Mobile Crane Service and Inspection Report

Customer:		Crane Model:	ac55-1
Make:	Tadano demag	Hours: Upper: / Lower:	13245
Serial Number:	551066	Rego / Unit Number:	840 axy
Date of Inspection:	28-2-24	KMS:	
Location:			

Items	Check	Remarks	Items	Check	Remarks
Engine			Slewing brake lever	NA	
Oil, fuel & water leakage, level contamination	✓		Slewing brake master, function, operation	✓	
Fan belt: tension, damage	✓		Slewing brake master cylinder	NA	
Radiator core	✓		**Safety Device**		
Radiator cap condition	✓		Drum lock lever	NA	
Coolant, ant freezing, antirust	✓		Drum lock click	NA	
Air cleaner element, cleaning	✓		Slewing lock pin	✓	
Engine start ability	✓		Over hoisting detector wire rope	✓	
Exhaust gas condition	✓		Over hoisting detecting limiter switch	✓	
Engine oil pressure	✓		Alarm at over hoisting	✓	
Air pressure	✓		Irregular winding prevention system	✓	
Muffler	✓		Front lifting dectection switch function	✓	
Hydraulic Reservoir Tank			Counterbalance valve and holding valve	✓	
Reservoir Tank damage	✓		Meter panel	✓	
Level Gauge of reservoir	✓		Each indicator	✓	
Reservoir tank oil leakage	✓		Confirmation of function according to calibration plate	✓	
Hydraulic oil, level, contamination	✓		Cord reel function	✓	
Element, internal pressure, contamination	✓		Pilot lamp	✓	
Tank retaining bolt and nut,	✓		Operation selector switch function	✓	
Tank retaining bracket damage	✓		Auto stop cancel switch function	✓	
Pump Drive System			Auto stop function	✓	
Abnormal sound during operation of P.T.O	✓		Error code indicator	✓	
Air cylinder air leakage	✓		Boom length sequential control function	✓	
Pump			Drum indicator lamp	✓	
Abnormal sound	✓		**Slewing Device**		
Pump oil leakage	✓		Slewing bearing fastening bolt and nut	✓	
Pump retaining bolt and nut	✓		Slewing bearing	✓	

Mobile Crane Service and Inspection Report

Items	Check	Remarks
Operations Device (in Operators Cab)		
Operating Levers	✓	
Control cable	NA	
Clutch lever and lock	NA	
Free-fall pedal free play and operating stroke	NA	
Pedal lock function	NA	
Accumulator pressure gauge	NA	
Derrick/ Telescopic cylinder and connection Piping		
Each cylinder, oil leakage, damage, internal leakage, corrosion	✓	
Connection piping	✓	
Hose reel	✓	
Hose reel rotary joint oil leakage	NA	
Clutch and Brake		
Lining and drum	✓	
Clutch carrier linkage	NA	
Clutch power cylinder oil leakage	NA	
Rotary joint and connection piping	NA	
Brake condition indicating position	✓	
Brake power cylinder and connection piping	✓	
Brake system fastening bolt and nut	✓	
Winch motor and connection piping	✓	
Reduction gear	✓	
Wire rope	✓	
Winch retaining bolt and nut	✓	
Control Valve		
Oil leakage	✓	
Dust seal	✓	
Control valve fastening bolt and nut	✓	
Linkage joint pin and clevis corrosion	✓	
Piping		
Piping, clamp loss	✓	
Rotary seal	✓	
Rotary bush	✓	
Slewing table damage	✓	

Items	Check	Remarks
Slewing motor and reduction gear		
Boom and Fly Jib		
Damage, deformation, bending	✓	
Lubrication	✓	
Bushing and bearing lubrication	✓	
Sheave and guide roller	NA	
Jib housing	✓	
Jib tension	✓	
Electric cord	✓	
Side plate	✓	
Extension/retraction wire rope	NA	
Winch		
Abnormal sound and eccentricity during rotation of winch drum	✓	
Winch motor and connection piping	✓	
Reduction gear	✓	
Wire rope	✓	
Winch retaining bolt and nut	✓	
Carrier Engine		
Oil, fuel, water leakage level, contamination	✓	
Fan belt, tenstion,damage	✓	
Radiator core, clogging, damage	✓	Single engine
Radiator cap condition	✓	
Clutch piping	NA	
Clutch booster	NA	
Function of torque limiter circuit	✓	
Transmission operating mechanism	✓	
Propeller shaft jointing parts	✓	
Transmission case	✓	
Centre bearing	NA	
Propeller shaft coupling bay	✓	
Propeller shaft spline play	✓	
Electric Equipment		
Each switch function	✓	
Fuse box, fusing, deformation	✓	
Relay and bell function	✓	
Wire clamp and connector, disconnection, loss	✓	

ane Service and Inspection Report

JDM SERVICES AUST. Clonbinane VIC

Items	Check	Remarks
Carrier Drive Systems		
Front and rear axles	✓	
Front and rear axle retaning bolt and nut	✓	
Tyre	✓	
Wheel stud	✓	
Bolt and nut	✓	
Carrier Suspension System		
Equaliser Beam	✓	
Torque Rod	✓	
Suspension Spring	NA	
Hydraulic suspension cylinder	✓	
Oil piping	✓	
Hydraulic suspension pressure	NA	
Carrier Steering System		
Steering wheel	✓	
Pitman arm, drop arm, knuckle arm, tie arm	✓	
Carrier Operation Device		
Functions of switches	✓	
Meter and pilot lamp function	✓	
Horn, turn signal function	✓	
Lighting system functions and damage	✓	
Windshield wiper and washer function	✓	
Wiper blade	✓	
Air heater indicator function	✓	
Each lamp and lens, crack deformation, discoloration	✓	
Warning buzzer function	✓	
Center bearing	✓	
Propeller shaft coupling bay	✓	
Propeller shaft spline play	✓	
Carrier Brake System	✓	
Brake pedal	✓	
Brake piping and base	✓	
Brake drum and brake shoe	✓	
Air tank	✓	
Brake performance	✓	

Items	Check	Remarks
Parking brake performance	✓	
Exhaust brake performance	NA	
Brake fluid	NA	
Carrier Electric Equipment		
Battery Electrolyte level	✓	
Battery terminal	✓	
Battery relay function	✓	
Alternator function	✓	
Starter motor	✓	
Starter relay function	✓	
Electric wire	✓	
Air and hydraulic solenoid valve function	✓	
Body and Chassis		
Sun visor	✓	
Operation and damage	✓	
Door Lock Function	✓	
Window regulator	✓	
Fenders, deformation	✓	
Outriggers		
Outrigger circuit oil leakage	✓	
Outrigger control hydraulic valve leakage	✓	
Horizontal and vertical cylinder oil leakage	✓	
Pilot check valve oil leakage	✓	
Outrigger box and beam damage	✓	
Set Pin	✓	
Float damages	✓	
Level gauge	✓	
Outrigger operation, function	✓	

Mobile Crane Service and Inspection Report

Oil Used			Filters Used		
TYPE	QTY	Part Number	TYPE	QTY	Part Number

Comments:

JDM Employee Signature:

Date: 28-2-24

ALL TERRAIN CRANE
Report

ATC A 178475-11

Accreditation no. 19898

CraneSafe
Div of The Crane Industry Council of Australia
ABN 73 002 565 773

PO Box 136
MOUNT WAVERLEY VIC 3149
Phone: +61 (03) 9501 0078
Email: assessments@cranesafe.com.au

Initial Inspection Date: 09/06/2023

Reassessment Date: 22/06/2023

Conforms to Checklist: Yes

Issued Date: 22/06/2023

Next Inspection Date: 22/06/2024

COMPANY

REPRESENTATIVE

ASSESSED BY

Reg No. VIC1120

COMPANY

Tadano Demag AC55-1

LOWER HOURS
12735

UPPER HOURS
0

KILOMETERS
9243

YOM
2008

SERIAL NUMBER
551066

PLANT NUMBER
CR1037T

MAX LOAD
60000 KG

NUMBER OF AXLES
3

DESIGN REGISTRATION NUMBER
NOT PRESENT AT TIME OF INSPECTION

PLANT REGISTRATION NUMBER
N/A

ROAD REGISTRATION
840 KXY

Assessment

Country Where Assessed	Australia
State	VIC
Operators Manual in English	OK
Log Book	OK
Maintenance Records	OK
Crane Safety Manual	No
Major Inspection Report Sighted	No

Actions Required

Please ensure to maintain machine as per manufacturer's recommendations. Please refer to this report for any items marked as "monitor". These items will require further monitoring of their condition.

Boom and Attachments

Base Section	**OK**
No. 1 Section	**OK**
No. 2 Section	**OK**
No. 3 Section	**OK**
No. 4 Section	**OK**
No. 5 Section	**N/A**
Additional Sections	**N/A**
Head Sheaves and bearings	**OK**
Minor damage to head sheaves. Suggest monitoring condition.	
Idler Sheave and Bearing	**OK**
Rooster Sheave and Bearing	**OK**
Extension / Fly Jib Mounts	**OK**
Shimming and Alignment	**OK**
Boom Lift Cylinders	**OK**
Lock Valve(s)	**OK**
Extension Cylinders	**OK**
Lock Valve(s)	**OK**
Extend Ropes / Chains	**OK**
Retract Ropes / Chains	**OK**
Boom Length Recoil Drum(s)	**OK**
Mechanical Boom Angle Indicator	**OK**
Fixed Jib	**N/A**
Luffing Jib(s)	**N/A**
Masts	**N/A**
Suspension Ropes	**N/A**
Suspension Straps / Tubes	**N/A**
Load Cell	**N/A**
Recoil Drums	**N/A**
Superlift	**N/A**
Superlift Winch	**N/A**
Superlift Winch Brakes	**N/A**
Boom / Attachments / Electrics	**N/A**
Proximity Switches	**N/A**
Boom Pinning System	**N/A**
Extension / Fly Jib	**OK**
Sheaves and Bearings	**OK**
Anemometer	**OK**
Boom Hazard Striping	**OK**

ANTI-TWO BLOCKS

Boom Head	**OK**
Rooster Sheave	**OK**
Extension / Fly	**N/A**

HOOK BLOCKS - WITH CRANE

Description	25t Hook Block	**Manufacturers Identification**	**OK**
		263327	
Branded WLL (kg)	**OK**	**Safety Latches**	**OK**
25000kg		**Sheaves and Bearings**	**OK**
		3	
Swivel	**OK**	**Branded with Tare Weight (kg)**	**OK**
		330kg	

HOOK BLOCKS - WITH CRANE No. 2

Description	Auxiliary Hook	**Manufacturers Identification**	**OK**
		263327	
Branded WLL (kg)	**OK**	**Safety Latches**	**OK**
5000kg		**Sheaves and Bearings**	**N/A**
Swivel	**OK**	**Branded with Tare Weight (kg)**	**OK**
		90kg	

Revolving Frame and Cabin

Frame	**OK**	**Heater**	**OK**
Counterweight Attachment - Security	**REMEDIED**	**Air Conditioner**	**OK**
Counterweight Hazard Striping	**OK**	*A/C not getting extremely cold.*	
Boom Mounting Lugs	**OK**	**Gauges**	**N/A**
Boom Mounting Pins	**OK**	**Anti-Two block Alarms**	**OK**
Lift Cylinder Lugs	**OK**	**Horn**	**OK**
Lift Cylinder Pins	**OK**	**Access Steps**	**OK**
Cab Glass and Mirrors	**OK**	**Doors and Locks**	**OK**
Sheet Metal / Guards	**OK**	**Crane Level Indicator**	**OK**
Seat Assembly	**OK**	**Outrigger Controls**	**OK**
Throttle	**OK**	**Cab Mounts**	**OK**
Dead Man Controls	**OK**	**Front Wiper**	**OK**
Free Fall Lockout	**N/A**	**Roof Wiper**	**OK**
Decals / Signs - In English	**OK**	**Windscreen Wiper / Washer**	**OK**
SWL instead of MRC as required.		**Switches and Relays**	**OK**
Load Charts in English as per AS1418	**OK**	**Upper Steering**	**OK**
Control Levers - Clearly Marked	**OK**	**Upper Braking**	**OK**
Decal on window.			
Control Cables / Pilot Hoses	**OK**		

Slew System

Slew Transmission & Oil Level	**OK**
Unable to ascertain oil level due to no sight gauge present. Please see service report.	
No Leaks Present	**OK**
Swing Brake	**OK**
Lock Valve(s)	**N/A**
House Lock	**OK**
Slew Pinion	**OK**
Slew Gear	**OK**
Slewing Ring	**OK**
Base Weld	**OK**
Smooth Operation	**OK**
Rotary Coupling	**OK**
Slew Bolts	**OK**
Excessive Bearing Play	**OK**
Excessive Backlash	**OK**
Electrical Swivel	**OK**

Main Winch

Winch Condition & Oil Level	**OK**
Unable to ascertain oil level due to no sight gauge present. Please see service report.	
No Leaks Present	**OK**
Rope Spooling	**OK**
Winch Attachment, Pins / Bolts	**OK**
Brake Caliper and Disc	**N/A**
Friction Pads	**N/A**
Brake Operation	**OK**
Drum Turn Indicator	**OK**
Main Wire Rope	**OK**
Unable to inspect entire length of rope due to boom/reeving configuration. Suggest monitoring rope condition.	
Rope Socket and Pins	**OK**
Correct Assembly and Connection of Hoist Rope Socket	**OK**
Drum Locking Pawl Mechanism	**N/A**
Clutch Linings and Cylinder Protection	**N/A**

Auxiliary Winch

Winch Condition & Oil Level	**OK**
Unable to ascertain oil level due to no sight gauge present. Please see service report.	
No Leaks Present	**OK**
Rope Spooling	**OK**
Winch Attachment, Pins / Bolts	**OK**
Brake Caliper and Disc	**N/A**
Friction Pads	**N/A**
Brake Operation	**OK**
Drum Turn Indicator	**OK**
Camera	
Auxiliary Wire Rope	**OK**
Unable to inspect entire length of rope due to boom/reeving configuration. Suggest monitoring rope condition.	
Rope Socket and Pins	**OK**
Correct Assembly and Connection of Hoist Rope Socket	**OK**
Drum Locking Pawl Mechanism	**N/A**
Clutch Linings and Cylinder Protection	**N/A**

Hydraulic System

Hydraulic Reservoir & Oil Level	OK
Return Filters and Housing	OK
Suction Lines and Hoses	OK
Oil Cooler(s)	OK
Main Pump(s)	OK
Slew Pump	OK
Steering Pump	OK
Pilot Pump	OK
Relief Valves	OK
Pressure Filter and Housing	OK
Slew Motor	OK
Slew Valve	OK
Main Winch Motor	OK
Auxiliary Winch Motor	OK
Main Winch Valve	OK
Auxiliary Winch Valve	OK
Boom Lift Valve	OK
Boom Extension Valve	OK
Pressure Lines and Hoses	OK
Power Steering Cylinders	OK
Vertical Outrigger Cylinders	OK
Horizontal Outrigger Cylinders	OK
Outrigger Control Valves	OK
Outrigger Lock Valves	OK
Counterweight Lift Cylinder	OK

Air Systems

Compressor	OK
Air Reservoirs	OK
Drain Valves	OK
Air Lines	OK
Brake Chambers	OK
Brake Valves	OK
Air Cylinders	OK
Air Dryer	OK

Chassis Inspection

Frame	OK
Suspension System	OK
Multiple suspension cylinders leaking. Suggest monitoring condition and repairing if condition worsens.	
Steering Components	OK
Driving Axles	OK
Non Driving Axles	N/A
Differentials	OK
Planetary Drives	OK
Drive Lines	OK
Brake(s)	OK
Parking Brake	OK
Outrigger Boxes	OK
Outrigger Beams	OK
Outrigger Pads	OK
Markings For Alternate Outrigger Widths	OK
Outrigger Hazard Striping	OK
Sheet Metal / Guards	OK
Decals / Signs - In English	OK
Doors and Locks	OK
Outrigger Controls and Labeling	OK
Axle Levelling for Road Travel	OK
Crane Levelling System	OK
Condition of Tyres	OK
Appropriate Earthing	OK
Earth Strap	N/A
Fire Extinguisher	OK

Electrical Systems

Battery Box	**OK**
Battery Cables	**OK**
Battery Isolator	**OK**
Starter	**OK**
Head Lights	**OK**
Tail Lights	**OK**
Stop Lights	**OK**
Directional indicators	**OK**
Hazard Lights	**OK**
Clearance Lights	**OK**
Switches and Relays	**OK**
Rotating Beacon(s)	**OK**
Reverse Alarm	**OK**
Horn for Road Travel	**OK**

Drive Systems

Radiator & Coolant Level	**OK**
Unable to ascertain coolant level due to no sight gauge present. Please see service report.	
Radiator Hoses	**OK**
Fan	**OK**
Fan Guard	**OK**
Oil Cooler(s)	**N/A**
Fuel Lines	**OK**
Throttle	**OK**
Engine Mounts	**OK**
Power Transmission Belts	**OK**
Muffler / Spark Arrestor	**OK**
Engine Oil Pressure & Oil Level	**OK**
Unable to ascertain oil level due to no sight gauge present. Please see service report.	
Abnormal Engine Noises	**OK**
Fuel Tank & Diesel Level	**OK**
Power Shift / Range Shift	**OK**
Drive Coupling	**OK**
Transmission Noise	**OK**
No Leaks Present	**OK**
Pump Drives	**OK**
Pump Disconnects (PTO)	**OK**
Output Coupling	**OK**
Engine Braking	**OK**
Transmission Retarder	**N/A**
Telma Brake	**OK**
ABS Brakes	**N/A**

Superstructure Drive System

N/A

Carrier Cabin

Cab Glass and Mirrors	**OK**
Sheet Metal and Guarding	**OK**
Seat and Assembly including Seat Belts	**OK**
Throttle	**OK**
Foot Brake	**OK**
Clutch Pedal	**N/A**
Steering Wheel Free Play	**OK**
Decals / Signs - In English	**OK**
Heater	**OK**
Air Conditioner	**OK**
Gauges	**OK**
Indication and Warning Lights	**OK**
Windscreen Wiper / Washer	**OK**
Washer bottle empty at time of inspection	
Exhaust / Telma Brakes	**OK**

ADDITIONAL ITEMS

Passenger Door — **REMEDIED**

Passenger door not closing and locking closed.

Functional Tests - Main Winch

Rated Capacity Indicator (RCI)

Load Chart Reference Number Mode 2

Printed Chart - No Load **OK**

	Printed Chart	RCI
Boom Angle, deg	N/A°	N/A°
Boom Length, m	40.00m	39.80m
Radius, m	28.00m	28.00m
Load, kg	4500kg	4500kg

RCI Load Charts 75%

Rated Capacity Limiter (RCL)

Load Chart Reference Number Mode 2

Rated Load - Boom Fully Extended **N/A**

Rated Load in Stability **N/A**

Line Pull Test **OK**

	RCI	Measured
Load, kg	4700kg	4800kg

Winch Brake Test **OK**

	RCI	Measured
Load, kg	4700kg	4800kg

Overload Warning Lights and Alarms **REMEDIED**

Green Xmas tree light not working.

Rated Capacity Limiter Fitted (Overload Limiter) **OK**

Functional Tests - Auxiliary Winch

Load Chart Reference Number Mode 2

Rated Load - Boom Fully Extended **OK**

	RCI	Measured
Radius, m	29.20m	29.10m
Load, kg	2200kg	1776kg

Rated Load in Stability **OK**

	RCI	Measured
Radius, m	29.20m	29.10m
Load, kg	2200kg	1776kg

Line Pull Test **OK**

	RCI	Measured
Load, kg	4700kg	4800kg

Winch Brake Test **OK**

	RCI	Measured
Load, kg	4700kg	4800kg

Overload Warning Lights and Alarms **OK**

Rated Capacity Limiter Fitted (Overload Limiter) **OK**

Crack Inspection

No Cracks Detected **REMEDIED**

No NDT reports supplied.

*Any third party testing is not included in the Crane**Safe** NATA accreditation.*

Manufacturer Additional

N/A

Site Requirements

N/A

Crane

Model

Serial Number

Lower Hours at last inspection:
11839

Kilometers at last inspection:
9158

Assessment

CR1037T - 12542 HRS - 12.04.23.pdf

Maintenance Records

Boom and Attachments

Extension / Fly Jib Mounts

Boom Lift Cylinders

Extension / Fly Jib

Boom Hazard Striping

Description

Manufacturers Identification

Description

Manufacturers Identification

Sheaves and Bearings

Boom Lift Cylinders

Lock Valve(s)

Extension Cylinders

Base Section

Base Section

No. 1 Section

Head Sheaves and bearings

Shimming and Alignment

Idler Sheave and Bearing

Idler Sheave and Bearing

Shimming and Alignment

No. 2 Section

No. 3 Section

No. 4 Section

Extend Ropes / Chains

Extend Ropes / Chains

Extend Ropes / Chains

Rooster Sheave and Bearing

Extension / Fly Jib

Anemometer

Revolving Frame and Cabin

Counterweight Hazard Striping

Counterweight Hazard Striping

Cab Glass and Mirrors

Seat Assembly

Control Levers - Clearly Marked

Control Levers - Clearly Marked

Crane Level Indicator

Outrigger Controls

Switches and Relays

Boom Mounting Lugs

Counterweight Attachment - Security

Counterweight Attachment - Security

Counterweight Attachment - Security

Counterweight Attachment - Security

Boom Mounting Lugs

Lift Cylinder Lugs

Lift Cylinder Lugs

Lift Cylinder Lugs

Boom Mounting Pins

Lift Cylinder Pins

Frame

Counterweight Attachment - Security

Counterweight Attachment - Security

Slew Transmission & Oil Level

Swing Brake

House Lock

Slew Gear

Slew Gear

Slew Pinion

Electrical Swivel

Winch Attachment, Pins / Bolts

Correct Assembly and Connection of Hoist Rope Socket

Correct Assembly and Connection of Hoist Rope Socket

Winch Condition & Oil Level

Rope Spooling

Winch Attachment, Pins / Bolts

Main Wire Rope

Main Wire Rope

Rope Socket and Pins

Main Wire Rope

Main Wire Rope

Main Wire Rope

Main Wire Rope

Brake Operation

Hoist brake operating correctly.

Auxiliary Winch

Correct Assembly and Connection of Hoist Rope Socket

Correct Assembly and Connection of Hoist Rope Socket

Winch Condition & Oil Level

Rope Spooling

Winch Attachment, Pins / Bolts

Winch Attachment, Pins / Bolts

Winch Attachment, Pins / Bolts

Auxiliary Wire Rope

Auxiliary Wire Rope

Winch Attachment, Pins / Bolts

Auxiliary Wire Rope

Auxiliary Wire Rope

Rope Socket and Pins

Rope Socket and Pins

Auxiliary Wire Rope

Auxiliary Wire Rope

Auxiliary Wire Rope

Auxiliary Wire Rope

Hoist brake operating correctly.

Brake Operation

Drum Turn Indicator

Hydraulic System

Oil Cooler(s)

Pressure Filter and Housing

Slew Valve

Boom Lift Valve

Hydraulic Reservoir & Oil Level

Hydraulic Reservoir & Oil Level

Vertical Outrigger Cylinders

Vertical Outrigger Cylinders

Vertical Outrigger Cylinders

Vertical Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Horizontal Outrigger Cylinders

Counterweight Lift Cylinder

Main Winch Motor

Auxiliary Winch Motor

Air Systems

Air Dryer

Air Cylinders

Chassis Inspection

Outrigger Controls and Labeling

Outrigger Controls and Labeling

Condition of Tyres

Condition of Tyres

Condition of Tyres

Condition of Tyres

Appropriate Earthing

Appropriate Earthing

Markings For Alternate Outrigger Widths

Markings For Alternate Outrigger Widths

Outrigger Hazard Striping

Outrigger Pads

Outrigger Pads

Outrigger Pads

Outrigger Pads

Fire Extinguisher

Battery Isolator

Stop Lights

Battery Box

Head Lights

Clearance Lights

Clearance Lights

Tail Lights

Please see attached pictures

Telma Brake

Radiator & Coolant Level

Fuel Lines

Engine Braking

Pump Drives

Cab Glass and Mirrors

Seat and Assembly including Seat Belts

Gauges

Passenger Door

Load

Load

Load Chart Reference Number

Overload Warning Lights and Alarms

Overload Warning Lights and Alarms

Overload Warning Lights and Alarms

Rated Load - Boom Fully Extended

Load

Load

Load

Load

Crack Inspection

GNDT23-3518.1.Issue1.ET.SLT Crane & Equipment.pdf

No Cracks Detected

GNDT23-3518.1.Issue1.UT.SLT Crane & Equipment.pdf

No Cracks Detected

Miscellaneous

Gippsland NDT Services PTY LTD
ABN 21 130 012 047
PO BOX 3096
Morwell, 3841
Phone +61 3 51361800
info@gippslandndt.com.au

Non-Destructive Testing – Eddy Current Report

Client: SLT Crane & Equipment, PO Box 5795, Wantirna South, 3152, Victoria

Report No:	GNDT23-3518(ET)	**Test Date:**	9/06/2023
Order No:	TBA *	**Requested By:**	Shayne Tronconi
Job No:	CPB (AssetNo: CR1037T) * Request No: N/A *		
Job Location:	221 Whitehall Street, Yarraville VIC		
Description:	Terex Demag Mobile Crane (Model: AC55-1, S/N: 551066, Rego: 840-KXY)		
Acceptance Spec:	Clients Requirements 'Nil Cracks' *		
Test Technique:	ISO 17643 (2015)		
Procedure:	GNDT-WI-ET01		
Material Spec:	Carbon Steel	**Heat Treatment:**	N/A
Material Prep:	Painted	**Joint Type:**	Fillet/Butt
Welding Process:	As Welded	**Joint Thickness:**	Various
Coating Type:	Paint	**Coating Thickness:**	<0.5mm
Technician:	Jens Kuhne (ISO 9712 L2), Clancy Jenkins		

Equipment:

Eddy Current Flaw Detector:	Nortec 600	**Serial Number**	220213802
Absolute Probe :	NEC-22-36/7L	**Serial Number**	S23691
Operating Frequency:	200kHz		
Weld Scan Probe :	Olympus WLD-8-55/7L	**Serial Number**	S23691
Operating Frequency:	100kHz		
Calibration Block(s) :	Fe EDM Block	**Serial Number**	K52115
Sensitivity:	1.0 mm EDM to 80% FSD	**Phase:**	314°

Test Results

Eddy Current examination was carried out in accordance with the requirements of ISO 17643 on the following welds:

*Disclaimer: GNDT is not responsible for data/information supplied by the client in the form of purchase orders, request's, etc., that may affect the validity of results. Clients supplied data has been noted by *. The results presented in this report relate only to the welds, items or samples selected by the client for the purpose of testing.*

Delegated Signatory:

Signed: Jens Kuhne

Date: 9/06/2023

Gippsland NDT Services PTY LTD
ABN 21 130 012 047
PO BOX 3096
Morwell, 3841
Phone +61 3 51361800
info@gippslandndt.com.au

Client:	SLT Crane & Equipment	**Date :**	9/06/2023
Job Description:	Terex Demag Mobile Crane (Model: AC55-1, S/N: 551066, Rego: 840-KXY)	**Report Number :**	GNDT23-3518(ET)

Description	Interpretation
Slew Table Welds	Nil Evidence of Cracking
Turret (including boom & ram mount welds)	Nil Evidence of Cracking
Winch/Counterweight Assembly Welds	Nil Evidence of Cracking
Luffing Ram & Cylinder Welds	Nil Evidence of Cracking
Main Boom & Attachment Welds	Nil Evidence of Cracking
Boom Heads (4) Welds	Nil Evidence of Cracking
Boom Tip Welds	Nil Evidence of Cracking
Outrigger Casements (4) Welds	Nil Evidence of Cracking
Outriggers (4) Welds	Nil Evidence of Cracking
Main Hook (Surface) & Block Welds	Nil Evidence of Cracking
Auxiliary Hook (Surface) & Block Welds	Nil Evidence of Cracking

Photo 1

Photo 2

Photo 3

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Morwell, 3841
Phone +61 3 51361800
info@gippslandndt.com.au

Non-Destructive Testing – Ultrasonic Report

Client: SLT Crane & Equipment, PO Box 5795, Wantirna South, 3152, Victoria

Report No:	GNDT23-3518(UT)	**Test Date:**	9/06/2023
Order No:	TBA *	**Requested By:**	Shayne Tronconi
Job No:	CPB (AssetNo: CR1037T) *	Request No: N/A *	
Job Location:	221 Whitehall Street, Yarraville VIC		
Description:	Terex Demag Mobile Crane (Model: AC55-1, S/N: 551066, Rego: 840-KXY)		
Acceptance Spec:	Clients Requirements 'Nil Cracks' *		
Test Technique:	GNDT-WI-UT08		
Procedure:	GNDT-WI-UT08		
Material Spec:	Carbon Steel		
Material Prep:	IN Service/Cleaned		
Technician:	Clancy Jenkins (ISO 9712 L2)		

Equipment:

Ultrasonic Flaw Detector: Epoch 650 **Serial Number:** 211388711

Probe(s):	Type	Size	Angle	Index	Frequency	Serial No
SIU IP5-25L1	Single	25mm	0	-	5MHz	12101505R

Couplant: Gel

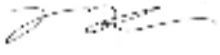
Calibration Blocks: IIW Block

Test Results

Ultrasonic inspection was carried out in accordance with Clients Requirements 'Nil Cracks'. Refer to the following for results:

Item	Interpretation
10% of Slew Bolts	Nil Recordable Reflectors

*Disclaimer: GNDT is not responsible for data/information supplied by the client in the form of purchase orders, request's, etc., that may affect the validity of results. Clients supplied data has been noted by *. The results presented in this report relate only to the welds, items or samples selected by the client for the purpose of testing.*

Delegated Signatory: 

Signed: Jens Kuhne

Date: 9/06/2023

Mobile Crane Service and Inspection Report

JDM SERVICES AUST. Clonbinane VIC

Customer:	CPB	Crane Model:	AC55-1
Make:	Demag	Hours: Upper:	Lower: 12,542
Serial Number:	551066	Rego / Unit Number:	CR1037T
Date of Inspection:	12-4-23	KMS:	9238
Location:	WGTP Pivot		

Items	Check	Remarks	Items	Check	Remarks
Engine			Slewing brake lever	/	
Oil, fuel & water leakage, level contamination	/		Slewing brake master, function, operation	—	
Fan belt: tension, damage	/		Slewing brake master cylinder	—	
Radiator core	/		**Safety Device**		
Radiator cap condition	/		Drum lock lever	—	
Coolant, ant freezing, antirust	/		Drum lock click	—	
Air cleaner element, cleaning	/		Slewing lock pin	/	
Engine start ability	/		Over hoisting detector wire rope	/	
Exhaust gas condition	/		Over hoisting detecting limiter switch	/	
Engine oil pressure	/		Alarm at over hoisting	/	
Air pressure	/		Irregular winding prevention system	—	
Muffler	/		Front lifting dectection switch function	—	
Hydraulic Reservoir Tank			Counterbalance valve and holding valve	/	
Reservoir Tank damage	/		Meter panel	/	
Level Gauge of reservoir	/		Each indicator	/	
Reservoir tank oil leakage	/		Confirmation of function according to calibration plate	/	
Hydraulic oil, level, contamination	/		Cord reel function	/	
Element, internal pressure, contamination	/		Pilot lamp	/	
Tank retaining bolt and nut,	/		Operation selector switch function	/	
Tank retaining bracket damage	/		Auto stop cancel switch function	/	
Pump Drive System			Auto stop function	/	
Abnormal sound during operation of P.T.O	/		Error code indicator	/	
Air cylinder air leakage	/		Boom length sequential control function	/	
Pump			Drum indicator lamp	/	
Abnormal sound	/		**Slewing Device**		
Pump oil leakage	/		Slewing bearing fastening bolt and nut	/	
Pump retaining bolt and nut	/		Slewing bearing	/	

Crane Service and Inspection Report

JDM SERVICES AUST. Clonbinane VIC

Items	Check	Remarks	Items	Check	Remarks
Carrier Drive Systems			Parking brake performance	✓	
Front and rear axles	✓		Exhaust brake performance	✓	
Front and rear axle retaining bolt and nut	✓		Brake fluid	N/A	
Tyre	✓		**Carrier Electric Equipment**		
Wheel stud	✓		Battery Electrolyte level	✓	
Bolt and nut	✓		Battery terminal	✓	
Carrier Suspension System			Battery relay function	✓	
Equaliser Beam	—		Alternator function	✓	
Torque Rod	—		Starter motor	✓	
Suspension Spring	✓		Starter relay function	✓	
Hydraulic suspension cylinder	✓		Electric wire	✓	
Oil piping	✓		Air and hydraulic solenoid valve function	✓	
Hydraulic suspension pressure	✓		**Body and Chassis**		
Carrier Steering System			Sun visor	✓	
Steering wheel	✓		Operation and damage	✓	
Pitman arm, drop arm, knuckle arm, tie arm	✓		Door Lock Function	✓	
Carrier Operation Device			Window regulator	✓	
Functions of switches	✓		Fenders, deformation	✓	
Meter and pilot lamp function	✓		**Outriggers**		
Horn, turn signal function	✓		Outrigger circuit oil leakage	✓	
Lighting system functions and damage	✓		Outrigger control hydraulic valve leakage	✓	
Windshield wiper and washer function	✓		Horizontal and vertical cylinder oil leakage	✓	
Wiper blade	✓		Pilot check valve oil leakage	✓	
Air heater indicator function	✓		Outrigger box and beam damage	✓	
Each lamp and lens; crack deformation, discoloration	✓		Set Pin	✓	
Warning buzzer function	✓		Float damages	✓	
Center bearing	N/A		Level gauge	✓	
Propeller shaft coupling bay	✓		Outrigger operation, function	✓	
Propeller shaft spline play	✓				
Carrier Brake System	✓				
Brake pedal	✓				
Brake piping and base	✓				
Brake drum and brake shoe	✓				
Air tank	✓				
Brake performance	✓				

ALL TERRAIN CRANE

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LOWER HOURS
12735

UPPER HOURS
0

SERIAL NUMBER
>>:JLL

YEAR OF MANUFACTURE
KJJ<

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Shayne Tronconi

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ALL TERRAIN CRANE LOAD INDICATOR CERTIFICATION

Certificate Number: VIC178475 CraneSafe Assessment Number: ATC A 178475-11

NATA Accreditation no. 19898

CraneSafe
Div of The Crane Industry Council of Australia
ABN 73 002 565 773

PO Box 136
MOUNT WAVERLEY VIC 3149
Phone: +61 (03) 9501 0078
Email: assessments@cranesafe.com.au

Inspection Date: 2023-06-22

Renewal Date: 22/06/2024

Issued Date: 22/06/2023

COMPANY
CPB Contractors Pty Ltd
ABN 98 000 893 667
150-158 Cherry Lane LAVERTON NORTH
VIC 3026

REPRESENTATIVE
Mr John Dellis Phone: 0459 138 552
Email: John.Dellis@cpbcon.com.au

ASSESSED BY
Shayne Tronconi
Reg No: VIC1120
Phone: 0416 165 650
Email: shayne@sltcrane.com

COMPANY
SLT Crane & Equipment
PO Box 5795 WANTIRNA SOUTH
VIC 3152

Tadano Demag AC55-1

LOWER HOURS
12735

UPPER HOURS
0

SERIAL NUMBER
551066

YEAR OF MANUFACTURE
2008

RATED CAPACITY INDICATOR (RCI)

Load Chart Reference Number Mode 2

PRINTED CHART - NO LOAD

	Printed Chart	Rated Capacity Indicator
Boom Angle, deg	N/A	N/A
Boom Length, m	40.00	39.80
Radius, m	28.00	28.00
Load, kg	4,500.00	4,500.00

Load Chart Reference Number Mode 2

RATED LOAD - BOOM FULLY EXTENDED

	Rated Capacity Indicator	Measured
Radius, m	29.20	29.10
Load, kg	2,200.00	1,776.00

RATED LOAD IN STABILITY

	Rated Capacity Indicator	Measured
Radius, m	29.20	29.10
Load, kg	2,200.00	1,776.00

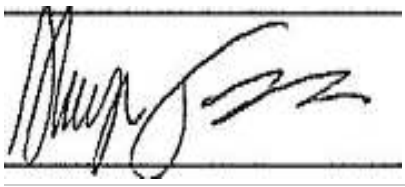
LINE PULL TEST

	Rated Capacity Indicator	Measured
Load, kg	4,700.00	4,800.00

WINCH BRAKE TEST

	Rated Capacity Indicator	Measured
Load, kg	4,700.00	4,800.00

At the time of test, the load indicator was reading in accordance with the requirements of AS1418.1 & AS1418.5 and the load charts supplied with the crane



Shayne Tronconi

Supporting Information

Load

Load

Load Chart Reference Number

Overload Warning Lights and Alarms

Overload Warning Lights and Alarms

Overload Warning Lights and Alarms

Overload Warning Lights and Alarms

Rated Load - Boom Fully Extended

Load

Load

Load

Load

Terex Demag AC55-1 SN 551066

Deferred Major Inspection

Presented to

22/05/2019 Rev 1

IDEAS Cranes Pty Ltd
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Australia
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E: ideas@ideascranes.com.au
W: www.ideascranes.com.au

Document Control

Document ID: 180204 Terex Demag AC55-1 SN 551066 MI

Rev No	Date	Revision Details	Author	Verifier	Approver
0	22/05/2019	Issued for review	MKP	JMW	MKP
1	22/05/2019	Full report issued	MKP	JMW	MKP

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1. The documents or data shall not be used for any purpose not agreed to in writing by IDEAS Cranes.

CONTENTS

1 DEFERRED MAJOR INSPECTION CERTIFICATE

Certificate Number:			**180204-001**
Equipment Description:			**Terex Demag AC55-1 SN 551066**
Model No.:	**AC55-1**	Manufacturer:	**Terex Demag**
Serial No.:	**551066**	Date of manufacture:	**2008**
Max Load:	**60,000 kg**	Design Reg. No.:	**SD20070635-1**
Engine Hrs	**8,453**		
Kilometers:	**8,785**	Road Registration:	**840 KXY**

Client name:	**CPB Contractors**	Contact:	**John Dellis**
Address:	**150-158 Cherry Lane, Laverton North, VIC 3026**		
Telephone No.:	**0459 138 552**	Email:	**john.dellis@cpbcon.com.au**

Assessor:	**Michael Percy**	Qualifications:	
Address:	**17 Neutron Place Rowville VIC 3178**	CICA	**Endorsed Engineer 15 years experience**
Telephone No.:	**03 9763 4332**	ENGINEERS AUSTRALIA	**MIEAust 3699030 Chartered Professional Engineer**
Email:	**michael.percy@ideascranes.com.au**		

The crane as detailed above has been inspected in accordance with AS 2550.5 - 2016 to the design requirements of AS1418.5 - 2013. I find that the crane inspected complies with these requirements.

The requirement for a major inspection may be deferred until the earlier of May 2024 or 15,000 engine hours.

Michael Percy

IDEAS Cranes, 17 Neutron Place, Rowville, VIC 3178

Date: 22/05/2019

2 SUMMARY OF FINDINGS

A review of the crane was completed to establish if the design life had been consumed and if the requirement for a major inspection had been reached.

The crane usage was calculated based upon Terex Demag guidelines and the requirements of AS 2550.1 – 2011. The calculated usage indicated that the requirement for a major inspection has not been reached with 57% of the structural design life and 22% of winch life (assessment based upon Terex Demag guideline 12% of engine hours) estimated to have been consumed.

To validate the calculated value I completed a detailed condition assessment in association with an authorised CraneSafe inspector (Shayne Tronconi) and both stability and line pull tests on the 28 March and 1 May 2018. Non-destructive testing of the crane structure was completed by Gippsland NDT on 29 March 2019.

A 500 hr crane service was completed by Terex on 3 July 2018 (8431 hr) with the next service due at 8931 hrs.

The condition assessment showed that the crane was in good condition with low wear consistent with the calculated usage.

A review was also completed of the crane history, including previous service reports and annual inspection reports. This showed that the crane has been maintained in accordance with the manufacturer's recommendations for its working life.

Refer to section 3 for recommended actions following the review.

3 REQUIRED ACTIONS

3.1 MAJOR INSPECTION REQUIREMENTS

Based on the crane usage the requirement for a Major Inspection has not been reached.

The condition assessment showed that the crane was in a generally good condition with low wear consistent with this usage. It is recommended that the following actions be planned.

- Maintain a documented inspection & maintenance program as per section 3.2.
- The condition assessment did not identify any remedial activities.

The requirement for a Major Inspection should be reviewed prior to May 2024.

3.2 ONGOING INSPECTION & MAINTENANCE REQUIREMENTS

Based on the review it is recommended that the following inspection regime be maintained in accordance with Terex Demag Guidelines and AS2500.1 Crane Safe Use.

Inspection	**Frequency (days)**
Pre Operation	1
General Service	500 hrs
3rd Party Periodic (Green Sticker)	365
Major Inspection	Review by May 2024

3.3 REMEDIAL ACTIVITIES

Minor remedial activities were identified and remedied as part of the Annual Inspection. Refer to the 3rd Party Inspection report for details.

4 CRANE HISTORY

4.1 HISTORY

4.1.1 Original Classification

The crane was manufactured by Terex Demag and purchased by Thiess in 2008. The crane has been owned and maintained by Thiess / CPB for its entire life.

4.1.2 Modifications

No major modifications have been made.

4.1.3 Repair History

July 2018: Slew assembly stripped, inspected and reassembled.

No other major repairs have been completed.

4.1.4 Current Inspections

Routine Maintenance (1000 / 500 hrs)	Crane has been serviced according to schedule since purchase by Thiess / CPB.
3rd Party Inspection (Annual)	07/05/2019 – Shayne Tronconi (SLT Crane & Equipment) 07/12/2017 - Shayne Tronconi (SLT Crane & Equipment) Inspections have been completed regularly by CraneSafe Inspectors since manufacture.
Major Inspection (10/25 year)	No previous Major Inspection completed.

4.2 DESIGN LIFE

The crane has been owned and managed by Thiess / CPB since manufacture in 2008. A review of the crane history showed that it is in use on average less than 4 days / week. Usage is typically restricted to assembly work with a load spectrum < 0.125 in accordance with ISO 4301/1. Conservatively the life has been assessed for a load spectrum < 0.25.

4.2.1 Crane Classification

ISO 4301/2 State of Loading	Q2
Class of Utilisation	U1
Max. Number of Operating Cycles	32,000

4.2.2 Hoist Classification

A review of the crane history showed that for all operations the crane has been used for assembly work with a load spectrum < 0.125 in accordance with ISO 4301/1. The cranes hoists winches are M5 classification.

ISO 4301/2 State of Loading	L2
Class of Utilisation	T5
Max. Number of Operating Hours	5,000

4.3 PROJECTED USAGE AND DESIGN LIFE

The crane has been subject to the following current duty (based on engine hour meters and crane history, all hoist lives are conservatively estimated as 20% of engine hours). It is estimated that future duty will be equal to this usage (note that these figures include a factor of 1.1 for estimate based on counters and manual documentation).

4.3.1 Crane Usage and Design Life

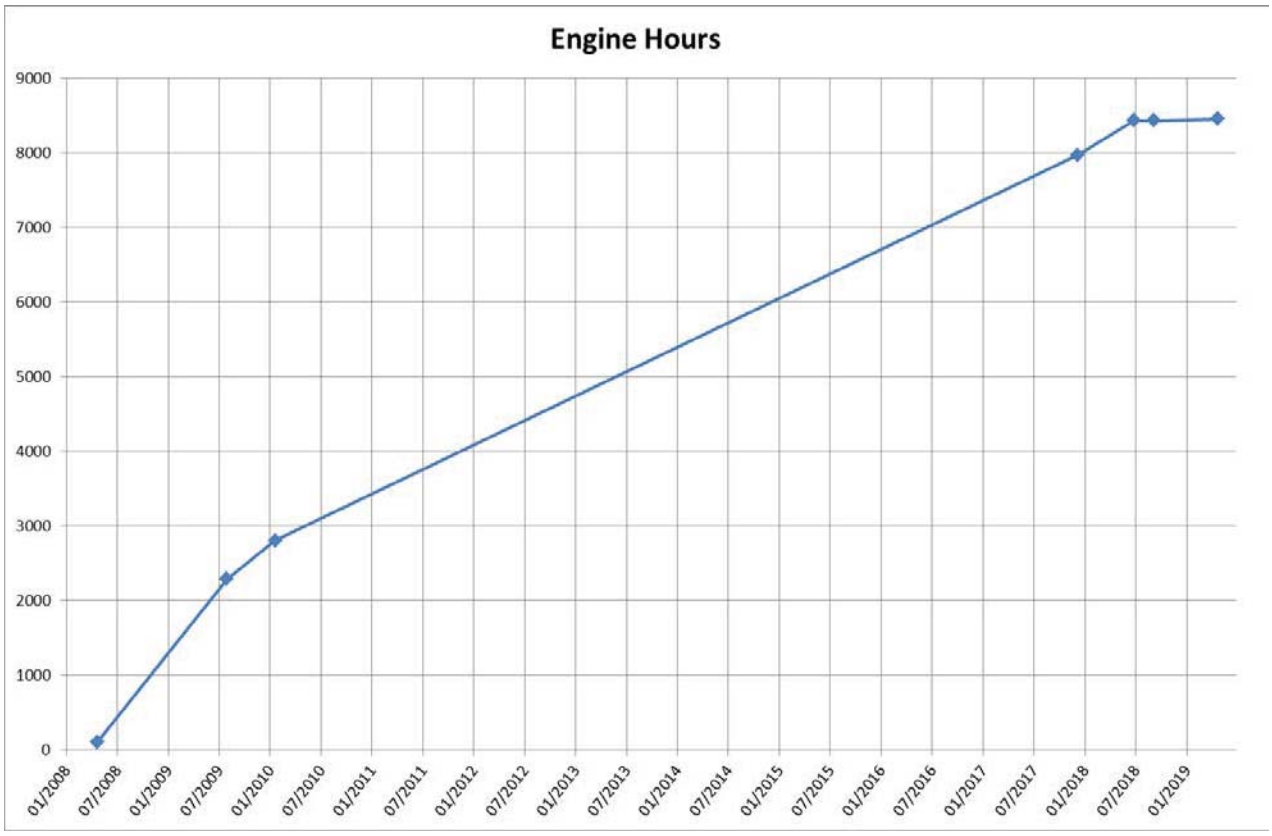
Total Factored Lifts	18,304
Allowable Lifts at Current Load Profile	32,000
Percentage of Design Life Used	57%
Estimated Future Life at Current Usage	> 7 years

4.3.2 Hoist Usage and Design Life

Total Factored Hoist Hours	1,116
Percentage of Design Life Used	22%
Estimated Future Life at Current Usage	> 7 years

4.4 RESULTS

The DWP calculation shows that this crane is yet to exceed the original design life. The crane life has been relatively steady since manufacture.



5 CONDITION REVIEW

5.1 SITE INSPECTION

Visual inspection showed components to be in a generally good condition consistent with the estimated low usage.

A detailed visual inspection of the crane and structure was completed by Jon Wilson on 28 March 2019 and a followup inspection by Michael Percy on 1 May 2019 (both professional engineers experienced in mobile cranes) and no significant defects were found.

A detailed visual inspection and functional testing was completed in accordance with the CraneSafe procedure by Shayne Tronconi of SLT Crane & Equipment on 29 March and 1 May 2019.

5.2 NON DESTRUCTIVE TESTING

The following non-destructive testing was completed by Gippsland NDT onsite at Laverton North on 29 March and 1 May 2019. Refer to Appendix 3 for the NDT report:

Visual and Eddy Current Examination

- Base and Chassis Welds
- Main Boom Welds
- Booms and Boom Heads Welds
- Hydraulic Lift Cylinder Welds
- Outrigger (4) Welds
- Slew Ring Mount Welds
- All Rope Winches
- Hook (2) Surfaces
- Fly Jib

Ultrasonic Testing

- Slew ring bolts (10%)

5.3 COMPLIANCE REVIEW

The crane design was reviewed against the current version of the Australian Standard AS 1418.5 – 2013 (modified version of EN 13000:2010). No non-compliant items were found.

5.4 MAINTENANCE REPORT REVIEW

A general service period of 500 hrs is currently maintained in accordance with the manufacturer's recommendations. Refer to Appendix 5 for the most recent crane service report.

5.5 FUNCTIONAL & LOAD TESTS

5.5.1 Stability

A stability test was completed with a test load of 1,360 kg.

Hook block tare 330 kg, approx. 300 kg of chain, shackles and winch rope.

Configuration: Boom Fully Extended

	Rated Capacity Indicator	Measured
Load	2,000 kg	1,360 kg
Radius	27.1 m	-
Boom Angle	40.0°	-

5.5.2 Winch 1 Line Pull

Main winch rated line pull 45 kN. Hook block tare 330 kg.

	Rated Capacity Indicator	Measured
Load	4,700 kg	4,700 kg

5.5.3 Winch 2 Line Pull

Auxiliary winch rated line pull 45 kN. Hook block tare 90 kg.

	Rated Capacity Indicator	Measured
Load	4,700 kg	4,520 kg

APPENDIX 1: DWP CALCULATION SUMMARY

Project 180204
Date: 05/05/2019
Client: CPB Contractors
Crane: AC55-1

Design Working Period Calculation

ideas* CRANE SERVICES

Load Profile

% of Rated Capacity	Max	% of Lifts	Km
0%	0%	50.0%	0.000
0-33%	33%	20.0%	0.007
33-50%	50%	10.0%	0.013
50-65%	65%	10.0%	0.027
65-75%	75%	6.0%	0.025
75-85%	85%	2.0%	0.012
85-95%	95%	1.0%	0.009
95-100%	100%	1.0%	0.010
		100.0%	**0.125**

Factor for Duty Estimation

AS 2550.1:2011 9.6.2

Method of Duty Estimation	Counters and manual documentation	
Duty Estimation Factor f1	1.1	

Mechanical /Winch Classification

As per Terex Demag guidelines based on M5 Mechanical Classification

ISO 4301/1 Group Classification	M5	Hoist winches M5
Class of Utilisation	T5	
State of Loading	L2	
Load Spectrum Factor	0.15	Conservative, typical assembly cranes 0.125
Number of Operating Hours	5000	

Crane Hours

Superstructure Hour Meter	8453	hrs
Estimated Winch Hours	1116	hrs
Allowable hours at current load profile	5000	hrs
Proportion of mechanical design life used	22%	Calculation based on total hours (no allocation between hoists)

Group Classification

Based on ISO 4301 - A1 Group Classification / Q2 State of Loading - U1 Class of Utilisation

Stress Collective	Q2	Cranes which hoist the safe working load fairly frequently and normally moderate loads
Number of Cycles	32000	

Crane Cycles

Manufacture Date	2008	
Number of Load Cycle / Work Day	8	
Work Days / Week	4.0	Estimate based on crane history
Weeks / Year	52	
Total Lifts	18304	
Proportion of group design life used	57%	This is conservative as based on Q2 stress collective.

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