



EMPIRE MACHINERY - ARIZONA LAB - 1725 S. Country Club Drive Mesa, AZ 85210 USA

PHONE: 866-224-3087

Web: <https://empire-cat.com> Email: fluidslab@empire-cat.com

ENGINE

EQUIP NUM: 5686004
CAT 773B

H177-55100-0396

LABEL#: 250942893

SAMPLE SHIP TIME (days) : 3

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 10-Apr-25



Interp By: Joseph Cusick
Interpreted On: 10-Apr-25

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

SAMPLE INFORMATION

Sampled Date	07-Apr-25	20-Aug-24	22-Jul-24	06-Jun-24
Sample Id	H177-55100-0396	H160-54235-0791	H160-54207-0639	H160-54162-0687
Lab Date	10-Apr-25	22-Aug-24	25-Jul-24	10-Jun-24
Meter (hr)	4875	4039.3	3779	3468
Meter On Fluid	1096.0	260.3	553.7	242.7

Fluid Brand				
Fluid Weight				
Fluid Type	N	N	Y	N
Fluid Change	N	N	Y	N
Filter Change	0	0	0	0
Total Fluid Added				

WEAR LEVELS / ADDITIVES

ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D6130 (COOLANT)				
	07-Apr-25	20-Aug-24	22-Jul-24	06-Jun-24
Cu	4	3	6	2
Fe	37	21	37	21
Cr	1	0	1	0
Al	1	0	3	0
Pb	3	2	3	0
Sn	1	1	0	0
Si	4	4	5	5
Na	1	8	7	2
K	2	5	6	5
Mo	103	94	101	98
Ni	2	1	1	0
Ag	0	0	0	0
Ti	0	0	0	0
V	0	0	0	0
Mn	0	0	0	0
Ca	2730	2507	2616	2834
P	1161	1105	1161	1148
Zn	1392	1293	1384	1339
Mg	30	27	19	24
Ba	0	0	0	0
B	69	55	49	63

PREVIOUS SAMPLE				
NO	PROBLEMS	PRESENTLY	ASSOCIATED	WITH THIS SAMPLE.
SAMPLING AT THE NORMAL INTERVAL.				
For additional sample history, go to: S.O.S.WEB				

CONDITION / CONTAMINATION

VISCOSITY (CENTISTOKES) ASTM D445				
V100	Viscosity at 100 C	13.90	13.80	13.90
				13.80

INFRARED (UFM) ASTM E2412

ST	Soot	20	25	33	12
OXI	Oxidation	21	17	20	18
SUL	Sulfate By-Product	25	19	22	23
	Sulfur Products	25	19	22	23
NIT	Nitration	11	10	11	11

WATER

W	Water	N	N	N	N
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ANTIFREEZE

A	Antifreeze	N	N	N	N
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FUEL

F	Fuel	N	N	N	N
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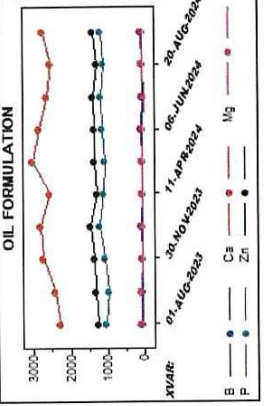
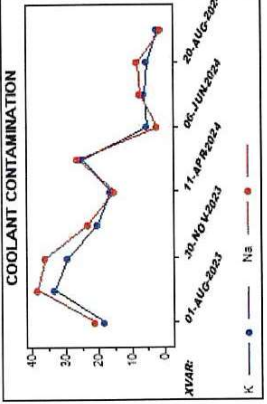
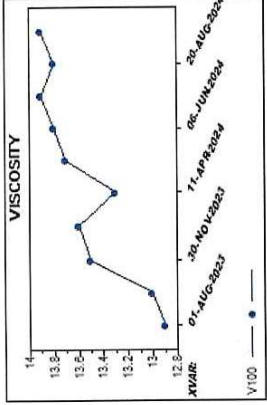
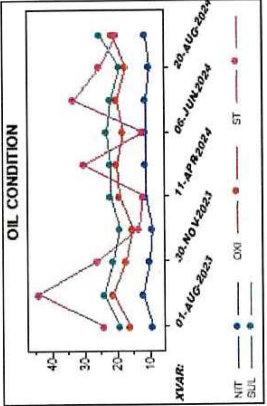
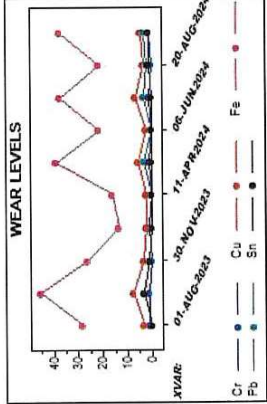
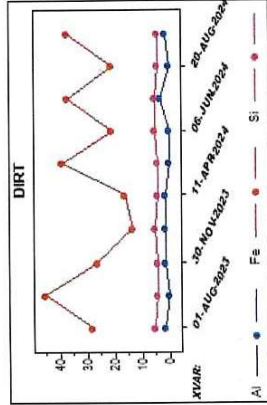
ENGINE

SERIAL NUMBER: 63W01707

EQUIP NUM: 588004

CAT 773B

H177-55100-0398



Report Comment

VisionLink® will be the new home for S.O.SSM Services fluid analysis. Begin the transition to VisionLink now - Sign up or log into vlink.com to update your settings, manage your fleet, configure your jobsites (groups), and view your samples. The ability for users to submit samples, track samples, view and graph sample history, and download reports are coming to VisionLink soon.



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Web: <https://empire.cat.com> Email: fluidslab@empire-cat.com

TRANSMISSION POWER
SHIFT

EQUIP NUM: 5886004
CAT 773B

SERIAL NUMBER: 63W01707

H177-54362-0239

LABEL #: 248188977

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County,
Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



Interp By: Larry Byington
Interpreted On: 27-Dec-24

NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Sample Id	H177-54362-0239	H160-54207-0632	H160-54134-0606	H160-54026-0576
Lab Date	27-Dec-24	25-Jul-24	13-May-24	26-Jan-24
Meter [hr]	4626.3	3779	3225.3	2667
Meter On Fluid	847.3	1112.0	558.3	2117

Fluid Brand				
Fluid Weight				
Fluid Type	Y	Y	N	Y
Fluid Change	Y	Y	Y	Y
Filter Change	Y	Y	Y	Y
Total Fluid Added	0	0	0	0

PREVIOUS SAMPLE

OIL TYPE/	GRADE	MAY	HAVE	BEEN	CHANGED	-	NOTE	CHANGES	TO
VISCOSITY	&	METAL	ADDITIVE	PACKAGE.	NO	PROBLEMS	PRESENTLY		
ASSOCIATED	WITH	THIS	SAMPLE.	CONTINUE	SAMPLING	AT	THE	NORMAL	INTERVAL.

For additional sample history, go to:

S.O.S WEB

CONDITION / CONTAMINATION

VISCOSITY (CENTISTOKES) ASTM D445	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
V/100	Viscosity at 100 C	10.90	10.80	8.300
				9.800

INFRARED (IFM) ASTM E2412

ST	Soot	2	1	1	1	1
OXI	Oxidation	3	3	3	3	5
SUL	Sulfur Products	11	12	11	11	14
NIT	Nitration	4	4	4	4	4

WEAR LEVELS / ADDITIVES

20-Dec-24 22-Jul-24 09-May-24 22-Jan-24

ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D6130 (COOLANT)

Cu	Copper	5	7	4	170
Fe	Iron	7	5	3	15
Cr	Chromium	0	0	0	1
Al	Aluminum	1	2	0	2
Pb	Lead	5	2	1	15
Sn	Tin	0	1	0	1
Si	Silicon	11	16	4	10
Na	Sodium	15	0	0	10
K	Potassium	0	0	0	2
Mo	Molybdenum	16	14	8	8
Ni	Nickel	0	0	0	0
Ag	Silver	0	0	0	0
Ti	Titanium	0	0	0	0
V	Vanadium	0	0	0	0
Mn	Manganese	0	0	0	0
Ca	Calcium	3046	2759	3541	4511
P	Phosphorus	1121	921	946	995
Zn	Zinc	1341	1118	1212	1123
Mg	Magnesium	33	25	28	26
Ba	Barium	0	0	0	0
B	Boron	12	10	9	6

CLEANLINESS

PARTICLE COUNT - ISO 11171:1998 reported per ISO 4406	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
ISO	ISO Code Rating	21/17/9	21/19/15	20/17/12
4µ	4µ	12942	15525	6315
6µ	6µ	1297	3791	1115
10µ	10µ	51	910	123
14µ	14µ	4	188	39
21µ	21µ	0	18	16
38µ	38µ	0	0	0

PARTCL VOL INDICATOR

PVI	PVI	0.53	1.13	0.39	0.62
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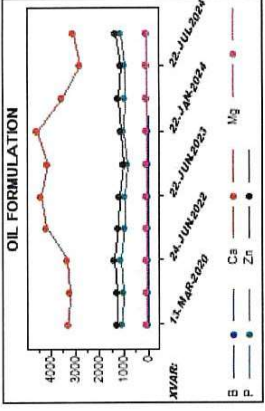
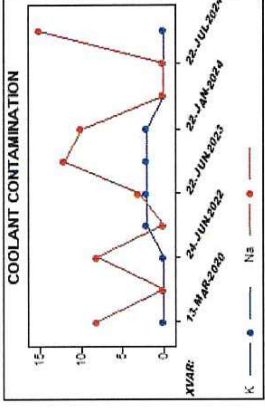
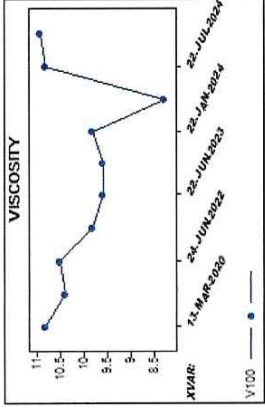
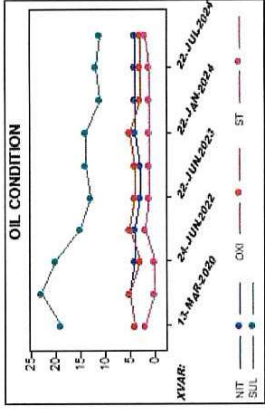
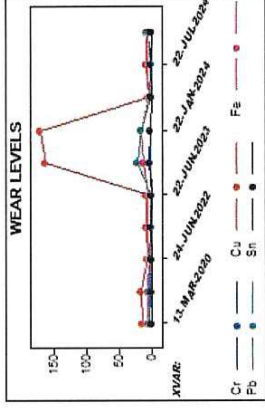
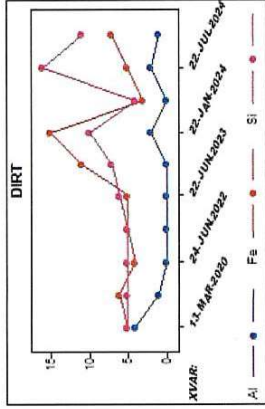
DEBRIS

Debrt	Debris	N	N	N	N
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Notice: This analysis is intended as an aid in predicting mechanical wear. No guarantee, expressed or implied, is made against failure of this piece of equipment or component thereof.

TRANSMISSION POWER SHIFT
SERIAL NUMBER: 63W01707
EQUIP NUM: 5688004
CAT 773B

H177-54362-0239



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJVUrs>



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DIFFERENTIAL REAR

EQUIP NUM: 5686004

CAT 773B

H177-54362-0248

LABEL#: 248189030

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



OIL TYPE/ GRADE MAY HAVE BEEN CHANGED - NOTE CHANGES TO VISCOSITY & METAL ADDITIVE PACKAGE. SOME
VISCOSITY LOSS OBSERVED. MAGNETIC DEBRIS FOUND IN SAMPLE. INSPECT MAGNETIC PLUGS. SOME METALLIC FUZZ
IS NORMAL. METALLIC CHIPS OR FLAKES INDICATE ABNORMAL WEAR. LEAD IS ELEVATED. COPPER IS ELEVATED.
POSSIBLE THRUST WEAR. MONITOR COMPARTMENT.

Interp By: Lary Byington
Interpreted On: 27-Dec-24

SERIAL NUMBER: 63W01707

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	22-Jan-24
Sample Id	H177-54362-0246	H160-54207-0638	H160-54026-0578
Lab Date	27-Dec-24	25-Jul-24	26-Jan-24
Meter [HR]	4626.3	3779	2667
Meter On Fluid	1959.3	1112.0	2117
Fluid Brand			
Fluid Weight			
Fluid Type	Y	N	Y
Fluid Change	N	N	N
Filter Change			
Total Fluid Added	0	0	0

PREVIOUS SAMPLE

COPPER IS ELEVATED. POSSIBLE THRUST WEAR. ACTION REQUIRED.

For additional sample history, go to:

S.O.S WEB

CONDITION / CONTAMINATION

	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
VISCOSITY (CENTISTOKES) ASTM D445				
V100	9.500	11.60	11.90	14.10
Viscosity at 100 C				

INFRARED (UFM) ASTM E2412

ST	Soot	2	2	1	0
OXI	Oxidation	4	4	4	5
SUL	Sulfur Products	12	12	12	11
NIT	Nitration	4	4	4	7

WEAR LEVELS / ADDITIVES

	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
ELEMENTAL ANALYSIS (PPM) ASTM D5165 [OIL] / ASTM D6130 [COOLANT]				
Cu	25	32	29	68
Fe	72	94	81	257
Cr	1	1	0	1
Al	0	4	0	0
Pb	5	4	3	6
Sn	0	3	1	4
Si	15	16	16	17
Na	9	0	2	10
K	1	0	0	1
Mo	12	11	8	10
Ni	1	2	1	3
Ag	0	0	0	1
Ti	0	0	0	0
V	0	0	0	0
Mn	1	1	1	2
Ca	3208	3437	4122	3562
P	1047	1000	961	947
Zn	1222	1186	1215	1207
Mg	34	28	32	35
Ba	0	0	0	0
B	11	11	9	12

CLEANLINESS

	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
PARTICLE COUNT - ISO 11171:1998 reported per ISO 4406				
ISO	ISO Code Rating	mag	23/23/22	24/23/20
4µ		73440	80732	
6µ		64392	52379	
10µ		46579	18918	
14µ		28676	6150	
18µ		16459		
21µ		9321	1186	
38µ		173	33	

PARTCL VOL INDICATOR

PVI	PVI	mag	96.86	17.29	H2O
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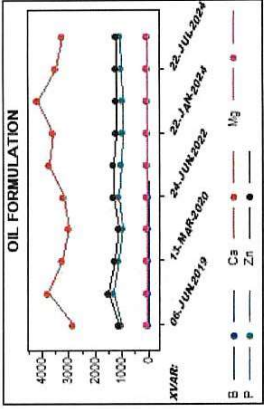
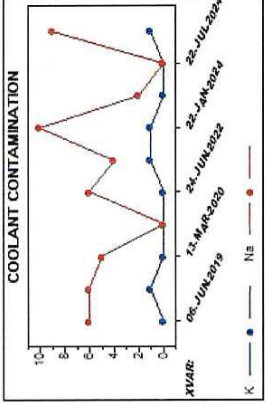
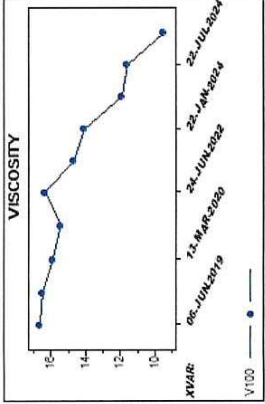
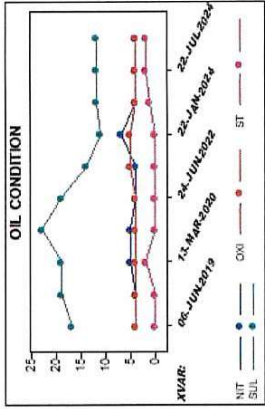
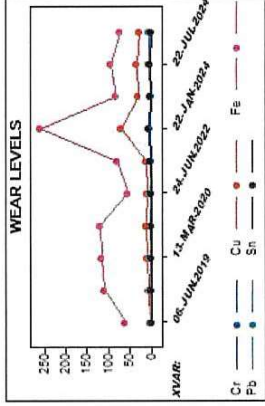
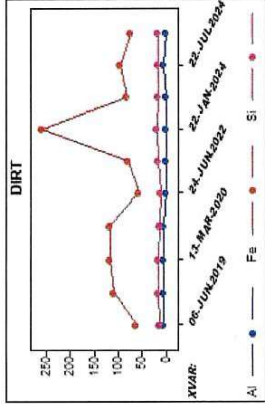
DEBRIS

Debrt	Debris	N	N	N	N	N
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DIFFERENTIAL REAR
SERIAL NUMBER: 63W01707
EQUIP NUM: 6686004
CAT 773B

H177-64362-0246



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJvUrs>



PHONE: 866-224-3087

SERIAL NUMBER: 63W01707

CAT 773B

Interp By: Larry Byington

Interpreted On: 27-Dec-24

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



OIL TYPE/ GRADE MAY HAVE BEEN CHANGED - NOTE CHANGES TO VISCOSITY & METAL ADDITIVE PACKAGE. SOME
VISCOSITY LOSS OBSERVED. MAGNETIC DEBRIS FOUND IN SAMPLE. INSPECT MAGNETIC PLUGS. SOME METALLIC FUZZ
IS NORMAL. METALLIC CHIPS OR FLAKES INDICATE ABNORMAL WEAR. LEAD IS ELEVATED. COPPER IS ELEVATED.
POSSIBLE THRUST WEAR. MONITOR COMPARTMENT.

Sampled Date	Sample Id	Lab Date	Meter [Hr]	Meter On Fluid
20-Dec-24	H177-54362-0242	27-Dec-24	4626.3	1959.3
22-Jul-24	H160-54207-0633	25-Jul-24	3770	1112.0
09-May-24	H160-54134-0608	13-May-24	3225.3	558.3
22-Jan-24	H160-54026-0579	26-Jan-24	2667	2117

For additional sample history, go to:

For additional sample history, go to:

VISCOSITY (CENTISTOKES) ASTM D445

V100 Viscosity at 100 C

11.70	12.20	14.10
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	25	32	27	68
Cu				
Fe	71	86	67	254
Cr	1	1	0	1

Al	Aluminum	0	3	0	0
Pb	Lead	5	3	3	5
Sn	Tin	0	2	1	3
Na	Sodium	15	15	15	19
K	Potassium	9	0	0	10
Mo	Molybdenum	2	1	0	2
Ni	Nickel	13	8	7	8
Ag	Silver	1	2	1	3
Al	Aluminum	0	0	0	0
Ti	Titanium	0	0	0	0
V	Vanadium	0	0	0	0
Mn	Manganese	1	1	1	2
Ca	Calcium	3143	3376	3958	3602
P	Phosphorus	1023	981	922	947
Zn	Zinc	1178	1167	1163	1217
Mg	Magnesium	32	28	31	35
Ba	Barium	0	0	0	0
B	Boron	13	9	9	11

ISO	ISO Code Rating	mag	23/23/
ISO	ISO Code Rating	mag	23/23/

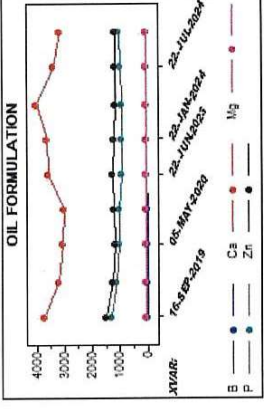
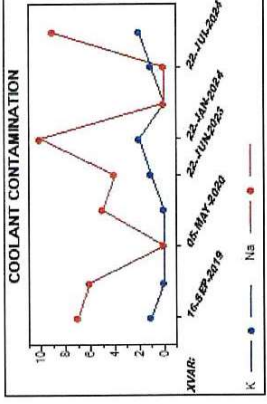
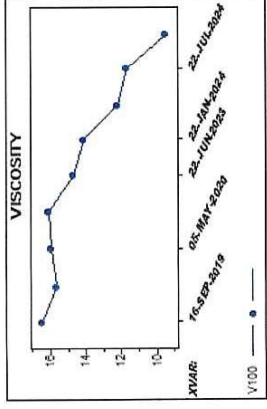
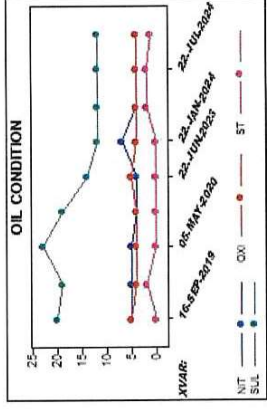
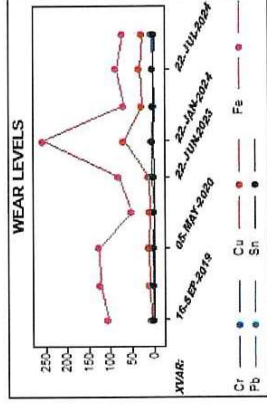
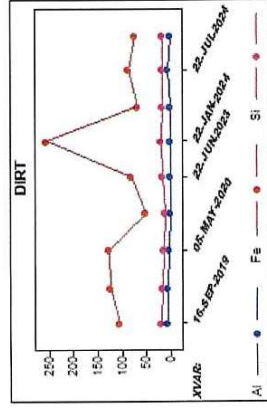
	4 μ	6 μ	8 μ	10 μ	14 μ	18 μ	21 μ	38 μ
78993								
78774								
49525								
16355								
4794								
747								
7								

DEBRIS

Debris	Debris	N	N	N	N
Debris	Debris	N	N	N	N

FINAL DRIVE REAR LEFT
SERIAL NUMBER: 63W01707
EQUIP NUM: 5686004
CAT 773B

H177-54352-0242



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJVUrs>



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PHONE: 866-224-3087

Web: <https://empire.cat.com> Email: fluidslab@empire-cat.com

FINAL DRIVE REAR
RIGHT

EQUIP NUM: 5686004
CAT 773B

H177-54362-0243

LABEL#: 248188974

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



OIL TYPE/ GRADE MAY HAVE BEEN CHANGED - NOTE CHANGES TO VISCOSITY & METAL ADDITIVE PACKAGE. SOME VISCOSITY LOSS OBSERVED. MAGNETIC DEBRIS FOUND IN SAMPLE. INSPECT MAGNETIC PLUGS. SOME METALLIC FUZZ IS NORMAL. METALLIC CHIPS OR FLAKES INDICATE ABNORMAL WEAR. COPPER IS ELEVATED. POSSIBLE THRUST WEAR. MONITOR COMPARTMENT.

Interp By: Larry Byington
Interpreted On: 27-Dec-24

SERIAL NUMBER: 63W01707

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Sample Id	H177-54362-0243	H160-54207-0635	H160-54134-0602	H160-54026-0580
Lab Date	27-Dec-24	25-Jul-24	13-May-24	26-Jan-24
Meier [Hr]	4626.3	3779	3226.3	2667
Meier On Fluid	1959.3	1112.0	558.3	2117

Fluid Brand				
Fluid Weight				
Fluid Type	Y	N	N	Y
Fluid Change	N	N	N	N
Filter Change	0	0	0	0
Total Fluid Added				

WEAR LEVELS / ADDITIVES

ELEMENTAL ANALYSIS (PPM) ASTM D6166 (OIL) / ASTM D6130 (COOLANT)				
	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Cu	25	31	26	69
Fe	72	77	71	247
Cr	1	0	0	1
Al	1	3	0	0
Pb	3	3	2	7
Sn	1	3	1	5
Si	15	14	15	19
Na	8	0	3	10
K	2	0	1	1
Mo	13	8	7	8
Ni	1	2	1	3
Ag	0	0	0	0
Ti	0	0	0	0
V	0	0	0	0
Mn	1	1	1	2
Ca	3173	3345	3915	3618
P	1025	965	919	959
Zn	1198	1146	1155	1222
Mg	33	27	30	36
Ba	0	0	0	0
B	11	8	8	11

PREVIOUS SAMPLE				
COPPER	IS	ELEVATED.	POSSIBLE THRUST WEAR.	MONITOR COMPARTMENT

For additional sample history, go to: S.O.S WEB

CONDITION / CONTAMINATION

VISCOSITY (CENTISTOKES) ASTM D445				
V100	Viscosity at 100 C	9.500	11.70	11.90
				14.10

INFRARED (UFM) ASTM E2412

ST	Soot	2	2	2	2	0
OXI	Oxidation	4	4	4	4	5
SUL	Sulfur Products	12	12	12	12	12
NIT	Nitration	4	4	4	4	7

WATER

W	Water	N	N	N	N	P
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CLEANLINESS

PARTICLE COUNT - ISO 11171:1999 reported per ISO 4406				
	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24

ISO	ISO Code Rating	mag	23/23/21	24/23/19	H2O
4µ	4µ		76723	83999	
6µ	6µ		61696	52351	
10µ	10µ		31996	16463	
14µ	14µ		11661	4510	
18µ	18µ		3829		
21µ	21µ		1546	620	
38µ	38µ		62	2	

PARTCL VOL INDICATOR

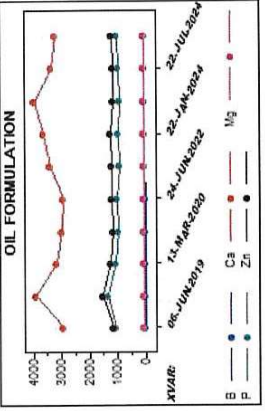
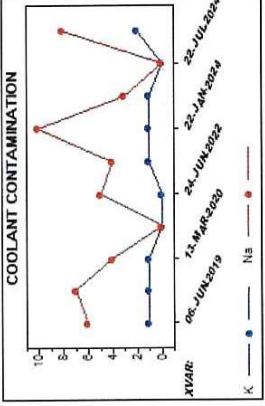
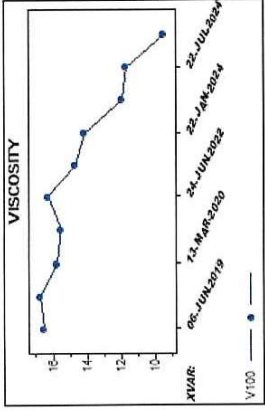
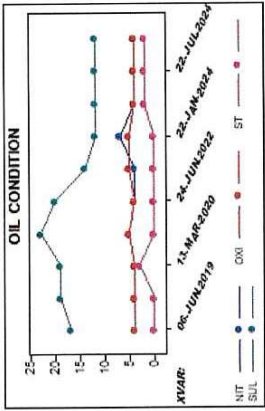
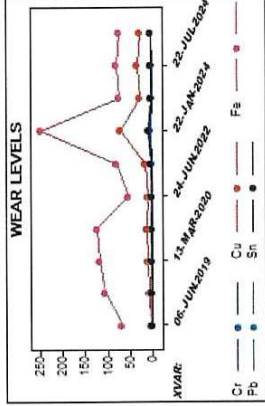
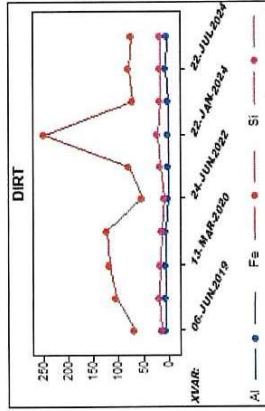
PVI	PVI	mag	41.42	13.78	H2O
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DEBRIS

Debrt	Debris	N	N	N	N	N
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FINAL DRIVE REAR RIGHT
SERIAL NUMBER: 63W01707
EQUIP NUM: 6888004
CAT 773B

H177-54362-0243

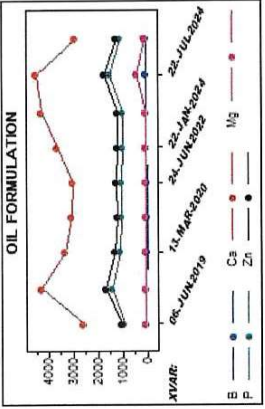
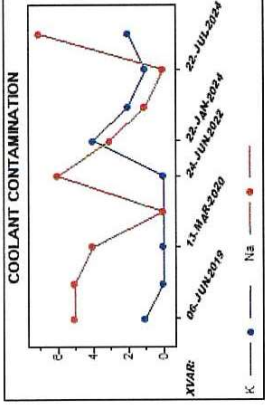
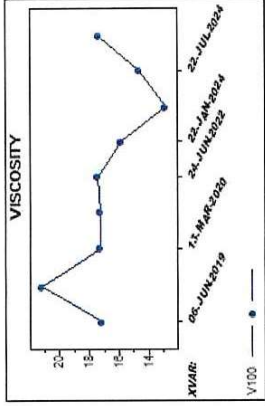
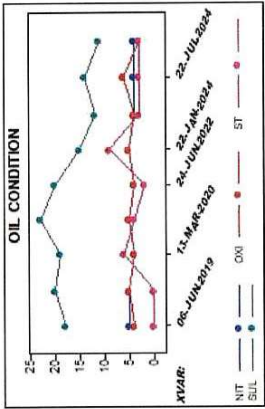
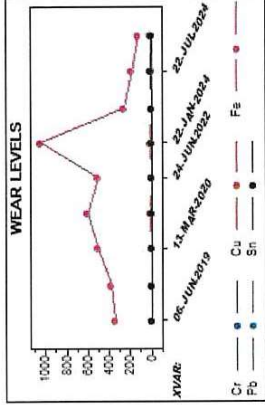
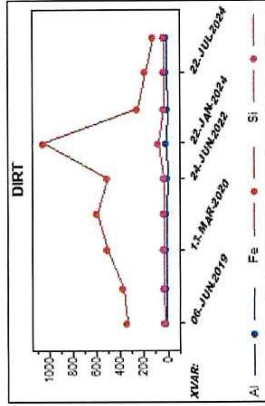


Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4H8bREJVUs>

WHEEL BEARINGS FRONT RIGHT
SERIAL NUMBER: 63W01707
EQUIP NUM: 5886004
CAT 773B

H177-54362-0245



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJVVrs>



EMPIRE MACHINERY - ARIZONA LAB - 1725 S. Country Club Drive Mesa, AZ 85210 USA

PHONE: 866-224-3087

Web: <https://empire.cat.com> Email: fluidslab@empire-cat.com

WHEEL BEARINGS

FRONT LEFT

H177-64362-0244

LABEL#: 246188823

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24

EQUIP NUM: 5686004

CAT 773B



Interp By: Larry Byington
Interpreted On: 27-Dec-24

OIL TYPE/ GRADE MAY HAVE BEEN CHANGED - NOTE CHANGES TO VISCOSITY & METAL ADDITIVE PACKAGE. NO PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE SAMPLING AT THE NORMAL INTERVAL.

SERIAL NUMBER: 63W01707

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Sample Id	H177-54362-0244	H160-54207-0636	H160-54134-0599	H160-54026-0581
Lab Date	27-Dec-24	25-Jul-24	13-May-24	26-Jan-24
Meter [Hr]	4626.3	3779	3225.3	2667
Meter On Fluid	847.3	553.7	558.3	2117



Fluid Weight	Y	Y	Y	Y
Fluid Type	N	N	N	N
Fluid Change	0	0	0	0
Filter Change	0	0	0	0
Total Fluid Added	0	0	0	0

WEAR LEVELS / ADDITIVES

20-Dec-24		22-Jul-24	09-May-24	22-Jan-24
ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D8130 (COOLANT)				

Cu	Copper	0	1	0	2
Fe	Iron	25	30	43	147
Cr	Chromium	0	0	0	0
Al	Aluminum	2	4	0	4
Pb	Lead	0	0	0	0
Sn	Tin	0	0	0	0
Si	Silicon	28	21	23	41
Na	Sodium	6	0	1	3
K	Potassium	2	0	1	2
Mo	Molybdenum	11	26	8	6
Ni	Nickel	0	1	0	0
Ag	Silver	0	0	0	0
Ti	Titanium	0	0	0	0
V	Vanadium	0	0	0	0
Mn	Manganese	0	0	0	1
Ca	Calcium	3021	4029	4002	3743
P	Phosphorus	1109	1311	940	1023
Zn	Zinc	1296	1529	1179	1285
Mg	Magnesium	85	262	29	35
Ba	Barium	0	0	0	0
B	Boron	8	19	9	8

PREVIOUS SAMPLE

NO	PROBLEMS	PRESENTLY	ASSOCIATED	WITH	THIS	SAMPLE.	CONTINUE
SAMPLING AT THE NORMAL INTERVAL.							

For additional sample history, go to:

S.O.S WEB

CONDITION / CONTAMINATION

20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
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VISCOSITY (CENTISTOKES) / ASTM D445

V100	Viscosity at 100 C	16.60	14.40	13.60	15.90
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INFRARED (UFM) ASTM E2412

ST	Soot	1	1	1	1	0
OXI	Oxidation	4	5	4	4	4
SUL	Sulfur Products	12	14	12	15	15
NIT	Nitration	4	4	4	4	4

WATER

W	Water	N	N	N	N	N
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CLEANLINESS

20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
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PARTICLE COUNT - ISO 11171:1989 reported per ISO 4408

ISO	ISO Code Rating	23/22/18	23/22/17	24/23/18	24/23/21
4µ	4µ	63181	65094	80129	80182
6µ	6µ	30553	32077	41440	65200
10µ	10µ	5570	4810	8046	35078
14µ	14µ	1507	1237	1744	12453
18µ	18µ	623	506	274	3293
21µ	21µ	356	272	274	940
38µ	38µ	29	8	4	2

PARTICL VOL INDICATOR

PVI	PVI	10.80	9.06	9.36	38.87
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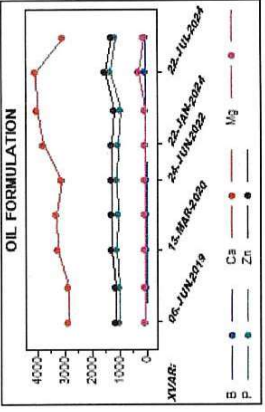
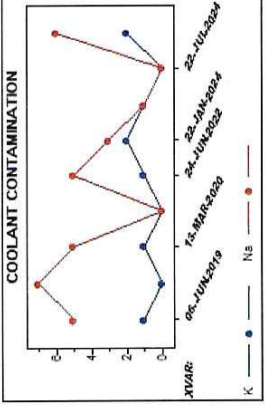
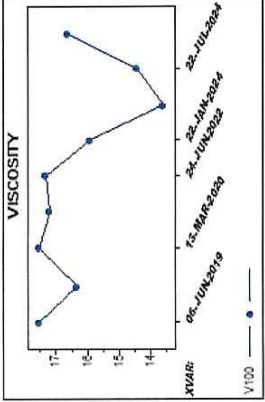
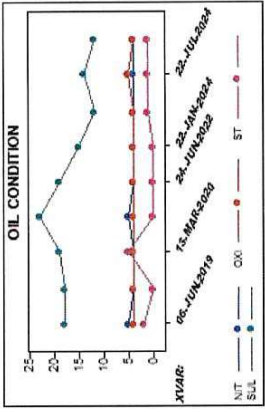
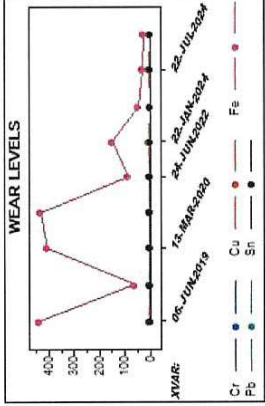
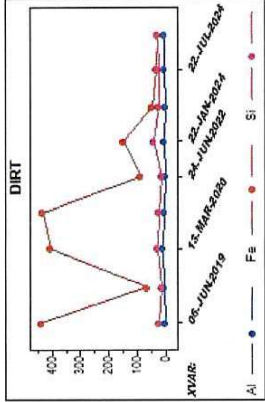
DEBRIS

Debris	Debris	N	N	N	N
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Notice: This analysis is intended as an aid in predicting mechanical wear. No guarantee, expressed or implied, is made against failure of this piece of equipment or component thereof.

WHEEL BEARINGS FRONT LEFT
SERIAL NUMBER: 63W01707
EQUIP NUM: 5686004
CAT 773B

H177-54362-0244



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJUVIs>



EMPIRE MACHINERY - ARIZONA LAB - 1725 S. Country Club Drive Mesa, AZ 85210 USA

PHONE: 866-224-3087

Web: <https://empire.cat.com> Email: fluidslab@empire-cat.com

SERIAL NUMBER: 63W01707

CAT 773B

H177-54382-0241

LABEL#: 250881689

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County,

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



PARTICLE COUNT IS ELEVATED. ALL OTHER RESULTS APPEAR TO BE NORMAL. MONITOR COMPARTMENT.

Interp By: Larry Byington
 Interpreted On: 27-Dec-24

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Sample Id	H177-54362-0241	H160-54207-0637	H160-54134-0605	H160-54026-0584
Lab Date	27-Dec-24	25-Jul-24	13-May-24	26-Jan-24
Meter [Hr]	4626.3	3779	3225.3	2667
Meter On Fluid	1959.3	1112.0	558.3	2117
Fluid Brand				
Fluid Weight				
Fluid Type				
Fluid Change	Y	N	N	Y
Filter Change	Y	Y	Y	Y
Filter Fluid Added	0	0	0	0

PREVIOUS SAMPLE

NO	PROBLEMS	PRESENTLY	ASSOCIATED	WITH	THIS	SAMPLE	CONTINUATION
SAMPLING AT THE NORMAL INTERVAL							
For additional sample history, go to: S.O.S WEB							
CONDITION / CONTAMINATION							
			20-Dec-24	22-Jul-24	09-May-24	22-Jan-24	
VISCOSITY (CENTISTOKES) ASTM D445							
V100			11.90	12.20	12.40	12.10	
Viscosity at 100 C							

WEAR LEVELS / ADDITIVES

ELEMENTAL ANALYSIS (PPM) ASTM D6165 [OIL] / ASTM D6130 [COOLANT]										20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Cu	Copper	8	5	5	4	8							
Fe	Iron	6	5	5	5	10							
Cr	Chromium	1	0	0	0	0							
Al	Aluminum	5	5	1	1	5							
Pb	Lead	2	1	0	0	0							
Ti	Tin	1	0	0	0	0							
Si	Silicon	13	11	12	12	14							
Na	Sodium	9	0	4	5	5							
K	Potassium	2	1	1	1	3							
Mo	Molybdenum	99	97	103		90							
Ni	Nickel	0	1	0	0	0							
Ag	Silver	0	0	0	0	0							
Ti	Titanium	0	0	0	0	0							
V	Vanadium	0	0	0	0	0							
Mn	Manganese	0	0	0	0	0							
Ca	Calcium	2547	2580	3178		2504							
P	Phosphorus	1193	1154	1157		1077							
Zn	Zinc	1345	1318	1397		1275							
Mg	Magnesium	66	44	47		47							
Ba	Barium	0	0	0		0							
B	Boron	105	111	117		110							

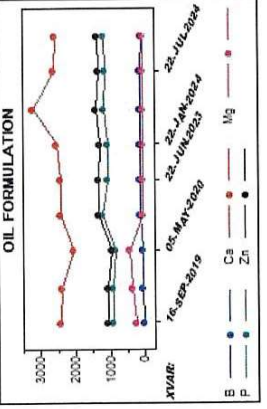
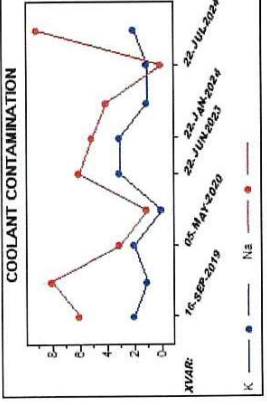
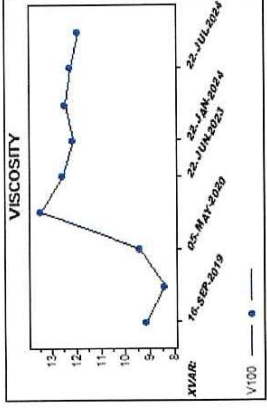
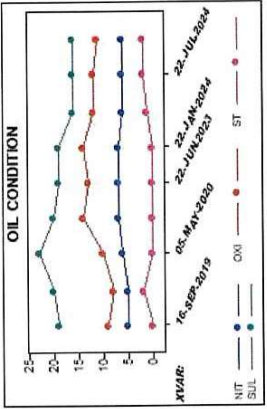
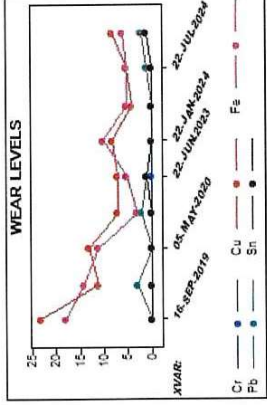
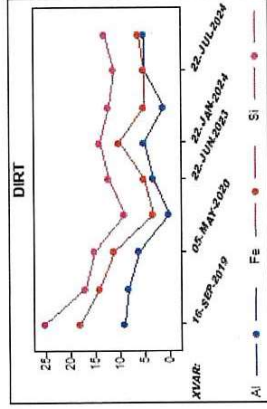
CLEANLINESS

PARTICLE COUNT - ISO 11171:1998 reported per ISO 4406						
ISO	ISO Code Rating	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24	
4µ	4µ	26932	10935	13513	19/16/11	3347
6µ	6µ	5569	2461	2366		496
10µ	10µ	427	507	176		65
14µ	14µ	31	109	31		13
21µ	21µ	0	16	7		2
38µ	38µ	0	0	0		0
PARTCL VOL INDICATOR						
PV1	PV1	1.44	0.76	0.70		0.17
DEBRIS	DEBRIS	N	N	N		N

Notice: This analysis is intended as an aid in predicting mechanical wear. No guarantee, expressed or implied, is made against failure of this piece of equipment or component thereof.

STEERING SYSTEM
SERIAL NUMBER: 63W01707
EQUIP NUM: 5688004
CAT 773B

H177-54382-0241



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4h8bREJVUrs>



EMPIRE MACHINERY - ARIZONA LAB - 1725 S. Country Club Drive Mesa, AZ 85210 USA

HYDRAULIC SYSTEM

EQUIP NUM: 5686004
CAT 773B

H177-54362-0240

LABEL#: 248189001

SAMPLE SHIP TIME (days) : 7

AMES CONSTRUCTION INC

LOCATION: Graham County.

Arizona 85546, United States

RECEIVED DATE: 27-Dec-24



PARTICLE COUNT IS ELEVATED. ALL OTHER RESULTS APPEAR TO BE NORMAL. MONITOR COMPARTMENT.

Interp By: Larry Byington
Interpreted On: 27-Dec-24

SAMPLE INFORMATION

Sampled Date	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
Sample Id	H177-54362-0240	H160-54207-0634	H160-54134-0604	H160-54026-0583
Lab Date	27-Dec-24	27-Jul-24	13-May-24	26-Jan-24
Meter [Hr]	4626.3	3779	3225.3	2667
Meter On Fluid	847.3	1112.0	558.3	2117
Fluid Brand				
Fluid Weight				
Fluid Type				
Fluid Change	Y	Y	N	Y
Filter Change	Y	Y	Y	Y
Total Fluid Added	0	0	0	0

PREVIOUS SAMPLING

POSSIBLY SWAPPED SAMPLE OIL TYPE/ GRADE MAY HAVE BEEN CHANGED
- NOTE CHANGES TO VISCOSITY & METAL ADDITIVE PACKAGE. NO
PROBLEMS PRESENTLY ASSOCIATED WITH THIS SAMPLE. CONTINUE
SAMPLING AT THE NORMAL INTERVAL.

For additional sample history, go to:

CONDITION / CONTAMINATION

	20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
VISCOSITY (CENTISTOKES) ASTM D445				
V100 Viscosity at 100 C	7.100	7.000	10.80	6.200

WEAR LEVELS / ADDITIVES

20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
ELEMENTAL ANALYSIS (PPM) ASTM D5185 (OIL) / ASTM D6130 (COOLANT)			

TM D5185 [OIL] / ASTM D8130 [COOLANT]

Cu	1	3	16	7
Copper				
Fe	4	4	4	26
Iron				
Cr	1	0	0	0
Chromium				
Al	0	3	0	0
Aluminum				
Pb	4	1	2	0
Lead				
Sn	0	1	0	0
Tin				
Si	15	7	4	10
Silicon				
Na		0	2	2
Sodium				
K	1	0	0	1
Potassium				
Mo	18	10	13	11
Molybdenum				
Ni	0	0	0	1
Nickel				
Ag	0	0	0	0
Silver				
Ti	0	0	0	0
Titanium				
V	0	0	0	0
Vanadium				
Mn	0	0	0	0
Manganese				
Ca	2930	2535	3517	4126
Calcium				
P	1039	880	925	1055
Phosphorus				
Zn	1228	1058	1192	1288
Zinc				
Mg	35	34	32	40
Magnesium				
Ba	0	0	0	0
Barium				
B	17	11	8	12
Boron				

CLEANLINESS

PARTICLE COUNT - ISO 11171:1998 reported per ISO 4068		20-Dec-24	22-Jul-24	09-May-24	22-Jan-24
ISO	ISO Code Rating	23/21/13	21/19/15	20/16/10	20/17/12
4μ	4μ	45619	13015	6378	6729
6μ	6μ	11605	3015	527	906
10μ	10μ	931	800	30	129
14μ	14μ	72	239	6	36
21μ	21μ	1	44	2	7
38μ	38μ	0	2	0	0

PARTICL VOL INDICATOR

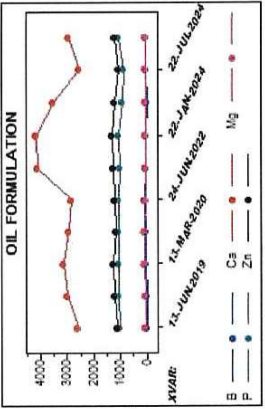
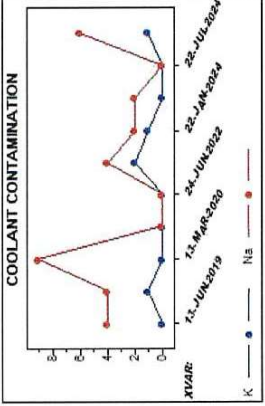
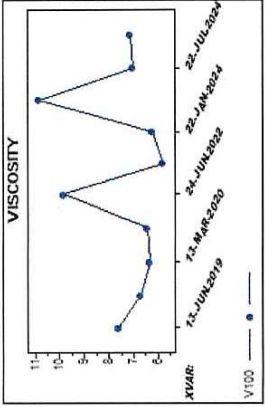
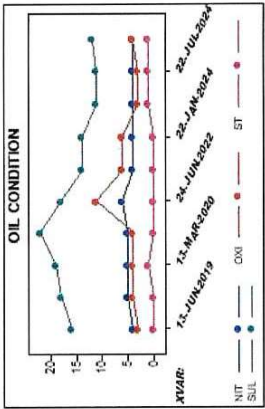
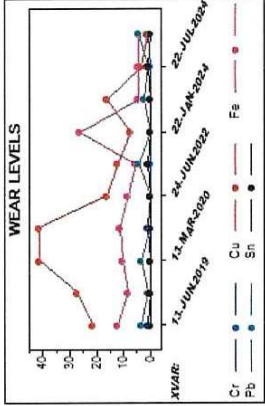
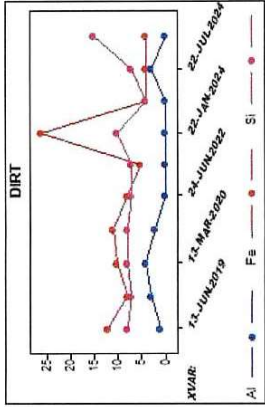
PVI	2.68	1.09	0.26	0.35
PVI				

DEBRIS

	Debris	Debris	Debris	Debris	Debris
N	N	N	N	N	N

HYDRAULIC SYSTEM
SERIAL NUMBER: 63W01707
EQUIP NUM: 5886004
CAT 773B

H177-54382-0240



Report Comment

Our sample report has been updated! For more information on the new report, go to - <https://www.youtube.com/watch?v=4t8bREJVUrs>