

**AI TAKAMUL COMPANY FOR ENGINEERING TESTS
AND PROFESSIONAL SAFETY LIMITED**

Basra, North Rumaila, Quality Control Yard - Iraq
Tel: +9647810009138 / +9647834964657



Email: OP@qualitycontrol-iraq.com / hany.akafi@qualitycontrol-iraq.com

30 INCH SHEAVE BLOCK ANNUALLY INSPECTION CERTIFICATE

| | | | | |
|---------------------|----------------------------------|--------------------------|-------------------------|--|
| Customer: | HALLIBURTON (WPS) | Date of Inspection: | 17.SEP.2024 | |
| Location: | Burjesia Halliburton Basra -Iraq | Next Date of Inspection: | 16.SEP.2025 | |
| Type Of Inspection: | EXTENDED MAINTENANCE CHECKS | Report No.: | QC-24-SEP-HALL-WPS-005B | |
| Speciation: | API RP 9B / ASTM E709/ASTM E165 | Halliburton Document No: | D01982668, D01026300. | |
| SERIAL NO. | 'SHEAVE-4124 | SAP NO. | 12975058 | |

PROCEDURE

| | |
|--------------------------|---|
| Equipment : | 30 INCH SHEAVE BLOCK ASSEMBLY 30 IN-15/32-CABLE |
| SN: | 'SHEAVE-4124 |
| SAP NO. | 12975058 |
| Ref Standard: | API RP 9B / ASTM E709/ASTM E165 |
| Halliburton Document No: | D01982668, D01026300. |

Sheave Wheels & Pins with The following specification.:

| | |
|-----------------------|-----------|
| QTY: | One |
| Inspection Frequency: | Annually |
| Rated Capacity: | 30000 LBS |
| Wire Rope Diameter: | 15/32" |
| Sheaves Size : | 30 Inch |


Remarks:

Detailed reports are attached detailing all readings and results in -01 of 06- pages.

| | | |
|--|--|---|
| Name of Inspector: NAVEED & SHAZAD | Name of person authenticating this report: | Signature & Stamp: |
| QUALIFICATION: ASNT LEVEL II | RAO SAKHAI | ALI Talib HB48903 Date: 17-09-2024 Signature Halliburton |
| MT & PT& VT & UT | | |



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PROCEDURE

- The Products Have Been Inspected and Found Them Conformable to Relevant

- 01- Wash thoroughly to remove all of the dirt and mud.
- 02- Does not direct high pressure spray onto the face of bearings to prevent water displacing of the grease.
- 03- Make a visual inspection, check for no evidence of corrosion, cracks or fractures on the wheel frame that undermine its operational capabilities or safety. Inspect the cable groove all around the sheave wheel.
- 04- Using the Sheave Gauge and using as reference the Sheave Groove Inspection guidelines D01026300 determine if the groove is in specifications. If worn too much, it will begin to wear the cable unevenly. The sheave should be changed if this is the case.
- 05- Check that the nameplate is intact and legible.
- 06- Rotate sheave freely and crack for wobble. Any excessive play could indicate a worn or damaged bearing. This must be repaired by replacing the sheave wheel, bearing assembly or the shaft.
- 07- Check the operation of the Guard Door (30")
- 08- Rotate clevis swivel to ensure operation.
- 09- Check the bolts and frame for damage.
- 10- Mount – Clevis – Finished- sheave – 30 Inch performed Dye penetrant / Magnetic Particle Inspection. Replace if it fails the dye penetrant / MPI Testing.
- 11- Visually Inspect Locknut, Clevis, Shaft, 30 IN Sheave for any cracks or corrosion or ware.
- 12- Visually inspect shaft- Clevis- Threaded–Sheave–30 IN for cracks, corrosion or bending

INSPECTION RESULT

**** Visual, MPI & DPT was carried out on the available critical areas of the Sheaves & Pins**

and found Accept at the time of inspection


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Detailed reports are attached detailing all readings and results in -01 of 06- pages.

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Depth Measurements of 30 Inch Sheaves Wheel

| SHEAVE DIM: | WIRE ROPE DIA: | ACTUAL GROOVE DEPT. | MIN ALLOWABLE GROOVE DEPT | Result |
|-------------|----------------|---------------------|---------------------------|------------|
| | 11.90mm | 45.73 mm | 15.827 mm | ACCEPTABLE |

Radius Measurements of 30 Inch Sheaves Wheel


| SHEAVE DIM: | WIRE ROPE DIA: | ACTUAL GROOVE RADIUS. | GROOVE RADIUS MINI WORN. | GROOVE RADIUS MINI NEW. | GROOVE RADIUS MAXI. | Result |
|-------------|----------------|-----------------------|--------------------------|-------------------------|---------------------|------------|
| | 11.90mm | 6.431 mm | 6.09 mm | 6.307mm | 6.545mm | ACCEPTABLE |

Remarks:

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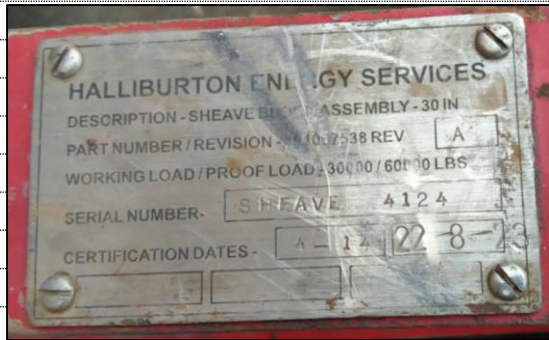


Email: OP@qualitycontrol-iraq.com / hany.akafi@qualitycontrol-iraq.com

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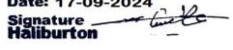


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| QUALIFICATION: ASNT LEVEL II | | ALI Talib HB48903 Date: 17-09-2024 Signature Haliburton |
| MT & PT & VT & UT | | |







| CERTIFICATION OF VISUAL THOROUGH EXAMINATION & DYE PENETRANT INSPECTION | | | | | | | | | | | | | | | |
|--|--|---|--|--|--------------------------|---|---------------------------------|---|--|----------------------|--|--------------------------|--|--------------------|--|
| Client: | | HALLIBURTON WPS | | | Report No: | | WPS-QC-24-SEP-005A | | | | | | | | |
| Location: | | WPS WORKSHOP | | | Job Number: | | 20240917 | | | | | | | | |
| Inspection Date: | | Tuesday, September 17, 2024 | | | Next Inspection Date: | | Tuesday, September 16, 2025 | | | | | | | | |
| Type Of Inspection: | | VISUAL , THOROUGH EXAMINATION & DYE PENETRANT INSPECTION (DPI) | | | Specification: | | ASTM E165, D01982668, D01026300 | | | | | | | | |
|   | | Halliburton Doc | | Halliburton Doc. D01982668 | | | | | | | | | | | |
| | | UNIT DESCRIPTION: | | 30" SHEAVE | | | | | | | | | | | |
| | | UNIT S/N: | | SHEAVE-4124 | | | | | | | | | | | |
| | | SAP NO: | | 12975058 | | | | | | | | | | | |
| | | WORING LOAD | | 30000 LBS | | | | | | | | | | | |
| | | INSPECTION RESULT : | | | | | | | | | | | | | |
| | | VISUAL , THOROUGH EXAMINATION | | Above Item fully inspected and found freedom from deforms, cracks, corrosion & mechanical damage | | | | | | | | | | | |
| DYE PENETRANT INSPECTION (DPI) | | forgn areas inspected and found freedom from cracks and other defects | | | | | | | | | | | | | |
| FINAL RESULTS | | Above Item found satisfactory and free of defects at the time of inspection | | | | | | | | | | | | | |
| TECHNICAL DETAILS | | | | | | | | | | | | | | | |
| TECHNIQUE 2 - TYPE II VISIBLE, METHOD 'A' WATER -WASHABLE | | | | | | | | | | | | | | | |
| PENETRANT DWELL TIME: | | 30 minutes | | DEVELOPER DWELL TIME: | | 15 minutes | | | | | | | | | |
| Test Part Temperature: | | 107 °F | | WHITE LIGHT INTENSITY: | | 3500 LUX | | | | | | | | | |
| EQUIPMENT DETAILS | | | | | PERSONNEL DETAILS | | | REVIEW BY | | | | | | | |
| EQUIPMENT : | | COMPARATOR BLOCK | | EQUIPMENT : | | Digital Lux Meter | | EQUIPMENT : | | INFRARED THERMOMETER | | | | | |
| S.N: | | 11223 | | S.N: | | 2722003 | | S.N: | | 201704125 | | | | | |
| Cal Due Date: | | 16,OCT,2024 | | Cal Due Date: | | 16,OCT,2024 | | Cal Due Date: | | 16,OCT,2024 | | | | | |
| Red Penetrant Manufacture: | | Magnaflux | | Batch No: | | 220511 | | EXPIRE DATE: | | May,2025 | | | | | |
| Developer Manufacture: | | Magnaflux | | Batch No: | | 220302 | | EXPIRE DATE: | | March,2025 | | | | | |
| WATER PRESSURE | | 30 PSI | | PRESSURE GAUGE | | SSR825 | | DUE CAL DATE: | | 16,OCT,2024 | | | | | |
| INSPECTOR NAME: | | RAO SOHAIL | | QUALIFICATION: | | ASNT LEVEL II MT & PT& VT & UT | |  | | SENIOR INSPECTOR: | | NAVEED HUSSAIN | | | |
| SUPERVISOR: | | HANI ALI | | CLIENT: | | ALI Talib HB48903 Date: 17-09-2024 Signature:  Halliburton | | | | | | | | | |
| TEST PART TEMPERATURE: | | 107 °F | | WHITE LIGHT INTENSITY: | | 3500 LUX | | | | | | | | | |
| Original - Client Files | | | | | | | | | | Copy - Area Office | | QC/FN/DPI/NDT/022 Rev.00 | | Dated: 07 Nov 2021 | |



CERTIFICATION OF VISUAL, THOROUGH EXAMINATION & MAGNETIC PARTICLE INSPECTION

| | | | |
|----------------------------|--|------------------------------|-----------------------------|
| Client: | HALLIBURTON WPS | Report No: | WPS-QC-24-SEP-005 |
| Location: | WPS WORKSHOP | Job Number: | 20240917 |
| Inspection Date: | Tuesday, September 17, 2024 | Next Inspection Date: | Tuesday, September 16, 2025 |
| Type Of Inspection: | VISUAL , THOROUGH EXAMINATION & MAGNETIC PARTICLE INSPECTION | Specification: | ASTM E709 , D01026300 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|------------------------|----------------------------|--------------------------|---------------------------|------------------|-------------|----------------|----------|--------------------|-----------|----------------------------|--|--------------------------------------|---|-------------------------------------|--|----------------------|---|
|  | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Halliburton Doc</td> <td>Halliburton Doc. D01982668</td> </tr> <tr> <td>UNIT DESCRIPTION:</td> <td>30" SHEAVE BLOCK ASSEMBLY</td> </tr> <tr> <td>UNIT S/N:</td> <td>SHEAVE-4124</td> </tr> <tr> <td>SAP NO:</td> <td>12975058</td> </tr> <tr> <td>WORING LOAD</td> <td>30000 LBS</td> </tr> <tr> <td colspan="2" style="text-align: center;">INSPECTION RESULT :</td> </tr> <tr> <td style="color: blue;">VISUAL , THOROUGH EXAMINATION</td> <td>unit fully inspected and found free from deforms, cracks, corrosion & mechanical damage forgn areas inspected</td> </tr> <tr> <td style="color: blue;">MAGNETIC PARTICLE INSPECTION</td> <td>and found free from cracks and other defects</td> </tr> <tr> <td style="color: blue;">FINAL RESULTS</td> <td>unit found satisfactory and free of defects at the time of inspection</td> </tr> </table> | Halliburton Doc | Halliburton Doc. D01982668 | UNIT DESCRIPTION: | 30" SHEAVE BLOCK ASSEMBLY | UNIT S/N: | SHEAVE-4124 | SAP NO: | 12975058 | WORING LOAD | 30000 LBS | INSPECTION RESULT : | | VISUAL , THOROUGH EXAMINATION | unit fully inspected and found free from deforms, cracks, corrosion & mechanical damage forgn areas inspected | MAGNETIC PARTICLE INSPECTION | and found free from cracks and other defects | FINAL RESULTS | unit found satisfactory and free of defects at the time of inspection |
| Halliburton Doc | Halliburton Doc. D01982668 | | | | | | | | | | | | | | | | | | |
| UNIT DESCRIPTION: | 30" SHEAVE BLOCK ASSEMBLY | | | | | | | | | | | | | | | | | | |
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| WORING LOAD | 30000 LBS | | | | | | | | | | | | | | | | | | |
| INSPECTION RESULT : | | | | | | | | | | | | | | | | | | | |
| VISUAL , THOROUGH EXAMINATION | unit fully inspected and found free from deforms, cracks, corrosion & mechanical damage forgn areas inspected | | | | | | | | | | | | | | | | | | |
| MAGNETIC PARTICLE INSPECTION | and found free from cracks and other defects | | | | | | | | | | | | | | | | | | |
| FINAL RESULTS | unit found satisfactory and free of defects at the time of inspection | | | | | | | | | | | | | | | | | | |
|  | <p>COMMENT:</p> <p style="text-align: center;">Magnetic Particle Inspection With A/C Hand Yoke , Black & White Contrast (MPI Wet Fluorescent inspection Thread With UltraViolet Light)</p> | | | | | | | | | | | | | | | | | | |

| EQUIPMENT DETAILS | | | | | | PERSON DETAILS | | REVIEW BY | |
|---|--|----------------------|--------------------------------------|----------------------|-----------------------------|--------------------------------------|---|--|--|
| Equipment: | AC-Yoke Test Block | Equipment: | Digital Lux Meter | Equipment: | AC/DC Yoke | INSPECTOR NAME: RAO SOHAIL |  | SENIOR INSPECTOR: | NAVEED HUSSAIN |
| S.No: | 1657 | S.No: | 2722003 | S.No: | 201504052 | | | QUALIFICATION: ASNT LEVEL II MT & PT & VT | SUPERVISOR: |
| Cal Due Date: | 14-Oct-24 | Cal Due Date: | 16-Oct-24 | Cal Due Date: | 14-Oct-24 | STAMP & SIGNATURE: |  | CLIENT: | ALI Talib HB48903 Date: 17-09-2024 Signature Halliburton |
| Black Magnetic Ink Manufacture: | Magnaflux | Batch No: | 220605 | Expiry Date: | JULY,2025 | | | | |
| Whie Contrast Paint Manufacture: | Magnaflux | Batch No: | 220602 | Expiry Date: | JUN,2025 | | | | |
| Technical Details: | Magnetic Partical Concentration | | Method | | WMPT Light Intensity | | | | |
| | 1.2 to 2.4 ml/100 ml | | Wet Magnetic Particle Testing (WMPT) | | 3500 Lux | | | | |

Original - Client Files Copy - Area Office QC/FN/MPI/065 Rev.00 DATED 07 NOV 2021