

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend







Machine Id **211** Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

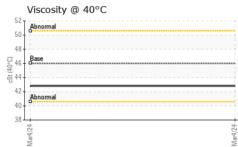
The condition of the oil is acceptable for the time in service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0120340		
Sample Date		Client Info		04 Mar 2024		
Machine Age	hrs	Client Info		2134		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
CONTAMINAT		method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	0		
Chromium	ppm	ASTM D5185m		0		
Nickel	ppm	ASTM D5185m	>10	0		
Titanium	ppm	ASTM D5185m	210	0		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>10	0		
Lead	ppm	ASTM D5185m	>10	0		
Copper	ppm		>75	0		
Tin	ppm	ASTM D5185m	>10	0		
Vanadium	ppm	ASTM D5185m	>10	0		
Cadmium	ppm	ASTM D5185m		0		
	ppin					
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0		
			-	•		
Barium	ppm	ASTM D5185m	5	0		
Barium Molybdenum	ppm ppm	ASTM D5185m	5 5	0		
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m	5	0		
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 25	0 0 0		
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200	0 0 0 60		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300	0 0 0 60 366		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370	0 0 0 60 366 444	  	
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300	0 0 0 60 366		
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370	0 0 0 60 366 444	  	  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 <b>limit/base</b> >20	0 0 0 60 366 444 1037	   	  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	5 25 200 300 370 2500 <b>limit/base</b> >20	0 0 0 60 366 444 1037 current	   	  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 limit/base >20	0 0 0 60 366 444 1037 current 0	   	  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	5 25 200 300 370 2500 limit/base >20	0 0 0 60 366 444 1037 current 0 <1	   	  
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 <b>limit/base</b> >20	0 0 0 60 366 444 1037 <u>current</u> 0 <1 0	    history1  	    history2 
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 imit/base >20 imit/base	0 0 0 60 366 444 1037 current 0 <1 0 current	    history1   history1	    history2   history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 <b>imit/base</b> >20 <b>imit/base</b> NONE	0 0 0 60 366 444 1037 current 0 <1 0 current NONE	    history1   history1  history1	    history2  history2  history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm VTS	ASTM D5185m ASTM D5185m Yisual	5 25 200 300 370 2500 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 vurrent NONE NONE	    history1   history1  history1	    history2   history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual	5 25 200 300 2500 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE	0 0 0 60 366 444 1037 <u>current</u> 0 <1 0 <1 0 vurrent NONE NONE NONE	     history1  history1  history1	     history2   history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual	5 25 200 300 2500 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 vurrent NONE NONE NONE NONE	    history1   history1  history1 	     history2   history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm ppm ypm ppm p	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual	5 25 200 300 2500 2500 1imit/base >20 20 1imit/base NONE NONE NONE NONE NONE NONE	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 vurrent NONE NONE NONE NONE NONE NONE	    history1   history1  history1 	   history2  history2  history2  history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual	5 25 200 300 2500 2500 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE NONE NONE NON	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 current NONE NONE NONE NONE NONE NONE NONE NON	     history1   history1    history1	     history2   history2        -
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ypm ypm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	5 25 200 300 370 2500 <b>imit/base</b> >20 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE NONE NONE NON	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 current NONE NONE NONE NONE NONE NONE NONE NON	    history1    history1    history1  	    history2    history2        -
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm vrs vrs scalar scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	5 25 200 300 370 2500 2500 2500 20 100 100 100 100 100 100 100 100 10	0 0 0 60 366 444 1037 current 0 <1 0 <1 0 current NONE NONE NONE NONE NONE NONE NONE NON	      history1   history1        -	     history2    history2          -

Contact/Location: CJ MARTIN - COSMAN



# **OIL ANALYSIS REPORT**



sc @ 40°C SAMPLE IMAG	cSt	ASTM D4	45 46	42.8		
SAMPLE IMAG	EQ					
	LU	methoo	l limit/base	current	history1	history2
olor				no image	no image	no image
ottom				no image	no image	no image
GRAPHS						
Ferrous Alloys						
chromium						
- <del>1</del> 4/24			14/24			
			Ma			
Non-ferrous Metals	5					
copper						
			/24			
Mlar			Mar4			
Viscosity @ 40°C						
Abnormal						
·						
Base			*****			
Abnormal						
Mar4/2			Mar4/2 <sup>,</sup>			
arCheck USA - 501	Madiso	n Ave., Ca	ary, NC 27513		COSTYS ENER	GY SERVICES
A0120340	Recei	ved :	21 Mar 2024			329 S MAIN ST
39423				Ves Davis	M	ANSFIELD, PA US 1693
ET	-					ct: CJ MARTIN
	Ferrous Alloys	GRAPHS   Ferrous Alloys   icon   chromium   nickel   Non-ferrous Metals   icopper   lead   Viscosity @ 40°C   Abnomal   Base   Abnomal   Abnomal   arCheck USA - 501 Madiso   Alloys   arCheck USA - 501 Madiso   Alloys   Alloys   arCheck USA - 501 Madiso   Alloys   Base	GRAPHS   Ferrous Alloys   iron   iron   iron   nickel   Non-ferrous Metals   iron   Viscosity @ 40°C   Abnormal   Pase   Abnormal   Pase   arCheck USA - 501 Madison Ave., Ci   Automal   iron   iron   iron   Pase   arCheck USA - 501 Madison Ave., Ci   Automal   iron   iron   iron   Pase   iron	GRAPHS         Ferrous Alloys         inonium         inonium         inide         opper         inide         opper         inide         opper         inide         opper         inide         opper         inide         opper         inide         inide         inide         opper         inide         i	SRAPHS Ferrous Alloys  Ferrous Alloys  Conferrous Metals  Conferrous M	SRAPHS Ferrous Alloys

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)

Certificate L2367

T:

F: