

## **OIL ANALYSIS REPORT**

### Area Arvin Sango - 888103 RB050 Component

Hydraulic System Fluid CATALYS HYDRAULIC AW 46 (--- GAL)

#### DIAGNOSIS

#### Recommendation

We certify that this oil is clean, that the additives are at acceptable levels, and that it is suitable for use.

#### Contamination

Potassium ppm levels are notably high.

				Jul2024		
SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sent to WC		Client Info		07/05/2024		
Sample Number		Client Info		E30002565		
Sample Date		Client Info		02 Jul 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1		
Chromium	ppm	ASTM D5185(m)	>20	0		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		<1		
Aluminum	ppm	ASTM D5185(m)	>20	<1		
Lead	ppm	ASTM D5185(m)	>20	<1		
Copper	ppm	ASTM D5185(m)	>20	16		
Tin	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		mathad	limit/base	ourropt	In the transmission	history2
ADDITIVES		method				Thistory Z
Boron	ppm	ASTM D5185(m)	IIIII/Dase	71	nistory i	
	ppm ppm		iiiii/base			
Boron		ASTM D5185(m)	IIIIII/Dase	71		
Boron Barium	ppm	ASTM D5185(m) ASTM D5185(m)	IIIII/base	71 2		
Boron Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0 <1 5		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0 <1 5 55	  	  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0 <1 5 55 335	  	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)		71 2 0 <1 5 55 335 409	  	    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	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	71 2 0 <1 5 55 335 409 887		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	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)		71 2 0 <1 5 55 335 409 887 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	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	71 2 0 <1 5 55 335 409 887 <1 current	       history1	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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) <b>method</b> ASTM D5185(m)	limit/base	71 2 0 <1 5 55 335 409 887 <1 current 0	      history1 	       history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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) <b>method</b> ASTM D5185(m) ASTM D5185(m)	limit/base	71 2 0 <1 5 55 335 409 887 <1 current 0 4	       history1	      history2 
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	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) <b>method</b> ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20	71 2 0 <1 5 55 335 409 887 <1 current 0 4 38	       history1	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 >0.05	71 2 0 <1 5 55 335 409 887 <1	      history1   	      history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5304*	limit/base >15 >20 >0.05 >500	71 2 0 <1 5 55 335 409 887 <1 Current 0 4 38 0.003 30	       history1    	       history2    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 >0.05 >500 limit/base	71 2 0 <1 5 55 335 409 887 <1 <i>current</i> 0 4 38 0.003 30 <i>current</i>	       history1        history1	       history2        -
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 >0.05 >500 limit/base >5000	71 2 0 <1 5 55 335 409 887 <1 <i>current</i> 0 4 38 0.003 30 <i>current</i> 674	      history1     history1  	      history2   history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	limit/base >15 >20 >0.05 >500 limit/base >5000 s640 >160	71 2 0 <1 5 55 335 409 887 <1 current 0 4 38 0.003 30 current 674 244	        history1         	       history2      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.05 >500 limit/base >5000 s640 >160	71 2 0 <1 5 55 335 409 887 <1 current 0 4 38 0.003 30 current 674 244 40	         history1         	       history2      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Vater ppm Water Ppm Water Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >15 >20 >0.05 >500 limit/base >5000 >640 >160 >160 >40 >10	71 2 0 <1 5 55 335 409 887 <1 current 0 4 38 0.003 30 current 674 244 40 17	        history1    history1    history1	       history2    history2

17/15/12 --- CHECOB Contact/Location: Tatiana Sorkina - CHECOB Page 1 of 2

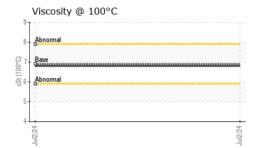
## Sample Rating Trend

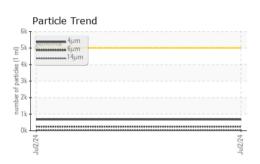
NORMAL

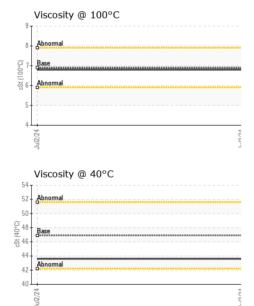


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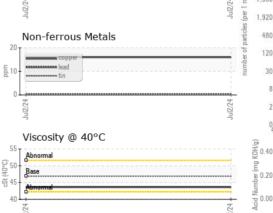
5000 Se	vere								
4000									
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2000									
1000	normal								
Jul2/24									

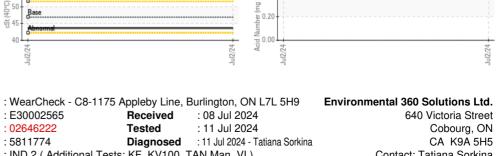






FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*		0.36		
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	NONE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	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*	>0.05	NEG		
Free Water	scalar	Visual*		NEG		
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46.9	43.6		
Visc @ 100°C	cSt	ASTM D7279(m)	6.9	6.8		
Viscosity Index (VI)	Scale	ASTM D2270*	102	110		
SAMPLE IMAGES	6	method	limit/base	current	history1	history2
SAMPLE IMAGES	3	method	limit/base	current	history1 no image	history2
	3	method	limit/base	current		
Color Bottom GRAPHS		method	limit/base		no image	no image
Color Bottom GRAPHS Ferrous Alloys		method		current	no image	no image no image
Color Bottom GRAPHS Ferrous Alloys		method	491,520		no image	no image no image
Color Bottom GRAPHS Ferrous Alloys		method	491,520 122,880		no image	no image no image
Color Bottom GRAPHS Ferrous Alloys			491.520 122.880 30,720	Particle Count	no image	no image no image
Color Bottom GRAPHS Ferrous Alloys			491.520 122.880 30,720	Particle Count	no image	no image no image
Color Bottom GRAPHS Ferrous Alloys			491.520 122.880 30,720	Particle Count	no image	no image no image
Color Bottom GRAPHS Ferrous Alloys			491.520 122.880 30,720	Particle Count	no image	no image no image
Color Bottom GRAPHS Ferrous Alloys			491.520 122.880 30.720 FE 7.680 1920 1920 1920 1920 1920 1920 1920	Particle Count	no image	no image





21µ

Acid Number

u17/74

38

: E30002565 Received : 08 Jul 2024 Sample No. Lab Number : 02646222 Tested : 11 Jul 2024 ISO 17025:2017 Accredited Laboratory Unique Number : 5811774 Diagnosed : 11 Jul 2024 - Tatiana Sorkina Test Package : IND 2 (Additional Tests: KF, KV100, TAN Man, VI) To discuss this sample report, contact Customer Service at 1-905-372-2251. 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.

Contact: Tatiana Sorkina tsorkina@e360s.ca T: (800)263-3939 F: (905)373-4950

Report Id: CHECOB [WCAMIS] 02646222 (Generated: 07/11/2024 13:46:26) Rev: 1

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