

APPROVED
By Ismail at 9:57 am, Dec 17, 2014

LEGEND

- FA FLAME ARRESTER
LAH LEVEL ALARM HIGH
LAL LEVEL ALARM LOW
TT TEMPERATURE TRANSMITTER
XT VCM DETECTOR
XI VCM DETECTOR INDICATOR
FC FAIL CLOSED
FI FLOW INDICATOR
FT FLOW INDICATING TOTALIZER
HA HIGH ALARM
HIC HAND IND. CONTROL
HS HAND SWITCH
LA LEVEL ALARM
LI LEVEL INDICATOR
LS LEVEL SWITCH
LT LEVEL TRANSMITTER
N2 NITROGEN
RD RUPTURE DISK
PI PRESSURE INDICATOR
PSV PRESSURE SAFETY VALVE
PT PRESSURE TRANSMITTER
PDA PRESSURE DIFF. ALARM
PDS PRESSURE DIFF. SWITCH
RO RESTRICTION ORIFICE
S STACK HEADR
TL TEMPERATURE INDICATOR
VCL VINYL CHLORIDE LIQUID
VCV VINYL CHLORIDE VAPOR
SG SIGHT GLASS
CSO CAR SEAL OPEN
CSC CAR SEAL CLOSED
HC HOT CONSERVATIVE
PP PERSONAL PROTECTION
HS HAND SWITCH
BV BUTTERFLY VALVE
SBL SPECTACLE BLIND
SOP SPECTACLE OPEN
ACWL AIR CRAFT WARNING LIGHT
OP OPERATING / DESIGN COND.
LCP LOCAL CONTROL PANEL
CCP CONTROL ROOM PANEL
FMI FIELD MOUNTED INSTRUMENT
CRP CONTROL ROOM (INVENTORY CONTROL SYSTEM)
ESD EMERGENCY SHUT DOWN
SI STATUS INDICATION
DPI DIFFERENTIAL PRESSURE INDICATOR WITH TUBING CONNECTION
RD RUPTURE DISK
PSV PRESSURE SAFETY VALVE
BV BALL VALVE
CV CHECK VALVE
MOCV MOTOR OPERATED CONTROL VALVE WITH HAND WHEEL
GV GATE VALVE
GV GLOBE VALVE
NV NEEDLE VALVE
Y-Y STRAINER
EFV EXCESS FLOW VALVE
FA FLAME ARRESTER
ER ECCENTRIC REDUCER
CR CONCENTRIC REDUCER
UN UNION
VCM VCM VAPORS + N2 LINES
LVC LIQUID VCM
EL ELECTRICAL
H HIDDEN
I INTERLOCKING
D C TIE-IN LIMITS
C-C CLIENT
D-DESCON
V-VENDOR

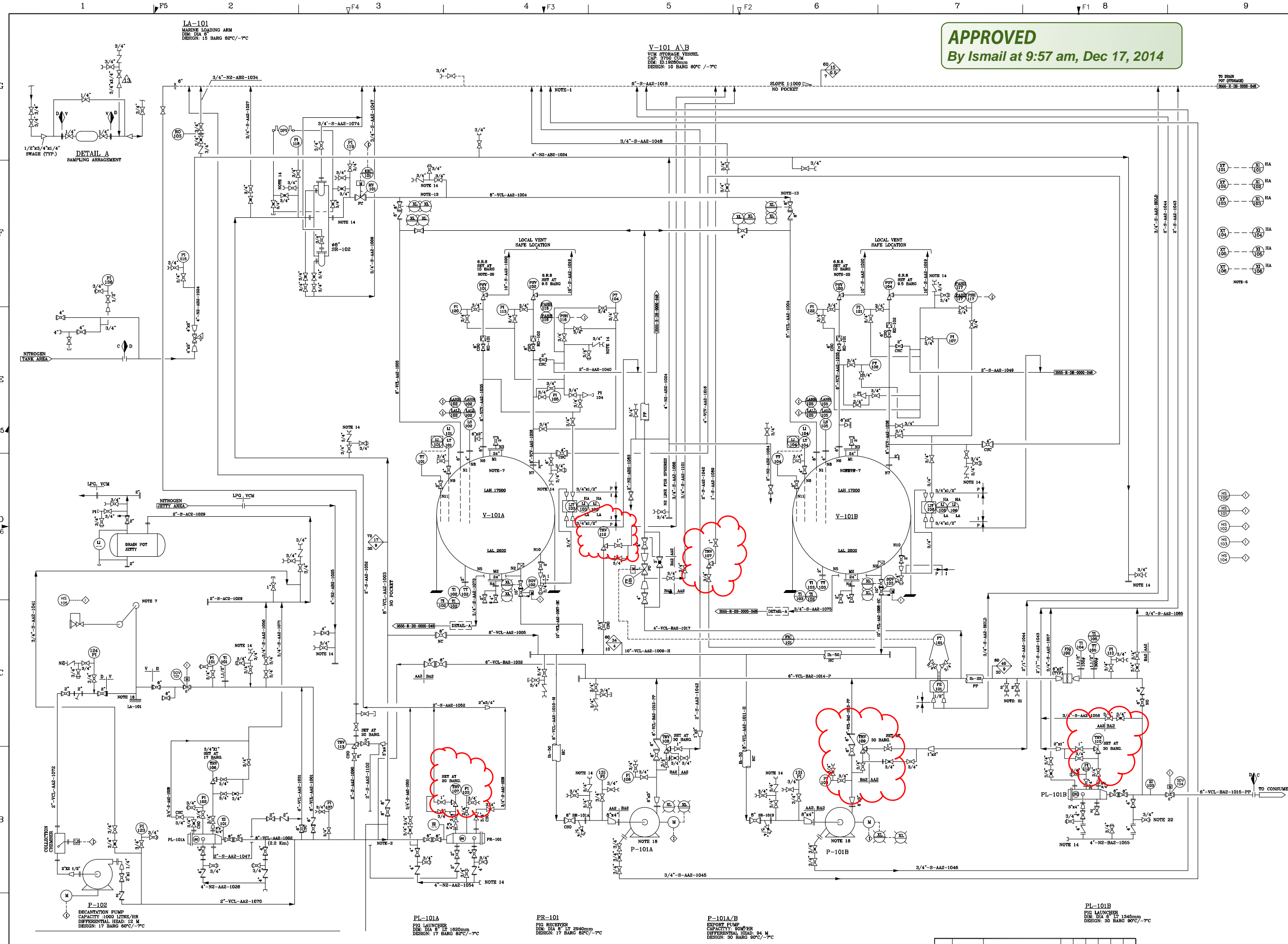
PIPE IDENTIFICATION
6" - VCL - BA2 - 1014
SERIAL No.
SECTION No.
PIPING CLASS
SERVICE CODE
NOMINAL DIAMETER.

PRESSURE CLASS
A - CL150
B - CL300
D - CL600
PIPING CLASS
B A 2
CORROSION ALLOWANCE
MATERIAL
PRESSURE CLASS

CLIENT ENGRO ENGRO PAKTANK
TERMINAL LTD.

PROJECT VCM STORAGE & HANDLING FACILITIES
TITLE P & ID
VCM STORAGE & HANDLING FACILITY

DOCUMENT NUMBER 3555-R-DB-0000-002-*
SHEET NO. 11 OF 16
REV 1



NOTES

- 1: ALL CONNECTION TO STACK HEADER SHOULD BE FROM THE TOP.
- 2: PIPABLE LINES, USE 3D BENDS AND FULL BORE VALVES. ENSURE NO WELDING PROTRUSION INSIDE ALL TAKEOFF VALVES TO BE LOCATED VERTICALLY AT MINIMUM DISTANCE FROM THE LINE.
- 3: ALL TAKE OFF LINES OF GAS & VAPORS SHOULD BE FROM THE TOP.
- 4: LOADING ARM VENDOR TO CONSIDER COUNTER BALANCING DUE TO N2 PURGE CONNECTIONS.
- 5: FIXED VCM DETECTORS LOCATED AT EMISSION PRONE AND MANNED AREAS. FIVE IN STORAGE AREA AND ONE AT JETTY.
- 6: FIG LAUNCHER AND RECEIVER SHOULD BE INSTALLED HORIZONTALLY.
- 7: TO BE USED AS PURGE CONNECTION. CHECKED DURING PIPING DESIGN.
- 8: PUMPS INTERLOCK WITH LOW LEVEL OF VESSELS AND HY-101 TO HIGH LEVELS OF VESSELS WITH SELECTOR SWITCH.
- 9: SIZE SHOULD BE CONFIRMED BY VENDOR.
- 10: 11: LOADING ARM WILL BE EQUIPPED WITH EMERGENCY RELEASE COUPLING AND AUTO SHUT-OFF VALVE. NECESSARY ARRANGEMENT WILL BE REQUIRED FOR COMPATIBLE CONNECTION TO SHIP MANIFOLD.
- 12: CHEQUERED PATTERN PAINT, AIR CRAFT WARNING LIGHT AND FLAME ARRESTER WILL BE CHECKED AS PER AVIATION CALCULATIONS AND LIGHTENING PROTECTION CODE.
- 13: INSTALL THE VALVE AT GROUND LEVEL.
- 14: ALL NITROGEN CONNECTIONS ARE WITH QUICK COUPLING AND LOCATED NEAR REQUIREMENT. FLEXIBLE, HIGH PRESSURE HOSE PIPE WILL BE USED.
- 15: OFF-SPECS VCM WILL BE PUMPED BACK TO SHIP COUPLING TO SHIP MANIFOLD WILL BE REQUIRED IN CASE OF FIRE.
- 16: ALL VENT CONNECTIONS AT JETTY AREA WILL BE ROUTED TO LPS 10 METER HIGH VENT PIPE. USED FOR LPS VENTING.
- 17: ALL 3/4" BLEEDER CONNECTIONS OF PRESSURE INDICATORS WILL BE ROUTED TO STACK HEADER OR VENT PIPE AT JETTY.
- 18: SUCTION AND DISCHARGE FLANGES OF PUMP ARE 150# AND 300# RATING RESPECTIVELY.
- 19: COMPATIBLE SPOOL PIECES TO CONNECT LOADING ARM COUPLING TO SHIP MANIFOLD WILL BE REQUIRED.
- 20: ONE PSV WILL ACCOMMODATE THE WHOLE FLOW IN CASE OF FIRE.
- 21: CONNECTION FOR POLYMERIZATION INHIBITOR DOSING. OF 300# RATING.
- 22: PERSONNEL PROTECTION UP TO BATTERY LIMIT.

| REV | DATE | DESCRIPTION | INIT | IGN | INIT | IGN | INIT | IGN |
|-----|----------|----------------------------|------|-----|------|-----|------|-----|
| 16 | 24.09.09 | AS BUILT | AA | AA | AA | AA | AA | AA |
| 15 | 23.12.09 | AS BUILT | AA | AA | AA | AA | AA | AA |
| 14 | 19.12.09 | AS BUILT | AA | AA | AA | AA | AA | AA |
| 13 | 28.3.20 | AS BUILT | AA | AA | AA | AA | AA | AA |
| 12 | 08-08-99 | HAZOP CHANGES INCORPORATED | YM | SM | YM | SM | YM | SM |
| 11 | 16-08-99 | AS MARKED | YM | SM | YM | SM | YM | SM |
| 10 | 03-05-99 | AS MARKED | YM | SM | YM | SM | YM | SM |
| 9 | 12-04-99 | AS MARKED | YM | SM | YM | SM | YM | SM |

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CHECKED ZM 22.12
APPROVED IA 22.12
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MODIFIED MANUALLY
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PROJECT VCM STORAGE & HANDLING FACILITIES
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