

TRANSOCEAN OFFSHORE DEEPWATER DRILLING INC.

Houston, Texas Engineering and Technical Support

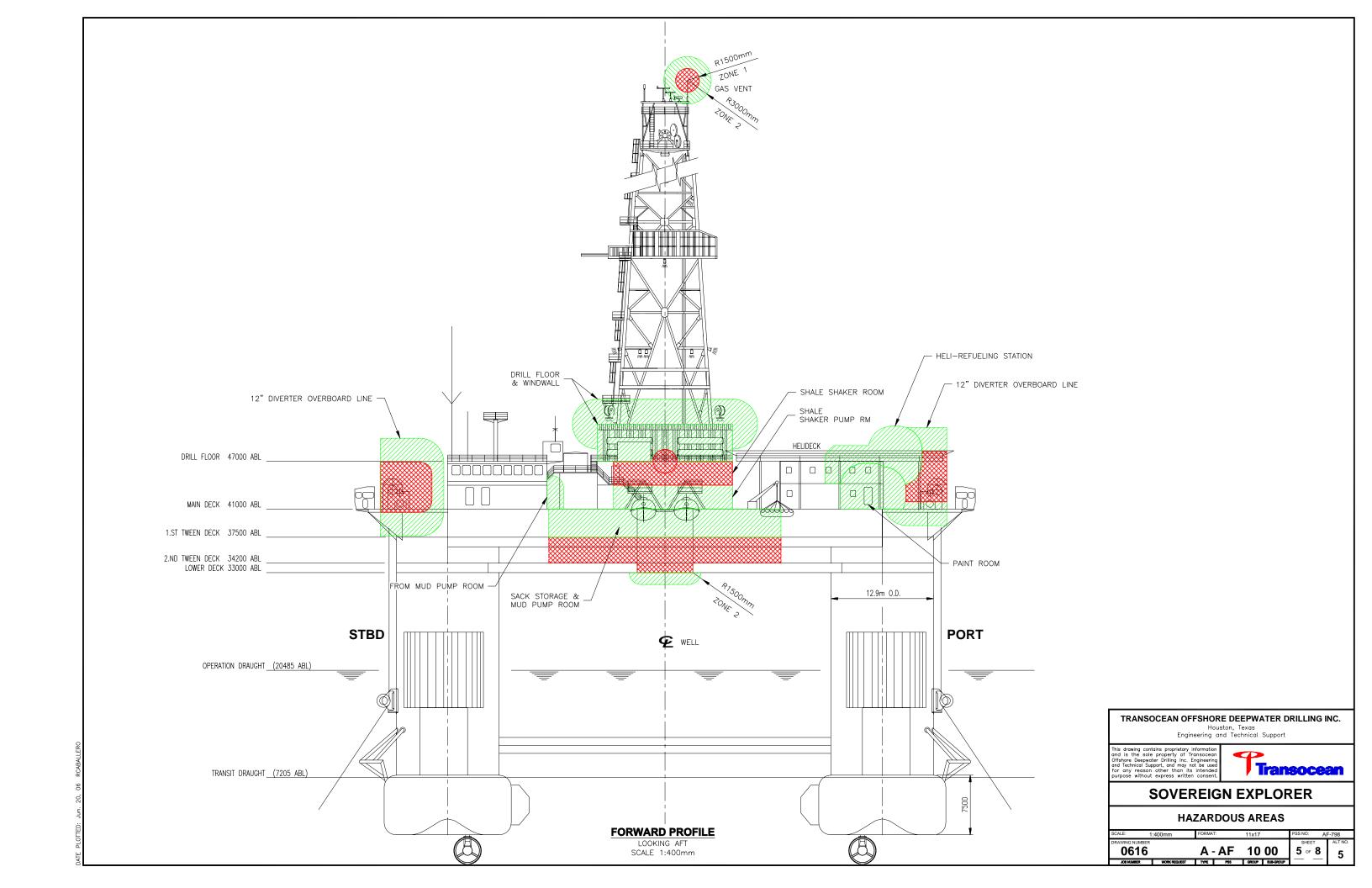
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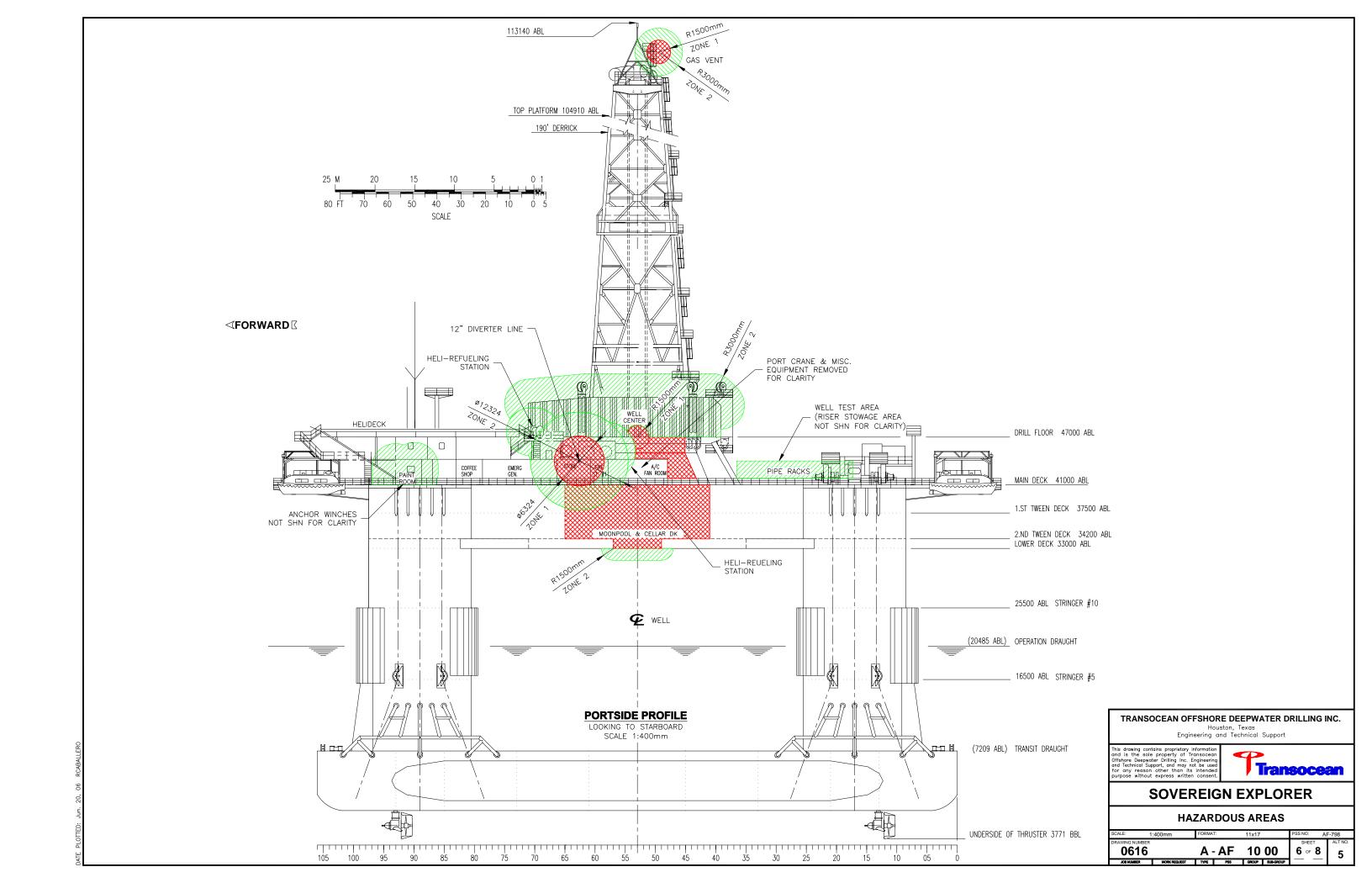


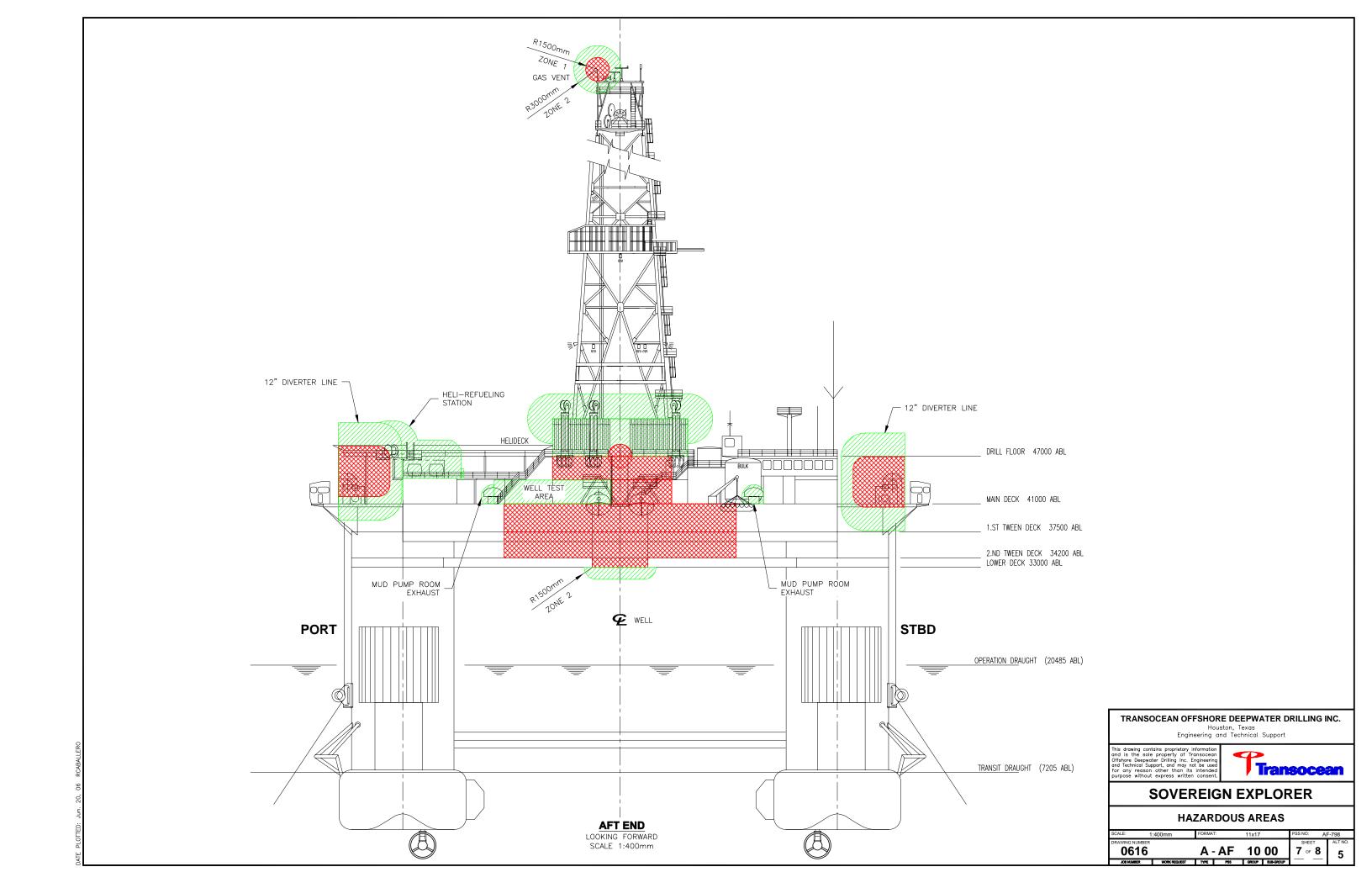
## **SOVEREIGN EXPLORER**

## HAZARDOUS AREAS

SCALE:	1:400mm	FORMAT:	11x17	PSS NO: AI	F-798
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## **GENERAL INSTRUCTIONS:**

1) FOREWORD

THE DRAWINGS COMPLY WITH THE 1991 EDITION OF THE "DET NORSKE VERITAS RULES FOR THE CONSTRUCTION & CLASSIFICATION OF MOBILE OFFSHORE UNITS"

- 2) PRESSURIZED AREAS & ALARMS
- 2.1) UNCLASSIFIED AREAS ARE POSITIVELY PRESSURIZED WITH RESPECT TO AMBIENT AND INDICATED ON THE DRAWINGS BY THE CIRCLED + SIGN.
- 2.2) ZONE 1 AREAS ARE NEGATIVELY PRESSURIZED WITH RESPECT TO AMBIENT AND INDICATED ON THE DRAWINGS BY THE CIRCLED - SIGN.
- 2.3) DIFFERENTIAL PRESSURE ALARMS, AS REQUIRED BY THE RELEVANT REGULATIONS, ARE FITTED SO AS TO ALARM LOSS OF DIFFERENTIAL PRESSURE LOSS OF DIFFERENTIAL PRESSURE IS ALARMED IN THE CONTROL ROOM AND AT THE DRILLERS CONSOLE - PROCEDURES FOR OPERATION IN THE EVENT OF SUCH A LOSS IN DIFFERENTIAL PRESSURIZATION ARE SET OUT IN THE "EMERGENCY PROCEDURES MANUAL" FOR THE RIG
- 2.4) IN POSITIVE PRESSURE AREAS THE SUPPLY AND EXHAUST FAN CONTROLS ARE INTERLOCKED SO THAT THE SUPPLY FAN MUST START BEFORE THE EXHAUST FAN IS ENERGIZED AND SO THAT THE SUPPLY FAN MAY NORMALLY RUN INDEPENDENTLY.

IN AREAS WHERE MULTIPLE SUPPLY AND EXHAUST FANS ARE LOCATED (SUCH AS THE SWITCHGEAR ROOM AND ENGINE ROOM) THE SEQUENCE OF OPERATION IS SUCH THAT POSITIVE PRESSURE IS MAINTENED AT ALL TIMES.

IN A NEGATIVE PRESSURE AREA NATURAL SUPPLY INTAKES EQUIPPED WITH FAILSAFE/AUTOMATIC DAMPERS ARE INSTALLED. MECHANICAL EXHAUST FANS PROVIDE NEGATIVÉ PRESSURE.

- 2.5) VARIOUS DC MOTORS LOCATED IN ZONE 2 AREAS ARE PROVIDED WITH POSITIVE PRESSURE VENTILATION BY MEANS OF A VENTILATION DUCT SYSTEM FROM A NON-HAZARDOUS AREA. LOSS OF VENTILIATION TO THESE MOTORS IS ALARMED AT THE DRILLERS CONSOLE.
- 2.6) ALL BATTERIES ARE SEALED UNITS CONTAINED WITHIN EXPLOSION PROOF BOXES, EXCEPT FOR LIFEBOATS AND EMERGENCY GENERATOR START
- 2.7) GAS SENSORS ARE FITTED TO THE VENTILATION INTAKES OF ACCOMODATION SPACES

NORMALLY MANNED WORK SPACES

AND SUCH OTHER AREAS AS REQUIRED BY THE RELEVANT REGULATIONS. THESE ARE ALARMED AT THE CONTROL ROOM WHICH IS "THE NORMALLY MANNED CONTROL STATION" SET OUT IN THE SAID REGULATIONS. EMERGENCY PROCEDURES FOR THE ACTIONS TO BE TAKEN IN THE EVENT OF GAS DETECTION ARE SET OUT IN THE

SOVEREIGN EXPLORER EMERGENCY PROCEDURES MANUAL.

- 2.8) ALTHOUGH THE PAINT ROOM IS CLASSIFIED AS ZONE 2, ALL ELECTRICAL EQUIPMENT INSTALLED INSIDE IT SHALL BE SUITABLE FOR ZONE 1, TEMP. GROUP T3, GAS GROUP **II**B. ACCORDING TO DNV-OS-D201 JAN 2005.
- 2.9) ALTHOUGH THE BATTERY BOXES ARE CLASSIFIED AS ZONE 2, ALL ELECTRICAL EQUIPMENT INSTALLED INSIDE IT SHALL BE SUITABLE FOR ZONE 1, TEMP. GROUP T1, GAS GROUP IIC. ACCORDING TO DNV-OS-D201 JAN 2005.

- 3) AREA CLASSIFICATION
- 3.1) ALL BULKHEADS ENCLOSING A HAZARDOUS AREA ARE GASTIGHT THIS INCLUDES PIPE AND CABLE PENETRATIONS WHICH WILL ADDITIONALLY COMPLY WITH THE "FIRE RATING" FOR THE BULKHEAD IN WHICH THEY ARE LOCATED.
- 3.2) ALL DOORS TO HAZARDOUS AREAS (OR AREAS WHERE A DIFFERENTIAL PRESSURE IS TO BE MAINTAINED) ARE FITTED WITH SELF CLOSING DEVICES. ADDITIONALLY ALL DOORS TO HAZARDOUS AREAS ARE MARKED "HAZARDOUS AREA" IN RED LETTERS 50 MM HIGH.

ANY DOOR BETWEEN AREAS OF DIFFERENT PRESSURES OPEN INTO THE AREA OF HIGHEST PRESSURE SUCH THAT THE DIFFERENTIAL PRESSURE ASSISTS THE DOOR CLOSING DEVICE IN CLOSING THE DOOR THUS MAINTAINING THE DIFFERENTIAL PRESSURE.

- 3.3) A ZONE 1 AREAS EXTENDS FOR 1.52 M RADIUS IN ALL DIRECTIONS AROUND ANY EXHAUST OUTLET ACCESS OR OPENING FROM A ZONE 1 AREA; A ZONE 2 AREA EXTENDS FOR A FURTHER 1.52 M BEYOND THE STATED ZONE 1 AREA. A ZONE 2 AREA EXTENDS FOR 1.52 M RADIUS IN ALL DIRECTIONS AROUND ANY EXHAUST OUTLET, ACCESS OR OPENING TO A ZONE 2 AREA.
- 3.4) THE AREA WITHIN 3.05 M OF ANY ACCESS TO A ZONE 1 EVEN THOUGH NOT CLASSIFIED AS A HAZARDOUS AREA, IS TO BE UNOFFICIALLY TREATED AS SUCH AND ELECTRICAL EQUIPMENT LOCATED IN SAME IS TO BE RATED FOR SERVICE IN ZONE 2 AREAS. MINIMUM.

IT IS NOTED THAT ALL EQUIPMENT PREVIOUSLY INSTALLED IN THE ABOVE NOTED AREAS IS SUITABLE FOR UTILISATION IN FORMER CLASS 1 DIVISION 2 AREAS AND SHALL NOT BE REMOVED OR MODIFIED. ANY MODIFICATIONS OR ADDITION OF ELECTRICAL EQUIPMENT IN THESE SPACES SHOULD BE SUBJECT TO APPROVAL BY THE CERTIFYING AUTHORITY.

- 3.5) THE SUBSTRUCTURE AREA, AS BOUNDED BY THE ENCLOSURE FOR SAME, IS CLASSIFIED AS A ZONE 2 "INCREASED HAZARDOUS AREA" ANY ADDITIONAL, REMOVAL OR MODIFICATION TO ELECTRICAL EQUIPMENT OR SYSTEMS IN THE SUBSTRUCTURE AREA IS TO BE APPROVED BY THE CERTIFYING AUTHORITY.
- 3.6) THE DRILL FLOOR IS, AS BOUNDED BY THE WINDWALLS FOR SAME, INCLUDING THE "DOG HOUSE" BEHIND THE ACTUAL DRILL FLOOR, IS NOW RECLASSIFIED AS A ZONE 2 AREA EXCEPT FOR THE ZONE 1 AREAS INDICATED ON THE DRAWINGS. AN ADDITIONAL FOR A 5' RADIUS ZONE 2 EXTENDS IN ALL DIRECTIONS AROUND ANY OPENINGS TO SAME. A 1.52 M RADIUS EXISTS IN THE AREA SURROUNDING THE END OF THE MAST VENT LINE AND A 1.52 M RADIUS ZONE 2 APPLIES IN ALL DIRECTIONS

ANY ADDITION, REMOVAL OR MODIFICATION TO ELECTRICAL EQUIPMENT OR SYSTEMS IN THE DRILL FLOOR AREA IS TO BE APPROVED BY THE CERTIFYING AUTHORITY.

- 3.7) THE FOLLOWING ADDITIONAL AREAS ARE NOTED ON THE DRAWINGS: VOID SPACES IN THE COLUMNS STORAGE AREAS FOR - RADIOACTIVE MATERIALS - EXPLOSIVES, GASES
- 3.8) A SEPARATE AREA CLASSIFICATION DRAWING EXISTS FOR USE DURING PERIODS OF PRODUCTION TESTING TO TAKE INTO ACCOUNT THE LOCAL HAZARDOUS AREAS IN WAY OF CERTAIN ITEMS OF EQUIPMENT USED DURING SAID OPERATORS.

3.9) THE ENGINE ROOM WATERTIGHT HATCH LOCATED AT THE WELL TEST AREA SHALL REMAIN CLOSED DURING WELL TEST PROCEDURES.

- 4) FUEL STORAGE
- 4.1) ANY LOW FLASH POINT FUELS INTENDED FOR USE ONBOARD THE RIG WILL BE STORED IN THE PAINT LOCKER (OR SIMILAR PROTECTED AREA) UNDER WRITTEN AUTHORITY OF THE MIC ONLY.
- 4.2) THE AREA WITHIN 3.41 M RADIUS OF THE HELIFUEL STORAGE TANKS VENTS OR THE HELIFUEL PUMPING / REFUELING EQUIPMENT IS CONSIDERED A ZONE 2 AREA.
- 4.3) DUE TO FLASH POINT OF THE DIESEL FUEL USED ON THE UNIT BEING HIGHER THAN THE AMBIENT TEMPERATURES IN THE OPERATING GEOGRAPHICAL AREA, ALL STORAGE AND HANDLING ZONES FOR SAME ARE CONSIDERED AS UNCLASSIFIED.
- 5) EXCEPTIONS

ALL EQUIPMENT IN CLASSIFIED AREAS MUST MEET THE REQUIREMENTS OF THE ZONE. ANY EXCEPTIONS MUST BE COVERED BY A SAFE WORK PERMIT. THE SAFE WORK PERMIT HOLDER SHALL REMOVE SUCH EQUIPMENT FROM THE CLASSIFIED AREA WHEN THE PERMIT EXPIRES OR WHEN THE POSSIBILITY OF HAZARD RETURNS.

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Engineering and Technical Support

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HAZARDOUS AREAS

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