

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL

## CORE MOLDING - C16700 Machine Id M13349

Component Hydraulic System Fluid NOT GIVEN (--- GAL)

#### DIAGNOSIS

Recommendation

This is a baseline read-out on the submitted sample.

#### Wear

Copper and iron ppm levels are noted.

### Contamination

Silicon ppm levels are notably high.

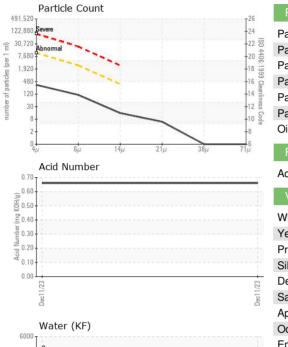
## Fluid Condition

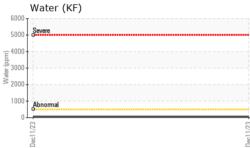
{not applicable}

				Dec2023		
				Dec2023		
SAMPLE INFORM	1ATION	method	limit/base	current	history1	history2
Batch #		Client Info		MOBILE		
Department		Client Info		Production		
Sample From		Client Info		Machine		
Production Stage		Client Info		Final		
Sent to WC		Client Info		12/13/2023		
Sample Number		Client Info		E30000924		
Sample Date		Client Info		11 Dec 2023		
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	24		
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	3		
Lead	ppm	ASTM D5185(m)	>20	3		
Copper	ppm	ASTM D5185(m)	>20	32		
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		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1		
Barium	ppm	ASTM D5185(m)		<1		
Molybdenum	ppm	ASTM D5185(m)		0		
Manganese	ppm	ASTM D5185(m)		0		
Magnesium	ppm	ASTM D5185(m)		7		
Calcium	ppm	ASTM D5185(m)		30		
Phosphorus	ppm	ASTM D5185(m)		812		
Zinc	ppm	ASTM D5185(m)		457		
Sulfur	ppm	ASTM D5185(m)		2538		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINANTS	lele	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	10		
Sodium	ppm	ASTM D5185(m)	00	<1		
Potassium	ppm	ASTM D5185(m)	>20	0		
Water	%	ASTM D6304*	>0.05	0.003		
ppm Water	ppm	ASTM D6304*	>500	37		



# **OIL ANALYSIS REPORT**





12

nber of particles (1 ml)

2 0k

cSt (100°C)

Dec11/23

lec]



FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       >10000       294           Particles >6µm       ASTM D7647       >2500       97           Particles >14µm       ASTM D7647       >20       0           Particles >3µm       ASTM D7647       >20       0           Particles >3µm       ASTM D7647       >40       0           Particles >71µm       ASTM D7647       >4       0           Oil Cleanliness       ISO 4406 (c)       >20/18/15       15/14/11           FLUID DEGRADATION       method       Imit/base       current       history1       history2         Acid Number (AN)       mgKHg       ASTM D7647       NONE       no.66           VISUAL       method       Imit/base       current       history1       history1       history2         White Metal       scalar       Visual*       NONE       no.66							
Particles >6µm       ASTM D7647       >2500       97           Particles >14µm       ASTM D7647       >320       13           Particles >21µm       ASTM D7647       >80       5           Particles >38µm       ASTM D7647       >20       0           Particles >38µm       ASTM D7647       >4       0           Oll Cleanliness       ISO 4406 (o)       >20/18/15       15/14/11           FLUID DEGRADATION       method       limit/base       current       history1       history2         Acid Number (AN)       mg KOHg       ASTM D74       NONE           VISUAL       method       limit/base       current       history1       history2         White Metal       scalar       Visual*       NONE       NONE           Yellow Metal       scalar       Visual*       NONE       NONE           Sit       scalar       Visual*       NONE       NONE	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >14µm     ASTM D7647     >320     13         Particles >21µm     ASTM D7647     >80     5         Particles >38µm     ASTM D7647     >20     0         Particles >71µm     ASTM D7647     >4     0         Particles >71µm     ASTM D7647     >4     0         Oil Cleanliness     ISO 4406 (c)     >20/18/15     15/14/11         FLUID DEGRADATION     method     imit/base     current     history1     history2       Acid Number (AN)     mg KOHg     ASTM D974*     0.666         VISUAL     method     imit/base     current     history1     history2       White Metal     scalar     Visual*     NONE          Yellow Metal     scalar     Visual*     NONE     NONE          Sit     scalar     Visual*     NONE     NONE          Sand/Dirt     scalar     Visual*     NORML	Particles >4µm		ASTM D7647	>10000	294		
Particles >21µm   ASTM D7647   >80   5       Particles >38µm   ASTM D7647   >20   0       Particles >71µm   ASTM D7647   >4   0       Oil Cleanliness   ISO 4406 (c)   >20/18/15   15/14/11       FLUID DEGRADATION   method   imit/base   current   history1   history2     Acid Number (AN)   mg KOHg   ASTM D974*   0.666       VISUAL   method   imit/base   current   history1   history2     White Metal   scalar   Visual*   NONE       Yellow Metal   scalar   Visual*   NONE   none      Precipitate   scalar   Visual*   NONE   NONE       Sitt   scalar   Visual*   NONE   NONE       Appearance   scalar   Visual*   NORML   NORML       God   scalar   Visual*   NORML   NORML       Appearance   scalar   Visual*   NORML   NORML       Emulsified Water   <	Particles >6µm		ASTM D7647	>2500	97		
Particles >38µm   ASTM D7647   >20   0       Particles >71µm   ASTM D7647   >4   0       Oil Cleanliness   ISO 4406 (c)   >20/18/15   15/14/11       FLUID DEGRADATION   method   limit/base   current   history1   history2     Acid Number (AN)   mg KOHg   ASTM D974*   0.66       VISUAL   method   limit/base   current   history1   history2     White Metal   scalar   Visual*   NONE   NONE       Yellow Metal   scalar   Visual*   NONE   NONE       Yellow Metal   scalar   Visual*   NONE   NONE       Precipitate   scalar   Visual*   NONE   NONE       Sand/Dirt   scalar   Visual*   NONE   NORML       Appearance   scalar   Visual*   NORML   NORML       Odor   scalar   Visual*   NORML   NORML       Emulsified Water   scalar   Visual*   NORML   NEG	Particles >14µm		ASTM D7647	>320	13		
Particles >71µm     ASTM D7647     >4     0         Oil Cleanliness     ISO 4406 (c)     >20/18/15     15/14/11         FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg K0Hg     ASTM D974*     0.66         VISUAL     method     limit/base     current     history1     history2       White Metal     scalar     Visual*     NONE     NONE         Yellow Metal     scalar     Visual*     NONE     NONE         Yellow Metal     scalar     Visual*     NONE     NONE         Precipitate     scalar     Visual*     NONE     NONE         Sitt     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NORML     NORML         Appearance     scalar     Visual*     NORML     NORML         Godor     scalar	Particles >21µm		ASTM D7647	>80	5		
Oil Cleanliness   ISO 4406 (c)   >20/18/15   15/14/11       FLUID DEGRADATION   method   limit/base   current   history1   history2     Acid Number (AN)   mg KOHg   ASTM D974*   0.66       VISUAL   method   limit/base   current   history1   history2     White Metal   scalar   Visual*   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      Striget Water   scalar   Visual*   NORML   NORML      Free Water   scalar   Visual*   NORML   NORML      Free Water   scalar   Visual*   NORM   NORM      Visc @ 40°C   cSt   ASTM D7279(m)   70.5   <	Particles >38µm		ASTM D7647	>20	0		
FLUID DEGRADATION     method     limit/base     current     history1     history2       Acid Number (AN)     mg K0H/g     ASTM D974*     0.66         VISUAL     method     limit/base     current     history1     history2       White Metal     scalar     Visual*     NONE         Yellow Metal     scalar     Visual*     NONE     NONE         Precipitate     scalar     Visual*     NONE     NONE         Silt     scalar     Visual*     NONE     NONE         Debris     scalar     Visual*     NONE     NONE         Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML          Odor     scalar     Visual*     NORML     NORML          Emulsified Water     scalar     Visual*     NORML     NORML	Particles >71µm		ASTM D7647	>4	0		
Acid Number (AN)     mg KOHg     ASTM D974*     0.66         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         Appearance     scalar     Visual*     NORML     NORML     NORML         Odor     scalar     Visual*     NORML     NORML     NORML     Nor	Oil Cleanliness		ISO 4406 (c)	>20/18/15	15/14/11		
VISUAL   method   limit/base   current   history1   history2     White Metal   scalar   Visual*   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       Odor   scalar   Visual*   NORML   NORML       Odor   scalar   Visual*   NORML   NORML       Emulsified Water   scalar   Visual*   >0.05   NEG       Free Water   scalar   Visual*   NORM        Visc@ 40°C   cSt   ASTM D2270*   70.5 <th>FLUID DEGRADA</th> <th>TION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEPrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLCodorscalarVisual*NORMLNORMLFree WaterscalarVisual*>0.05NEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2Visc @ 40°CcStASTM D7279(m)70.5Visc @ 100°CcStASTM D7279(m)9.4Viscosity Index (VI)ScaleASTM D2270*110SAMPLE IMAGESmethodlimit/basecurrenthistory1history2ColorImit basecurrenthistory1history2no image	Acid Number (AN)	mg KOH/g	ASTM D974*		0.66		
Yellow Metal     scalar     Visual*     NONE         Precipitate     scalar     Visual*     NONE     NONE         Silt     scalar     Visual*     NONE     NONE         Silt     scalar     Visual*     NONE     NONE         Debris     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NONE     NONE         Sand/Dirt     scalar     Visual*     NOR     NORE         Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.05     NEG         Free Water     scalar     Visual*     NOT     NEG          FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C<	VISUAL		method	limit/base	current	history1	history2
PrecipitatescalarVisual*NONENONESiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLCodorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.05NEGFree WaterscalarVisual*>0.05NEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2Visc @ 40°CcStASTM D7279(m)9.4Viscosity Index (VI)ScaleASTM D2270*110SAMPLE IMAGESmethodlimit/basecurrenthistory1history2ColorImageno imageno imageno imageno image	White Metal	scalar	Visual*	NONE	NONE		
Silt   scalar   Visual*   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*   NORML   NORML      Free Water   scalar   Visual*   >0.05   NEG       FLUID PROPERTIES   method   limit/base   current   history1   history2     Visc @ 40°C   cSt   ASTM D7279(m)   9.4       Visco@ 100°C   cSt   ASTM D7279(m)   9.4       Viscosity Index (VI)   Scale   ASTM D2270*   110       SAMPLE IMAGES   method   limit/base   current   history1   history2 <	Yellow Metal	scalar	Visual*	NONE	NONE		
DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLColorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.05NEGFree WaterscalarVisual*NORImit/basecurrenthistory1history2Visc @ 40°CcStASTM D7279(m)70.5Visc @ 100°CcStASTM D7279(m)9.4Viscosity Index (VI)ScaleASTM D7279(m)9.4SAMPLE IMAGESmethodlimit/basecurrenthistory1history2ColorLine Line Line Line Line Line Line Line	Precipitate	scalar	Visual*	NONE	NONE		
Sand/Dirt     scalar     Visual*     NONE         Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.05     NEG         Free Water     scalar     Visual*     >0.05     NEG         FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D2270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color     Image     no image     <	Silt	scalar	Visual*	NONE	NONE		
Appearance     scalar     Visual*     NORML     NORML         Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.05     NEG         Free Water     scalar     Visual*     One Mail     Normal     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color	Debris	scalar	Visual*	NONE	NONE		
Odor     scalar     Visual*     NORML     NORML         Emulsified Water     scalar     Visual*     >0.05     NEG         Free Water     scalar     Visual*     NOR     NEG         FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D2270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color     Image     Image     no image     no image     no image	Sand/Dirt	scalar	Visual*	NONE	NONE		
Emulsified Water     scalar     Visual*     >0.05     NEG         Free Water     scalar     Visual*     NEG          FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Visco@index (VI)     Scale     ASTM D7279(m)     9.4         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color	Appearance	scalar	Visual*	NORML	NORML		
Free Water     scalar     Visual*     NEG        FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D2270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color	Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERTIES     method     limit/base     current     history1     history2       Visc @ 40°C     cSt     ASTM D7279(m)     70.5         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D7270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color     Imit/base     current     history1     history2	Emulsified Water	scalar	Visual*	>0.05	NEG		
Visc @ 40°C       cSt       ASTM D7279(m)       70.5           Visc @ 100°C       cSt       ASTM D7279(m)       9.4           Viscosity Index (VI)       Scale       ASTM D7270*       110           SAMPLE IMAGES       method       limit/base       current       history1       history2         Color	Free Water	scalar	Visual*		NEG		
Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D2270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color     Imit/base     Imit/base     Imit/base     Imit/base     Imit/base     Imit/base	FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C     cSt     ASTM D7279(m)     9.4         Viscosity Index (VI)     Scale     ASTM D2270*     110         SAMPLE IMAGES     method     limit/base     current     history1     history2       Color     Image     no image     no image     no image     no image	Visc @ 40°C	cSt	ASTM D7279(m)		70.5		
SAMPLE IMAGES   method   limit/base   current   history1   history2     Color   Image   no image   no image					9.4		
Color no image no image	Viscosity Index (VI)	Scale	ASTM D2270*		110		
	SAMPLE IMAGES	5	method	limit/base	current	history1	history2
	Color					no image	no image
Bottom no image no image				Î			
Bottom no image no image							
	Bottom					no image	no image

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Environmental 360 Solutions Ltd. Recieved : 15 Dec 2023 640 Victoria Street Diagnosed : 19 Dec 2023 Cobourg, ON Accredited Laboratory Unique Number : 5696573 Diagnostician : Tatiana Sorkina CA K9A 5H5 Test Package : IND 2 (Additional Tests: KF, KV100, VI) Contact: Fred Kosseim To discuss this sample report, contact Customer Service at 1-905-372-2251. fkosseim@e360s.ca T: (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. F: (905)372-1658