1. UNIT IDENTIFICATION NUMBER

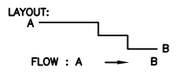
PLANT NO & ABBREVIATION	PLANT DESCRIPTION	UNIT NO	UNIT DESCRIPTION	ABBREVIATION
110 : 1	NEW WELL#W018S	1	W018S :1	11
110 : 1	NEW WELL#W007S	2	W007S :2	12
110 : 1	NEW WELL#W0046	3	W0046S :3	13
110 : 1	NEW WELL#W028	4	W028 :4	14
110 : 1	NEW WELL#W035	5	W035 :5	15
110 : 1	NEW WELL#W008N	6	W008N :6	16
110 : 1	MANIFOLD EXTENSION(BANGESTAN)	7	MANIFOLD :7	17
110 : 1	WELL#05	8	W#05 :8	19
110 : 1	WELL#12	9	W#12 :9	20
110 : 1	WELL#14	10	W#14 :10	21
110 : 1	WELL#15	11	W#15 :11	22

2. GENERAL NOTES

2.1 GENERAL NOTES

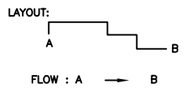
1- THE SIMPLIFY ROUTING OF PROCESS FLOW LINES, SOME PIECES OF EQUIPMENT MAY APPEAR IN MORE THAN ONE PLACE ON THE FLOW DIAGRAM EQUIPMENT SO DUPLICATED WILL BE INDICATED BY DASHED LINES.
2- INSTRUMENT IDENTIFICATION AS ILLUSTRATED ARE BASED ON IPS-E-PR-230 AND THE INSTRUMENT SOCIETY OF AMERICA STANDARDS S_5.1 AND S_5.3.
3- WHEN NECESSARY PIPING AND / OR EQUIPMENT SYMBOLS MAY BE INCLUDED AS PART OF AN INSTRUMENT LOOP.
4- DIMENSION FROM CENTER OF LC BALLOON TO TANGENT LINE OR BOTTOM OF HORIZONTAL VESSEL INDICATES NORMAL LEVEL.
5- DIMENSION UNDER LC BALLOON INDICATES FLOAT RANGE.
6- DIMENSION UNDER LC BALLOON INDICATES VISIBLE GLASS LENGTH.
7- DIMENSION UNDER LS BALLOON INDICATES POINT OF ACTUATION OF LS UNIT ABOVE TANGENT LINE OR BOTTOM OF HORIZONTAL VESSEL.
8- PIPING COMPONENTS NOT IDENTIFIED BY INSTRUMENT OR MECHANICAL EQUIPMENT, NUMBER, ETC. AND NOT COVERED BY THE PIPING MATERIAL SPECIFICATION, ARE IDENTIFIED BY SPECIAL ITEM NUMBER.
9- ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFICALLY NOTED.
10- HIGH POINT VENTS AND LOW POINT DRAINS USED FOR HYDRAULIC TEST PURPOSES ONLY SHALL BE PROVIDED BUT ARE NOT SHOWN ON THE P & ID. VENT FOR HYDRAULIC TEST PURPOSE SHALL BE PROVIDED ONLY FOR 2" AND LARGER LINE.
11- PROVIDE DOUBLE ISOLATION VALVES (BALL VALVES AND BLEED VALVES) FOR VENT TO ATMOSPHERIC FOR HYDROCARBON SERVICES WHICH ARE ABOVE 300# RATING. FOR 300# RATING AND UNDER ONE SINGLE BALL VALVE, FOR ACID GAS SYSTEM VENTS AND DRAINS USE DOUBLE ISOLATION BALL VALVE FOR ALL CLASSES. FOR RELIEF VALVE BYPASS, IN CLASS OF 600# AND HIGHER, DOUBLE ISOLATION VALVE (SINGLE BALL VALVE + GLOBE VALVE) FOR 300# AND UNDER ONE SINGLE BALL VALVE.
12- ALL DRAINS TO ATMOSPHERE ARE BALL VALVE WITH CAP. FOR ALL CLASS RATING. FOR PIPING CLASS 600# AND HIGHER USE DOUBLE BLOCK VALVES FOR 2" AND HIGHER.
13- VALVED VENT SHALL BE INSTALLED AT VAPOR POCKET OF 14" AND LARGER LIQUID LINE.
14- VALVED DRAIN ON SUCTION PIPING OF PUMP EXCEPT CLEAN SERVICE SHALL BE LED TO DRIP FUNNEL WITH EXTENDED TAIL PIPE PLUGGED AT END OR FLANGED WITH SPECTACLE BLIND INSERTED AS SHOWN.
15- ALL CLOSED PRESSURE RELIFE VALVE DISCHARGE LEADS SHALL BE FREE DRAINING FROM PRESSURE RELIFE VALVE TO THE TOP OR SIDE OF THE DISCHARGE HEADER.
16- 9MM WEEP HOLES ARE PROVIDED AT LOW POINTS OF PRESSURE RELIFE VALVE AND RAPTURE DISC DISCHARGING TO ATMOSPHERE.
17- DEFINITIONS :

(1) FREE DRAINING : LINE TO BE ROUTED TO A POINT DESIGNATED WITH NO LIQUID POCKET AND NO VAPOR POCKET IN THE LINE.

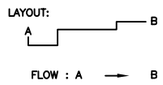


(2) SLOPED LINE : ELEVATION CHANGES ARE CONTINUOUSLY DOWNWARD ONLY. NO POCKETS ARE PERMITTED. SPECIFIC SLOPES REQUIRED ARE SHOWN BY SYMBOL.

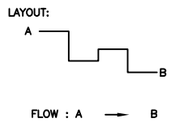
(3) NO LIQUID POCKET : NO LIQUID POCKET IN THE LINE.



(4) NO VAPOR POCKET : NO VAPOR POCKET IN THE LINE.



(5) GRAVITY FLOW : ELEVATION DOWNSTREAM NEVER EXCEED INLET ELEVATIONS. LINE MAY CONTAIN LIQUID POCKETS AND VAPOR POCKETS.



2.2 ABBREVIATIONS

2.2.1 VALVE & CONTROL VALVE

BV : BALL VALVE
CAO : CLOSE-AUTOMATIC-OPEN
CCL : CABLE CONTROL
CHV : CHECK VALVE
CO : CHAIN OPERATED
CSC : CAR SEALED CLOSED
CSO : CAR SEALED OPEN
D : DRAIN
ESDV : EMERGRNCY SHUTDOWN VALVE
FB : FULL BORE
FC : FAIL CLOSED (CLOSE ON MINIMUM SIGNAL TO VALVE ACTUATOR)
FCV : FLOW CONTROL VALVE
FD : FLEX DISC VALVE
FL : FAIL LOCKED
FLC : FAIL LOCKED CLOSED: VALVE POSITION DOES NOT CHANGE ON LOSS OF ACTUATING MEDIUM SUPPLY
FLO : FAIL LOCKED OPEN: VALVE POSITION DOES NOT CHANGE ON LOSS OF ACTUATING MEDIUM SUPPLY
FO : FAIL OPEN (OPENS ON MINIMUM SIGNAL TO VALVE ACTUATOR)
FP : FULL PORT
GM : GEAR OPERATED AND MOTORIZED VALVE
GO : GEAR OPERATED VALVE
IAV : ACOUSTICAL INSULATED VALVE
IHV : HOT INSULATED VALVE
LC : LOCKED CLOSED
LCV : LEVEL CONTROL VALVE
LO : LOCKED OPEN
MOV : MOTOR OPERATED VALVE
NC : NORMALLY CLOSED
NO : NORMALLY OPEN
NV : NEEDLE VALVE
ORB : ORBIT VALVE
OV : OPERATING VALVE
P : PLUGGED
PCV : PRESSURE REGULATOR/ PRESSURE CONTROL VALVE
PIVA : POST INDICATOR VALVE
PSE : RUPTURE DISK ASSEMBLY (PRESSURE SAFETY EQUIPMENT)
PSV : PRESSURE SAFETY RELIFE VALVE
PVSV : PRESSURE / VACUUM VALVE
SR : SPLIT RANGE
SS : SOFT SEAT VALVE
ST : STELLITE VALVE
T : TRAP
TCV : TEMPERATURE CONTROL VALVE
TSO : TIGHT SHUT-OFF VALVE
V : VENT
WR(J) : JACKETED PLUG VALVE
WV : WARNING VALVE
X : TYPE 316 STAINLESS STEEL TRIM VALVE
XV : MULTIVARIABLE FINAL ELEMENT (ON/OFF VALVE)
XX : 18-8 STAINLESS STEEL TRIM VALVE

2.2.2 PIPING

CS : CARBON STEEL
DN : DIAMETER NOMINAL
FF : FLAT FACE
FS : FORGED STEEL
GA : GALVANIZED
GRP : GLASS REINFORCED PLASTIC
HB : HAMMER BLIND
IC : INSULATED COLD
IH : INSULATED HOT
IS : INSULATED FOR PERSONNEL PROTECTION
PB : PRESSURE BLIND
PN : PRESSURE NOMINAL
RF : RAISED FACE
RS : REMOVABLE SPOOL
RSP : RING SPACER
RTJ : RING TYPE JOINT
SB : SPECTACLE BLIND
SO : SLIP ON
SPB : SPADE BLIND
SS : STAINLESS STEEL
SW : SOCKET WELD
VB : VAPOR BLIND
WN : WELD NECK
PRV : PRESSURE REGULATOR VALVE

2.2.3 OTHERS

A/G : ABOVE GROUND
B.L : BATTERY LIMIT
COF : CENTER OF FLOAT
DP : DESIGN PRESSURE
ELEV : ELEVATION
EM : EMERGENCY VENT
F : FURNISHED
F&P : FURNISHED & PIPED
HHLL : HIGH HIGH LIQUID LEVEL
HIL : HIGH INTERFACE LIQUID LEVEL
HLL : HIGH LIQUID LEVEL
IJ : ISOLATION JOINT
LIL : LOW INTERFACE LIQUID LEVEL
LLL : LOW LIQUID LEVEL
LLLL : LOW LOW LIQUID LEVEL
MH : MANHOLE
NIL : NORMAL INTERFACE LIQUID LEVEL
NLL : NORMAL LIQUID LEVEL
NNF : NORMALLY NO FLOW
P : PRESSURE
P & ID : PIPING & INSTRUMENTATION DIAGRAM
PB : PUSH BUTTON
PFD : PROCESS FLOW DIAGRAM
PO : PUMP OUT
PTC : PRESSURE TEST CONNECT
PV : PROCESS VARIABLE
RES : RESIDUE
RG : REFRIGERANT GAS
RL : REFRIGERANT LIQUID
RS : REMOTE SETPOINT
RTD : RESISTANCE TEMPERATURE DETECTOR
RVP : REID VAPOR PRESSURE
SC : SAMPLE CONNECTION
SCL : SAMPLE COOLER
SF : SOLUTION FOAM
SG : SIGHT GLASS
SP : SET POINT
SP. GR.: RELATIVE MASS DENSITY (SPECIFIC GRAVITY)
TL/TL : TANGENT TO TANGENT
TW : THERMO-WELL
TX : SKIN TEMPERATURE
TXE : SKIN T/C ELEMENT
UC : UTILITY CONNECTION
UFD : UTILITY FLOW DIAGRAM
U/G : UNDER GROUND
IAS : INSTRUMENT AIR SUPPLY
CC/CP : CORROSION PROB AND COUPON
CT : CORROSION TRANSMITTER

NOTES

LEGEND

REFERENCE DRAWING	DRG. No.
**********	******

KEY PLAN

REV.	DESCRIPTION	BY	DATE	BY	DATE
		CHECKED		REV. APPR.	
***	**********	**.**	***.****	**.**	***.****
D03	FEB.2023	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D02	SEP.2022	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D01	FEB.2022	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D00	OCT.2021	IFC	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SUB-SURFACE WORK PACKAGES GENERAL
PROJECT NO.: 971020
EPC CONTRACTOR: HIRGAN ENERGY - DESIGN & INSPECTION COMPANIES
EPD/EPC CONTRACTOR (GC): PETROIRAN DEVELOPMENT COMPANY (PEDCO)

BINAK OILFIELD DEVELOPMENT
SUB-SURFACE WORK PACKAGES
GENERAL

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

(VENDOR TITLE BLOCK)**

DRAWING TITLE: Symbol & Legend For PFD and P&ID

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED
APPROVED FOR CONSTRUCTION BY: DATE:

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NS	A3	BK-SSGRL-PEDCO-110-PR-PI-0001	1 OF 7	D03

BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
F2A-707349	F	2	A	707349	1 OF 7	D03

3. EQUIPMENT

3.1 EQUIPMENT NUMBERING

AA	—	BCDD	E

AA: EQUIPMENT CODE

EQUIPMENT	CODE
CONTROL PANEL	LC(LCP)
DIESEL ENGINE	DL
ENGINE	EN
FILTER	F
OIL SKIMMER	OS
OUTDOOR HOSE REELS	OH(OHR)
PACKAGE UNIT	PK
PIG LAUNCHER	PL
PIG RECEIVER	PR
PUMP	P
SCALE, WEIGHING, MEASURING	SC
API SEPARATOR	S
STACK, CHIMNY	SE
STONE TRAP	ST
STRAINER	STR
SUMP	SU
XMAS TREE	XM
TANK, SILO, HOPPER	TK
DRAIN PIT	DP

B: PLANT NO

C: UNIT NO

DD: SEQUENTIALTIAL NO (01 TO 09) IF MORE REQUIRED IT CAN BE IDENTIFIED WITH TWO DIGIT SUCH THAT THE FIRST DIGIT COMES FROM THE LAST DIGIT UNIT KEY.

E: ALPHABETICAL LETTER (FOR MULTIPLE IDENTICAL EQ. AND SPARE)

3.2 SYMBOL

SYMBOL	DESCRIPTION
	WELLHEAD
	X-MAS TREE

3.2 SYMBOL

SYMBOL	DESCRIPTION
	IPR PUMP
	SUMP PUMP
	VERTICAL PUMP
	ROTARY PUMP (GEAR PUMP)
	PIG RECEIVING TRAP
	PIG LUNCHING TRAP
	STONE TRAP
	HORIZONTAL FILTER

SYMBOL	DESCRIPTION
	VERTICAL FILTER (DRUM)
	FILTER (GENERAL)
	BASKET FILTER/ CARTRIDGE FILTER
	CLUSTER BURN PIT
	CONCRETE SUMP
	CHEMICAL INJECTION DRUM

4. PIPING

4.1 LINE NUMBERING

AAA	–	XXX	–	YYYY	–	ZZZZZ	–	D"	–	CC(*)
(1)		(2)		(3)		(4)		(5)		(6)

(1) FLUID IDENTIFICATION CODE

CODE	DESCRIPTION
A. AIR SYSTEM	
ISA	INSTRUMENT AIR
B. DRAIN (SEWER) SYSTEM	
AY	AMINE DRAIN FUNNEL
CDB	CONCRETE DRAIN BOX
CDH	CLOSED DRAIN HEADER
CSW	CHEMICAL SEWER
CY	CHEMICAL DRAIN PIT
DRP	DRAIN PIT
NSW	NON OILY WATER SEWER
OPD	OPEN DRAIN
OSW	OILY WATER SEWER
SSW	SANITARY WATER SEWER
TY	TOXIC DRAIN FUNNEL
Y	DRAIN FUNNEL (GENERAL)
C. FULES	
FLG	FUEL GAS / PURGE GAS
FLO	FUEL OIL
NG	NATURAL GAS
DO	DIESEL OIL
D. SPECIAL CHEMICAL AND SOLVENT SYSTEM	
AMIN	AMINE
CHM	CHEMICALS
FOM	FOAM
FS	FLUSHING SOLVENT
HM	HEAT MEDIUM
MEL	METHANOL
E. OIL UTILITY SYSTEM	
LBO	LUBRICATING OIL
F. WATER SYSTEM	
OWA	OILY WATER
PRW	PROCESS WATER
PTW	POTABLE WATER
PWA	PLANT WATER
RWA	RAW WATER
G. PROCESS SERVICE	
GAS	GAS
GSO	GAS OIL
HCB	HYDROCARBON
PRO	PROCESS FLUID
SLP	SLOP
CRD	CRUDE OIL

(2) UNIT SERIAL NUMBER

WELLHEAD & MANIFOLD & UTILITY NUMBER : 110

(3) PIPING SERIAL NUMBER

(4) PIPING CLASS CODE

PIPING CLASS ACCORDING IPS-E-PI-221, EACH PIPING MATERIAL CLASS IS IDENTIFIED BY A FOUR-DIGIT ALPHANUMERIC CODE. THE FIRST ALPHA CHARACTER IDENTIFIES THE PRESSURE RATING AS FOLLOWS:

A ASME B 16.5 RATING CLASS 150
C ASME B 16.5 RATING CLASS 300
F ASME B 16.5 RATING CLASS 600
G ASME B 16.5 RATING CLASS 900
H ASME B 16.5 RATING CLASS 1500

K API 6A RATING CLASS 2000
L API 6A RATING CLASS 3000
M API 6A RATING CLASS 5000
N API 6A RATING CLASS 10000

THE SECOND ALPHA CHARACTER INDICATES THE MATERIAL GROUP AS FOLLOW:

N CARBON STEEL
P LOW AND INTERMEDIATE ALLOY STEEL
S STAINLESS STEEL
T ALUMINUM AND ALUMINUM BASED ALLOYS
V COPPER AND COPPER ALLOYS
W NON-METALLIC MATERIAL
Z CARBON STEEL WITH LINING

THE THIRD DIGIT INDICATE ASME DESIGN CODE (B 31.3,B 31.4 AND B 31.8)THE FORTH DIGIT INDICATES CORROSION ALLOWANCE AND NACE REQUIREMENT.FOR DETAIL REFER TO PIPING MATERIAL SPECIFICATION.

CLASS	C.A	RATING	MATERIAL	SERVICE
AN01	1	150#/RF	CARBON STEEL	DIESEL OIL
AN04	3	150#/RF	CARBON STEEL	PLANT AIR , FIRE WATER
AN05	3	150#/RF	CARBON STEEL	CRUDE OIL , CLOSED DRAIN
AN15	3	150#RF	CARBON STEEL	CRUDE OIL(BURN PIT)
AX01	0	150#	HDPE	FIRE WATER(UG),POTABLE WATER(UG)
AZ00	0	150#/RF	CARBON STEEL+GALV	INSTRUMENT AIR<4",POTABLE WATER
FN05	3	600#RF	CARBON STEEL	CRUDE OIL
LN15	3	API3000	CARBON STEEL	CRUDE OIL
LN17	6	API3000	CARBON STEEL	CRUDE OIL
MN17	6	API5000	CARBON STEEL	CRUDE OIL

(5) NOMINAL PIPE SIZE

(6) CODE OF INSULATION OR HEATH TRACING:

CODE	DESCRIPTION
ET (*)	ELECTRICALLY TRACED & INSULATED
ETT (*)	ELECTRICALLY TRACED WITH HEAT TRANSFER CEMENT
IC	INSULATION COLD
IH	INSULATION HOT
IS	INSULATION FOR PERSONNEL PROTECTION
TB	TRACE BODY AND INSULATE
TBB	TRACE BODY AND BONNET AND INSULATE
PT	PAINTING
NP	NO PAINTING, NO INSULATION
UW	UNDERGROUND WRARRING

* H : HEAT CONSERVATION, W : WINTERIZATION

NOTES

LEGEND

REFERENCE DRAWING	DRG. No.
••••••••••	••••••

KEY PLAN

REV.	DESCRIPTION	CHECKED BY	DATE	REV. APPR. BY	DATE
D03	FEB.2023	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
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D00	OCT.2021	IFC	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.
***	••••••••••	**.**	***.****	**.**	***.****

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SUB-SURFACE WORK PACKAGES GENERAL

PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY – DESIGN & INSPECTION COMPANIES

EPD/EPC CONTRACTOR (GC): PETROIRAN DEVELOPMENT COMPANY (PEDCO)

BINAK OILFIELD DEVELOPMENT
SUB-SURFACE WORK PACKAGES
GENERAL

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

(VENDOR TITLE BLOCK)**

DRAWING TITLE: Symbol & Legend For PFD and P&ID

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

APPROVED FOR CONSTRUCTION BY: DATE:

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NS	A3	BK-SSGRL-PEDCO-110-PR-PI-0001	2 OF 7	D03

BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
F2A-707349	F	2	A	707349	2 OF 7	D03

4. PIPING

4.2 SYMBOLS

4.2.1 LINE

SYMBOL	DESCRIPTION
	MAIN PROCESS LINE(ARROW OF 30° INDICATES DIRECTION OF FLUID FLOW)
	SECONDARY PROCESS LINE / FLOW DIRECTION
	UNDER GROUND PIPELINE
	EXISTING LINE
	FUTURE LINE
	VENDOR PACKAGE
	BATTERY LIMIT (B.L)
	TRACED LINE
	JACKETED LINE
	FINED PIPE
	LINE CROSSING
	LINE CHANGE
THK. =	PLATFORM
RS	REMOVABLE SPOOL PIECE
MIN. (or MAX.) XX mm	MINIMUM OR MAXIMUM DISTANCE
	DRIP FUNNEL / TUNDISH
	SIPHON WITH DIP LENGTH
CLASS A | CLASS B	CHANGING IN PIPING CLASS
INSTRUMENT ENGINEER | MECHANICAL ENGINEER	CHANGING IN RESPONSIBILITY

2.2 SHEET CONNECTION

(1) PROCESS/ UTILITY LINES

FLUID NAME TO/FROM EQUIP. NO

XXXX–X

(2) INSTRUMENT SIGNAL LINE

TO/FROM INSTRUMENT OR EQUIO. NO.

XXXX–X

TO/FROM B.L.

ISOLATION JOINT I.J

TRAP

4.2.3 VALVE

SYMBOL	DESCRIPTION
	NEEDLE VALVE
	BUTTERFLY VALVE
	GATE VALVE NORMALLY OPEN
	GATE VALVE NORMALLY CLOSED
	THROUGH CONDUIT GATE VALVE
	BUTT WELDED GATE VALVE
	CHECK VALVE
	BALL VALVE NORMALLY OPEN
	BALL VALVE NORMALLY CLOSED
	PLUG VALVE
	GLOBE VALVE NORMALLY OPEN
	GLOBE VALVE NORMALLY CLOSED
	ANGLE VALVE
	THREE WAY VALVE
	DIAGRAM VALVE
	FOUR WAY VALVE
IHV	HOT INSULATED VALVE (TYPICAL VALVE SYMBOL IS CHANGED BASED ON THE VALVE TYPE.)
	FLOOT VALVE
	CHOKE VALVE

4.2.4 PIPE FITTING

SYMBOL	DESCRIPTION
	HOSE CONNECTION
	UNION
	END FLANGED AND BOLTED
	END CAP, BUT WELDED
	END CAP, FILLET WELDED (SOCKET)
	END CAP, SCREWED (ARROW 90 DEG.)
	END CLOSURE, QUICK RELEASE
	END SOCKET AND SPIGOT
	END SCREWED AND PLUGGED
	FLANGE
	INSULATING FLANGE
PB	PRESSURE BLIND IN WELDED LINE (NORMALLY OPEN)
PB	PRESSURE BLIND IN WELDED LINE (NORMALLY CLOSE)
SV	STANDARD SOCKET WELD LINE BLIND UNION W/VITON GASKETS
VB	6mm THICK BLIND TO BLANK OFF EQUIPMENT (VAPOR BLIND)
SF	STANDARD SOCKET WELD LINE BLIND UNION W/FLEXITALIC GASKETS
SB	SPECTACLE BLIND (NORMALLY OPEN)
SB	SPECTACLE BLIND (NORMALLY CLOSE)
SV	STANDARD SOCKET WELD LINE BLIND UNION W/VITON GASKETS
VB	6mm THICK BLIND TO BLANK OFF EQUIPMENT (VAPOR BLIND)
SF	STANDARD SOCKET WELD LINE BLIND UNION W/FLEXITALIC GASKETS
SB	SPECTACLE BLIND (NORMALLY OPEN)
SB	SPECTACLE BLIND (NORMALLY CLOSE)
RSP	RING SPACER
SPB	SPADE BLIND
HB	HAMMER BLIND
RS	REMOVABLE SPOOL PIECE
	EXPANSION JOINT
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER (FLUSH BOTTOM)
	ECCENTRIC REDUCER (FLUSH TOP)
	BARRED TEE
	BIRDE SCREEN

4.2.5 PRESSURE RELIEF VALVE

SYMBOL	DESCRIPTION
ORIFICE & SIZE: 3K4 10, PSV; ET PRESS (Barg)	PRESSURE RELIEF OR SAFETY VALVE
TSV	TEMPERATURE SAFETY VALVE

4.2.6 MISCELLANEOUS

SYMBOL	DESCRIPTION
	OPEN VENT
	SYPHONE DRAIN (SEE LEG)
SG	SIGHT GLASS
1%	SLOPE
	CARTRIDGE TYPE STRAINER
	BUCKET TYPE STRAINER
	TEMPORARY STRAINER (CONE TYPE)
	T–TYPE STRAINER
	Y–TYPE STRAINER
	Y–TYPE STRAINER (WITH VALVED DRAIN)
	DUPLEX STRAINER
RO XXX	RESTRICTION ORIFICE

SYMBOL	DESCRIPTION
SC–7N YY–ZZZ	SAMPLE CONNECTION

X : TYPE

YY : UNIT IDENTIFICATION NO.

ZZZ : 3 DIGITS SERIAL NO. FROM 100 TO 199 FOR TRAIN I (PROCESS)FROM 200 TO 299 FOR TRAIN II (UTILITY)

TP XXX	TIE–IN POINT
SP XXX	SPECIAL ITEM
CD	CLOSED TRAIN SYSTEM
CC XXX 8	CORROSION COUPON
CP XXX ER	ELECTRICAL RESISTANCE

5. INSTRUMENT

5.1 INSTRUMENT NUMBERING

A	a	b	c	d

A : INSTRUMENT TYPE ASPER SECTION 5.3

(a) : PLANT NO. ASPER SECTION 1.

(b) : UNIT NO. ASPER SECTION 1.

(c) : SEQUENCE NO.

(d) : OPTIONAL SUFFIX (ONE LETTER)

5.2 SYMBOLS NOTE 1

5.2.1 LINE / SIGNAL

SYMBOL	DESCRIPTION
	INSTRUMENTS SUPPLY OR CONNECTION TO PROCESS
	UNDEFINED SIGNAL
	PNEUMATIC SIGNAL
	ELECTRICAL SIGNAL (DIGITAL,ANALOGOE SMART/HART)
	HYDRAULIC SIGNAL
	CAPILLARY TUBE
	ELECTROMAGNETIC OR SONIC SIGNAL
	INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
	FIBER OPTIC

5.2.2 CONTROL VALVE & ACTUATOR

SYMBOL	DESCRIPTION
	HAND CONTROL VALVE
IA	CONTROL VALVE WITH POSITIONER
	CONTROL VALVE WITH POSITIONER HANDWHEEL
	CYLINDER OR PISTON ACTUATED VALVE
MOV M	MOTOR OPERATED VALVE
S R	SOLENOID VALVE (WITH RESET)
S	SOLENOID VALVE (WITHOUT RESET)
	SPRING LOADING VALVE
	HYDRAULIC OPERATED CONTROL VALVE
	CONTROL VALVE (ANGLE TYPE)
	CONTROL VALVE (BUTTERFLY TYPE)
S IA	CONTROL VALVE WITH POSITIONER AND SOLENOID VALVE

NOTES

1– REFFR TO INSTRUMENT HOOKUP DRAWING/PIPING ASSEMBLY DRAWING FOR INSTRUMENT CONNECTION SIZE/TYPE.

LEGEND

REFERENCE DRAWING	DRG. No.
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KEY PLAN

REV.	DESCRIPTION	CHECKED BY	DATE	CHECKED BY	DATE
***	**********	**.**	***.****	**.**	***.****
D03	FEB.2023	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D02	SEP.2022	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
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D00	OCT.2021	IFC	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SUB–SURFACE WORK PACKAGES GENERAL

PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY – DESIGN & INSPECTION COMPANIES

EPD/EPC CONTRACTOR (GC): PEDCO — PETROIRAN DEVELOPMENT COMPANY

BINAK OILFIELD DEVELOPMENT
SUB–SURFACE WORK PACKAGES
GENERAL

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

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DRAWING TITLE: Symbol & Legend For PFD and P&ID

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SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NS	A3	BK–SSGRL–PEDCO–110–PR–PI–0001	3 OF 7	D03

BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
PZA–707349	F	2	A	707349	3 OF 7	D03

5. INSTRUMENT(CONTINUED)

5.2.3 SELF ACTUATED REGULATOR

SYMBOL	DESCRIPTION
	PRESSURE-REDUCING REGULATOR
	BACK-PRESSURE REGULATOR
	SELF CONTAINED REGULATOR

5.2.4 FAILURE ACTION OF CONTROL VALVE

SYMBOL	DESCRIPTION
FO	FAIL OPEN
FC	FAIL CLOSE
FL	FAIL LOCKED
FLO	FAIL LOCKED OPEN
FLC	FAIL LOCKED CLOSE
A B C	THREE WAY VALVE FAIL OPEN TO PATH A-C

5.2.5 PRIMARY ELEMENT

SYMBOL	DESCRIPTION
FE	ORIFICE TYPE FLOW METER
FE	POSITIVE DISPLACEMENT TYPE FLOW METER
FI	ROTAMETER
FE	VENTURI TYPE FLOW METER
FE	FLOW NOZZLE
	TURBINE TYPE FLOW METER
	PILOT TUBE TYPE FLOW METER
	ULTRA SONIC FLOE METER
	* = METER TYPE C CORIOLIS MASS FLOW METER M MAGNETIC FLOW METER MPF MULTI PHASE FLOW METER TM THERMAL MASS FLOW METER
	VORTEX FLOW METER
DIS LT	DISPLACEMENT TYPE LEVEL TRANSMITTER
DP LT	DIFFERENTIAL PRESSURE TYPE LEVEL TRANSMITTER
LI	ULTRASONIC TYPE LEVEL TRANSMITTER
LI	RADAR TYPE LEVEL TRANSMITTER
LG	LEVEL GAUGE
PG	PRESSURE GAUGE
PT	PRESSURE TRANSMITTER
TG	TEMPERATURE GAUGE
TT	TEMPERATURE TRANSMITTER
FT	FLOW TRANSMITTER

5.2.6 INTERLOCK LOGIC SYMBOL

SYMBOL	DESCRIPTION
OR	OUTPUT EXIST IF ONE OR MORE INPUT EXIST
AND	OUTPUT EXIST IF AND ONLY IF ALL THE INPUTS EXISTS
NOT	NO OUTPUT EXIST IF ONE AND ONLY ONE INPUT EXISTS
TD	TIME DELAY-OUTPUT EXISTS AFTER PRESET TIME
XOR	OUTPUT EXISTS IF ONE AND ONLY ONE INPUT EXISTS
	SEQUENTIALTIAL LOGIC CONTROL CONNECTION

5.2.7 GENERAL INSTRUMENT SYMBOL

SYMBOL	DESCRIPTION
	FIELD MOUNTED INSTRUMENT
	INSTRUMENT MOUNTED BEHIND CONTROL PANEL IN CONTROL ROOM
	PANEL MOUNTED INSTRUMENT AUXILIARY CONSOLE
	LOCAL PANEL MOUNTED INSTRUMENT
	INSTRUMENT SHARING COMMON HOUSING WITH TWO FUNCTION
ET(W)	ELECTRICAL TRACED INSTRUMENT
XL	LIGHT (COLOR : R=RED, G=GREEN)
ZL	VALVE POSITION INDICATING LAMPS
*AH	CRITICAL SOFTWARE ALARM(* IS MEASURED VARIABLE)
*AL	CRITICAL SOFTWARE ALARM(* IS MEASURED VARIABLE)
CRIT	CRITICAL SHUTDOWN ALARM

5.2.8 DISTRIBUTED CONTROL/SHARED DISPLAY SYMBOL

SYMBOL	DESCRIPTION
	FIELD MOUNTED INSTRUMENT (NOT NORMALLY ACCESSIBLE) TO OPERATOR)
	BEHIND THE PANEL DEVICES OR FUNCTIONS IN CONTROL ROOM NORMALLY INACCESSIBLE
	INDICATOR/CONTROLLER/ALARM (NORMALLY ACCESSIBLE TO OPERATOR
H* L*	SOFTWARE ALARMS WITH SHARED DISPLAY DEVICE (* IS MEASURED VARIABLE)
HH* LL*	CRITICAL SOFTWARE ALARM (* IS MEASURED VARIABLE)
R	DATA RECORDING FUNCTION ACCESSIBLE TO OPERATOR
XX	I (UNDEFINED INTERLOCK) (XX: INDICATE INTERLOCK SERIAL NO.)

5.2.9 COMPUTER (DATA STORAGE) FUNCTION SYMBOL

SYMBOL	DESCRIPTION
	FIELD MOUNTED INSTRUMENT NOT NORMALLY ACCESSIBLE TO OPERATOR
	INSTRUMENT MOUNTED BEHIND CONTROL PANEL IN CONTROL ROOM
	PANEL MOUNTED INSTRUMENT NORMALLY ACCESSIBLE TO OPERATOR
	LOCAL PANEL MOUNTED INSTRUMENT NORMALLY ACCESSIBLE TO OPERATOR

5.2.10 PROGRAMMABLE LOGIC CONTROLLER (PLC) FUNCTION SYMBOL

SYMBOL	DESCRIPTION
	MOUNTED BEHIND THE CONTROL BOARD NOT NORMALLY ACCESSIBLE TO OPERATOR
	MOUNTED BEHIND THE CONTROL BOARD NORMALLY ACCESSIBLE TO OPERATOR
	CONTROL BOARD MOUNTED AUXILIARY LOCATION NORMALLY ACCESSIBLE TO OPERATOR
	BEHIND OF CONTROL BOARD AUXILIARY LOCATION NOT NORMALLY ACCESSIBLE TO OPERATOR
	AUXILLIARY OPERATOR'S INTERFACE DEVICES (ON UCP)
XXX	INTERLOCK IN UCP XX: INTERLOCK SERIAL NO.
ESD X	ESD COMMENT X: ESD LEVEL
USD	UNIT SHUTDOWN COMMENT

5.2.11 FUNCTION IDENTIFICATION

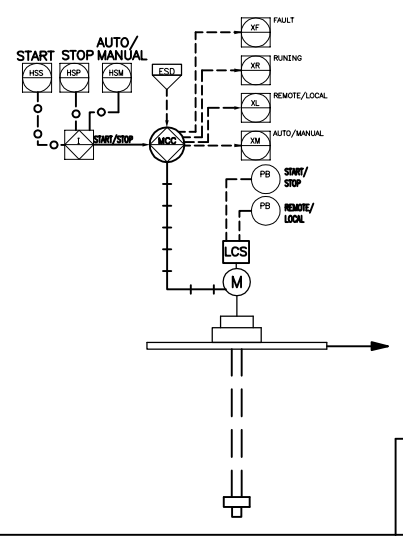
SUMMING	SQUARE ROOT	BIAS
AVARAGING	EXPONENTIAL	BIAS
DIFFERENCE	NONLINEAR OR UNSPECIFIED	BIAS
PROPORTIONAL	TIME FUNCTION	ALARM LOW SIGNAL MONITOR
REVERSE PROPORTIONAL	HIGH SELECTING	ALARM HIGH SIGNAL MONITOR
INTEGRAL	LOW SELECTING	ALARM HIGH LOW SIGNAL MONITOR
DERIVATIVE	HIGH LIMITING	REVERSE ACTION
MULTIPLYING	LOW LIMITING	ON/OFF
DIVIDING	VELOCITY LIMITER	CONVERT(INPUT/OUTPUT) OF THE FOLLOWING)

*DESIGNATION	SIGNAL
A	ANALOG
D	DIGITAL
E	VOLTAGE
F	FIELD BUS
I	CURRENT
H	HYDRAULIC
O	ELECTROMAGNETIC
P	PNEUMATIC
R	RESISTANCE
mV	MILIVOLTS

5.2.12 MCC IDENTIFICATION

MCC	PLANT MOTOR CONTROL CENTER
MCC	UNIT MOTOR CONTROL CENTER

5.2.12 MOTOR INTERFACE SIGNAL SAMPLE



NOTES

LEGEND

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KEY PLAN

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BINAK OILFIELD DEVELOPMENT
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BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
F2A-707349	F	2	A	707349	4 OF 7	D03

5. INSTRUMENT (CONTINUED)

5.3 FUNCTIONAL IDENTIFICATION LETTERS

SIGNAL TYPES	
BZIO	BLOW DOWN VALVE OPEN FEEDBACK ON HMI
EZCS	EMERGENCY VALVE CLOSE FEEDBACK
EZSO	EMERGENCY VALVE OPEN FEEDBACK
EZIC	EMERGENCY VALVE CLOSE FEEDBACK ON HMI
EZIO	EMERGENCY VALVE OPEN FEEDBACK ON HMI
HSM	HAND SWITCH MANUAL/AUTO
HSP	HAND SWITCH STOP
HSS	HAND SWITCH START
HSL	HAND SWITCH LOCAL/REMOTE
XR	RUNNING FEEDBACK
XL	LOCAL/REMOTE FEEDBACK
XF	FAULT FEEDBACK
HSC/O	HAND SWITCH CLOSE/OPEN
XZSO	ON/OFF VALVE OPEN FEEDBACK
XZSC	ON/OFF VALVE CLOSE FEEDBACK
XZIO	ON/OFF VALVE OPEN FEEDBACK ON HMI
XZIC	ON/OFF VALVE CLOSE FEEDBACK ON HMI
ESOV	EMERGENCY SOLENOID VALVE
PSOV	PROCESS SOLENOID VALVE
XSP	PERMISSION TO START
XA	GENERAL ALARM
HSD	HAND SWITCH DUTY/STANDBY

	FIRST–LETTER		SUCCEEDING–LETTER		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSES				
B	BURNER, COMBUSTION				
C				CONTROL	
D		DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G			GLASS, VIEWING DEVICE		
H	HAND				HIGH/OPEN/START
I	CURRENT (ELEC.)		INDICATE, INPUT		
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW/CLOSE/STOP
M	MOISTURE/HUMIDITY	MOMENTARY			MIDDLE, INTERMEDIATE
N					
O	PRESSURE/VACUUM		ORIFICE, RESTRICTION	OUTPUT	
P	PRESSURE/VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY, NUMBER	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE,DAMPER,LOUVER	
W	WEIGHT, FORCE		WELL		
X	SPECIFIC GRAVITY	X–AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y–AXIS		RELAY, COMPUTE CONVERT	
Z	POSITION, DIMENSION	Z–AXIS		DRIVER,ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT	

TYPICAL LETTER COMBINATIONS

	PROCESS VARIABLE	PRIMARY ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	SCAN	INDICATOR	RECORDER	BLIND CONTROLLER	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH: ABNORMAL PROCESS FIRST STATE HIGH	SWITCH: ABNORMAL PROCESS FIRST STATE LOW	SWITCH: ABNORMAL PROCESS SECOND STATE VERY HIGH	SWITCH: ABNORMAL PROCESS SECOND STATE VERY LOW	ALARM: ABNORMAL PROCESS FIRST STATE HIGH	ALARM: ABNORMAL PROCESS FIRST STATE LOW	ALARM: ABNORMAL PROCESS SECOND STATE VERY HIGH	ALARM: ABNORMAL PROCESS SECOND STATE VERY LOW	GLASS,VIEWING DEVICE	WELL(W) CONNECTION(P)	SELF–ACTUATED REGULATOR VALVE	SOLENOID VALVE RELAY, CONVERTER	FINAL ELEMENT
A	ANALYSIS	AE	AT	AIT	AJ	AI	AR	AC	AIC	ARC	ASH	ASL	ASHH	ASLL	AAH	AAL	AAHH	AALL	–	–	–	AY	AV
B	BURNER	BE	BT	BIT	BJ	BI	BR	BC	BIC	BRC	BSH	BSL	BSHH	BSLL	BAH	BAL	BAHH	BALL	BG	–	–	BY	BZ
C	–																						
D	–																						
E	VOLTAGE	EE	ET	EIT	EJ	EI	ER	EC	EIC	ERC	ESH	ESL	ESHH	ESLL	EAH	EAL	EAHH	EALL	–	–	–	EY	EV
F	FLOW	FE*	FT	FIT	FJ	FI	FR	FC	FIC	FRC	FSH	FSL	FSHH	FSLL	FAH	FAL	FAHH	FALL	FG	–	–	FY	FV
FF	–																						
G	FLOW QUANTITY	FQE	FQT	FQIT	FQJ	FQI	FQR	FQC	FQIC	FQRC	FQSH	FQSL	FQSHH	FQSLL	FQAH	FQAL	FQAHH	FQALL	–	–	–	FQY	FQV
G	–																						
H	HAND	–	–		–	–	–	HC	HIC	–	HSH	HSL	–	–	–	–	–	–	–	–	–	HY	HV
I	CURRENT	IE	IT		–	II	IR	IC	IIC	IRC	ISH	ISL	ISHH	ISLL	IAH	IAL	IAHH	IALL	–	–	–	IY	IZ
J	POWER	JE	JT		JJ	JI	JR	JC	JIC	JRC	JSH	JSL	JSHH	JSLL	JAH	JAL	JAHH	JALL	–	–	–	JY	JV
K	TIME	KE	KT		KJ	KI	KR	KC	KIC	KRC	KSH	KSL	KSHH	KSLL	KAH	KAL	KAHH	KALL	–	–	–	KY	KV
L	LEVEL	LE	LT	LIT	LJ	LI	LR	LC	LIC	LRC	LSH	LSL	LSHH	LSLL	LAH	LAL	LAHH	LALL	LG	–	LCV	LY	LV
M	–																						
N	–																						
PD	PRESSURE DIFFERENTIAL	PDE	PDT	PDIT	PDJ	PDI	PDR	PDC	PDIC	PDRC	PDSH	PDSL	PDSHH	PDSLL	PDAH	PDAL	PDAHH	PDALL	–	–	–	PDY	PDV
P	PRESSURE/VACUUM	PE	PT	PIT	PJ	PI	PR	PC	PIC	PRC	PSH	PSL	PSHH	PSLL	PAH	PAL	PAHH	PALL	–	–	PCV**	PY	PV
Q	QUANTITY	QE	QT	QIT	QJ	QI	QR	QC	QIC	QRC	QSH	QSL	QSHH	QSLL	QAH	QAL	QAHH	QALL	–	–	–	QY	QZ
R	RADIATION	RE	RT	RIT	RJ	RI	RR	RC	RIC	RRC	RSH	RSL	RSHH	RSLL	RAH	RAL	RAHH	RALL	–	–	–	RY	RZ
S	SPEED/FREQUENCY	SE	ST	SIT	–	SI	SR	SC	SIC	SRC	SSH	SSL	SSHH	SSLL	SAH	SAL	SAHH	SALL	–	–	–	SY	SV
T	TEMPERATURE	TE	TT	TIT	TJ	TI	TR	TC	TIC	TRC	TSH	TSL	TSHH	TSLL	TAH	TAL	TAHH	TALL	–	TW	TCV	TY	TV
U	MULTIVARIABLE	–	–		UJ	UI	UR	–	–	–	–	–	–	–	–	–	–	–	–	–	–	UY	UV
V	VIBRATION	VE	VT	VIT	VJ	VI	VR	VC	–	–	VSH	VSL	VSHH	VSLL	VAH	VAL	VAHH	VALL	–	–	–	VY	VZ
W	WEIGHT	WE	WT	WIT	–	WI	WR	WC	WIC	WRC	WSH	WSL	WSHH	WSLL	WAH	WAL	WAHH	WALL	–	–	–	WY	WZ
X	SPECIFIC GRAVITY		XT	XIT																			
Y	STATE	YE	YT		YJ	YI	YR	YC	YIC	YRC	YSH	YSL	YSHH	YSLL	YAH	YAL	YAHH	YALL	–	–	–	YY	YZ
Z	POSITION	ZE	ZT	ZIT	ZJ	ZI	ZR	ZC	ZIC	ZRC	ZSO	ZSC	ZSHH	ZSLL	ZLO	ZLC	ZAHH	ZALL	–	–	–	ZY	ZV

*RO : RESTRICTION ORIFICE ** PSV : PRESSURE RELIEF OR SAFETY VALVE PSE : PRESSURE RUPTURE DISC

NOTES

1– FOR MORE DETAILS REFER TO INSTRUMENT HOOK UP DIAGRAM AND PIPING ASSEMLY DRAWING FOR EACH ITEM.

LEGEND

REFERENCE DRAWING	DRG. No.
••••••••••	••••••

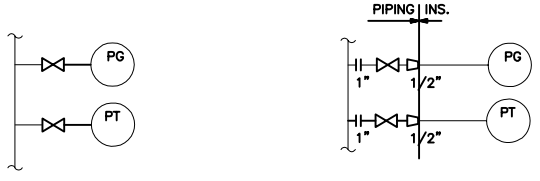
KEY PLAN

6. TYPICAL PIPING ARRANGEMENT

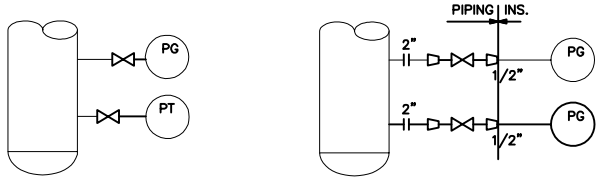
6.1 PRESSURE INSTRUMENT (NOTE 1)

REPRESENTATION ON P&ID — ACTUAL ARRANGEMENT

(1) REMOTE/LOCAL MEASUREMENT ON PIPE OR STANDPIPE

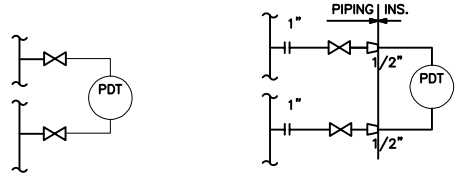


(2) REMOTE/LOCAL MEASUREMENT ON VESSEL



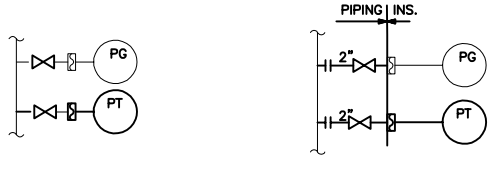
REPRESENTATION ON P&ID — ACTUAL ARRANGEMENT

(3) REMOTE/LOCAL MEASUREMENT ON PIPE AND STAND–PIPE



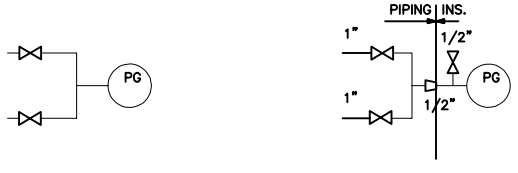
(*) PIPING CONNECTION ON VESSEL SHOULD BE 2" WITH 3/4" BLOCK VALVE.

(4) DIAPHRAGM SEAL TYPE



REPRESENTATION ON P&ID — ACTUAL ARRANGEMENT

(5) MULTIPLE MEASUREMENT



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NS	A3	BK–SSGRL–PEDCO–110–PR–PI–0001	5 OF 7	D03

BINAK OILFIELD DEVELOPMENT
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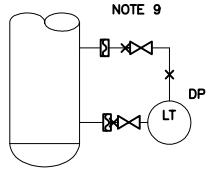
F2A–707349	F	2	A	707349	5 OF 7	D03

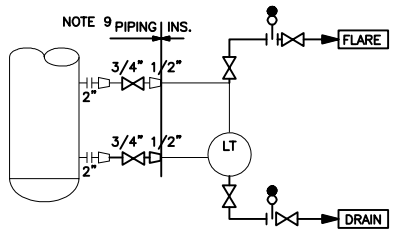
6. TYPICAL PIPING ARRANGEMENT

6.2 LT/LG ARRANGEMENT (NOTE 1)

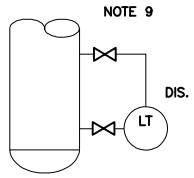
REPRESENTATION ON P&ID | ACTUAL ARRANGEMENT

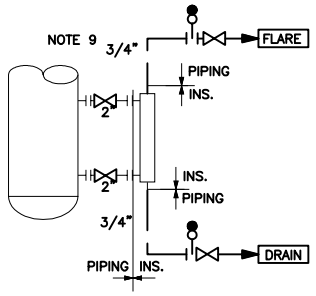
DIFFERENTIAL PRESSURE TYPE



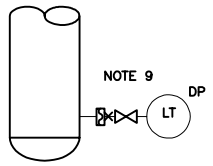


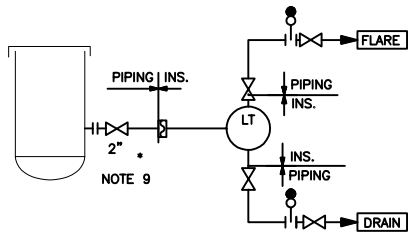
DISPLACEMENT TYPE





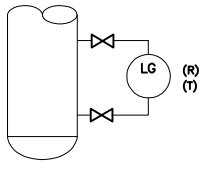
D/P CELL LEVEL TRANSMITTER WITH DIAPHRAGM SEAL (FOR HP TAP)

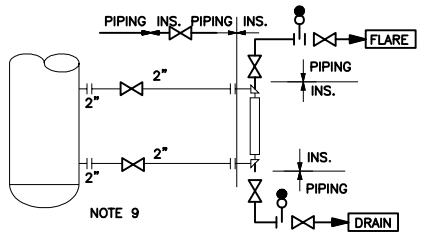




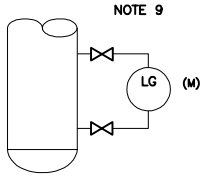
(*) FOR LP TAP 2" SHOULD BE CONSIDERED.

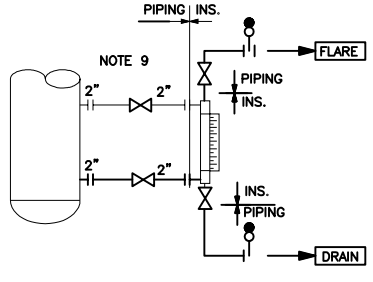
LEVEL GAUGE, SINGLE INSTALLATION



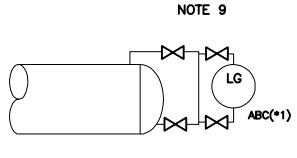


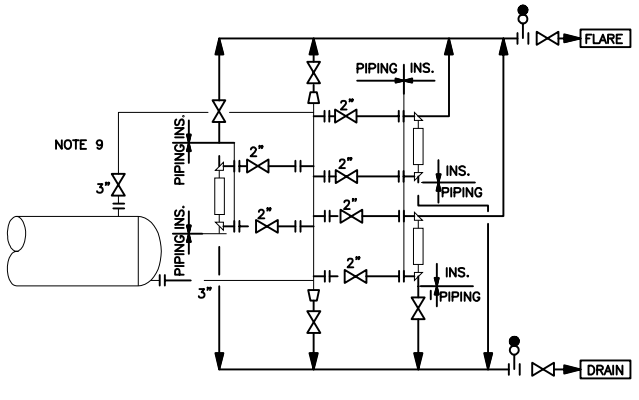
LEVEL GAUGE, SINGLE INSTALLATION





LEVEL GAUGE, MULTIPLE INSTALLATION ON HORIZONTAL VESSEL





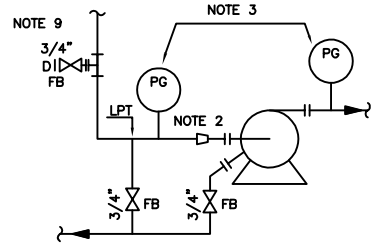
*1. ABC" DENOTES NUMBER OF LEVEL GAUGES.

6.3 DRAIN FOR FILTER AT PUMP SUCTION

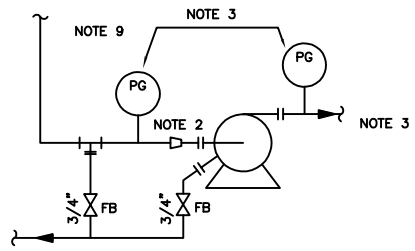
TABLE "A" (NOTE 4)
DRAIN FOR FILTER AT PUMP SUCTION

T–FILTER

TO BE USED FOR LINE ø > 2"



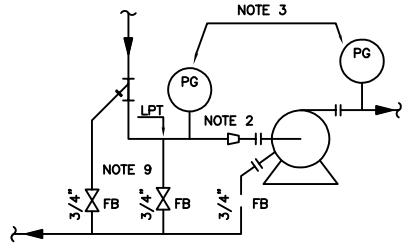
VERTICAL POSITION



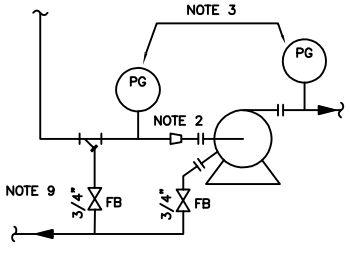
HORIZONTAL POSITION
(RECOMMENDED ASSEMBLY)

Y–FILTER

TO BE USED FOR LINE ø < 2"



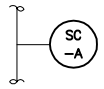
VERTICAL POSITION



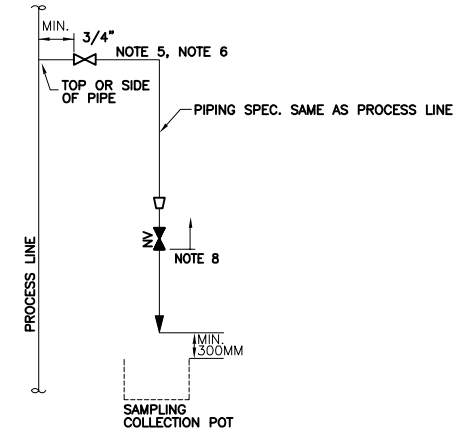
HORIZONTAL POSITION
(RECOMMENDED ASSEMBLY)

7. SAMPLE CONNECTION DETAILS

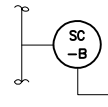
7.1 TYPE–A : FOR NON–HAZARDOUS LIQUID AND VAPOR WHOSE TEMPERATURE IS LOWER THAN 65°C. (NOTE 7)



REPRESENTATION ON P&ID

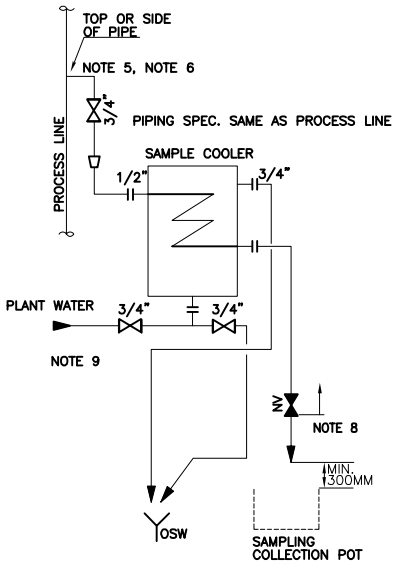


7.2 TYPE–B : FOR NON–HAZARDOUS LIQUID AND VAPOR WHOSE TEMPERATURE IS LOWER THAN 65°C. (NOTE 7)



REPRESENTATION ON P&ID

PLANT WATER



NOTES

1– FOR MORE DETAILS REFER TO INSTRUMENT HOOK UP DIAGRAM AND PIPING ASSEMLY DRAWING FOR EACH ITEM.
2– IF A REDUCER IS REQUIRED AT THE SUCTION OF THE PUMP, IT SHALL BE ECCENTRIC WITH FLUSH TOP.
3– PRESSURE GAUGES TO BE INSTALLED IN ARRANGEMENT WITH STANDARD, PREFERABLY IN HORIZONTAL POSITION AND SHALL BE EASILY READABLE.
4– ASSEMBLY RECOMMENDATIONS FOR FILTERS PUMP SUCTION HAVE TO BE FOLLOWED. FILTERS ARRANGEMENT DRAWN ON PID SHALL NOT BE CONSIDERED AS AN INSTALLATION REQUIREMENT.
5– MINIMIZE DISTANCE FROM PROCESS TAKE–OFF TO SAMPLE STATION.
6– SAMPLE CONNECTIONS IN SERVICES WITH ANSI CLASS 900 RATINGS OR MORE SHALL BE PROVIDED WITH TWO BLOCK VALVES.
7– IF PROCESS LINE HAS HEAT TRACE, SAMPLE CONNECTIONS SHALL BE PROVIDED WITH HEAT TRACE.
8– LINE CLASS SHALL BE THE SAME S THAT OF MAIN LINE.
9–THESE VALVES ARE SHOWN AS DUAL IN THE FLOWLINES , IN THE CLUSTER IS SINGLE.

LEGEND

REFERENCE DRAWING	DRG. No.
••••••••••	••••••

KEY PLAN

REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.
D03	FEB.2023	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D02	SEP.2022	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D01	FEB.2022	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
D00	OCT.2021	IFC	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**

REV.	DESCRIPTION	BY	DATE	BY	DATE
		CHECKED		REV. APPR.	
***	**********	**.**	***.****	**.**	***.****

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SUB–SURFACE WORK PACKAGES GENERAL

PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY – DESIGN & INSPECTION COMPANIES

EPD/EPC CONTRACTOR (GC): PETROIRAN DEVELOPMENT COMPANY (PEDCO)

BINAK OILFIELD DEVELOPMENT
SUB–SURFACE WORK PACKAGES
GENERAL

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED

APPROVED FOR CONSTRUCTION | BY: | DATE:

(VENDOR TITLE BLOCK)**

DRAWING TITLE: Symbol & Legend For PFD and P&ID

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
NS	A3	BK–SSGRL–PEDCO–110–PR–PI–0001	6 OF 7	D03

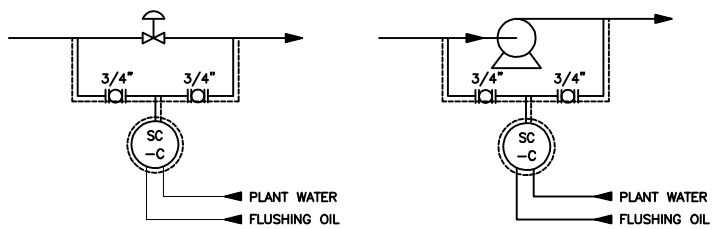
BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
F2A–707349	F	2	A	707349	6 OF 7	D03

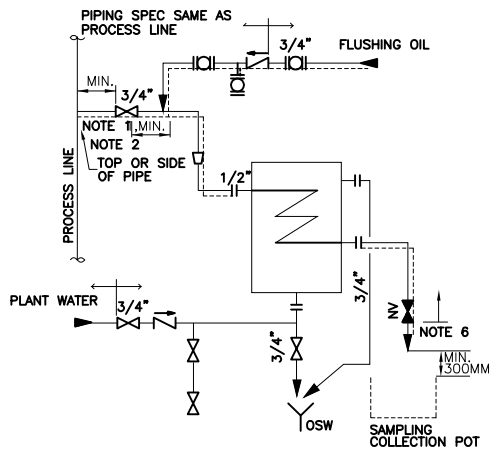
7. SAMPLE CONNECTION DETAILS

7.3 TYPE–C : FOR NON–HAZARDOUS LIQUID WITH HIGH POUR POINT (HEAVIER H.C. LIQUID THAN LIGHT DIESEL) WHOSE TEMPERATURE IS HIGHER THAN 65°C. (HEAT TRACE IS REQUIRED)

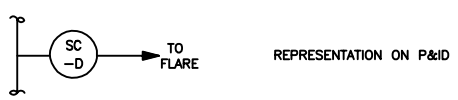
FOR TYPE–C, TO AVOID SOLIDIFICATION IN LEAD PIPING, FAST LOOP SHALL BE PROVIDED ACROSS CONTROL VALVE OR PUMP AS FOLLOWS :

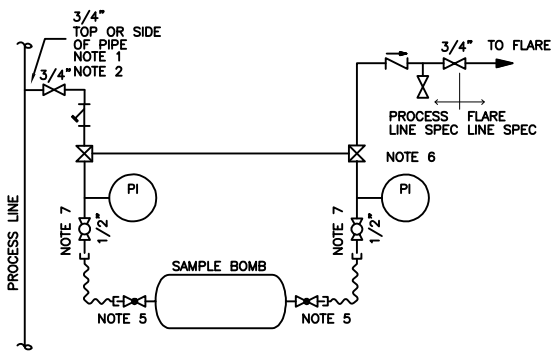
REPRESENTATION ON P&ID



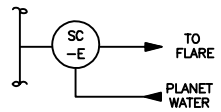


7.4 TYPE–D : CRUDE AND GAS SERVICE WHOSE TEMPERATURE IS LOWER THAN 65°C. (NOTE 3 & 4)

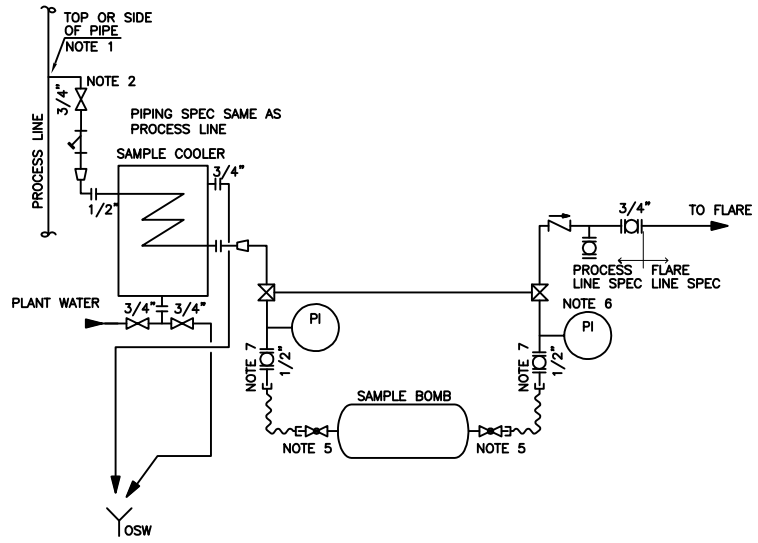




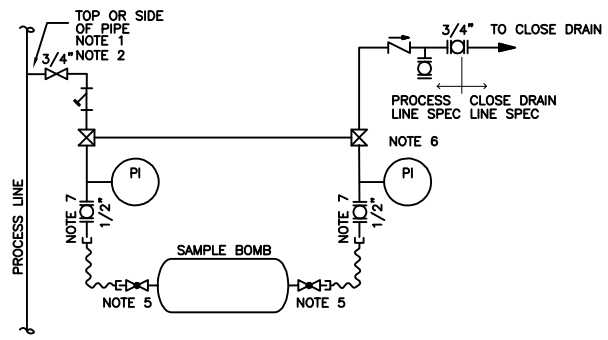
7.5 TYPE–E : TOXIC CRUDE AND TOXIC GAS SERVICE WHOSE TEMPERATURE IS HIGHER THAN 65°C. (NOTE 3 & 4)



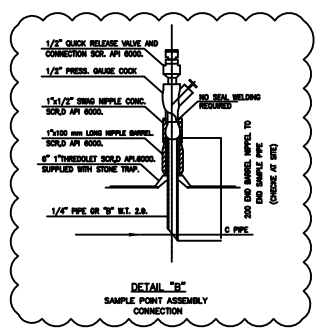
REPRESENTATION ON P&ID



7.6 TYPE–F : TOXIC GAS AND TOXIC CRUDE WHOSE TEMPERATURE IS LOWER THAN 65°C. (NOTE 3 & 4)

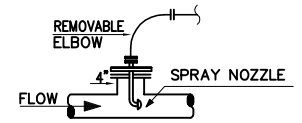


7.7 TYPE–G : DETAIL "B" SAMPLE CONCTION ASSEMLY POINT ACCORDING TO NISOC STANDARD DRAWINGS (S4L)



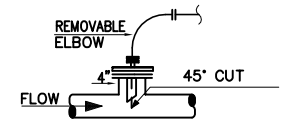
8.CONTINUOUS CHEMICAL INJECTION IN PROCESS LINE

TYPE 1



INJECTION DEVICE PERMANENTLY CONNECTED
(GAS SERVICE)

TYPE 2



INJECTION DEVICE PERMANENTLY CONNECTED
(OTHER SERVICE)

NOTES

1– MINIMIZE DISTANCE FROM PROCESS TAKE–OFF TO SAMPLE STATION.
2– SAMPLE CONNECTIONS IN SERVICES WITH ANSI CLASS 900 RATINGS OR MORE SHALL BE PROVIDED WITH TWO BLOCK VALVES.
3– IF PROCESS LINE HAS HEAT TRACE, SAMPLE CONNECTIONS SHALL BE PROVIDED WITH HEAT TRACE.
4– SAMPLE CONNECTIONS SHALL BE ACCESSIBLE FROM GRADE AS MUCH AS POSSIBLE.
5– THREADED FEMALE CONNECTIONS TO MATE WITH MALE CONNECTION OF SAMPLE CYLINDER CONNECTIONS SHALL NOT PUT TORQUE ON TUBE OR PIPING.
6– LINE CLASS SHALL BE THE SAME S THAT OF MAIN LINE.
7– BALL VALVE SHALL BE PROVIDED.
8– RELEASE TO LOCAL BURN PIT FOR WELLSITE AREA.

LEGEND

REFERENCE DRAWING	DRG. No.
••••••••••	••••••

KEY PLAN

REV.	DESCRIPTION	CHECKED BY	CHECKED DATE	REV. APPR. BY	REV. APPR. DATE
D03	FEB.2023	IFA	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
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D00	OCT.2021	IFC	M.ARYAFAR	M.FAKHARIAN	M.MEHRSHAD	**.**
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.
***	••••••••••		**.**	***.****	**.**	***.****

PROJECT NAME: BINAK OILFIELD DEVELOPMENT/SUB–SURFACE WORK PACKAGES GENERAL

PROJECT NO.: 971020

EPC CONTRACTOR: HIRGAN ENERGY – DESIGN & INSPECTION COMPANIES

EPD/EPC CONTRACTOR (GC): PETROIRAN DEVELOPMENT COMPANY (PEDCO)

BINAK OILFIELD DEVELOPMENT
SUB–SURFACE WORK PACKAGES
GENERAL

DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

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APPROVED FOR CONSTRUCTION | BY: | DATE:

(VENDOR TITLE BLOCK)**

DRAWING TITLE: Symbol & Legend For PFD and P&ID

SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.
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BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.	SHEET	REVISION
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