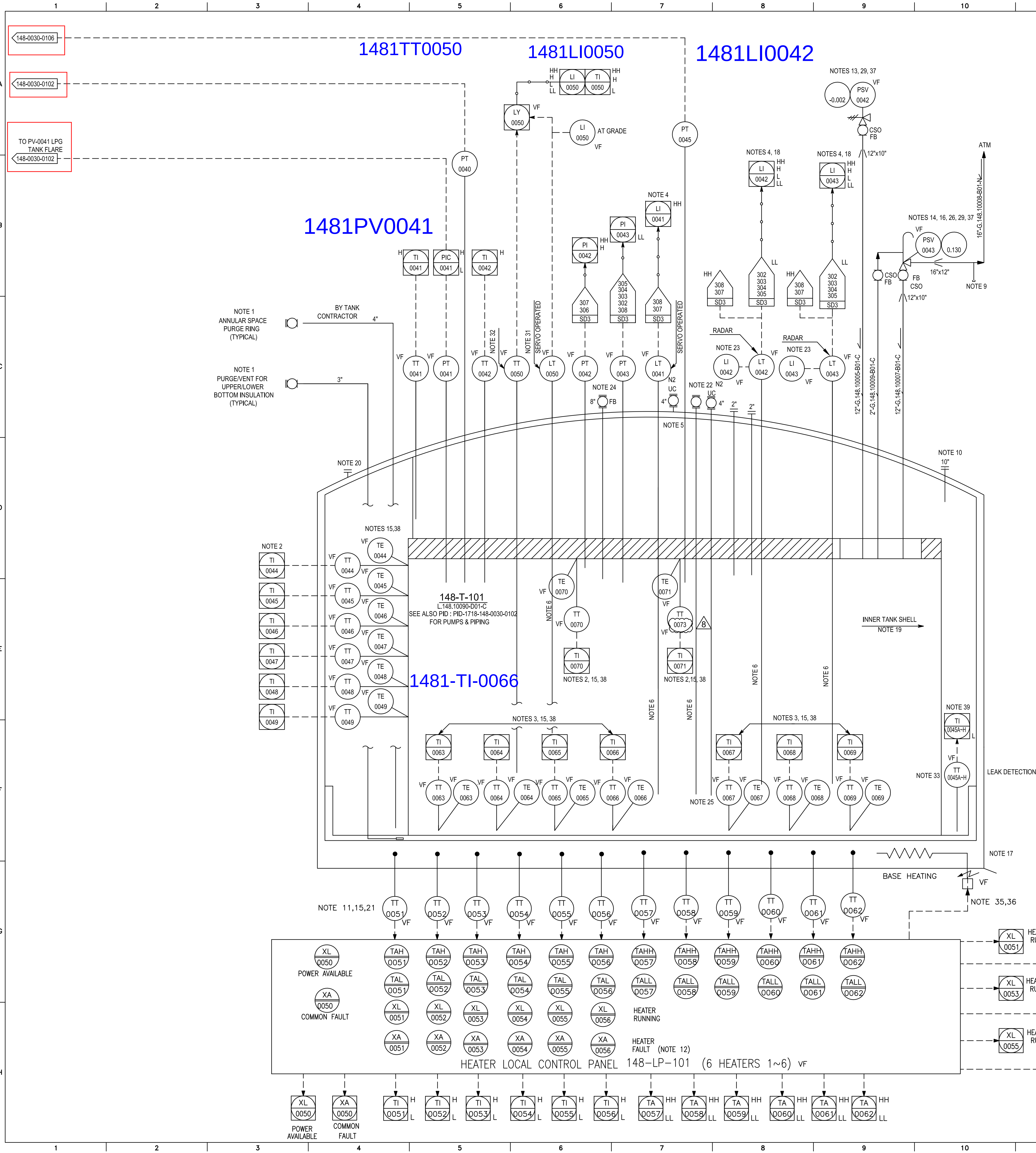




ITEM 148-T-101  
SERVICE BUTANE STORAGE TANK  
TYPE FULL CONTAINMENT  
ID x HEIGHT 42250mm x 27471 mm  
TOTAL VOL 38514  
WORKING VOL 35000 m³  
DESIGN PRESS. 5/130 mbarg  
DESIGN TEMP. Min: -15°C/Max: 55°C  
LINING  
INSULATION C

| INSTRUMENTS                                         | SET PRESSURE |
|-----------------------------------------------------|--------------|
| RELIEF VALVES                                       | 130 mbarg    |
| HIGH HIGH PRESSURE TRIP                             | 110 mbarg    |
| PRESSURE LETDOWN FROM BOG HEADER TO FLARE (PV-0041) | 70 mbarg     |
| CIRCULATION FLOW (PV-0045)                          | 35 mbarg     |

| INSTRUMENTS                  | SET PRESSURE |
|------------------------------|--------------|
| PRESSURE CONTROL (PV-0040)   | 25 mbarg     |
| VACUUM PREVENTION GAS VALVES | 10 mbarg     |
| LOW LOW PRESSURE TRIP        | 5 mbarg      |
| VACUUM BREAKER               | -2 mbarg     |

- NOTES
- TYPICAL NITROGEN PURGE AND VENT CONNECTION. TANK CONTRACTOR, TO ENSURE THE CONFIGURATION ALLOWS PURGING DURING COMMISSIONING/OPERATION/DECOMMISSIONING.
  - SKIN TYPE TEMP. INDICATORS. POINTS ATTACHED TO INNER SURFACE OF INNER TANK EQUALLY SPACED OVER SHELL HEIGHT (6 TOTAL), AND ON THE SUSPENDED DECK (2 TOTAL).
  - SEVEN SKIN TEMPERATURE INDICATORS LOCATED EVENLY ON THE INNER TANK BOTTOM SURFACE.
  - HIGH-HIGH LEVEL SHUTDOWN SHALL OCCUR ONLY IF 2 OF 3 LEVEL INSTRUMENTS AGREE. ONE OF THE THREE PRIMARY INSTRUMENTS TO BE OF DIFFERENT TYPE.
  - TO BE LOCATED AT THE CENTER OF TANK DOME.
  - STILLING WELL.
  - DELETED.
  - DELETED.
  - PROVIDE WEEP HOLES AT LOW POINT OF PSV. (DIA 13 mm). ORIENTATE TO SAFE LOCATION.
  - NOZZLE FOR INSERTION OF TEMPERATURE DETECTOR/THERMOCOUPLE EXTENSION CABLE.
  - TEMPERATURE SENSORS LOCATED UNDER THE INNER TANK. 6 ZONES ARE CONSIDERED. TWO TEMPERATURE TRANSMITTERS FOR EACH ZONE, ONE FOR CONTROL AND ONE FOR TRIP.
  - COMMON ALARM FOR POWER FAILURE AND EARTH LEAKAGE CIRCUIT BREAKER TRIP IN EACH HEATER POWER SUPPLY.
  - TYPICAL FOR ONE OF 3 VACUUM BREAKERS (INCLUDING ONE SPARE). VALVE ON SPARE TO BE CSC, OTHERS CSO. PROVISION SHOWN IS A MINIMUM. FINAL DESIGN IS THE TANK CONTRACTOR'S RESPONSIBILITY.
  - TYPICAL FOR ONE OF 2 PILOT OPERATED PSV (INCLUDING ONE SPARE). VALVE ON SPARE TO BE CSC, OTHERS CSO. PROVISION SHOWN IS A MINIMUM. FINAL DESIGN IS THE TANK CONTRACTOR'S RESPONSIBILITY.
  - JUNCTION BOX TO CONTAIN A SPARE RTD'S FOR EACH TRANSMITTER.
  - TAIL PIPE CONFIGURATION IS PRELIMINARY. FINAL DESIGN, RESPECTING DISPERSION/IGNITED VENT DESIGN CRITERIA BY TANK CONTRACTOR.
  - TWO INCLINOMETER CONDUITS SHALL BE PROVIDED IN BASE AT 90 DEGREES TO EACH OTHER.
  - ONE OF TWO LOW LEVELS TO TRIP THE PUMPS.
  - ONE INNER TANK DEFLECTION METER MEASURING VERTICAL AND HORIZONTAL DEFLECTION SHALL BE PROVIDED.
  - TYPICAL PERLITE FILL CONNECTION: ONE EVERY 6m OR LESS AROUND TANK CIRCUMFERENCE.
  - ALL TEMPERATURE ELEMENTS FOR FOLLOWING SHALL BE DUAL ELEMENT TYPE: TE-0051 TO TE-0062.
  - FOR INSTALLATION OF TRAVERSING DENSITY MONITORING INSTRUMENT.
  - LI-0042/0043 TO BE LOCATED CLOSE TO PUMP PLATFORM TO BE EASILY ACCESSIBLE BY OPERATOR.
  - FOR DIRECTIONAL VIDEO CAMERA WITH INTERNAL LIGHTING, TO VIEW INNER TANK DURING OPERATION, NOZZLE AT CENTER OF TANK DOME.
  - NITROGEN PURGE HEADER TO BE FITTED WITH PERFORATED DISTRIBUTOR RING.
  - PSV-0043 TAIL PIPE WILL BE PROVIDED WITH DRY POWDER CONNECTION FOR SNUFFING.
  - DELETED.
  - PSV IN CRYOGENIC SERVICE. CHECK FOR INSULATION IN ACCORDING TO TYPICAL NO. 7 OF THE PID-1718-999-0030-0005.
  - DIMENSIONS REFER TO THE INNER TANK.
  - CONNECTED TO TGS.
  - MULTI-ELEMENT AVERAGE TEMPERATURE.
  - SKIN TEMPERATURE LEAK DETECTOR SYSTEM.
  - FOR NUMBER, SIZE AND POSITION OF MANWAYS REFER TO VENDOR DRAWING NO. VP-1718-148-T-101-2-121.
  - HEATER ON-OFF-TRIP WITH FOLLOWING LOGIC:
    - ON: TT OF EACH ZONE REACH AT LOW TEMPERATURE.
    - OFF: TT OF EACH ZONE REACH AT HIGH TEMPERATURE.
    - TRIP: TT OF EACH ZONE REACH AT HIGH HIGH TEMPERATURE.
  - BASE HEATING LOCAL CONTROL PANEL ARRANGEMENT WILL BE FINALIZED AFTER RECEIVING VENDOR INFORMATION.
  - IN TANK VENDOR SCOPE OF SUPPLY.
  - ALL TEMPERATURE ELEMENTS FOR FOLLOWING SHALL BE DUAL ELEMENT TYPE: TE-0044 TO TE-0049
    - TE-0063 TO TE-0069
    - TE-0070 TO TE-0071
  - THE NUMBER OF LEAK DETECTIONS SHALL BE CONSIDERED 8. (IN TANK VENDOR SCOPE OF SUPPLY.)

GENERAL NOTES

ALL INSTRUMENT TAGS TO READ:

LETTERS NUMBER

1481 FFFF NNNN

| EQUIPMENT LIST |  |  |  |
|----------------|--|--|--|
| TANK           |  |  |  |
| 148-T-101      |  |  |  |
|                |  |  |  |
|                |  |  |  |

| FOR CONSTRUCTION |             |                             |       |       |       |       |       |
|------------------|-------------|-----------------------------|-------|-------|-------|-------|-------|
|                  |             |                             |       |       |       |       |       |
| 8                | 26.JUL.2016 | APPROVED FOR CONSTRUCTION   | IDRO  | RT    | RT    | HRR   | MD    |
| 7                | 07.JAN.2015 | APPROVED FOR CONSTRUCTION   | IDRO  | RT    | GS    | GS    | MD    |
| 6                | 08.JAN.2012 | APPROVED FOR CONSTRUCTION   | IDRO  | SB    | NS    | MF    | AKH   |
| 5                | 07.DEC.2010 | ISSUED FOR APPROVAL         | IDRO  | MK    | NS    | MF    | AKH   |
| 4                | 30.DEC.2009 | ISSUED FOR APPROVAL         | IDRO  | NB    | AD    | MF    | AKH   |
| 3                | 15.DEC.2008 | ISSUED FOR COMMENT          | IDRO  | NB    | NZ    | MF    | AKH   |
| 2                | 01/02/08    | APPROVED FOR DESIGN         | WP    | RI    | AF    | RPW   | MS    |
| 1                | 26/10/07    | ISSUED FOR HAZOP            | WP    | RI    | AB    | RPW   | MS    |
| 0                | 10/08/07    | ISSUED FOR COMPANY APPROVAL | WP    | RI    | AF    | RPW   | MS    |
| REV.             | DATE        | DESCRIPTION                 | ORIG. | PREP. | CHKD. | APPD. | AUTH. |

SOUTH PARS GAS FIELD DEVELOPMENT- PHASES 17 & 18, ASSALUYEH-IRAN ONSHORE FACILITIES

PROJECT No.: POGC-84-801-244 DOC. CLASS. 1 SCALE : N/A

WorleyParsons IDRO OIEC

TITLE: UNIT 148: BUTANE STORAGE AND EXPORT BUTANE STORAGE TANK INSTRUMENTATION PIPING AND INSTRUMENT DIAGRAM

DWG No. PID-1718-148-0030-0104 SHEET No. 1 OF 1 REV. 8

SIZE: A1