

MAJOR INSPECTION REPORT

Crane Details

Manufacturer	Terex	Crane Model	Franna AT-20
Plate Registration Number	AT20 #3613	Owner	Sarina Crane Hire
Year of Manufacture	2005	Owner's Reference	3613

Major Inspection Overhaul Provider

Service Provider	Sarina Crane Hire		
Start Date	22/03/2016		
Finish Date	02/12/2016		

Independent Engineer

Service Provider	FIELD Engineers		
Engineering Oversight	Hannah Prouse	Date Completed	21/12/2016
Engineering Approval	David Hartigan	Date Completed	21/12/2016

Statement of Safe Use

The Terex Franna AT-20 owned and operated by Sarina Crane Hire has undergone its major safety inspection that meets the requirements of AS2250.1 and the Queensland Mobile Crane Code of Practice. The crane is considered safe and can be returned to service within the limitations noted herein.

Limitation of Use

Nil



SUMMARY OF COMPETENCIES

FIELD Engineers

Independent Engineer

FIELD Engineers is ISO9001 certified for the provision of professional engineering design, product development and project management services. Major inspection of cranes is performed under the oversight of Registered Professional Engineers in Queensland. FIELD Engineers is an active member of the Crane Industry Council of Australia and has CraneSafe inspectors undertaking crane inspection activities.

Sarina Crane Hire

Major Inspection Overhaul Provider

Sarina Crane Hire was established in 2007 and provides lifting services around the Sarina and Bowen Basin area. Sarina Crane Hire has workshop capabilities to service equipment and director Scott Goode has significant experience in the crane and lifting industry.

AXS Pty Ltd

Non-Destructive Testing

AXS Pty Ltd is a privately owned independent NATA registered non-destructive and mechanical testing facility with locations in Mackay, Rockhampton and the Sunshine Coast. AXS Pty Ltd has experience in the oil and gas industry as well as mining and civil engineering industry. A full non-destructive testing report has been compiled by AXS Pty Ltd.

REFERENCE REQUIREMENTS DOCUMENTS

AS2550 Cranes Hoists and Winches – Safe Use

Standards Australia

Definition of major inspection requirements for inspection, test and documentation activities.

Queensland Mobile Crane Code of Practice

Standards Australia

Further expansion of major inspection requirements for the competency of personnel undertaking major inspection as well as further explanation of requirements for inspection, test and documentation activities.

Guide to 10 Year Major Inspection

Crane Industry Council of Australia

Definition of major inspection requirements for the competency of personnel undertaking major inspection as well as further explanation of requirements for inspection, test and documentation activities.

Major Inspection Key Issues Forum Minutes

Work Health & Safety QLD

Quantitative criteria for assessment of structural integrity of crane components.

Terex Documentation

OEM Document

OEM guidelines for maintenance, repair requirements.

AS1418.5 Cranes, Hoists and Winches

Part 5: Mobile Cranes

Standards Australia

Design requirements for mobile cranes (EN 13000:2010, MOD)

SUMMARY OF KEY ITEMS

Item	Action
Boom	Disassembled, NDT and repaired as required.
Hook and Blocks	Disassembled, NDT and repaired as required.
Rope	Inspected.
Winch	Replaced with new unit.
Telescopic System	Disassembled, inspected and repaired as required.
Wheels	Disassembled, crack tested and replaced as required
Steering Lugs	Disassembled, NDT and repaired as required.
Hydraulic Rams	Disassembled, NDT and repaired as required.

SUMMARY DESIGN WORKING PERIOD ASSESSMENT

Crane Structure

Crane Class	Non-Slew Mobile Crane	Utilization	Unknown
Estimated Usage	Unknown	Remaining Life	Unknown

Main Hoist

Component Classification	M5 (ISO4301.1)	Utilization	0
Estimated Usage	0	Remaining Life	10 years

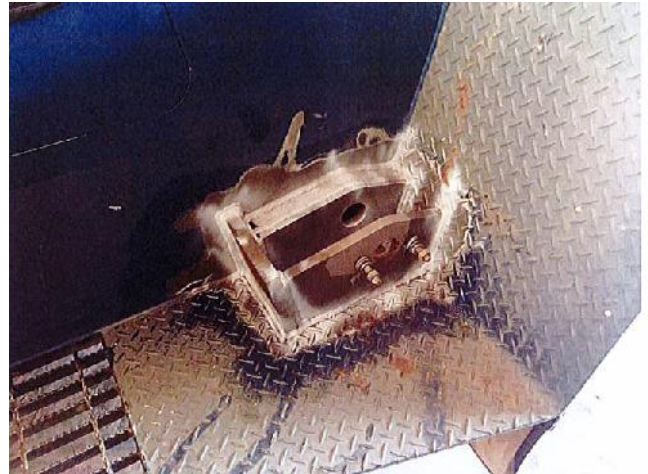
RISK MANAGEMENT FOR NON-CONFORMANCE

Non-conformance	Risk Management Method
Nil	Nil

KEY INSPECTION ITEMS**Boom, Sheaves and Luff Cylinders**

The crane boom, rams and sheaves were disassembled. Cracking was found which has since been repaired and re-tested with no defects found.

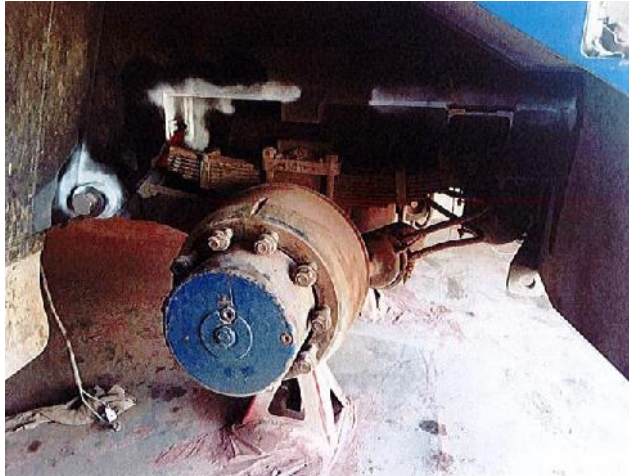
All items have been repaired or replaced and returned to service.



Wheels

All rims were inspected using MPI cracking was found along the weld seam on six of the eight wheels. Five of the eight rims were replaced with the remaining repaired and re-inspected.

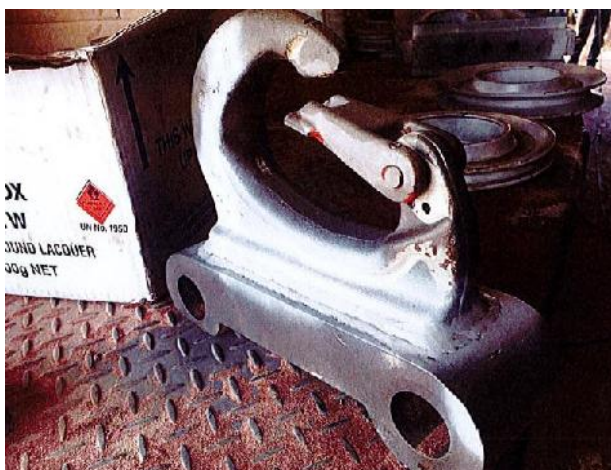
All items have been repaired or replaced and returned to service.



Hook and Pins

Hook and pins were examined and non-destructively tested. Cracking and porosity was found, repaired and re-tested with no further defects noted.

All items have been repaired or replaced and returned to service.





Lifting Lugs

Lifting lugs were examined using MPI no defects or cracking was found.

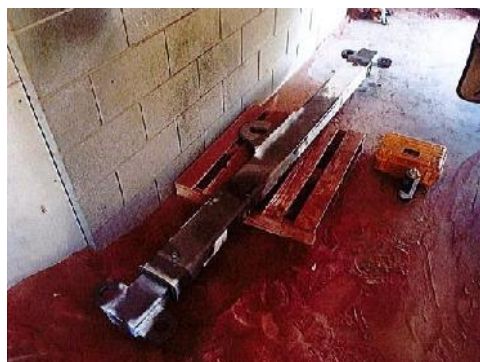
All items have been repaired or replaced and returned to service.



Lifting and Spreader Bar

The lifting and spreader bar was evaluated using MPI and ultrasonic inspection. No cracking or anomalies were found with an average wall thickness of 4.7 – 5.6mm found over 16 separate spot inspections.

All items have been repaired or replaced and returned to service.



Steering Lugs

The steering lugs were disassembled and non-destructively tested. No defects were found.

Items have been deemed fit to return to service.



Load Testing		AS1418.5 – 2013	
Test Date	02/12/2016	Reference Document	00091-003-N001A
Test Type	Line Pull	Load Measurement Method	Calibrated Load Cell
Test Load	4604 kg	Test Status	Pass
New winch fitted for major inspection.			
Test Type	Structural	Load Measurement Method	Calibrated Load Cell
Test Load	3055 kg	Test Status	Pass
Test Type	Stability	Load Measurement Method	Calibrated Load Cell
Test Load	12 060kg	Test Status	Pass

Test Description – Structural, stability and line pull tests utilized a load cell to measure a non-suspended load.
 Load testing was observed by FIELD Engineers on the 02/12/2016.



ACCOMPANYING DOCUMENTS

Document Number	Revision	Title	Source
R15-0745a	-	N.D.T Test Report	AXS Pty Ltd
E0314	-	Certificate of Test and Examination	Bullivants
D9618	-	Certificate of Test and Examination	Bullivants
D9593	-	Certificate of Test and Examination	Bullivants
D7854	-	Certificate of Test and Examination	Bullivants
00091-003-I001A	A	Major Inspection Test Plan	FIELD Engineers
00091-003-N001A	A	Load Test Lift Data Sheet	FIELD Engineers
0091-003 Certificate	A	Crane Safety Certificate – Major Inspection	FIELD Engineers
00091-003-R002A	A	Articulated Mobile Crane Annual Inspection Report	FIELD Engineers
EAF SN 14 002-01	01	Safety Notice, Spare Wheel Carrier Installation, inspection and Maintenance	Terex
QPP318.1	-	AT Series Weld Inspections	Terex
Invoice 15841	-	Invoice: Groeneveld Central QLD	Groeneveld Centreal QLD
Invoice 305087	-	Invoice: Haynes Mechanical	Haynes Mechanical
Invoice 2554161	-	Invoice: Maxi Parts	Maxi Parts
Invoice 227	-	Invoice: Micron Welding Services	Micron Welding Services
Invoice 4451	-	Invoice: Pino's Mobile Welding Service	Pino's Mobile Welding Service
Invoice 281324	-	Invoice: Sarina Machining & Fabrication Pty Ltd	Sarina Machining & Fabrication Pty Ltd
Invoice 760	-	Invoice: Shenfield Family Trust	Shenfield Family Trust
Invoice D392809	-	Invoice: Statewide Bearings	Statewide Bearings
Invoice 6120725	-	Invoice: Terex	Terex
Invoice 3120107803/783	-	Invoice: Thomsett Group	Thomsett Group
1726	-	Invoice: Thomsett Group	Thomsett Group
1634	-	Invoice: Thomsett Group	Thomsett Group
1655	-	Invoice: Thomsett Group	Thomsett Group
1618	-	Invoice: Thomsett Group	Thomsett Group
1609	-	Invoice: Thomsett Group	Thomsett Group
1539	-	Invoice: Thomsett Group	Thomsett Group
1442	-	Invoice: Thomsett Group	Thomsett Group



FIELD Engineers Pty Ltd

CRANE SAFETY CERTIFICATE - MAJOR INSPECTION

FIELD Engineers Pty Ltd
PO Box 5788, Mackay, Q 4741
Unit 8, Site Business Park
Margaret Vella Drive, Paget, Mackay, 4740
Tel: (07) 4952 1303 Fax: (07) 4952 1306

OWNER	Sarina Crane Hire		
PLANT ID #	SCH-76	MANUFACTURER	Terex Franna
SERIAL #	3613	CRANE MODEL	AT20
HOURS:	2727	MANUFACTURED	2005
INSPECTION START	22/03/2016	COMPLETED	21/12/2016

CERTIFICATE № 00091-003

Competent Person Statement

I hereby certify that the above specified crane, pictured at right, has received its major safety inspection in accordance with the instructions of the crane designer and manufacturer, and with the relevant Australian Standards and the Mobile Crane Code of Practice, and is safe to use. This inspection included mechanical, structural, and electrical items of the crane. This certification is subject to the conditions specified in Report 00091-003-R001#.

David Hartigan BEng BBus
RPEQ8308 CPEng 292898



Additional Comments:

1. Inspection and Test Plan attached.
2. This certificate forms part of Report 00091-003-R001#.



MAJOR INSPECTION INSPECTION AND TEST PLAN

FIELD Engineers Pty Ltd
PO Box 5788 Mackay MC Q 4741
Unit 8, Site Business Park,
Margaret Vella Drive, Mackay Q 4740
Tel: (07) 4952 1303 Fax (07) 4952 1306

CLIENT		Sarina Crane Hire				<h1>AT SERIES FRANNA</h1>			
SUPPLIER ID #		MANUFACTURER	Terex Franna						
SERIAL #		CRANE MODEL	AT20						
MACHINE HOURS		MANUFACTURED							
CLIENT REPRESENTATIVE	Scott Goode	TELEPHONE	0408 402 327						
ITEM	INSPECTION ACTIVITY	CONDITION FOR INSPECTION	PASS & INSPECTION LEVEL	INSPECTION BY			RECORD FORM & COMMENTS	REQUIRED DOCUMENTATION (Mark Reference # of Supplied Document)	SIGN OFF
				FE	NATA	Client			

GENERAL NOTES:
 [1] ITEMS MARKED AS INSPECTED BY *FE* HAVE BEEN WITNESSED BY FIELD ENGINEERS PERSONNEL.
 [2] ITEMS MARKED AS INSPECTED BY *NATA* HAVE BEEN INSPECTED BY A NATA LABORATORY WITH EVIDENCE OF THE INSPECTION PROVIDED TO FIELD ENGINEERS PTY LTD.
 [3] ITEMS MARKED AS INSPECTED BY *REP* HAVE BEEN INSPECTED BY THE , WITH EVIDENCE PROVIDED TO FIELD ENGINEERS PTY LTD

1.00		GENERAL							
1.01	Documentation Review	AUDIT	RECORDS AVAILABLE	COMPLETED	X				MAINTENANCE/INSPECTION HISTORY WORK HISTORY MANUALS
1.02	Design Life Assessment	AUDIT	RECORDS AVAILABLE	COMPLETED	X				WORK HISTORY DUTY HISTORY LOG TO BE PROVIDED TO FIELD ENGINEERS PRIOR TO STRIP
1.03	Annual Inspection	AUDIT	AT COMPLETION OF WORKS	COMPLETED			X		ANNUAL INSPECTION CERTIFICATE
1.04	Regular maintenance	REPAIR	INSITU	ALL REPAIRS COMPLETED			X	Carry out 2000hr service, ensure all defects identified are repaired	SERVICE REPORT DEFECT LIST
1.05	Ensure all OEM Campaign Bulletins have been completed	AUDIT	UPGRADED	COMPLETED			X		SERVICE REPORT
1.06	NDT all areas in accordance with Terex document QPP318.1	NDT - MPI	ACCESSIBLE	NO DEFECTS		X		MPI required on steering lugs and wheel rims.	DEFECTS FOUND TO BE PROVIDED TO FIELD ENGINEERS PRIOR TO REPAIRS BEING CARRIED OUT



MAJOR INSPECTION INSPECTION AND TEST PLAN

FIELD Engineers Pty Ltd
PO Box 5788 Mackay MC Q 4741
Unit 8, Site Business Park,
Margaret Vella Drive, Mackay Q 4740
Tel: (07) 4952 1303 Fax (07) 4952 1306

CLIENT		Sarina Crane Hire				<h1>AT SERIES FRANNA</h1>			
SUPPLIER ID #		MANUFACTURER	Terex Franna						
SERIAL #		CRANE MODEL	AT20						
MACHINE HOURS		MANUFACTURED							
CLIENT REPRESENTATIVE	Scott Goode	TELEPHONE	0408 402 327						
ITEM	INSPECTION ACTIVITY	CONDITION FOR INSPECTION	PASS & INSPECTION LEVEL	INSPECTION BY			RECORD FORM & COMMENTS	REQUIRED DOCUMENTATION (Mark Reference # of Supplied Document)	SIGN OFF
				FE	NATA	Client			

4.00 HYDRAULIC SYSTEMS										
Luffing system										
4.01	NDT luff cylinders	NDT	ACCESSIBLE	NO DEFECTS		X		Eddy current test insitu	NDT REPORT	
4.02	Luff cylinder seals	PRESSURE TEST	LOADED	NO LEAKS			X	Check cylinder seals for leaks / internal bypass	TEST REPORT / SERVICE RECORD	
4.03	Luff cylinder pins / bores / bearings / mounts	NDT VISUAL SURVEY	ACCESSIBLE	SERVICEABLE CONDITION		X		UT pins insitu	SERVICE REPORT NDT REPORT	
Telescoping system										
4.04	NDT boom extend cylinders	NDT	ACCESSIBLE	NO DEFECTS		X		Eddy current test insitu	NDT REPORT	
4.05	Boom extend cylinder seals	PRESSURE TEST	LOADED	NO LEAKS			X	Check cylinder seals for leaks / internal bypass	TEST REPORT / SERVICE RECORD	
4.06	Boom extend cylinder pins / bores / bearings / mounts	NDT VISUAL SURVEY	ACCESSIBLE	SERVICEABLE CONDITION		X		UT pins insitu	SERVICE REPORT NDT REPORT	
Steering System										
4.07	NDT steer cylinders	NDT	ACCESSIBLE	NO DEFECTS		X		Eddy current test insitu	NDT REPORT	
4.08	Steer cylinder seals	VISUAL; PRESSURE	LOADED	NO LEAKS / CREEP			X	Check cylinder seals for leaks / internal bypass	TEST REPORT / SERVICE RECORD	
4.09	Steer cylinder pins and bores	NDT; VISUAL SURVEY	INSITU	SERVICEABLE CONDITION			X	UT pins insitu	SERVICE REPORT	
4.10	Replace all hoses in steering circuit	REPLACE	STRIPPED	REPLACED			X	Replace with pressure tested items	INVOICE / PRESSURE TEST RECORD	
4.11	Inspect / replace all other hydraulic hoses	VISUAL INSPECTION	ACCESSIBLE	SERVICEABLE CONDITION				Inspection by competent person	SERVICE REPORT / INVOICE	



MAJOR INSPECTION INSPECTION AND TEST PLAN

FIELD Engineers Pty Ltd
PO Box 5788 Mackay MC Q 4741
Unit 8, Site Business Park,
Margaret Vella Drive, Mackay Q 4740
Tel: (07) 4952 1303 Fax (07) 4952 1306

CLIENT	Sarina Crane Hire				AT SERIES FRANNA				
SUPPLIER ID #		MANUFACTURER	Terex Franna						
SERIAL #		CRANE MODEL	AT20						
MACHINE HOURS		MANUFACTURED							
CLIENT REPRESENTATIVE	Scott Goode	TELEPHONE	0408 402 327						
ITEM	INSPECTION ACTIVITY	CONDITION FOR INSPECTION	PASS & INSPECTION LEVEL	INSPECTION BY			RECORD FORM & COMMENTS	REQUIRED DOCUMENTATION (Mark Reference # of Supplied Document)	SIGN OFF
				FE	NATA	Client			

5.00 ROPE SYSTEMS									
<i>All hooks and hook blocks are to be stripped for inspection. Hooks must have nut removed to check for corrosion. Serial numbers and ID markings of all components to be recorded.</i>									
Hook Blocks									
5.01	Record hook block details	AUDIT	ACCESSIBLE	RECORDED		X		Stamp component if no details are available	NDT REPORT
5.02	Sheaves	NDT	ACCESSIBLE	NO DEFECTS		X			NDT REPORT
5.03	Sheave bearings/pins	NDT	ACCESSIBLE	NO DEFECTS		X			NDT REPORT
5.04	Pins	NDT - UT	ACCESSIBLE	NO DEFECTS		X			NDT REPORT
5.05	Hook pin	NDT & DIM SURVEY	STRIPPED	NO DEFECTS		X			NDT REPORT
Hooks									
5.06	Record hook details	AUDIT	ACCESSIBLE	RECORDED		X		Stamp component if no details are available	NDT REPORT
5.07	Main hook	NDT	STRIPPED	NO DEFECTS		X		Inspect nut thread for corrosion. MPI NDT shank and body of hook.	NDT REPORT
5.08	Winch hook swivel bearing	VISUAL SURVEY	STRIPPED	ROTATES FREELY & DEFECT FREE			X		NDT REPORT SERVICE REPORT
5.09	Auxiliary hook	NDT	STRIPPED	NO DEFECTS		X		Inspect nut thread for corrosion. MPI NDT shank and body of hook.	NDT REPORT
5.10	Auxiliary hook swivel bearing	VISUAL SURVEY	STRIPPED	ROTATES FREELY & DEFECT FREE			X		NDT REPORT SERVICE REPORT
5.11	Rhino hook	NDT; VISUAL SURVEY	REMOVED	NO CRACKS NO DEFECTS		X			NDT REPORT SERVICE REPORT
Ropes									
5.12	Rope pin	NDT & DIM SURVEY	STRIPPED	NO DEFECTS		X			NDT REPORT DIMENSIONAL RECORD / SERVICE REPORT
5.13	Winch rope	VISUAL / NDT	IN PLACE	AS2759			X	Must be inspected along full length of rope	SERVICE REPORT - INCLUDING WEAR MEASUREMENTS



MAJOR INSPECTION INSPECTION AND TEST PLAN

FIELD Engineers Pty Ltd
PO Box 5788 Mackay MC Q 4741
Unit 8, Site Business Park,
Margaret Vella Drive, Mackay Q 4740
Tel: (07) 4952 1303 Fax (07) 4952 1306

CLIENT		Sarina Crane Hire			<h1>AT SERIES FRANNA</h1>				
SUPPLIER ID #		MANUFACTURER	Terex Franna						
SERIAL #		CRANE MODEL	AT20						
MACHINE HOURS		MANUFACTURED							
CLIENT REPRESENTATIVE	Scott Goode	TELEPHONE	0408 402 327						
ITEM	INSPECTION ACTIVITY	CONDITION FOR INSPECTION	PASS & INSPECTION LEVEL	INSPECTION BY			RECORD FORM & COMMENTS	REQUIRED DOCUMENTATION (Mark Reference # of Supplied Document)	SIGN OFF
				FE	NATA	Client			

6.00 ATTACHMENTS									
Spreader Bar									
6.01	Straightness/ damage/ corrosion	VISUAL; DIM SURVEY	FULLY EXTENDED	NO DEFECTS			X		SERVICE REPORT DIMENSIONAL RECORD
6.02	Crack test spreader bar	NDT - MPI	FULLY EXTENDED	NO DEFECTS		X			NDT REPORT
6.03	Section thickness	NDT - UT	FULLY EXTENDED	NO DEFECTS		X		THICKNESS TEST ALL SECTIONS	NDT REPORT
Fly Section									
6.04	Straightness / damage / corrosion	VISUAL; DIM SURVEY	FULLY EXTENDED	NO DEFECTS			X		SERVICE REPORT DIMENSIONAL RECORD
6.05	Crack test fly section	NDT - MPI	FULLY EXTENDED	NO DEFECTS		X			NDT REPORT
6.06	Section thickness	NDT - UT	FULLY EXTENDED	NO DEFECTS		X		THICKNESS TEST ALL SECTIONS	NDT REPORT
6.07	Sheaves / bearings	VISUAL DIM SURVEY	STRIPPED	NO DEFECTS			X		SERVICE REPORT DIMENSIONAL RECORD
6.08	Sheave bearings	INSPECT / REPLACE	STRIPPED	SERVICEABLE CONDITION			X		SERVICE REPORT



MAJOR INSPECTION INSPECTION AND TEST PLAN

FIELD Engineers Pty Ltd
PO Box 5788 Mackay MC Q 4741
Unit 8, Site Business Park,
Margaret Vella Drive, Mackay Q 4740
Tel: (07) 4952 1303 Fax (07) 4952 1306

CLIENT		Sarina Crane Hire						<h1>AT SERIES FRANNA</h1>	
SUPPLIER ID #		MANUFACTURER	Terex Franna						
SERIAL #		CRANE MODEL	AT20						
MACHINE HOURS		MANUFACTURED							
CLIENT REPRESENTATIVE	Scott Goode	TELEPHONE	0408 402 327						
ITEM	INSPECTION ACTIVITY	CONDITION FOR INSPECTION	PASS & INSPECTION LEVEL	INSPECTION BY			RECORD FORM & COMMENTS	REQUIRED DOCUMENTATION (Mark Reference # of Supplied Document)	SIGN OFF
				FE	NATA	Client			

7.00 GENERAL ITEMS										
7.01	Fit load moment indicator complete with motion cuts per AS1418.5.	INSTALL	OPERATING	INSTALLED, CALIBRATED			X		SERVICE REPORT CALIBRATION CERTIFICATE	
7.02	Fit seat belts if not already fitted	INSTALL	ASSEMBLED	INSTALLED			X		SERVICE REPORT	
7.03	Fit side level indicator	INSTALL	ASSEMBLED	INSTALLED, CALIBRATED			X		SERVICE REPORT	
7.04	Articulation joint bearing checked as per Terex Bulletin SB0105	DIMENSIONAL	ASSEMBLED / OPERATING	NO EXCESSIVE PLAY			X		SERVICE REPORT INCLUDING RECORDED MEASUREMENT	
7.05	Carry out performance, load and winch brake tests per AS1418.5	OPERATING	OPERATING	OPERATING	X			FIELD Engineers to perform	LOAD TEST CERTIFICATE	



PO Box 5788, MMC QLD 4741
Ph: 1300 854 782

Project: 00091-003

Document: 00091-003-N001A

Subject: Load Test Lift Data Sheet

Date: 8/12/2016

Author: H. Prouse

Parameter	Value	[Units]	Comments
-----------	-------	---------	----------

This document records load test data obtained by FIELD Engineers.

Load testing to be supervised by competent person, under guidelines of FIELD Engineers.

Test Information

Type of test being performed	Line Pull	Date/Time	09:00 Friday 02/12/2016
Description of test weights	Franna - Rear body	Address	Sarina Crane Hire, Patch St Sarina QLD 4737
Is the load being suspended?	No		

Crane Data

Make	Terex Franna	Serial	3616
Model	AT20	Year	2005

Crane Configuration

Winch used	Main	<i>Main, auxiliary (I, II, III etc) Pinning sequence, lattice sections Fixed, additional ballast, heavy lift etc Full, Half, Nil, N/A Over side, front, rear, #, 40° etc</i>
Boom configuration	Telescopic	
Counterweight configuration	Standard	
Outrigger configuration	N/A	
Slew/articulation angle	10° - 40°	

Applied Load

	[Units]	
Load mass	4600 [kg]	<i>As shown on load cell Include all shackles, slings etc Include if erected or stowed on boom Do not modify this cell</i>
Main hook + block mass	0 [kg]	
Auxiliary hook + block mass	0 [kg]	
Winch rope mass	2 [kg]	
Total rigging mass	2 [kg]	
Fly mass	0 [kg]	
Total mass applied	4604 [kg]	

Test Data

	LMI	Actual	
Boom length	7	7	[m]
Boom angle	35.4	35.8	[°]
Radius	3.6	3.6	[m]
Maximum rated capacity (MRC)	4200	4200	[kg]
Linepull capacity	4200	4200	[kg]
Falls of rope	1	1	[#]
Load	4500	4604	[kg]

Results

Accuracy of LMI	98% [%]	=load.LMI/load.actual
Loading of winch	110% [%]	=load.actual/(linepull.actual*falls.actual)
Loading of crane	110% [%]	=load.actual/MRC.LMI
Loaded component/chart region	Winch	

Inspection Items

Check for creep, leaks and cracking in the following systems.

Luff system	OK	Structure	OK
Boom extension system	OK	Hoist	OK

Declaration

Load verification method	Calibrated load cell	Certificate	Q.AC/1046-B-4
--------------------------	----------------------	-------------	---------------

This load test has been performed within the guidelines of AS1418.5, AS2550.1 and the QLD Mobile Crane Code of Practice.

Load test performed by:	Hannah Prouse, FIELD Engineers
Witness/competent person:	Hannah Prouse
Signature:	

Additional Comments

New winch fitted for Major Inspection



PO Box 5788, MMC QLD 4741
Ph: 1300 854 782

Project: 00091-003

Document: 00091-003-N001A

Subject: Load Test Lift Data Sheet

Date: 8/12/2016
Author: H. Prouse

Parameter	Value	[Units]	Comments
-----------	-------	---------	----------

This document records load test data obtained by FIELD Engineers.

Load testing to be supervised by competent person, under guidelines of FIELD Engineers.

Test Information

Type of test being performed	Structural	Date/Time	10:00 Friday 02/12/2016
Description of test weights	Franna - Rear body	Address	Sarina Crane Hire, Patch St Sarina QLD 4737
Is the load being suspended?	No		

Crane Data

Make	Terex Franna	Serial	3616
Model	AT20	Year	2005

Crane Configuration

Winch used	Main	<i>Main, auxiliary (I, II, III etc) Pinning sequence, lattice sections Fixed, additional ballast, heavy lift etc Full, Half, Nil, N/A Over side, front, rear, #, 40° etc</i>
Boom configuration	Telescopic	
Counterweight configuration	Standard	
Outrigger configuration	N/A	
Slew/articulation angle	10° - 40°	

Applied Load

	[Units]	
Load mass	2900 [kg]	<i>As shown on load cell</i> <i>Include all shackles, slings etc</i> <i>Include if erected or stowed on boom</i> <i>Do not modify this cell</i>
Main hook + block mass	125 [kg]	
Auxiliary hook + block mass	0 [kg]	
Winch rope mass	10 [kg]	
Total rigging mass	20 [kg]	
Fly mass	0 [kg]	
Total mass applied	3055 [kg]	

Test Data

	LMI	Actual		
Boom length	9.7	9.7	[m]	<i>Do not modify actual load cell</i>
Boom angle	53.9	53.7	[°]	
Radius	3.6	3.5	[m]	
Maximum rated capacity (MRC)	2400	2400	[kg]	
Linepull capacity	4200	4200	[kg]	
Falls of rope	4	4	[#]	
Load	3000	3055	[kg]	

Results

Accuracy of LMI	98% [%]	=load.LMI/load.actual
Loading of winch	18% [%]	=load.actual/(linepull.actual*falls.actual)
Loading of crane	127% [%]	=load.actual/MRC.actual
Loaded component/chart region	Structural	

Inspection Items

Check for creep, leaks and cracking in the following systems.

Luff system	OK	Structure	OK
Boom extension system	OK	Hoist	OK

Declaration

Load verification method	Calibrated load cell	Certificate	Q.AC/1046-B-4
--------------------------	----------------------	-------------	---------------

This load test has been performed within the guidelines of AS1418.5, AS2550.1 and the QLD Mobile Crane Code of Practice.

Load test performed by:	Hannah Prouse, FIELD Engineers
Witness/competent person:	Hannah Prouse
Signature:	

Additional Comments

Overload to proof repairs made to boom head stiffeners. OK.



PO Box 5788, MMC QLD 4741
Ph: 1300 854 782

Project: 00091-003

Document: 00091-003-N001A

Subject: Load Test Lift Data Sheet

Date: 8/12/2016
Author: H. Prouse

Parameter	Value	[Units]	Comments
-----------	-------	---------	----------

This document records load test data obtained by FIELD Engineers.

Load testing to be supervised by competent person, under guidelines of FIELD Engineers.

Test Information

Type of test being performed	Stability	Date/Time	10:30 Friday 02/12/2016
Description of test weights	Franna - Rear body	Address	Sarina Crane Hire, Patch St Sarina QLD 4737
Is the load being suspended?	No		

Crane Data

Make	Terex Franna	Serial	3616
Model	AT20	Year	2005

Crane Configuration

Winch used	Main	<i>Main, auxiliary (I, II, III etc) Pinning sequence, lattice sections Fixed, additional ballast, heavy lift etc Full, Half, Nil, N/A Over side, front, rear, #, 40° etc</i>
Boom configuration	Telescopic	
Counterweight configuration	Standard	
Outrigger configuration	N/A	
Slew/articulation angle	0° - 10°	

Applied Load

		[Units]	
Load mass	11900	[kg]	<i>As shown on load cell</i>
Main hook + block mass	125	[kg]	
Auxiliary hook + block mass	0	[kg]	
Winch rope mass	10	[kg]	
Total rigging mass	25	[kg]	
Fly mass	0	[kg]	<i>Include all shackles, slings etc Include if erected or stowed on boom</i>
Total mass applied	12060	[kg]	

Test Data

	LMI	Actual		
Boom length	7	7	[m]	<i>Do not modify actual load cell</i>
Boom angle	37.1	37.8	[°]	
Radius	3.5	3.6	[m]	
Maximum rated capacity (MRC)	9650	9650	[kg]	
Linepull capacity	4200	4200	[kg]	
Falls of rope	4	4	[#]	
Load	12100	12060	[kg]	

Results

Accuracy of LMI	100%	[%]	=load.LMI/load.actual
Loading of winch	72%	[%]	=load.actual/(linepull.actual*falls.actual)
Loading of crane	125%	[%]	=load.actual/MRC.LMI
Loaded component/chart region	Stability		

Inspection Items

Check for creep, leaks and cracking in the following systems.

Luff system	OK	Structure	OK
Boom extension system	OK	Hoist	Ok

Declaration



Load verification method	Calibrated load cell	Certificate	Q.AC/1046-B-4
--------------------------	----------------------	-------------	---------------

This load test has been performed within the guidelines of AS1418.5, AS2550.1 and the QLD Mobile Crane Code of Practice.

Load test performed by:	Hannah Prouse, FIELD Engineers
Witness/competent person:	Hannah Prouse
Signature:	

Additional Comments

Proof test for repairs to butt section (if required), OK. Checked section in bending, also check crane in stability.

Company	Sarina Crane Hire	Representative	Scott Goode
Address	8 Patch Street, Sarina QLD 4737		
Phone	0408 402 327	Email	scott@sarinacranehire.com.au
Machine Details			
Make	Terex Franna	Model	AT20
Serial	3616	Year	2005
Hours	2727	Plant No	SCH-76
Odometer	11429	MRC	20t
Road Reg	014TYN	Design Reg	Q19500A
Plant Reg	-	Logbook?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Assessment Details			
Name	Hannah Prouse	Location	Sarina Crane Hire
	Major Inspection?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	In progress
	Conforms to check list?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Signed		Date	2/12/2016
Reassessment Details			
	Remedial action required?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
	Maximum period before reassessment?	30 days	
	Satisfactory reassessment?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Hannah Prouse
Signed		Date	8/12/2016

A Boom & Attachments

Nº	Item	A	B	C	D	Comments
	Base section	X				
	1st section	X				
	2nd section	X				
	3rd section	X				
	4th section	-				
	Length markings	-				
	Rope compensation system	X				
	Hook lift lugs & tonnage decals	X				
	Head sheaves & bearings	X				
	Idler sheave & bearing	X				
	Rooster sheave & bearing	-				
	Extension/fly jib mounts	X				
	Machinery (rhino) hook	X				
	Boom lift cylinders & lock valves	X				
	Boom extension cylinders & lock valves	X				
	Extend ropes/chains	X				New
	Retract ropes/chains	X				New
Anti-Two Blocks						
	a) Boom head	-				
	b) Rooster sheave	-				
	c) Extension/fly	-				
	Boom length recoil drum	X				
	Boom angle indicator	X				
	Extension/fly jib	-				
	Sheaves & bearings	-				
Hooks & Blocks						
	a) OEM identification			X		Restamp rhino hook - painted over
	b) Safety latches	X				
	c) Sheaves & bearings	X				
	d) Swivel	X				
	e) Branded SWL			X		Restamp rhino hook - painted over
	f) Branded tare mass			X		Restamp rhino hook - painted over

Comments

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection

B Frame & Cabin

Nº	Item	A	B	C	D	Comments
	Frame	X				
	Security of counterweight	X				
	Boom mounting lugs	X				
	Boom mounting pins	X				
	Lift cylinder lugs	X				
	Lift cylinder pins	X				
	Cabin glass & mirrors	X				
	Sheet metal/guards	X				
	Seats	X				
	Seat belts	X				
	Warning decals (English)			X		Powerline proximity warning sticker
	Load charts in English to AS1418.5			X		Copy of charts needs to go in the cabin
	Control levers/decals	X				
	Control cables/pilot hoses	X				
	Heater	-				
	Air conditioner	X				
	Gauges	X				
	Safe load indicator	X				
	Load moment limiter	X				
	Anti-two block alarms	-				
	Horn	X				
	Access steps	X				
	Doors & locks	X				
	Crane level indicator	X				
	Front wiper	X				
	Roof wiper	-				
	Windshield washer	X				
	Switches & relays	X				
	Rotating beacon	X				

Comments

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection

C Drive System

Nº	Item	A	B	C	D	Comments
	Radiator	X				
	Water temperature gauge	X				
	Radiator hoses/heater hoses	X				
	Fan & fan shaft assembly	X				
	Fan guard	X				
	Oil filter	X				
	Water pump & conditioner	X				
	Oil coolers	X				
	Fuel lines	X				
	Throttle linkage	X				
	Engine mounts	X				
	Exhaust brake	X				
	Muffler/spark arrestor	X				
	Abnormal engine noises	X				
	Fuel tank	X				
	Drive coupling	X				
	Transmission noise/leaks	X				
	Filter & housing	X				
	Pump drives (PTO)	X				

Comments
Weep on transmission pump (?) - clean pump + surrounding areas, cycle and check for recurrence
Oil on engine sump drain plug - Clean and check for weep

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection

D Chassis

Nº	Item	A	B	C	D	Comments
	Frame	X				
	Suspension system	X				
	Axle lock outs	-				
	Steering components	X				
	Front axles	X				
	Rear axles	X				
	Differentials/planetary drives	X				
	Transfer case	X				
	Drive lines	X				
	ABS brakes	X				
	Front brakes	X				
	Rear brakes	X				
	Holding/parking brake	X				
	Emergency brake release	X				
	Front wheels & tyres	X				
	Rear wheels & tyres	X				
	Spare wheel	-				
	Engine cowls	X				
	Tackles boxes	X				
	Slew ring/articulation joint	X				
	Fire extinguisher			X		

Comments

RH front brake backing plate damaged - Monitor for impedance on brake function

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection

E Hydraulic System

Nº	Item	A	B	C	D	Comments
	Hydraulic reservoir	X				
	Return filters & housing	X				
	Suction lines & hoses	X				
	Oil cooler	X				
	Main pump(s)	X				
	Steering pump	X				
	Emergency steering pump	X				
	Steering cylinder	X				New cylinders
	Relief valves	X				
	Flow control valves	X				
	Pressure filter & housing	X				

Comments

F Air Systems

Nº	Item	A	B	C	D	Comments
	Compressor	X				
	Air reservoirs	X				
	Drain valves	X				
	Air lines	X				
	Brake chambers			X		LH front brake chamber stem missing
	Brake valves	X				
	Air cylinders	X				
	Gauges	X				
	Air dryer	X				

Comments
Air leak at autolube

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection



G Electrical Systems

№	Item	A	B	C	D	Comments
	Battery box	X				
	Battery cables	X				
	Battery isolator	X				
	Head lights	X				
	Tail lights	X				
	Stop lights	X				
	Directional indicators	X				
	Hazard lights	X				
	Clearance lights	X				
	Backup alarm/light	X				
	Switches & relays	X				
	Work lights	X				
	Horn for road travel	X				

Comments

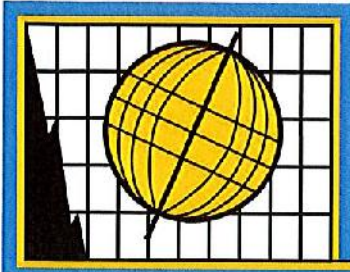
H Functional Tests

№	Item	A	B	C	D	Comments
	Rated load - boom fully extended	X				Butt section and manual proof tested
	Rated load in stability	X				
	Line pull test	X				
	Winch brake test	X				110% overload
	Winch condition	X				New winch
	Winch rope condition/anchors	X				New rope
	Overload warning lights & alarms	X				

Comments

Inspection Key

A	Inspected - OK
B	Monitor
C	Repairs required
D	Repair before next inspection



N.D.T. TEST REPORT

NV:sk
09JUN16

REPORT NO. :

R15-0745a

Page 1 of 21

CLIENT:

SARINA CRANE HIRE
8 Patch Street
Sarina, Qld 4737

CLIENT CONTACT:

Mr. S. Goode

ORDER No. :

Q0411

CLIENT JOB No.:

3613 (1600)

MACHINE No. :

3613 AT20 Terex Franna Crane

DESCRIPTION:

Initial & Final 10 Yearly N.D.T. & Inspection of AT20 Terex Franna Crane at Sarina Crane Hire Workshop, Mackay.

TECHNICIAN/S:

Mr. N. van Moolenbroek / Mr. Z. Tass

DATE OF TEST:

Initial 01JUN16
Final 07JUN16

WORKSHEET REF. No. :

Initial MPI 16 - 23569
UT 16 - 6422
Final MPI 16 - 22748

INSPECTION DATA:

PROCEDURE NO.: TP-301 / TP-701 / TP-708
AUST. STANDARD: AS 1171 / AS 2207 / AS 1065
SURFACE CONDITION: As Welded / Cast / Machined
SURFACE PREPARATION: Grit Blast
SURFACE CONDITION: < 6.3µm Ra, < 3.2µm Ra
ACC/REJ LIMITS: Report & Record all Cracking
MATERIAL SPECIFICATION: Carbon Steel
TEST LIMITATIONS: 0° Scans Only

EQUIPMENT:

Ultrasonic Radiographic Penetrant
 MPI Other – Visual

Ferrous Probe ES-X AMP-001
Castrol Flux Indicator Strip
USM 36 Flaw Detector AUT-042
Krautkramer-MSEB 4E 0° Ultrasonic Transducer AUT-040
Calibration Block 500mm Rod

MAGNETISATION: Continuous Method
DEMAGNETISATION: No
REF. SENSITIVITY: MPI – 3 Lines Castrol Flux Indicator
UT – 2nd BWEFSH / 80% Reference
CONSUMABLES: Ardrox, Black Magnetic Ink 800/3, Batch # 647887
Ardrox, White Contrast Paint 8901/W, Batch # 539527
TEMPERATURE: 10° - 14° 15° - 45° 46° - 50°
RECORD: Photograph
LIGHTING: +1100 Lux

EQUIPMENT CONTINUED:

THICKNESS RANGE:	0 - 500mm / 0 - 10mm
RANGE:	0° Scan: 0 – 500mm / 0 – 20mm
COUPLANT:	Kerosene
SIZING:	+12dB
TEST ACCURACY:	± .5mm

RESULTS OF EXAMINATION

INSPECTION OF AT20 TEREX FRANNA CRANE:

Initial Magnetic Particle Inspection:

Worksheet No. 16 - 23569

Identification	Result
Hook Block # 3613 <i>100% Inspection of Welds</i>	➤ Cracking / Anomalies Evident - (8x) 5-10mm Cracking & Porosity
Rims (x8) # 3613 <i>100% Inspection of Welds</i>	➤ Cracking / Anomalies Evident - (6x) Cracked along Weld Seams - (2x) Nil Cracking
Boom Section # 3613 <i>100% Inspection of Welds</i>	➤ Cracking / Anomalies Evident - 15mm - (2x) 10mm
Articulation # 3613 <i>100% Inspection of Welds</i>	➤ Cracking / Anomalies Evident - 15mm
Front & Rear Suspension Mounts # 3613 <i>100% Inspection of Welds</i>	➤ Cracking / Anomalies Evident - (3x) 20mm - (4x) 10mm
Spreader Bar # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Lifting Lugs # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Steering Lugs # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Pins # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident

Note: Lighting Conditions comply with the Requirements of AS 1171 Section 3.5.2 1998

RESULTS OF EXAMINATION CONTINUED**INSPECTION OF AT20 TEREX FRANNA CRANE:****Initial Magnetic Particle Inspection:**

Worksheet No. 16 - 23569

Identification	Result
Luff Cylinders # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Boom Extend Cylinder # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Sheaves # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident
Aux Hooks # 3613 <i>100% Inspection of Welds</i>	➤ Nil Cracking / Anomalies Evident

Note: Lighting Conditions comply with the Requirements of AS 1171 Section 3.5.2 1998**Ultrasonic Inspection:**

Worksheet No. 16 - 6422

Identification	Result
Spreader Bar # 3613 <i>Thickness Survey over (16x) Spot Inspections</i>	➤ Average Thickness 4.7mm – 5.6mm
Pins # 3613 <i>100% Inspection</i>	➤ Nil Recordable Anomalies Evident

Note – Lighting Conditions comply with the Requirements of AS 3978 Section 6.1 – 2003

RESULTS OF EXAMINATION**INSPECTION OF AT20 TEREX FRANNA CRANE:****Final Magnetic Particle Inspection:****Worksheet No. 16 - 22748**

Identification	Result
Hook Block # 3613 (1600) <i>100% Inspection of Repaired Welds</i>	➤ Nil Cracking / Anomalies Evident
Rims (x8) # 3613 (1600) <i>100% Inspection of Repaired Welds</i>	➤ Nil Cracking / Anomalies Evident - (3x) Rims Inspected - (5x) Rims to be Replaced
Boom Section # 3613 (1600) <i>100% Inspection of Repaired Welds</i>	➤ Nil Cracking / Anomalies Evident
Articulation # 3613 (1600) <i>100% Inspection of Repaired Welds</i>	➤ Nil Cracking / Anomalies Evident
Front & Rear Suspension Mounts # 3613 (1600) <i>100% Inspection of Repaired Welds</i>	➤ Nil Cracking / Anomalies Evident

Note: Lighting Conditions comply with the Requirements of AS 1171 Section 3.5.2 1998**Technicians:****Nicholas van Moolenbroek****Zackary Tass****N. van Moolenbroek
Designated Signatory****B. Anning
Authorised Signatory**

PHOTOGRAPH NO. 1 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



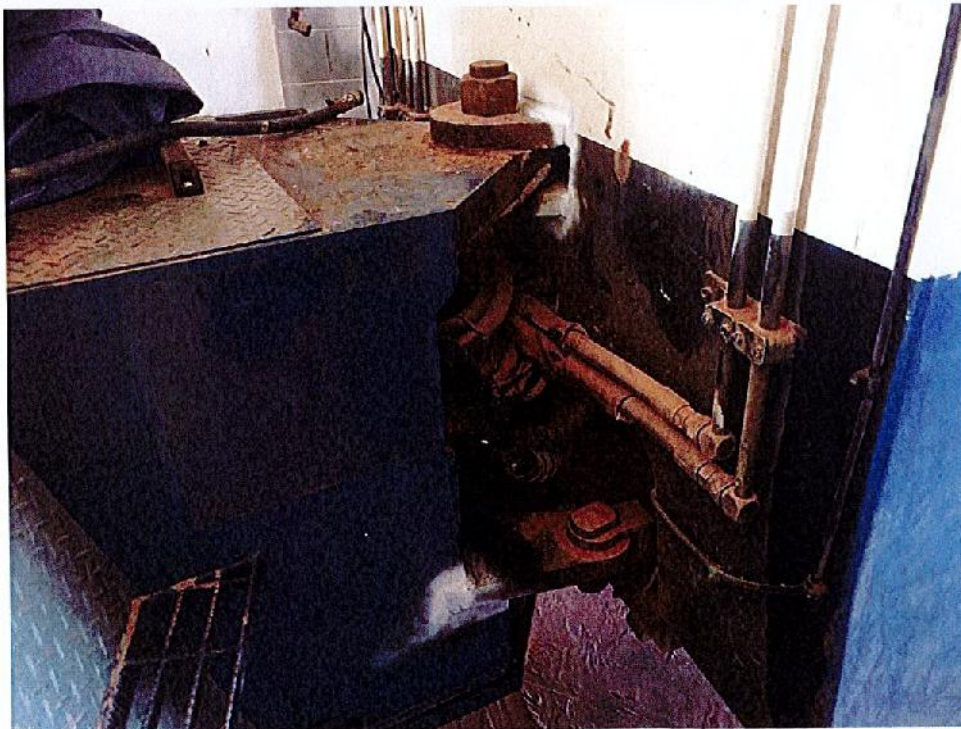
PHOTOGRAPH NO. 2 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



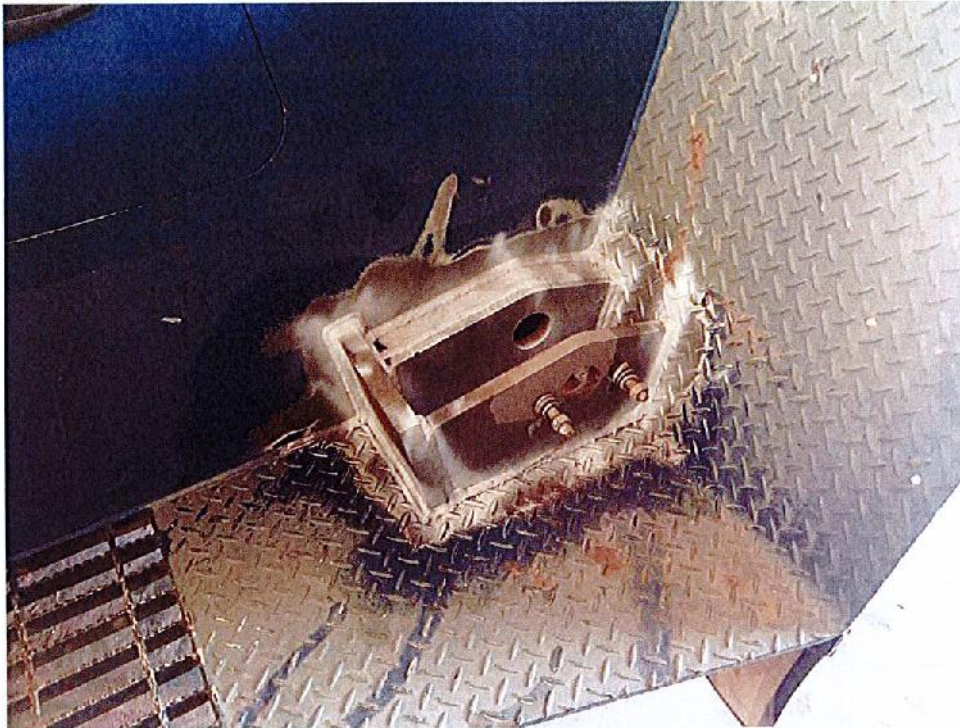
PHOTOGRAPH NO. 3 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 4 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 5 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



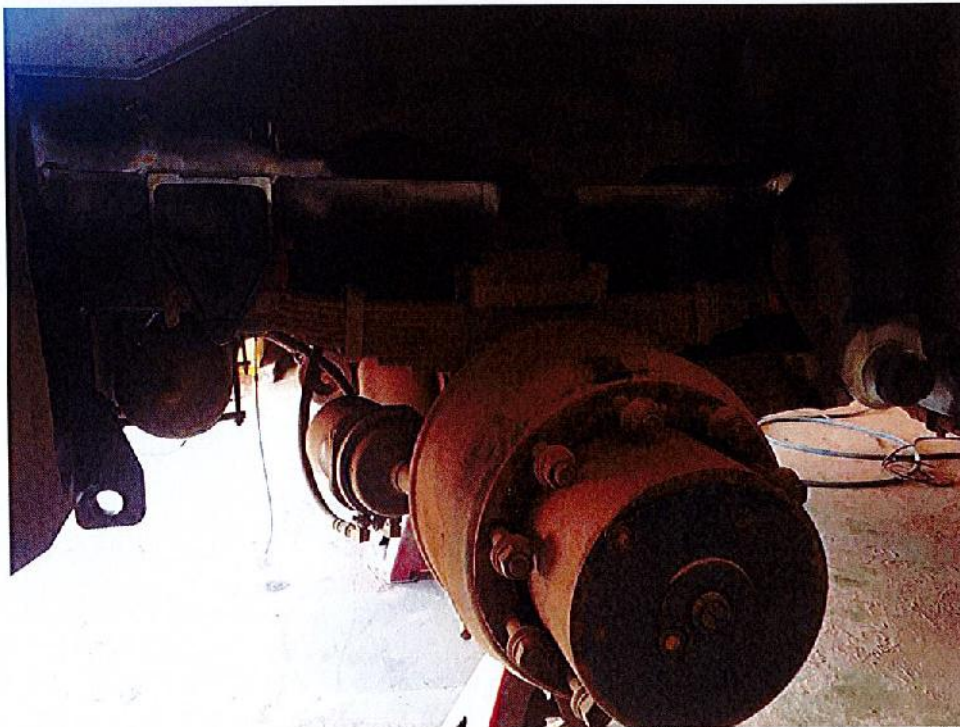
PHOTOGRAPH NO. 6 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 7 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 8 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



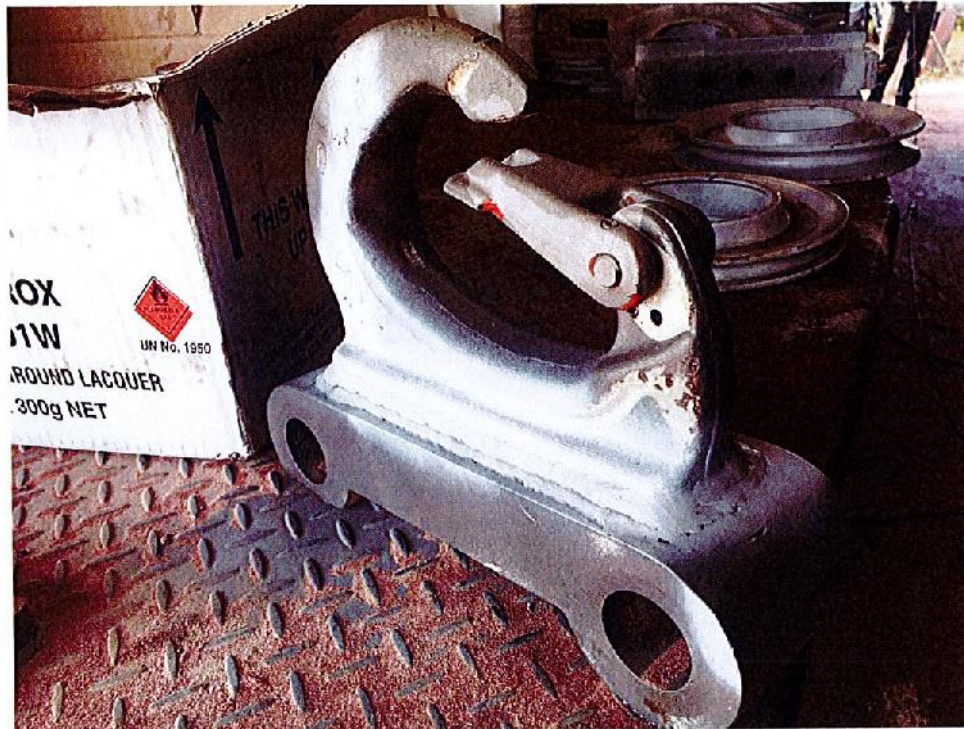
PHOTOGRAPH NO. 9 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 10 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 11 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 12 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 13 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



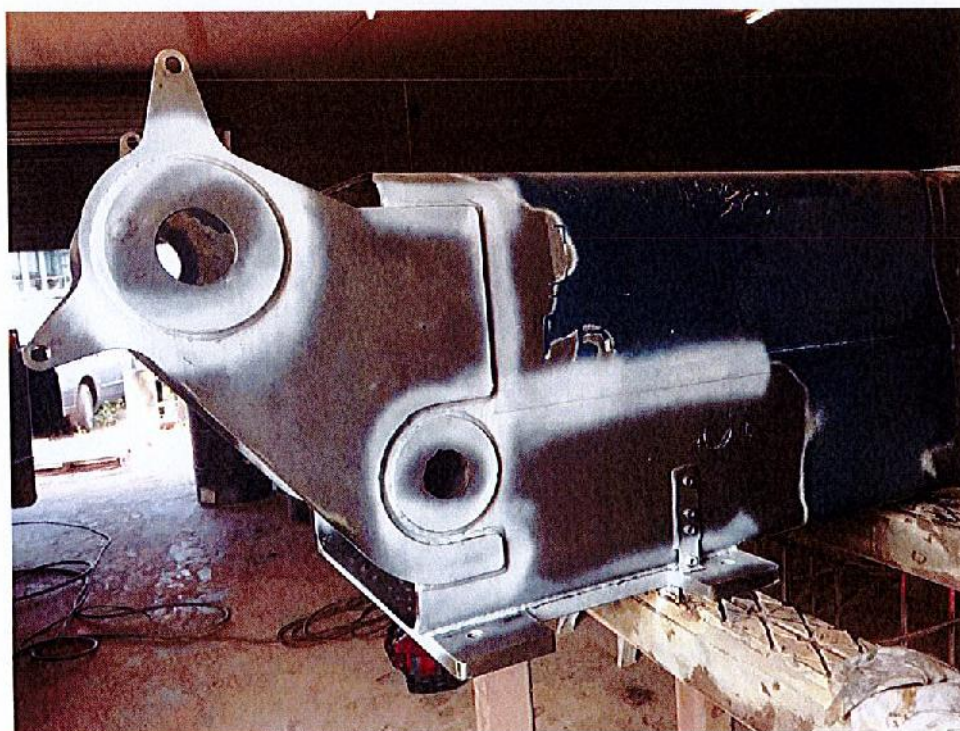
PHOTOGRAPH NO. 14 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 15 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 16 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 17 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



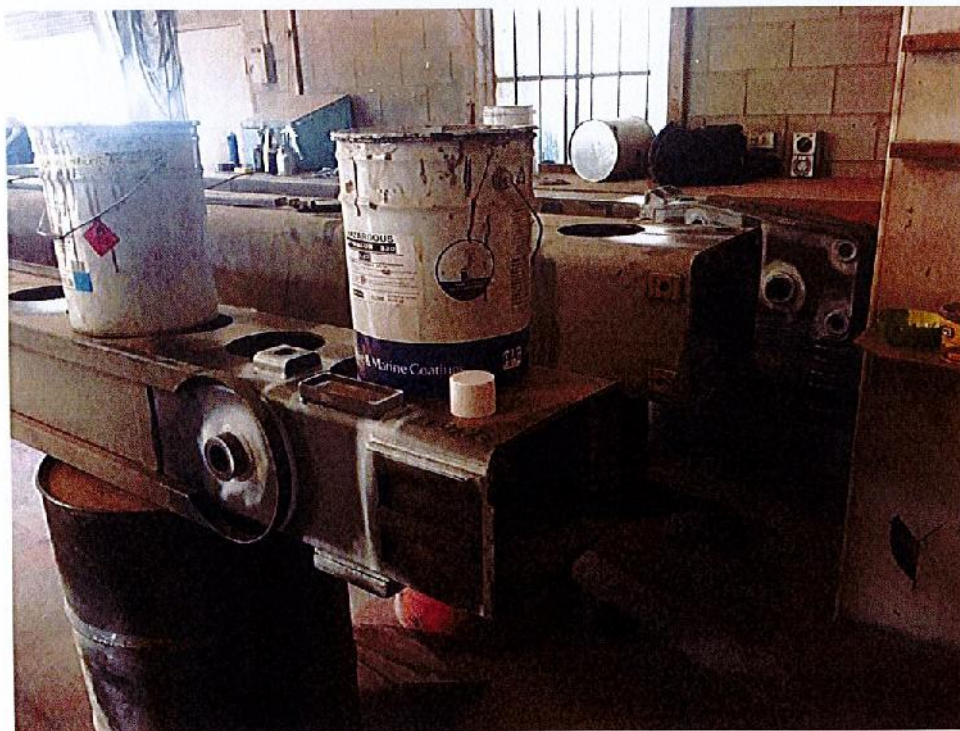
PHOTOGRAPH NO. 18 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 19 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 20 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 21 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



PHOTOGRAPH NO. 22 – GENERAL VIEW OF FRANNA CRANE (INITIAL)



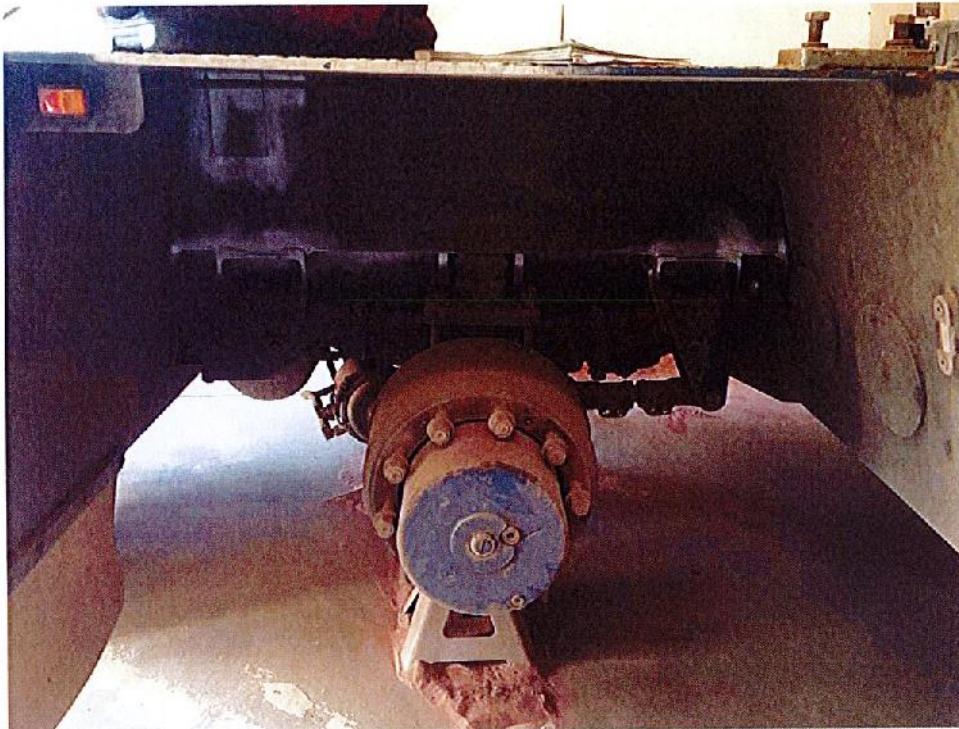
PHOTOGRAPH NO. 23 – GENERAL VIEW OF FRANNA CRANE (FINAL)



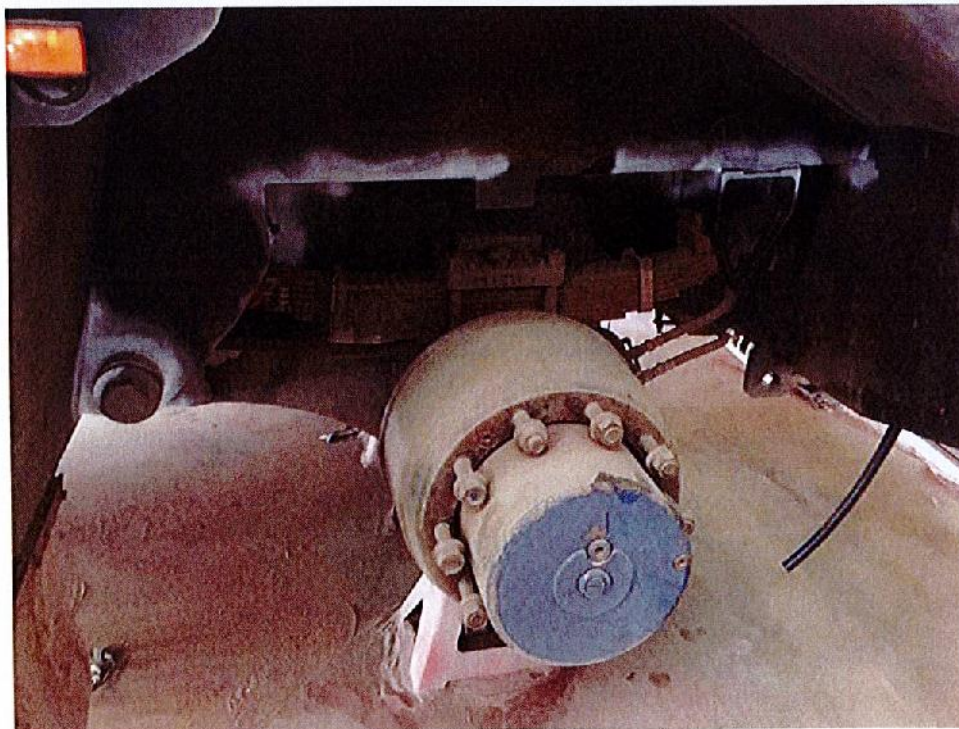
PHOTOGRAPH NO. 24 – GENERAL VIEW OF FRANNA CRANE (FINAL)



PHOTOGRAPH NO. 25 – GENERAL VIEW OF FRANNA CRANE (FINAL)



PHOTOGRAPH NO. 26 – GENERAL VIEW OF FRANNA CRANE (FINAL)



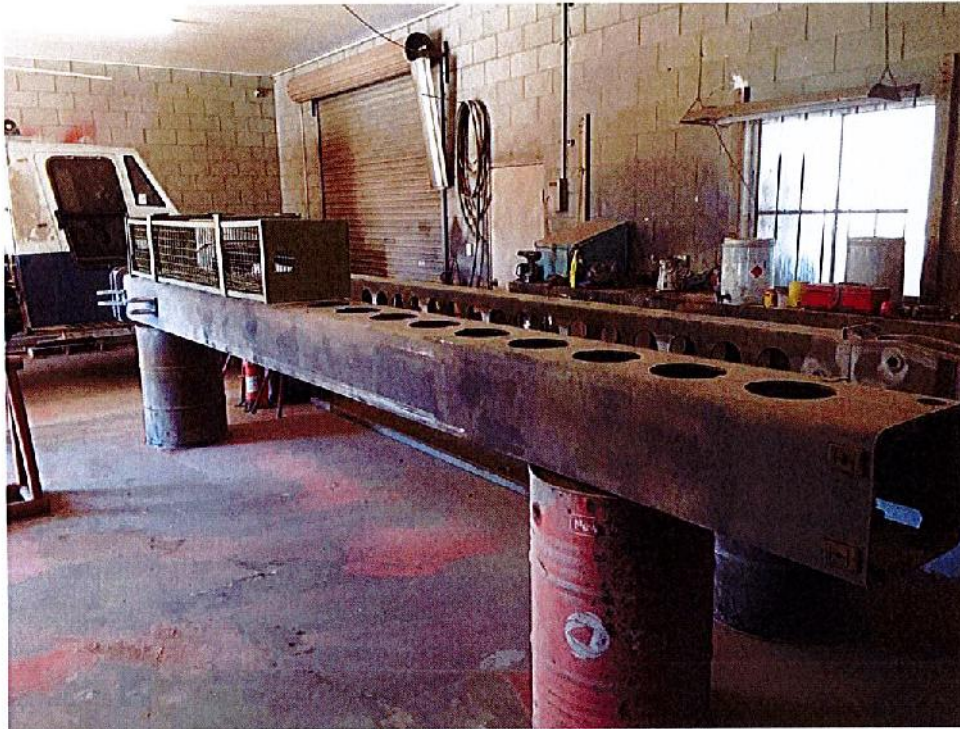
PHOTOGRAPH NO. 27 – GENERAL VIEW OF FRANNA CRANE (FINAL)



PHOTOGRAPH NO. 28 – GENERAL VIEW OF FRANNA CRANE (FINAL)

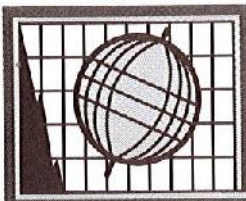


PHOTOGRAPH NO. 29 – GENERAL VIEW OF FRANNA CRANE (FINAL)



PHOTOGRAPH NO. 30 – GENERAL VIEW OF FRANNA CRANE (FINAL)





AXS

PTY LTD.
ABN 78 07 917 299
 A.C.N. 062 515 299

AVIATION • INDUSTRIAL • MINING - INSPECTIONS AND TESTING SERVICES

MACKAY
 P.O. BOX 6848, Mackay Mail Centre
 Telephone: (07) 4952 5500
 Facsimile: (07) 4952 5511

AXS P/L NDT LABORATORIES
 MANUAL ANNEX 17

22748

NDT SERVICES

Mackay Rockhampton
 Site

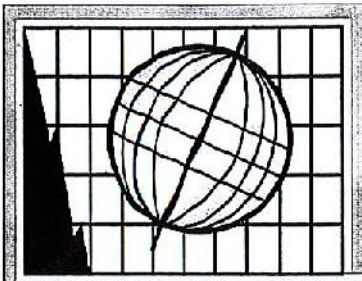
ROCKHAMPTON
 P.O. BOX 6502,
 Red Hill, Rockhampton, Qld 4701
 Telephone: (07) 4926 4744
 Facsimile: (07) 4926 4788

MAGNETIC PARTICLE / LIQUID PENETRANT WORKSHEET

Report No.: R16-0745a	Date: 7/6/16
Client: Sarina Crane Hire	Order No.: Q0411
Project/Description: AT20 Franna Crane	Client Job Reference: 3613
Identification: 3613	Contact: -
Fabrication Specification: N/S	Location: Sarina Crane Hire w/ship
	Interpretation Specification: Report All cracking

TECHNICAL DATA

Material Type: AIS	Surface Condition: As wetted
Surface Coatings: Nil	Surface Preparation: Nil
Record: <input checked="" type="checkbox"/> Photograph <input type="checkbox"/> Sketch	Test Procedure No.: 301
Magnetic Flaw Detection A.S. 1171	Penetrant Flaw Detection A.S. 2062
Technique: NFM	Current: <input checked="" type="checkbox"/> A.C. <input type="checkbox"/> D.C.
Equipment: Ybee	Serial No.: AMP -: 001
Media: <input type="checkbox"/> Ely <input type="checkbox"/> Magnaflux <input checked="" type="checkbox"/> Ardrex	Water Wash:
Magnetization: <input checked="" type="checkbox"/> Continuous Method <input type="checkbox"/> Residual Method	Solvent Remover:
Flux Check: <input checked="" type="checkbox"/> Lines Flux Indicator <input type="checkbox"/> Other	Contrast Dye:
Demagnetized: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No < <input type="checkbox"/> Residual Gauss	Penetrant Contact Time:
UV Intensity: N/A	Development Time:
Illuminance: N/A	Temperature: <input type="checkbox"/> 10°-15° <input checked="" type="checkbox"/> 15°-45° <input type="checkbox"/> 45°-50°
Background Lux: +1100 lx	
Consumables Used:	
Cleaner: N/A Batch No.: -	Penetrant: N/A Batch No.: -
Magnetic Ink: 80013 Batch No.: 639628	Developer: N/A Batch No.: -
Background Lacquer: 8001W Batch No.: 539527	Remover: N/A Batch No.: -
Identification: (Repairs to be designated R1, R2, etc)	Interpretation:
Final MPI of All Repaired Welds on AT20 Franna Crane Components + (5x) Rims	Result: → Nil cracking/defects detected on All comp Repaired Welds + (5x) Rims NOTE: (5x) Rims to be replaced
REFER: <input type="checkbox"/> UT <input type="checkbox"/> VIS <input type="checkbox"/> RAD <input type="checkbox"/> Other	WORKSHEET No.:
TECHNICIAN/S: Z Tass	SIGNED:



AXS PTY. LTD.

MACKAY OFFICE
 PO Box 8848
 MMC QLD 4741
 PHONE: (07) 4952 5500
 FAX: (07) 4952 5511
 MOBILE: 0417 617 414

ROCKHAMPTON OFFICE
 PO Box 6502
 Red Hill, Rockhampton, QLD 4701
 PHONE: (07) 4926 4744
 FAX: (07) 4926 4788
 MOBILE: 0438 924 789

AVIATION • INDUSTRIAL • HYDROSTATIC • MINING - INSPECTIONS AND TESTING SERVICES

A.B.N. 78 062 915 299

A.C.N. 062 915 299

Sarina Crane Hire
 20 Crescent Street
 Armstrong Beach
 Sarina Qld. 4737

Tax Invoice

RECEIVED

BY:

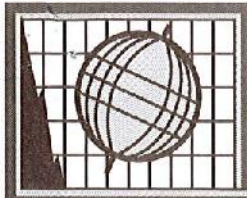
P.O. NO.	DATE	INVOICE NO
Q0411	10/06/2016	I/R16-0745
TERMS	DUE DATE	REPORT
21 days	1/07/2016	R16-0745

ITEM	DESCRIPTION	QTY	EX GST RATE	AMOUNT
01	Initial & Final NDT Inspection of AT20 Franna Crane			
05	Work Time	6.5	110.00	715.00
06	Travel Time	2	110.00	220.00
09	Kilometres	108	1.20	129.60
15	Report	1	50.00	50.00
21	Black Magnetic Ink	7	12.50	87.50
22	White Background Lacquer	7	12.50	87.50

10/6/16
 6-1107 Rem SCH 7b
 << to SCH 7b 10yr File

Please make cheques payable to: AXS Pty Ltd.
 BSB: 034-195
 A/C: 131 902
 Westpac Banking Corp.
 For enquires regarding this invoice please contact accounts on
 (07) 54786366.
 Please email remittance advice to admin@axsndt.com.au
THANK YOU FOR YOUR BUSINESS!

TOTAL Exclusive (GST)	\$1,289.60
GST Total	\$128.96
TOTAL Inclusive (GST)	\$1,418.56



AXS

PTY LTD.
ABN 78 062 915 299
 A.C.N. 062 915 299

AVIATION • INDUSTRIAL • MINING - INSPECTIONS AND TESTING SERVICES

MACKAY
 P.O. BOX 6818, Mackay Mail Centre
 Telephone: (07) 4952 5500
 Facsimile: (07) 4952 5511

ROCKHAMPTON
 P.O. BOX 6502,
 Red Hill, Rockhampton, Qld 4701
 Telephone: (07) 4926 4744
 Facsimile: (07) 4926 4788

AXS P/L NDT LABORATORIES
 MANUAL ANNEX 17

23569

NDT SERVICES

Mackay Rockhampton
 Site

MAGNETIC PARTICLE / LIQUID PENETRANT WORKSHEET

Report No.: R16-0745	Date: 1 8-6-16
Client: Sarina Crane Hire	Order No.: TBA
Project/Description: AT20 Terex Franna 10 Yearly NDT Inspection	Client Job Reference: AT20 3613
Identification: AT20 3613	Contact: S. Coode
Fabrication Specification: N/A	Location: Sarina Crane Hire w/Shop
	Interpretation Specification: Report All Cracking

TECHNICAL DATA

Material Type: CS	Surface Condition: As welded	
Surface Coatings: Oil	Surface Preparation: Blasted	
Record: <input checked="" type="checkbox"/> Photograph <input type="checkbox"/> Sketch	Test Procedure No.: 301	
Magnetic Flaw Detection A.S. 1171		Penetrant Flaw Detection A.S. 2062
Technique: MFM	Current: <input checked="" type="checkbox"/> A.C. <input type="checkbox"/> D.C.	Water Wash:
Equipment: Yoke	Serial No.: AMP -: 001	Solvent Remover:
Media: <input type="checkbox"/> Ely <input type="checkbox"/> Magnaflux <input checked="" type="checkbox"/> Ardrex		Contrast Dye:
Magnetization: <input checked="" type="checkbox"/> Continuous Method <input type="checkbox"/> Residual Method		Penetrant Contact Time:
Flux Check: <input checked="" type="checkbox"/> Lines Flux Indicator <input type="checkbox"/> Other		Development Time:
Demagnetized: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Residual Gauss		Temperature: <input type="checkbox"/> 10°-15° <input checked="" type="checkbox"/> 15°-45° <input type="checkbox"/> 45°-50°
UV Intensity: N/A	Illuminance: N/A	Background Lux: +1100
Consumables Used:		
Cleaner: N/A	Batch No.: -	Penetrant: N/A Batch No.: -
Magnetic Ink: 80013	Batch No.: 647887	Developer: N/A Batch No.: -
Background Lacquer: 80016	Batch No.: 539527	Remover: N/A Batch No.: -
Identification: (Repairs to be designated R1, R2, etc)	Interpretation: Initial MPI of Specified Areas on AT20 Franna	Result: (Front + Rear)
<ul style="list-style-type: none"> Hook Block → (x8) 5-10mm cracking detected + porosity. Rims → (x6) cracked along weld seams (20-120mm in length) → (x2) NCD Boom Sections → 15mm + 10mm (x2) cracking detected Articulation → 15mm crack detected 	<ul style="list-style-type: none"> Suspension Mounts → 20mm, 10mm, 20mm, 10mm, 20mm, 10mm, 10mm, 10mm cracks detected. Spreader Bar - NCD Lifting Lugs - NCD Steering Lugs - NCD Pins - NCD Luff Cylinders - NCD Boom Extend Cylinder - NCD Sheaves - NCD Aux. Hook - NCD 	
REFER: <input type="checkbox"/> UT <input type="checkbox"/> VIS <input type="checkbox"/> RAD <input type="checkbox"/> Other	WORKSHEET No.:	
TECHNICIAN/S:	SIGNED:	

CERTIFICATE OF TEST AND EXAMINATION

CERTIFICATE NO. E0314

Customer: TEREX LIFTING AUSTRALIA PTY LTD
 585 CURTIN AVENUE EAST
 EAGLE FARM QLD 4009

Date of Report: 04.11.2016
 Order No: n/a
 Date of Test: 03.11.2016
 Store Order No. 4039793

Test Specification: CUSTOMER REQUIREMENTS

Distinguishing Marks	Description of Articles Tested	No. Tested	Proof Load kN	W.L.L. TONNE	Ultimate Load	Remarks
BBT21074 To BBT21076	SWIVEL SAFETY SHANK HOOK C/W BEARING PAINTED BLACK TEREX PART NUMBER: PP2190100	3	197.2	20	n/a	New and tested

Visual Examination:.....Satisfactory.....

Customer's marks stamped on test piece(s):.....

Tested by:.....Wade Ahern.....

Signed by 

Name of Approved Signatory Wade Ahern...
 (Approved Signatory)

This certificate may not be reproduced, except in full.