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| **P&E Description & Location/s Used:** | |  | | --- | | Wireline/Slickline Crane Unit – Asset 2764 | | **Assessment No**: | **20240521** | **Rev:** | 1.0 |
| **Date:** | 21-May-24 | | |
| **References used for this assessment:**  *(Inc. Legal obligations)* | * WHS Act & Regulation 2011 * Managing the Risk of Plant Code of Practice 2021 * WHS Regulation * Generic Site Layout | **Assessment Team**: | J. Hollingworth / M. Auld | | |
| **Company / Dept.:** | Huracan - Reservoir Monitoring | | |
| **Frequency of Activity**: | Daily | | |
| **Persons Affected:** | Wireline/Slickline Crew / Rig Crew | | |

|  |  |  |
| --- | --- | --- |
| **RELEVANT LEGISLATION / STANDARDS & PLANT DOCUMENTATION** | | **COMMENTS** |
| Is plant required to be registered? | Y  N | Crane capacity is less than 10T, pressure vessel is less than 100 Mpa.L. |
| Is a user license required? | Y  N |  |
| Are operator’s manuals accessible? | Y  N | Operations Manual Available with Unit. |
| Is this a restricted use item? | Y  N |  |
| Does this item require safe use documents/test? | Y  N | ESD checks are required prior to operation |
| Does this item require a Plant Maintenance Book? | Y  N | Maintained under Huracan HIRD maintenance schedule |
| Is this item subject to prescribed obligations in relation to weight? | Y  N |  |

| **Hazards Inspected** | | **Risk Description** | **Risk Score** | **Control Measures** | **Person to Apply** | **Person to Monitor** | **Residual Risk** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **ENTANGLEMENT**  Can anyone’s hair, clothing, gloves, cleaning brushes, tools, rags or other materials become entangled with moving parts of the plant or materials? | Y  N | Serious injury can occur if entanglement occurs in chain / sprocket or rotating drum. | **Low (C4)** | Guards placed so that no access is available to chain / sprocket and air motor during operation. | Wireline/Slickline Crew | Huracan Wellsite Supervisor | **Low (E1)** |
| **IMPACT AND CUTTING INJURIES -** Can anyone be crushed / cut / struck etc. due to: | | | | | | | |
| Material falling off the plant? | Y  N | Primary function of crane is for rigging of wireline/slickline equipment | **HIGH (B4)** | Drops inspection required as per HSE\_LP-DROPs Inspection Reg.-VX.X. >2m Exclusion Zone for non-essential personnel during operation. | Wireline/Slickline Crew | Huracan Wellsite Supervisor | **Medium (D4)** |
| Uncontrolled / unexpected movement of plant/load? | Y  N |  |  |  |  |  |  |
| Lack of capacity to slow, stop or immobilise plant? | Y  N |  |  |  |  |  |  |
| The plant tipping or rolling over? | Y  N | Plant tipping due to crane operation | **Ext (B5)** | Crane maintenance. Load lock-out system on crane. Daily Checklist. Experienced Personnel. | Wireline Crew | Huracan Wellsite Supervisor | **Med (E5)** |
| Parts of the plant disintegrating or collapsing? | Y  N |  |  |  |  |  |  |
| Contact with moving parts during testing, inspection, operation, maintenance, cleaning or repair? | Y  N | Injury to person from loose items | **Med (B2)** | Equipment is fitted with lockable isolation switch.  Competent maintenance personnel only.  No loose items of clothing while maintaining Chain / Sprocket or air motor. | Maintenance Personnel | Maintenance personnel / Operator to ensure guards are in place | **Low (E2)** |
| Being thrown off / under the plant? | Y  N |  |  |  |  |  |  |
| Contact with sharp or flying objects? (e.g. work pieces being ejected) | Y  N |  |  |  |  |  |  |
| The mobility of the plant? | Y  N | Injury to person from plant movement | **Med**  **(C4)** | Personnal are to not be on equipment when plant is being relocated from one well to another | Wireline/Slickline Crew | Huracan Wellsite Supervisor | **Low (E4)** |
| Inappropriate parts and accessories being used? | Y  N |  |  |  |  |  |  |
| Other | Y  N |  |  |  |  |  |  |
| **SHEARING**  Can anyone’s body parts be sheared between two parts of plant, or between a part of the plant and a work piece or structure? | Y  N | Serious injury to personnel operating equipment | **Med (C4)** | Guards installed to cover drum access.  Guard installed over chain and sprocket  Competent personnel operating machinery | Wireline/Slickline Crew | Huracan Wellsite Supervisor | **Neg (E1)** |
| **PRESSURISED CONTENT**  Can anyone come into contact with fluids or gases under high pressure, due to plant failure or misuse of the plant? | Y  N | Injury to personnel from Hydraulic Failure | **Med (C3)** | Routine maintenance, daily checklist, test wireline winch hydraulic lines prior to use. | Wireline/Slickline Crew | Huracan Wellsite Supervisor | **Low (D3)** |
| **ELECTRICITY** - Can anyone be injured or burnt due to: | | | | | | | |
| Live electrical conductors? *(e.g. exposed wires)* | Y  N |  |  |  |  |  |  |
| Working in close proximity to electrical conductors? | Y  N |  |  |  |  |  |  |
| Access to electricity? | Y  N | 240V AC Power in Unit | **High (B4)** | Electrical equipment with exposed wires contained within distribution panel.  Only qualified electricians are authorised to work on electrical systems. Warning signs on switchboard panels. | Electrican | Huracan Management | **Med (D4)** |
| Damaged or poorly maintained electrical leads, cables or switches? | Y  N | Electrocution | **Med (B3)** | Equipment tested and tagged within test period prescribed by AS3760.  Equipment inspected by a qualifed electrician or trained test and tag inspector. | Electrician or Qualified Test & Tagger | Huracan Management | **Low (D3)** |
| Water near electrical equipment? | Y  N |  |  |  |  |  |  |
| Lack of isolation procedures? | Y  N |  |  |  |  |  |  |
| Other | Y  N |  |  |  |  |  |  |
| **ERGONOMICS -** Can anyone be injured due to: | | | | | | | |
| Poorly designed workstation? | Y  N |  |  |  |  |  |  |
| Repetitive body movement? | Y  N |  |  |  |  |  |  |
| Constrained body posture or the need for excessive effort? | Y  N |  |  |  |  |  |  |
| Design deficiency causing psychological stress? | Y  N |  |  |  |  |  |  |
| Inadequate or poorly placed lighting? | Y  N | Potential risk during rigless operations to have inadequate lighting | **Med (C4)** | Operations only during daylight hours unless adequate lighting is available. | Huracan Wellsite Supervisor | Huracan Wellsite Supervisor | **Low (E3)** |
| Does the plant impact on the surrounding workplace and create potential hazards? (Consider safe access and egress from plant, workflow and design of the workplace) | Y  N | Injury to personnel from cable breaking while under tension. | **Low (C2)** | 1 -Exclusion zone between the unit and the rig during installation  2 -Calibrated tension device is available to monitor cable tension. | Operator | Operator | **Neg (E2)** |
| Is the location of the plant inappropriate? (Consider potential affects due to environmental conditions and terrain) | Y  N |  |  |  |  |  |  |
| Other | Y  N |  |  |  |  |  |  |
| **RADIATION**  Can anyone using the plant, or in the vicinity of the Plant suffer injury or illness due to exposure to radiation in the form of any of the following:   * infra-red radiation * ultra violet light * microwaves | Y  N |  |  |  |  |  |  |
| **NOISE**  Can anyone using the plant, or in the vicinity of the plant, suffer injury due to exposure to noise? | Y  N |  |  |  |  |  |  |
| **VIBRATION**  Can anyone be injured or suffer ill-health from exposure to vibration? | Y  N |  |  |  |  |  |  |
| **FRICTION**  Can anyone be burnt due to contact with moving parts, materials or surfaces of the plant? | Y  N | Injury to personnel from rotating equipment | Low (C2) | Winch drum guards installed to prevent injury. | Maintenance Personnel | Huracan Wellsite Supervisor | Neg (E2) |
| **SUFFOCATION**  Can anyone be suffocated due to lack of oxygen, or atmospheric contamination? | Y  N |  |  |  |  |  |  |
| **CONDITION**  Is a hazard likely due to the age and condition of the plant? (*Consider how hard the machine has been worked, and whether it is used constantly or rarely).* | Y  N |  |  |  |  |  |  |
| Can anyone be injured as a result of the plant not serviced appropriately and / or maintained in line with manufacturer’s recommendations? | Y  N | Personal Injury | **Med (C4)** | Regular Maintenace required on Truck, Wireline Unit and Crane | Maintenance Personnel | Huracan Management | **Med (D4)** |
| **SLIPS / TRIPS / FALLS -** Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to: | | | | | | | |
| Uneven, slippery or steep work surfaces? | Y  N | Injury (slips / falls) adverse terrain on lease as equipment is operated from the ground | **Med (A1)** | Spot Unit on level ground and perform hazard ID around work area for trip hazards | Operator | Huracan Wellsite Supervisor | **Neg (D1)** |
| Poor housekeeping, e.g. spillage in the vicinity? | Y  N | Trip and personal injury due to poor housekeeping. | **Med (B3)** | Good housekeeping during unit pre-start and ongoing operations | Operator | Huracan Wellsite Supervisor | **Neg (D3)** |
| Obstacles being placed in the vicinity of the plant? | Y  N | Personnal Injury from wellsite obstacles such as process equipment | **Med (A1)** | Remove obstacles when possible and provide exclusion zones to reduce the probability of injury to personnel. | Operator | Huracan Wellsite Supervisor | **Low (C1)** |
| Inappropriate or poorly maintained floor or walking surfaces (i.e. lack of a slip-resistant surface, unprotected holes, penetrations or gaps?) | Y  N |  |  |  |  |  |  |
| Use of work platforms, stairs or ladders? | Y  N | Injury from slip or fall during ascent or descent | **Med (C3)** | Personnel training and three points of contact. Pinned hand rails and kick rails for walkways. | All personnel | All Personnel | **Low (D3)** |
| Lack of guardrails or other suitable edge protection? | Y  N |  |  |  |  |  |  |
| Other | Y  N |  |  |  |  |  |  |
| **FIRE AND EXPLOSION**  Can anyone be injured by fire? | Y  N |  |  |  |  |  |  |
| Can anyone be injured by explosion of gases, vapours, liquids, dusts, or other substances? | Y  N |  |  |  |  |  |  |
| **TEMPERATURE / MOISTURE**  Can anyone come into contact with objects athigh or low temperatures? | Y  N | Injury from contact with hot surfaces. | **Med (B2)** | High-temperature equipment is contained within the exclusion zone, and exhaust is covered with heat-resistant material to prevent injury. | All personnel | All Personnel | Low (D2) |
| Can anyone suffer ill-health due to exposure to high or low temperatures? | Y  N |  |  |  |  |  |  |
| Can anyone be injured or suffer ill-health due to exposure to moisture? | Y  N |  |  |  |  |  |  |
| **OTHER -** Can anyone be injured or suffer ill-health from exposure to: | | | | | | | |
| Chemicals? | Y  N |  |  |  |  |  |  |
| Toxic gases or vapours? | Y  N |  |  |  |  |  |  |
| Fumes / Dusts? | Y  N |  |  |  |  |  |  |
| Other? (please specify) | Y  N |  |  |  |  |  |  |
| **HUMAN MACHINE INTERFACE (HMI)** – Can anyone be injured from: | | | | | | | |
| Can the equipment perform a cycle of movement with one touch button? | Y  N |  |  |  |  |  |  |
| Is there any opportunity for the joy stick / lever to fail “on”? | Y  N | Damage to cable from back spooling | **Low (B1)** | *Shut-down method after joystick/lever failure:* **ESD operation.** | Operator | Operator | **Neg (D1)** |
| Operator of the equipment has full view of equipment movement? | Y  N |  |  | *If not, demonstrate exclusion zone integrity prior to movement:* |  |  |  |
| Are exclusion zones required? | Y  N | Injury to personnel from wireline while under tension. | **Low (C2)** | *How are exclusion zones implemented?*   * **Crew to set >2m physical exclusion zone between rig or wellhead and unit during operation.**   *Can anyone be within exclusion zone without equipment isolated?*   * **Operator allowed within exclusion zone to operate equipment use remote panel while using.** | Operator | Operator | **Neg (E2)** |
| Does this equipment require isolating i.e. for maintenance, shut-down etc. | Y  N | Injury if entanglement occurs while guards are off during maintenance | **Med (C4)** | *How is equipment isolated?*   * **Equipment has a lockable isolator to stop the unit operation.** | Maintenance Personnel | Maintenance Personnel | **Neg (E1)** |
| If appropriate, is an ESD fitted? | Y  N | Injury to personnel and damage to equipment | **Med (B3)** | *Test E-ESD, is fitteed and clearly identified?* | Maintenance Personnel | Equipment operator | **Med (C3)** |

**NOTE:** Using the Risk Matrix below, identify the Consequence & Probability of each risk occurring and enter the risk score in the Inherent column. Review the consequence, probability and risk score after appropriate controls have been agreed upon. Remember, the consequence does not change unless you eliminate the hazard, only the probability may change!

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| A picture containing container  Description automatically generated | |  | **Consequence** | | | | | | |
| **HEALTH AND SAFETY** | First Aid Injury (FAI) | Medical Treatment (MTI) | | Lost time Injury (LTI) | Permanent Disability / Fatality | | Fatalities (multiple) |
| **FINANCIAL IMPACT** | < $20K | $20K - $200K | | $200K - $2M | $2M - $20M | | $20M+ |
| **REPUTATION** | Minimal impact on business reputation, land holder only | Some impact on business reputation, local community exposure | | Moderate impact on business reputation, local media exposure | Significant impact on business reputation, national media exposure | | Critical impact on reputation, international media exposure |
| **ENVIRO.** | Incident. No breach of regulations / EA. Minimal and short term impact to any local environment. | Minor breach of regulations / EA resulting in notification to regulator.  Localised, short term, recoverable minor impact on flora and fauna | | Serious breach of regulations / EA resulting in reporting to regulator, investigation, environment notice or fines. Significant localised but short term environmental impact | Major breach of legislation resulting in prosecution or litigation and regulatory intervention.  Serious and long term ecological impact and environmental harm.  Emergency Management activated. | | Significant compliance breach resulting in prosecution / class action or loss of licence. Severe environmental harm with widespread or permanent Impact Crisis Management activated. |
|  |  |  | **1. Insignificant** | **2. Minor** | | **3. Moderate** | **4. Major** | | **5. Catastrophic** |
| **Likelihood** | A common event that is likely to occur in the industry many times per year | **A. Highly Likely** | **Medium  (A1)** | **Medium  (A2)** | | **High  (A3)** | **Extreme  (A4)** | | **Extreme  (A5)** |
| An event likely to occur more than once a year in the industry | **B. Likely** | **Low  (B1)** | **Medium  (B2)** | | **Medium  (B3)** | **High  (B4)** | | **Extreme  (B5)** |
| An event that may occur in the industry over 10 years | **C. Possible** | **Low  (C1)** | **Low  (C2)** | | **Medium  (C3)** | **Medium  (C4)** | | **High  (C5)** |
| An event not likely to occur in the industry over 10 years | **D. Unlikely** | **Negligible  (D1)** | **Low  (D2)** | | **Low  (D3)** | **Medium  (D4)** | | **Medium  (D5)** |
| An event that has not previously been experienced in the industry but may occur in exceptional circumstances | **E. Remote** | **Negligible  (E1)** | **Negligible  (E2)** | | **Low  (E3)** | **Low  (E4)** | | **Medium  (E5)** |
|  |  | | | | | | | | |
|  | **Hierarchy of Controls** | | **Level 1 – Eliminate the Hazard** | | **Level 2 – Substitute, Isolate & Engineer** | | | **Level 3 - Admin & PPE Controls** | |
|  |  | | | | | | | | |
|  | **Reporting Requirements** | | **Report Only – All Negligible Classifications** | | **Investigate – All Low to Medium** | | | **TapRoot – High or above, or any Hi-Po** | |