

# **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id Spinorama 2000 Component

#### Spindel Fluid NOT GIVEN (--- GAL)

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample. ( Customer Sample Comment: Super test )

# Wear

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the fluid.

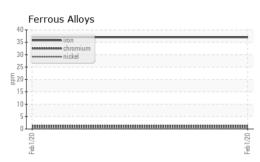
#### Fluid Condition

The condition of the fluid is acceptable for the time in service.

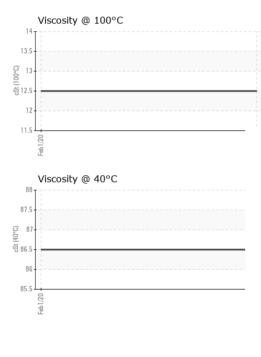
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0387669		
Sample Date		Client Info		01 Feb 2020		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG		
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		14		
Iron	ppm	ASTM D5185(m)	>20	37		
Chromium	ppm	ASTM D5185(m)	>20	1		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		<1		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>20	4		
Lead	ppm	ASTM D5185(m)	>20	3		
Copper	ppm	ASTM D5185(m)	>20	10		
Tin	ppm	ASTM D5185(m)	>20	<1		
Antimony	ppm	ASTM D5185(m)		<1		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
	1-1-			•		
ADDITIVES	F F	method	limit/base	current	history1	history2
	ppm		limit/base			history2
ADDITIVES		method	limit/base	current	history1	
ADDITIVES Boron	ppm	method ASTM D5185(m)	limit/base	current 39	history1	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	limit/base	current 39 <1	history1 	
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 39 <1 42	history1  	
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 39 <1 42 <1	history1   	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 39 <1 42 <1 543	history1   	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current           39           <1           42           <1           543           1531	history1    	  
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base	current           39           <1           42           <1           543           1531           929	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base	current           39           <1           42           <1           543           1531           929           1084	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base	current           39           <1           42           <1           543           1531           929           1084           3016	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)		current           39           <1           42           <1           543           1531           929           1084           3016           <1	history1	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	39         <1         42         <1         543         1531         929         1084         3016         <1         current	history1	      history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base	current           39           <1           42           <1           543           1531           929           1084           3016           <1           current           9	history1	      history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base	current         39         <1         42         <1         543         1531         929         1084         3016         <1         current         9         14	history1	        history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base >15 >20	39         <1         42         <1         543         1531         929         1084         3016         <1         current         9         14         9	history1	       history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)	limit/base >15 >20	39         <1         42         <1         543         1531         929         1084         3016         <1         current         9         14         9         current	history1	      history2   history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	method           ASTM D5185(m)	limit/base >15 >20	current         39         <1         42         <1         543         1531         929         1084         3016         <1         current         9         14         9         current         0.5	history1 history1 history1 history1 history1	      history2  history2  history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)           ASTM D5185(m)	limit/base >15 >20	current         39         <1         42         <1         543         1531         929         1084         3016         <1         ourrent         9         14         9         0.5         9.5	history1   history1               history1	      history2    history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185(m)           ASTM D7844*           ASTM D7624*           ASTM D7415*	limit/base >15 >20 limit/base	39         <1         42         <1         543         1531         929         1084         3016         <1         current         9         14         9         current         0.5         9.5         24.0	history1	       history2  history2  history2



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VISUAL		method	12 . 14 /1	ou um e let	history1	)، سماما ما
		mothou			THSTOLY I	history2
White Metal	scalar	Visual*	NONE	VLITE		
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		
Appearance	scalar	Visual*	NORML	NORML		
Odor	scalar	Visual*	NORML	NORML		
Emulsified Water	scalar	Visual*	>0.1	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPERT	IES	method	limit/base	current	history1	history
Visc @ 40°C	cSt	ASTM D7279(m)		86.5		
Visc @ 100°C	cSt	ASTM D7279(m)		12.5		
Viscosity Index (VI)	Scale	ASTM D2270*		141		
SAMPLE IMAGES	\$	method	limit/base	current	history1	history
Color					no image	no image
Bottom					no image	no image
GRAPHS						
Iron (ppm)			11	Lead (ppm)		
0 - Gevere				50 Severe		
				0 Abnormal		
Feb 1/20			Feb1/20	Feb1/20		
Aluminum (ppm)				Chromium (pr	um)	
			10		,	
0 - Severe Abnormal			Bd	50 - Severe Abnormal		
0				0		
Feb1			Feb1	Feb1		
Copper (ppm)				Silicon (ppm)		
0 + Q- Abnormal			and a	50 + Q- Abnormal		
e01/20			eb1/20 +	eb 1/20		
			ш.			
за <sub>т</sub> ,			4			
			문 2	00 Severe		
4				0		
Feb1/20			Feb1/20	Feb1/20		
	Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPERT Visc @ 40°C Visc @ 100°C Viscosity Index (VI) SAMPLE IMAGES Color Bottom GRAPHS Iron (ppm)	Debris scalar   Sand/Dirt scalar   Appearance scalar   Odor scalar   Emulsified Water scalar   Free Water scalar   Free Water scalar   Free Water scalar   Free Water scalar   Visc @ 40°C cSt   Visc @ 100°C cSt   Visc @ 100°C cSt   Viscosity Index (VI) Scale   SAMPLE IMAGES   Color   Bottom   GRAPHS   Iron (ppm)   Same   Same	Debris scalar Visual*   Sand/Dirt scalar Visual*   Appearance scalar Visual*   Odor scalar Visual*   Emulsified Water scalar Visual*   Free Water scalar Visual*   Free Water scalar Visual*   Free Water scalar Visual*   FLUID PROPERTIES method   Visc @ 40°C cSt ASTM D7279(m)   Visc @ 100°C cSt ASTM D7279(m)   Visc @ 100°C cSt ASTM D7279(m)   Viscosity Index (VI) Scale ASTM D7279(m)   Viscosity Index (VI) Scale ASTM D7279(m)   SAMPLE IMAGES method   Color Iron (ppm)   Iron (ppm) Image: State Stat	Debris scalar Visual* NONE   Sand/Dirt scalar Visual* NONE   Appearance scalar Visual* NORML   Odor scalar Visual* NORML   Odor scalar Visual* NORML   Emulsified Water scalar Visual* >0.1   Free Water scalar Visual* >0.1   Ftuil D PROPERTIES method limit/base   Visc @ 40°C cSt ASTM D7279(m)   Viscosity Index (VI) Scale ASTM D7279(m)   Viscosity Index (VI) Scale ASTM D7279(m)   SAMPLE IMAGES method limit/base   Color GRAPHS Imit/base   Iron (ppm) Imit/base Imit/base   Iron (ppm) Imit/base Imit/base   Imit/Dage Imit/base Imit/base   Imit/base Imit/Base Imit/Base  <	Debris       scalar       Visual*       NONE       NONE         Sand/Dirt       scalar       Visual*       NONE       NONE         Appearance       scalar       Visual*       NORML       NORML         Odor       scalar       Visual*       NORML       NORML         Pree Water       scalar       Visual*       >0.1       NEG         Free Water       scalar       Visual*       >0.1       NEG         Free Water       scalar       Visual*       >0.1       NEG         Full D PROPERTIES       method       Imit/base       current         Visco @ 40°C       cSt       ASTM D7279(m)       86.5         Viscosity Index (VI)       Scale       ASTM D7279(m)       12.5         SAMPLE IMAGES       method       Imit/base       current         Color       Imit/base       current       Imit/base       current         Aluminum (ppm)       Imit/base       current       Imit/base       current         Imit/pace       Imit/base       Chromium (ppm)       Imit/base       Imit/pace         Imit/pace       Imit/pace       Imit/pace       Imit/pace       Imit/pace         Imit/pace       Imit/pace       Imit/pace </th <th>Debris       scalar       Visual*       NONE       NONE          Sand/Dirt       scalar       Visual*       NONE       NONE          Appearance       scalar       Visual*       NORML       NORML       NORML          Appearance       scalar       Visual*       NORML       NORML       NORML          Codor       scalar       Visual*       &gt;0.1       NEG           Free Water       scalar       Visual*       &gt;0.1       NEG          FLUID PROPERTIES       method       limit/base       current       history1         Visc @ 40°C       cSt       ASTM D7279(m)       12.5          SAMPLE IMAGES       method       limit/base       current       history1         Color       Sample       astimute        imit/base       current       history1         GRAPHS       Iron (ppm)       astimute       astimute        imit/base       current       history1         astimute       astimute       astimute       astimute        imit/base       current       history1         astintermed       astintre       astin</th>	Debris       scalar       Visual*       NONE       NONE          Sand/Dirt       scalar       Visual*       NONE       NONE          Appearance       scalar       Visual*       NORML       NORML       NORML          Appearance       scalar       Visual*       NORML       NORML       NORML          Codor       scalar       Visual*       >0.1       NEG           Free Water       scalar       Visual*       >0.1       NEG          FLUID PROPERTIES       method       limit/base       current       history1         Visc @ 40°C       cSt       ASTM D7279(m)       12.5          SAMPLE IMAGES       method       limit/base       current       history1         Color       Sample       astimute        imit/base       current       history1         GRAPHS       Iron (ppm)       astimute       astimute        imit/base       current       history1         astimute       astimute       astimute       astimute        imit/base       current       history1         astintermed       astintre       astin

Test Package : MOB 1 (Additional Tests: FT-IR, KV100, PQ, VI) To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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ISO 17025:2017 Accredited Laboratory

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