

Brandeis Machinery and Supply Co
Falk Steudtner
1801 Watterson Trail -
Louisville, KY, 40299

 P.O./Ref No.: **BRANDEIS LOUISVILLE KY**

 Unit ID: **90648 / C1030**

 Unit Worksite: **Louisville, KY**

 Comp. Ref NO.: **6661046**

 Component Type: **ENGINE**

 Component: **DIESEL ENGINE**

 Unit Manufacturer and Model: **Komatsu D39EX-23**

 Oil Type: **KOMATSU LOW ASH 15W40**

 Component Manufacturer and Model: **Komatsu D39EX-23**

 Component Serial Number: **90648**
Maintenance Recommendations for Lab No. 201709181063

 Reported On: **Sep 20 2017**

 From: **Brandeis Machinery And Supply Company, Louisville, KY**

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1063	50	1	<1	4	8	13	<1	<0.1	<1	17	45	5	2	55	1083	1245	1324	<1	877	<1	<1	09/15/17
0977	165 *	4	1	7	54 *	46 *	1	<0.1	<1	21 *	43	3	16	106	1047	1266	2723	<1	85	2	<1	01/03/17
1443	25	1	<1	4	8	30	<1	<0.1	<1	18	30	3	2	19	837	1087	2130	<1	22	<1	<1	05/23/16
0452	43	1	<1	4	13	20	3	<0.1	<1	37	58	4	16	114	896	1127	2691	1	14	1	<1	01/25/16

SAMPLE INFORMATION
PHYSICAL TEST RESULTS

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	D7279 Vis 100 °C	Visc Grade	E2412 SOOT	E2412 OX	E2412 NTR	E2412 GLY	Water	Fuel
1063	2128	0	0	-	S	14.5	40	0.1	15	9	NEG	<0.1	<0.50
0977	1969	0	0	Yes	S	13.8	40	0.4	29 *	17 *	NEG	<0.1	<0.50
1443	930	472	0	Yes	C	13.2	40	0.2	21 *	12 *	NEG	<0.1	<0.50
0452	458	0	0	Yes	C	13.5	40	0.4	20	13 *	NEG	<0.1	<0.50

Brandeis Machinery and Supply Co
Falk Steudtner
1801 Watterson Trail -
Louisville, KY, 40299

 P.O./Ref No.: **BRANDEIS LOUISVILLE KY**

 Unit ID: **90648 / C1030**

 Unit Worksite: **Louisville, KY**

 Comp. Ref NO.: **6661047**

 Component Type: **HYDRAULIC**

 Component: **HYDRAULIC**

 Unit Manufacturer and Model: **Komatsu D39EX-23**

 Oil Type: **- UNKNOWN 10W30**

 Component Manufacturer and Model: **Komatsu D39EX-23**

 Component Serial Number: **90648**
Maintenance Recommendations for Lab No. 201709181064

 Reported On: **Sep 20 2017**

 From: **Brandeis Machinery And Supply Company, Louisville, KY**

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1064	7	<1	<1	1	3	9	<1	<0.1	<1	5	23	2	<1	40	1187	1326	3212	<1	12	<1	<1	09/15/17
0978	14	<1	<1	1	8	23	<1	<0.1	<1	9	62	4	2	110	1179	1422	4160	<1	5	1	<1	01/03/17
1444	10	<1	<1	2	6	15	<1	<0.1	<1	13	64	<1	<1	123	1246	1531	4422	1	8	<1	<1	05/23/16
0453	7	<1	<1	1	4	14	<1	<0.1	<1	12	71	2	<1	130	1297	1562	4554	1	9	<1	<1	01/25/16

SAMPLE INFORMATION
PHYSICAL TEST RESULTS

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
1064	2128	0	0	-	S	<0.1	9.0
0978	1969	0	0	Yes	C	<0.1	8.1 *
1444	930	472	0	-		<0.1	8.6
0453	458		0	-	S	<0.1	8.6

Brandeis Machinery and Supply Co
Falk Steudtner
1801 Watterson Trail -
Louisville, KY, 40299

 P.O./Ref No.: **BRANDEIS LOUISVILLE KY**

 Unit ID: **90648 / C1030**

 Unit Worksite: **Louisville, KY**

 Comp. Ref NO.: **6661048**

 Component Type: **FINAL DRIVE**

 Component: **RIGHT FINAL DRIVE**

 Unit Manufacturer and Model: **Komatsu D39EX-23**

 Oil Type: **KOMATSU POWERTRAIN OIL TO-30 30**

 Component Manufacturer and Model: **Komatsu D39EX-23**

 Component Serial Number: **90648**
Maintenance Recommendations for Lab No. 201709181065

 Reported On: **Sep 20 2017**

 From: **Brandeis Machinery And Supply Company, Louisville, KY**

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1065	61	1	<1	1	<1	12	<1	<0.1	<1	18	9	10	<1	4	922	1110	4185	<1	17	<1	<1	09/15/17
0979	151	4	1	3	1	41	<1	<0.1	<1	24	7	4	1	6	857	1037	3855	2	12	2	<1	01/03/17
1445	161	6	1	4	1	<u>166 *</u>	<1	<0.1	1	39	1	4	2	31	691	839	3678	26	9	<1	1	05/23/16
0454	158	4	1	3	1	<u>152 *</u>	<1	<0.1	2	37	1	6	3	31	733	881	3852	29	11	1	<1	01/25/16

SAMPLE INFORMATION
PHYSICAL TEST RESULTS

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
1065	2128	0	0	-	S	<0.1	10.7
0979	1969	0	0	No	C	<0.1	10.5
1445	930	472	0	-		<0.1	11.5
0454	458		0	-	S	<0.1	11.2

Brandeis Machinery and Supply Co
Falk Steudtner
1801 Watterson Trail -
Louisville, KY, 40299

 P.O./Ref No.: **BRANDEIS LOUISVILLE KY**

 Unit ID: **90648 / C1030**

 Unit Worksite: **Louisville, KY**

 Comp. Ref NO.: **6661049**

 Component Type: **FINAL DRIVE**

 Component: **LEFT FINAL DRIVE**

 Unit Manufacturer and Model: **Komatsu D39EX-23**

 Oil Type: **KOMATSU POWERTRAIN OIL TO-30 30**

 Component Manufacturer and Model: **Komatsu D39EX-23**

 Component Serial Number: **90648**
Maintenance Recommendations for Lab No. 201709181066

 Reported On: **Sep 20 2017**

 From: **Brandeis Machinery And Supply Company, Louisville, KY**

ANALYSIS INDICATES COMPONENT & LUBRICANT CONDITIONS ARE ACCEPTABLE. RESAMPLE at the next scheduled interval.

SPECTROCHEMICAL ANALYSIS IN PARTS PER MILLION

LAB NO.	Iron	Chromium	Nickel	Aluminum	Lead	Copper	Tin	Silver	Titanium	Silicon	Boron	Sodium	Potassium	Molybdenum	Phosphorus	Zinc	Calcium	Barium	Magnesium	Antimony	Vanadium	Sample Drawn
1066	48	1	<1	1	<1	14	<1	<0.1	<1	19	9	7	<1	4	908	1066	4014	<1	17	<1	<1	09/15/17
0980	155	4	<1	2	<1	57	<1	<0.1	<1	23	8	4	2	4	860	1047	3886	2	11	1	<1	01/03/17
1446	170	5	1	5	1	179*	<1	<0.1	1	36	1	3	1	23	664	814	3588	24	9	1	1	05/23/16
0455	162	4	1	4	<1	172*	<1	<0.1	2	40	1	6	3	31	740	873	3856	28	11	<1	<1	01/25/16

SAMPLE INFORMATION
PHYSICAL TEST RESULTS

LAB NO.	MI/HR Unit	MI/HR Oil	Oil Add	FLTR CHG	Oil CHG	Water	D7279 Vis 100 °C
1066	2128	0	0	-	S	<0.1	10.7
0980	1969	0	0	No	C	<0.1	10.3
1446	930	472	0	-		<0.1	11.4
0455	458		0	-	S	<0.1	11.5