



CONSTRUCTION EQUIPMENT

VOLVO L120H 632529 - DIESEL ENGINE



Sample No: VCP438885
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:



SAMPLE INFORMATION

Sample Number	VCP438885	VCP446541	VCP436716	VCP421353
Sample Date	18 Jun 2024	14 Feb 2024	07 Dec 2023	07 Sep 2023
Machine Hours	18264	17629	17016	16483
Oil Hours	18264	0	0	0
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

FORESTRY RESOURCES

4353 MICHIGAN LINK
 FORT MYERS, FL
 US 33916
 Contact: COREY MUELLER



OIL CONDITION

Visc @ 100°C	cSt	13.6	13.8	13.6	14.2
Base Number (BN)	mg KOH/g	9.3	9.3	9.7	9.3
Oxidation (PA)	%	88	80	83	86

T: (239)872-1856
 F:

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.4	0.3	0.3	0.5
Nitration (PA)	%	84	77	72	91
Sulfation (PA)	%	62	60	61	63
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	5	6	7
Sodium	ppm	2	2	4	4
Potassium	ppm	3	4	3	3



WEAR METALS

Iron	ppm	10	14	16	24
Copper	ppm	1	4	2	3
Lead	ppm	0	0	<1	3
Tin	ppm	<1	<1	0	1
Aluminum	ppm	5	6	6	7
Chromium	ppm	<1	<1	<1	<1
Molybdenum	ppm	45	51	53	71
Nickel	ppm	0	<1	0	<1
Titanium	ppm	0	<1	0	<1
Silver	ppm	0	0	0	0
Manganese	ppm	0	0	<1	<1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	1755	1500	1695	1990
Magnesium	ppm	543	614	542	642
Zinc	ppm	1301	1198	1184	1374
Phosphorus	ppm	970	1016	974	1073
Barium	ppm	0	10	0	0
Boron	ppm	23	16	29	25

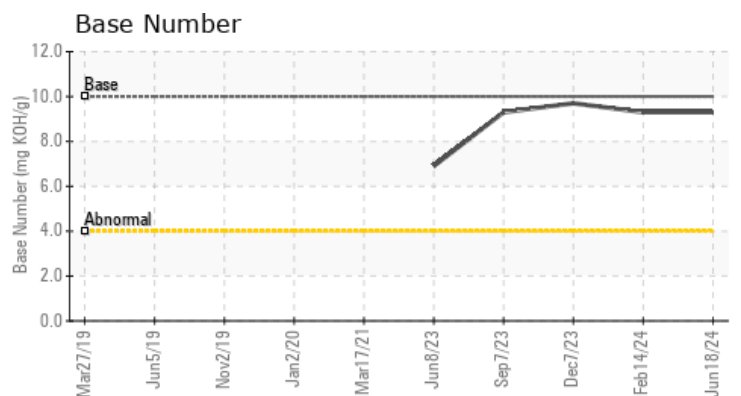
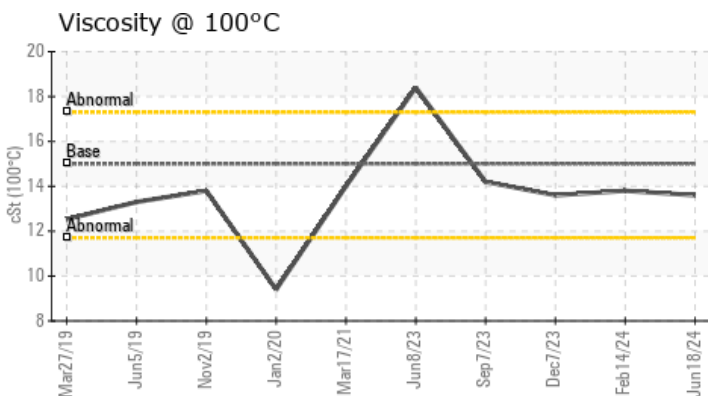
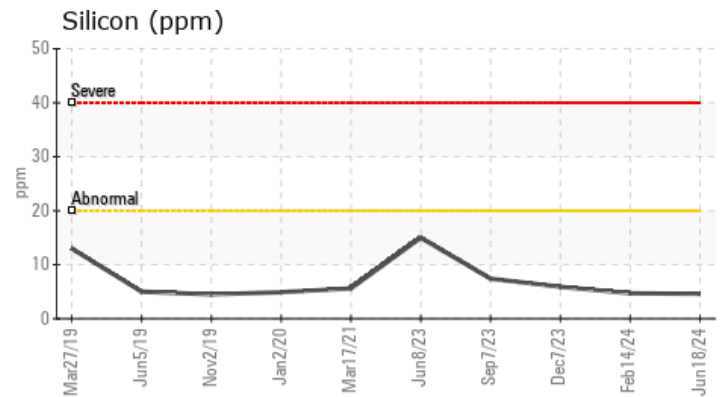
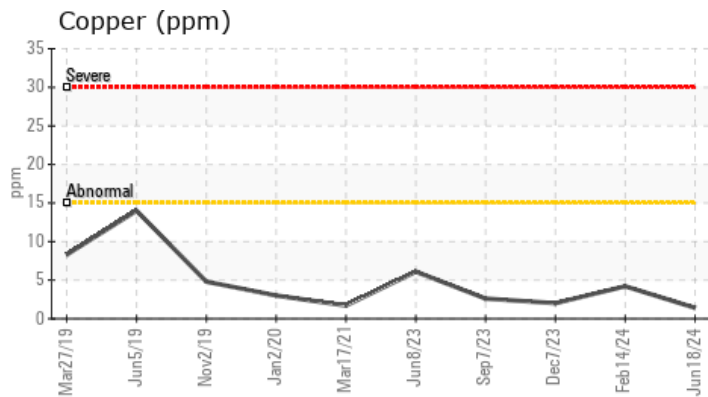
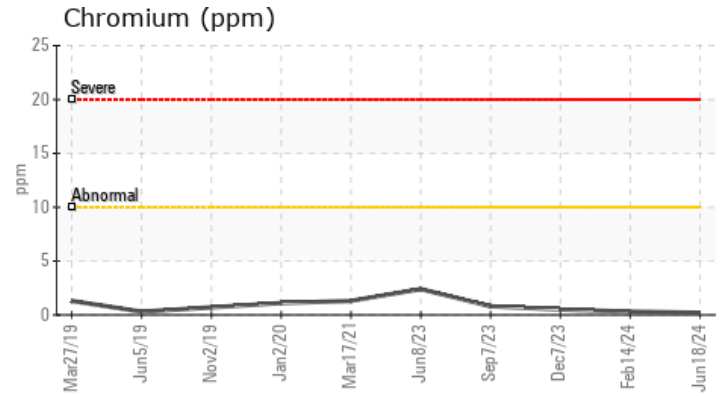
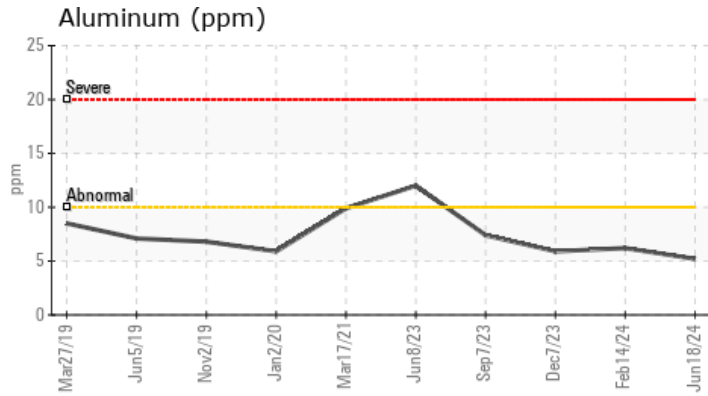
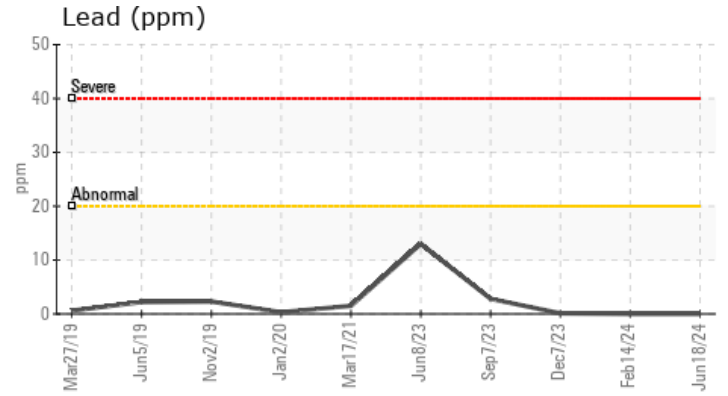
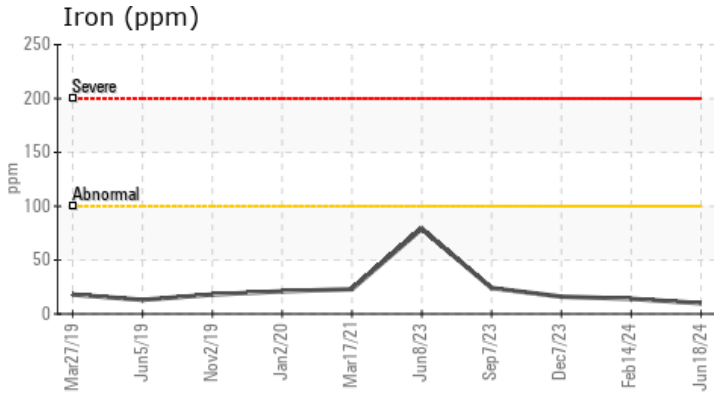
Depot: FORFORTFL
Unique No: 11098971
Signed: Wes Davis
Report Date: 27 Jun 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO L120H 63259 - TRANSMISSION (AUTO)



Sample No: VCP446540
Oil Type: VOLVO AT 102
Job No:



SAMPLE INFORMATION

Sample Number	VCP446540	VCP436717	VCP298739	---
Sample Date	14 Feb 2024	07 Dec 2023	17 Mar 2021	---
Machine Hours	17629	17016	8400	---
Oil Hours	0	0	986	---
Oil Changed	Changed	Not Changd	Not Changd	---
Sample Status	ABNORMAL	NORMAL	NORMAL	---

FORESTRY RESOURCES
 4353 MICHIGAN LINK
 FORT MYERS, FL
 US 33916
 Contact: COREY MUELLER



OIL CONDITION

Visc @ 40°C	cSt	28.8	29.1	26.0	---
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T: (239)872-1856
 F:



CONTAMINATION

Water	%	NEG	NEG	NEG	---
Silicon	ppm	3	2	3	---
Sodium	ppm	<1	2	2	---
Potassium	ppm	0	<1	0	---

Diagnosis
 No corrective action is recommended at this time. The fluid change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the fluid. The condition of the fluid is acceptable for the time in service.



WEAR METALS

Iron	ppm	18	8	50	---
Copper	ppm	1	1	5	---
Lead	ppm	0	0	0	---
Tin	ppm	0	0	0	---
Aluminum	ppm	3	1	10	---
Chromium	ppm	0	<1	<1	---
Molybdenum	ppm	<1	0	<1	---
Nickel	ppm	0	0	0	---
Titanium	ppm	0	0	<1	---
Silver	ppm	0	0	<1	---
Manganese	ppm	0	<1	2	---
Vanadium	ppm	0	0	0	---



ADDITIVES

Calcium	ppm	100	93	90	---
Magnesium	ppm	10	8	<1	---
Zinc	ppm	21	17	3	---
Phosphorus	ppm	216	212	158	---
Barium	ppm	0	0	0	---
Boron	ppm	91	106	65	---

Depot: FORFOTFL
Unique No: 10886231
Signed: Sean Felton
Report Date: 21 Feb 2024

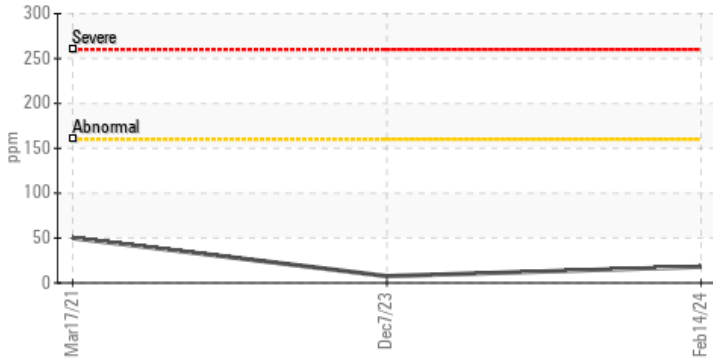


CONSTRUCTION EQUIPMENT

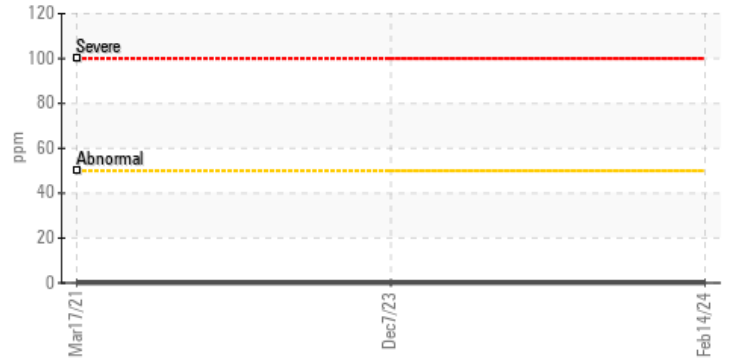


GRAPHS

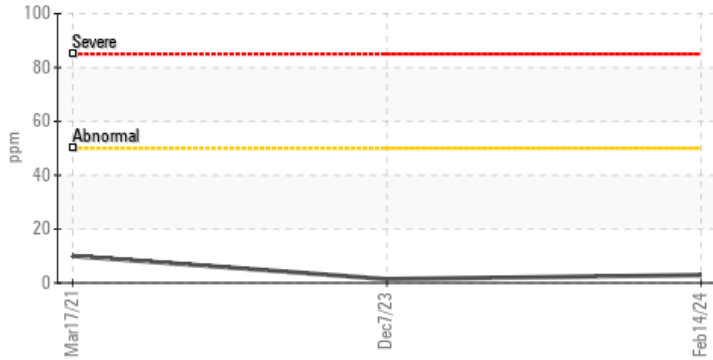
Iron (ppm)



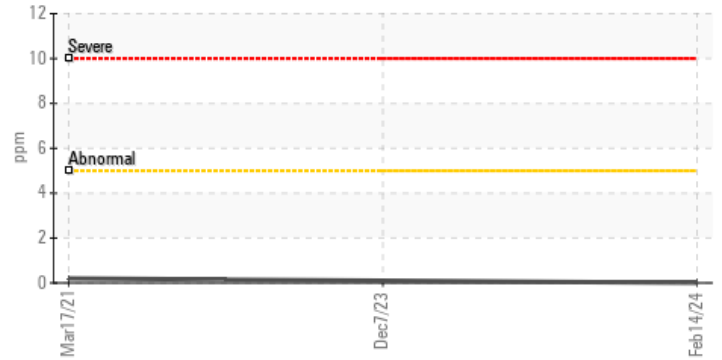
Lead (ppm)



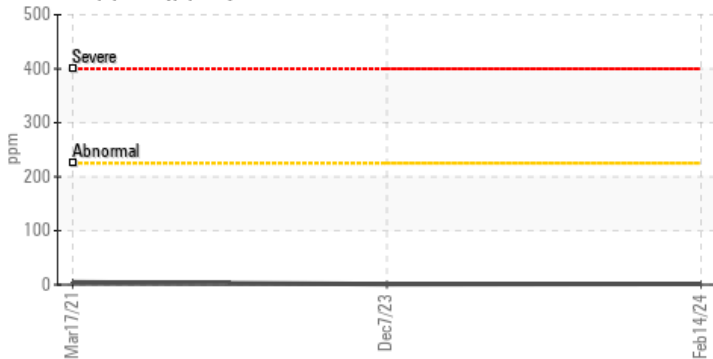
Aluminum (ppm)



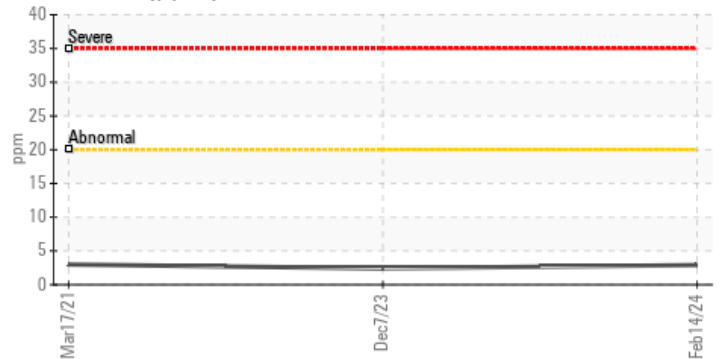
Chromium (ppm)



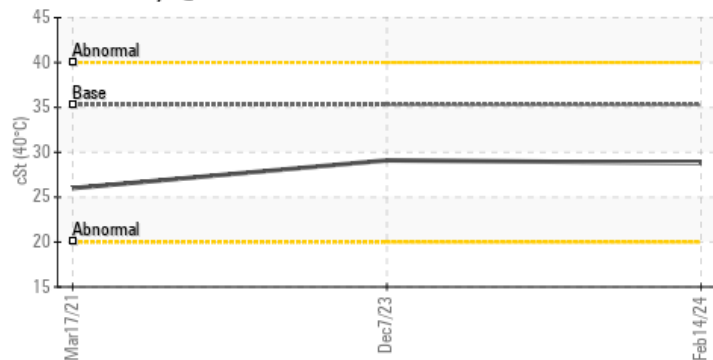
Copper (ppm)



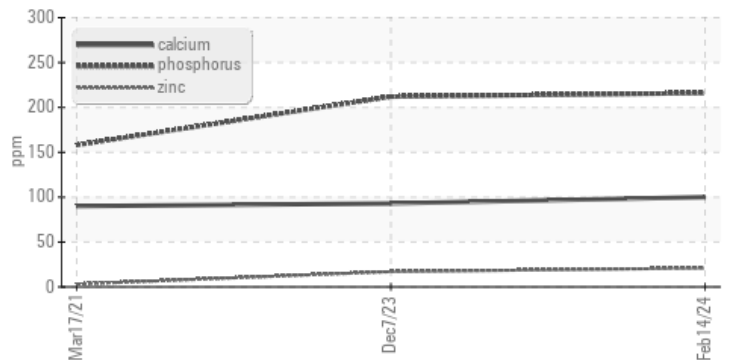
Silicon (ppm)



Viscosity @ 40°C



Additives





CONSTRUCTION EQUIPMENT

VOLVO L120H 632529 - HYDRAULIC SYSTEM



Sample No: VCP446537
Oil Type: VOLVO SUPER HYDRAULIC OIL 46
Job No:



SAMPLE INFORMATION

Sample Number	VCP446537	VCP435539	VCP365154	VCP298943
Sample Date	14 Feb 2024	07 Dec 2023	08 Jun 2023	17 Mar 2021
Machine Hours	17629	17016	15919	8400
Oil Hours	0	0	0	986
Oil Changed	Changed	Not Changd	Changed	Not Changd
Sample Status	ABNORMAL	ABNORMAL	ATTENTION	NORMAL

FORESTRY RESOURCES
 4353 MICHIGAN LINK
 FORT MYERS, FL
 US 33916
 Contact: COREY MUELLER



OIL CONDITION

Visc @ 40°C	cSt	51.7	48.5	56.6	50.7
Acid Number (AN)	mg KOH/g	0.35	0.46	0.49	0.321

T: (239)872-1856
 F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Particles >4µm		---	---	21682	2672
Particles >6µm		---	---	2683	334
Particles >14µm		---	---	81	10
ISO 4406:1999 (c)		---	---	22/19/14	19/16/10
Silicon	ppm	2	2	2	3
Sodium	ppm	2	2	2	0
Potassium	ppm	3	0	2	0

Diagnosis

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample. All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	1	0	5	4
Copper	ppm	<1	2	<1	2
Lead	ppm	<1	0	0	1
Tin	ppm	<1	0	0	<1
Aluminum	ppm	<1	0	0	0
Chromium	ppm	1	1	4	2
Molybdenum	ppm	2	2	8	29
Nickel	ppm	<1	0	0	0
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	1
Manganese	ppm	0	<1	0	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	137	127	231	173
Magnesium	ppm	15	9	16	9
Zinc	ppm	462	439	492	457
Phosphorus	ppm	372	355	423	394
Barium	ppm	0	0	0	0
Boron	ppm	3	4	8	3

Depot: FORFOTFL
Unique No: 10885840
Signed: Don Baldrige
Report Date: 21 Feb 2024

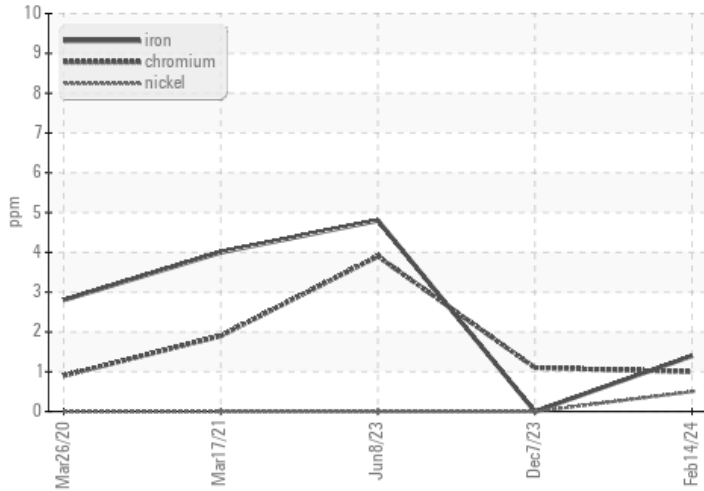


CONSTRUCTION EQUIPMENT

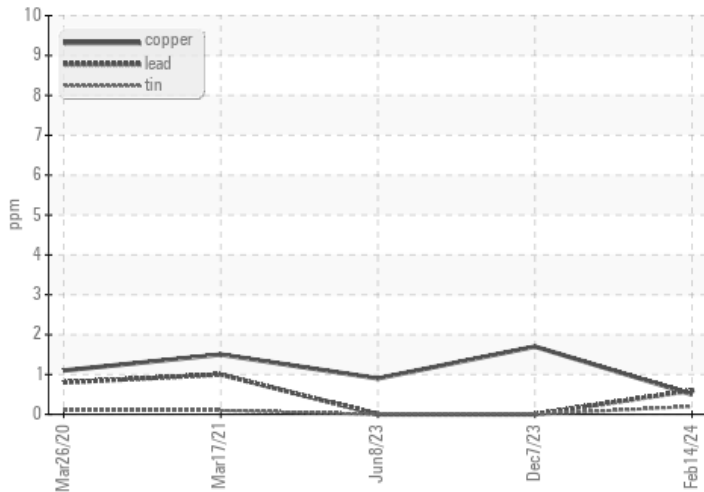


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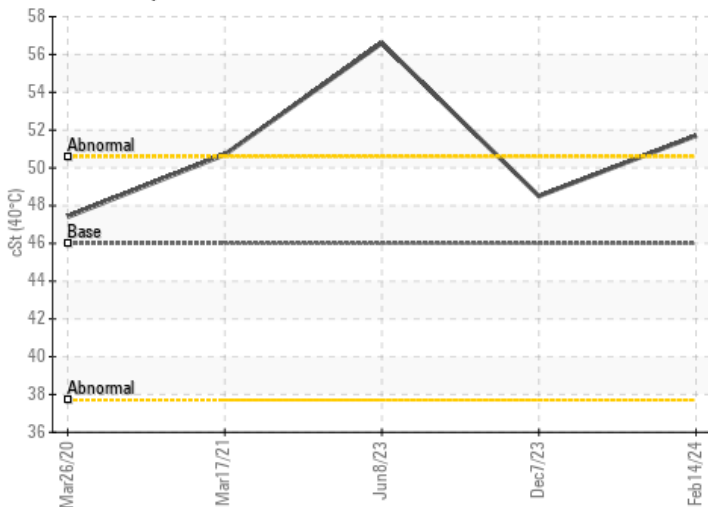
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Acid Number





CONSTRUCTION EQUIPMENT

VOLVO L120H 632529 - FRONT AXLE



Sample No: VCP446535
Oil Type: VOLVO WET BRAKE TRANSAXLE OIL
Job No:



SAMPLE INFORMATION

Sample Number	VCP446535	VCP436721	VCP365155	VCP298948
Sample Date	14 Feb 2024	07 Dec 2023	08 Jun 2023	17 Mar 2021
Machine Hours	17629	17016	15919	8400
Oil Hours	0	0	0	986
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	SEVERE	NORMAL	NORMAL

FORESTRY RESOURCES
 4353 MICHIGAN LINK
 FORT MYERS, FL
 US 33916
 Contact: COREY MUELLER



OIL CONDITION

Visc @ 40°C	cSt	50.5	42.2	51.2	39.9
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T: (239)872-1856
 F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	14	18	16	7
Sodium	ppm	2	8	<1	5
Potassium	ppm	0	0	2	0

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



WEAR METALS

Iron	ppm	238	1614	186	38
Copper	ppm	<1	2	<1	<1
Lead	ppm	0	0	0	<1
Tin	ppm	0	0	0	0
Aluminum	ppm	1	2	<1	<1
Chromium	ppm	3	22	2	<1
Molybdenum	ppm	3	<1	3	<1
Nickel	ppm	1	7	1	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	3	12	2	<1
Vanadium	ppm	<1	<1	0	0



ADDITIVES

Calcium	ppm	3502	3905	3679	3404
Magnesium	ppm	31	23	26	9
Zinc	ppm	1388	1638	1429	1439
Phosphorus	ppm	1144	1345	1173	1316
Barium	ppm	0	0	2	0
Boron	ppm	104	131	111	97

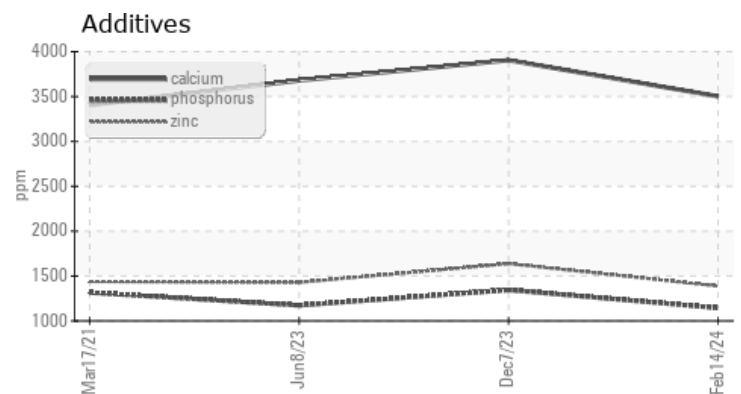
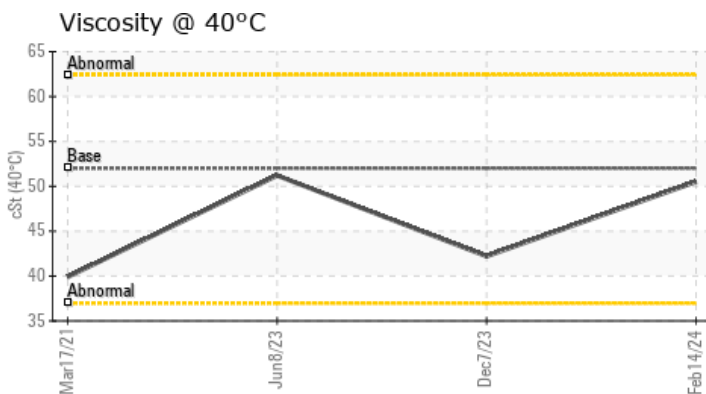
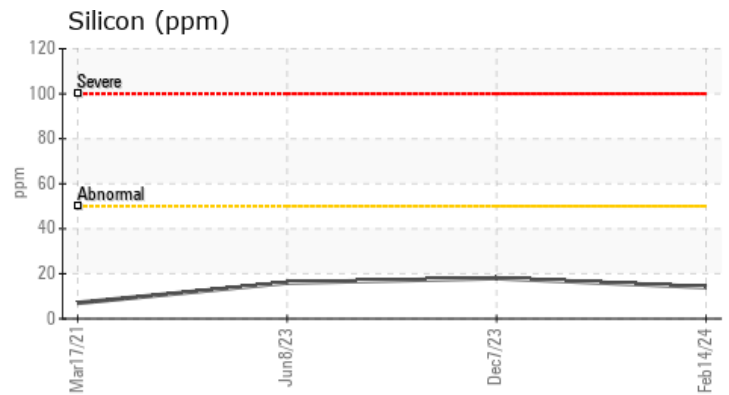
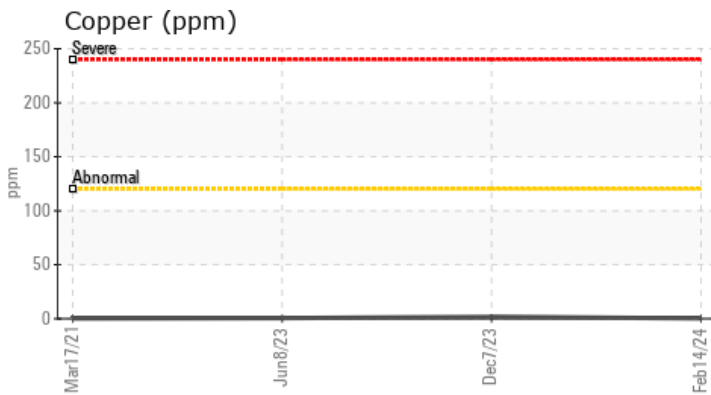
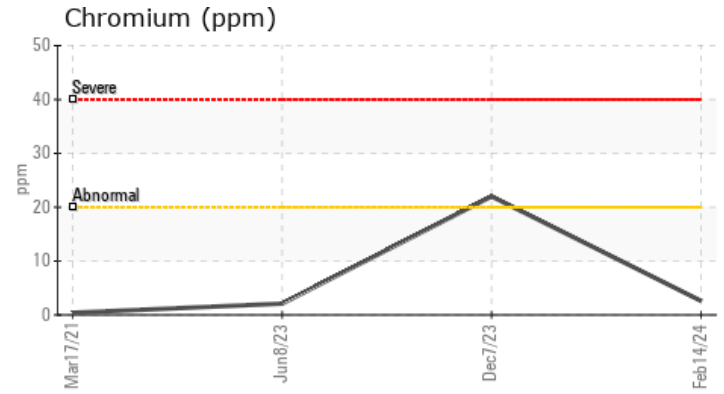
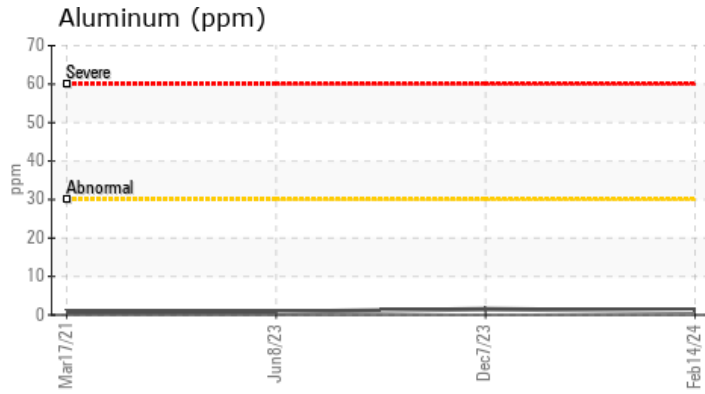
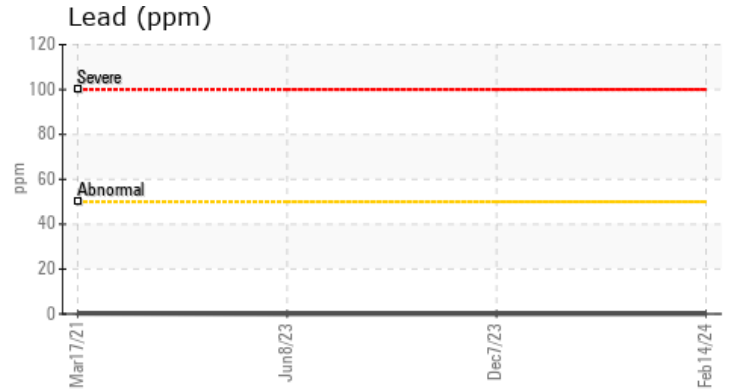
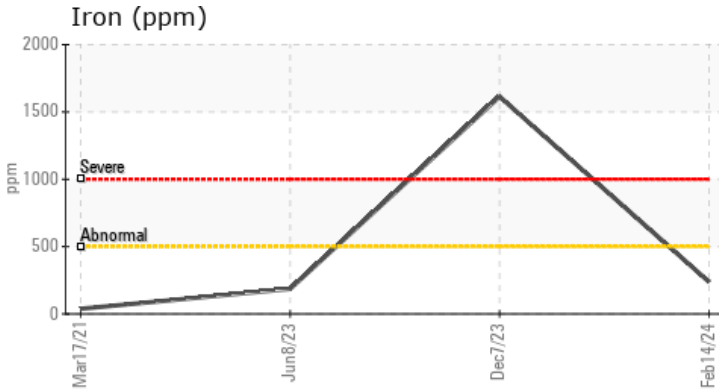
Depot: FORFOTFL
Unique No: 10886169
Signed: Wes Davis
Report Date: 20 Feb 2024



CONSTRUCTION EQUIPMENT



GRAPHS





CONSTRUCTION EQUIPMENT

VOLVO L120H 632529 - REAR AXLE



Sample No: VCP446542
Oil Type: VOLVO WET BRAKE TRANSAXLE OIL
Job No:



SAMPLE INFORMATION

Sample Number	VCP446542	VCP435540	VCP365152	VCP298939
Sample Date	14 Feb 2024	07 Dec 2023	08 Jun 2023	17 Mar 2021
Machine Hours	17629	17016	15919	8400
Oil Hours	0	0	0	986
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	SEVERE	SEVERE	ABNORMAL	NORMAL

FORESTRY RESOURCES
 4353 MICHIGAN LINK
 FORT MYERS, FL
 US 33916
 Contact: COREY MUELLER



OIL CONDITION

Visc @ 40°C	cSt	42.9	41.9	42.1	40.1
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T: (239)872-1856
 F:



CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Silicon	ppm	23	14	19	7
Sodium	ppm	8	6	6	4
Potassium	ppm	0	12	2	0

Diagnosis

The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. The iron level is severe. Gear wear is indicated. There is no indication of any contamination in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.



WEAR METALS

Iron	ppm	2687	1055	644	36
Copper	ppm	2	1	1	<1
Lead	ppm	<1	2	0	0
Tin	ppm	0	<1	0	0
Aluminum	ppm	2	3	2	<1
Chromium	ppm	37	16	7	<1
Molybdenum	ppm	3	2	3	<1
Nickel	ppm	10	6	5	0
Titanium	ppm	<1	<1	<1	<1
Silver	ppm	0	0	0	<1
Manganese	ppm	16	8	7	<1
Vanadium	ppm	<1	<1	0	0



ADDITIVES

Calcium	ppm	3949	2686	4219	3169
Magnesium	ppm	25	0	23	8
Zinc	ppm	1578	1185	1664	1379
Phosphorus	ppm	1301	934	1344	1280
Barium	ppm	0	0	1	0
Boron	ppm	126	90	139	89

Depot: FORFOTFL
Unique No: 10886170
Signed: Don Baldrige
Report Date: 21 Feb 2024



CONSTRUCTION EQUIPMENT



VOLVO GRAPHS

