

NOTES

DOCUMENT TITLE

F&G CAUSE AND EFFECT DIAGRAM —  
EXTENSION OF BINAK B/C MANIFOLD[illegible]


## CHANGE RECORD SHEET

SHEET No.	REVISION								
	D00	D01	D02	D03	D04	D05	D06	D07	D08
1	X	X							
2	X	X							
3	X	X							
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DRAWING TITLE:		NO CONSTRUCTION PERMITTED UNLESS DRAWING APPROVED			
P&G CAUSE AND EFFECT DIAGRAM - EXTENSION OF BINAK B/C MAINFOLD		APPROVED FOR CONSTRUCTION	BY:	DATE:	
SCALE	DRAWING NO.	SHEET NO.	REV.	BINDER REF.	LOCATION/SIZE/CLASS
A3	BR-W007S-PEPCO-110-IN-DG-0010	02 OF 03	D01	0-53-0793-9164	F 2 J
N.T.S				707983	3
					D01

REFERENCE DRAWING		DRG. NO.
TAG IDENTIFY PLANT - EXTENSION OF BULK S/C MAINFOLD		
SPECIFICATION FOR PIPE & GAS SENSOR AND DEVICES		
PIPE & GAS DETECTION DESIGN CRITERIA		
BLOCK DIAGRAM CONNECTION FOR CONTROL/SEN/ TAG S/C MAINFOLD		

REV.	DATE	DESCRIPTION	BY	CHECKED	REV. APPR.	DATE
D01	FEB 2023	IPA	PAHMO008H	LMAMMAN	MARSHAD	04-04
D00	SEP 2022	IPC	PANMO008H	LMAMMAN	MARSHAD	04-04
REV.	DATE	P.O.I.S	PREP.	CHK.	APP.	AUT.
PROJECT NAME: BRNA OUTLETD DEVELOPMENT/SUB-STRAKE WORK PACKAGES WOODS HTP & EXTENSION OF BRNA B/C MANFOLD						
PROJECT NO.: 971020						



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EPC CONTRACTOR:  HIRAN ENERGY - DESIGN & INSPECTION COMPANIES	EFD/EPC CONTRACTOR (GC):  PETROBRAN DEVELOPMENT COMPANY PEDCO	BINAK OILFIELD DEVELOPMENT SUB-SURFACE WORK PACKAGES				
		WOOTS WHF & EXTENSION OF BINAK B/C MANIFOLD				
		DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.


**KEY PLAN**

**LEGEND**

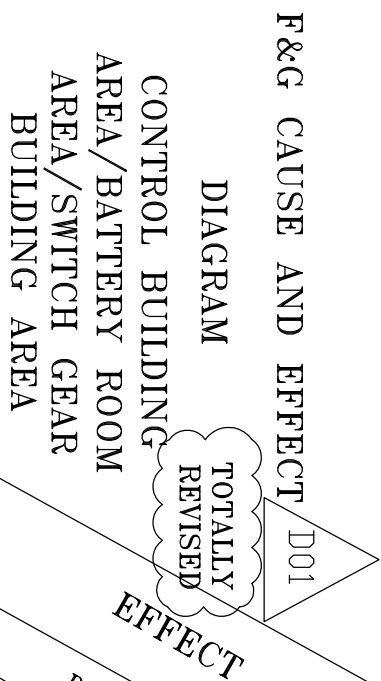
REFERENCE DRAWING	DRG. No.
746 LOCATION LAYOUT - EXPANSION OF BRANK B/C MAINROAD	BK-W079-PRD00-110-N-PT-0005
SPECIFICATION FOR FIRE & GAS SENSOR AND DEVICES	BK-W079-PRD00-110-N-SP-0009
FIRE & GAS DETECTION DESIGN CHEMICAL	BK-W081-PRD00-110-N-DC-0001
BLOCK PLUMBING CONFIGURATION FOR CONTROL, ESD/746 STR.-MAINROAD	BK-W079-PRD00-110-N-DC-0001

**KEY PLAN**

REV.	DESCRIPTION	BY	DATE	REV.	DATE
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BINAK OILFIELD DEVELOPEMENT SUB-SURFACE WORK PACKAGES			
WOOTS WHF & EXTENSION OF BINAK B/C MAINFOLD			
DATE	SCALE	DRAWING BY	CHECKED BY PROJECT ENG.

NO CONSTRUCTION PERMITTED UNLESS DRAINING APPROVED				
APPROVED FOR CONSTRUCTION	BY:		DATE:	
BUDGET REF.	LOCATION	SIZE CLASS	SERIAL NO.	SHEET REVISION
0-53-073-9164	F	2	707993	3 D01



F&G CAUSE AND EFFECT D01			CONTROL BUILDING AREA		BATTERY ROOM AREA		SWITCH GEAR BUILDING AREA		FACEP (NOTE 4)	
DIAGRAM			EFFECT							
CONTROL BUILDING AREA/BATTERY ROOM AREA/SWITCH GEAR BUILDING AREA			DESCRIPTION							
CAUSE			ACTION		INITIATE		INITIATE		INITIATE	
DESCRIPTION			TAG		1		2		3	
CONTROL BUILDING MANUAL ALARM CALL POINT ACTIVATION			MAC-2101~2104		X		X			
CONTROL BUILDING CONTROL ROOM SMOKE DETECTION (SINGLE DETECTION)			SD-2101~2106 SD-2111~2114 SD-2122		X		X			
CONTROL BUILDING CONTROL ROOM HEAT DETECTION (SINGLE DETECTION)			HD-2101		X		X			
BATTERY ROOM AREA MANUAL ALARM CALL POINT ACTIVATION			MAC-2201~2202							
BATTERY ROOM AREA SMOKE DETECTION (SINGLE DETECTION)			SD-2201							
BATTERY ROOM AREA HEAT DETECTION (SINGLE DETECTION)			HD-2201							
BATTERY ROOM AREA 5% LEL HYDROGEN GAS DETECTION CONFIRMED(SINGLE DETECTION)			HGD-2201							
BATTERY ROOM AREA 10% LEL HYDROGEN GAS DETECTION CONFIRMED(SINGLE DETECTION)			HGD-2201							
SWITCH GEAR BUILDING AREA MANUAL ALARM CALL POINT ACTIVATION			MAC-2301~2304							
SWITCH GEAR BUILDING AREA SMOKE DETECTION (SINGLE DETECTION)			SD-2301~2303 SD-2311~2316							
SWITCH GEAR BUILDING AREA HEAT DETECTION (SINGLE DETECTION)			HD-2301							
SWITCH GEAR BUILDING AREA 5% LEL HYDROGEN GAS DETECTION CONFIRMED(SINGLE DETECTION)			HGD-2301							
SWITCH GEAR BUILDING AREA 10% LEL HYDROGEN GAS DETECTION CONFIRMED(SINGLE DETECTION)			HGD-2301							
SWITCH GEAR BUILDING AREA FIRE DETECTION (SINGLE DETECTION) (BY LINEAR HEAT DETECTOR)			LHD-2301~2305							

1. (CR) CONTROL ROOM MONITORING IS DEDICATED TO ALARMING ON F&G OPERATOR WORKSTATION.
2. 2 DIFFERENT TONES TO BE SELECTED FOR HORN AND BEACON ONE FOR LOW ALARM OF FLAMMABLE/ TOXIC GAS DETECTION(NON-CONTINUOUS) AND ONE FOR FIRE/HIGH ALARM OF FLAMMABLE/ TOXIC GAS DETECTION (CONTINUOUS).
3. DIFFERENT COLORS TO BE SELECTED FOR LIGHTS OF BEACONS:
  - RED FOR FIRE DETECTION
  - BLUE FOR TOXIC GAS DETECTION
  - YELLOW FOR FLAMMABLE GAS DETECTION
4. ALARM LAMP ON F&G WILL BE ACTIVATED CONSIDERING DEDICATED DETECTOR ADDRESS.



REFERENCE DRAWING	DRG. No.
TRAC LOCATION LAYOUT - EXTENSION OF BRINK B/C HANFORD	BR-M0079-PRD00-110-IN-PY-0000
PERFORMANCE FOR FIRE & GAS SENSORS AND DEVICES	BR-C0001-PRD00-000-IN-SF-0000
FIRE & GAS DETECTION DESIGN CRITERIA	BR-S0001-PRD00-110-IN-DC-0001
LOCK DIAGRAM CONFIGURATION FOR CONTROL/2SD/746 SYS-HANFORD	BR-M0079-PRD00-110-IN-DG-0000

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**KEY PLAN**

[illegible]

 <b>HIRAGAN ENERGY</b> - DESIGN & INSPECTION COMPANIES	 <b>PETROLEUM DEVELOPMENT COMPANY</b> PEDCO	BINAK UPTFIELD DEVELOPMENT SUB-SURFACE WORK PACKAGGS				
		WOODS WHP & EXTENSION OF BINAK B/C MANIFOLD				
		DATE	SCALE	DRAWING BY	CHECKED BY	PROJECT ENG.

P&G CAUSE AND EFFECT DIAGRAM - EXTENSION OF BNAK B-6/MAINPOLD									
					APPROVED FOR CONSTRUCTION		BY:		DATE:
SCALE	SIZE	DRAWING NO.	SHEET NO.	REV.	BUDGET REF.	LOCATION	SIZE	CLASS	SERIAL NO.
N:1.5	A3	BK-W0703-PRD03-110-N-DG-0010	03 OF 03	D01	0-53-9731-0184	F	2	f	707983
									SHEET
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									D01
									REVISION