

PEDESTAL CRANE - BOX - LATTICE BOOM

PT. INSPEKTINDO SINERGI PERSADA



**PEDESTAL CRANE
BOX – LATTICE BOOM
TIK 2-2211**



Customer : PERTAMINA HULU MAHAKAM
Location : SWP - E – PECIKO
Inspection Date : 2022/01/06
Inspector(s) : - Wahyudhi
: - USMAN K

Batam Office :
Komplek Kawasan Industri
Sekupang Kavling 13
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REPORT OF TEST & THOROUGH EXAMINATION OF A CRANE

Date of report:	January 06 th , 2022	Report Number:	ISP.WY.TIK-2-2211.01/22(T)	
P.O.Number:		Order Number:		
Client:	PT. Pertamina Hulu Mahakam	Location:	Peciko SWP-E	
Start date of test & thorough examination:	January 05 th , 2022	End date of test & thorough examination:	January 06 th , 2022	
Make and model of crane:	Pedestal Crane			
Type of crane and nature of power (e.g. crawler crane, mobile/telescopic hydraulic):	Pedestal Crane (Box-Lattice Boom) Scope of Inspection 12 Month: 1. Load Test 100% SWL → Done 2. NDT on Critical Areas → Done 3. Wire Rope Test → Done 4. Rocking Test → Not Done			
Date of manufacture:	August 2003	Serial Number:	1138	
Make and type of rated load capacity indicator:	Manufacture : Favelle Favco Cranes (M) SDN. BHD Type : 100LR			
Last test details (if known):				
Safe working load or loads: <small>In the case of a crane with variable operating radius (including a crane with a derricking jib or with interchangeable jibs of different lengths) the safe working load at various radii of the jib, jibs trolley or crab should be given. Test loads at various radii should be given in column (iii) and in the case a safe working load which has been calculated without the application of a test load "NIL" should be entered in that column.</small>	Length of Boom (metres)	Radius (metres)	Test load (Kgs)	Safe working load (Kgs)
	MAIN			
	27.6	10	12.900	12.900
	AUX			
	27.6	10	3.000	3000
Minimum radius at which the jib or jibs may be worked (metres):	4.0 Metres			
Defects noted and alterations or repairs required before the crane is put into service. (if none enter "NONE"):	None			
Acceptance criteria: API RP 2D				
Inspection result: IS THIS EQUIPMENT SAFE TO OPERATE?			YES	<input checked="" type="checkbox"/>
			No	<input type="checkbox"/>
Name of the person making this report:  Wahyudhi CI / ASNT LEVEL II MT/PT	Name of the person authenticating this report:  Signature: PAMBUDHI KRISTYANTO CI, MT/PT ASNT LVL II, LGI, LEEA	Latest date for next examination: <p style="text-align: center;">January 04th, 2023</p>		



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Identification No: TIK-2-2211	Date: 05-01-2022	Inspector name: WAHYUDHI
SWL / WLL 15 TON	Location: PECIKO - SWP-E	Customer Ref:

Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Certification information				
Report of a test & examination	✓			
Proof load certificate	✓			
Thorough visual examination	✓			
Declaration of conformity			✓	
Non Destruct test	✓			
Other (specify)	✓			
Physical markings				
SWL, WLL, rated capacity at various radii / boom angle	✓			
Identification number(s)	✓			
Other markings i.e. de-rating factor			✓	
External pedestal				
Condition of coating or paint	✓			
Structure components	✓			
Lights and fittings	✓			
Weldments	✓			
Bolted connections	✓			
Ladders	✓			
Backscratchers	✓			
Landings	✓			
Internal pedestal				
Condition of coating or paint			✓	
Structure components			✓	
Lights and fittings			✓	
Weldments			✓	
Bolted connections			✓	
Ladders			✓	
Backscratchers			✓	
Landings			✓	
Accumulation of contaminants such as oil or grease			✓	



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Access and egress points				
Ladders			✓	
Backscratchers			✓	
Landings / walkways			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
Hatches and safety latches			✓	
Lights and fittings			✓	
Weldments			✓	
Bolted connections			✓	
Condition of coating or paint			✓	
Cabin				
External structure	✓			
Cabin mountings	✓			
Windscreen glass complete and clear	✓			
Windscreen wipers complete and operational		✓		wiper motor was broken
Water dispenser operational			✓	
Cabin heater / de-mister operational			✓	
Cabin lights operational	✓			
Cabin door lockable / secure	✓			
Control levers clearly marked and return to neutral	✓			
De-rating or duty chart located conspicuously in cabin	✓		✓	
Deck horn operational	✓			
Communications operational			✓	
Anemometer operational	✓			
Fire extinguisher readily available in or near cabin	✓			
Condition of coating or paint	✓			
Rated capacity indicator/limiter				
Hook load functional	✓			
Load radius indicator functional	✓			
Hook upper and lower limits	✓			



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
working				
Boom upper and lower limits working	✓			
Boom limit override operating	✓			
Gross overload protection system (GOP) functional. To include visual/audible warnings		✓		No Audible warning when dynamic test load
Machinery housing				
External structure	✓			
Condition of coating or paint	✓			
Landings / walkway	✓			
Walkway clear of obstructions	✓			
Handrails	✓			
Kick-boards	✓			
Lights and fittings	✓			
Weldments	✓			
Bolted connections	✓			
Housing lights operational	✓			
Housing door lockable / secure	✓			
Ventilation ducts operational	✓			
Machinery compartment clean and tidy	✓			
Oil leaks from gear boxes, accumulators, tanks etc	✓			
Diesel or water leaks from engine	✓			
Electrical equipment in sound condition and not exposed to contaminants	✓			
Fire extinguisher readily available in or near housing	✓			
'A' frame				
Ladders			✓	
Backscratchers			✓	
Landings / walkway			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	
Lights and fittings			✓	
"A" frame weldments			✓	



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
"A" frame bolted connections			✓	
Boom backstop points checked for deformation, operation, etc			✓	
Condition of coating or paint			✓	
Helicopter warning lights			✓	
Condition of sheave bodies			✓	
Sheave profiles			✓	
Keeper plates and locking tabs			✓	
Rope displacement guards			✓	
Grease points and fittings			✓	
Anchorage point for boom rope			✓	
Ultimate protection system (UPS) components			✓	
Bridle				
Weldments			✓	
Bolted connections			✓	
Condition of sheave bodies			✓	
Sheave profiles			✓	
Rope displacement guards			✓	
Keeper plates and locking tabs			✓	
Grease points and fittings			✓	
Pendant anchorage points			✓	
Boom pendants			✓	
Condition of coating or paint			✓	
Boom head section				
Auxiliary line jib extension	✓			
Condition of sheave bodies	✓			
Sheave profiles	✓			
Keeper plates and locking tabs	✓			
Rope displacement guards	✓			
Grease points and fittings	✓			
Anchorage point for hoist rope	✓			
Anchorage point for pendants			✓	
Condition of coating or paint	✓			
Condition of main cords	✓			
Condition of lacing	✓			
Lacing to chord weldments	✓			



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WMM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Boom section joints / bolting	✓			
Boom lights and fittings	✓			
Helicopter warning lights	✓			
Walkway condition	✓			
Walkway clear of obstructions	✓			
Handrails	✓			
Kick-boards	✓			
Boom intermediate section #1 (head end)				
Condition of coating or paint	✓			
Condition of main cords	✓			
Condition of lacing	✓			
Lacing to chord weldments	✓			
Boom section joints / bolting	✓			
Sheave diverter points	✓			
Boom lights and fittings	✓			
Helicopter warning lights			✓	
Walkway condition	✓			
Walkway clear of obstructions	✓			
Handrails	✓			
Kick-boards	✓			
Boom intermediate section #2 (boom foot end)				
Condition of coating or paint			✓	
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting			✓	
Sheave diverter points			✓	
Boom lights and fittings			✓	
Helicopter warning lights			✓	
Walkway condition			✓	
Walkway clear of obstructions			✓	
Handrails			✓	
Kick-boards			✓	



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/MM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Boom foot section				
Condition of coating or paint	✓			
Condition of main cords			✓	
Condition of lacing			✓	
Lacing to chord weldments			✓	
Boom section joints / bolting	✓			
Boom foot pins	✓			
Boom foot keeper and locking plates	✓			
Grease points and fittings	✓			
Boom lights and fittings	✓			
Helicopter warning lights			✓	
Walkway condition	✓			
Walkway clear of obstructions	✓			
Handrails	✓			
Kick-boards	✓			
Boom Lift Cylinder				
Condition of coating or paint	✓			
Boom foot pins	✓			
Boom foot keeper and locking plates	✓			
Visual of boom cylinder	✓			
Condition of hydraulic hose & bolt connection		✓		LUFF Control Valve Leaking
Condition of cylinder/Piston Rod	✓			
Condition of cylinder head	✓			
Condition of cylinder seal	✓			
Main hoist winch				
Winch hold-down bolts	✓			
Bolts and locking tabs	✓			
Hydraulics checked for leaks	✓			
Condition and operation of braking system	✓			
Rope anchorage/securing point	✓			
Condition of coating or paint	✓			
Auxiliary hoist winch				
Winch hold-down bolts	✓			
Bolts and locking tabs	✓			



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WM/L/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Hydraulics checked for leaks	✓			
Condition and operation of braking system	✓			
Rope anchorage/securing point	✓			
Condition of coating or paint	✓			
Boom hoist winch				
Winch hold-down bolts			✓	
Bolts and locking tabs			✓	
Hydraulics checked for leaks			✓	
Condition and operation of braking system			✓	
Rope anchorage/securing point			✓	
Operation of boom pawl			✓	
Condition of coating or paint			✓	
Slew unit				
Slew ring and pinion	✓			
External slew ring bolts	✓			
External bolts protected	✓			
Internal slew ring bolts	✓			
Hydraulic fittings / connections	✓			
Lubrication on gears	✓			
Grease points and fittings	✓			
Slewing operation and brakes	✓			
Operation of limit switches			✓	
Main block				
Condition of coating or paint		✓		Peel of Paint
Condition of sheave bodies	✓			
Sheave profiles	✓			
Keeper plates and locking tabs	✓			
Rope displacement guards	✓			
Grease points and fittings	✓			
Anchorage point (becket)	✓			
Hook and safety latch	✓			
Condition of load pins	✓			
Freedom of swivel	✓			
Headache ball				
Condition of coating or paint	✓			



OFFSHORE PEDESTAL CRANE CHECKLIST

Refer to work method ISP/WML/039



Component / area	Visual satisfactory	Requires attention	Not applicable	Comments
Hook and safety latch	✓			
Freedom of swivel	✓			
Condition of load pin	✓			

Result: *Fit For Use*

- Finding:
- 1. Cabin Glass Wiper not function, Wiper motor Broken, shall be Repair*
 - 2. Operator Leather seat was Broken, should be Repair*
 - 3. Boom Angle Degree Display malfunction, should be Repair*
 - 4. LUFF Control Valve for Boom Cylinder found Leaking, should be Repair*
 - 5. Communication Operational not Available, to be Provided.*



REPORT OF ELECTROMAGNETIC NDT EXAMINATION WIRE ROPE

This report complies with the Lifting Equipment Engineers Association Technical requirements

Date of report:	06 January 2022	Report Number:	ISP.WY.TIK2-2211.01/22(T)
P.O.Number:		Order Number:	
Client:	PT. PERTAMINA HULU MAHAKAM	Location:	PECIKO – SWP - E
Date of NDT:	06 January 2022	Equipment Serial No:	207014

NDT MACHINE DETAILS & SETTINGS

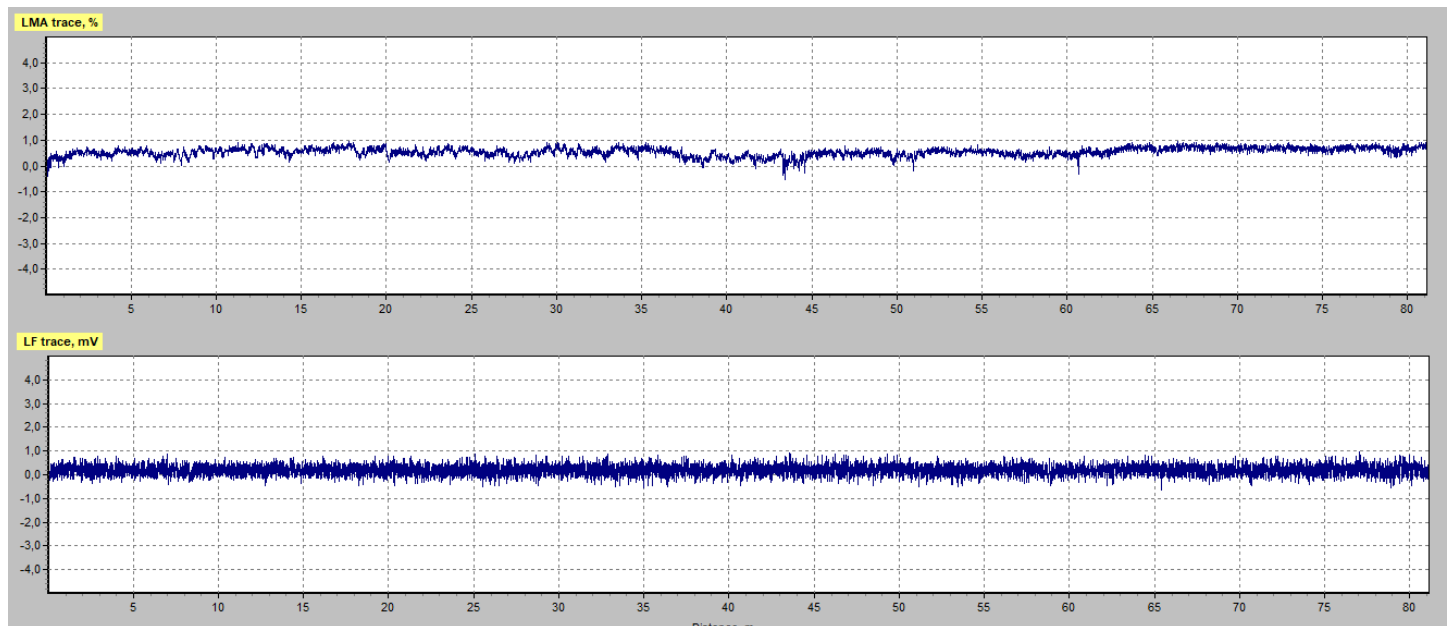
Inspection head:	INTROS MB8-24	Chart recorder:	Wintros Data Logger
Rope fill factor:	-	Sensitivity (mV/div):	Both Surface and internal flaw
LMA gain:	100%	LF gain:	"0" (Zero)
Test wire area:	80 m Main Hoist & 42 m Aux hoist	Balance setting:	NONE
Datum point of inspection:	± 2m end of wire in main hoist drum		
% change of test wire to MCSA:	-		
Calculated metallic cross sectional area (MCSA)			
Acceptance/rejection criteria used:	API Spec. 9A		

INSPECTION RESULTS

Inspection results:

No defect found at the time of inspection, as shown by chart below:

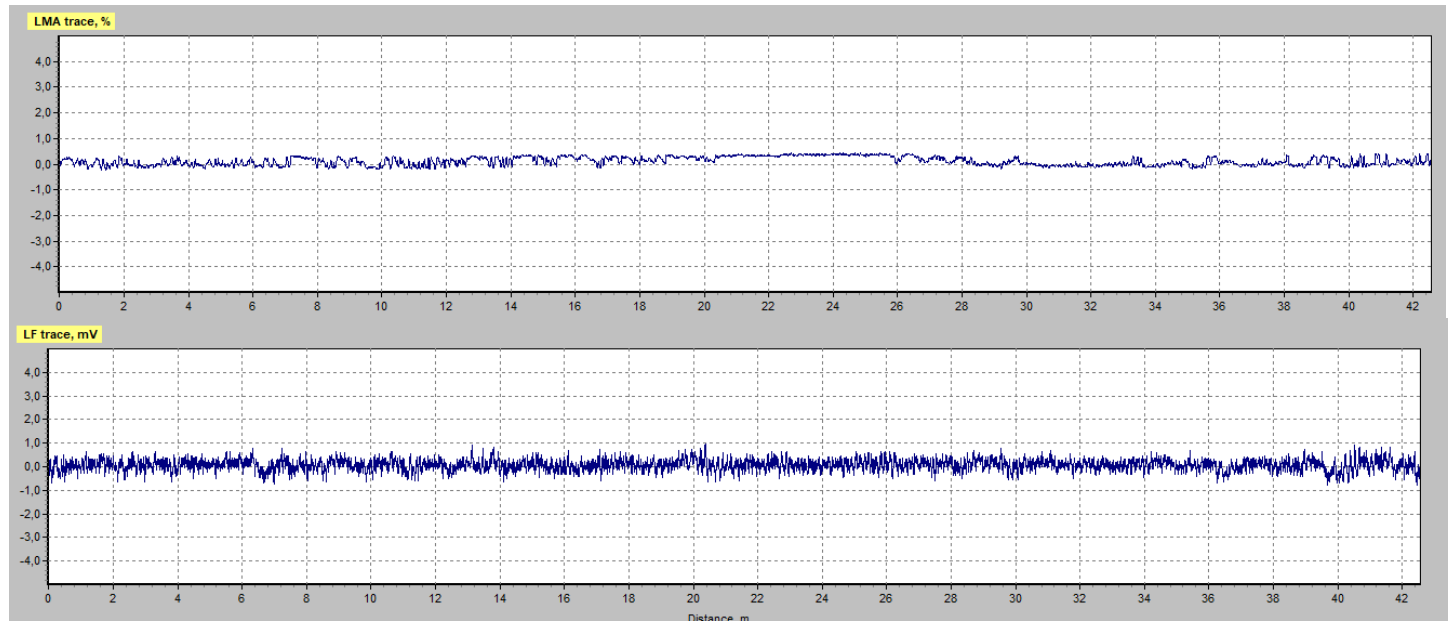
MAIN HOIST



REPORT OF ELECTROMAGNETIC NDT EXAMINATION WIRE ROPE

This report complies with the Lifting Equipment Engineers Association Technical requirements

Auxiliary Hoist



Name of the person making this report:




Wahyudhi
CI, ASNT LEVEL II MT/PT

Name of the person authenticating this report:




PAMBUDHI KRISTYANTO
CI, MT/PT ASNT LVL II, LGI, LEEA.

Latest date for next examination:

July 04st, 2022



SLEW BEARING RING ROCKING TEST REPORT

Client : Pertamina Hulu Mahakam	Test Method : Tilt Method
Description : Slew Bearing Measurement	Location : PCK MWP-G
Standard / Code : Crane Manufacture	Date : 2022/01/05

1. Crane Data :

Serial No. : 1138
 Model/Type : 100LR
 Manufacturer : Favelle Favco Cranes (M) SDN. BHD
 Type : Pedestal Crane – Box Lattice Boom
 SWL : 15 ton
 Services : Lifting Equipment
 Year built : 2003
 Boom Length : 27.6 meter

2. Equipment Data :

Equipment : Dial Indicator with Magnetic Base	Equipment : Magnetic Stand
Accuracy : 0.01 mm	Serial No. : 1708171298
Serial no. : 3119102	Mfg. : Insize
Mfg. : Insize	

3. Measurement Result :

No.	Position Dial Indicator on Pedestal (... ^o)	Maximum Clearance Reading (mm)
1.	0	0.92
2.	90	0.98
3.	180	0.91
4.	270	0.95

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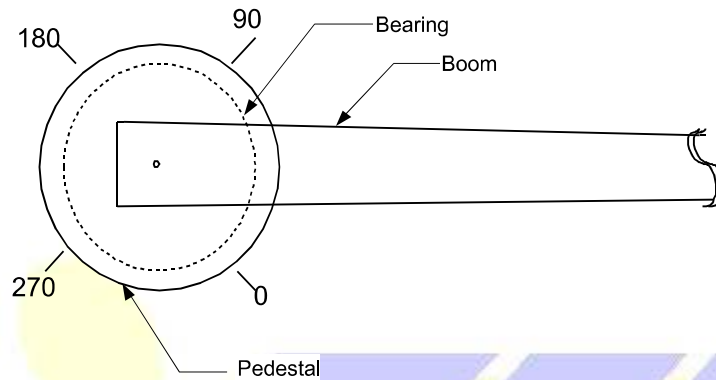
Fax : +62 (0) 778 321338

Email : sales@inspektindo.com

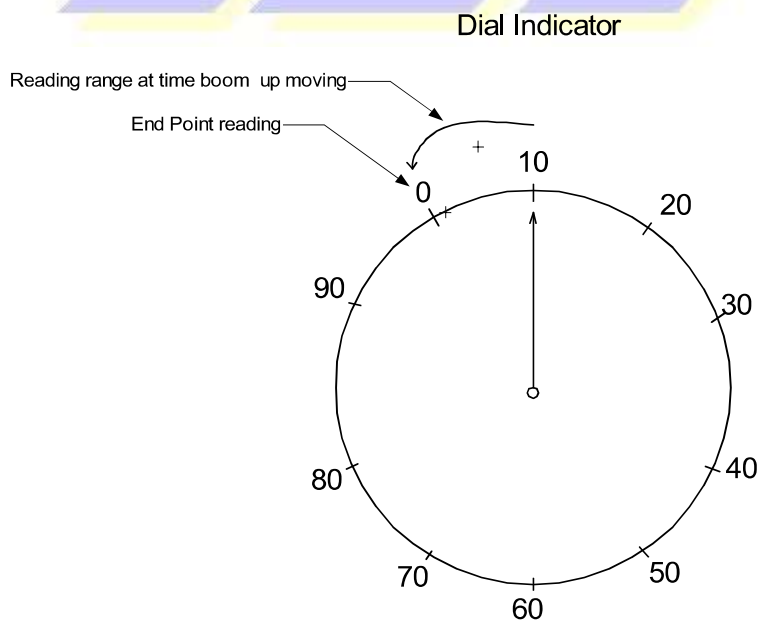
Website : www.inspektindo.com



SKETCH POSITION DIAL INDICATOR ON BEARING**



SKETCH OF READING DIAL INDICATOR*



4. Conclusion

Based on slew bearing measurement with dial indicator max. clearance indicated 0.98 mm, and the maximum permissible bearing measurement provides by crane manufacture or bearing manufacture.

PT. Inspektindo Sinergi Persada

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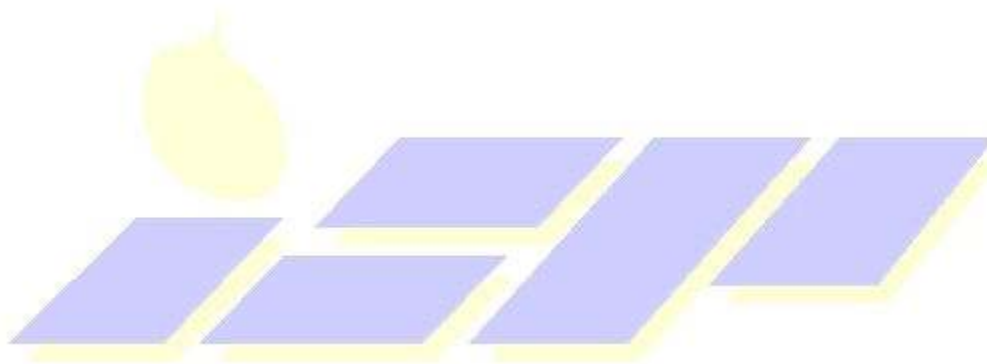
Website : www.inspektindo.com

Peciko MWP-E, 2022/01/05

Prepared by
PT. ISP



Wahyudhi
MT/PT ASNT LEVEL II, LGI. CI.



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**PHOTO SLEW BEARING RING ROCKING TEST WITH DIAL INDICATOR
 (PEDESTAL CRANE – BOX LATTICE BOOM)
 “PECIKO MWP-E”**

0° = 0,92



90° = 0,98



180° = 0,91



270° = 0,95



PHOTOGRAPHIC AIDE TO INSPECTION

Date of report:	January 05 th , 2022	Report Number:	ISP.WY.TIK-2-2211/01/22(T)
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Item details:	PEDESTAL CRANE – BOX LATTICE BOOM Manufacture : Favelle Favco Cranes (M) SDN. BHD Date of Manufacturing : 2003 Model / Type : 100LR Serial Number : 1138 Maximum SWL : 15 T
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Photographic details



Radius : 10 m
Angle : 69°
Boom Length : 27.6 m (Main Hoist)



Radius : 10 m
Angle : 69°
Boom Length : 27.6 m



SWL 12.9 Ton @ Dynamic Load 3 Partline



Load Chart



PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Radius :10 m
Angle :69°
Boom Length : 27.6 m (Auxiliary Hoist)



Radius :10 m
Angle :69°
Boom Length : 27.6 m



SWL 3 Ton @ Dynamic Load 1 Partline



Load Chart

RADIUS (METRES)	BOOM ANGLE (DEGREES)	SAFE WORKING LOAD (IN TONNES)	
		ON PLATFORM	OFF BOAT
4.0	82.0	15.0	15.0
5.0	79.8	15.0	15.0
7.5	74.5	13.0	13.0
8.0	73.4	13.0	13.0
10.0	69.0	12.0	12.0
12.5	63.3	10.0	10.0
15.0	57.2	8.0	8.0
17.5	50.7	6.0	6.0
20.0	43.0	4.0	4.0
22.5	35.0	3.0	3.0
25.0	26.0	2.0	2.0
27.6	19.0	1.0	1.0

PHOTOGRAPHIC AIDE TO INSPECTION

Date of report:	06 January 2022	Report Number:	ISP.WY.TIK2-2211.01/22(T)
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Item details:	<p>PEDESTAL CRANE – BOX LATTICE BOOM</p> <p>Manufacture : Favelle Favco Cranes (M) SDN. BHD</p> <p>Date of Manufacturing : 2003</p> <p>Model / Type : 100LR</p> <p>Serial Number : 1138</p> <p>Maximum SWL : 15 T</p>
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Photographic details



Cabin Glass Wiper not function, Wiper motor was broken shall be repaired



Operator leather seat was broken, should be repaired



100LR LOAD CHART				
27.5 T BOOM S/N:1138				
MAIN HOIST (THREE FALLS)				
RADIUS (METRES)	BOOM ANGLE (DEGREES)	SAFE WORKING LOAD IN TONNES		
		ON PLATFORM	OFF BOAT	OFF BOAT
		DPM-23	DPF-20	DPF-20
4.0	82.0	15.0	15.0	15.0
5.0	79.8	15.0	15.0	15.0
7.5	74.5	15.0	15.0	15.0
8.0	73.4	15.0	15.0	15.0
10.0	69.0	15.0	12.0	12.0
12.5	63.3	15.0	10.7	10.7
15.0	57.2	14.0	9.1	9.1
17.5	50.7	12.0	8.0	8.0
20.0	43.0	10.0	6.9	6.9
22.5	35.0	8.0	5.7	5.7
25.0	26.0	7.5	5.2	5.2
27.5	18.0	7.2	5.0	5.0

AUXILIARY POSTS/TOWERS @ ALL RADIUS
 PERSONNEL MUST STAY @ ALL RADIUS
 © 2003 FAVELLE FAVCO CRANES (M) SDN. BHD

Load Chart



Load Indicator RCI – 4000 /S
ROBWAY S/N 0281
Boom Angle Degree Display Malfunction



PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Boom Angle Indicator



Anemometer



Engine



Fire Extinguisher



PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Name Plate



Helicopter Light



Main and Aux drum



Boom Limit Switch

PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Main Block



Auxiliary Hook / Overhauling Ball



View Cabin



Angle Sensor



PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Main Drum Brake



Hydraulic Tank



View Boom



Sheave Assembly



PHOTOGRAPHIC AIDE TO INSPECTION

Photographic details



Man Hole



Luff Control Valve for Boom Cylinder Found Leaking



Perform WRT of Main Hoist



Perform WRT of Auxiliary Hoist



SITE MEMO

Date of Inspection : 2022/01/06
 Client/Owner : **PERTAMINA HULU MAHAKAM**
 Location : PECIKO – SWP - E

Statement:

Refer to request of Pertamina Hulu Mahakam on 2022/01/05, PT. ISP has been perform function test, visual and NDT Inspection, Load Test

Of 1 (one) unit "**Pedestal Crane (Box – Lattice Boom)** ", with data and result as follows:

I. Equipment Data:

Equipment : **Pedestal Crane (Box – Lattice Boom)**
 TIK No : **2-2211**
 Owner : Pertamina Hulu Mahakam
 Manufacturer : Falleve Favco Crane (M) SDN. BHD
 Capacity : 15 Ton (Main Hoist)
 : 3 Ton (Auxiliary)
 Serial No / Model : 1138 / 100LR
 Year of Built /Used : 2003
 Boom Length : 27.6 m
 Main Hoist Line : Ø 20.2 mm - RHLL, Rotation Resistant, IWRC (3 Part Lines)
 : Ø 20.4 mm - RHLL, Rotation Resistant, IWRC (1 Part Lines)

II. Inspection Result:

No	Inspection Item	Method of Inspection
1.	Visual Inspection before & after load Test	Visual Inspection
2.	Functional test	Functional test without load
3.	Load Test	Test with load
4.	NDT Hook Block and Critical Area on crane	MPI
5.	Wire rope testing for main hoist and auxiliary	Visual and wire rope tester examination
5.	Rocking Test	Tilt method
6.	Verification Load Indicator	Comparison crane load indicator with load cell

Finding / Recommendation :

1. *Cabin Glass Wiper not Function, Wiper Motor was Broken Shall be Repaired*
2. *Operator Leather Seat was Broken, Should be Repaired*
3. *Boom Angle Degree Display Malfunction, Should be Repaired*
4. *Luff Control Valve for Boom Cylinder Found Leaking, Should be Repaired*
5. *Communication Operational is not Available, to be Provided*

Result: *SERVICEABLE*



Wahyudhi
 Crane Inspector
 Company Approved

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 Facsimile : 0542-8520591

Digitally signed by
 SETIAWAN Iwan
 DN: cn=SETIAWAN
 Iwan, ou=PHM,
 ou=Users, dc=ad,
 dc=phm-pertamina,
 dc=com
 Date: 2022.01.12
 13:48:06 +08'00'

SETIAWAN Iwan
IWAN.S / SETIONO
 Company Representative

