinc  ppm  ASTM D5185m  1043  756  935     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Base Number (BN)  mg KOH/g  <	Odor	scalar	*Visual	NORML		NORML	
Boron  ppm  ASTM D5185m  151  186  243     Barium  ppm  ASTM D5185m  0.4  0  <1     Molybdenum  ppm  ASTM D5185m  250  114  251     Manganese  ppm  ASTM D5185m  250  114  251     Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  2046  1569  1533     Phosphorus  ppm  ASTM D5185m  1043  756  935     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm<*ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g <t< th=""><th>Emulsified Water</th><th>scalar</th><th>*Visual</th><th>&gt;0.21</th><th>NEG</th><th>NEG</th><th></th></t<>	Emulsified Water	scalar	*Visual	>0.21	NEG	NEG	
Boron  ppm  ASTM D5185m  151  186  243     Barium  ppm  ASTM D5185m  0.4  0  <1     Molybdenum  ppm  ASTM D5185m  250  114  251     Manganese  ppm  ASTM D5185m  250  114  251     Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  2046  1569  1533     Phosphorus  ppm  ASTM D5185m  1043  756  935     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm<*ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g <t< th=""><th>0</th><th></th><th></th><th>04</th><th></th><th></th><th></th></t<>	0			04			
Barium  ppm  ASTM D5185m  0.4  0  <1					-		
Molybdenum  ppm  ASTM D5185m  250  114  251     Manganese  ppm  ASTM D5185m  5  <1     Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  2046  1569  1533     Phosphorus  ppm  ASTM D5185m  1043  756  935     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm  *ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5  7.9  9.1							
Manganese  ppm  ASTM D5185m  5  <1							
Magnesium  ppm  ASTM D5185m  0  723  749     Calcium  ppm  ASTM D5185m  2046  1569  1533     Phosphorus  ppm  ASTM D5185m  1043  756  935     Zinc  ppm  ASTM D5185m  943  895  1078     Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm  *ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5  7.9  9.1	-			250			
Calcium  ppm  ASTM D5185m  2046  1569  1533     Phosphorus  ppm  ASTM D5185m  1043 <b>756</b> 935     Zinc  ppm  ASTM D5185m  943 <b>895</b> 1078     Sulfur  ppm  ASTM D5185m  5012 <b>3004</b> 2649     Oxidation  Abs/.1mm  *ASTM D7141  >25 <b>19.2</b> 18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5 <b>7.9</b> 9.1	-			0			
Phosphorus  ppm  ASTM D5185m  1043 <b>756</b> 935     Zinc  ppm  ASTM D5185m  943 <b>895</b> 1078     Sulfur  ppm  ASTM D5185m  5012 <b>3004</b> 2649     Oxidation  Abs/.1mm  *ASTM D7414  >25 <b>19.2</b> 18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5 <b>7.9</b> 9.1	•						
Zinc  ppm  ASTM D5185m  94.3 <b>895</b> 1078     Sulfur  ppm  ASTM D5185m  5012 <b>3004</b> 2649     Oxidation  Abs/.1mm  *ASTM D7414  >25 <b>19.2</b> 18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5 <b>7.9</b> 9.1							
Sulfur  ppm  ASTM D5185m  5012  3004  2649     Oxidation  Abs/.1mm  *ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5  7.9  9.1							
Oxidation  Abs/.1mm  *ASTM D7414  >25  19.2  18.4     Base Number (BN)  mg KOH/g  ASTM D2896  12.5  7.9  9.1							
Base Number (BN) mg KOH/g ASTM D2896 12.5 7.9 9.1							
	( )						
VISC @ 100°C CST ASIM D445 14.4 13.8 14.2	Visc @ 100°C	cSt	ASTM D445	14.4	13.8	14.2	



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 LANE PIPELINE Sample No. : LEC0049310 Received 2946 E MAIN ST : 03 Jul 2024 Lab Number : 06227162 Tested BRIDGEPORT, WV : 05 Jul 2024 Unique Number : 11110655 Diagnosed : 05 Jul 2024 - Don Baldridge US 26330 Test Package : CONST (Additional Tests: TBN, KV40) Contact: JESSE WILBURN Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jesseowilburn@gmail.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (740)440-0927 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: