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| connellylogo | Yes No **Job Safety Analysis Worksheet** |  |

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| **Contractor:** | Connelly & Associates, INC. |  | **Date:** | **6/20/13** |  | **Job Number:** |  |
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| **Team Name:** |  |  |  |  |  **Job Name:** |  |
|  |  |  |  |  |  |  |
| **Team leader:** |  |  | **JSA team members:** | **Name** | **Initials** | **Name** | **Initials** |
|  |  |  |
| Description of work: | Air Hammer Drilling/Air Compressor |  |  |  |  |  |
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| ActivityList the tasks required to perform the activity in the sequence they are carried out. | HazardsAgainst each task list the hazards that could cause injury when the task is performed. | Risk control measuresList the control measures required to eliminate or minimize the risk of injury arising from the identified hazard. | Who is responsible?Write the name of the person responsible (supervisor or above) to implement the control measure identified. |
| **1.MOBILIZATION TO SITE** | DRIVING ACCIDENTS | ALL VEHICLES TO COMPLY WITH CONNELLY DRIVING SAFETY STANDARDS | DRILLER / HELPER |
|  |  | VEHICLE TO BE FIT FOR PURPOSE AND WELL MAINTAINED. | DRILLER / HELPER |
|  |  | LOADS TO BE SECURE AND NOT TO EXCEED VEHICLE SPECIFICATIONS OR LEGAL LIMTS. | DRILLER / HELPER |
|  |  | DRIVER TO BE LICENCED, TRAINED AND MEDICALLY FIT | DRILLER / HELPER |
|  |  | DRIVER TO BE RESTED AND ALERT | DRILLER / HELPER |
|  |  | MOBILE PHONE OR TWO-WAY RADIO TURNED OFF WHILE DRIVING | DRILLER / HELPER |
|  |  | PLAN YOUR ROUTE AHEAD OF TIME - reference RM Journey Assessment | DRILLER / HELPER |
|  |  | DRIVER NOT BE UNDER THE INFLUENCE OF ALCOHOL, DRUGS OR MEDICATION THAT IMPAIRS ABILITY TO DRIVE VEHICLE. | DRILLER /HELPER |
| **2.SET UP WORK SITE** | AUTO / PUBLIC TRAFFIC | NOTIFY ATTENDANT OR SITE MANAGER / OWNER OF WORK ACTIVITIES AND LOCATION. |  |
|  |  | WORK LOCATION TO BE BARRICADED OFF; VEHICLE AND PEDISTRIAN TRAFFIC MANAGEMENT PLAN AS REQUIRED | DRILLER / Consultant |
| **3.SET UP WORK SITE (Cont’d)** | AUTO / PUBLIC TRAFFIC (Cont’d) | HIGH VISIBLE CLOTHING, STEEL CAP BOOTS, LONG SLEEVES/PANTS/ HARD HAT / SAFETY GLASSES TO BE WORN AT ALL TIMES WHILE INOPERATIONAL AREAS | DRILLER / Consultant |
|  |  | INSPECT AREA AROUND VEHICLE PRIOR TO PUTTING VEHICLE IN MOTION AND USE SPOTTER | DRILLER / HELPER |
|  | UNEVEN OR UNSTABLE GROUND | Visually examine site prior to entry.Place timbers under outriggers to spread load. | Driller |
|  | UNEVEN OR UNSTABLE GROUND | Visually examine site prior to entry.Place timbers under outriggers to spread load. | Driller |
|  |  | electrical spotter to be employed when working within 3 – 6.4 m (10 TO 20 FEET) of OHE lines; power company permit also required | CONSULTANT |
|  | UNDERGROUND SERVICES | UNDERGROUND SERVICES TO BE LOCATED PRIOR TO BREAKING GROUND BY QUALIFIED SERVICE LOCATOR | CONSULTANT / SERVICE LOCATOR / DRILLER |
| **4.AIR HAMMER DRILLING** | IGNITION SOURCES / FIRE & EXPLOSION | ENSURE AIR COMPRESSOR PROPERLY OPERATING AND MAINTAINED.  | CONTRACTOR / DRILLER / CONSULTANT |
|  |  | APPLY WATER AS NECESSARY TO ADDRESS DUST CONTROL ISSUES | CONTRACTOR / DRILLER / CONSULTANT |
|  |  | AREA TO BE DEEMED FREE OF EXPOLSIVE CONDITIONS PRIOR TO WORK | CONSULTANT / DRILLER |
|  |  | ENSURE AREA IS WETTED AT ALL TIMES, INCLUDING BIT | CONSULTANT / DRILLER |
|  | AIR HOSES | all air lines are secure and whip checks are in place | CONTRACTOR / DRILLER / CONSULTANT |
|  |  | INSPECT ALL HAND TOOLS PRIOR TO USE. IF FAULTY OR INAPPROPRIATE, DO NOT USE UNTIL REPAIRED OR REPLACED | DRILLER |
|  | MOVING / ROTATING EQUIPMENT | ALL APPROPRIATE GUARDING TO BE INPLACE PRIOR TO USE | DRILLER |
|  |  | SET-UP ADEQUATE EXCLUSION ZONE – ONLY TRAINED, INDUCTED AND AUTHORIZED PERSONNEL WITHIN THIS AREA  | DRILLER |
|  | MOVING / ROTATING EQUIPMENT (Cont’d) | STAY CLEAR OF ROTATING EQUIpMENT – NO HANDS, FEET OR ANY BODY PART TO BE NEAR ROTATING EQUIPMENT.  | DRILLER |
|  |  | uSE LONG HANDLED SHOVEL TO CLEAR SOIL AND DEBRIS AWAY FROM HOLE | DRILLER |
|  |  | WEAR APPROPRIATE PPE INCLUDING LEATHER GLOVES, STEEL CAPPED BOOTS, HARD HAT, AND SAFETY GLASSES. FULL LENGTH OVERALLS OR LONG SLEEVE SHIRT AND LONG PANTS - NO LOOSE CLOTHING, Fire retardent clothing (FRC) WHEN APPROPRIATE. | DRILLER |
|  | HEARING DAMAGE FROM HIGH NOISE LEVELS | USE HEARING PROTECTION (EAR MUFFS OR EAR PLUGS) IF NOISE > 85 Db | DRILLER |
|  | VAPOURS AND AIRBORNE PARTCULATES | MONITOR AIR CONCENTRATIONS USING PHOTO-IONIZATION DETECTOR, LEL METER etc | CONSULTANT |
|  |  | STOP WORK IF HAZARDOUS CONDITIONS IDENTIFIED (EXPLOSIVE ATMOSHPERE, O2 DEFICIENT OR ENRICHED ATMOSPHERE) – REASSESS AND TAKE THE NECESSARY PRECAUTIONS. | DRILLER / CONSULTANT |
|  |  | WEAR APPROPRIATE PPE INCLUDING FACE SHIELD / SAFETY GLASSES, DUST MASKS OR RESPIRATORS, LONG SLEEVE SHIRTS AND PANTS, FRC WHEN APPROPRIATE. | DRILLER / CONSULTANT |
|  | SLIP, TRIP & FALL | KEEP WORK AREA TIDY AND CLEAN – INCLUING THE REMOVAL OF EXCESS CUTTINGS. | DRILLER / CONSULATANT |
|  | SLIP, TRIP & FALL (Cont’d) | STAY AWARE OF FOOTING AND DO NOT RUN | DRILLER / CONSULATANT |
|  | HEAT / COLD STRESS | TAKE REGULAR BREAKS ON HOT DAYS OR IF FEELING FAINT OR OVEREXERTED | DRILLER / CONSULATANT |
|  |  | CONSUME ADEQUATE FOOD / BEVERAGES (WATER / SPORTS DRINK) | DRILLER / CONSULATANT |
|  |  | IF POSSIBLE, ADJUST WORK SCHEDULE TO AVOID TEMPERATURE EXTREMES | DRILLER / CONSULATANT |
|  | BIOLOGICAL HAZARDS: INSECTS, SNAKES, WILDLIFE, VEGETATION | CAREFULLY INSPECT WORK AREA DURING SITE INSPECTION TO IDENTIFY HAZARDS | DRILLER / CONSULATANT |
|  |  | USE INSECT REPELLANT  | DRILLER / CONSULATANT |
|  |  | OPEN ENCLOSURES SLOWLY  | DRILLER / CONSULATANT |
|  |  | SURVEY SITE FOR PRESENCE OF BIOLOGICAL HAZARDS AND MAINTAIN SAFE DISTANCE | DRILLER / CONSULATANT |
|  |  | WEAR APPROPRIATE PPE INCLUDING LEATHER GLOVES, LONG SLEEVES AND PANTS AND SNAKE CHAPS AS REQUIRED | DRILLER / CONSULATANT |
|  | UNDERGROUND SERVICES | PROFESSIONAL CABLE LOCATOR TO LOCATE AND IDENTIFY ALL SERVICES IN POTENTIAL DRILLING AREA. | CONSULTANT |
|  | WORKING AT HEIGHTS | NO WORK TO BE CONDUCTED ON RIG AT HEIGHTS GREATER THAN 2M (6 FEET) WITHOUT FALL RESTRAINT / ARREST SAFETY EQUIPMENT. | DRILLER / CONSULTANT |
|  | UV EXPOSURE | WEAR CORRECT PPE (NECK TO TOE CLOTHING & SUNBLOCK) | DRILLER & DRILLER’S OFFSIDER |
|  | WIND BLOWN DUST | MINIMIZE DUST FROM DRILLING BY USE OF COVERS / SHIELDS OR WATER WHEN POSSIBLE. WEAR PROTECTIVE GLASSES OR GOGGLES AS REQUIRED. | DRILLER / CONSULTANT |
|  | LEAKAGE OF FUEL OIL AND HYDRAULIC FLUID | HAVE READY ACCESS TO SPILL ABSORBENT MATERIALS TO SOAK UP ANY SPILLED HYDRCARBONS | DRILLER / CONSULTANT |
|  | LIFTING HEAVY EQUIPMENT | DO NOT LIFT OR MOVE HEAVY EQUIPMENT WITHOUT ASSISTANCE | DRILLER |
|  |  | USE PROPER BENDING / LIFTING TECHNIQUES BY LIFTING WITH ARMS AND LEGS AND NOT WITH BACK. KEEP BACK STRAIGHT WHILE LIFTING | DRILLER / OFF-SIDER |
|  |  | TAKE BREAKS IF FEELING FAINT OR OVER EXERTED | DRILLER / OFF-SIDER |
|  |  | ALL WORK TO CEASE WHEN FUEL DELIVERING TANKER IS ON SITE. WORK CAN ONLY COMMENCE 15 MINUTES AFTER TANKER HAS LEFT SITE AND SITE IS AGAIN FREE OF EXPOLSIVE CONDITIONS | DRILLER / CONSULTANT |
|  | MUSCLE STRAIN INJURY | Use correct manual lifting methods.Wear correct PPE. | Driller’s offsider |
|  | ENTANGLEMENT WITH ROTATING DRILLING RODS AND ASSOCIATED EQUIPMENT | STAND CLEAR OF ROTATING EQUIPMENT.NO LOOSE CLOTHING TO BE WORN.DRILLER TO MANAGE SAMPLING. | DRILLER / CONSULTANT |
|  | HANDLING CONTAMINATED MATERIALS / SOILS / GROUNDWATER | WEAR APPROPRIATE PPE INCLUDING NITRILE GLOVES, SAFETY GLASSES AND NECK TO TOE CLOTHING. | DRILLER / CONSULTANT |
|  | VAPOURS (Cont’d) | WORK UPWIND OF SAMPLING AREA IF POSSIBLE | DRILLER / CONSULTANT |
| **5.ANY CHEMICAL USE**  | INJURY OR ADVERSE EFFECTS FROM CHEMICAL EXPOSURE | ALL CHEMICALS TO BE PROPERLY STORED & LABELLED | DRILLER / CONSULTANT |
|  |  | CURRENT MSDS TO BE AVAILABLE FOR EACH CHEMICAL ON-SITE | DRILLER / CONSULTANT |
|  |  | EMPLOYEES TRAINED ON CHEMICAL HANDLING | DRILLER / CONSULTANT |
|  |  | APPROPRIATE PPE FOR HANDLING CHEMICALS | DRILLER / CONSULTANT |
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