Annexure-V

Table 8.1.1 Compressor Design Characteristics

Parameter	Design Characteristic
Model	C4522LTM-0220
Assembly	3P961-C3P961-A1
Serial Number(s)	G4520126, G4520127
Staging	C2-2A/C3-2C
Weight	60 000 lb (27 216 kg)
Design Point Impeller O.D.	21.20 in. (538.48 mm)
Design Point Suction Pressure	1029.96 psia (71.01 bar)
Design Point Discharge Pressure	1393.42 psia (96.07 bar)
Design Point Head	14 689.6 ft-lb/lb (43.9 kJ/kg)
Design Point Flow	4642.95 cfm (131.4 m^3/min)
Power Required	7771 hp (5795 kW)
Speed	8015 rpm
Design Point Suction Temperature	86.0°F (30.0°C)
Design Point Discharge Temperature	133.3°F (56.2°C)
Design Point Efficiency	85.6%
Design Point Surge Margin	27.5%
Design Point Gas Specific Gravity	0.5574
Impeller Material	15-5 PH Type 100
Case Material	ASTM A216 Grade WCC
Inlet Guide Vane Material	1020-1030 per ASTM A36
Rotor Spacer Material	AISI 410
Input/Output Stub Shaft Material	AISI 4140
Tilt-Pad Bearing Material	Steel-Backed Babbitt
Thrust Bearing Material	Steel-Backed Babbitt
Labyrinth Seal Material	Steel-Backed Babbitt

The gas compressor can be modified, depending on field conditions and requirements, to provide other output pressure ratios and flow ranges within the compressor capabilities by selecting different staging. The parts required to accomplish restaging, together with detailed information about resulting functional changes, can be obtained from Solar Turbines Customer Services.

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Format No: GSPL/BRPL/GCS/DR01

GUJARAT STATE PETRONET LIMITED

GAS COMPRESSOR SYSTEM, GANA

BHASKAR RESOURCES PRIVATE LIMITED (O&M CONTRACTOR)

Report No: 882 | **DAILY OPERATION REPORT** | Date: 16.06.2021

1. GTC Running Hours/ Start Counts:

	Running Hours		Start Count	
	Daily	Cumulative	Daily	Cumulative
GTC-A	24	4283	0	69
GTC-B	0	3830	0	95

2. GTC Critical Parameters: (Parameters recorded at 06:00 hrs)

Parameters	GTC-A	GTC-B
NGP/NPT	100 /87.8	GTC-B IS NOT AVAILABLE
Suction Pressure / Temp. (barg / degC)	68 / 31	
Discharge Pressure / Temp. (barg / degC)	92 / 59	
Turbine average T5 Temp. (degC)	664	
Process NG Flow (MMSCMD)	14.69	
Re-circulation Valve Position (%)	0	

3. Availability: (From 1st Jan 2021)

	Daily	Monthly*	Yearly*
GTC-A Availability (%)	100.00	92.71	98.12
GTC-B Availability (%)	100.00	98.83	99.19
Overall Plant Availability (%)	100.00	98.83	99.49

4. Outages:

Type of Outage	Outage Hours		Reason of Outage
	GTC-A	GTC-B	
Scheduled Outage	0	0	-
Forced Outage	0	0	-
Equipment Outage / Plant outage	0	0	-

5. Consumptions:

GTC- A/ B	Daily	Monthly*	Yearly*	Cumulative*
Process NG Compressed (MMSCMD)@	15.8	198.7	532.4	3437.60
Fuel NG Consumed (SCM)	55783	603226	1753893	15815790
System Used Gas (Starter Motor+ Vent)(SCM)	27	13174	84656	270076
Average GCV / NCV (Kcal/ SCM)	9080.1123/8177.7930	**Note:** GC is in service.		

@ There is no meter at final discharge, throughput mentioned is inclusive of recirculated gas, if any.

5.2 Power Consumption / DG Generation

From MGVCL (KWH)	5304	61374	415710	2844126
MGVCL DAILY AVERAGE P.F.	0.90			
From DEG (KWH)	0.0	704.0	1856.0	8472.11

5.3 Water Consumption

Raw Water (m3)	Borewell-01	13.91	112.77	1213.22	7710.01
	Borewell-02	13.50	144.10	2169.50	11176.00
RO Inlet Water (m3)		5.26	107.04	912.89	6620.21
RO Reject Water (m3)		3.45	65.41	591.04	4160.71
Drinking Water (m3)		0.15	3.22	27.25	203.24
Fire Water (m3)		0.00	60.00	460	3642.44

5.4 Diesel Consumption (Litres):

DG Set	0.00	370	1405	6595
DEG Driven FWP	0.00	6.60	88.64	1375.56

6. Environmental Report: (Recorded at 06:00 hrs)

	GTC-A	GTC-B
NO_X (ppm)	26.86	GTC-B IS NOT AVAILABLE
SO_X (ppm)	24.48	

7. Status of Major Equipment:

7.1 Equipment Status (Note: Put √ on the Equipment, which is in service)

GTC-A	GTC-B	SCBR-A	IAC- A	FGCS Filter-A	SGS Filter-A	VFD-1	VFD-4
GTC-A LOF-1	GTC-B LOF-1	SCBR-B	IAC- B	FGCS Filter-B	SGS Filter-B	VFD-2	VFD-5
GTC-A LOF-2	GTC-B LOF-2	RO Plant	DRYER- A	FGCS Heater-A	PRS Heater	VFD-3	VFD-6
			DRYER- B	FGCS Heater-B			

7.2 Daily/ Cumulative Running Hours:

GTC-A LOF-1	24 / 2059.5	GTC-B LOF-1	00/ 1942.92	IAC- A	0 / 6856.4	IAC- B	24 / 7483.72
GTC-A LOF-2	00 / 2322	GTC-B LOF-2	00 / 2060	DRYER- A	00 /10600	RO Plant	03 /2465.0
SCBR-A	24 / 8040.32	SCBR-B	24 / 8040.32	DRYER- B	24 / 9273	GAC-1	24 / 7997.87
-	-	-	-	GAC-2	24 / 7997.87	GAC-3	24 / 7997.87

8. No. of Permits Issued :

Department	Mechanical	Electrical	Instrumentation	Operation
Nos.	2	1	1	1(IT)

9. No. of Fault Notifications Issued :

Department	Mechanical	Electrical	Instrumentation	Others
Nos.	0	0	0	0

10.Safety Report :

	Nos.	Description
Injuries	0	-
Lost Time Accidents	0	-
Safe Man Hours since Last Incident	651792	-

11.Major Activity :

1. GAC fans & motors - 3 & 4 PM job done by MMD & EMD . Trial run of both fans taken after PM job, observed ok.
2. PM and testing of XV-1001A, XV-1001B and XV-001 at gas scrubber and SGCS area done IMD.
3. Pre Monsoon rain water protection job done by IMD for various field intruments.
4. Seal gas skid fine filter- A and B one by one inspection & cleaning activity conducted. No any abnormality observed on inspection of both filter cartridgers, Both filters replaced by new.
5. All printer PM job done by ITD.

12.Major Equipments Not Available:

GTC-B

*** Monthly, Yearly & Cumulative figures are calculated from 03'Jan 2019 (06:00 hrs)**

@ Process NG Compressed (MMSCMD)- Monthly, Yearly & Cumulative figures are calculated from 05'Aug 2019 (06:00 hrs)

Shift Incharge	Niraj Kumar		Plant Head	

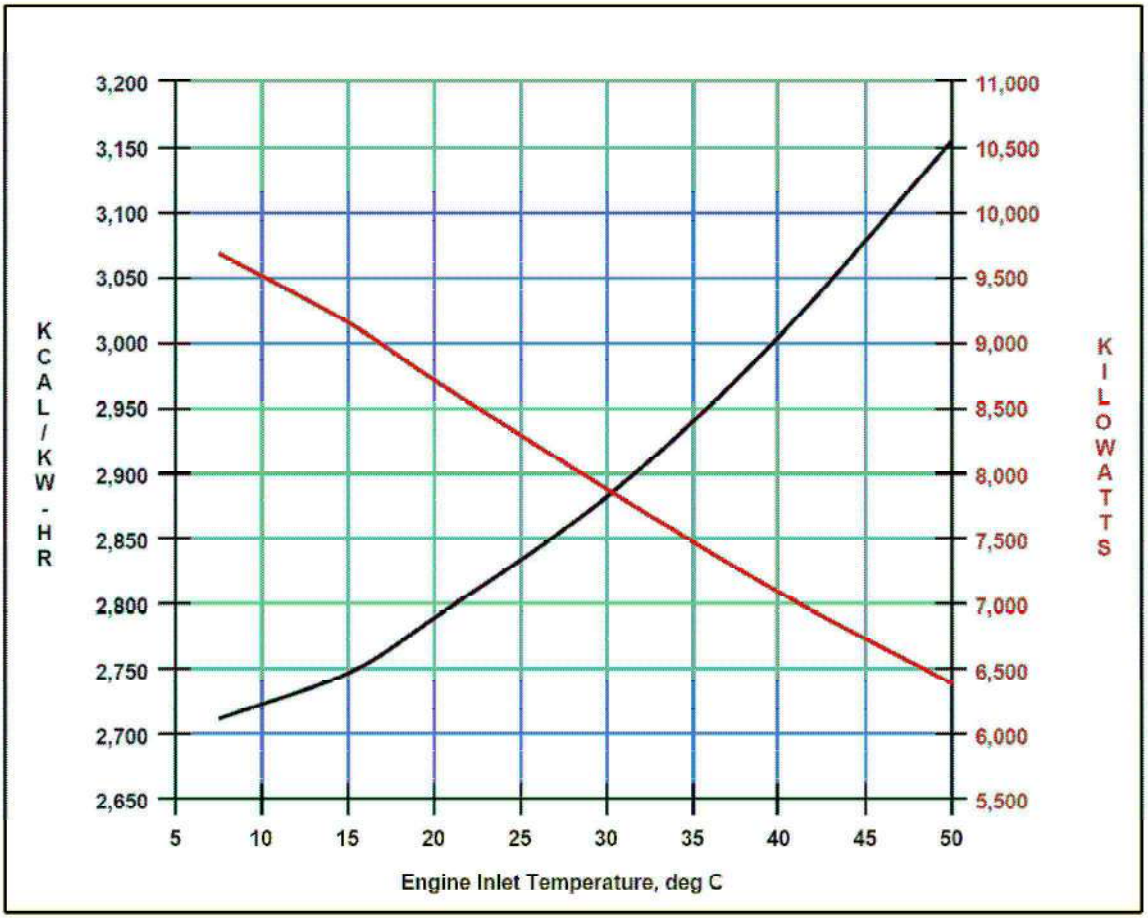
(Ravi Jinwala).

ENGINE CURVE AT FULL LOAD OPTIMUM SPEED (GANA):

Elevation	metres	36
Relative Humidity	%	64
Inlet Loss	mmH2O	100
Exhaust Loss	mmH2O	250

MARS 90S
CS/MD

GAS FUEL			CUSTOMER GAS FUEL
LHV	kJ/Std.m3	33834.8	TME-2S REV. 2.1
SG		0.5574	
W.I. @15.56C	kJ/Std.m3	45321.1	



ENGINE PERFORMANCE AT FULL LOAD (GANA):

MARS 90S
CS
GAS
TME-2S REV. 2.1

DATA FOR PERFORMANCE

Fuel Type		CHOICE GAS		
Elevation	metres	36		
Inlet Loss	mm H2O	100.0		
Exhaust Loss	mm H2O	250.0		
Engine Inlet Temp.	deg C	7.5	36.1	44.5
Relative Humidity	%	33.0	90.0	64.0
Driven Equipment Speed	RPM	8752	8403	8279
Optimum Equipment Speed	RPM	8752	8403	8279
Gas Generator Speed	RPM	11155	11168	11165
Specified Load	kW	FULL	FULL	FULL
Net Output Power	kW	9671	7324	6767
Fuel Flow	kcal/sec IT	7279.77	6039.82	5764.24
Heat Rate	kcal/kW-hr	2710	2969	3066
Inlet Air Flow	kg/hr	145584	120770	114737
Engine Exhaust Flow	kg/hr	147316	122207	116111
PCD	barG	15.8	13.1	12.5
Compensated PTIT	deg C	691	688	691
PT Exit Temperature	deg C	465	497	511
Exhaust Temperature	deg C	465	497	511

FUEL GAS COMPOSITION (VOLUME PERCENT)
LHV (kcal/Nm3) = 8522.6 SG = 0.5574 W.I. @15C (Btu/Scf) = 1214.6
W.I. @15C (kcal/Nm3) = 11415.9

Methane (CH4)	=	99.4985
Ethane (C2H6)	=	0.1046
Propane (C3H8)	=	0.0142
Hexane (C6H14)	=	0.0001
Carbon Dioxide (CO2)	=	0.2293
Nitrogen (N2)	=	0.1532

4 DATASHEETS

4.1 API DATASHEETS

4.1.1 API 616

Solar Turbines
A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
PURCHASE ORDER NO. TBD
SPECIFICATION NO.
REVISION NO. 00 DATE 3/21/2012
PAGE 1 OF 10 BY

1 APPLICABLE TO: (X) PROPOSAL ( ) PURCHASE ( ) AS BUILT
2 FOR Purchaser Company Name UNIT
3 SITE SERIAL NUMBER TBD
4 SERVICE NUMBER REQUIRED
5 (X) CONTINUOUS ( ) INTERMITTENT ( ) STANDBY DRIVEN EQUIPMENT
6 MANUFACTURER Solar Turbines [X] MODEL MARS 90S ISO RATING (3.17) 9860 kW, 13220 hp @ See line 11 RPM
7 NOTE: INFORMATION TO BE COMPLETED: ( ) BY PURCHASER [ ] BY MANUFACTURER [O] BY MFR IF NOT BY PURCHASER
8 **GENERAL**
9 CYCLE: ( ) REGEN (X) SIMPLE ( ) EXHAUST HEAT RECOVERY TYPE: [O] SINGLE SHAFT [X] MULTI SHAFT
10 DRIVEN EQUIPMENT: NORMAL SHAFT, kW ____ @ ____ RPM RATED SHAFT, kW ____ @ ____ RPM
11 OUTPUT SHAFT SPEED RANGE (4.1.5) [X] MIN 4000 [X] MAX 9500 RPM
12 ( ) DESIRED MINIMUM SITE POWER ____ kW @ ____ RPM
13 OPERATION ( ) ATTENDED ( ) UNATTENDED [X] POTENTIAL MAXIMUM POWER (3.33) See line 22 kW
14 **PREDICTED PERFORMANCE**
15 Please refer to
16 Section 3 of Proposal
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37 APPLICABLE SPECIFICATIONS:
38 ( ) API 616 GAS TURBINES FOR THE PETROLEUM, CHEMICAL
39 & GAS INDUSTRY SERVICES
40 ( ) GOVERNING SPECIFICATION (IF DIFFERENT)
41
42 (X) VENDOR HAVING UNIT RESPONSIBILITY (4.1.2) Solar
43
44 SHIPMENT: (6.4)
45 ( ) DOMESTIC ( ) EXPORT ( ) EXPORT BOXING REQUIRED
46 ( ) OUTDOOR STORAGE MORE THAN 6 MONTHS (6.4.1)
47 ( ) SPARE ROTOR ASSEMBLY PACKAGED FOR (6.4.3.10) N/A
48 ( ) DOMESTIC ( ) EXPORT ( ) SHIPMENT
49 COMMENTS:
50

LOCATION (4.1.16)
( ) INDOOR (X) OUTDOOR (X) GRADE
( ) HEATED ( ) UNDER ROOF ( ) MEZZANINE
( ) UNHEATED (X) PARTIAL SIDES ( )
ELECRICAL AREA CLASSIFICATION (4.1.14)
( ) NON-HAZARDOUS (X) HAZARDOUS
APPLICABLE CODE: ( ) NEC 500 ( ) NEC 505 ( ) IEC
CLASS: ____ GROUP: IIA TEMP CODE: ____
AREA CLASSIFICATION: ( ) DIVISION ____ (X) ZONE 2
( ) THIRD PARTY CERTIFICATION REQUIRED (Note 2)
( ) WINTERIZATION REQUIRED
( ) TROPICALIZATION REQUIRED (5.4.6.6)
UNUSUAL CONDITIONS: ( ) DUST ( ) FUMES
( ) CORROSIVE AGENTS (4.10.1.1)
( ) OTHER (5.5.34)
NOISE SPECIFICATIONS: (4.1.10) (Note 1)
( ) APPLICABLE TO MACHINE: (5.7.4.1)
SEE SPECIFICATION
( ) APPLICABLE TO NEIGHBORHOOD: (5.7.4.2)
SEE SPECIFICATION

PAINTING:
(X) MANUFACTURER'S STANDARD
( ) OTHER

NOTE: All Data Sheets References to GG=Gas Generator
SS = Single Shaft and PT = Power Turbine
REMARKS:
Note 1: 85 dBA @ 1 m, Refer to proposal
Note 2: N/A - Not Applicable

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COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 03/21/12
PAGE 2 OF 10 BY

FUEL SYSTEM (5.8)

TYPE ⊗ GAS (5.8.2) ○ LIQUID (5.8.3) ○ DUAL (5.8.1.5.1)
DUAL SYSTEM REQMTS (5.8.1.5.1) ○ GAS/GAS ○ GAS/LIQUID ○ LIQUID/LIQUID
○ COMPLETE FUEL RECEIVING SYSTEM (5.8.1.1) ○ MAX. TIME ALLOWED TO COMPLETE TRANSFER _____ SECONDS

GAS FUELS (5.8.2)	LIQUID FUELS (5.8.3)
Please refer to Section 3 of Proposal	Not applicable

REMARKS:
Note 1: If C6+ is greater than 0.3%, must specify C7 through C14.
Note 2: At least 28°C above fuel dewpoint (per ES 9-98).
Note 3: Please refer to Mechanical Installation Drawings.

FUEL SYSTEM PIPING

○ BY PASS AND VENT VALVE (3.7.1.3) ☐ ISOLATION BLOCK VALVES ○ ANSI FLANGE RATING _____
○ TWIN Y-TYPE STRAINER WITH CONTINUOUS FLOW ☐ NACE MATERIAL STANDARDS (4.10.1.8)
○ TRANSFER VALVE (5.8.1.2.4)

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A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 3 OF 10 BY 0

1 *Gas Producer Rotor — CONSTRUCTION FEATURES (NOTE 1)

2 [X] SPEEDS:
3 MAX. CONT. ____ RPM TRIP 11319 RPM
4 [X] LATERAL CRITICAL SPEEDS (DAMPED)
5 FIRST CRITICAL 3032 RPM Critically damped MODE
6 SECOND CRITICAL 4650 RPM Critically damped MODE
7 THIRD CRITICAL 10,385 RPM Critically damped MODE
8 FOURTH CRITICAL - RPM - MODE
9 [ ] PROTOTYPE OR MODIFIED ROTOR SUPPORT (4.7.3.5)
10 ○ TRAIN LATERAL ANALYSIS REQUIRED (D.1.3)
11 ○ TRAIN TORSIONAL ANALYSIS REQUIRED (2.7.4.5)
12 [ ] TORSIONAL CRITICAL SPEEDS:
13 FIRST CRITICAL Note 1 RPM
14 SECOND CRITICAL Note 1 RPM
15 THIRD CRITICAL Note 1 RPM
16 FOURTH CRITICAL Note 1 RPM
17 VIBRATION: (4.7.4.5) (7.2.3 o)
18 [X] ALLOWABLE TEST LEVEL SHAFT 50.8 std 26.3 API w/ SER MIC P/P
19 CASE ____ mm/SEC
20 [X] ROTATION, VIEWED FROM DRIVE END ⊗ CW ○ CCW
21 AIR COMPRESSOR:
22 STAGES 15 MAX. TIP SPEED 355 m/SEC
23 TYPE Axial PRESSURE RATIO 16.4:1
24 CASING SPLIT (2.2.3) ⊗ AXIAL ○ RADIAL
25 ROTOR [ ] SOLID [X] BUILT UP
26 TURBINE:
27 STAGES 2 MAX. TIP SPEED 466.24 m/SEC
28 CASING SPLIT (4.2.3) ○ AXIAL ⊗ RADIAL
29 ROTOR [ ] SOLID [X] BUILT UP
30 COMBUSTORS: (4.3.2)
31 [X] SINGLE [ ] MULTIPLE, NUMBER ____
32 [X] GAS [ ] LIQUID [ ] DUAL FUEL
33 MAXIMUM ALLOW TEMP. VARIATION 93 from avg °C
34 APPLICABLE PLANE T5 (PT Inlet)
35 FUEL NOZZLES PER COMBUSTOR 21 (Conv); 14 (SoLoNOx)
36 ⊗ WOBBE INDEX NO. REQD (4.3.7) [X] MAX 40969 MIN
37 MAINTENANCE INTERVALS, HOURS
38 [X] HOT GAS PATH INSPECTIONS 4000 hrs
39 [X] MAJOR OVERHAULS 30000 hrs
40 [ ] OTHER ____
41
42 GOVERNOR (5.4.3)
43 ⊗ MFR'S STD. ○ OTHER ⊗ MAKE A.B. ⊗ MODEL Note 3
44 ○ CONSTANT SPEED ⊗ VARIABLE SPEED
45 ○ ISOCHRONOUS ○ DROOP
46 REMOTE SHUTDOWN SIGNAL ⊗ ELECTRIC
47 ○ PNEUMATIC ○ HYDRAULIC ○ NONE
48 MANUAL SPEED CHANGER, RPM ____ MAX. ____ MIN.
49 ○ MAINTAIN TURBINE SPEED UPON FAILURE OF CONTROL
50 SIGNAL OR ACTUATOR

MATERIALS OF CONSTRUCTION (4.10)

COMPRESSOR ROTOR BLADES 718 Ni Alloy
COMPRESSOR STATOR VANES 17-4PH SS (variable) & 410 SS (fixed)
SHAFT AISI 4340 BLADE/VANE COATING Platinum Aluminide

TURBINE STAGE	NOZZLES	BLADES	WHEELS OR DISCS
1	CM-247LC	CMSX-4	Waspaloy
2	CM-247LC	CMSX-3	Waspaloy
3			
4			

COMBUSTORS Haynes 230 (Conv); Haynes 230 & 214 (SoLoNOx)
COMPRESSOR CASING Nodular Iron & WCI
COMBUSTOR CASING 410 Stainless Steel
TURBINE CASING IN 903

GAUGE BOARDS AND CONTROL PANELS

GAUGE BOARDS
[X] LOCATION Digital Gauge Panel (VDU On Skid)
CONTROL PANELS (5.4.5.1.1) ○ ON-SKID ○ OFF SKID LOCAL ⊗ OFF SKID REMOTE
WEATHER PROTECTION REQUIRED ○ YES ○ NO
○ SPECIFICATION ____
○ ANNUNCIATOR REQUIRED (5.4.4.8.5)
[X] VISUAL DISPLAY UNIT (VDU) [X] KEYBOARD

CONTROL SYSTEMS

TYPE (5.4.1.5)
○ MECH ○ PNEU ○ HYDRA ○ ELECTRIC ⊗ ELECTRONIC
⊗ MICROPROCESSOR BASED ○ COMBINED ____

SIGNAL SOURCE N/A
○ SENSITIVITY N/A ○ RANGE ____ TO ____
○ TIME OF AC OUTAGE RIDEOUT N/A MIN (5.4.1.6)
○ SHUT OFF VALVES FOR SHUT DOWN SENSORS (5.4.4.9) N/A
STARTING SYSTEM (5.4.2.1)
○ MANUAL ○ SEMI AUTOMATIC ⊗ AUTOMATIC
[X] PURGE (5.4.2.2) 4 minimum MINUTES (Note 2)
○ SEPARATE SHUTDOWN VALVE TEST DURING OPERATION N/A

NOTE (1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PROTIONS FOR EACH SHAFT.
REMARKS: Note 1: Refer to train torsional report.
Note 2: Purge time is set during commissioning per SB 3.0/105.
Note 3: Control Logix

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A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 3b OF 10 BY 0

1 *Power Turbine Rotor — CONSTRUCTION FEATURES (NOTE 1)

2 [X] SPEEDS:
3 MAX. CONT. _____ RPM TRIP 9899 RPM
4 [X] LATERAL CRITICAL SPEEDS (DAMPED)
5 FIRST CRITICAL 3,085 RPM Critically damped MODE
6 SECOND CRITICAL 8670 RPM Critically damped MODE
7 THIRD CRITICAL >20000 RPM Critically damped MODE
8 FOURTH CRITICAL - RPM - MODE
9 [ ] PROTOTYPE OR MODIFIED ROTOR SUPPORT (4.7.3.5)
10 ( ) TRAIN LATERAL ANALYSIS REQUIRED (D.1.3)
11 ( ) TRAIN TORSIONAL ANALYSIS REQUIRED (2.7.4.5)
12 [ ] TORSIONAL CRITICAL SPEEDS:
13 FIRST CRITICAL Note 1 RPM
14 SECOND CRITICAL Note 1 RPM
15 THIRD CRITICAL Note 1 RPM
16 FOURTH CRITICAL Note 1 RPM
17 VIBRATION: (4.7.4.5) (7.2.3 o)
18 [X] ALLOWABLE TEST LEVEL SHAFT 50.8 std 28.4 API w/SER MIC P/P
19 CASE _____ mm/SEC
20 [X] ROTATION, VIEWED FROM DRIVE END (X) CW ( ) COW
21 AIR COMPRESSOR:
22 STAGES _____ MAX. TIP SPEED _____ m/SEC
23 TYPE _____ PRESSURE RATIO _____
24 CASING SPLIT (2.2.3) ( ) AXIAL ( ) RADIAL
25 ROTOR [ ] SOLID [ ] BUILT UP
26 TURBINE:
27 STAGES 2 MAX. TIP SPEED 567.53 m/SEC
28 CASING SPLIT (4.2.3) ( ) AXIAL (X) RADIAL
29 ROTOR [ ] SOLID [X] BUILT UP
30 COMBUSTORS: (4.3.2)
31 [ ] SINGLE [ ] MULTIPLE, NUMBER _____
32 [X] GAS [ ] LIQUID [ ] DUAL FUEL
33 MAXIMUM ALLOW TEMP. VARIATION _____ °C
34 APPLICABLE PLANE _____
35 FUEL NOZZLES PER COMBUSTOR _____
36 ( ) WOBBE INDEX NO. REQD (4.3.7) [ ] MAX _____ MIN
37 MAINTENANCE INTERVALS, HOURS
38 [X] HOT GAS PATH INSPECTIONS 4000 hrs
39 [X] MAJOR OVERHAULS 30000 hrs
40 [ ] OTHER _____
41
42 GOVERNOR (5.4.3)
43 (X) MFR'S STD. ( ) OTHER (X) MAKE A.B. (X) MODEL Note 3
44 ( ) CONSTANT SPEED (X) VARIABLE SPEED
45 ( ) ISOCHRONOUS ( ) DROOP
46 REMOTE SHUTDOWN SIGNAL (X) ELECTRIC
47 ( ) PNEUMATIC ( ) HYDRAULIC ( ) NONE
48 MANUAL SPEED CHANGER, RPM _____ MAX. _____ MIN.
49 ( ) MAINTAIN TURBINE SPEED UPON FAILURE OF CONTROL
50 SIGNAL OR ACTUATOR

MATERIALS OF CONSTRUCTION (4.10)

COMPRESSOR ROTOR BLADES _____
COMPRESSOR STATOR VANES _____
SHAFT AISI 4340 BLADE/VANE COATING Platinum Aluminide

TURBINE STAGE	NOZZLES	BLADES	WHEELS OR DISCS
1	N 155	IN 792	718 Ni Alloy
2	N 155	IN 792	718 Ni Alloy
3			
4			

COMBUSTORS _____
COMPRESSOR CASING _____
COMBUSTOR CASING _____
TURBINE CASING _____

GAUGE BOARDS AND CONTROL PANELS

GAUGE BOARDS
[X] LOCATION Digital Gauge Panel (VDU On Skid)
CONTROL PANELS (5.4.5.1.1) ( ) ON-SKID ( ) OFF SKID LOCAL (X) OFF SKID REMOTE
WEATHER PROTECTION REQUIRED ( ) YES ( ) NO
( ) SPECIFICATION _____
( ) ANNUNCIATOR REQUIRED (5.4.4.8.5)
[X] VISUAL DISPLAY UNIT (VDU) [X] KEYBOARD

CONTROL SYSTEMS

TYPE (5.4.1.5)
( ) MECH ( ) PNEU ( ) HYDRA ( ) ELECTRIC (X) ELECTRONIC
(X) MICROPROCESSOR BASED ( ) COMBINED _____

SIGNAL SOURCE N/A
( ) SENSITIVITY N/A ( ) RANGE _____ TO _____
( ) TIME OF AC OUTAGE RIDEOUT N/A MIN (5.4.1.6)
( ) SHUT OFF VALVES FOR SHUT DOWN SENSORS (5.4.4.9) N/A
STARTING SYSTEM (5.4.2.1)
( ) MANUAL ( ) SEMI AUTOMATIC (X) AUTOMATIC
[X] PURGE (5.4.2.2) 4 minimum MINUTES (Note 2)
( ) SEPARATE SHUTDOWN VALVE TEST DURING OPERATION N/A

NOTE (1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PROTIONS FOR EACH SHAFT.
REMARKS: Note 1: Refer to train torsional report.
Note 2: Purge time is set during commissioning per SB 3.0/105.
Note 3: Control Logix

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Solar Turbines
A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 4 OF 10 BY 0

CONSTRUCTION FEATURES CONTINUED (NOTE 1)

*Gas Producer Rotor

BEARINGS AND BEARING HOUSINGS (4.8)

RADIAL	BRG#1	BRG#2	BRG#3
[X] TYPE	Tilt Pad	Tilt Pad	Tilt Pad
[X] MANUFACTURER	Waukesha	Waukesha	Waukesha
[X] LENGTH, mm	57.252	57.252	57.252
[X] SHAFT DIAMETER, mm	114.491	114.491	114.491
[X] UNIT LD (ACT/ALLOW), kPA	4.31 / 17.2	4.93 / 17.2	6.96 / 17.2
[X] BASE MATERIAL	AISI 1010-103	AISI 1010-103	AISI 1010-103
[X] BABBITT THICKNESS, mm	1.524	1.524	1.524
[X] NO. PADS	5	5	5
[X] LOAD: BETWEEN/ON PAD	Between	Between	On
[X] PIVOT: CENTER/OFFSET, %	55.5	55.5	55.5
[X] DAMPER BEARING	No	No	No
[ ]			

THRUST	ACTIVE	INACTIVE
[X] TYPE	Tilt Pad	Fixed Tapered
[X] MANUFACTURER	Waukesha	Solar
[X] UNIT LOAD (ULTIMATE), kPA	76	>68.94
[ ] UNIT LOAD (SITE RATED), kPA		
[X] UNIT LOAD (MAX POTEN), kPA	33.43	N/A
[X] NO. OF PADS/AREA, cm^2	10 / 20,258	8 / 21,290
[X] BASE MATERIAL	Chrome Copper	Carbon Steel
[X] BABBITT THICKNESS, mm	1.52	0.62
[X] PIVOT: CENTER/OFFSET, %	70	N/A

LUBRICATION: ( ) FLOODED (X) DIRECTED
THRUST COLLAR: ( ) INTEGRAL (X) REPLACEABLE
BEARING MATERIAL

BEARING TEMPERATURE DEVICES (4.8.5.5) ( ) SEE ATTACHED API-670 DATA SHEET

( ) THERMOCOUPLES
( ) SELECTOR SWITCH & IND. BY: ___ PURCH ___ MFR

(X) RESISTANCE TEMPERATURE DETECTORS
(X) RESISTANCE MAT'L platinum [X] 100 OHMS
(X) SELECTOR SWITCH & IND. BY: ___ PURCH X MFR

(X) LOCATION-JOURNAL BEARING
NUMBER ___ EA PD ___ EVERY OTH PAD ___ PER BRG
OTHER Total of 2 (# 1, # 2&3 bearing common drains, Note 2)

(X) LOCATION-THRUST BEARING
NO. (ACT) ___ EA PD ___ EVERY OTH PAD 2 PER BRG
OTHER
NO.(INACT) ___ EA PD ___ EVERY OTH PAD 0 PER BRG
OTHER

(X) MONITOR SUPPLIED BY (5.4.7.5) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Allen Bradley [X] MODEL Logix5000
[X] SCALE RGE -18 to 160 [X] ALARM SET @ 115.6 (3) °C
(X) SHTDWN [X] SET @ 121.1 (3) °C ( ) TIME DLY ___ SEC
REMARKS:

VIBRATION DETECTORS (4.8.5.3) ( ) SEE ATTACHED API-670 DATA SHEET

RADIAL VIBRATION DETECTORS:
(X) TYPE Proximity Probes [X] MODEL 3300XL
[X] MFR Bently Nevada
(X) NO. AT EACH SHAFT BEARING 2 TOTAL NO. 6
(X) OSCILLATOR-DEMODULATOR SUPPLIED BY Solar
[X] MFR Bently Nevada [X] MODEL 3300XL
(X) MONITOR SUPPLIED BY (5.4.7.8.2) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 0-254 [X] ALARM SET @ 63.5 µm
(X) SHTDWN [X] SET @ 101.6 µm (X) TIME DELAY 1 SEC

AXIAL POSITION DETECTOR (4.8.5.3):
( ) SEE ATTACHED API-670 DATA SHEETS
(X) TYPE Proximity Probes [X] MODEL 3300XL
[X] MFR Bently Nevada (X) NO. REQUIRED 2
(X) OSCILLATOR-DEMODULATOR SUPPLIED BY Solar
(X) MFR Bently Nevada [X] MODEL 3300XL
(X) MONITOR SUPPLIED BY (3.4.7.8.2) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 635-0-635 [X] ALARM SET @ 101.6 µm
(X) SHTDWN [X] SET @ 177.8 µm (X) TIME DELAY 1 SEC

ACCELERATION TRANSDUCERS
( ) SEE ATTACHED API-670 DATA SHEETS
(X) MFR Bently Nevada [X] MODEL 4-131
(X) LOCATION Accessory Gearbox [X] NUMBER 1
(X) MONITOR SUPPLIED BY (3.4.7.8.4) (X) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 2.5 [X] ALARM SET @ 0.64 cm/s
(X) SHTDWN [X] SET @ 0.71 cm/s (X) TIME DELAY 1 SEC

NOTES
(1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PORTIONS FOR EACH SHAFT.
(2) Alarm @ 51.1 °C, Shutdown @ 69.4 °C, bearing drain temperature above bearing oil inlet temperature.
(3) Additional settings are: Alarm @ 50 °C, Shutdown @ 55.6 °C, thrust bearing temperature above bearing oil inlet temperature.

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REVISION HISTORY		RELEASE - REV_360	
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL SUBMITTAL	4/5/2013	D. GORDON
B	CUSTOMER REQUEST	6/3/2013	D. GORDON
C	AS SHIPPED	1/3/2014	D. GORDON

DEVICE ID AND SYMBOL LEGEND

COMPONENTS

- AUTO VALVE (AV)
- CHECK VALVE (CV)
- COMPRESSOR
- CONVERTER
  - SIGNAL (UA)
  - FREQUENCY (UF)
- DETECTOR
  - SENSOR (DT)
  - FIRE (DTF)
  - GAS (DTG)
- ELECTRIC FAN/MOTOR (M)
- ELEMENT/SENSOR
  - FLOW (FE)
  - PRESSURE (PE)
  - SPEED (SE)
  - TEMPERATURE (TE)
  - VIBRATION (VE)
- FILTER/COALESCER (F)
- FILTER, STRAINER (F)
- FIRE DAMPER (FD)
- FLAME ARRESTOR (XFA)
- FLOW CONTROL VALVE, ELECTRIC, 2 POSITION (FCE)
- FLOW CONTROL VALVE, ELECTRIC, 3 POSITION (FCE)
- FLOW CONTROL VALVE, MECHANICAL (FCM)
- FLOW ORIFICE (FO)
- GAS TURBINE (T)
- GAS TURBINE (T)
- HAND VALVE (HV)
- HAND VALVE, BLOCK AND BLEED (HV)
- HAND VALVE, TRANSFER 3 WAY (HV)
- HAND VALVE, TRANSFER 5 WAY (HV)

COMPONENTS

- HEATER (H)
- HEAT EXCHANGER (HE)
- INDICATOR
  - FLOW (FI)
  - LEVEL (LI)
  - PRESSURE (PI)
  - PRESSURE DIFFERENTIAL (PDI)
  - TEMPERATURE (TI)
- INDUCTANCE (LB)
- MOTOR, PNEUMATIC (M)
- MOTOR, ELECTRIC (M)
- NOISE REDUCER/MUFFLER (NR)
- NOZZLE, FIRE SYSTEM (N)
- PRESSURE CONTROL ELECTRICAL (PCE)
- PRESSURE CONTROL VALVE (PCV)
- PRESSURE CONTROL VALVE AND REGULATOR (PCV)
- PRESSURE SAFETY VALVE (PSV)
- PUMP (P)
- RESERVOIR, ENGINE CLEANING (T)
- RESERVOIR, FIRE SYSTEM BOTTLE (R)
- SIGHT GLASS (SG)
- SOLENOID VALVE, 2 POSITION (SV)
- SOLENOID VALVE, 3 POSITION (SV)
- SOLENOID VALVE, 4 WAY (SV)

COMPONENTS

- SOLENOID VALVE, 5 POSITION (SV)
- SOLENOID DRIVING PNEUMATIC BALL VALVE (SV)
- SOLENOID VALVE, 2WAY-4WAY ASSY (SV)
- SWITCH
  - FLOW (FS)
  - LEVEL (LS)
  - POSITION (ZS)
  - PRESSURE (PS)
  - PRESSURE DIFFERENTIAL (PDS)
  - TEMPERATURE (TS)
  - VIBRATION (VS)
- TEMPERATURE CONTROL ELECTRICAL (TCE)
- TEMPERATURE CONTROL VALVE (TCV)
- THERMOWELL, NPT CONNECTION (TW)
- THERMOWELL, FLANGED CONNECTION (TW)
- TRANSMITTER
  - FLOW (FT)
  - LEVEL (LT)
  - POSITION (ZT)
  - PRESSURE (PT)
  - PRESSURE DIFFERENTIAL (PDT)
  - TEMPERATURE (TT)
  - VIBRATION (VT)

SYMBOLS

- CONTROL SYSTEM INTERFACE, WITH CROSS REFERENCE TO ELECTRIC LOOP SCHEMATIC, SHEET 44, DRAWING ZONE C1 (=ELS/44C1; HH, H, L, LL)

HH	HIGH SHUTDOWN
H	HIGH ALARM
L	LOW ALARM
LL	LOW SHUTDOWN

- CUSTOMER INTERFACE REFER TO MECHANICAL INTERFACE DRAWING FOR CONNECTION INFORMATION (SOLAR SUPPLY / CUSTOMER SUPPLY)
- CYLINDER, HYDRAULIC
- DECREASER/INCREASER
- DRAIN, BELOW FLUID LEVEL
- DRAIN, ABOVE FLUID LEVEL
- FIND NUMBER SYMBOL (FN)
- FLANGED, CONNECTION
- PORT PLUGGED/NPT CONNECTION
- FLOW DIRECTION
- LINES CROSSING
- LINES JOINING
- VENT, AIR
- MAIN LINE
- SECONDARY PROCESS, INSTRUMENT LINE
- PNEUMATIC LINE
- HYDRAULIC LINE
- SKID LIMIT
- FLOAT, LIQUID LEVEL

GENERAL NOTES:

1. SYMBOLS IN THE LEGEND ARE DERIVED FROM ISA S5.1 AND ARE CONSIDERED BASIC STANDARDS. NOT ALL SYMBOLS MAY BE USED ON THIS DRAWING. SYMBOLS MAY BE COMBINED.
2. PIPE AND TUBE SIZES SHOWN ARE MINIMUM DIAMETERS. ACTUAL SIZES MAY BE LARGER. ALL LINE SIZES ARE IN INCHES. NO METRIC EQUIVALENTS HAVE BEEN ADOPTED. STATIC PRESSURE MONITORING, SENSING AND ORIFICED HOT DRIP DRAIN LINES TO BE ⅜" TUBING.
3. REFERENCE ONLY, PART OF ENGINE.
4. CUSTOMER FURNISHED.
5. LOOSE SHIPPED FOR SITE INSTALLATION.

INSTRUMENT ABBREVIATIONS

ASY	ASSEMBLY	PE	PRESSURE ELEMENT
AV	AUTO/TRANSFER VALVE	PI	PRESSURE INDICATOR
CV	CHECK VALVE	PS	PRESSURE SWITCH
CYL	CYLINDER	PSV	PRESSURE SAFETY VALVE
DT	SENSOR DETECTOR	PT	PRESSURE TRANSMITTER
DTF	FIRE DETECTOR	R	RESERVOIR
DTG	GAS DETECTOR	SE	SPEED ELEMENT
F	FILTER/SEPARATOR/COALESCER	SG	SIGHT GLASS
FCE	FLOW CONTROL VALVE, ELECTRICAL	SV	SOLENOID VALVE
FCM	FLOW CONTROL VALVE, MECHANICAL	T	GAS TURBINE
FD	FIRE DAMPER	TCE	TEMPERATURE CONTROL ELECTRICAL
FE	FLOW ELEMENT	TCV	TEMPERATURE CONTROL VALVE
FI	FLOW INDICATOR	TE	TEMPERATURE ELEMENT
FO	FLOW ORIFICE	TI	TEMPERATURE INDICATOR
FS	FLOW SWITCH	TS	TEMPERATURE SWITCH
FT	FLOW TRANSMITTER	TT	TEMPERATURE TRANSMITTER
H	HEATER	TW	THERMOWELL
HE	HEAT EXCHANGER	UA	SIGNAL CONVERTER
HV	HAND VALVE	UF	FREQUENCY CONVERTER
LI	LEVEL INDICATOR	VE	VIBRATION ELEMENT
LS	LEVEL SWITCH	VS	VIBRATION SWITCH
LT	LEVEL TRANSMITTER	VT	VIBRATION TRANSMITTER
M	MOTOR	XFA	FLAME ARRESTOR
N	NOZZLE, FIRE SYSTEM	ZS	POSITION SWITCH
MS	MOTOR/STARTER	ZT	POSITION TRANSMITTER
NR	NOISE REDUCER		
P	PUMP		
PCE	PRESSURE CONTROL ELECTRIC		
PCV	PRESSURE CONTROL VALVE		
PDI	PRESSURE DIFFERENTIAL INDICATOR		
PDS	PRESSURE DIFFERENTIAL SWITCH		
PDT	PRESSURE DIFFERENTIAL TRANSMITTER		

TAG NUMBERING SYSTEM

0000	CONTROLS
1000	TURBINE
2000	FUEL
3000	LUBE OIL
4000	DRIVEN EQUIPMENT
5000	DRY SEAL
6000	GENERAL
7000	BALANCE OF PLANT
8000	STEAM TURBINE/EMD
9000	SPARE

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LEGEND AND GENERAL NOTES

APPROVED	
PROJECT MGR. J. SCHMIDT	DATE 1/9/2013
PROJECT ENGR. D. GORDON	DATE 1/9/2013
DESIGN T. HEGSTAD	DATE 1/9/2013
RELEASE STAMP PD-3P961 (CDM) C	CAGE CODE 66195

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DRAWING NO. 3P961-149446 | SIZE D | DWG REV C | SHEET 1 OF 22

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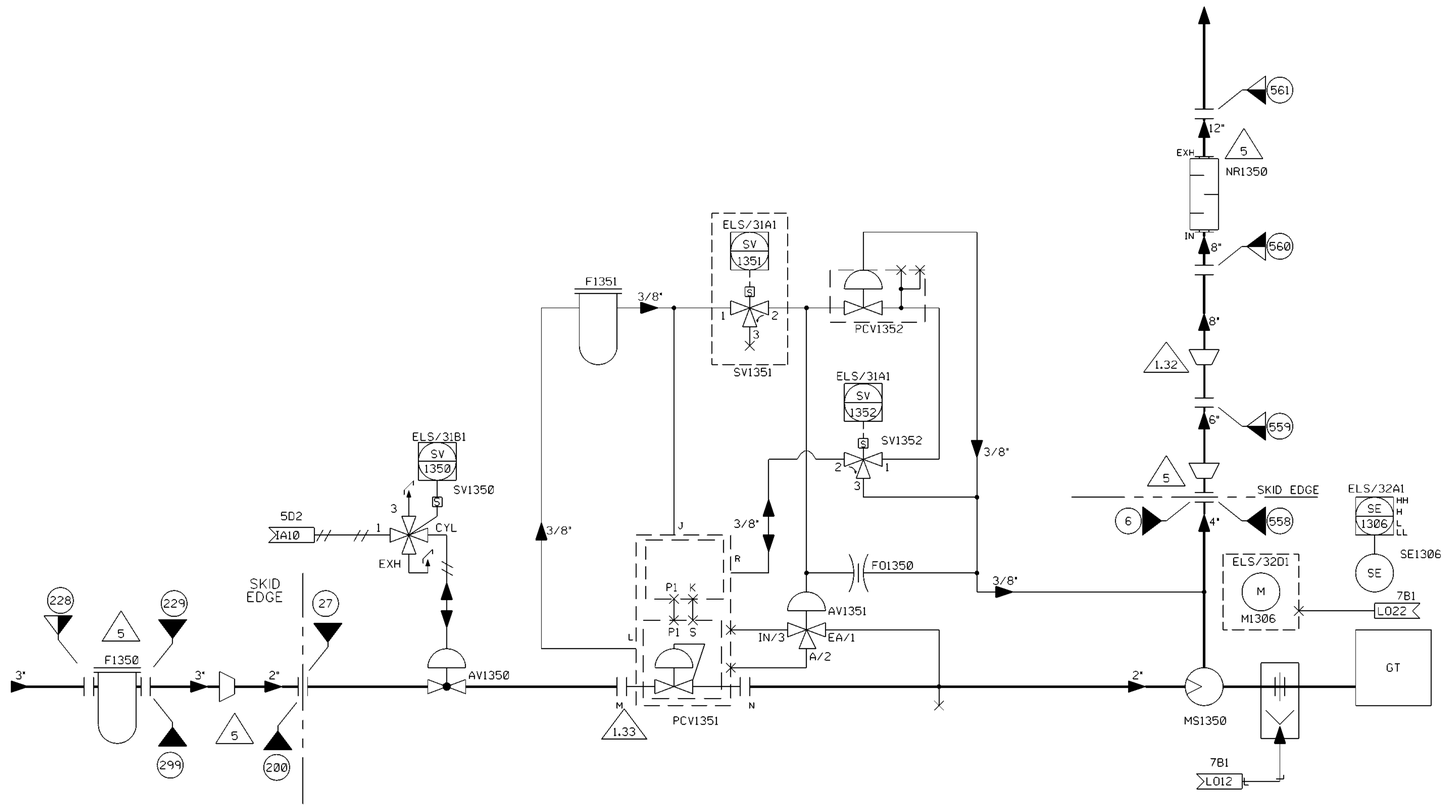

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

1.31 NOT USED

1.32 PNEUMATIC START VENT SHALL NOT CONTAIN ANY SHUTOFF VALVE DEVICES WHICH COULD FAIL TO REMAIN OPEN DURING STARTER ACTIVATION.

1.33 PCV1351: CONNECTION P1 TO P1 AND K TO S ARE NOT PART OF THE ASSEMBLY

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
START SYSTEM

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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 2 OF 22

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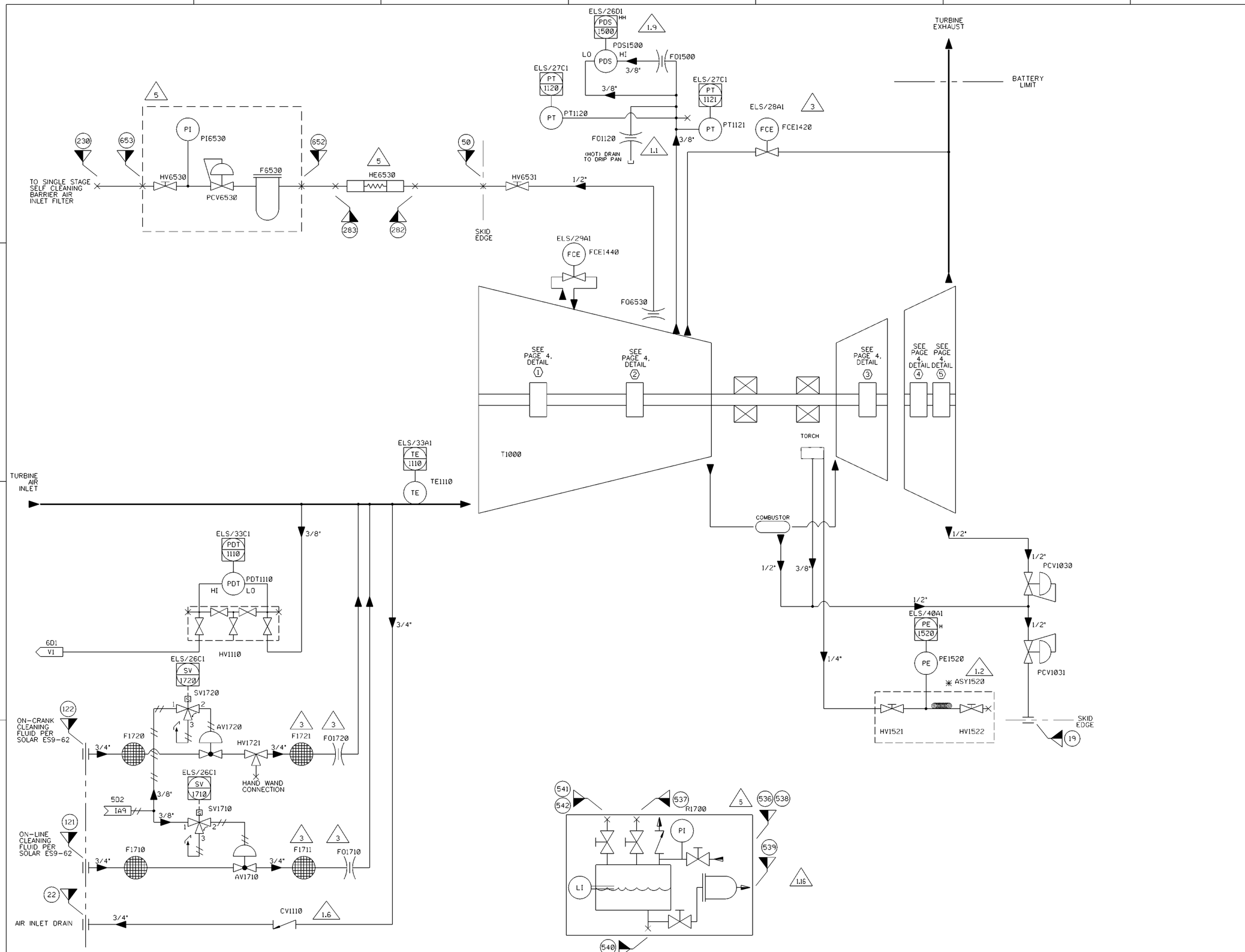

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 PAGE FOR NOTES 1 THROUGH 5.

1.1 FO1120 SHALL BE INSTALLED AT THE LOWEST POINT OF THE TRAP. THE CONDENSATE IS TO BE DRAINED TO THE DRIP PAN.

1.2 BAM (BURNER ACOUSTIC MONITOR) COIL MUST BE MOUNTED BETWEEN 6 AND 36 INCHES OF TORCH "P.T." PORT. NO SHARP BENDS PERMITTED IN TRANSFER TUBE. (MINIMUM BEND RADIUS 3 INCHES TO ID).

1.3 NOT USED

1.4 NOT USED

1.5 NOT USED

1.6 INSTALL CV1110 IN HORIZONTAL PLANE.

1.7 NOT USED

1.8 NOT USED

1.9 10 INCHES (254 MM) OF 3/8" TUBING REQUIRED BETWEEN PDS1500 AND FO1500 FOR PROPER TIMING.

1.10 NOT USED

1.11 NOT USED

1.12 NOT USED

1.13 NOT USED

1.14 NOT USED

1.15 NOT USED

1.16 NOT USED

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
TURBINE SYSTEM PAGE 1

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3P961-149446	C	C
	SHEET 3 OF 22	

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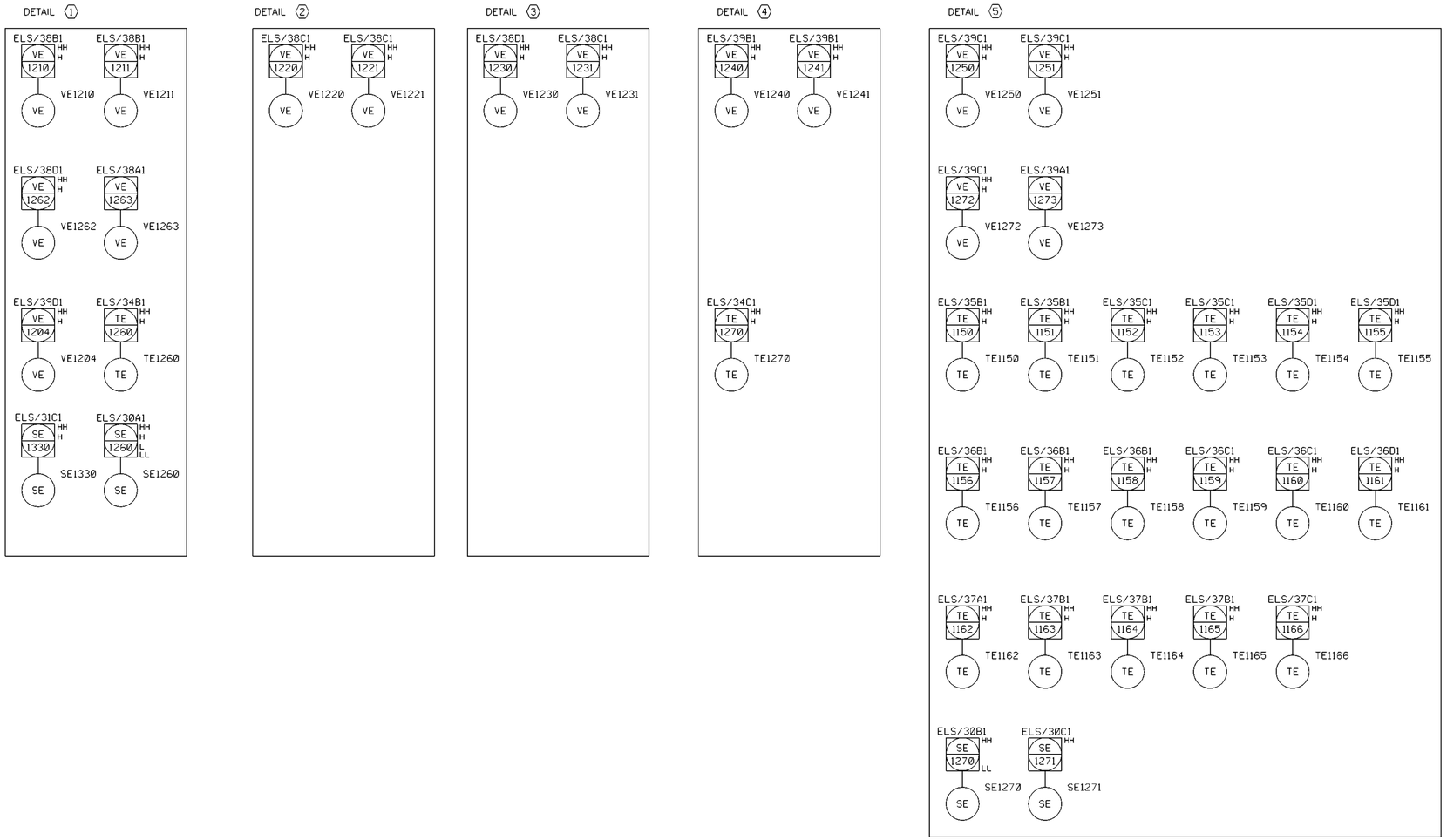

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.

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MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
TURBINE SYSTEM PAGE 2

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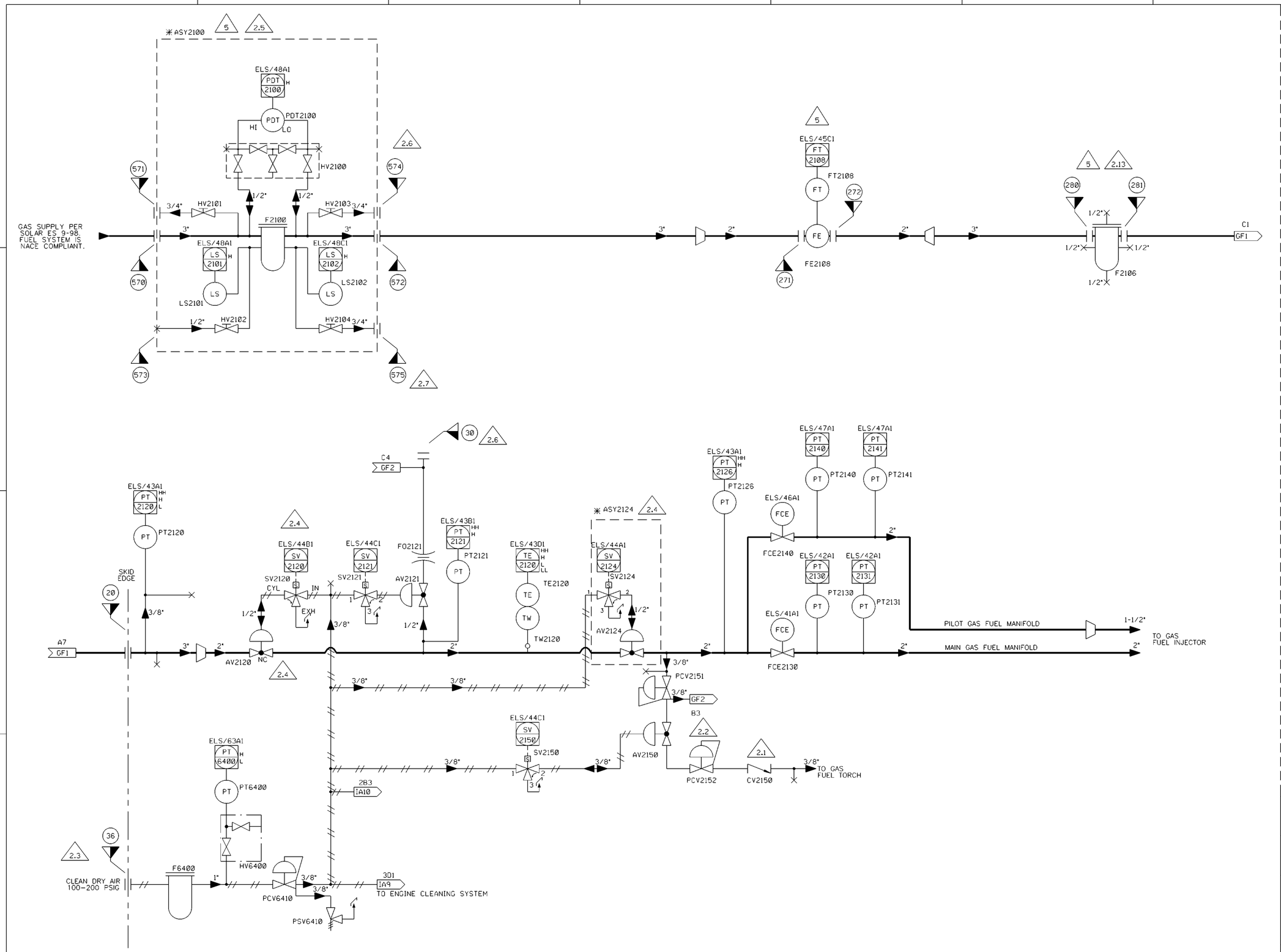

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 PAGE FOR NOTES 1 THROUGH 5.

2.1 CV2150 TO BE LOCATED WITHIN 6 INCHES OF TORCH.

2.2 PCV2152 TO BE ADJUSTED FOR BEST TORCH PERFORMANCE. TYPICAL SET POINT IS MIDPOINT OF STATED RANGE.

2.3 PILOT AIR IS REQUIRED FOR ALL PHASES OF PACKAGE OPERATION.

2.4 FOR FUEL SHUTOFF CERTIFIED REQUIREMENTS REFER TO "FUEL SHUT-OFF VALVE ASSEMBLY GUIDE". COMPLIANCE ENGINEER MUST APPROVE ANY CHANGES OR REPLACEMENTS OF THESE PARTS. CERTIFIED ASSEMBLY DRAWING IS 149098.

2.5 INSTALL AS CLOSE TO SKID EDGE AS POSSIBLE. OVER PRESSURE PROTECTION PROVIDED BY OTHERS.

2.6 VENT TO A SAFE LOCATION.

2.7 EFFLUENT WILL BE HYDROCARBON FLUIDS AND WATER.

2.8 NOT USED

2.9 NOT USED

2.10 NOT USED

2.11 NOT USED

2.12 NOT USED

2.13 INSTALL AS CLOSE TO SKID EDGE AS POSSIBLE.

2.14 NOT USED

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
GAS FUEL SYSTEM

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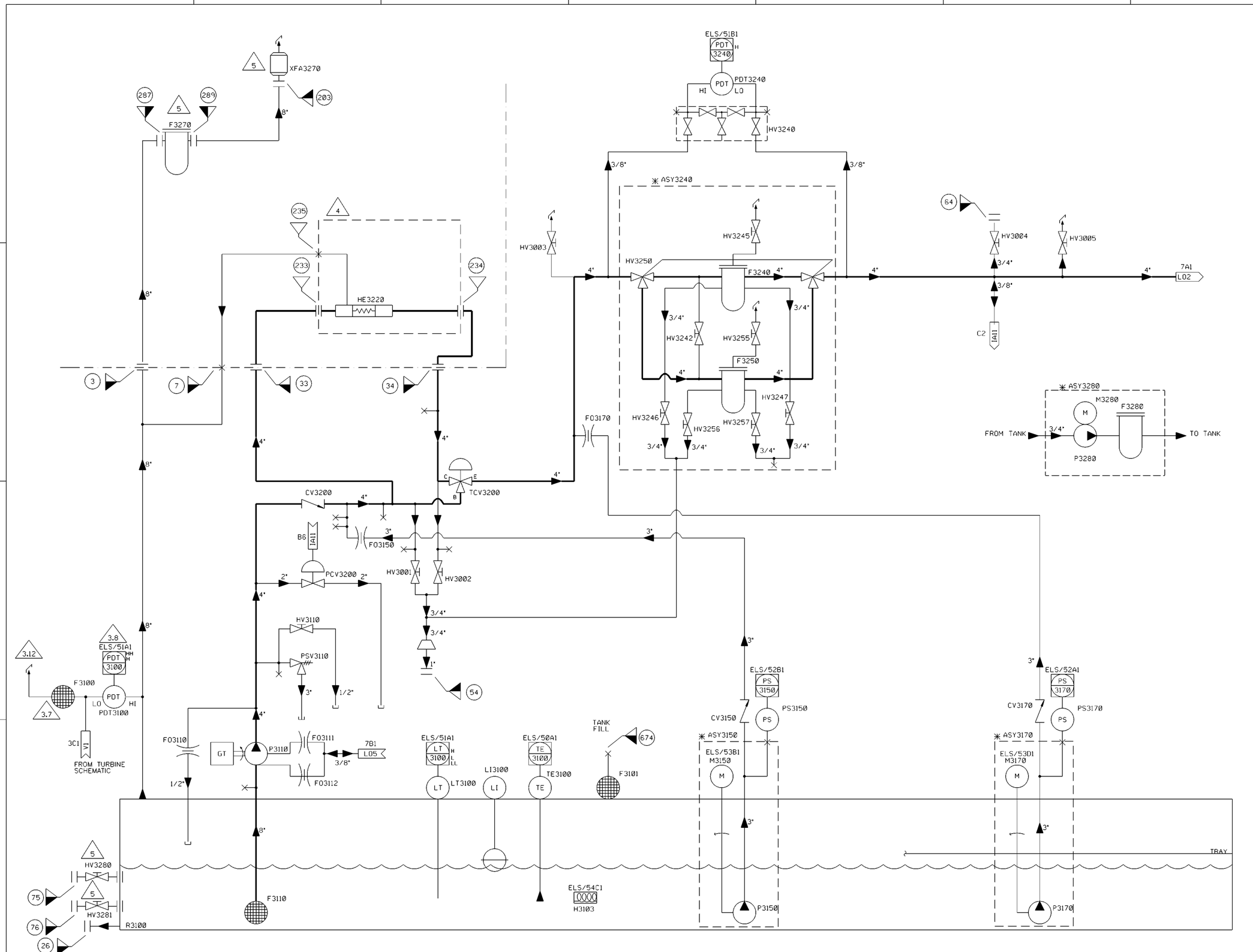

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

3.1 NOT USED

3.2 NOT USED

3.3 NOT USED

3.4 NOT USED

3.5 NOT USED

3.6 NOT USED

3.7 TERMINATE F3100 VENT LINE AT SKID EDGE EXTERNAL TO THE ENCLOSURE. ROUTE TUBING FOR CONTINUOUS DRAINAGE AWAY FROM TRANSMITTER.

3.8 TRANSMITTER (PDT3100) SENSING LINES TO BE ROUTED FOR CONTINUOUSLY SLOPED DRAINAGE AWAY FROM TRANSMITTER WITH NO LOW POINTS OR TRAPS. HIGH SIDE OF PDT3100 MUST BE REFERENCED TO THE CENTER OF THE TANK.

3.9 NOT USED

3.10 NOT USED

3.11 NOT USED

3.12 ATMOSPHERIC VENT. DO NOT PLUG.

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LUBE SYSTEM PAGE 1

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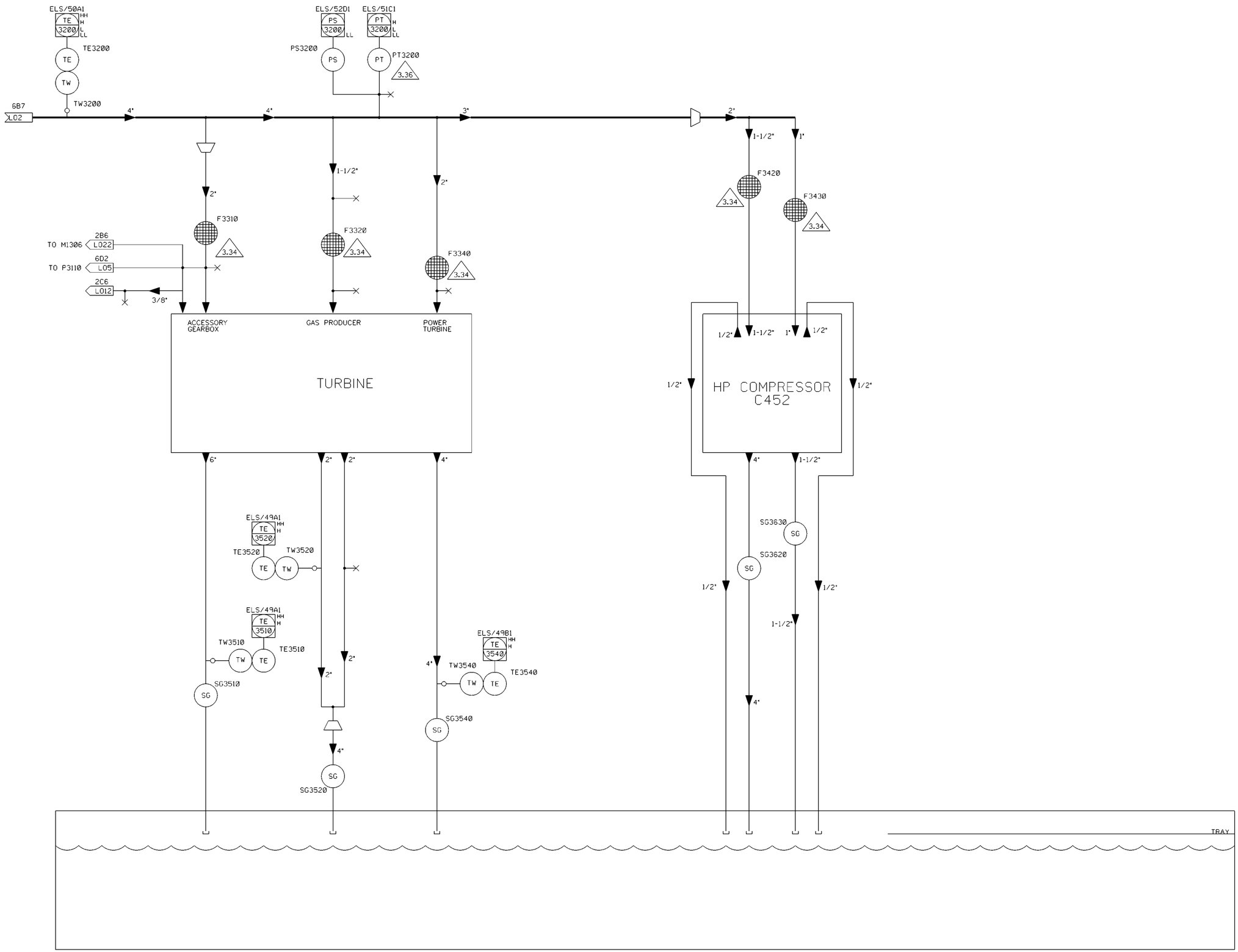

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.

3.31 NOT USED

3.32 NOT USED

3.33 NOT USED

3.34 START UP STRAINERS TO BE REMOVED AFTER UNIT COMMISSIONING.

3.35 NOT USED

3.36 REFER TO ENGINE CONTROL SPEC FOR LUBE OIL HEADER PRESSURE SET POINTS.

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LUBE SYSTEM PAGE 2

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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 7 OF 22

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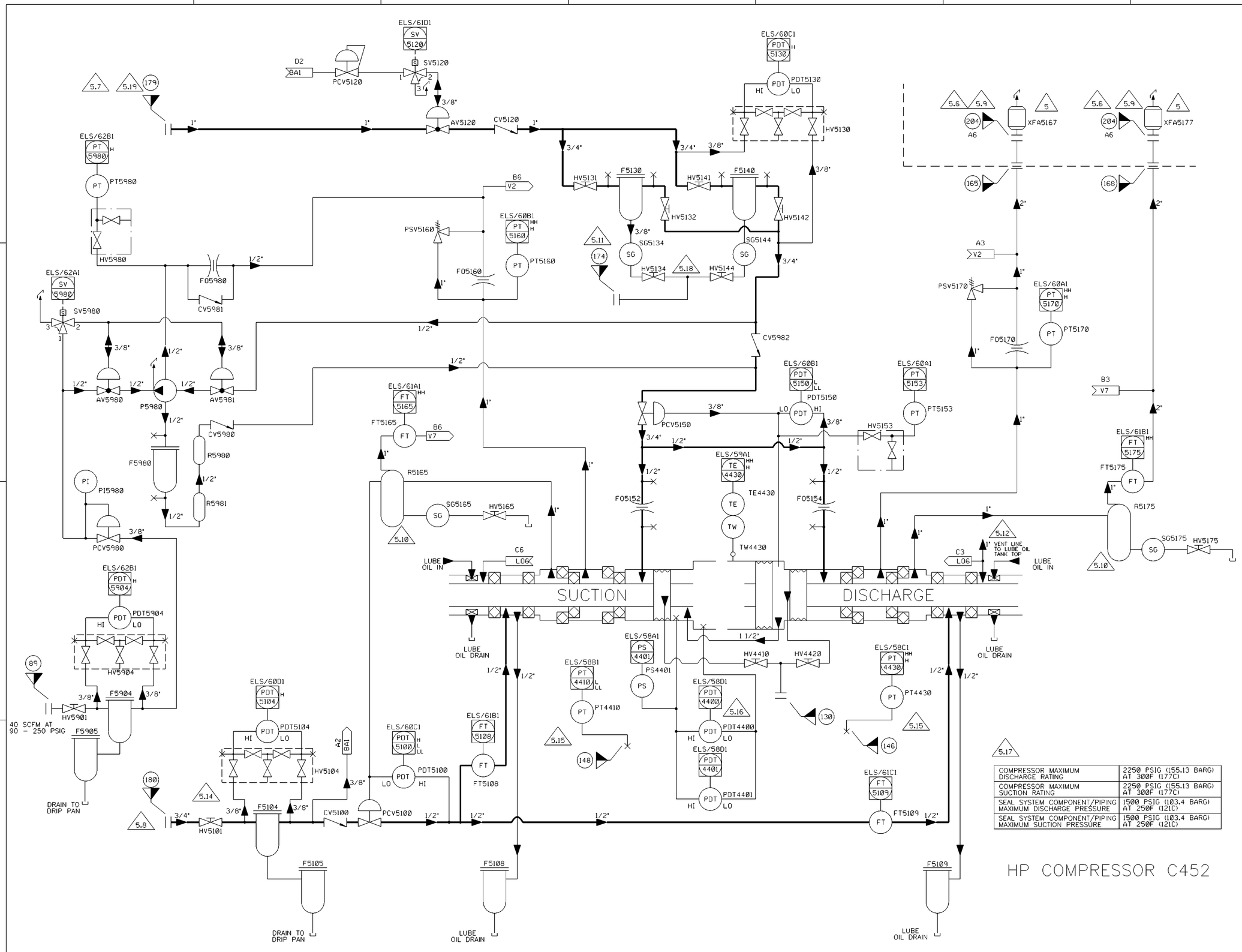

COMPRESSOR MAXIMUM DISCHARGE RATING	2250 PSIG (155.13 BARG) AT 300F (177C)
COMPRESSOR MAXIMUM SUCTION RATING	2250 PSIG (155.13 BARG) AT 300F (177C)
SEAL SYSTEM COMPONENT/PIPING MAXIMUM DISCHARGE PRESSURE	1500 PSIG (103.4 BARG) AT 250F (121C)
SEAL SYSTEM COMPONENT/PIPING MAXIMUM SUCTION PRESSURE	1500 PSIG (103.4 BARG) AT 250F (121C)

HP COMPRESSOR C452

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

5.6 MAXIMUM ALLOWABLE VENT BACK PRESSURE IS 5 PSIG (35 KPA).

5.7 SEAL GAS SUPPLY FROM COMP. DISCHARGE. RECOMMEND THAT SUPPLY COME FROM DOWNSTREAM OF GAS COOLER. IF COOLER IS DOWNSTREAM OF COMP. DISCHARGE ISOLATION VALVE, AN OFF SKID ISOLATION VALVE IS REQUIRED. SEE PIL 140 FOR REQUIREMENTS.

5.8 BUFFER AIR/N2 PER PIL 140. SUPPLY REQUIRED WHENEVER COMPRESSOR CASE IS PRESSURIZED (I.E. STARTUP SHUTDOWN, PRESSURIZED HOLD AND RUN, OR WHEN PUMP IS ON. SUPPLY TEMPERATURERANGE IS 32F TO 200F (0-93C).

5.9 FLAME ARRESTOR IS DESIGNED FOR VERTICAL INSTALLATION.

5.10 RESERVOIR MOUNTED IN LOW POINT OF SEPARATION AIR VENT LINE. VENT LINE TO HAVE NO LIQUID TRAPS OR LOW POINTS.

5.11 DRAIN TO A SAFE LOCATION.

5.12 VENT LINE TO HAVE NO LIQUID TRAPS OR LOW POINTS.

5.13 NOT USED

5.14 HV5101 TO REMAIN OPEN UNLESS ALL LUBE OIL PUMPS ARE SECURED AND COMPRESSOR IS ISOLATED FROM ANY GAS SOURCE (INCLUDING DRY SEAL VENT LINES).

5.15 PROCESS TAPS FOR COMPRESSOR SUCTION AND DISCHARGE PRESSURE TO BE APPROXIMATELY 5 PIPE DIAMETERS +/- 1 FOOT UP AND DOWNSTREAM OF COMPRESSOR, IN STRAIGHT SECTIONS AND INSIDE OF STRAINERS, CHECK VALVES, ETC. SEE PIL 140 FOR COMPLETE REQUIREMENTS.

5.16 PDT4400 IS MOUNTED ON COMPRESSOR ABOVE SUCTION PORT. TUBING SHOULD HAVE A CONTINUOUS DOWNWARD SLOPE TO THE SUCTION PORT (HIGH SIDE) AND INLET STATOR PRESSURE PORT (LOW SIDE).

5.17 COMPRESSOR MAXIMUM DEPRESSURIZATION RATE: 290 PSIG/MIN

5.18 MAXIMIZE TUBING LENGTH BETWEEN SEAL GAS FILTERS AND ASSOCIATED DRAIN VALVE FOR MAXIMUM FILTER DRAIN CAPACITY.

5.19 OVER PRESSURE PROTECTION PROVIDED BY OTHERS

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
DRY SEAL SYSTEM - HP

Solar® Turbines
A Caterpillar Company

DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 8 OF 22	

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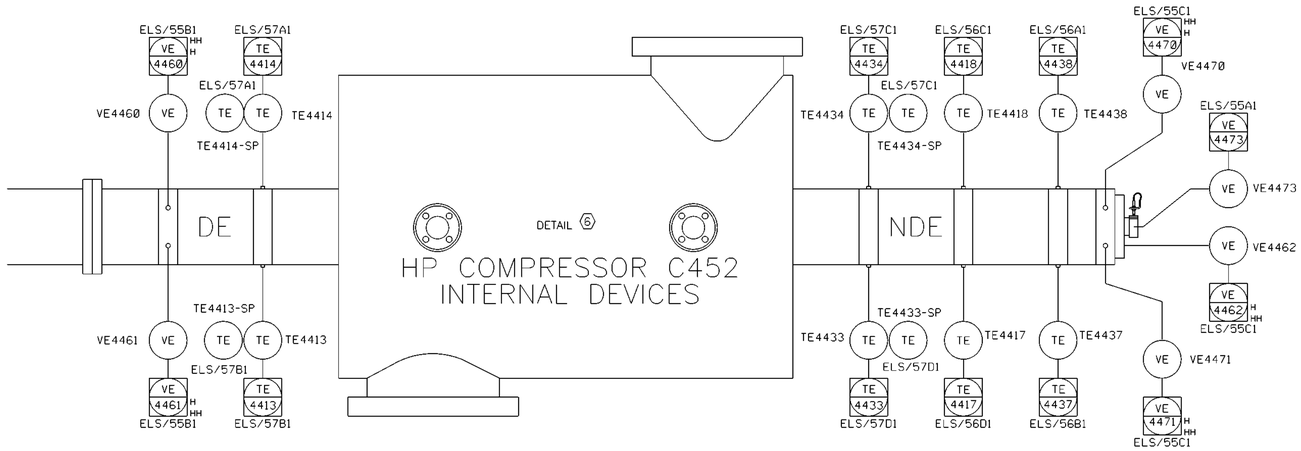

CUSTOMER

GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE

MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
DRIVEN EQUIPMENT - HPC

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3P961-149446	SHEET 9 OF 22	

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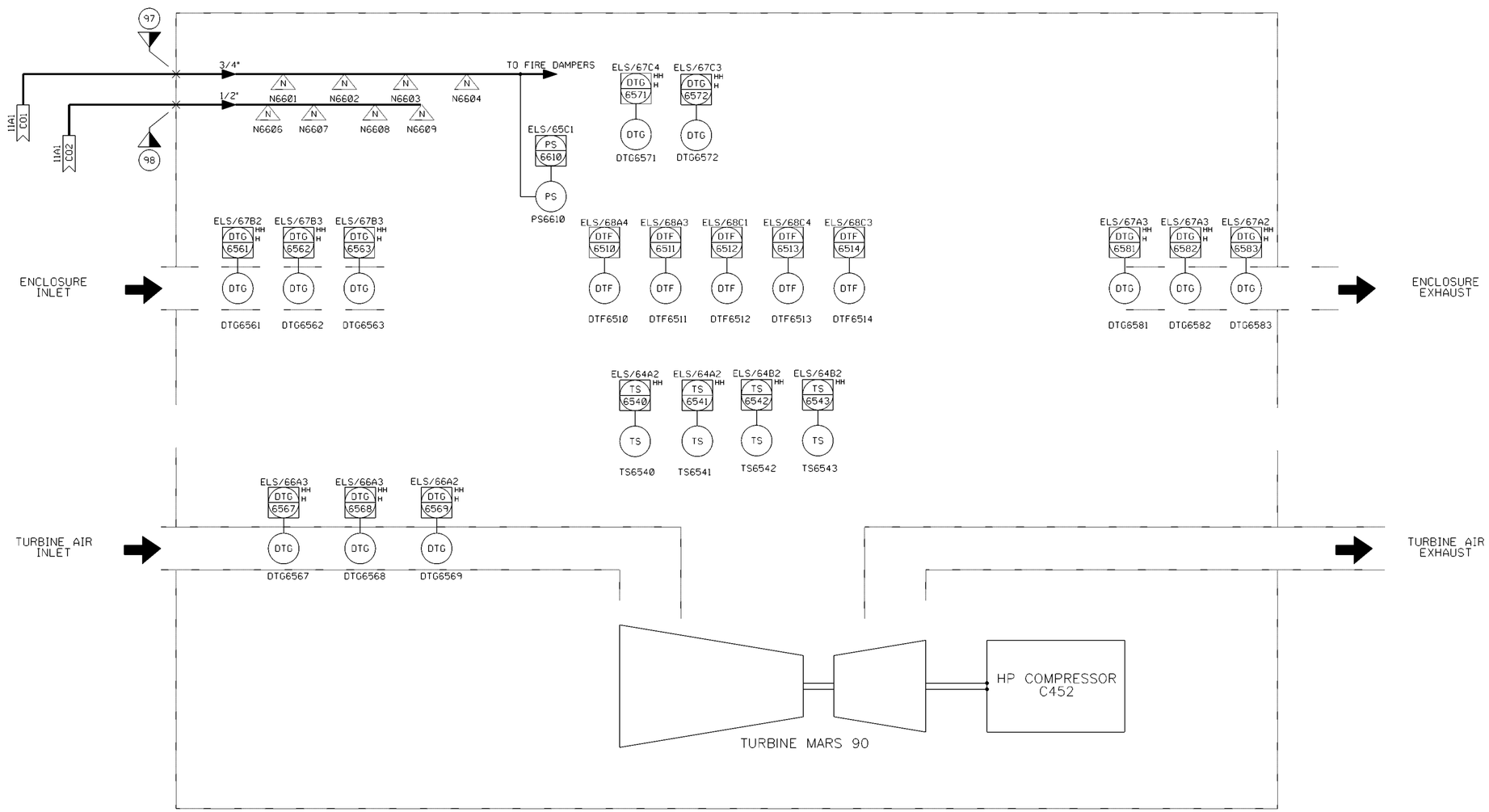

CUSTOMER

GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE

MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
FIRE AND GAS SYSTEM

Solar® Turbines
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DRAWING NO.	DWG REV	SHT REV
3P961-149446	C	C
	SHEET 10 OF 22	

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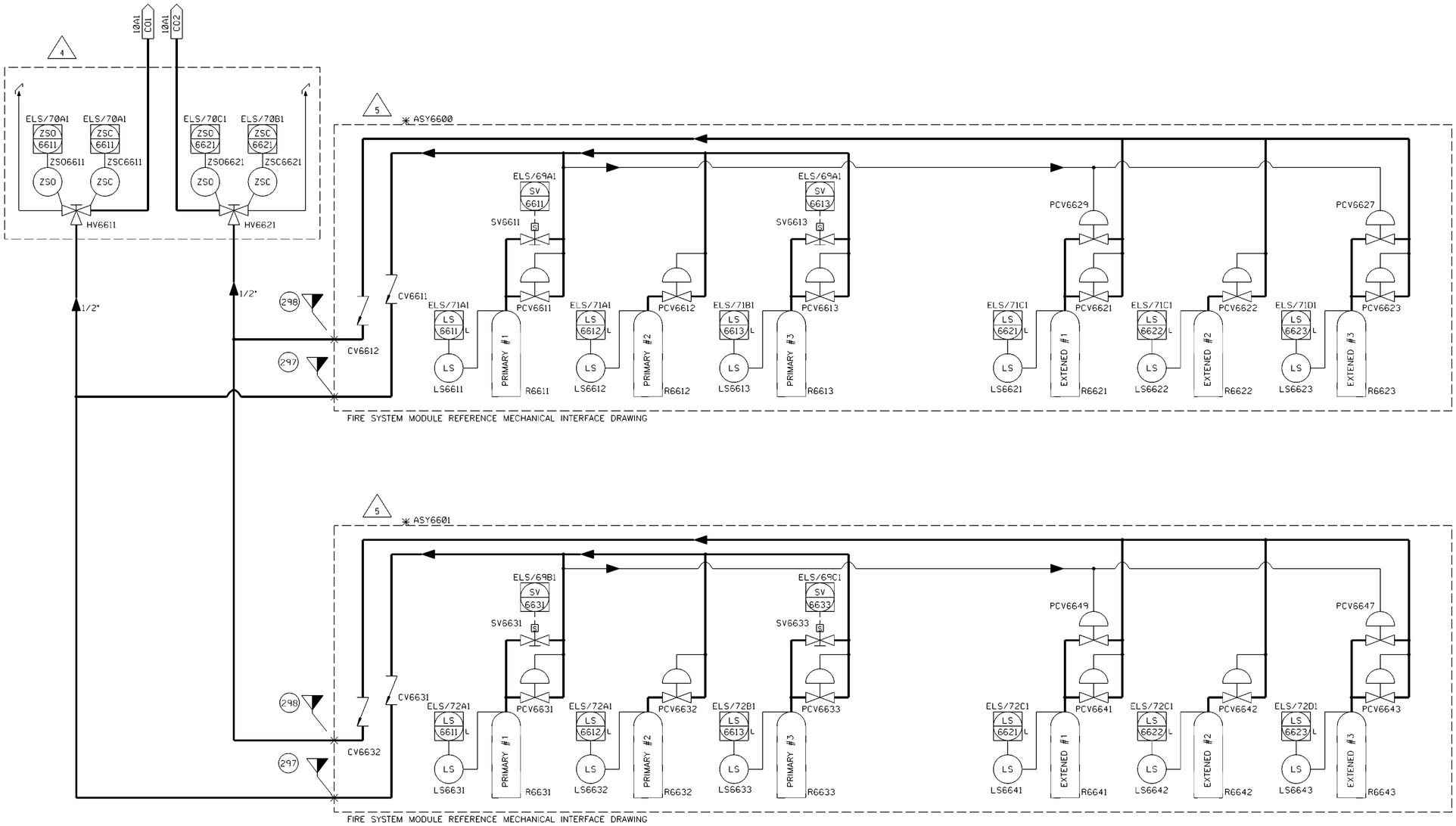

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
CO2 FIRE CABINET

Solar® Turbines
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DRAWING NO.	DWG REV	SHT REV
3P961-149446	C	C
	SHEET 11 OF 22	

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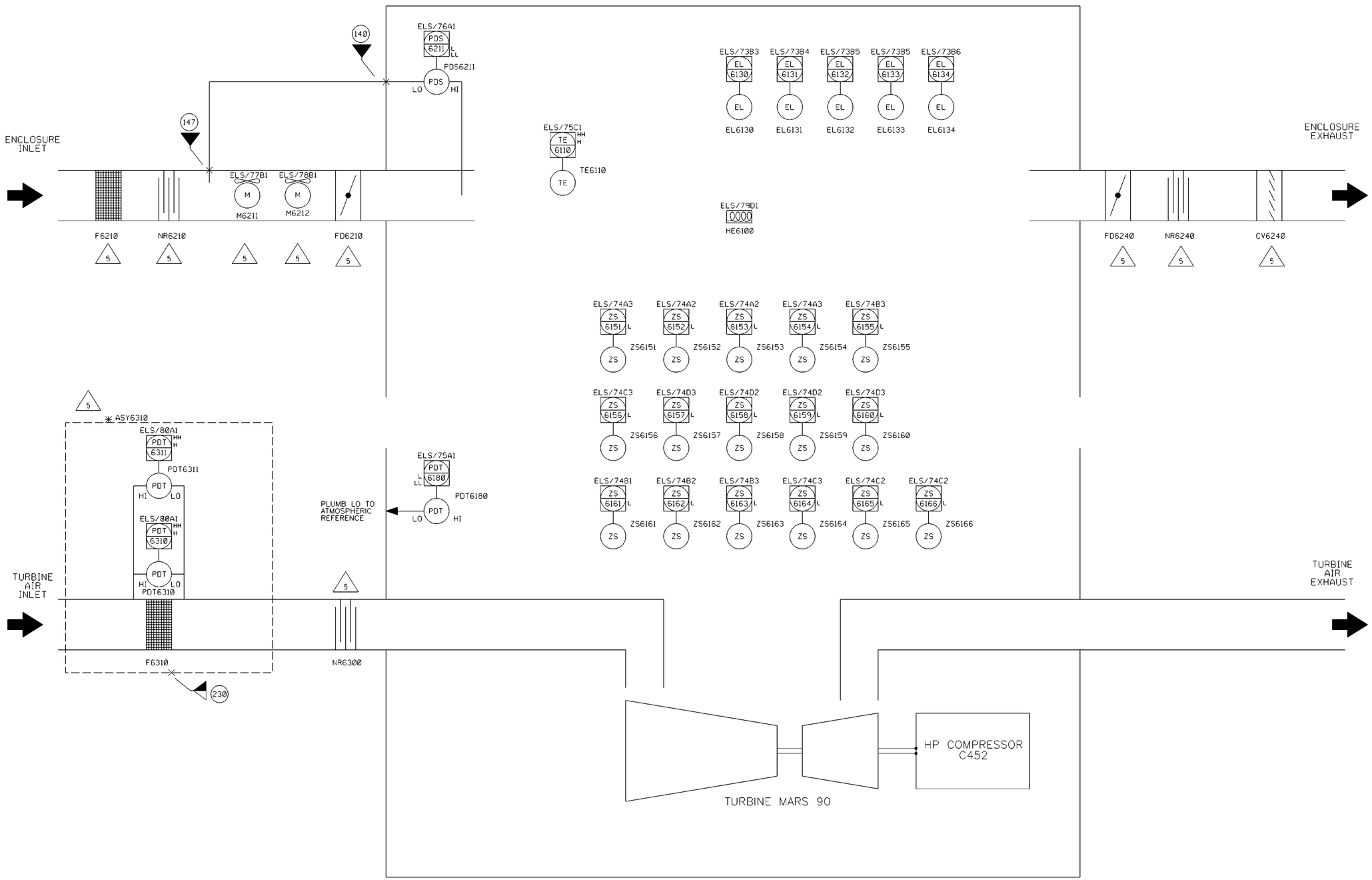

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
ENCLOSURE SYSTEM

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DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 12 OF 22	

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PAGE	REVISION	DESCRIPTION
1	A	LEGEND AND GENERAL NOTES
2	C	START SYSTEM
3	C	TURBINE SYSTEM PAGE 1
4	C	TURBINE SYSTEM PAGE 2
5	C	GAS FUEL SYSTEM
6	C	LUBE SYSTEM PAGE 1
7	C	LUBE SYSTEM PAGE 2
8	C	DRY SEAL SYSTEM - HP
9	C	DRIVEN EQUIPMENT - HPC
10	C	FIRE AND GAS SYSTEM
11	C	CO2 FIRE CABINET
12	C	ENCLOSURE SYSTEM

Table of Contents (PID)

Solar® Turbines
A Caterpillar Company

DRAWING NO. 3P961-149446

DWG REV C | SHT REV C

SHEET 13 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
ASY1520	3.C6		303504-100	ASSEMBLY	BURNER ACOUSTIC MONITOR			
ASY2100	5.A1		1056369-500	ASSEMBLY	CLEAN/DRAIN GAS SUPPLY			5
ASY2124	5.C4		1062883-100	ASSEMBLY	GAS FUEL SECONDARY SHUTOFF VALVE			
ASY3150	6.D4		1053843-2200	PUMP	PRE/POST LUBE, AC MOTOR DRIVEN	330 GPM (1250 LPM) AT 32.5 PSIG (2.24 BARG)		
ASY3170	6.D6		1037996-3P961	ASSEMBLY	POST BACKUP LUBE OIL SUPPLY			
ASY3240	6.A4		1064722-3P961	ASSEMBLY	MAIN LUBE FILTER			
ASY3280	6.B6		1023450-3P961	ASSEMBLY	PORTABLE LUBE OIL CONDITIONER			5
ASY6310	12.B1		SEE MID	ASSEMBLY	TURBINE AIR INLET FILTER ASSEMBLY			5
ASY6600	11.A2		1091510-3P961	ASSEMBLY	FIRE SUPPRESSION SYSTEM	CO2 CABINET		5
ASY6601	11.B2		1091510-3P961	ASSEMBLY	FIRE SUPPRESSION SYSTEM	CO2 CABINET		5
AV1350	2.C3		186232-2700	AUTOMATIC VALVE	STARTER SHUTOFF	CV = 130, NORMALLY CLOSED	MAX PRESSURE= 675 PSIG (46.6 BARG)	
AV1351	2.B4		120079-1	AUTOMATIC VALVE	STARTER PILOT		NORMALLY OPEN	
AV1710	3.D2		186648-300	AUTOMATIC VALVE	ON-LINE CRANK CLEANING SHUTOFF VALVE	CV = 38	MAX PRESSURE= 2200 PSIG (151.7 BARG),	
AV1720	3.D2		186648-300	AUTOMATIC VALVE	ON-CRANK CRANK CLEANING SHUTOFF VALVE	CV = 38	MAX PRESSURE= 2200 PSIG (151.7 BARG),	
AV2120	5.C2		186232-2900	AUTOMATIC VALVE	PRIMARY GAS FUEL SHUTOFF	CV = 130	MAX PRESSURE= 675 PSIG (46.6 BARG) NORMALLY CLOSED	
AV2121	5.C3		190537-500	AUTOMATIC VALVE	GAS VENT	CV = 0.9	MAX DESIGN PRESS= 1500 PSIG (103.4 BARG) MAX ACTUATOR PRESSURE: 200 PSIG (13.80 BARG) NORMALLY CLOSED	
AV2124	5.C4		PART OF ASY2124	AUTOMATIC VALVE	SECONDARY GAS FUEL SHUTOFF	CV = 430	MAX PRESSURE= 700 PSIG (48.27 BARG) NORMALLY CLOSED	
AV2150	5.D4		190537-500	AUTOMATIC VALVE	GAS TORCH SHUTOFF	CV = 0.9	MAX DESIGN PRESS= 1500 PSIG (103.4 BARG) MAX ACTUATOR PRESSURE: 200 PSIG (13.80 BARG) NORMALLY CLOSED	
AV5120	8.A3		1099332-100	VALVE BALL	SEAL GAS SUPPLY, HP COMPRESSOR	CV = 32	NORMALLY CLOSED	
AV5980	8.B1		186648-1	AUTOMATIC VALVE	HPC SEAL GAS BOOST PUMP AIR SUPPLY			
AV5981	8.B2		190537-500	AUTOMATIC VALVE	HPC SEAL GAS BOOST PUMP AIR SUPPLY			
CV1110	3.D2		915498C1	CHECK VALVE	AIR INLET DUCT DRAIN	0.25 PSIG (0.017 BARG) CRACKING		
CV2150	5.D4		1030794-12	CHECK VALVE	GAS TORCH	2 PSIG (0.14 BARG) CRACKING		
CV3150	6.D4		1059700-15	CHECK VALVE	PRE/POST LUBE OIL PUMP	0.5 PSIG (0.035 BARG) CRACKING PRESSURE		
CV3170	6.D6		1059700-15	CHECK VALVE	ISOLATE BACKUP PUMP	0.5 PSIG (0.035 BARG) CRACKING PRESSURE		
CV3200	6.C2		1059700-10	CHECK VALVE	MAIN LUBE SUPPLY	0.45 PSID (0.031 BARD) CRACKING		
CV5100	8.D2		1030794-12	CHECK VALVE	BUFFER AIR, HP COMPRESSOR	CV = 1.5, 2 PSI (0.14 BAR) CRACKING		
CV5120	8.A3		190303-15	CHECK VALVE	EXTERNAL SEAL GAS SUPPLY, HP COMPRESSOR	CV = 13.0, 1 PSI (0.069 BAR) CRACKING		
CV5980	8.B2		190303-12	CHECK VALVE	SEAL GAS BOOST BACK FLOW PREVENTION	CV = 10.0, 1 PSIG (0.070 KG/CM2) CRACKING		
CV5981	8.B2		1030794-12	CHECK VALVE	SEAL GAS BOOST PUMP SHAFT LEAKAGE RELIEF	CV = 1.7, 10 PSIG (0.69) BAR		
CV5982	8.B5		190303-13	CHECK VALVE	SEAL GAS BOOST BACK FLOW PREVENTION	CV = 10.0, 1 PSIG (0.070 KG/CM2) CRACKING		
CV6240	12.A7		SEE MID	CHECK VALVE	BACK DRAFT DAMPER, ENCLOSURE EXHAUST			5
CV6611	11.A2		PART OF ASY6600	CHECK VALVE	PRIMARY RELEASE SYSTEM			
CV6612	11.B2		PART OF ASY6600	CHECK VALVE	EXTENDED RELEASE SYSTEM			
CV6631	11.C2		PART OF ASY6601	CHECK VALVE	PRIMARY RELEASE SYSTEM			
CV6632	11.C2		PART OF ASY6601	CHECK VALVE	EXTENDED RELEASE SYSTEM			
DTF6510	10.B3		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,2,3,4,6,8 CLOSED: 5,7		
DTF6511	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 2,3,4,6,8 CLOSED: 1,5,7		
DTF6512	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,3,4,6,8 CLOSED: 2,5,7		
DTF6513	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 3,4,6,8 CLOSED: 1,2,5,7		
DTF6514	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,2,4,6,8 CLOSED: 3,5,7		
DTG6561	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 4,5,8 CLOSED: 1,2,3,6,7		
DTG6562	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 1,2,3,5,8 CLOSED: 4,6,7		
DTG6563	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 2,3,5,8 CLOSED: 1,4,6,7		
DTG6567	10.B2		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 1,3,5,8 CLOSED: 2,4,6,7		
DTG6568	10.B2		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 3,5,8 CLOSED: 1,2,4,6,7		
DTG6569	10.B3		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 1,2,5,8 CLOSED: 3,4,6,7		
DTG6571	10.A4		1078325-7	GAS DETECTOR	FUEL MODULE AREA	OPEN: 1,2,3,4,8 CLOSED: 5,6,7		
DTG6572	10.A4		1078325-7	GAS DETECTOR	FUEL MODULE AREA	OPEN: 2,3,4,8 CLOSED: 1,5,6,7		
DTG6581	10.B5		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 1,2,4,5,8 CLOSED: 3,6,7		

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 14 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
DTG6582	10.B6		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 2,4,5,8 CLOSED: 1,3,6,7		
DTG6583	10.B6		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 1,4,5,8 CLOSED: 2,3,6,7		
EL6130	12.A4		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6131	12.A4		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6132	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6133	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6134	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
F1350	2.C2		120835-16	FILTER	FILTER START GAS		0.033 INCH (0.8 MM) PERFORATIONS	5
F1351	2.B3		1035758-100	FILTER	FILTER PILOT GAS	0.1 MICRON NOMINAL		
F1710	3.D1		120848-4	FILTER	ON-LINE ENGINE CLEANING SUPPLY	40 MESH		
F1711	3.D2		PART OF ENGINE	FILTER	PROTECT SPRAY RING (ON-LINE)	100 MESH		
F1720	3.D1		120848-4	FILTER	ON-CRANK ENGINE CLEANING SUPPLY	40 MESH		
F1721	3.D2		PART OF ENGINE	FILTER	PROTECT SPRAY RING (ON-CRANK)	100 MESH		
F2100	5.A2		PART OF ASY2100	FILTER SEPARATOR	REMOVE LIQUIDS/DIRT	10 MICRON NOMINAL		5
F2106	5.A6		1060817-900	FILTER	FILTER GAS FUEL	10 MICRON ABSOLUTE	MAX DESIGN PRESS= 690 PSIG AT 160F (47.60 BAR AT 71C) ELEMENT CHANGE OUT: 14 PSID (0.97 BARD) ELEMENT COLLAPSE: 90 PSID (6.21 BARD)	5
F3100	6.C1		700872C1	FILTER	PDT3100 REFERENCE PRESSURE	40 MESH		
F3101	6.D4		190187-300	FILTER	LUBE OIL TANK FILL	20 MESH		
F3110	6.D2		REFERENCE	FILTER	MAIN PUMP SUCTION	0.125 INCH (3.175 MM) DIAMETER OPENINGS		
F3240	6.B4		PART OF ASY3240	FILTER	MAIN LUBE FILTER	10 MICRON, EFFICIENCY 99.9%		
F3250	6.B4		PART OF ASY3240	FILTER	MAIN LUBE FILTER	10 MICRON, EFFICIENCY 99.9%		
F3270	6.A1		190242-101	FILTER SEPARATOR	TANK VENT	340 ACFM AT 40 MG PER ACF		5
F3280	6.B6		PART OF ASY3280	FILTER	LUBE OIL CONDITIONING	POP UP INDICATOR AT 35 PSID (241 KPAD)	3 MICRON FILTER	5
F3310	7.A2		1026189-2	FILTER	START-UP, #1 ENGINE BEARING	70 MICRON		
F3320	7.B2		1026189-4	FILTER	STARTUP, GAS PRODUCER	70 MICRON NOMINAL		
F3340	7.B3		1026189-5	FILTER	STARTUP, #4 AND #5 ENGINE BEARING	70 MICRON		
F3420	7.A4		1026189-4	FILTER	STARTUP, HP COMPRESSOR SUCTION	70 MICRON NOMINAL		
F3430	7.A5		118602-23	FILTER	STARTUP, HP COMPRESSOR DISCHARGE	70 MICRON		
F5104	8.D2		170596-100	FILTER	BUFFER AIR, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5105	8.D2		948282C1	FILTER	BUFFER AIR, HP COMPRESSOR			
F5108	8.D3		948282C1	FILTER	BUFFER AIR, SUCTION END, HP COMPRESSOR			
F5109	8.D5		948282C1	FILTER	BUFFER AIR, DISCHARGE END, HP COMPRESSOR			
F5130	8.A4		190247-101	FILTER	SEAL GAS, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5140	8.A4		190247-101	FILTER	SEAL GAS, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5904	8.C1		170596-100	FILTER	SEAL GAS BOOST, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5905	8.D1		948282C1	FILTER/DRAINER	SEAL GAS BOOST, HP COMPRESSOR			
F5980	8.B1		190247-101	FILTER	HPC SEAL GAS BOOST SYSTEM	0.1 MICRON, BETA = 14		
F6210	12.A1		SEE MID	FILTER	ENCLOSURE INLET FILTER			5
F6310	12.C1		PART OF ASY6310	FILTER	TURBINE AIR INLET			5
F6400	5.D1		1089034-1	FILTER	FILTER PACKAGE AIR SUPPLY	3 MICRON ABSOLUTE	200 PSIG (13.8 BARG) MAX OPERATING PRESSURE	
F6530	3.A2		REFERENCE	FILTER	PCD AIR FOR FILTER CLEANING			5
FCE1420	3.A5		PART OF ENGINE	FLOW CONTROL, ELECTRIC	COMPRESSOR BLEED AIR, MOTOR DRIVEN (BV)		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE1440	3.B3		PART OF ENGINE	FLOW CONTROL, ELECTRIC	COMPRESSOR VARIABLE GUIDE VANE		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE2130	5.C5		1088209-900	FLOW CONTROL, ELECTRIC	MAIN ELECTRIC GAS FUEL		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE2140	5.C5		1042018-3300	FLOW CONTROL, ELECTRIC	ELECTRIC PILOT GAS FUEL		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FD6210	12.A2		SEE MID	FIRE DAMPER	ENCLOSURE INLET FIRE DAMPER			5
FD6240	12.A6		SEE MID	FIRE DAMPER	ENCLOSURE EXHAUST FIRE DAMPER			5
FE2108	5.A5		1065717-200	FLOW ELEMENT	GAS FUEL FLOW MEASUREMENT			5
FO1120	3.A4		124427-4401	FLOW ORIFICE	PCD CONDENSATE DRAIN	0.06 INCH (1.5 MM) DIAMETER		
FO1350	2.B4		182627-2035	FLOW ORIFICE	PILOT PRESSURE BLEED	0.035 INCH (0.9 MM)		
FO1500	3.A4		908601C1	FLOW ORIFICE	FLAMEOUT TIME DELAY	8800 LOHMS, 0.009 INCH (0.23 MM),		
FO1710	3.D2		PART OF ENGINE	FLOW ORIFICE	CLEANING FLUID INJECTION (ON-LINE)			
FO1720	3.D2		PART OF ENGINE	FLOW ORIFICE	CLEANING FLUID INJECTION (ON-CRANK)			
FO2121	5.C3		124427-4401	FLOW ORIFICE	RESTRICT VENT BLEED	0.059 INCH (1.5 MM), DIAMETER ORIFICE		
FO3110	6.D1		182627-2118	FLOW ORIFICE	P3110 PRIMING ASSIST, AIR VENT	0.118 INCHES (3.0 MM) DIAMETER		
FO3111	6.D2		1014293-10	FLOW ORIFICE	MAIN LUBE OIL PUMP WETTING	CV = 0.09		
FO3112	6.D2		1014293-10	FLOW ORIFICE	MAIN LUBE OIL PUMP PRE-LUBE	CV = 0.09		
FO3150	6.C2		186103-69	FLOW ORIFICE	P3150 THROTTLING		1.25 INCH (31.8MM) DIAMETER ORIFICE	
FO3170	6.B4		186103-94	FLOW ORIFICE	P3170 THROTTLING			

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Schematic Functional Component List

DRAWING NO. 3P961-149446 | DWG REV C | SHT REV C | SHEET 15 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
FO5152	8.C4		182627-2140	FLOW ORIFICE	LIMIT SEAL GAS FLOW, SUCTION END HP COMPRESSOR	0.14 INCH (3.6 MM) DIAMETER		
FO5154	8.C5		182627-2140	FLOW ORIFICE	LIMIT SEAL GAS FLOW, DISCHARGE END HP COMPRESSOR	0.14 INCH (3.6 MM) DIAMETER		
FO5160	8.B3		182627-1187	FLOW ORIFICE	MEASURE PRIMARY SEAL LEAKAGE, SUCTION END HP COMPRESSOR	0.187 INCH (4.4 MM) DIAMETER		
FO5170	8.B6		182627-1187	FLOW ORIFICE	MEASURE PRIMARY SEAL LEAKAGE, DISCHARGE END HP COMPRESSOR	0.187 INCH (4.4 MM) DIAMETER		
FO5980	8.B2		182627-2070	FLOW ORIFICE	LIMIT SEAL GAS BOOST PUMP FLOW	0.070 INCH (1.8 MM) DIAMETER		
FO6530	3.B4		124427-4700	FLOW ORIFICE	LIMIT PCD TO AIR INLET FILTER	0.22 INCH (5.59 MM) DIAMETER		
FT2108	5.A5		PART OF FE2108	FLOW TRANSMITTER	MONITOR GAS FUEL FLOW		4 - 20 MA= 0 - 12000 LB/H (0 - 5440 KG/H)	5
FT5108	8.D3		1083867-7	FLOW TRANSMITTER	SEPARATION GAS FLOW (SUCTION) HP COMPRESSOR		4 - 20 MA = 0 - 20 SCFM (0.63 - 32.2 NM3/HR)	
FT5109	8.D5		1083867-7	FLOW TRANSMITTER	SEPARATION GAS FLOW (DISCHARGE) HP COMPRESSOR		4 - 20 MA = 0 - 20 SCFM (0.63 - 32.2 NM3/HR)	
FT5165	8.B3		1083867-8	FLOW TRANSMITTER	SECONDARY SEAL VENT FLOW (SUCTION) HP COMPRESSOR	HIGH SHUTDOWN: REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 40 SCFM (0 - 64.3 NM3/HR)	
FT5175	8.C6		1083867-8	FLOW TRANSMITTER	SECONDARY SEAL VENT FLOW (DISCHARGE) HP COMPRESSOR	HIGH SHUTDOWN: REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 40 SCFM (0 - 64.3 NM3/HR)	
H3103	6.D4		1077480-3P961	HEATER	LUBE OIL TANK HEATER	SET PROCESS THERMOSTAT TO 125F (52C) HIGH LIMIT THERMOSTAT (NON-ADJUSTABLE)	380-415 VAC, 3-PH, 21-25 KW	
HE3220	6.B2		SUPPLIED BY OTHERS	HEAT EXCHANGER	LUBE OIL COOLER		110 F (43.3 C) AMBIENT	5
HE6100	12.A4		1078095-10	HEATER	ENCLOSURE SPACE		415VAC, 3-PH, 7.5 KW	
HE6530	3.A2		REFERENCE	HEAT EXCHANGER	PCD COOLER			
HV1110	3.C2		186426-5	HAND VALVE	BLOCK AND BLEED, PDT1110		BLOCK OPEN, BLEED CLOSED	
HV1521	3.C5		PART OF ASY1520	HAND VALVE	BAM ISOLATION AIR		NORMALLY OPEN	
HV1522	3.C6		PART OF ASY1520	HAND VALVE	BAM: PCD DRAIN		NORMALLY CLOSED	
HV1721	3.D2		1012230-2	HAND VALVE	AUXILIARY WATER WASH PORT		MAX DESIGN 800 PSIG (55.2 BARG)	
HV2100	5.A2		PART OF ASY2100	HAND VALVE	BLOCK AND BLEED	BLOCK OPEN, BLEED CLOSED		5
HV2101	5.A1		PART OF ASY2100	HAND VALVE	VENT, GAS FUEL FILTER/COALESCER		NORMALLY CLOSED	5
HV2102	5.B2		PART OF ASY2100	HAND VALVE	INLET N2 PURGE, GAS FUEL		NORMALLY CLOSED	5
HV2103	5.A2		PART OF ASY2100	HAND VALVE	DRAIN, UPPER SUMP, GAS FUEL		NORMALLY CLOSED	5
HV2104	5.B2		PART OF ASY2100	HAND VALVE	DRAIN, LOWER SUMP, GAS FUEL		NORMALLY CLOSED	5
HV3001	6.C3		1015168-2	HAND VALVE	LOW POINT DRAIN, COOLER BYPASS			
HV3002	6.C3		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER, COOLER RETURN			
HV3003	6.A3		190170-1	HAND VALVE	SAMPLING PORT VALVE, DOWNSTREAM OF TCV3200			
HV3004	6.A6		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER			
HV3005	6.A6		190170-1	HAND VALVE	SAMPLING PORT VALVE, MAIN LUBE OIL HEADER			
HV3110	6.C2		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER			
HV3240	6.A4		186426-5	HAND VALVE	TRANSMITTER BLOCK AND BLEED		BLOCK OPEN, BALANCE CLOSED	
HV3242	6.B4		PART OF ASY3240	HAND VALVE	FILTER CROSSOVER		NORMALLY CLOSED	
HV3245	6.A5		PART OF ASY3240	HAND VALVE	VENT, OIL FILTER		NORMALLY CLOSED	
HV3246	6.B4		PART OF ASY3240	HAND VALVE	FILTER DRAIN, DIRTY SIDE		NORMALLY CLOSED	
HV3247	6.B5		PART OF ASY3240	HAND VALVE	FILTER DRAIN, CLEAN SIDE		NORMALLY CLOSED	
HV3250	6.B4		PART OF ASY3240	TRANSFER VALVE	MAIN LUBE FILTER			
HV3255	6.B5		PART OF ASY3240	HAND VALVE	VENT, OIL FILTER		NORMALLY CLOSED	
HV3256	6.B4		PART OF ASY3240	HAND VALVE	FILTER DRAIN, DIRTY SIDE		NORMALLY CLOSED	
HV3257	6.B5		PART OF ASY3240	HAND VALVE	FILTER DRAIN, CLEAN SIDE		NORMALLY CLOSED	
HV3280	6.D1		131248-7	HAND VALVE	LUBE OIL CONDITIONING		NORMALLY CLOSED	5
HV3281	6.D1		131248-7	HAND VALVE	LUBE OIL CONDITIONING		NORMALLY CLOSED	5
HV4410	8.C4		186071-6	HAND VALVE	COMPRESSOR CASE DRAIN, BLOCK		NORMALLY CLOSED	
HV4420	8.C5		186071-6	HAND VALVE	COMPRESSOR CASE DRAIN, BLOCK		NORMALLY CLOSED	
HV5101	8.D2		1093582-2	HAND VALVE	BUFFER AIR SHUTOFF, HP COMPRESSOR		NORMALLY OPEN	
HV5104	8.D2		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5104			
HV5130	8.A4		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5130			
HV5131	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5132	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5134	8.B4		1098092	HAND VALVE	SEAL GAS FILTER DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5141	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5142	8.A5		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5144	8.B4		1098092	HAND VALVE	SEAL GAS FILTER DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5153	8.B5		186488-2	HAND VALVE	INSTRUMENTATION ISOLATION, HP COMPRESSOR			
HV5165	8.C3		915370C1	HAND VALVE	SECONDARY VENT DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5175	8.C7		915370C1	HAND VALVE	SECONDARY VENT DRAIN, HP COMPRESSOR		NORMALLY CLOSED	

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Schematic Functional Component List

DRAWING NO. 3P961-149446 | DWG REV C | SHT REV C | SHEET 16 OF 22

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HV5901	8.C1		1093582-2	HAND VALVE	SEAL BOOST AIR SHUTOFF, HP COMPRESSOR		NORMALLY OPEN	
HV5904	8.C1		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5904			
HV5980	8.B1		186488-2	HAND VALVE	INSTRUMENTATION ISOLATION, PT5980			
HV6400	5.D2		190392-3	HAND VALVE	BLOCK AND BLEED, PT6400	BLOCK OPEN, BLEED CLOSED		
HV6530	3.A1		REFERENCE	HAND VALVE	PCD AIR FOR FILTER CLEANING			5
HV6531	3.A3		120010-18	HAND VALVE	PCD AIR FOR FILTER CLEANING			
HV6611	11.A1		CUSTOMER SUPPLIED	HAND VALVE	MANUAL LOCKOUT FOR PRIMARY RELEASE OF CO2			4
HV6621	11.A2		CUSTOMER SUPPLIED	HAND VALVE	MANUAL LOCKOUT FOR EXTENDED RELEASE OF CO2			4
LI3100	6.D3		116091-23	LEVEL INDICATOR	LUBE OIL TANK LEVEL		WHITE= INITIAL FILL, GREEN= OPERATING RANGE, YELLOW: ALARM ZONE, RED: ENGINE SHUTDOWN	
LS2101	5.B2		PART OF ASY2100	LEVEL SWITCH	GAS FUEL COALESCING LIQUID LEVEL, UPPER SUMP			5
LS2102	5.B2		PART OF ASY2100	LEVEL SWITCH	GAS FUEL COALESCING LIQUID LEVEL, LOWER SUMP			5
LS6611	11.B3		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #1	ALARM: 10% LOSS OF CO2		5
LS6612	11.B3		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #2	ALARM: 10% LOSS OF CO2		5
LS6613	11.B4		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #3	ALARM: 10% LOSS OF CO2		5
LS6621	11.B5		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #1	ALARM: 10% LOSS OF CO2		5
LS6622	11.B6		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #2	ALARM: 10% LOSS OF CO2		5
LS6623	11.B6		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #3	ALARM: 10% LOSS OF CO2		5
LS6631	11.C3		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #1	ALARM: 10% LOSS OF CO2		5
LS6632	11.C3		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #2	ALARM: 10% LOSS OF CO2		5
LS6633	11.C4		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #3	ALARM: 10% LOSS OF CO2		5
LS6641	11.C5		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #1	ALARM: 10% LOSS OF CO2		5
LS6642	11.C6		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #2	ALARM: 10% LOSS OF CO2		5
LS6643	11.C6		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #3	ALARM: 10% LOSS OF CO2		5
LT3100	6.D3		1064829-1	LEVEL TRANSMITTER	TANK OIL LEVEL	LOW ALARM: 19.32 IN (49.1 CM) LOW SHUTDOWN: 16.93 IN (43.0 CM) HIGH ALARM: 23.74 IN (60.3 CM)	4 - 20 MA = 14.08 - 28.96 IN (35.76 - 73.56 CM), ABOVE TANK FLOOR AT FILL PORT	
M1306	2.B6		1094224-900	MOTOR	ENGINE SLOW ROLL DRIVER		415 VAC, 3 HP (2.2 KW), 1800 RPM SPACE HEATER: 115 VAC, 50/60 HZ, 1-PH, 200 WATTS MAX	
M3150	6.D4		PART OF ASY3150	MOTOR	AC PRE/POST LUBE PUMP MOTOR		380-420 VAC, 3-PH, 50 HZ, 14.8 HP (11 KW), SPACE HEATER: 220 VAC, 1-PH, 50 HZ, 200 WATTS MAX	
M3170	6.D6		PART OF ASY3170	MOTOR	DC BACKUP LUBE PUMP MOTOR		120 VDC, 5 HP (3.7 KW), 2700 RPM, 36.9 FLA SPACE HEATER: 240 VAC, 1-PH, 50 HZ 200W MAXIMUM	
M3280	6.B6		PART OF ASY3280	MOTOR	PORTABLE LUBE OIL CONDITIONING		415 VAC, 3-PH, 50 HZ	5
M6211	12.A2		1100612-300	MOTOR	VENTILATION FAN, DRIVER #1		415 VAC, 3-PH, 50 HZ, 30 HP (22 KW) RATED, SPACE HEATER: 120 VAC, 1-PH, 200 WATTS MAX	
M6212	12.A2		1100612-300	MOTOR	VENTILATION FAN, DRIVER #2		415 VAC, 3-PH, 50 HZ, 30 HP (22 KW) RATED, SPACE HEATER: 120 VAC, 1-PH, 200 WATTS MAX	
MS1350	2.C5		1063500-200	MOTOR	ENGINE STARTING		0-4500 SCFM (0-127 NM3/MIN) AT 115 PSIG	
N6601	10.A2		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6602	10.A2		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6603	10.A3		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6604	10.A3		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6606	10.A2		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6607	10.A2		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6608	10.A3		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6609	10.A3		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
NR1350	2.A5		1038499-100	NOISE REDUCER	STARTER EXHAUST		4500 SCFM (127 NM3/MIN)	5
NR6210	12.A1		SEE MID	NOISE REDUCER	ENCLOSURE INLET SILENCER			5
NR6240	12.A6		SEE MID	NOISE REDUCER	ENCLOSURE EXHAUST SILENCER			5
NR6300	12.C2		SEE MID	NOISE REDUCER	TURBINE AIR INLET SILENCER			5
P3110	6.D2		1063384-1	PUMP	MAIN LUBE OIL PUMP, ENGINE DRIVEN		433 GPM (1639 LPM), 88 PSIG (6.07 BARG)	
P3150	6.D4		PART OF ASY3150	PUMP	PRE/POST LUBE, AC MOTOR DRIVEN		330 GPM (1250 LPM) AT 32.5 PSIG (2.24 BARG)	
P3170	6.D6		PART OF ASY3170	PUMP	BACKUP LUBE, DC MOTOR DRIVEN		250 GPM (946 LPM) AT 18 PSIG (1.24 BARG)	
P3280	6.B6		PART OF ASY3280	PUMP	PORTABLE LUBE OIL CONDITIONING		9 GPM (34.1 LPM), 1500 RPM	5
P5980	8.B1		1074064-200	PUMP	HPC SEAL BOOST SYSTEM			
PCV1030	3.C6		1083334-100	PRESSURE CONTROL VALVE	EXHAUST COLLECTOR DRAINAGE	5 PSIG (0.34 BARG)	275 PSIG (19.0 BARG) MAX	
PCV1031	3.C6		1083334-100	PRESSURE CONTROL VALVE	EXHAUST COLLECTOR DRAINAGE	5 PSIG (0.34 BARG)	275 PSIG (19.0 BARG) MAX	

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 17 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
PCV1351	2.C4		120073-16	PRESSURE CONTROL VALVE	PRESSURE REGULATOR AND	90 PSIG (6.21 BARG) NOMINAL		
PCV1352	2.B4		186273-37	PRESSURE CONTROL VALVE	PCV1352 BIAS, PRESSURE BOOST FOR FULL POWER CRANK, ADDITIVE TO PCV1351 SETTING	60 PSI (4.15 BAR) NOMINAL		
PCV2151	5.C4		186273-42	PRESSURE CONTROL VALVE	TORCH COARSE ADJUST REGULATOR	35 PSIG (2.41 BARG) SET	ADJUSTABLE RANGE= 25-50 PSIG (1.72-3.45 BARG)	
PCV2152	5.D4		186273-40	PRESSURE CONTROL VALVE	TORCH FINE ADJUST REGULATOR	15 - 20 PSIG (1.03 - 1.38 BARG)	ADJUSTABLE RANGE= 0-50 PSIG (0-3.45 BARG)	
PCV3200	6.C2		1038428-1	PRESSURE CONTROL VALVE	MAIN LUBE PRESSURE CONTROL	35 PSIG (2.41 BARG) SET		
PCV5100	8.D2		120759-4	PRESSURE CONTROL VALVE	BUFFER AIR, HP COMPRESSOR	18 PSIG (1.24 BARG)		
PCV5120	8.A2		186273-1	PRESSURE CONTROL VALVE	PILOT FOR SEAL GAS SHUTOFF VALVE, HP COMPRESSOR	95 PSIG (6.55 BARG)	95 TO 195 PSIG (6.55 TO 13.44 BARG)	
PCV5150	8.B4		120247-4	PRESSURE CONTROL VALVE	SEAL GAS HP COMPRESSOR	20 PSID (1.38 BARD)		
PCV5980	8.C1		1043380-1	PRESSURE CONTROL VALVE	HPC SEAL GAS BOOST,HP COMPRESSOR	80-100 PSIG (5.52 - 6.89 BAR) VARIABLE		
PCV6410	5.D2		186273-1	PRESSURE CONTROL VALVE	PRESSURE CONTROL, PILOT AIR	90 +/- 5 PSIG (6.21 +/- 0.34 BARG)	ADJUSTABLE RANGE= 75-200 PSIG (5.17-13.80 BARG)	
PCV6530	3.A2		REFERENCE	PRESSURE CONTROL VALVE	PCD AIR FOR FILTER CLEANING			5
PCV6611	11.B3		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #1			
PCV6612	11.B4		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #2			
PCV6613	11.B4		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #3			
PCV6621	11.B5		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #1			
PCV6622	11.B6		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #2			
PCV6623	11.B7		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6627	11.A7		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6629	11.A5		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE			
PCV6631	11.C3		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #1			
PCV6632	11.C4		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #2			
PCV6633	11.C4		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #3			
PCV6641	11.C5		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #1			
PCV6642	11.C6		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #2			
PCV6643	11.C7		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6647	11.C7		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6649	11.C5		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE			
PDS1500	3.A4		1053929-16	PRESSURE DIFF SWITCH	FLAMEOUT PROTECTION	HIGH SHUTDOWN: 2 PSID (0.138 BARD) INCREASING	DPDT	
PDS6211	12.A3		1036679-10	PRESSURE DIFF SWITCH	ENCLOSURE VENT FAN FAIL	LOW ALARM: 0.5 INH2O (0.00124 BARD) LOW SHUTDOWN: SEE SOFTWARE		
PDT1110	3.C2		1052120-1	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET DUCT LOSSES		4 - 20 MA = 0 - 15 INH2O (0 - 37 MBARD)	
PDT2100	5.A2		PART OF ASY2100	PRESSURE DIFF TRANSMITTER	GAS FUEL COALESCING FILTER	HIGH ALARM: 221 INH2O (0.55 BARD)	4 - 20 MA = 0 - 300 INH2O (0 - 0.74 BARD)	5
PDT3100	6.C1		1052120-1	PRESSURE DIFF TRANSMITTER	LUBE OIL TANK VENT PRESSURE	HIGH ALARM: 8.5 INH2O (0.021 BARD) HIGH SHUTDOWN: 10 INH2O (0.0248 BAR)	4 - 20 MA = 0 - 15 INH2O (0 - 37 MBARD)	
PDT3240	6.A4		1052120-4	PRESSURE DIFF TRANSMITTER	MONITOR LUBE OIL FILTER	HIGH ALARM: 30 PSID (2.07 BAR)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT4400	8.D4	FIT-0X01	1052120-3	PRESSURE DIFF TRANSMITTER	IMPELLER EYE, HP COMPRESSOR		4 - 20 MA = 0 - 300 INH2OD (0 - 0.747 BARD)	
PDT4401	8.D4	PT-0X02	1052120-12	PRESSURE DIFF TRANSMITTER	IMPELLER EYE MAX FLOW, HP COMPRESSOR		4 - 20 MA = 0 - 50 PSID (0 - 3.347 BARD)	
PDT5100	8.D3		1052120-4	PRESSURE DIFF TRANSMITTER	BUFFER AIR DIFFERENTIAL PRESSURE, HP COMPRESSOR	LOW ALARM: 15 PSID (1.03 BARD) LOW SHUTDOWN: 13 PSID (0.9 BARD) HIGH ALARM: 22 PSID (1.52 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5104	8.D2		1052120-4	PRESSURE DIFF TRANSMITTER	BUFFER AIR FILTER DIFFERENTIAL PRESSURE, HP COMPRESSOR	HIGH ALARM: 30 PSID (2.07 BAR)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5130	8.A5		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL GAS FILTER DIFFERENTIAL PRESSURE, HP COMPRESSOR	HIGH ALARM: 20 PSID (1.38 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5150	8.B5		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL GAS DIFFERENTIAL, HP COMPRESSOR	LOW ALARM: 7 PSID (0.48 BARD) LOW SHUTDOWN: 4 PSID (0.28 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5904	8.C1		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL BOOST AIR FILTER DELTA-P	HIGH ALARM: 30 PSID (2.09 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 7.03 KG/CM2)	
PDT6180	12.C3		1052120-11	PRESSURE DIFF TRANSMITTER	ENCLOSURE PRESSURE DELTA (PRIMARY)	LOW ALARM: 0.25 INH2O (0.0062 BARD) LOW SHUTDOWN: 0.15 INH2O (0.0037 BARD)	4 - 20 MA = 0 - 3 INH2O (0.0075 BARG)	
PDT6310	12.C1		PART OF ASY6310	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET FILTER	HIGH ALARM: 3 INH2O (0.0075 BAR) HIGH SHUTDOWN: 6 INH2O (0.015 BAR)	4 - 20 MA = 0 - 10 INH2O (0 - 254 MM)	
PDT6311	12.B1		PART OF ASY6310	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET FILTER	HIGH ALARM: 3 INH2O (0.0075 BAR) HIGH SHUTDOWN: 6 INH2O (0.015 BAR)	4 - 20 MA = 0 - 10 INH2O (0 - 254 MM)	
PE1520	3.C5		1071327-1	PRESSURE ELEMENT	COMBUSTOR PRESSURE MONITOR	REFERENCE SOFTWARE FOR SET POINTS		
PI5980	8.C1		PART OF PCV5980	PRESSURE INDICATOR	HPC SEAL BOOST REGULATOR	PART OF PCV5980	0-160 PSIG (0 - 11.03 BAR)	
PI6530	3.A1		REFERENCE	PRESSURE INDICATOR	PCD AIR FOR FILTER CLEANING			5
PS3150	6.D5		1053923-53	PRESSURE SWITCH	AC PRE/POST PUMP CHECK	12 +/- 1 PSIG (0.83 +/- 0.07 BARG) INCREASING, BY 9 PSIG (0.62 BARG) DECREASING		
PS3170	6.D6		1053923-53	PRESSURE SWITCH	BACKUP PUMP LOW PRESSURE TEST	12 +/- 1 PSIG (0.83 +/- 0.07 BARG) INCREASING, BY 9 PSIG (0.62 BARG) DECREASING		
PS3200	7.A2		1053923-68	PRESSURE SWITCH	BACKUP LUBE PUMP ACTIVATION, PLC FAILURE	BY 8 PSIG (0.55 BARG) DECREASING, 10 PSIG (0.69 BARG) INCREASING		
PS4401	8.C4		1053923-31	PRESSURE SWITCH	COMPRESSOR CASE PRESSURE, HP COMPRESSOR	4 PSIG (0.28 BARG) DECREASING, BY 8 PSIG (0.55 BARG) INCREASING		
PS6610	10.A3		1053923-15	PRESSURE SWITCH	C02 RELEASE CONFIRM			
PSV3110	6.C2		120485-400	PRESSURE SAFETY VALVE	MAIN LUBE RELIEF	150 PSIG (10.34 BARG)		

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C SHT REV C
SHEET 18 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
PSV5160	8.A3		120652-5	PRESSURE SAFETY VALVE	PRIMARY SEAL VENT ORIFICE BYPASS, SUCTION END HP COMPRESSOR	30 PSI (2.07 BAR) CRACKING		
PSV5170	8.B6		120652-5	PRESSURE SAFETY VALVE	PRIMARY SEAL VENT ORIFICE BYPASS, DISCHARGE END HP COMPRESSOR	30 PSI (2.07 BAR) CRACKING		
PSV6410	5.D2		967664C1	PRESSURE SAFETY VALVE	LIMIT PILOT AIR PRESSURE	100 PSIG (6.90 BARG)		
PT1120	3.A3		1052168-23	PRESSURE TRANSMITTER	MONITOR PCD		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT1121	3.A4		1052168-23	PRESSURE TRANSMITTER	MONITOR PCD #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2120	5.C1		1052168-3	PRESSURE TRANSMITTER	GAS FUEL PRESSURE	LOW ALARM: REFERENCE SOFTWARE FOR SET POINTS HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2121	5.C3		1052168-23	PRESSURE TRANSMITTER	GAS VALVE CHECK	HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2126	5.C4		1052168-23	PRESSURE TRANSMITTER	FUEL CONTROL UPSTREAM PRESSURE	HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2130	5.C5		1052168-23	PRESSURE TRANSMITTER	MAIN GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #1		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2131	5.C5		1052168-23	PRESSURE TRANSMITTER	MAIN GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2140	5.C5		1052168-23	PRESSURE TRANSMITTER	PILOT GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #1		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2141	5.C5		1052168-23	PRESSURE TRANSMITTER	PILOT GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT3200	7.A3		1052168-2	PRESSURE TRANSMITTER	LUBE OIL HEADER PRESSURE	REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT4410	8.D4	PT-0X09	1052168-4	PRESSURE TRANSMITTER	SUCTION PRESSURE, HP COMPRESSOR	LOW ALARM: 910 PSIG (62.74 BAR) LOW SHUTDOW: 860 PSIG (59.29 BARG)	4 - 20 MA = 0-1500 PSIG (0-103.42 BAR)	
PT4430	8.C5	PT-0X10	1052168-5	PRESSURE TRANSMITTER	DISCHARGE PRESSURE, HP COMPRESSOR	HIGH ALARM: 1520 PSIG (104.8 BAR) HIGH SHUTDOWN: 1590 PSIG (109.63 BARG)	4 - 20 MA = 0-3500 PSIG (0-241.31 BAR)	
PT5153	8.B5		1052168-4	PRESSURE TRANSMITTER	BALANCE PISTON STATIC PRESSURE MEASUREMENT, HP COMPRESSOR		4 - 20 MA = 0-1500 PSIG (0-103.42 BAR)	
PT5160	8.B3		1052168-2	PRESSURE TRANSMITTER	PRIMARY SEAL VENT SUCTION FLOW, HP COMPRESSOR	HIGH ALARM: 8 PSIG (0.55 BAR) HIGH SHUTDOWN: 20 PSIG (1.38 BAR)	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT5170	8.B6		1052168-2	PRESSURE TRANSMITTER	PRIMARY SEAL VENT DISCHARGE FLOW, HP COMPRESSOR	HIGH ALARM: 8 PSIG (0.55 BAR) HIGH SHUTDOWN: 20 PSIG (1.38 BAR)	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT5980	8.A1		1052168-1	PRESSURE TRANSMITTER	HPC SEAL PUMP SHAFT SEAL LEAKAGE MEASUREMENT	HIGH ALARM: 8 PSIG (0.55 BAR)	4-20 MA = 0-25 PSIG (0-172 KPAG)	
PT6400	5.D2		1052168-3	PRESSURE TRANSMITTER	MONITOR AIR SUPPLY	LOW ALARM: 80 PSIG (5.51 BARG) HIGH ALARM: 200 PSIG (13.80 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
R1700	3.D4		1056012-100	RESEVOIR	ENGINE CLEANING SYSTEM TANK	CHARGE WITH D.I. WATER/CLEANING FLUID/AIR: 26 GAL (100 L) AND 85-100 PSIG (5.86-6.90 BARG)	200F (93.3C), 130 PSIG (8.96 BARG) MAX	5
R3100	6.D1		PART OF SKID	RESERVOIR	OIL STORAGE		NORMAL OPERATING VOLUME= 1300 GAL (4920 L)	
R5165	8.C3		185616-9311W	RESERVOIR	SECONDARY SEAL VENT, SUCTION END, HP COMPRESSOR			
R5175	8.C6		185616-9311W	RESERVOIR	SECONDARY SEAL VENT, DISCHARGE END, HP COMPRESSOR			
R5980	8.B2		1110374-2	RESERVOIR PNEUMATIC	HPC SEAL GAS BOOST SYSTEM, PULSATION DAMPING	0.584-0.606 GALLONS (2.212-2.294 LITERS)		
R5981	8.C2		1110374-2	RESERVOIR PNEUMATIC	HPC SEAL GAS BOOST SYSTEM,PULSATION DAMPING	0.584-0.606 GALLONS (2.212-2.294 LITERS)		
R6611	11.B3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #1			5
R6612	11.B3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #2			5
R6613	11.B4		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #3			5
R6621	11.B5		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #1			5
R6622	11.B6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #2			5
R6623	11.B6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #3			5
R6631	11.C3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #1			5
R6632	11.C3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #2			5
R6633	11.C4		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #3			5
R6641	11.C5		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #1			5
R6642	11.C6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #2			5
R6643	11.C6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #3			5
SE1260	4.C1		PART OF ENGINE	SPEED ELEMENT	GAS PRODUCER SPEED (NGP)	REFERENCE SOFTWARE FOR SET POINTS		
SE1270	4.C4		PART OF ENGINE	SPEED ELEMENT	POWER TURBINE SPEED (NPT)	REFERENCE SOFTWARE FOR SET POINTS		
SE1271	4.C5		PART OF ENGINE	SPEED ELEMENT	BACKUP POWER TURBINE SPEED (NPT)	REFERENCE SOFTWARE FOR SET POINTS		
SE1306	2.B6		PART OF TURNING GEAR	SPEED ELEMENT	TURNING GEAR MOTOR	REFERENCE SOFTWARE FOR SET POINTS		
SE1330	4.C1		PART OF ENGINE	SPEED ELEMENT	PNEUMATIC START OVERSPEED			
SG3510	7.C2		1039199-5 (2 EACH)	SIGHT GLASS	#1 BEARING LUBE DRAIN			
SG3520	7.D2		1039199-5 (2 EACH)	SIGHT GLASS	#2 AND #3 ENGINE BEARING DRAIN			
SG3540	7.D3		1039199-5 (2 EACH)	SIGHT GLASS	#4 AND #5 ENGINE BEARING DRAIN			
SG3620	7.C5		1039199-5 (2 EACH)	SIGHT GLASS	COMPRESSOR SUCTION, HP			
SG3630	7.C5		1039199-4 (2 EACH)	SIGHT GLASS	COMPRESSOR DISCHARGE, HP			
SG5134	8.B4		908489C1	SIGHT GLASS	SEAL GAS FILTER, HP COMPRESSOR			
SG5144	8.B4		908489C1	SIGHT GLASS	SEAL GAS FILTER, HP COMPRESSOR			

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 19 OF 22

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GSPL

DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
SG5165	8.C3		908489C1	SIGHT GLASS	SECONDARY VENT DRAIN, HP COMPRESSOR			
SG5175	8.C7		908489C1	SIGHT GLASS	SECONDARY VENT DRAIN, HP COMPRESSOR			
SV1350	2.B3		1067310-100	SOLENOID VALVE	QUICK CLOSING	CV = 0.4 PRESSURE, CV = 9.6 VENT	MAX DESIGN PRESS= 261 PSIG (18 BAR)	
SV1351	2.B4		1067312-1	SOLENOID VALVE	START INITIATE		MAX PRESSURE= 508 PSIG (35.02 BARG), 24 VDC, 6 WATTS	
SV1352	2.B4		1067311-1	SOLENOID VALVE	INCREASED CRANK	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV1710	3.D2		1067311-1	SOLENOID VALVE	ON-LINE CLEANING SHUTOFF	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV1720	3.C2		1067311-1	SOLENOID VALVE	ON-CRANK CLEANING SHUTOFF	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV2120	5.C2		1091605-100	SOLENOID VALVE	PRIMARY GAS FUEL PILOT SHUTOFF VALVE	CV = 0.11 PRESSURE, CV = 8.8 VENT	MAX DESIGN PRESS= 125 PSIG (8.61 BARG), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2121	5.C2		1067311-1	SOLENOID VALVE	GAS FUEL VENT, PILOT		MAX PRESSURE= 508 PSIG (35.02 KG/CM2), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2124	5.C4		PART OF ASY2124	SOLENOID VALVE	SECONDARY GAS FUEL SHUTOFF VALVE, PILOT	CV = 0.7, EXHAUST CV = 3.95	MAX PRESSURE= 145 PSIG (10 BARG), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2150	5.D3		1067311-1	SOLENOID VALVE	GAS TORCH SHUTOFF, PILOT		MAX PRESSURE= 508 PSIG (35.02 KG/CM2), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV5120	8.A3		1067311-1	SOLENOID VALVE	SEAL GAS SUPPLY SHUTOFF HP COMPRESSOR		24 VDC, 12 WATTS	
SV5980	8.B1		1067311-1	SOLENOID VALVE	HPC SEAL BOOST PILOT	24 VDC, 6 WATTS		
SV6611	11.A3		PART OF ASY6600	SOLENOID VALVE	PRIMARY RELEASE #1	CO2		
SV6613	11.A4		PART OF ASY6600	SOLENOID VALVE	PRIMARY RELEASE #3	CO2		
SV6631	11.C3		PART OF ASY6601	SOLENOID VALVE	SUBSEQUENT RELEASE #1	CO2		
SV6633	11.C4		PART OF ASY6601	SOLENOID VALVE	SUBSEQUENT RELEASE #3	CO2		
T1000	3.B3		TURBINE	GAS TURBINE				
TCV3200	6.C3		120713-20	TEMPERATURE CONTROL VALVE	OIL TEMPERATURE CONTROL	VALVE TRANSFER RANGE: 126F - 139F (52 - 59C)		
TE1110	3.C3		918801C1	TEMPERATURE ELEMENT	ENGINE AIR INLET TEMPERATURE		100 OHM PLATINUM	
TE1150	4.B4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1151	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1152	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1153	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1154	4.B6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1155	4.B6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1156	4.C4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1157	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1158	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1159	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1160	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1161	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1162	4.C4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1163	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1164	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1165	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1166	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1260	4.B1		PART OF ENGINE	TEMPERATURE ELEMENT	GAS PRODUCER THRUST BEARING TEMPERATURE	REFERENCE SOFTWARE FOR SET POINTS	100 OHM PLATINUM	
TE1270	4.B3		PART OF ENGINE	TEMPERATURE ELEMENT	POWER TURBINE THRUST BEARING TEMPERATURE	REFERENCE SOFTWARE FOR SET POINTS		
TE2120	5.C3		131230-6	TEMPERATURE ELEMENT	GAS FUEL TEMPERATURE	LOW ALARM: -18 F (-27.8 C) LOW SHUTDOWN: -20 F (-28.9 C) HIGH ALARM: 200 F (93 C) HIGH SHUTDOWN: 215 F (102 C)	-328 TO + 752 F (-200 TO + 400 C)	
TE3100	6.D3		1014598	TEMPERATURE ELEMENT	MONITOR LUBE OIL TANK TEMPERATURE HEATER SYSTEM CONTROL	ON: 75 F (24 C) OFF: 80 F (27 C) START PERMIT: 62 F (17 C)	100 OHM PLATINUM	
TE3200	7.A1		964192C1	TEMPERATURE ELEMENT	LUBE OIL HEADER TEMPERATURE	LOW ALARM: 110F (43C) HIGH ALARM: 175 F (80C) HIGH SHUTDOWN: 180F (82C)	100 OHM PLATINUM	
TE3510	7.C2		959839C1	TEMPERATURE ELEMENT	#1 BEARING DRAIN	HIGH ALARM: HEADER TEMP + 45F (25C) HIGH SHUTDOWN: HEADER TEMP+50F (28C)	100 OHM PLATINUM	
TE3520	7.C2		964192C1	TEMPERATURE ELEMENT	#2 AND #3 BEARING COMMON DRAIN	HEADER TEMP+110F (61 C) HIGH SHUTDOWN: HEADER TEMP+125F (69 C)	100 OHM PLATINUM	
TE3540	7.C3		918777C1	TEMPERATURE ELEMENT	#4 AND #5 ENGINE BEARING COMMON DRAIN	HIGH ALARM: HEADER TEMP + 45F (25C) HIGH SHUTDOWN: HEADER TEMP+50F (28C)	100 OHM PLATINUM	
TE4413	9.C3	TE-02-5410A	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (UPPER PAD)			
TE4413-SP	9.C3		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (UPPER PAD - SPARE)			
TE4414	9.B3	TE-02-5410B	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (LOWER PAD)			
TE4414-SP	9.B3		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (LOWER PAD - SPARE)			
TE4417	9.C5	TE-02-5410C	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC INBOARD THRUST BEARING (UPPER PAD)			

Solar® Turbines
A Caterpillar Company

Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 20 OF 22

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GSPL

DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
TE4418	9.B5	TE-02-5410D	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC INBOARD THRUST BEARING (LOWER PAD)			
TE4430	8.C4	TE0X04	1065035-13	TEMPERATURE ELEMENT	HIGH GAS DISCHARGE TEMPERATURE SHUTDOWN, HP COMPRESSOR	HIGH ALARM: 155 F (68 C) HIGH SHUTDOWN: 160 F (71 C)		
TE4433	9.C5	TE-02-5410E	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (UPPER PAD)			
TE4433-SP	9.C5		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (UPPER PAD - SPARE)			
TE4434	9.B5	TE-02-5410F	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (LOWER PAD)			
TE4434-SP	9.B5		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (LOWER PAD - SPARE)			
TE4437	9.C5	TE-02-5410G	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC OUTBOARD THRUST BEARING (UPPER PAD)			
TE4438	9.B5	TE-02-5410H	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC OUTBOARD THRUST BEARING (LOWER PAD)			
TE6110	12.A3		918801C1	TEMPERATURE ELEMENT	ENCLOSURE TEMPERATURE	HIGH ALARM: 167 F (75C) HIGH SHUTDOWN: 185F (85C)		
TS6540	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6541	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6542	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6543	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TW2120	5.C3		1039733-1	THERMOWELL	GAS FUEL TEMPERATURE FOR TE2120			
TW3200	7.A1		1039733-1	THERMOWELL	LUBE OIL HEADER TEMPERATURE			
TW3510	7.C2		1039733-3	THERMOWELL	#1 BEARING DRAIN			
TW3520	7.C2		1039733-1	THERMOWELL	GAS PRODUCER DRAIN			
TW3540	7.C3		1039733-2	THERMOWELL	#4 AND #5 ENGINE BEARING COMMON DRAIN			
TW4430	8.C4		1008764	THERMOWELL	HP COMPRESSOR DISCHARGE			
VE1204	4.B1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE ACCESSORY DRIVE GEARBOX VELOCITY	REFERENCE SOFTWARE FOR SET POINTS		
VE1210	4.A1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #1 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1211	4.A1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #1 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1220	4.A2		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #2 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1221	4.A2		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #2 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1230	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #3 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1231	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #3 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1240	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #4 (PT X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1241	4.A4		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #4 (PT Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1250	4.A4		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #5 (PT X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1251	4.A5		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #5 (PT Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1262	4.B1		PART OF ENGINE	VIBRATION ELEMENT	GAS PRODUCER (AXIAL)	REFERENCE SOFTWARE FOR SET POINTS		
VE1263	4.B1		PART OF ENGINE	VIBRATION ELEMENT	GAS PRODUCER (KEY PHASOR)	MONITORING ONLY		
VE1272	4.B4		PART OF ENGINE	VIBRATION ELEMENT	POWER TURBINE (AXIAL)	REFERENCE SOFTWARE FOR SET POINTS		
VE1273	4.B5		PART OF ENGINE	VIBRATION ELEMENT	POWER TURBINE KEY PHASOR	MONITORING ONLY		
VE4460	9.B3	VE-02-5310Q	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END (X-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4461	9.C3	VE-02-5310R	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END (Y-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4462	9.C6	VE-02-5310S	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END AXIAL #1 (Z-AXIS)	HIGH ALARM: 6 mils (.152 mm) HIGH SHUTDOWN: 11 mils (279 mm)	RANGE: -25 to 25 mils (-0.635 to 0.635 mm) END-PLAY WILL BE DETERMINED DURING INSTALLATION	
VE4470	9.B6	VE-02-5310T	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (X-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4471	9.C6	VE-02-5310U	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (Y-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4473	9.B6	VE-02-5310V	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (KEYPHASOR)			
XFA3270	6.A2		1065667-5	FLAME ARRESTOR	TANK VENT		VERTICAL MOUNTING	5
XFA5167	8.A6		1065667-1	FLAME ARRESTOR	SEAL VENT PROTECTION, PRIMARY, HP COMPRESSOR		VERTICAL MOUNTING	5
XFA5177	8.A7		1065667-1	FLAME ARRESTOR	SEAL VENT PROTECTION, SECONDARY, HP COMPRESSOR		VERTICAL MOUNTING	5
ZS6151	12.B3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6152	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			

Solar® Turbines
A Caterpillar Company

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 21 OF 22

Schematic Functional Component List

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GSPL

DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
ZS6153	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6154	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6155	12.B5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6156	12.B3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6157	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6158	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6159	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6160	12.B5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6161	12.C3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6162	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6163	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6164	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6165	12.C5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6166	12.C5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZSC6611	11.A1		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION CLOSED			4
ZSC6621	11.A2		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION CLOSED			4
ZSO6611	11.A1		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION OPEN			4
ZSO6621	11.A2		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION OPEN			4

Schematic Functional Component List

Solar® Turbines
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DRAWING NO. 3P961-149446
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SHEET 22 OF 22

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CSPL

GCASE REV 3.8.2: DB197.00

ESTIMATED COMPRESSOR PERFORMANCE

C45-2

[405] C2F C3R

Solar® Turbines

A Caterpillar Company

CONTROL NO.
P-35480 SHT.1
ISSUE DATE
02 JAN. 2013
ENGINEER
R. BERGENER

HFHR = 0.500

GUJARAT STATE PETRONET LTD

GANA

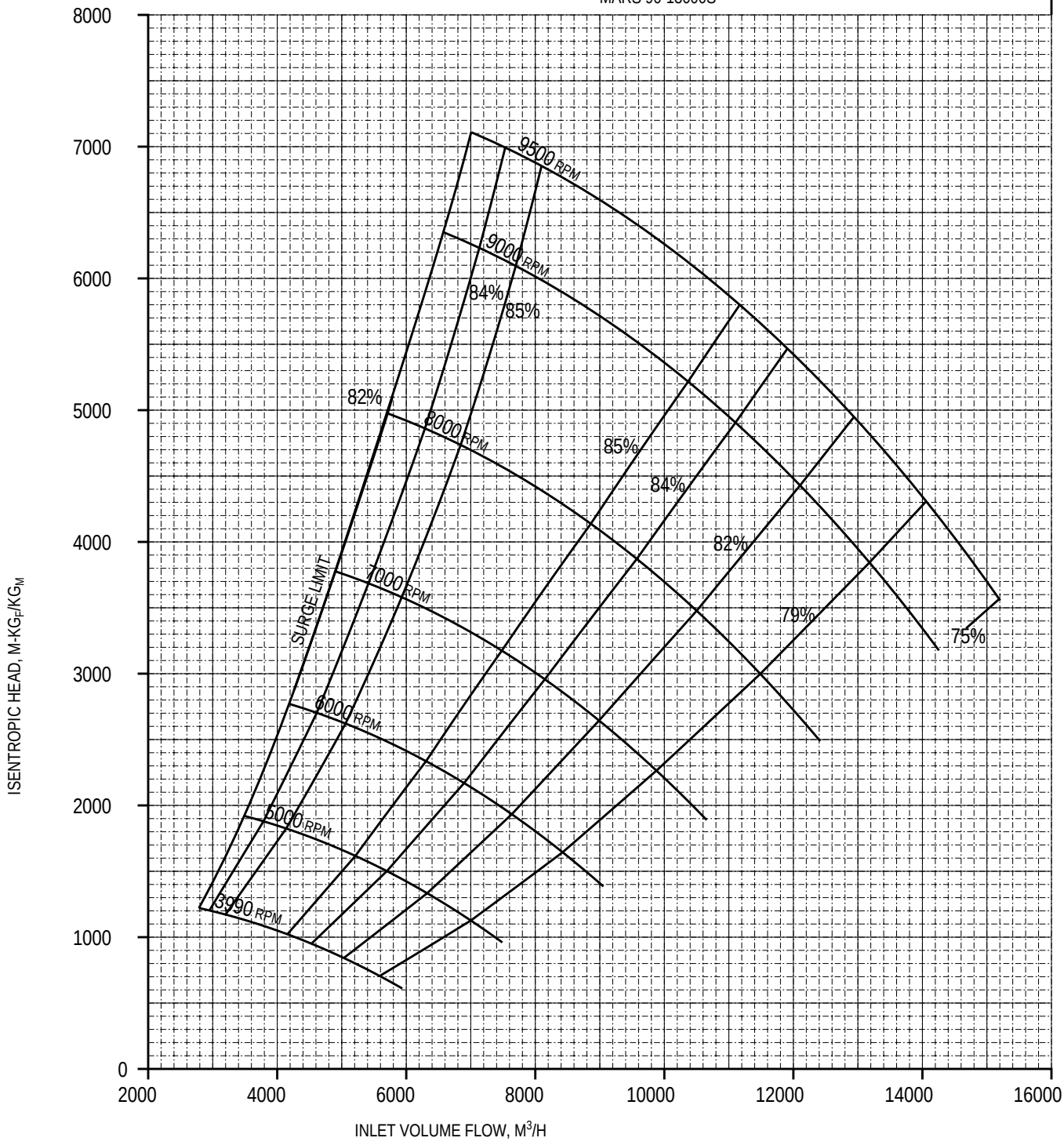
SG	K50	K300	PCP	PCT
0.5574	1.318	1.246	673.8	344.5

SUCTION TEMPERATURE 30.0 C

SUCTION PRESSURE 71.01 BARA

IN11-0004/3P961

MARS 90-13000S



GCASE REV 3.8.2: DB197.00

ESTIMATED COMPRESSOR PERFORMANCE

C45-2

[405] C2F C3R

Solar® Turbines

A Caterpillar Company

CONTROL NO.
P-35480 SHT.2
ISSUE DATE
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ENGINEER
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SG	K50	K300	PCP	PCT
0.5574	1.318	1.246	673.8	344.5

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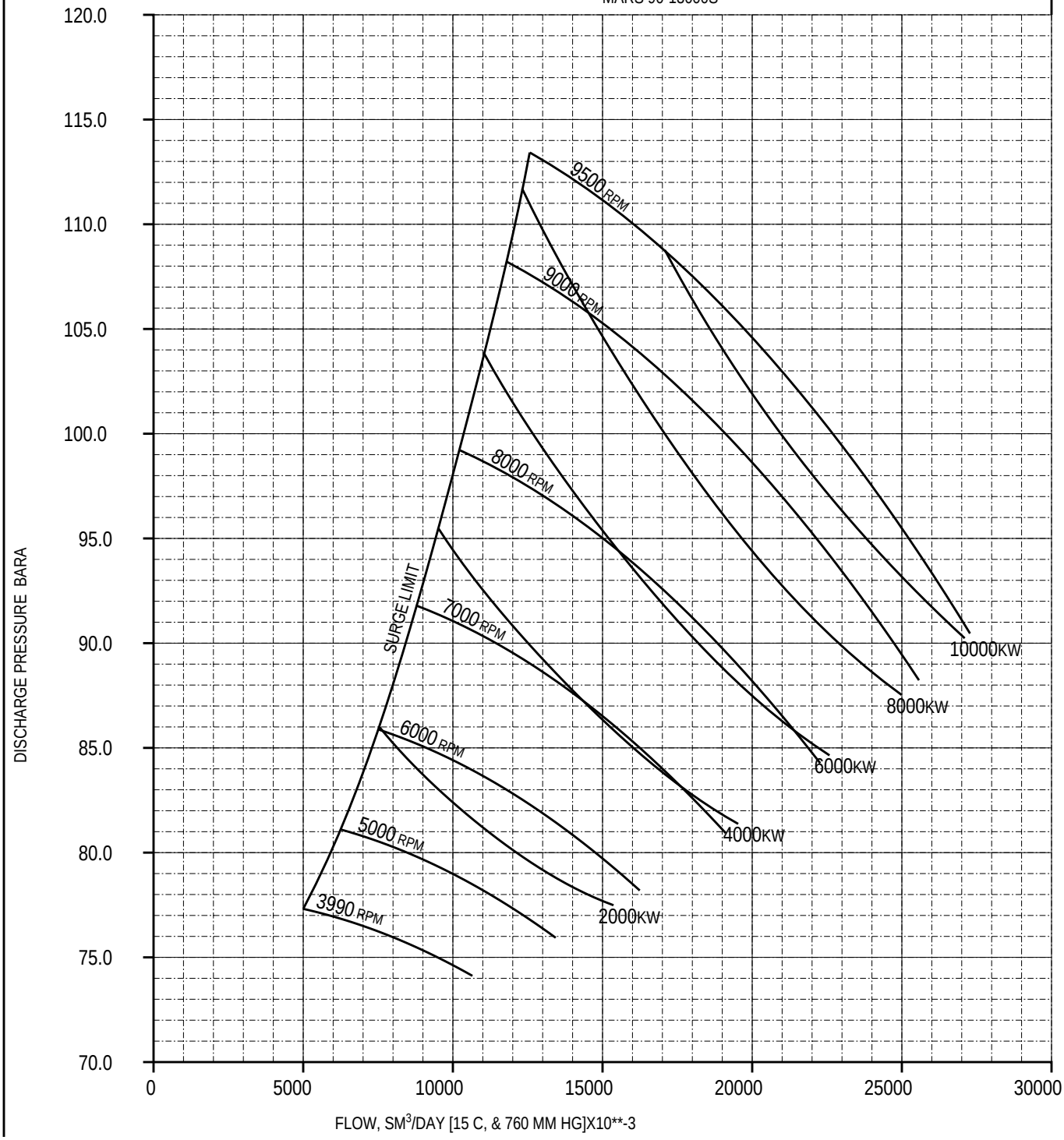


GCASE REV 3.8.2: DB197.00

ESTIMATED COMPRESSOR PERFORMANCE

C45-2

[405] C2F C3R

Solar® Turbines

A Caterpillar Company

CONTROL NO.
P-35480 SHT.3
ISSUE DATE
02 JAN. 2013
ENGINEER
R. BERGENER

HFHR = 0.500

GUJARAT STATE PETRONET LTD

GANA

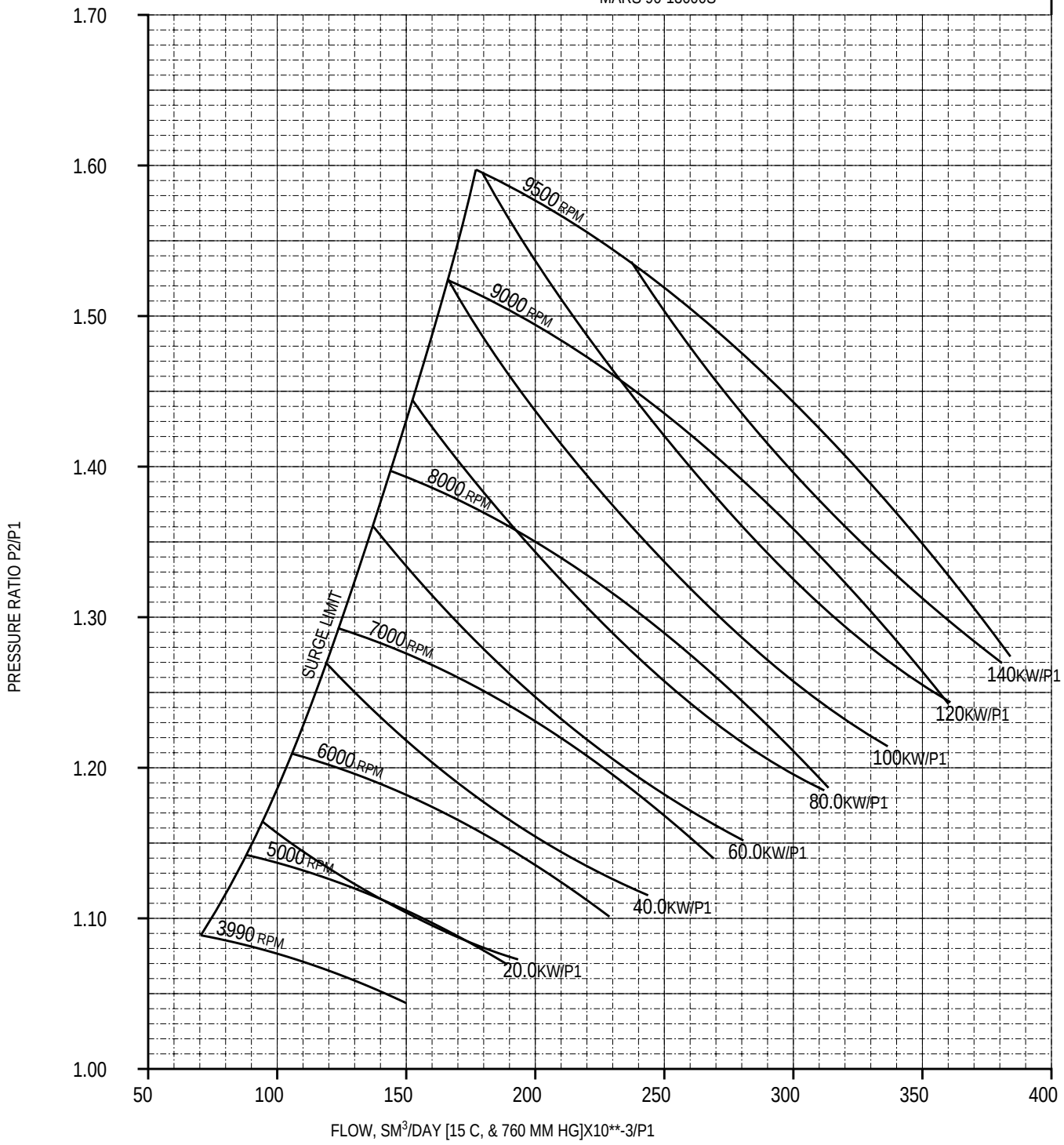
SG	K50	K300	PCP	PCT
0.5574	1.318	1.246	673.8	344.5

SUCTION TEMPERATURE 30.0 C

SUCTION PRESSURE 71.01 BARA

IN11-0004/3P961

MARS 90-13000S



COMPRESSOR PERFORMANCE (GANA):

```
Compressor No.=   1                              Family = C45
Case(kcx) 30, Type 0 Operation                   Driven End= suction
EOS used= REDLICH-KWONG(components input)        Seals= Dry Gas
Reynolds Correction: 3rd_Gen  Mach: First        Driver= Mars 90
```

Oper Case	Light Gas			Gana Gas			
	Rated	Normal	Min	Rated	Normal	Min	
P1	71.01	71.01	71.01	71.01	71.01	71.01	Bara
P2	96.07	96.07	96.07	96.07	96.07	96.07	Bara
HEAD, ISEN	4477.4	3995.7	3995.7	4124.9	3652.5	3652.5	m-kgf/kgm
HEAD, POLY	4504.3	4022.6	4023.9	4148.9	3676.1	3677.5	m-kgf/kgm
INLET FLOW	7888.42	6101.78	5724.11	7722.72	5925.09	5474.81	m^3/hr
STANDARD FLOW	14150.00	12300.00	11538.70	14150.00	12300.00	11365.26	sm^3/day-e3
MASS FLOW	111.79	97.17	91.16	118.64	103.13	95.29	kg/sec
POWER	5795.	4550.	4301.	5660.	4403.	4105.	kW
SPEED	8015.	7330.	7271.	7719.	7020.	6949.	rpm
PRESS. RATIO	1.353	1.353	1.353	1.353	1.353	1.353	
T1	30.0	8.3	8.3	30.0	8.3	8.3	Deg C
T2	56.3	33.6	33.8	55.5	32.8	33.0	Deg C
EFF, ISEN	85.6	84.6	83.9	85.7	84.8	84.0	percent
EFF, POLY	86.1	85.1	84.5	86.2	85.3	84.6	percent
SURGE MARGIN	27.5	14.8	10.0	28.5	15.9	10.0	percent
TURNDOWN	31.8	16.8	11.4	33.2	18.1	11.4	
SPEC. GRAVITY	0.5574	0.5574	0.5574	0.5916	0.5916	0.5916	
K1	1.305	1.319	1.319	1.291	1.304	1.304	
K2	1.290	1.303	1.303	1.276	1.289	1.289	
PCP	673.8	673.8	673.8	674.8	674.8	674.8	psia
PCT	344.5	344.5	344.5	358.6	358.6	358.6	Deg R
Z1	0.8913	0.8541	0.8541	0.8726	0.8294	0.8294	
Z2	0.9046	0.8708	0.8710	0.8855	0.8460	0.8463	
K - 50 DEG F	1.318	1.318	1.318	1.303	1.303	1.303	
K - 300 DEG F	1.246	1.246	1.246	1.233	1.233	1.233	
API Output:							
Molecular Wt.	16.144	16.144	16.144	17.134	17.134	17.134	
Gas Components (Mol.%):							
2-C1H4	99.4987	99.4987	99.4987	94.6319	94.6319	94.6319	Methane
3-C2H6	0.1046	0.1046	0.1046	3.2221	3.2221	3.2221	Ethane
4-C3H8	0.0142	0.0142	0.0142	1.2808	1.2808	1.2808	Propane
5-IC4H10	0.0000	0.0000	0.0000	0.2101	0.2101	0.2101	I-Butane
6-NC4H10	0.0000	0.0000	0.0000	0.3032	0.3032	0.3032	N-Butane
7-IC5H12	0.0000	0.0000	0.0000	0.0200	0.0200	0.0200	I-Pentane
10-C6H14	0.0000	0.0000	0.0000	0.0006	0.0006	0.0006	N-Hexane
46-N2	0.1532	0.1532	0.1532	0.2502	0.2502	0.2502	Nitrogen
49-CO2	0.2293	0.2293	0.2293	0.0801	0.0801	0.0801	Carbon Dioxide
61-H20	0.0000	0.0000	0.0000	0.0010	0.0010	0.0010	Water

HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93

HP Network

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent
1	Petronet	0	94.9403	4.2195	0.369828	0.064365
2	RGTIL	0.0532	93.7478	4.384	1.15044	0.2301
3	ONGC	0.03	99.63	0.21	0	0

n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
0.0935	3.92E-03	0.00E+00	0	0.3086
0.23143	0.01932	0.01366	0.0203	0.1498
0	0	0	0	0.13

HP Network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07

48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8
71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29

98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Dahod node	371.895
120	Thasara node	108.239
121	Bhodigodi	60.343
122	Ambardi	152.279
123	Ratatalav-ABPL-18	48.76
124	Bhuj	132.69
125	SV-1-ABPL	102.367
126	Parle node	126.756
127	Banas node	208.05
128	Ineos node	65.666
129	Ineos CST node	79.985
130	Panchmahal node	142.18
131	Panchmahal Cst Node	149.47
132	Rochling-node	139.439
133	Iffco- node	172
134	JCT-node	119.8
135	GGL vapi node	123.156
136	Eklere shrikrishna	130.78
137	sarigam GIDC	130.78
138	Node1377-2	88.144
139	Shah alloy node	54.106
140	Birla_Node	109.19
141	Node1512-2	109.19
142	BASF node	109.19
143	styrolution node	109.19
144	GGL Dahej-node	109
145	Roxul-node	109.19
146	Sarju node	85.35
147	Dic - node	109

148	Torrent DGEN node	4.29
149	SEZ I node	109.19
150	OPAL CST node	2.8
151	Node1410	85
152	Node1520	109.19
153	SEZ-I- node	109.19
154	GNFC Hot tap - node	114.537
155	china steel cst node	1.9
156	Nano CNG node	27.812
157	GGL Vadhela Node	10.99
158	Node1479	103
159	Node1711	103
160	Node1712	103
161	GNFC CST node	3.95
162	Ramacylinder	15.4
163	GSFC-cst-node	3.01
164	GGLsaparpatia	20.27
165	GGLpalitana1	54.385
166	toyo-navin-convergence node	8.437
167	Uttran node	98.5
168	Bhadbhut-node	102.12
169	Rochling Cst node	139.439
170	IRM node	190
171	IRM cst node	190.15
172	Node2153	339
173	Node2163	109.19
174	Node2166	117.645
175	Node2172	109.19
176	Node2180	155.2
177	Node2183	165.5
178	Node2183-2	103.1

HP Network

Sr no.	Pipeline	From node	To node	Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1335	-0.13343	-0.4331	-0.4331
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.82639	-1.73017	-4.0441	-4.0441
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.585167	0.607181	0.77	0.77
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.06384	-2.01557	-4.8181	-4.8181
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	1.558113	1.641313	3.709323	3.709323
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.816673	1.824481	1.14	1.14
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	1.23361	1.237086	2.591	2.591
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.307875	0.310399	0.641	0.641
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.06303	-0.06463	-0.13168	-0.13168
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.891471	0.874728	1.02	1.02
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.56524	-0.59482	-1.15168	-1.15168
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.593856	1.539097	3.086	3.086
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.820987	0.819118	1.686	1.686
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.533804	0.533459	0.31	0.31
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.401423	0.400858	0.466	0.466
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.348324	7.845996	11.03681	11.03681
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.491324	5.662424	10.65681	10.65681
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.265433	0.265355	0.5025	0.5025
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.769695	2.832461	2.333	2.333
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.613925	2.673897	2.153	2.153
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.673897	2.681806	2.153	2.153
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Nava-Kataria-SV3-MMPL	63.809	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.066165	0.066474	0.053	0.053
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.994145	0.988694	2.026	2.026
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.396441	0.395519	0.816	0.816
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.87434	0.875345	0.511	0.511
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	3.888987	3.950271	9.726923	9.726923
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.719677	3.732994	9.337423	9.337423
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.315101	0.310203	0.587501	0.5875
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.439875	5.485889	18.47499	18.47499
31	GSPL 31	Node2153	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.600135	2.550085	5.050984	5.050984
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.121173	0.121248	0.393099	0.393099
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.120841	0.120436	0.141	0.141
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.137972	1.179236	2.569323	2.569323
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.36731	-0.35863	-0.7941	-0.7941
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.561215	8.086584	13.36981	13.36981
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5159	2.506169	5.010984	5.010984
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.086584	8.90164	13.36981	13.36981
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.223809	7.606458	13.44981	13.44981
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.121441	0.120841	0.141	0.141
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16721	-0.16721	-0.5431	-0.5431
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16722	-0.16721	-0.5431	-0.5431
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13651	-0.13643	-0.4431	-0.4431
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.043323	0.043353	0.1401	0.1401
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.118164	0.118285	0.383099	0.383099
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.117976	0.118017	0.382099	0.382099
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006825	0.006825	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.117399	0.117538	0.380099	0.380099
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013654	0.013656	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.409844	0.409984	0.239999	0.239999
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.808477	1.81158	1.13	1.13
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.062951	0.063086	0.13	0.13
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.548161	0.549254	0.32	0.32
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.874728	0.870402	1.02	1.02
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.504185	1.492421	3.016	3.016
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.467679	1.455396	2.966	2.966
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.983814	0.982911	2.016	2.016
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.958534	0.957331	1.966	1.966
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.167271	0.166182	0.09	0.09
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.240917	0.242536	0.14	0.14
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.280429	0.28031	0.326	0.326
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.267413	0.267713	0.311	0.311
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.471042	5.516939	18.42499	18.42499
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.084245	0.075355	0.05	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.513945	5.613655	18.41499	18.41499
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.299643	0.297226	0.5675	0.5675
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.085986	0.085157	0.02	0.02
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.271039	0.273356	0.5175	0.5175
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.094844	0.094688	0.05	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.066474	0.066582	0.053	0.053
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.054019	0.054067	0.043	0.043
76	GSPL 76	Node2180	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.028419	0.028721	0.01	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.030177	0.030204	0.024	0.024
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.025331	0.025251	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.838888	8.879062	11.02681	11.02681
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.8315	0.828026	0.94	0.94
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.26914	-0.26392	-0.5631	-0.5631
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.156288	1.181685	2.519323	2.519323
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.119244	0.119195	0.01	0.01
84	GSPL 84	Node2166	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.316935	0.357732	0.03	0.03
85	GSPL 85	Node2166	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.218378	0.245859	0.02	0.02
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.245859	0.245898	0.02	0.02
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.236022	6.37667	10.59181	10.59181
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.230473	0.232671	0.03	0.03
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.358609	6.512791	10.56181	10.56181
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	5.896155	5.917658	9.561809	9.561809
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.613655	5.708752	18.41499	18.41499
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.777232	5.88199	18.41499	18.41499
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.88199	6.069608	18.41499	18.41499
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	3.888852	3.896984	9.746923	9.746923
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.743889	0.744686	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039005	0.039032	0.01	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034601	0.034313	0.02	0.02
99	GSPL 100	Node2183	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068256	0.06837	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.153542	1.176071	2.459323	2.459323
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.083251	7.539352	14.03731	14.03731
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.616636	0.616218	1	1
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.099403	0.10128	0.06	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16721	-0.16693	-0.5431	-0.5431
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.529891	2.5159	5.010984	5.010984
107	GSPL 108	Node2183	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038066	0.038635	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038635	0.038639	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029722	0.029722	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.708752	5.777232	18.41499	18.41499
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	1.996719	1.997155	1.603	1.603
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0263	0.02609	0.015	0.015
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.02609	0.026036	0.015	0.015
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.026036	0.025997	0.015	0.015
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.025997	0.026003	0.015	0.015
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.102	0.101993	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.028288	0.028118	0.015	0.015
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.264	-0.26403	-0.5	-0.5
121	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034915	0.034714	0.02	0.02
122	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
123	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.654453	6.26546	10.64181	10.64181
124	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.015011	0.015416	0.005	0.005
125	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.017585	0.017402	0.014	0.014
126	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.02504	-0.02498	-0.01	-0.01
127	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.03497	-0.03482	-0.014	-0.014
128	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.040083	0.040166	0.004	0.004
129	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.522326	0.526545	0.076	0.076
130	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017357	0.017466	0.01	0.01
131	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068138	0.068206	0.01	0.01
132	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
133	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068601	0.068647	0.01	0.01
134	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.740787	0.741095	0.19	0.19
135	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.655969	0.652759	0.76	0.76
136	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
137	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000171	0.000171	0.0001	1.00E-04
138	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.957581	0.960569	0.139999	0.139999
139	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.01713	-0.01733	-0.01	-0.01
140	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.067877	0.067877	0.01	0.01
141	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034313	0.03422	0.02	0.02
142	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.513111	3.527816	8.787423	8.787423
143	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.60555	-0.53725	-0.095	-0.095
144	GSPL 150	Node1512-2	Node2172	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.52379	-0.50994	-0.08	-0.08
145	GSPL 151	Node2172	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.095613	0.098768	0.015	0.015
146	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.07725	-0.07725	-0.005	-0.005
147	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32064	-0.30432	-0.0945	-0.0945
148	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.218849	0.227546	0.0645	0.0645
149	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.21968	-0.21571	-0.06	-0.06
150	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.216963	0.221105	0.0615	0.0615
151	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
152	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.688315	0.701319	0.45	0.45
153	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.540255	0.547203	0.09	0.09
154	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.39588	0.418844	0.55	0.55
155	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.423436	3.567311	8.527423	8.527423
156	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.75199	-0.71232	-0.22	-0.22
157	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.113986	0.129921	0.02	0.02
158	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
159	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028355	0.029443	0.02	0.02
160	GSPL 166	Node2153	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	2.970232	2.925759	9.026327	9.026327
161	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.02279	0.022787	0.002	0.002
162	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.155114	0.154896	0.02	0.02
163	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.018745	0.01886	0.01	0.01
164	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.129921	0.130808	0.02	0.02
165	GSPL 171	Node2183-2	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.253728	0.260019	0.299999	0.299999
166	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.226302	0.226078	0.06	0.06
167	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016065	0.016071	0.001	0.001
168	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.041569	0.041676	0.006	0.006
169	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.484975	0.484997	0.07	0.07

HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93

HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88

		HP Network				
Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent
1	Petronet	0	94.52171	4.945095	0.2887	0.0507
2	RGTIL	0.06719993	93.15391	5.432795	0.999399	0.1026
3	ONGC	0.03	99.63	0.21	0	0
4	GIGL	0.01007	83.94618	10.77163	3.025361	1.095591

n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
0.0661	1.00E-04			0.1276
0.1216	0.0091	0.006	0.0095	0.0979
0	0	0	0	0.13
0.651412	0.127917	0.077431	0.041147	0.253265

HP Network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45

46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8
71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812

93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.206
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78

140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106
143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.74862
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2

187	Node2186	165.5

Sr no.	Pipeline	
1	GSPL 1	CH35.66
2	GSPL 2	Torrent_Node
3	GSPL 3	Sajod_Node
4	GSPL 4	Sajod_Node
5	GSPL 5	Bhadbhut_Node
6	GSPL 6	Paguthan_Node
7	GSPL 7	Paguthan_Node
8	GSPL 8	Barodasherkhi_Node
9	GSPL 9	Dhanora Terminal
10	GSPL 10	Barodasherkhi_Node
11	GSPL 11	Anklav-node
12	GSPL 12	Anklav-node
13	GSPL 13	Node2153
14	GSPL 14	BAKPL-Gandhinagar
15	GSPL 15	kalol_Node
16	GSPL 16	kalol_Node
17	GSPL 17	Ratanpar
18	GSPL 18	Rajkot-Gauridad-RJPL
19	GSPL 19	Tana_Node
20	GSPL 20	Ratanpar
21	GSPL 21	Thangadh-SV1-Morbi spur
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL
24	GSPL 24	Gatrad
25	GSPL 25	IFFCO node
26	GSPL 26	GSFC_Node
27	GSPL 27	Petronet_Node
28	GSPL 28	GACL_Node
29	GSPL 29	Darod-Node
30	GSPL 30	Bhadbhut-node
31	GSPL 31	Gana -node
32	GSPL 32	CH35.66
33	GSPL 33	Sidhpur node
34	GSPL 34	Paguthan_Node
35	GSPL 35	Olpad node
36	GSPL 36	bhrugupur
37	GSPL 37	Isharvada
38	GSPL 38	ARPL-Sudamada
39	GSPL 39	Darod-Node
40	GSPL 40	Mehsana_Node
41	GSPL 41	MVPL CH102.863
42	GSPL 42	Node1269

43	GSPL 43	CH60.815
44	GSPL 44	CH40.074
45	GSPL 45	Node1277
46	GSPL 46	CH3.55
47	GSPL 47	CH30.023
48	GSPL 48	CH20.6
49	GSPL 49	CH20.6
50	GSPL 50	CH13.58
51	GSPL 51	CH13.58
52	GSPL 52	CH3.55
53	GSPL 53	Paguthan_Node
54	GSPL 54	Paguthan-GNFC
55	GSPL 55	GSFC_Node
56	GSPL 56	Suz-node
57	GSPL 57	Gorwa
58	GSPL 58	Dabhan
59	GSPL 59	Chappara
60	GSPL 60	BAKPL-Ranason
61	GSPL 61	BAKPL-VALAD
62	GSPL 62	IFFCO node
63	GSPL 63	KHPL-Node-1
64	GSPL 64	KMPL- Kadi
65	GSPL 65	KMPL-Mandli
66	GSPL 66	Bhesaram
67	GSPL 67	Bhesaram
68	GSPL 68	Kelod
69	GSPL 69	Vadhela
70	GSPL 70	Vadhela
71	GSPL 71	DJPL-Meglana
72	GSPL 72	DJPL-Meglana
73	GSPL 73	Nava-Kataria-SV3-MMPL
74	GSPL 74	Nava-Kataria-SV3-MMPL
75	GSPL 75	Vondh-SV4-MMPL
76	GSPL 76	Node2183
77	GSPL 77	Bhimasar-SV5-MMPL
78	GSPL 78	Kharapaswaria-MMPL
79	GSPL 79	Motimaladi
80	GSPL 80	Gatrad
81	GSPL 81	Mora_Node
82	GSPL 82	Ochhan
83	GSPL 83	GGL Palej Node
84	GSPL 84	Node2177
85	GSPL 85	Node2177
86	GSPL 86	ICT tap
87	GSPL 87	SV4-chella-RJPL
88	GSPL 88	GSFCspur1
89	GSPL 89	GSFCspur1

90	GSPL 90	RIL-N1
91	GSPL 91	BGPL-Ochhan
92	GSPL 92	Serkhi_Node
93	GSPL 93	Node1308-2
94	GSPL 94	Petronet_Node-2
95	GSPL 96	Sumangal-node
96	GSPL 97	Suz-node
97	GSPL 98	Nirma node
98	GSPL 99	santej node
99	GSPL 100	Node2186
100	GSPL 101	Bhadari node
101	GSPL 102	hadala
102	GSPL 103	RIL-N1
103	GSPL 104	Bhadari node
104	GSPL 105	MVPL CH72.474
105	GSPL 106	MVPL CH102.863-2
106	GSPL 107	Silvai
107	GSPL 108	Node2186
108	GSPL 109	Indiansteel-Node
109	GSPL 110	ratnamani-node
110	GSPL 111	Node1358
111	GSPL 112	SV-1+Gala+MMPL
112	GSPL 113	Takarwada Node
113	GSPL 114	KMPL-Mandli
114	GSPL 115	SV1-fatehpura- node
115	GSPL 116	SV2-ghirojpura node
116	GSPL 117	Honda Node
117	GSPL 118	Maruti node
118	GSPL 119	Maruti node
119	GSPL 120	Tana_Node
120	GSPL 121	GPPC-Pipavav_Node
121	GSPL 122	Gundala1
122	GSPL 123	Halol_Node
123	GSPL 124	Dabhan
124	GSPL 125	Bhodigodi
125	GSPL 126	Bhodigodi
126	GSPL 127	Sajod_Node
127	GSPL 128	Node1419
128	GSPL 130	Kharapaswaria-MMPL
129	GSPL 131	Bhuj
130	GSPL 132	SV-1-ABPL
131	GSPL 133	SV-1-ABPL
132	GSPL 134	Takarwada Node
133	GSPL 135	Ineos node
134	GSPL 136	Ineos node
135	GSPL 137	Panchmahal node
136	GSPL 138	Panchmahal node

137	GSPL 139	Rochling-node
138	GSPL 140	IFFCO node
139	GSPL 141	JCT-node
140	GSPL 142	Vapi_Node-2
141	GSPL 143	Vapi_Node-2
142	GSPL 144	Node1377-2
143	GSPL 145	Nano node
144	GSPL 146	Shah alloy node
145	GSPL 148	SEZ-I- node
146	GSPL 149	Birla_Node
147	GSPL 150	Node1512-2
148	GSPL 151	Node2176
149	GSPL 152	styrolution node
150	GSPL 153	GGL Dahej-node
151	GSPL 154	GGL Dahej-node
152	GSPL 155	Sarju node
153	GSPL 156	Roxul-node
154	GSPL 157	Torrent DGEN node
155	GSPL 158	SEZ I node
156	GSPL 159	SEZ I node
157	GSPL 160	SEZ-I- node
158	GSPL 161	GNFC Hot tap - node
159	GSPL 162	GNFC CST node
160	GSPL 163	GNFC Hot tap - node
161	GSPL 164	GGL Vadhela Node
162	GSPL 165	Petronet_Node
163	GSPL 166	Gana -node
164	GSPL 167	Ramacylinder
165	GSPL 168	GGLsaparpatia
166	GSPL 169	GGLpalitana1
167	GSPL 170	toyo-navin-convergence node
168	GSPL 171	Node2170
169	GSPL 172	mundraLNG
170	GSPL 173	Node2115
171	GSPL 174	Bhadar-N1
172	GSPL 175	Rochling-node
173	GSPL 176	IRM node
174	GSPL 177	IRM node
175	GSPL 23-2	Node2161

HP Network

	Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)
CH40.074	4.414	730.96	15.52	19	1.60934
Sajod_Node	35	586.16	11.72	19	1.60934
GGCL_Node	5.5	439.8	8.7	19	1.60934
Bhadbhut_Node	12.5	585.8	11.9	19	1.60934
Paguthan_Node	25.74	584.6	12.5	19	1.60934
Paguthan-GNFC	1	308.05	14.86	45	1.60934
NTPCJanore_Node	12.52	584.8	12.4	19	1.60934
Dhanora Terminal	5.5	585.72	11.94	19	1.60934
GSFC_Node	11.3	583.98	12.81	19	1.60934
Anklav-node	14	586.2	11.7	19	1.60934
Gorwa	18.51	439.28		19	1.60934
Node2153	16.11	586.2	11.7	19	1.60934
Dabhan	27.03	586.2	11.7	19	1.60934
IFFCO node	12.452	586.2	11.7	19	1.60934
KHPL-Node-1	53.8	311.01	6.42	45	1.60934
KMPL- Kadi	6.7	439.72	8.74	19	1.60934
Motimaladi	20.566	587.168	11.216	19	1.60934
Bhodigodi	21.75	734	14	19	1.60934
Lonthpur	103.38	587.58	11.9	19	1.60934
Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934
jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934
SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934
Node2161	19.84	439.28	8.96	19	1.60934
BAKPL-Ranason	14.242	586.2	11.7	19	1.60934
kalol_Node	6.46	586.2	11.7	19	1.60934
Suz-node	11.4	310.67	6.59	45	1.60934
GACL_Node	7.49	580.18	14.71	19	1.60934
SEZ-I- node	1.83	585.8	11.9	19	1.60934
Vadhela	38.835	587.58	11.9	19	1.60934
Bhesaram	11.327	733.8	14.1	19	1.60934
Silvai	15.4	587.168	11.216	19	1.60934
CH30.023	5.637	730.96	15.52	19	1.60934
Takarwada Node	12.84	439.6	8.7	19	1.60934
Ochhan	21	584.32	12.64	19	1.60934
Torrent_Node	6.38	586.16	11.72	19	1.60934
ARPL-Sudamada	22.15	587.168	11.216	19	1.60934
hadala	49.97	587.168	11.216	19	1.60934
Ratanpar	24.904	587.168	11.216	19	1.60934
bhrugupur	17.65	587.168	11.216	19	1.60934
Sidhpur node	50.24	439.6	8.7	19	1.60934
MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934
MVPL CH102.863	19.144	730.96	15.52	19	1.60934

Node1277	5.8295	730.96	15.52	19	1.60934
CH60.815	19.847	730.96	15.52	19	1.60934
MVPL CH72.474	5.8295	730.96	15.52	19	1.60934
Vapi_Node-2	3.494	730.96	15.52	19	1.60934
CH20.6	9.416	730.96	15.52	19	1.60934
CH13.58	7.025	730.96	15.52	19	1.60934
Raymond node	1.56	155.475	15.52	45	1.56
CH3.55	10.031	730.96	15.52	19	1.60934
Welspun	3.18	155.475	6.4	45	1.60934
GGL vapi node	6.5	311.05	15.52	45	1.60934
GPEC node	3.45	579.88	12.5	19	1.60934
GNFC_Node	0.53	308.05	14.86	45	1.60934
GSFC+Adani	1	583.98	6.59	19	1.60934
Halol_Node	25.57	310.67	6.59	45	1.60934
Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934
Chappara	12.793	586.2	11.7	19	1.60934
Gatrad	21.655	586.2	11.7	19	1.60934
BAKPL-VALAD	3.174	586.2	11.7	19	1.60934
BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934
santej node	15.22	299.71	13.8	19	1.60934
Himmatnagar_Node	6.89	311.01	6.42	45	1.60934
KMPL-Mandli	17.4	439.72	8.74	19	1.60934
Mehsana_Node	16.46	439.72	8.74	19	1.60934
Kelod	10.673	733.8	14.1	19	1.60934
vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934
BGPL-Ochhan	22.028	733.8	14.1	19	1.60934
DJPL-Meglana	40.602	587.58	11.9	19	1.60934
GGL Vadhela Node	5.1	205.915	8.7	45	1.60934
Tana_Node	22.37	587.58	11.9	19	1.60934
Vartej1	14.3	308.75	8.7	45	1.60934
Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934
Sumangal-node	1.9	206.035	8.96	45	0.5
Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934
Euro-node	4	311.05	6.4	45	1.60934
Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934
Anjar-Node	3.95	309.63	8.96	45	1.60934
Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934
AEC node	5	436.6	10.3	19	1.60934
Olpad node	18	586.16	11.72	19	1.60934
Bhadari node	20.95	584.32	12.64	19	1.60934
Steelco node	0.397	155.235	12.5	45	1.60934
GGL Palej Node	10.283	155.235	12.5	45	1.60934
ICT tap	7.799	152.695	6.4	45	1.60934
cosmo node	3.786	152.695	6.4	45	1.60934
GSFCspur1	10.518	734	14	19	1.60934
GGLsaparpatia	14	205.475	6.4	45	1.60934
RIL-N1	11.392	734	14	19	1.60934

RIL-Jamnagar	1.424	734	14	19	1.60934
Node1358	18.4	733.8	14.1	19	1.60934
Node1308-2	16.82	733.8	14.1	19	1.60934
Node2153	16.952	733.8	14.1	19	1.60934
Petronet_Node	1	580.18	14.71	19	0.481
Sumangal-N1	2.5	206.035	8.96	45	0.5
Rochling-node	4	206.035	6.59	45	1.60934
Suzlon-N	19.35	206.035	6.59	45	1.60934
Shah alloy node	2.619	309.63	7.9	45	1.60934
Ramacylinder	0.597	155.475	6.4	45	1.60934
Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934
Darod-Node	24.15	587.168	11.216	19	1.60934
Essar-N1-2	6.695	734	14	19	1.60934
Bhadar-N1	25.5	310.91	7.9	45	1.60934
Node1269	8.322	730.96	15.52	19	1.60934
Mora_Node	25.854	730.96	15.52	19	1.60934
Isharvada	16.65	587.168	11.216	19	1.60934
Indiansteel-Node	3	306.45	6.4	45	1.60934
ratnamani-node	2.2	306.45	6.4	45	1.60934
metrade-Node	3	306.45	6.4	45	1.60934
Serkhi_Node	12	733.8	14.1	19	1.60934
SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934
Palanpur cust	6.64	439.6	8.7	19	1.60934
SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934
SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934
Honda Node	2.67	307.93	7.9	45	1.60934
Maruti node	14.399	307.93	7.9	45	1.60934
Becharaji Node	1.694	307.93	7.9	45	1.60934
Maruti CST node	0.16	155.475	6.4	45	0.16
GGLpalitana1	12.456	310.97	7.9	45	1.60934
Lonthpur	6.913	587.58	11.9	19	1.60934
Lonthpur	45.27	439.6	8.74	19	1.60934
Ineos node	4	308.05	7.9	45	1.60934
Thasara node	44.1	310.21	7.9	45	1.60934
SV4-chella-RJPL	57.396	734	14	19	1.60934
Ambardi	46.98	308.79	7.9	45	1.60934
Node1419	5	439.6	8.74	19	1.60934
Node1397-2	31.79	439.6	8.74	19	1.60934
Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934
SV-1-ABPL	23.172	310.83	6.59	45	1.60934
Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934
Parle node	5.5	155.195	6.4	45	1.60934
IRM node	3.95	154.975	6.4	45	1.60934
Panchmahal node	29.49	308.05	7.9	45	1.60934
Ineos CST node	2.9	155.475	6.4	45	1.60934
Dahod node	68.96	308.05	7.9	45	1.60934
Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934

Nirma node	1.01	206.035	6.59	45	1.60934
Iffco- node	1	439.8	15.9	19	1
cosmo node	8.015	152.695	6.4	45	0.25
Eklere shrikrishna	9.44	311.05	6.4	45	1.60934
sarigam GIDC	8.8	155.475	6.4	45	1.60934
BAKPL-Ranason	0.2	311.1	6.4	45	0.2
Nano CNG node	2	155.455	6.4	45	1.60934
Nano node	28.951	309.63	7.9	45	1.60934
GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934
GACL_Node	4.01	155.475	11.9	45	1.60934
Node2176	3.85	155.475	11.9	45	1.60934
BASF node	0.11	155.475	6.4	45	0.15
BASF node	0.52	101.5	6.4	45	0.5
GACL_Node	0.855	206.035	11.9	45	0.855
Roxul-node	0.705	206.035	11.9	45	0.705
Dic - node	0.889	206.035	11.9	45	0.889
Dic - node	0.501	206.035	11.9	45	0.501
SEZ I node	0.524	308.05	6.4	45	0.525
OPAL CST node	2.73	308.05	6.4	45	1.60934
Node1410	0.745	155.5	6.4	45	0.745
SEZ I node	0.049	436.58	12.7	19	0.034
Bhadbhut_Node	22.262	585.8	11.9	19	1.60934
GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934
toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934
Samdhiyala-node	18.2	205.915	8.7	45	1.60934
Node1711	0.139	308.1	7.9	45	0.05
hadala	81.23	734.4	13.8	19	1.60934
chimique cst node	1.023	155.475	6.4	45	1.60934
GSFC-cst-node	2.9	205.475	6.4	45	1.60934
Amreli1	62.701	310.97	7.9	45	1.60934
china steel cst node	2.39	155.475	11.9	45	1.60934
Uttran node	17.3	438.76	10.5	19	1.60934
Node2115	30.791	877.46	15.5	19	1.60934
Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934
Piramal node	3.11	207.995	6.4	45	1.60934
Rochling Cst node	0.015	101.5	6.4	45	0.015
Banas node	5.85	154.975	6.4	45	1.60934
IRM cst node	0.05	154.975	6.4	45	0.05
Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934

Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
Pan (B)	0.95	0.96	30	95	-0.13565	-0.13558	-0.43310004	-0.43310004
Pan (A)	0.95	0.96	30	95	-2.43116	-2.30335	-5.3829994	-5.3828229
Pan (A)	0.95	0.96	30	95	0.52435	0.54785	0.68983634	0.68986409
Pan (A)	0.95	0.96	30	95	-2.60344	-2.54537	-6.0766583	-6.0766165
Pan (A)	0.95	0.96	30	95	1.54677	1.63301	3.6775346	3.6754688
Pan (A)	0.9	0.96	30	95	1.79068	1.79884	1.1190977	1.1191122
Pan (A)	0.95	0.96	30	95	0	0	0	0
Pan (A)	0.95	0.96	30	95	0.92045	0.92376	1.9193854	1.9196338
Pan (A)	0.95	0.96	30	95	0.44553	0.44874	0.920345	0.92068299
Pan (A)	0.95	0.96	30	95	0.24274	0.24504	0.50700548	0.50714712
Pan (A)	0.95	0.96	30	95	0.67906	0.67974	0.78950809	0.79006683
Pan (A)	0.95	0.96	30	95	-0.13591	-0.14707	-0.28159927	-0.28184928
Pan (A)	0.95	0.96	30	95	1.09472	1.04506	2.0979799	2.0968181
Pan (A)	0.95	0.96	30	95	0.24157	0.24143	0.49790453	0.49797192
Pan (A)	0.9	0.96	30	95	0.5033	0.50557	0.30997132	0.30999998
Pan (A)	0.95	0.96	30	95	-0.88225	-0.88142	-1.0861566	-1.0861356
Pan (A)	0.95	0.96	30	95	7.53474	8.0535	11.443393	11.44288
Pan (B)	0.95	0.96	30	98	5.66488	5.84618	11.062173	11.06293
Pan (A)	0.95	0.96	30	98	0.25497	0.2549	0.52249957	0.5225
Pan (A)	0.95	0.96	30	95	4.96418	5.22296	4.2282586	4.2293573
Pan (A)	0.95	0.96	30	95	4.91439	5.15908	3.9794839	3.9800718
Pan (A)	0.95	0.96	30	95	5.15908	5.26989	3.9800718	3.9804264
Pan (A)	0.95	0.96	30	95	0.90916	0.91624	0.68138063	0.68148127
Pan (A)	0.95	0.96	30	95	0.40909	0.40693	0.83764678	0.83773443
Pan (A)	0.95	0.96	30	95	-0.33689	-0.33647	-0.7362071	-0.73618901
Pan (A)	0.9	0.96	30	95	1.17242	1.1761	0.6807656	0.68090083
Pan (A)	0.95	0.96	30	95	4.56596	4.64422	11.458452	11.45786
Pan (A)	0.95	0.96	30	95	4.4802	4.49775	11.268371	11.268232
Pan (A)	0.95	0.96	30	98	0.31103	0.29944	0.61325922	0.61348302
Pan (B)	0.95	0.96	30	98	5.60221	5.65487	19.040767	19.040799
Pan (A)	0.95	0.96	30	95	2.89803	2.83251	5.9347451	5.9330484
Pan (B)	0.95	0.96	30	95	0.12313	0.1232	0.39310004	0.39310004
Pan (A)	0.95	0.96	30	95	-1.1303	-1.10214	-1.4698527	-1.4700895
Pan (A)	0.95	0.96	30	98	1.13688	1.17979	2.5563711	2.5555002
Pan (A)	0.95	0.96	30	95	-0.59231	-0.57983	-1.2838865	-1.2838375
Pan (A)	0.95	0.96	30	95	8.44849	9.15852	15.67553	15.673851
Pan (A)	0.95	0.96	30	95	2.78692	2.75115	5.8912562	5.8894509
Pan (A)	0.95	0.96	30	95	9.15852	10.3188	15.673852	15.671651
Pan (A)	0.95	0.96	30	95	8.00308	8.49158	15.757474	15.755488
Pan (A)	0.95	0.96	30	95	-1.13592	-1.08495	-1.4109235	-1.410869
Pan (B)	0.95	0.96	30	95	-0.17614	-0.17613	-0.56309962	-0.56309938
Pan (B)	0.95	0.96	30	95	-0.17617	-0.17614	-0.5631	-0.56309962

Pan (B)	0.95	0.96	30	95	-0.15114	-0.15114	-0.48310004	-0.48310004
Pan (B)	0.95	0.96	30	95	-0.13871	-0.13863	-0.44310004	-0.44310004
Pan (B)	0.95	0.96	30	95	-0.15114	-0.15114	-0.48310004	-0.48310003
Pan (B)	0.95	0.96	30	95	0.04402	0.04405	0.14010002	0.14010002
Pan (B)	0.95	0.96	30	95	0.12007	0.12019	0.38310004	0.38310004
Pan (B)	0.95	0.96	30	95	0.11988	0.11992	0.38210004	0.38210004
Pan (A)	0.9	0.96	30	95	0.00693	0.00694	0.001	0.001
Pan (B)	0.95	0.96	30	95	0.11929	0.11943	0.38010004	0.38010004
Pan (A)	0.9	0.96	30	95	0.01387	0.01388	0.002	0.002
Pan (A)	0.9	0.96	30	95	0.41646	0.4166	0.24000003	0.24000002
Pan (A)	0.95	0.96	30	95	0	0	0	0
Pan (A)	0.9	0.96	30	95	1.78278	1.78606	1.1091201	1.1091259
Pan (A)	0.95	0.96	30	95	0.11694	0.11717	0.23991739	0.23993612
Pan (A)	0.9	0.96	30	95	0.84624	0.85044	0.48992864	0.48999499
Pan (A)	0.95	0.96	30	95	0.67974	0.6798	0.79006683	0.79018363
Pan (A)	0.95	0.96	30	95	0.91057	0.9009	1.8269718	1.8269567
Pan (A)	0.95	0.96	30	95	0.87626	0.86796	1.7769856	1.7772364
Pan (A)	0.95	0.96	30	95	0.40207	0.40184	0.82773775	0.82777064
Pan (A)	0.95	0.96	30	95	0.37757	0.37738	0.77778525	0.77784377
Pan (A)	0.9	0.96	30	95	0.16128	0.16113	0.089829008	0.089839018
Pan (A)	0.9	0.96	30	95	0.22832	0.2302	0.13999999	0.14000002
Pan (A)	0.95	0.96	30	95	-0.99502	-0.99149	-1.2261199	-1.226049
Pan (A)	0.95	0.96	30	95	-1.00362	-0.99854	-1.2410464	-1.2409637
Pan (B)	0.95	0.96	30	98	5.64002	5.69252	18.990799	18.990811
Pan (A)	0.9	0.96	30	95	0.08426	0.07535	0.050000083	0.049999964
Pan (B)	0.95	0.96	30	98	5.68952	5.804	18.980811	18.980793
Pan (A)	0.95	0.96	30	98	0.28968	0.28718	0.59348357	0.59350007
Pan (A)	0.9	0.96	30	98	0.07949	0.07867	0.019999446	0.020000002
Pan (A)	0.95	0.96	30	98	0.26008	0.26229	0.53750006	0.53749956
Pan (A)	0.9	0.96	30	98	0.08762	0.08747	0.050000006	0.049999998
Pan (A)	0.95	0.96	30	95	0.10983	0.11001	0.08149995	0.081499947
Pan (A)	0.9	0.96	30	95	0	0	0	0
Pan (A)	0.95	0.96	30	95	0.09651	0.0966	0.071499953	0.071499956
Pan (A)	0.9	0.96	30	50	0.02692	0.02682	0.009999994	0.009999995
Pan (A)	0.95	0.96	30	95	0.05944	0.0595	0.043999973	0.043999973
Pan (A)	0.9	0.96	30	95	0.02722	0.02713	0.009999994	0.009999995
Pan (A)	0.95	0.96	30	95	8.04647	9.14815	11.432888	11.431838
Pan (A)	0.95	0.96	30	95	0.82721	0.82593	0.93958965	0.93970358
Pan (A)	0.95	0.96	30	95	-0.28222	-0.2716	-0.58308457	-0.58300948
Pan (A)	0.95	0.96	30	98	1.14751	1.17408	2.4855804	2.4857361
Pan (A)	0.9	0.96	30	49	0.83502	0.83492	0.06999897	0.069999231
Pan (A)	0.9	0.96	30	49	0.73685	0.83502	0.069926445	0.06999897
Pan (A)	0.9	0.96	30	49	0	0	0	0
Pan (A)	0.9	0.96	30	49	0	0	0	0
Pan (B)	0.95	0.96	30	98	6.46662	6.61992	10.999208	10.999377
Pan (A)	0.9	0.96	30	95	0.23024	0.23214	0.029978796	0.030000004
Pan (B)	0.95	0.96	30	98	6.60188	6.77126	10.969399	10.96955

Pan (B)	0.95	0.96	30	95	6.15441	6.17785	9.9702432	9.9702699
Pan (B)	0.95	0.96	30	98	5.804	5.91305	18.980793	18.980737
Pan (B)	0.95	0.96	30	98	5.99159	6.11192	18.980683	18.980588
Pan (B)	0.95	0.96	30	98	6.11192	6.32042	18.980588	18.980471
Pan (A)	0.95	0.96	30	95	4.56365	4.57393	11.478533	11.478451
Pan (A)	0.9	0.96	30	98	0	0	0	0
Pan (A)	0.9	0.96	30	95	0.74998	0.75139	0.19097218	0.19098866
Pan (A)	0.9	0.96	30	95	0.03936	0.03941	0.00999954	0.01
Pan (A)	0.9	0.96	30	95	0.03355	0.03323	0.019964226	0.019963365
Pan (A)	0.9	0.96	30	95	0.06471	0.06396	0.005999996	0.006000005
Pan (A)	0.95	0.96	30	98	1.14577	1.16917	2.4258011	2.4263908
Pan (A)	0.95	0.96	30	95	7.75117	8.31455	16.373675	16.370733
Pan (B)	0.95	0.96	30	95	0.61685	0.6162	0.99930712	0.99958998
Pan (A)	0.9	0.96	30	95	0.09999	0.10209	0.059934995	0.060000032
Pan (B)	0.95	0.96	30	95	-0.15114	-0.15114	-0.48310003	-0.4831
Pan (B)	0.95	0.96	30	95	-0.17613	-0.17526	-0.56309938	-0.5630851
Pan (A)	0.95	0.96	30	95	2.81341	2.78692	5.8930346	5.8912562
Pan (A)	0.9	0.96	30	50	0.03609	0.03612	0.012999992	0.012999992
Pan (A)	0.9	0.96	30	50	0.03612	0.03612	0.012999992	0.012999992
Pan (A)	0.9	0.96	30	50	0.02778	0.02778	0.009999994	0.009999994
Pan (B)	0.95	0.96	30	98	5.91305	5.99159	18.980737	18.980683
Pan (A)	0.95	0.96	30	95	2.88742	2.90443	2.1809117	2.1811179
Pan (A)	0.95	0.96	30	95	-1.1816	-1.16384	-1.5760773	-1.5762576
Pan (A)	0.9	0.96	30	95	0.02473	0.0246	0.014997453	0.015000001
Pan (A)	0.9	0.96	30	95	0.0246	0.02453	0.015000001	0.015
Pan (A)	0.9	0.96	30	95	0.02453	0.02449	0.015	0.015
Pan (A)	0.9	0.96	30	95	0.02449	0.02449	0.015	0.015
Pan (A)	0.9	0.96	30	95	0	0	0	0
Pan (A)	0.9	0.96	30	95	0.09609	0.09608	0.015	0.015
Pan (A)	0.9	0.96	30	98	0.02613	0.02598	0.014999988	0.015
Pan (A)	0.95	0.96	30	98	-0.24389	-0.24392	-0.5	-0.5
Pan (A)	0.95	0.96	30	98	-0.01735	-0.01743	-0.019999999	-0.02
Pan (A)	0.9	0.96	30	95	0.05296	0.05267	0.029999693	0.029999989
Pan (A)	0.9	0.96	30	95	0.35575	0.34379	0.19988613	0.20000005
Pan (B)	0.95	0.96	30	98	5.83826	6.49599	11.047942	11.049172
Pan (A)	0.9	0.96	30	98	0.01492	0.01526	0.00499583	0.004999999
Pan (A)	0.95	0.96	30	95	0	0	0	0
Pan (A)	0.95	0.96	30	95	0	0	0	0
Pan (A)	0.95	0.96	30	95	0.04589	0.04542	0.033999979	0.033999996
Pan (A)	0.9	0.96	30	98	-0.02691	-0.02684	-0.009999994	-0.009999993
Pan (A)	0.9	0.96	30	98	-0.03758	-0.03742	-0.013999991	-0.013999998
Pan (A)	0.9	0.96	30	98	0.04307	0.04316	0.003999997	0.003999998
Pan (A)	0.9	0.96	30	95	0.63936	0.67232	0.10598788	0.10599299
Pan (A)	0.9	0.96	30	95	0.03511	0.03533	0.019999993	0.02
Pan (A)	0.9	0.96	30	95	0.06892	0.06898	0.009999996	0.01
Pan (A)	0.9	0.96	30	95	0.01766	0.01801	0.01	0.01
Pan (A)	0.9	0.96	30	95	0.06938	0.06943	0.01	0.01

Pan (A)	0.9	0.96	30	95	0.74745	0.74786	0.18998871	0.18999126
Pan (A)	0.9	0.96	30	95	0.93207	0.93282	1.1178721	1.1180008
Pan (A)	0.9	0.96	30	49	0	0	0	0
Pan (A)	0.9	0.96	30	95	0.00017	0.00017	0.0001	0.0001
Pan (A)	0.9	0.96	30	95	0.97304	0.97619	0.14000002	0.14
Pan (A)	0.9	0.96	30	95	-0.01712	-0.01724	-0.009998512	-0.009996681
Pan (A)	0.9	0.96	30	95	0.06571	0.06571	0.009981954	0.009981962
Pan (A)	0.9	0.96	30	95	0.03323	0.03313	0.019963365	0.019963908
Pan (A)	0.95	0.96	30	95	3.99885	4.01631	10.018321	10.018174
Pan (A)	0.9	0.96	30	95	-0.60567	-0.53618	-0.094997753	-0.094994425
Pan (A)	0.9	0.96	30	49	-0.93333	-0.84767	-0.080000067	-0.079999765
Pan (A)	0.9	0.96	30	49	0.15894	0.17756	0.014999956	0.015
Pan (A)	0.9	0.96	30	49	-0.13889	-0.13887	-0.005	-0.005
Pan (A)	0.9	0.96	30	95	-0.32027	-0.30371	-0.094495157	-0.094494454
Pan (A)	0.9	0.96	30	95	0.21859	0.22744	0.064496694	0.064497454
Pan (A)	0.9	0.96	30	95	-0.21976	-0.2157	-0.059998999	-0.059998214
Pan (A)	0.9	0.96	30	95	0.21687	0.22109	0.061497572	0.06149817
Pan (A)	0.9	0.96	30	95	0	0	0	0
Pan (A)	0.9	0.96	30	95	1.70968	1.72544	1.1499233	1.1499236
Pan (A)	0.9	0.96	30	95	0.5251	0.53425	0.089993996	0.089994204
Pan (A)	0.95	0.96	30	95	0.89823	0.92521	1.2499112	1.2499166
Pan (A)	0.95	0.96	30	95	3.91108	4.08581	9.7556966	9.7541511
Pan (A)	0.9	0.96	30	95	-0.75186	-0.71126	-0.21998404	-0.21998115
Pan (A)	0.9	0.96	30	95	0.12804	0.14617	0.022498072	0.022499721
Pan (A)	0.9	0.96	30	98	0	0	0	0
Pan (A)	0.9	0.96	30	95	0.02826	0.02935	0.019999858	0.01999987
Pan (B)	0.95	0.96	30	98	3.28466	3.20511	10.522788	10.514235
Pan (A)	0.9	0.96	30	49	0.02132	0.0213	0.002000002	0.001999999
Pan (A)	0.9	0.96	30	95	0.15476	0.15455	0.020000002	0.02
Pan (A)	0.9	0.96	30	98	0.01732	0.01742	0.01	0.009999999
Pan (A)	0.9	0.96	30	95	0.12993	0.13108	0.019999752	0.019999989
Pan (A)	0.95	0.96	30	80.65	0.64012	0.66243	0.76988046	0.7699633
Pan (B)	0.95	0.96	30	95	0	0	0	0
Pan (B)	0.95	0.96	30	95	-0.00672	-0.00671	-0.019999988	-0.019999997
Pan (A)	0.9	0.96	30	95	0.22812	0.22789	0.060000032	0.060000003
Pan (A)	0.9	0.96	30	95	0.01621	0.01622	0.000999941	0.001
Pan (A)	0.9	0.96	30	95	0.03806	0.03891	0.005999603	0.006
Pan (A)	0.9	0.96	30	95	0.63426	0.63451	0.099993384	0.09999347
Pan (A)	0.95	0.96	30	95	0.10957	0.10983	0.081497761	0.08149995

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HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88

		HP Network Details				
Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent
1	Petronet	0	95.2475	3.859496	0.382	0.0702
2	RGTIL	0	89.6655	8.9608	0.8916	0.1365
3	ONGC	0.1724	97.9225	0.2301	0.0057	0.0006
4	Mundra LNG	0	94.17681	5.225295	0.4531	0.0554
5	GIGL Palanpur	0.007785	83.970456	10.72639	3.059222	1.10831

n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
0.1074	2.40E-03	0	0	0.331
0.144	0.0024	0	0	0.1992
0	0	0.001	0	1.6677
0.0528	0.0046	0.0025	0.0006	0.0289
0.60668	0.138219	0.086599	0.050985	0.245354

HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.748619
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13489233	-0.1348	-0.43309843	-0.43309843
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.4273682	-2.3045	-5.3841	-5.3840999
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.52459925	0.54703	0.69	0.69
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.6047025	-2.5486	-6.0781	-6.0781
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	1.1414382	1.21523	2.7110021	2.7110021
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.82333285	0.82911	0.50999999	0.50999999
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.6744496	0.67636	1.411	1.411
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.42000353	0.42163	0.871	0.871
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.31496063	0.31607	0.66000208	0.66000209
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.67144562	0.67236	0.79000003	0.79000003
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.060922132	-0.0663	-0.12999791	-0.12999791
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.3287349	1.27574	2.6035368	2.6035368
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.47756484	0.47659	1.0035368	1.0035368
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.4991713	0.50057	0.31	0.31
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.46436102	-0.4644	-0.57646318	-0.57646318
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.003687	8.63672	13.540583	13.540583
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.2584545	6.51416	13.160583	13.160582
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.28904935	0.28907	0.62249931	0.62249983
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0075025	1.0057	0.95591903	0.95591908
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.74267824	0.74948	0.70591908	0.70591909
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.74948136	0.74498	0.70591909	0.7059191
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.4548373	-4.3002	-4.2940809	-4.2940809
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.64495398	0.64079	1.3435368	1.3435368
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.10271552	-0.1026	-0.22646318	-0.22646318
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0792956	1.08043	0.631	0.631
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9419022	4.00428	9.8411021	9.8411021
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.8521795	3.86611	9.6516021	9.6516021
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.3454557	0.33171	0.71349867	0.71349885
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3226035	5.3673	18.285751	18.285751
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6362808	2.57039	5.5346109	5.534611
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12243403	0.12251	0.39309858	0.39309858
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.73935915	-0.7094	-0.96646318	-0.96646318
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.98756717	1.02091	2.2010021	2.2010021
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.59078481	-0.5789	-1.2841	-1.2841
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.3726954	7.84158	14.496503	14.496503
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5231344	2.47831	5.494611	5.4946112
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.8415816	8.56872	14.496502	14.496503
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.0674344	7.41338	14.576503	14.576503
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.72916539	-0.6942	-0.90746318	-0.90746318
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1751569	-0.1751	-0.56309796	-0.56309796
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17517799	-0.1752	-0.56309796	-0.56309796
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15029567	-0.1503	-0.48309825	-0.48309825
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1379335	-0.1379	-0.4430984	-0.44309839
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15029444	-0.1503	-0.48309825	-0.48309825
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.043773502	0.0438	0.14009949	0.14009949
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11939333	0.11951	0.38309861	0.38309862
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11920295	0.11924	0.38209862	0.38209862
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006895664	0.0069	0.000999996	0.000999996
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11862014	0.11876	0.38009863	0.38009863
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.01379611	0.0138	0.001999993	0.001999993
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.41410571	0.41425	0.23999913	0.23999913
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.81285003	0.81529	0.49999999	0.5
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.11617829	0.11633	0.24	0.24
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75339193	0.75569	0.44	0.44
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.6723553	0.67246	0.79000003	0.79000003
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.1434354	1.13193	2.3335368	2.3335368
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.1076754	1.09619	2.2835368	2.2835368
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.63602046	0.6354	1.3335368	1.3335368
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.61157752	0.61081	1.2835368	1.2835368
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.16224409	0.1617	0.089999691	0.089999692
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22606291	0.22792	0.14	0.14
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.57712409	-0.5767	-0.71646318	-0.71646318
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.59357932	-0.5922	-0.73746318	-0.73746318
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3526217	5.39718	18.235751	18.235751
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.083277156	0.07427	0.05	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3942186	5.49072	18.225751	18.225751
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.32241498	0.31925	0.69349886	0.69349907
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.075710686	0.07482	0.019999986	0.019999989
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.29347397	0.29601	0.63749909	0.6374992
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.083364265	0.0832	0.04999998	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.1787113	-4.9229	-5.7840809	-5.7840809
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.9314436	-4.6883	-5.7940808	-5.7940808
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.026354778	0.0288	0.01	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.7105736	-4.5614	-5.8215808	-5.8215808
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.01577086	0.0162	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.630346	10.0549	13.530583	13.530583
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.81345058	0.81089	0.94	0.94
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.28077674	-0.2709	-0.58309788	-0.58309788
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.98844565	1.00701	2.1310021	2.1310021
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.83666708	0.83655	0.07	0.07
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.74846729	0.83667	0.07	0.07
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.4494376	7.68751	13.095584	13.095584
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22472739	0.22792	0.03	0.03
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.6698951	7.94272	13.065584	13.065583
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	7.3348103	7.37178	12.065585	12.065585
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.4907177	5.58278	18.225751	18.225751
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6490855	5.75052	18.225751	18.225751
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.750518	5.93603	18.225751	18.225751
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	3.9416407	3.94991	9.8611021	9.8611021
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74356389	0.74434	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.038986742	0.03901	0.01	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033666719	0.03336	0.019999931	0.019999931
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.062645241	0.06823	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.97865523	0.99468	2.0710021	2.0710021
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	6.9950259	7.41338	15.290001	15.290001
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.60791177	0.60869	1.0000001	1.0000001
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.10014576	0.10122	0.06	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15029304	-0.1503	-0.48309825	-0.48309825
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17514593	-0.1744	-0.56309796	-0.56309795
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5518081	2.52313	5.4946109	5.494611
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.034936715	0.03872	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038724671	0.03875	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029807359	0.02981	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5827756	5.64909	18.225751	18.225751
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.8890389	-1.8575	-1.7940809	-1.7940809
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.78718113	-0.7648	-1.0724632	-1.0724632
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034467211	0.03417	0.021	0.021
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034165119	0.03408	0.021	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034076541	0.03401	0.021	0.021
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034013593	0.03402	0.021	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.009720233	0.00971	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.095323411	0.09532	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.024866709	0.02471	0.014999893	0.014999911
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.27858351	-0.2786	-0.6	-0.59999996
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.016513495	-0.0166	-0.02	-0.01999987
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.05240436	0.05211	0.029999999	0.029999999
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3499508	0.33534	0.2	0.2
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.506734	7.47788	13.145582	13.145582
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.013983599	0.01435	0.005000001	0.005
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.5605247	-4.4651	-5.8315808	-5.8315808
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.015850186	-0.0158	-0.01	-0.01
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.02213164	-0.0215	-0.014	-0.014
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025365064	0.02542	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.62602292	0.66769	0.106	0.106
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034741512	0.03496	0.019999999	0.019999999
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068193038	0.06826	0.01	0.01
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017477694	0.01782	0.009999999	0.01
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068648168	0.06869	0.01	0.01
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74044459	0.74075	0.19	0.19
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.9376406	0.93615	1.1199962	1.1199962
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000172663	0.00017	1.00E-04	1.00E-04
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.96753644	0.97061	0.13999949	0.13999949
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.016769177	-0.0169	-0.01	-0.01
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.065980255	0.06598	0.009999966	0.009999966
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033363056	0.03326	0.019999931	0.019999931
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.6257722	3.64103	9.0516021	9.0516021
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.60654935	-0.5383	-0.095	-0.095
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.93551208	-0.851	-0.08	-0.08
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.15956755	0.1779	0.015	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.13916069	-0.1391	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32124577	-0.3049	-0.0945	-0.0945
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.21926298	0.22796	0.0645	0.0645
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22003461	-0.2161	-0.06	-0.06
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.21735374	0.22149	0.0615	0.0615
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.76359826	0.77714	0.5	0.5
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.5394101	0.54664	0.089999999	0.09
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.43271044	0.45621	0.6	0.6
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.5354385	3.68541	8.7891021	8.7891021
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.75351653	-0.7137	-0.22	-0.22
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.12848692	0.14615	0.0225	0.0225
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028407578	0.0295	0.02	0.02
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	2.9916705	2.89584	9.8253893	9.8253899
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.022743592	0.02285	0.002	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.15194974	0.15173	0.02	0.02
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.016475117	0.01658	0.009999911	0.01
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1299067	0.13101	0.02	0.02
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.64020169	0.6614	0.76999722	0.76999722
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1006424	1.12865	5.9655808	5.9655808
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1059437	1.12391	5.8455808	5.8455808
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22616543	0.22594	0.06	0.06
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016057905	0.01606	0.001	0.001
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.037793709	0.03888	0.006	0.006
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.62989514	0.63022	0.1	0.1
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.7923019	-5.1787	-5.7840809	-5.7840808

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88
5	GIGL	20		82

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	96.951736	1.865636	0.50246	0.072531	0.105821	4.99E-03	0.001809	0	0.495043
2	RGTIL	0.12598	97.319995	1.82133	0.28304	0.0474	0.04556	0.01162	0.003325	0.0348	0.30695
3	ONGC	0.1724	97.9225	0.2301	0.0057	0.0006	0	0	0.001	0	1.6677
4	Mundra LNG	0	95.5093	3.4214	0.6782	0.2079	0.1355	0.0103	0.0026	0	0.0349
5	GIGL Palanpur	0.009119	84.157841	10.68499	2.996303	1.039879	0.587839	0.140012	0.087694	0.050885	0.245437

HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.748619
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13672419	-0.1367	-0.4330992	-0.4330992
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.790456	-2.6488	-6.1223167	-6.1215476
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.53011983	0.55311	0.68971243	0.6898163
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.9525689	-2.89	-6.8152584	-6.8149473
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0.978638	1.04642	2.2983149	2.2943491
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.196453	1.20207	0.72840339	0.72851165
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.77362874	0.77479	1.599099	1.5994704
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.47271268	0.47339	0.9700723	0.97053456
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.078638646	-0.0799	-0.16199089	-0.16159716
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.69361067	0.68304	0.78801556	0.78952392
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.46937367	-0.4967	-0.94961273	-0.95200548
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0747986	1.02557	2.0600336	2.0566718
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.22376018	0.22375	0.45983142	0.45998032
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.52217562	0.52343	0.30328323	0.30330736
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.015194459	-0.0152	-0.01894654	-0.01894629
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.2287261	8.8559	13.274743	13.269856
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.3706535	6.61491	12.881588	12.878622
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61003734	0.61154	1.2225197	1.2225006
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.71238939	0.71116	0.64452333	0.64360888
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.43485878	0.43849	0.39355456	0.39342782
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.43848848	0.43581	0.39342782	0.39349126
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.8898223	-4.6952	-4.6090405	-4.6089576
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.39099079	0.38935	0.79911026	0.79942705
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.17024582	0.17017	0.34999233	0.35000945
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0870012	1.0871	0.63069753	0.63085966
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	4.0364213	4.10006	9.9693313	9.9682737
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9453252	3.95955	9.7787966	9.7785493
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.67555128	0.65728	1.317381	1.3140503
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5441618	5.58915	18.558387	18.558537
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.7671375	2.70471	5.5519202	5.5477048
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12409669	0.12417	0.39309927	0.39309928
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.31984133	-0.3051	-0.40623467	-0.40642181
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.71489343	0.74042	1.5659457	1.5657911
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.7031209	-0.6899	-1.5137674	-1.5136591
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.4899359	7.94142	13.932661	13.926488
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6587117	2.62264	5.5034806	5.4943556
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.9414222	8.62825	13.926488	13.919267
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.1983967	7.53305	14.017791	14.012869
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.2813596	-0.2737	-0.34986759	-0.34762572
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17753872	-0.1775	-0.56309859	-0.56309837
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17756127	-0.1775	-0.56309891	-0.56309859
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15234047	-0.1523	-0.48309909	-0.48309909
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13980829	-0.1397	-0.44309918	-0.44309917
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15233921	-0.1523	-0.48309909	-0.48309909
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.044364558	0.04439	0.14009974	0.14009974
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12101299	0.12113	0.3830993	0.3830993
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12081707	0.12086	0.3820993	0.3820993
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006989037	0.00699	0.000999998	0.000999998
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1202252	0.12036	0.3800993	0.38009931
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013982787	0.01398	0.001999996	0.001999996
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.41969721	0.41984	0.23999956	0.23999955
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.1856028	1.18786	0.71853204	0.71858687
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.16576096	0.16589	0.33983702	0.33986195
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75803828	0.75987	0.43990214	0.4399676
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.68304025	0.68094	0.78952392	0.78980468
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.89115394	0.88212	1.787112	1.7871149
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.85748422	0.85039	1.7371963	1.7380289
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.38448448	0.38434	0.7894346	0.78952678
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.36001706	0.35995	0.73955866	0.7397102
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.16745656	0.16723	0.089990171	0.089999986
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.23638894	0.23804	0.13697752	0.13700092
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.12752695	-0.1276	-0.15895105	-0.15894635
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.14450841	-0.1446	-0.17994646	-0.17990541
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5740915	5.61903	18.508537	18.508645
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.085445369	0.07671	0.050000406	0.050000008
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6159895	5.7139	18.498644	18.498765
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.64727517	0.64088	1.2940419	1.2935755
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.08149117	0.0804	0.020008379	0.020000036
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61313381	0.61752	1.2375723	1.2375199
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.089722246	0.08949	0.05000292	0.049999961
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.3628297	-5.0841	-5.9289434	-5.9283015
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.0927264	-4.8303	-5.938307	-5.9375267
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.026451975	0.02886	0.010001064	0.010000002
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.8526338	-4.6926	-5.9650381	-5.9644277
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.015840821	0.01627	0.01000311	0.010000009
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.8492206	10.2414	13.259844	13.251834
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.82815559	0.8273	0.93891861	0.93922082
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.28443686	-0.273	-0.58308292	-0.58297808
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.70739503	0.71867	1.4959511	1.4970994
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.83995973	0.83983	0.069999165	0.069999381
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.76148939	0.83996	0.069846912	0.069999165
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.483665	7.70127	12.806974	12.805901
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.23018412	0.23269	0.029995011	0.030000001
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.6832308	7.93069	12.775906	12.774771
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	7.3100435	7.34318	11.775026	11.774896
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.7139002	5.80735	18.498765	18.498767
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.874627	5.97752	18.498724	18.498608
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.977518	6.15919	18.498608	18.498413
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	98	4.0360801	4.04452	9.9894781	9.989331
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74814962	0.74864	0.19095752	0.19097543
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039209533	0.03923	0.009998857	0.00999934
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0348188	0.03455	0.019999997	0.019999998
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.06288154	0.06838	0.006001226	0.006000075
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.68990951	0.6987	1.4371906	1.4381444
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.4119751	7.8749	15.342128	15.335172
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.62065076	0.6211	0.99974489	0.99985457
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.10157822	0.10188	0.05990881	0.060000007
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15233779	-0.1523	-0.48309909	-0.48309907
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17752663	-0.1766	-0.56309837	-0.5630835
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.68511	2.65871	5.507496	5.5034806
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.035068497	0.0388	0.013002656	0.013000019
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.03880014	0.03882	0.013000019	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0298649	0.02987	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8073456	5.87463	18.498767	18.498724
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.2708172	-2.2308	-2.1067951	-2.1068869
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.38416469	-0.3681	-0.51176777	-0.51494503
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034389018	0.03405	0.021000107	0.020999999
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034045986	0.03396	0.020999999	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033958197	0.0339	0.021	0.020999999
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0338958	0.0339	0.020999999	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.009686562	0.00968	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.094993208	0.09499	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.026723653	0.02658	0.015000242	0.01499999
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.60030769	-0.6003	-1.2000006	-1.2000005
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.017799925	-0.0179	-0.01999998	-0.02000001
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.052694321	0.05241	0.029997791	0.029998003
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.35555132	0.34517	0.1996739	0.20000002
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.607205	7.51288	12.863615	12.85697
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.014517071	0.01484	0.005002172	0.005
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.6915062	-4.5913	-5.9744308	-5.9741605
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.015908577	-0.0159	-0.01	-0.01
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.022213887	-0.0215	-0.014	-0.01400372
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025459328	0.02551	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.6362891	0.67157	0.10534596	0.1057822
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034937437	0.03515	0.019998669	0.019998682
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.06857761	0.06864	0.009999334	0.009999339
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017573546	0.01791	0.009999341	0.009999351
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.069024646	0.06907	0.009999341	0.009999341
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74472411	0.74498	0.18997556	0.18997829
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0	0	0	0
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000174992	0.00018	1.00E-04	1.00E-04
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.98058318	0.98371	0.13999974	0.13999972
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.017179478	-0.0173	-0.00999674	-0.00999246
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068360273	0.06836	0.01	0.01
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034549494	0.03446	0.019999998	0.02
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7976003	3.81355	9.3786077	9.3783412
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.61189611	-0.5441	-0.09499743	-0.09498852
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.94008514	-0.8584	-0.0800001	-0.08000065
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.16094976	0.1786	0.015000121	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.13970806	-0.1397	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32459991	-0.3082	-0.0944921	-0.09448858
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.22155232	0.23019	0.064494609	0.064496705
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22192982	-0.2181	-0.05999895	-0.05999792
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.21948111	0.22355	0.061496858	0.061497871
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.47093283	0.48145	0.29997532	0.2999846
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.55444933	0.5603	0.089992597	0.089993714
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.29156708	0.31262	0.39994156	0.3999671
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7068257	3.86461	9.1158871	9.1132622
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.76144487	-0.7214	-0.21997633	-0.21996161
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.12986363	0.14734	0.022496074	0.022499725
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028714164	0.02981	0.019999706	0.019999764
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.1541358	3.0707	9.89996	9.8778712
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.02279364	0.0229	0.002000025	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.15512437	0.15492	0.020000001	0.02
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.01772111	0.01782	0.009999993	0.009999991
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.13097141	0.13202	0.019999756	0.01999999
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.83557567	0.86351	0.99979091	0.99992782
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1314727	1.16002	6.1065731	6.1076907
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1372229	1.15561	5.9876688	5.9881642
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22764502	0.22743	0.060000007	0.059999998
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016150714	0.01615	0.000999871	0.000999934
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.038013155	0.03892	0.005987672	0.005999998
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.63355258	0.63382	0.099794525	0.099798225
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-6.0410374	-5.3628	-5.9300709	-5.9289434

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88
5	GIGL	20		82

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	97.175743	1.900081	0.426562	0.070607	0.103487	3.84E-03	0.000726	0	0.318939
2	RGTIL	0.22509	98.862468	0.34271	0.19174	0.04709	0.03543	0.01889	0.007092	0.04207	0.22742
3	ONGC	0.1708009	97.87329	0.227101	0.0053	0.0059					1.717609
4	Mundra LNG	0	92.4291	6.8256	0.5142	0.0867	0.0715	0.0019	0.0004	0	0.0706
5	GIGL Palanpur	0.019772	84.170043	10.55368	3.009617	1.032347	0.603601	0.170983	0.112088	0.073879	0.253993

HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.748619
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13568067	-0.1356	-0.43310001	-0.43310001
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.5737931	-2.4463	-5.6641	-5.6641
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.52936108	0.55151	0.69	0.69
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.7494257	-2.6918	-6.3581	-6.3581001
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0.95650015	1.02388	2.250048	2.250048
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.36054193	0.36499	0.22	0.22
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.50528333	0.50657	1.051	1.051
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.49020273	0.4912	1.011	1.011
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4075238	0.40789	0.84904801	0.84904801
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.8566579	0.85802	0.99999539	0.99999539
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.073164277	-0.0789	-0.15095199	-0.15095199
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.4835098	1.43074	2.8372281	2.8372281
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.60884002	0.60787	1.2372281	1.2372281
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.49913015	0.50042	0.31000042	0.31000041
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.275533	-0.2756	-0.3427719	-0.3427719
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.6173123	9.32153	14.581822	14.581823
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.7682954	7.05879	14.101824	14.101824
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.55073176	0.55178	1.1425	1.1425
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.62050786	-0.6197	-0.60535474	-0.60535474
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.87566978	-0.8755	-0.85535474	-0.85535475
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.87553982	-0.86	-0.85535475	-0.85535475
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.3148553	-4.1751	-4.3553547	-4.3553547
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.78156301	0.77752	1.5772281	1.5772281
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.00355129	0.00354	0.007228104	0.007228104
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0832729	1.08379	0.631	0.631
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7249239	3.78245	9.2001481	9.2001481
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.6338034	3.64664	9.0106481	9.0106481
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61467382	0.5963	1.2335001	1.2335001
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5627189	5.60686	18.542225	18.542225
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.7079457	2.64327	5.5163665	5.5163665
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12314955	0.12322	0.39310001	0.39310001
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.56651948	-0.5417	-0.73277192	-0.73277189
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.92465631	0.95232	2.030048	2.030048
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.70030094	-0.688	-1.5141	-1.5141
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.2729029	7.67092	13.9765	13.9765
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5944301	2.55092	5.4763665	5.4763665
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.6709174	8.26897	13.9765	13.9765
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.0144234	7.31453	14.0565	14.0565
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.54194124	-0.5209	-0.6737719	-0.67377192
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17618641	-0.1762	-0.56310002	-0.56310002
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17620683	-0.1762	-0.56310002	-0.56310002
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117819	-0.1512	-0.48310001	-0.48310002
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13874141	-0.1387	-0.44310001	-0.44310001
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117697	-0.1512	-0.48310002	-0.48310002
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.044025713	0.04406	0.1401	0.1401
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12008925	0.12021	0.38310001	0.38310001
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11989461	0.11993	0.38210001	0.3821
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006935675	0.00694	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11930722	0.11944	0.3801	0.3801
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013876021	0.01388	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.41649166	0.41663	0.24	0.24
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3484006	0.35021	0.21	0.21
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.18462683	0.18479	0.38	0.38
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75573149	0.75772	0.44	0.44
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.85802347	0.85843	0.99999538	0.99999538
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.2945879	1.28329	2.5672281	2.5672281
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.2582999	1.24736	2.5172281	2.5172281
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.77258966	0.77199	1.5672281	1.5672281
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.74735852	0.74663	1.5172281	1.5172281
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.16915835	0.16858	0.090000001	0.090000001
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22599581	0.22784	0.14000019	0.14000019
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.38817626	-0.3883	-0.4827719	-0.4827719
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.40518961	-0.405	-0.5037719	-0.5037719
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.591744	5.63587	18.492225	18.492225
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.085790878	0.0771	0.05	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6328259	5.72909	18.482225	18.482225
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.58663522	0.58088	1.2135001	1.2135001
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.078725674	0.07771	0.020000001	0.020000001
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.55407023	0.55796	1.1575001	1.1575001
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.08668299	0.08648	0.050000001	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.6749384	-4.4761	-5.3553548	-5.3553548
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.4844265	-4.2901	-5.3653547	-5.3653547
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0261697	0.02868	0.01	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.3121371	-4.1906	-5.3928547	-5.3928548
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.015640483	0.01605	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	9.3151357	10.9291	14.571823	14.571823
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.83969488	0.83718	0.94	0.94
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.28239346	-0.2719	-0.58310003	-0.58310003
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.91948202	0.93388	1.960048	1.960048
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.83996205	0.83984	0.07	0.07
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.75930086	0.83996	0.07	0.07
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	8.1236725	8.39543	14.036824	14.036824
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22896468	0.23178	0.029999934	0.029999934
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	8.3774862	8.69257	14.006824	14.006824
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	8.0719803	8.11377	13.006826	13.006826
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.7290922	5.82105	18.482225	18.482225
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8872851	5.98858	18.482225	18.482225
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.9885813	6.16718	18.482225	18.482225
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	3.7253551	3.73302	9.2201481	9.2201481
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74587292	0.74647	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039096492	0.03912	0.01	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.035099837	0.03483	0.020000001	0.020000001
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.062220149	0.06791	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.90528916	0.91786	1.900048	1.900048
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.2182703	7.62996	15.29	15.29
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.62059434	0.62157	0.9999978	0.9999978
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1009732	0.10156	0.060000001	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117561	-0.1512	-0.48310002	-0.48310002
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17617566	-0.1754	-0.56310002	-0.56310003
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6240998	2.59443	5.4763665	5.4763665
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.034699645	0.03857	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038567274	0.03859	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029687375	0.02969	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8210518	5.88729	18.482225	18.482225
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.3680221	-2.3288	-2.3553547	-2.3553547
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.62002174	-0.5989	-0.83877189	-0.8387719
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034442298	0.03411	0.021000001	0.021000001
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034106729	0.03402	0.021000001	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034018518	0.03396	0.021	0.021
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033955826	0.03396	0.021	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.009703721	0.0097	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.095161478	0.09515	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025815016	0.02568	0.015000008	0.015000006
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.54092143	-0.5409	-1.12	-1.12
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.017186504	-0.0173	-0.02	-0.02000001
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.052545058	0.05226	0.030000003	0.030000003
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.36014478	0.34698	0.2	0.2
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.0512847	8.15261	14.086824	14.086824
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.014141316	0.01445	0.004999988	0.004999989
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.1903143	-4.1075	-5.4028548	-5.4028548
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.0157312	-0.0157	-0.01	-0.01
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.021963773	-0.0213	-0.014	-0.014
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025172671	0.02523	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.63046501	0.66948	0.106	0.106
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034839251	0.03505	0.020000003	0.020000002
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068384874	0.06845	0.01	0.01
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017523949	0.01786	0.010000002	0.01
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068829829	0.06887	0.01	0.01
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74256182	0.74283	0.19	0.19
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.97759948	0.97572	1.12	1.12
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000173656	0.00017	1.00E-04	1.00E-04
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.97309283	0.97614	0.14	0.14
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.017349727	-0.0175	-0.01	-0.01
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068927815	0.06893	0.01	0.01
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034834142	0.03475	0.020000001	0.02
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.5899809	3.6049	8.8706481	8.8706481
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.61119488	-0.5439	-0.095	-0.095
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.94011414	-0.8584	-0.08	-0.08
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.16094558	0.17861	0.015	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.1397112	-0.1397	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32437824	-0.3081	-0.0945	-0.0945
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.22140102	0.22997	0.0645	0.0645
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22166146	-0.2179	-0.06	-0.06
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.2192727	0.22331	0.0615	0.0615
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.065675437	0.06693	0.04	0.04
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.57991872	0.58182	0.09	0.09
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.10200839	0.11444	0.14	0.14
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.4982203	3.64437	8.6081481	8.6081481
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.76066992	-0.7211	-0.22	-0.22
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.12980683	0.14709	0.0225	0.0225
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028714066	0.02981	0.02	0.02
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.0888847	2.99244	9.8436335	9.8436334
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.022638145	0.02275	0.002	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.15451977	0.15432	0.019999956	0.019999956
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.017120588	0.01722	0.010000006	0.01
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1307443	0.13178	0.02	0.02
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.83479919	0.86103	0.99999999	0.99999998
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.0126999	1.03969	5.5368548	5.5368548
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.0171533	1.03409	5.4168548	5.4168548
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22692391	0.22671	0.06	0.06
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016103821	0.01611	0.001	0.001
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.037895317	0.03891	0.006	0.006
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.63158861	0.63189	0.1	0.1
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.1337507	-4.6749	-5.3553547	-5.3553548

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88
5	GIGL	20		82

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	97.175743	1.900081	0.426562	0.070607	0.103487	3.84E-03	0.000726	0	0.318939
2	RGTIL	0.22509	98.862468	0.34271	0.19174	0.04709	0.03543	0.01889	0.007092	0.04207	0.22742
3	ONGC	0.1708009	97.87329	0.227101	0.0053	0.0059					1.717609
4	Mundra LNG	0	92.4291	6.8256	0.5142	0.0867	0.0715	0.0019	0.0004	0	0.0706
5	GIGL Palanpur	0.019772	84.170043	10.55368	3.009617	1.032347	0.603601	0.170983	0.112088	0.073879	0.253993

HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.748619
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13568067	-0.1356	-0.43310001	-0.43310001
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.5737931	-2.4463	-5.6641	-5.6641
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.52936108	0.55151	0.69	0.69
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.7494257	-2.6918	-6.3581	-6.3581001
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0.95650015	1.02388	2.250048	2.250048
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.36054193	0.36499	0.22	0.22
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.50528333	0.50657	1.051	1.051
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.49020273	0.4912	1.011	1.011
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4075238	0.40789	0.84904801	0.84904801
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.8566579	0.85802	0.99999539	0.99999539
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.073164277	-0.0789	-0.15095199	-0.15095199
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.4835098	1.43074	2.8372281	2.8372281
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.60884002	0.60787	1.2372281	1.2372281
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.49913015	0.50042	0.31000042	0.31000041
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.275533	-0.2756	-0.3427719	-0.3427719
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.6173123	9.32153	14.581822	14.581823
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.7682954	7.05879	14.101824	14.101824
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.55073176	0.55178	1.1425	1.1425
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.62050786	-0.6197	-0.60535474	-0.60535474
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.87566978	-0.8755	-0.85535474	-0.85535475
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.87553982	-0.86	-0.85535475	-0.85535475
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.3148553	-4.1751	-4.3553547	-4.3553547
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.78156301	0.77752	1.5772281	1.5772281
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.00355129	0.00354	0.007228104	0.007228104
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0832729	1.08379	0.631	0.631
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7249239	3.78245	9.2001481	9.2001481
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.6338034	3.64664	9.0106481	9.0106481
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61467382	0.5963	1.2335001	1.2335001
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5627189	5.60686	18.542225	18.542225
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.7079457	2.64327	5.5163665	5.5163665
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12314955	0.12322	0.39310001	0.39310001
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.56651948	-0.5417	-0.73277192	-0.73277189
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.92465631	0.95232	2.030048	2.030048
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.70030094	-0.688	-1.5141	-1.5141
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.2729029	7.67092	13.9765	13.9765
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5944301	2.55092	5.4763665	5.4763665
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.6709174	8.26897	13.9765	13.9765
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.0144234	7.31453	14.0565	14.0565
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.54194124	-0.5209	-0.6737719	-0.67377192
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17618641	-0.1762	-0.56310002	-0.56310002
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17620683	-0.1762	-0.56310002	-0.56310002
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117819	-0.1512	-0.48310001	-0.48310002
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13874141	-0.1387	-0.44310001	-0.44310001
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117697	-0.1512	-0.48310002	-0.48310002
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.044025713	0.04406	0.1401	0.1401
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12008925	0.12021	0.38310001	0.38310001
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11989461	0.11993	0.38210001	0.3821
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006935675	0.00694	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.11930722	0.11944	0.3801	0.3801
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013876021	0.01388	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.41649166	0.41663	0.24	0.24
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3484006	0.35021	0.21	0.21
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.18462683	0.18479	0.38	0.38
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75573149	0.75772	0.44	0.44
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.85802347	0.85843	0.99999538	0.99999538
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.2945879	1.28329	2.5672281	2.5672281
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.2582999	1.24736	2.5172281	2.5172281
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.77258966	0.77199	1.5672281	1.5672281
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.74735852	0.74663	1.5172281	1.5172281
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.16915835	0.16858	0.090000001	0.090000001
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22599581	0.22784	0.14000019	0.14000019
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.38817626	-0.3883	-0.4827719	-0.4827719
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.40518961	-0.405	-0.5037719	-0.5037719
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.591744	5.63587	18.492225	18.492225
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.085790878	0.0771	0.05	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6328259	5.72909	18.482225	18.482225
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.58663522	0.58088	1.2135001	1.2135001
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.078725674	0.07771	0.020000001	0.020000001
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.55407023	0.55796	1.1575001	1.1575001
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.08668299	0.08648	0.050000001	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.6749384	-4.4761	-5.3553548	-5.3553548
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.4844265	-4.2901	-5.3653547	-5.3653547
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0261697	0.02868	0.01	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.3121371	-4.1906	-5.3928547	-5.3928548
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.015640483	0.01605	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	9.3151357	10.9291	14.571823	14.571823
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.83969488	0.83718	0.94	0.94
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.28239346	-0.2719	-0.58310003	-0.58310003
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.91948202	0.93388	1.960048	1.960048
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.83996205	0.83984	0.07	0.07
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.75930086	0.83996	0.07	0.07
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	8.1236725	8.39543	14.036824	14.036824
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22896468	0.23178	0.029999934	0.029999934
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	8.3774862	8.69257	14.006824	14.006824
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	8.0719803	8.11377	13.006826	13.006826
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.7290922	5.82105	18.482225	18.482225
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8872851	5.98858	18.482225	18.482225
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.9885813	6.16718	18.482225	18.482225
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	3.7253551	3.73302	9.2201481	9.2201481
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74587292	0.74647	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039096492	0.03912	0.01	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.035099837	0.03483	0.020000001	0.020000001
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.062220149	0.06791	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.90528916	0.91786	1.900048	1.900048
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.2182703	7.62996	15.29	15.29
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.62059434	0.62157	0.9999978	0.9999978
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1009732	0.10156	0.060000001	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15117561	-0.1512	-0.48310002	-0.48310002
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17617566	-0.1754	-0.56310002	-0.56310003
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6240998	2.59443	5.4763665	5.4763665
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.034699645	0.03857	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038567274	0.03859	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029687375	0.02969	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8210518	5.88729	18.482225	18.482225
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.3680221	-2.3288	-2.3553547	-2.3553547
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.62002174	-0.5989	-0.83877189	-0.8387719
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034442298	0.03411	0.021000001	0.021000001
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034106729	0.03402	0.021000001	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034018518	0.03396	0.021	0.021
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033955826	0.03396	0.021	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.009703721	0.0097	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.095161478	0.09515	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025815016	0.02568	0.015000008	0.015000006
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.54092143	-0.5409	-1.12	-1.12
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.017186504	-0.0173	-0.02	-0.02000001
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.052545058	0.05226	0.030000003	0.030000003
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.36014478	0.34698	0.2	0.2
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.0512847	8.15261	14.086824	14.086824
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.014141316	0.01445	0.004999988	0.004999989
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.1903143	-4.1075	-5.4028548	-5.4028548
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.0157312	-0.0157	-0.01	-0.01
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.021963773	-0.0213	-0.014	-0.014
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025172671	0.02523	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.63046501	0.66948	0.106	0.106
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034839251	0.03505	0.020000003	0.020000002
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068384874	0.06845	0.01	0.01
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017523949	0.01786	0.010000002	0.01
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068829829	0.06887	0.01	0.01
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74256182	0.74283	0.19	0.19
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.97759948	0.97572	1.12	1.12
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000173656	0.00017	1.00E-04	1.00E-04
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.97309283	0.97614	0.14	0.14
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.017349727	-0.0175	-0.01	-0.01
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068927815	0.06893	0.01	0.01
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034834142	0.03475	0.020000001	0.02
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.5899809	3.6049	8.8706481	8.8706481
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.61119488	-0.5439	-0.095	-0.095
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.94011414	-0.8584	-0.08	-0.08
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.16094558	0.17861	0.015	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.1397112	-0.1397	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32437824	-0.3081	-0.0945	-0.0945
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.22140102	0.22997	0.0645	0.0645
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22166146	-0.2179	-0.06	-0.06
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.2192727	0.22331	0.0615	0.0615
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.065675437	0.06693	0.04	0.04
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.57991872	0.58182	0.09	0.09
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.10200839	0.11444	0.14	0.14
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.4982203	3.64437	8.6081481	8.6081481
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.76066992	-0.7211	-0.22	-0.22
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.12980683	0.14709	0.0225	0.0225
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028714066	0.02981	0.02	0.02
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.0888847	2.99244	9.8436335	9.8436334
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.022638145	0.02275	0.002	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.15451977	0.15432	0.019999956	0.019999956
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.017120588	0.01722	0.010000006	0.01
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1307443	0.13178	0.02	0.02
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.83479919	0.86103	0.99999999	0.99999998
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.0126999	1.03969	5.5368548	5.5368548
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.0171533	1.03409	5.4168548	5.4168548
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22692391	0.22671	0.06	0.06
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016103821	0.01611	0.001	0.001
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.037895317	0.03891	0.006	0.006
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.63158861	0.63189	0.1	0.1
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.1337507	-4.6749	-5.3553547	-5.3553548

HP Network

Sr no.	Pipeline			Length (km	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1335	-0.13343	-0.4331	-0.4331
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.82639	-1.73017	-4.0441	-4.0441
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.585167	0.607181	0.77	0.77
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.06384	-2.01557	-4.8181	-4.8181
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	1.558113	1.641313	3.709323	3.709323
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.816673	1.824481	1.14	1.14
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	1.23361	1.237086	2.591	2.591
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.307875	0.310399	0.641	0.641
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.06303	-0.06463	-0.13168	-0.13168
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.891471	0.874728	1.02	1.02
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.56524	-0.59482	-1.15168	-1.15168
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.593856	1.539097	3.086	3.086
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.820987	0.819118	1.686	1.686
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.533804	0.533459	0.31	0.31
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.401423	0.400858	0.466	0.466
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.348324	7.845996	11.03681	11.03681
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.491324	5.662424	10.65681	10.65681
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.265433	0.265355	0.5025	0.5025
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.769695	2.832461	2.333	2.333
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.613925	2.673897	2.153	2.153
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.673897	2.681806	2.153	2.153
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Nava-Kataria-SV3-MMPL	63.809	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.066165	0.066474	0.053	0.053
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.994145	0.988694	2.026	2.026
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.396441	0.395519	0.816	0.816
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.87434	0.875345	0.511	0.511
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	3.888987	3.950271	9.726923	9.726923
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.719677	3.732994	9.337423	9.337423
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.315101	0.310203	0.587501	0.5875
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.439875	5.485889	18.47499	18.47499
31	GSPL 31	Node2153	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.600135	2.550085	5.050984	5.050984
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.121173	0.121248	0.393099	0.393099
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.120841	0.120436	0.141	0.141
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.137972	1.179236	2.569323	2.569323
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.36731	-0.35863	-0.7941	-0.7941
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.561215	8.086584	13.36981	13.36981
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5159	2.506169	5.010984	5.010984
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.086584	8.90164	13.36981	13.36981
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.223809	7.606458	13.44981	13.44981
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.121441	0.120841	0.141	0.141
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16721	-0.16721	-0.5431	-0.5431
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16722	-0.16721	-0.5431	-0.5431
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13651	-0.13643	-0.4431	-0.4431
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.043323	0.043353	0.1401	0.1401
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.118164	0.118285	0.383099	0.383099
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.117976	0.118017	0.382099	0.382099
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006825	0.006825	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.117399	0.117538	0.380099	0.380099
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013654	0.013656	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.409844	0.409984	0.239999	0.239999
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.808477	1.81158	1.13	1.13
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.062951	0.063086	0.13	0.13
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.548161	0.549254	0.32	0.32
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.874728	0.870402	1.02	1.02
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.504185	1.492421	3.016	3.016
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.467679	1.455396	2.966	2.966
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.983814	0.982911	2.016	2.016
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.958534	0.957331	1.966	1.966
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.167271	0.166182	0.09	0.09
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.240917	0.242536	0.14	0.14
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.280429	0.28031	0.326	0.326
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.267413	0.267713	0.311	0.311
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.471042	5.516939	18.42499	18.42499
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.084245	0.075355	0.05	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.513945	5.613655	18.41499	18.41499
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.299643	0.297226	0.5675	0.5675
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.085986	0.085157	0.02	0.02
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.271039	0.273356	0.5175	0.5175
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.094844	0.094688	0.05	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.066474	0.066582	0.053	0.053
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.054019	0.054067	0.043	0.043
76	GSPL 76	Node2180	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.028419	0.028721	0.01	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.030177	0.030204	0.024	0.024
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.025331	0.025251	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.838888	8.879062	11.02681	11.02681
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.8315	0.828026	0.94	0.94
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.26914	-0.26392	-0.5631	-0.5631
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.156288	1.181685	2.519323	2.519323
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.119244	0.119195	0.01	0.01
84	GSPL 84	Node2166	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.316935	0.357732	0.03	0.03
85	GSPL 85	Node2166	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.218378	0.245859	0.02	0.02
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.245859	0.245898	0.02	0.02
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.236022	6.37667	10.59181	10.59181
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.230473	0.232671	0.03	0.03
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.358609	6.512791	10.56181	10.56181
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	5.896155	5.917658	9.561809	9.561809
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.613655	5.708752	18.41499	18.41499
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.777232	5.88199	18.41499	18.41499
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.88199	6.069608	18.41499	18.41499
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	3.888852	3.896984	9.746923	9.746923
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.743889	0.744686	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039005	0.039032	0.01	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034601	0.034313	0.02	0.02
99	GSPL 100	Node2183	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068256	0.06837	0.006	0.006

100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.153542	1.176071	2.459323	2.459323
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.083251	7.539352	14.03731	14.03731
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.616636	0.616218	1	1
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.099403	0.10128	0.06	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14259	-0.14259	-0.4631	-0.4631
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16721	-0.16693	-0.5431	-0.5431
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.529891	2.5159	5.010984	5.010984
107	GSPL 108	Node2183	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038066	0.038635	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038635	0.038639	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029722	0.029722	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.708752	5.777232	18.41499	18.41499
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	1.996719	1.997155	1.603	1.603
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0263	0.02609	0.015	0.015
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.02609	0.026036	0.015	0.015
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.026036	0.025997	0.015	0.015
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.025997	0.026003	0.015	0.015
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.102	0.101993	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.028288	0.028118	0.015	0.015
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.264	-0.26403	-0.5	-0.5
121	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034915	0.034714	0.02	0.02
122	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
123	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.654453	6.26546	10.64181	10.64181
124	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.015011	0.015416	0.005	0.005
125	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.017585	0.017402	0.014	0.014
126	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.02504	-0.02498	-0.01	-0.01
127	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.03497	-0.03482	-0.014	-0.014
128	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.040083	0.040166	0.004	0.004
129	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.522326	0.526545	0.076	0.076
130	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017357	0.017466	0.01	0.01
131	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068138	0.068206	0.01	0.01
132	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
133	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068601	0.068647	0.01	0.01
134	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.740787	0.741095	0.19	0.19
135	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.655969	0.652759	0.76	0.76
136	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
137	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000171	0.000171	0.0001	1.00E-04
138	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.957581	0.960569	0.139999	0.139999
139	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.01713	-0.01733	-0.01	-0.01
140	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.067877	0.067877	0.01	0.01
141	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034313	0.03422	0.02	0.02
142	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.513111	3.527816	8.787423	8.787423
143	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.60555	-0.53725	-0.095	-0.095
144	GSPL 150	Node1512-2	Node2172	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.52379	-0.50994	-0.08	-0.08
145	GSPL 151	Node2172	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.095613	0.098768	0.015	0.015
146	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.07725	-0.07725	-0.005	-0.005
147	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32064	-0.30432	-0.0945	-0.0945
148	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.218849	0.227546	0.0645	0.0645
149	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.21968	-0.21571	-0.06	-0.06
150	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.216963	0.221105	0.0615	0.0615
151	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
152	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.688315	0.701319	0.45	0.45
153	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.540255	0.547203	0.09	0.09
154	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.39588	0.418844	0.55	0.55
155	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.423436	3.567311	8.527423	8.527423
156	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.75199	-0.71232	-0.22	-0.22
157	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.113986	0.129921	0.02	0.02
158	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
159	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028355	0.029443	0.02	0.02
160	GSPL 166	Node2153	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	2.970232	2.925759	9.026327	9.026327
161	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.02279	0.022787	0.002	0.002
162	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.155114	0.154896	0.02	0.02
163	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.018745	0.01886	0.01	0.01
164	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.129921	0.130808	0.02	0.02
165	GSPL 171	Node2183-2	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.253728	0.260019	0.299999	0.299999
166	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.226302	0.226078	0.06	0.06
167	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016065	0.016071	0.001	0.001
168	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.041569	0.041676	0.006	0.006
169	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.484975	0.484997	0.07	0.07

HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93

HP Network

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent
1	Petronet	0	94.9403	4.2195	0.369828	0.064365	0.0935	3.92E-03	0.00E+00	0
2	RGTIL	0.0532	93.7478	4.384	1.15044	0.2301	0.23143	0.01932	0.01366	0.0203
3	ONGC	0.03	99.63	0.21	0	0	0	0	0	0

Nitrogen
percent
0.3086
0.1498
0.13

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.474989	94.5	55
2	Petronet Supply	9.7469233	85	5
3	ONGC Olpad	0.069	81.608717	25.708154
	Total	**28.291**		

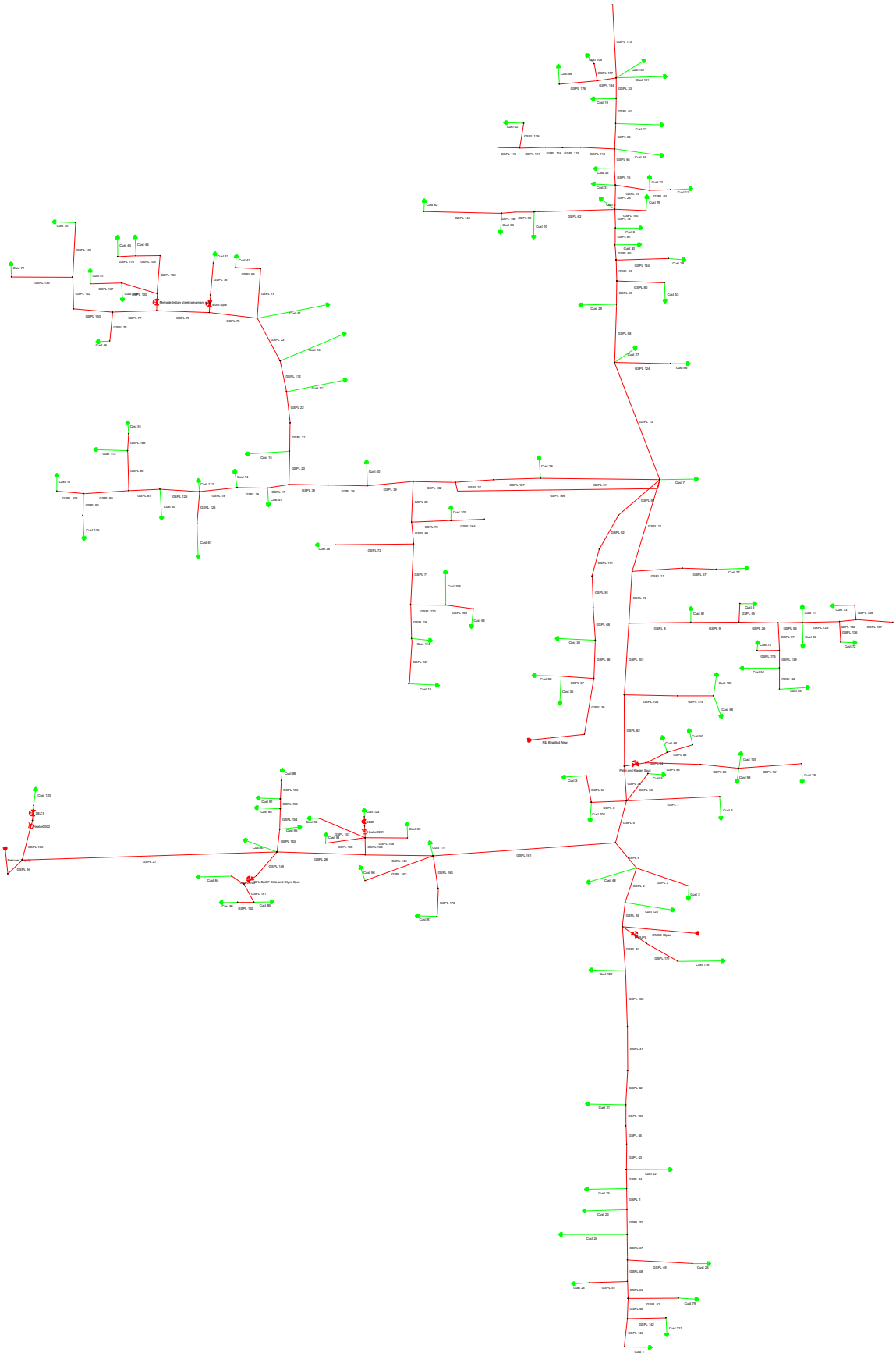
	Grid Capacity	**28.291**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.14	81.186713	29.975095
2	Cust 2	0.77	82.156327	18.091106
3	Cust 3	1.13	82.045348	17.431721
4	Cust 4	0	82.019688	30
5	Cust 5	0	82.060413	30
6	Cust 6	0.13	81.005808	29.477856
7	Cust 7	0.1	80.221832	42.259736
8	Cust 8	0.28	80.392318	31.511729
9	Cust 9	0.02	80.316232	30.911015
10	Cust 10	0.07	80.426415	30.011691
11	Cust 11	0.14	79.622285	29.85609
12	Cust 12	0.17	80.160351	29.980334
13	Cust 13	0.5	73.838261	30.008691
14	Cust 14	0.37	49.227626	25.502567
15	Cust 15	0.18	58.286981	28.696576
16	Cust 16	1.55	57.222735	29.869027
17	Cust 17	0.2	81.139893	29.992021
18	Cust 18	1	42.103155	27.989666
19	Cust 19	0	80.533976	30.014456
20	Cust 20	0.04	81.702508	29.969344
21	Cust 21	0.08	81.800697	29.99965
22	Cust 22	0.02	81.798996	29.999816
23	Cust 23	0.01	81.750129	29.98879
24	Cust 24	0.01	81.654833	29.965647
25	Cust 25	0.001	81.588641	30.000158
26	Cust 26	0.002	81.5594	29.999997
27	Cust 27	0.07	80.963711	37.400041
28	Cust 28	0.05	80.821135	35.552371
29	Cust 29	0.01	80.947204	31.166987
30	Cust 30	0.05	80.452046	31.888174
31	Cust 31	0.04	80.350988	30.578132
32	Cust 32	0.17	80.161917	29.995018
33	Cust 33	0.14	80.31957	30.247894
34	Cust 34	0	80.249938	30.000522
35	Cust 35	0.01	93.925055	34.016894
36	Cust 36	0.01	91.837594	52.194575
37	Cust 38	0.05	74.491419	30.004285
38	Cust 39	0.04	81.145392	40.87006
39	Cust 40	0.08	70.054261	31.771661
40	Cust 41	0	57.010524	29.996851
41	Cust 42	0	57.123582	30
42	Cust 43	0.01	50.16848	30.004762
43	Cust 44	0.01	49.959196	29.999998
44	Cust 45	0.003	49.959234	29.999653
45	Cust 46	0.01	56.999679	30.009385
46	Cust 47	0.01	55.574796	26.925759
47	Cust 48	0.004	82.174289	12.351463
48	Cust 49	0.02	48.867675	29.988743
49	Cust 50	0.01	48.891073	30.010138
50	Cust 51	0.02	43.077024	30.010765
51	Cust 53	0.94	80.509538	32.437606
52	Cust 54	0.18	81.153172	29.932658
53	Cust 55	0.01	81.128677	29.999779
54	Cust 56	0.01	81.231312	30.001873
55	Cust 57	0.002	50.58657	30.0007
56	Cust 58	0.05	82.387961	30.02374
57	Cust 59	0.006	80.001925	29.997662
58	Cust 60	0.05	43.543385	25.837096
59	Cust 62	0.015	81.085743	30.003615
60	Cust 63	0.01	73.804276	29.998793
61	Cust 66	0	81.300782	30

62	Cust 67	0.005	47.599896	29.998996
63	Cust 70	0.01	57.021888	29.99873
64	Cust 71	0.004	57.047742	29.997948
65	Cust 72	0.01	81.495082	29.994555
66	Cust 73	0.01	81.058451	29.999365
67	Cust 74	0.001	81.184529	29.999939
68	Cust 76	0.76	80.312991	30.022476
69	Cust 77	1.02	81.368003	31.020118
70	Cust 78	0	48.97674	30
71	Cust 79	0.24	81.448926	29.988053
72	Cust 80	0.1	81.139893	29.992021
73	Cust 81	1.95	80.96292	27.519755
74	Cust 82	0.01	81.230913	30.000019
75	Cust 84	0.08	84.148621	28.89328
76	Cust 85	0.01	84.182514	29.986523
77	Cust 86	0.005	84.182298	30
78	Cust 87	0.2	84.228236	5.9690698
79	Cust 88	0.003	84.224947	19.66032
80	Cust 89	0.06	84.382785	26.246471
81	Cust 91	0.0015	84.225576	22.783692
82	Cust 92	0	84.77201	30
83	Cust 93	0.45	84.818568	18.909755
84	Cust 94	0.09	84.252808	16.764672
85	Cust 95	0.03	84.22728	13.543657
86	Cust 96	0.22	84.689064	15.992241
87	Cust 97	0.02	84.67989	29.940577
88	Cust 98	0	48.979981	29.999621
89	Cust 99	0.04	93.925055	34.016894
90	Cust 100	0.01	82.387961	30.02374
91	Cust 101	0.025	80.788187	30.037672
92	Cust 103	0.02	74.503124	30.047699
93	Cust 104	0.01	82.011009	17.081343
94	Cust 105	0.02	48.979981	29.999621
95	Cust 106	0.07	80.115488	29.829601
96	Cust 107	0.04	80.788187	30.037672
97	Cust 108	0.005	74.21653	30.010042
98	Cust 109	0.004	50.574696	29.974114
99	Cust 111	0.55	57.107695	29.379336
100	Cust 112	0.01	47.93183	25.904107
101	Cust 113	0.01	43.022368	30.023983
102	Cust 114	0.0025	73.829751	30.00726
103	Cust 116	9.5618093	41.5	25.557575
104	Cust 117	0.02	83.914292	6.4410274
105	Cust 118	0.3	80.667582	29.789703
106	Cust 121	0.0001	81.417395	30
107	Cust 122	0.02	81.699991	29.433361
108	Cust 123	0.02	14	55
109	Cust 124	0.01	14	55
110	Cust 125	3.25	81.605192	19.659948
	Total	**28.2909093**		

Note:

GSPL HP GAS GRID 17-18



	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	18.237895	94.5	55
2	Petronet Supply	10.344799	85	5
3	ONGC Olpad	0.069	81.129043	22.760964
4	GIGL Palanpur	0.99819143	82	20
	Total	**29.650**		

	Grid Capacity	**29.621**	**MMSCMD**	

Units	**Exit Points**	**MMSCMD**	**barg**	**Deg C**
1	Cust 1	0.14	80.713032	29.976247
2	Cust 2	0.79	81.878211	17.923113
3	Cust 3	0.91	81.930089	18.423466
4	Cust 4	0	81.886449	30
5	Cust 5	0	81.925966	30
6	Cust 6	0.18044699	80.940759	29.488165
7	Cust 7	0.1	80.058399	42.379139
8	Cust 8	0.28	80.855468	30.320447
9	Cust 9	0.019914423	80.820565	30.046761
10	Cust 10	0.069700481	80.942878	30.011874
11	Cust 11	0.14	80.047104	29.823851
12	Cust 12	0.17	80.800654	29.642379
13	Cust 13	0.6	80.047233	30.011356
14	Cust 14	0.37	51.312243	26.165922
15	Cust 15	0.18	62.475873	29.866583
16	Cust 16	1.55	61.528714	30.144596
17	Cust 17	0.15037249	81.057288	29.992237
18	Cust 18	1	42.171432	27.421614
19	Cust 19	0	81.484917	26.165521
20	Cust 20	0.04	81.220164	29.970215
21	Cust 21	0.08	81.315436	29.998863
22	Cust 22	0.02	81.313738	29.99978
23	Cust 23	0.01	81.26633	29.989192
24	Cust 24	0.01	81.173946	29.966826
25	Cust 25	0.001	81.109771	30.000153
26	Cust 26	0.002	81.081415	29.999998
27	Cust 27	0.07	81.087489	35.753956
28	Cust 28	0.05	81.036069	33.769347
29	Cust 29	0.01	81.416619	30.561141
30	Cust 30	0.05	80.891304	30.532615
31	Cust 31	0.04	80.869753	30.00561
32	Cust 32	0.17	80.679465	29.993029
33	Cust 33	0.14	80.857124	29.992018
34	Cust 34	0	80.842072	29.915224
35	Cust 35	0.01	93.97597	34.452507
36	Cust 36	0.01	91.816748	52.258585
37	Cust 38	0.05	80.827142	30.005017
38	Cust 39	0.04	88.448105	47.581708
39	Cust 40	0.08	75.754572	35.367918
40	Cust 41	0	61.282739	29.996416
41	Cust 42	0	61.41405	30
42	Cust 43	0.01	50.180611	30.000043
43	Cust 44	0.01	49.956258	29.999996
44	Cust 45	0.003	49.956297	29.999274
45	Cust 46	0.01	61.270508	30.010631
46	Cust 47	0.01	59.002537	28.628508
47	Cust 48	0.004	81.897008	12.043375
48	Cust 49	0.02	48.870637	29.989493
49	Cust 50	0.01	48.89347	30.010024
50	Cust 51	0.02	43.424301	30.011803
51	Cust 53	0.94	80.870084	31.318417
52	Cust 54	0.18044699	81.077454	29.943512
53	Cust 55	0.010024833	81.053479	29.999786
54	Cust 56	0.009957212	81.831635	30.002159
55	Cust 57	0.002	50.63005	30.000393
56	Cust 58	0.05	82.264745	30.022737
57	Cust 59	0.006	80.912527	29.996817
58	Cust 60	0.05	44.103017	25.255057
59	Cust 62	0.015	81.825997	30.004017
60	Cust 63	0.01	80.013404	29.998603
61	Cust 65	0.010024833	79.635705	29.996597
62	Cust 66	0	81.452451	30
63	Cust 67	0.005	49.288665	29.998896
64	Cust 68	0	81.816879	30
65	Cust 70	0.01	61.296382	29.99856
66	Cust 71	0.004	61.326422	29.997675
67	Cust 72	0.010024833	81.404499	29.994817
68	Cust 73	0.010024833	80.9769	29.999386
69	Cust 74	0.001002483	81.108332	29.999954
70	Cust 76	0.57751827	80.818935	30.000771
71	Cust 77	0.52	81.47714	30.189564
72	Cust 78	0	48.977087	30
73	Cust 79	0.24	80.973822	29.98878
74	Cust 80	0.15037249	81.057288	29.992237
75	Cust 81	1.7142464	80.900456	27.955366
76	Cust 82	0.009957212	81.831231	30.00003
77	Cust 84	0.08	48.941324	26.83364
78	Cust 85	0.01	48.999922	29.970243
79	Cust 86	0.005	48.999537	29.999999
80	Cust 87	0.2	84.147026	5.9240263
81	Cust 88	0.003	84.14374	19.937188
82	Cust 89	0.06	84.296576	26.457407
83	Cust 91	0.0015	84.144328	23.057369
84	Cust 92	0	84.653821	30
85	Cust 93	0.75	84.678957	15.655952
86	Cust 94	0.09	84.151656	14.849383
87	Cust 95	0.03	84.146026	13.736321
88	Cust 96	0.22	84.557019	16.194118
89	Cust 97	0.02	84.552031	29.933426
90	Cust 98	0	48.98025	29.999651
91	Cust 99	0.04	93.97597	34.452507
92	Cust 100	0.01	82.264745	30.022737
93	Cust 101	0.025	81.855821	22.590455
94	Cust 103	0.02	80.843072	30.056691
95	Cust 104	0.01	81.890601	18.011708

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.02860956	79.058399	42.00428	2.4104164

96	Cust 105	0.02	48.98025	29.999651
97	Cust 106	0.07	81.046857	28.170625
98	Cust 107	0.04	81.855821	22.590455
99	Cust 108	0.005	80.500409	30.011649
100	Cust 109	0.004	50.617337	29.818566
101	Cust 110	0.0025	84.512139	28.398101
102	Cust 111	0.55	61.343043	29.805091
103	Cust 112	0.01	49.657101	26.190428
104	Cust 113	0.01	43.36544	30.026222
105	Cust 114	0.0025	80.037567	30.009677
106	Cust 115	0.006	80.738933	30.149871
107	Cust 116	10.910641	41.5	24.654306
108	Cust 117	0.02	83.809252	6.3870812
109	Cust 118	1	80.578412	27.374692
110	Cust 119	0	61.937915	30
111	Cust 120	0	61.596534	30
112	Cust 121	0.0001	80.943749	30
113	Cust 122	0.02	81.217937	29.065633
114	Cust 123	0.02	14	55
115	Cust 124	0.01	14	55
116	Cust 125	3.18	81.13838	18.819888
	Total	29.62127577		

HP Network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5

56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8
71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	28.86
90	Nirma node	109.93
91	Suzlon-N	142.55
92	Nano node	146.32
93	chimique cst node	27.812
94	Bhadari node	12.3
95	hadala	118.5
96	Essar-N1-2	87
97	Bhadar-N1	28
98	Piramal node	22.29
99	Node1269	9.73
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	70.21
103	Indiansteel-Node	105.02
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	176.2
107	Anklav-node	134.25
108	Node1358	133.57
109	SV-1+Gala+MMPL	129.14
110	Takarwada Node	170.8
111	Becharaji Node	90.15
112	SV1-fatehpura- node	42

113	SV2-ghirojpura node	85.83
114	Honda Node	62.685
115	Maruti node	45
116	Maruti CST node	48
117	Amreli1	47
118	Lonthpur	125.244
119	Dahod node	112.93
120	Thasara node	62
121	Bhodigodi	371.895
122	Ambardi	108.239
123	Node1397-2	60.343
124	Node1419	152.279
125	Ratatalav-ABPL-18	124.9874
126	Bhuj	123.20602
127	SV-1-ABPL	146.55
128	Parle node	48.76
129	Banas node	132.69
130	Ineos node	102.367
131	Ineos CST node	126.756
132	Panchmahal node	208.05
133	Panchmahal Cst Node	65.666
134	Rochling-node	79.985
135	Iffco- node	142.18
136	JCT-node	149.47
137	GGL vapi node	139.439
138	Eklere shrikrishna	172
139	sarigam GIDC	119.8
140	Node1377-2	123.156
141	Shah alloy node	130.78
142	Birla_Node	130.78
143	Node1512-2	88.144
144	BASF node	54.106
145	styrolution node	48.64
146	GGL Dahej-node	109.19
147	Roxul-node	109.19
148	Sarju node	109.19
149	Dic - node	109.19
150	Torrent DGEN node	109
151	SEZ I node	109.19
152	OPAL CST node	85.35
153	Node1410	109
154	Node1520	4.29
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	2.8
157	china steel cst node	85
158	Nano CNG node	109.19
159	GGL Vadhela Node	109.19
160	Node1479	114.537
161	Node1711	1.9
162	Node1712	27.812
163	GNFC CST node	10.99
164	Ramacylinder	103
165	GSFC-cst-node	103
166	GGLsaparpatia	103
167	GGLpalitana1	3.95
168	toyo-navin-convergence node	15.4
169	Uttran node	3.01

170	Bhadbhut-node	20.27
171	Gana -node	54.385
172	mundraLNG	8.437
173	Node2115	98.5
174	Rochling Cst node	102.12
175	IRM node	339
176	IRM cst node	7
177	Node0193	73.748619
178	Node0091-4	139.439
179	Node2153	190
180	Node2163	190.15
181	Node2174	339
182	Node2178	339
183	Node2185	339
184	Node2188	109.19
185	Node2192	

HP Network

With Compressor

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13546	-0.13539	-0.433098	-0.433098
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.13711	-2.02868	-4.674928	-4.675465
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.609065	0.631778	0.7902307	0.7901529
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.37621	-2.32366	-5.469697	-5.469963
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	1.431431	1.513159	3.3558413	3.3583152
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.494494	1.501452	0.9209918	0.920935
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0.00E+00	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	1.161792	1.164521	2.4113427	2.4109697
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.340606	0.342498	0.7009912	0.7005556
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.04309	-0.04375	-0.092301	-0.092495
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.438962	0.431052	0.5211633	0.5201851
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.29025	-0.3105	-0.613659	-0.612301
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.965974	0.919036	1.9048953	1.9064096
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.236624	0.236338	0.5050425	0.5049444
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.501953	0.503263	0.310012	0.31
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.43109	-0.43114	-0.532212	-0.532228
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.58762	8.157399	12.37021	12.373973
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.834362	6.050485	12.000388	12.002597
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.283679	0.283684	0.6025012	0.6024998
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.548438	2.58832	2.3300928	2.3314274
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.388621	2.436207	2.1515487	2.1521611
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.436207	2.437991	2.1521611	2.1523875
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Nava-Kataria-SV3-MMPL	63.809	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.060048	0.06028	0.0529901	0.053
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.399131	0.396644	0.8454084	0.8452956
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.08309	-0.08304	-0.182195	-0.182198
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.899446	0.89999	0.5206697	0.5205417
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	4.188474	4.256297	10.324908	10.325686
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	4.01752	4.032281	9.9361524	9.9363337
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.339116	0.326864	0.6920605	0.6934346
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.260551	5.30582	18.237895	18.237817
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.664964	2.601651	5.5835414	5.5859636
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.122947	0.123021	0.3930978	0.3930978
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.67245	-0.65198	-0.858622	-0.85802
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.09924	1.137903	2.4373234	2.4379475
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.69414	-0.68314	-1.4943	-1.494365
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.599972	8.14776	14.691259	14.695331
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.55864	2.523254	5.5484468	5.5539001
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.14776	9.016848	14.695331	14.700304
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.246582	7.64128	14.767926	14.77111
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.69404	-0.67245	-0.85754	-0.858622
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16966	-0.16965	-0.543097	-0.543097
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16967	-0.16966	-0.543097	-0.543097
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14468	-0.14468	-0.463097	-0.463097
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13851	-0.13843	-0.443098	-0.443098
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14468	-0.14468	-0.463097	-0.463097
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.043953	0.043982	0.1400992	0.1400992
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.119892	0.12001	0.3830978	0.3830978
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.119697	0.119737	0.3820978	0.3820978
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006924	0.006925	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.119111	0.119247	0.3800979	0.3800978
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013853	0.013854	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.415804	0.415943	0.2399986	0.2399986
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.485132	1.487957	0.9109249	0.9108962
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.087945	0.088077	0.1798859	0.1798673
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.570051	0.571065	0.3297097	0.3296724
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.431052	0.429818	0.5201851	0.5200577
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.885264	0.875859	1.8363525	1.8363702
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.851992	0.843211	1.786329	1.7860225
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.391949	0.391634	0.8352904	0.8352478
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.368179	0.367859	0.7852243	0.7851457
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.160449	0.160109	0.0902022	0.0901855
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22728	0.229109	0.14	0.14
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.54456	-0.54447	-0.672237	-0.672315
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.55662	-0.55609	-0.687318	-0.687471
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.291274	5.336376	18.187817	18.18777
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.082539	0.073441	0.0499998	0.05
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.333442	5.430959	18.17777	18.177751
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.317438	0.314259	0.6734365	0.6734954
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.076755	0.075834	0.0199981	0.02
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.288129	0.290741	0.6174958	0.6175012
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.084497	0.084319	0.0499997	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.06028	0.060389	0.053	0.053
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.048995	0.049042	0.043	0.043
76	GSPL 76	Node2185	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.027683	0.028279	0.0100119	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.027373	0.0274	0.024	0.024
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.022979	0.022899	0.01	0.01
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.150813	9.398165	12.363983	12.370227
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.800544	0.798902	0.9406141	0.940461
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.27257	-0.26356	-0.563106	-0.563168
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.114534	1.136849	2.3878808	2.3874432
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.119868	0.11982	0.01	0.01
84	GSPL 84	Node2174	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.322324	0.359604	0.0300372	0.03
85	GSPL 85	Node2174	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.222091	0.247164	0.0200248	0.02
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.247164	0.247201	0.02	0.02
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.820927	7.014299	11.942593	11.943403
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.224881	0.227761	0.0300069	0.03
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.996676	7.214171	11.913396	11.914252
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	6.60848	6.638471	10.913949	10.914045
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.430959	5.523971	18.177751	18.177814
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.590983	5.693524	18.177891	18.178045
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.693524	5.882784	18.178045	18.178265
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	4.187607	4.196587	10.344799	10.344908
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.750153	0.750825	0.190832	0.1908188
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039325	0.039348	0.0099904	0.00999
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033336	0.033026	0.0200412	0.0200416
99	GSPL 100	Node2188	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.066491	0.067219	0.0060071	0.0060005
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.108245	1.127501	2.3273742	2.326693
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.117485	7.586175	15.455789	15.459986
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.605691	0.605798	1.0003032	1.0001823
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.101031	0.102382	0.0600691	0.06
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.14468	-0.14468	-0.463097	-0.463097
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.16965	-0.16905	-0.543097	-0.543105
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.583084	2.55864	5.5460995	5.5484468
107	GSPL 108	Node2188	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.037081	0.038052	0.0130155	0.0130001
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.038052	0.03806	0.0130001	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.029277	0.029277	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.523971	5.590983	18.177814	18.177891
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	1.815188	1.812535	1.602544	1.602702
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-7.59E-01	-0.74285	-0.999156	-0.998191
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.024775	0.024543	0.0150028	0.015
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.024543	0.024481	0.015	0.015
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.024481	0.024436	0.015	0.015
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.024436	0.024442	0.015	0.015
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.095879	0.095872	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025215	0.025052	0.015	0.015
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.28247	-2.83E-01	-0.6	-0.6
121	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.052802	0.052509	0.0299702	0.02997
122	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.00E+00	0	0	0
123	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.042925	6.849488	11.9876	11.992601
124	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.014238	0.014631	0.0049987	0.005
125	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.00E+00	0.00E+00	0	0
126	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.00E+00	0	0	0
127	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.015953	0.015769	0.014	0.014
128	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.02271	-0.02265	-0.01	-0.01
129	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.03171	-0.03155	-0.014	-0.014
130	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.036338	0.03642	0.004	0.004
131	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.465118	0.488384	0.0760735	0.0760166
132	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.035006	0.035217	0.01998	0.0199801
133	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068713	0.068775	0.00999	0.00999
134	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017609	0.017944	0.0099901	0.0099902
135	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.069163	0.069208	0.0099901	0.0099901
136	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.746894	0.74718	0.1898197	0.1898178
137	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.480191	0.479977	0.5813031	0.5811949
138	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
139	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000173	0.000173	1.00E-04	1.00E-04
140	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.971483	0.97451	0.1399992	0.1399992
141	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.01653	-0.01667	-0.010002	-0.010005
142	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.065305	0.065305	0.0100208	0.0100208
143	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033026	0.032923	0.0200416	0.0200416
144	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.687305	3.702878	9.0862452	9.0864431
145	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.61321	-0.54535	-0.095002	-0.095008
146	GSPL 150	Node1512-2	Node2178	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.94091	-0.85975	-0.08	-0.079999
147	GSPL 151	Node2178	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.161203	0.17873	0.0149999	0.015
148	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.13981	-0.13979	-0.005	-0.005
149	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32538	-0.30891	-0.094505	-0.094508
150	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.222082	0.230719	0.0645036	0.0645022
151	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.2224	-0.21858	-0.060001	-0.060001
152	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.219988	0.224046	0.0615021	0.0615014
153	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
154	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	1.145813	1.160982	0.750057	0.7500469
155	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.539606	0.547827	0.0900068	0.0900058
156	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.621098	0.646526	0.8500885	0.8500646
157	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.595891	3.749231	8.82391	8.825804
158	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.7633	-0.72315	-0.220016	-0.220028
159	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.130185	0.147636	0.0225028	0.0225002
160	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.00E+00	0	0	0
161	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.02877	0.02987	0.0200002	0.0200002
162	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.017155	2.93662	9.8890988	9.9019084
163	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.022406	0.022418	0.0020002	0.002
164	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.151841	0.151609	0.02	0.02
165	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.016701	0.016815	0.01	0.01
166	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.131232	0.132268	0.0200002	0.02
167	GSPL 171	Node2192	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.839899	0.863448	1.0000341	1.0000093
168	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	0	0	0	0
169	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	0	0.00E+00	0	0
170	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.228764	0.228546	0.06	0.06
171	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016198	0.016202	0.0009991	0.000999
172	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.038557	0.039099	0.0060013	0.006
173	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.449827	0.44998	0.0700153	0.0700149

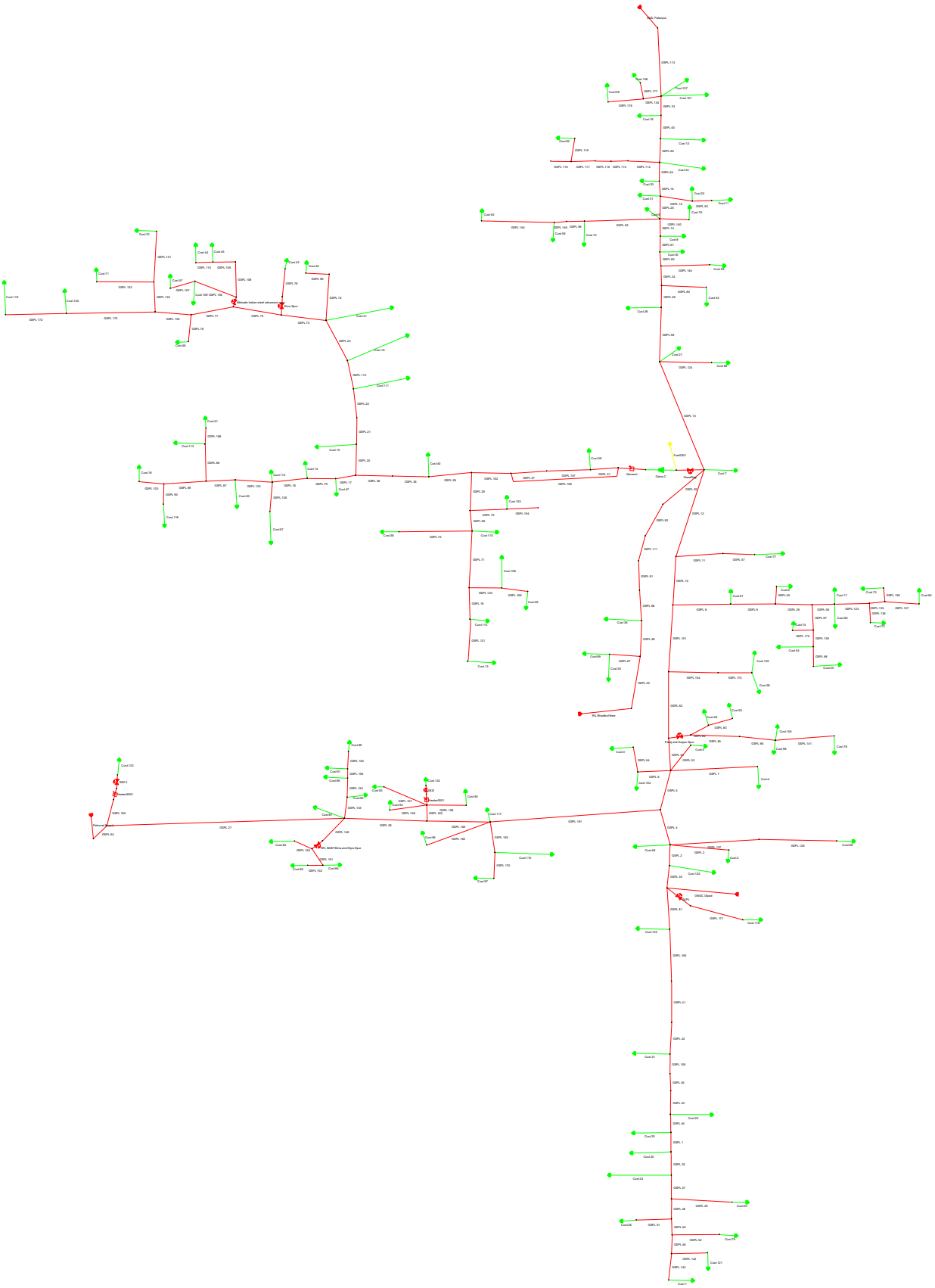
HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93

HP Network

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet		97.3921	1.4908	0.4667	0.0816	0.1269	3.60E-03	0.00E+00		0.4383
2	RGTIL	0.0534	87.7341	9.7652	1.65122	0.25261	0.2703	0.01205	0.0055887	0.0084	0.2471
3	ONGC	0.03	99.63	0.21	0	0	0	0	0	0	0.13
4	GIGL Palanpur	0.008853	84.73287	10.538354	2.728939	0.917038	0.53501	0.147998	0.093034	0.0482	0.24967

GSPL HP GAS GRID WITH COMP 18-19



	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	19.040767	94.5	55
2	Petronet Supply	11.478533	85	5
3	ONGC Olpad	0.069	80.239523	21.911849
4	GIGL Palanpur	1.5762576	82	20
	Total	**32.165**		

	Grid Capacity	**32.131**	**MMSCMD**	

Units	**Exit Points**	**MMSCMD**	**barg**	**Deg C**
1	Cust 1	0.14	79.81489	29.97426
2	Cust 2	0.69	81.232702	17.60629
3	Cust 3	1.11	81.284488	16.894097
4	Cust 4	0	81.257265	30
5	Cust 5	0	81.297755	30
6	Cust 6	0.24	80.26386	29.107485
7	Cust 7	0.12	79.402285	42.226919
8	Cust 8	0.28	80.08873	30.246192
9	Cust 9	0.020069427	80.056474	29.898383
10	Cust 10	0.070242993	80.179407	30.0117
11	Cust 11	0.14	79.281536	29.820309
12	Cust 12	0.17	80.283806	28.698625
13	Cust 13	0.5	79.268607	30.009147
14	Cust 14	0.37	49.772879	26.778262
15	Cust 15	0.25	57.466361	29.120343
16	Cust 16	1.5	53.621343	29.156363
17	Cust 17	0.31	80.180971	29.954053
18	Cust 18	1	42.110679	28.194296
19	Cust 19	0.059	81.326492	24.223744
20	Cust 20	0.04	80.331608	29.969226
21	Cust 21	0.08	80.428836	29.997438
22	Cust 22	0.04	80.426953	29.999638
23	Cust 23	0.01	80.378645	29.988734
24	Cust 24	0.01	80.284518	29.965515
25	Cust 25	0.001	80.219134	30.000159
26	Cust 26	0.002	80.190245	29.999997
27	Cust 27	0.07	80.312948	35.749719
28	Cust 28	0.05	80.261967	33.633307
29	Cust 29	0.01	80.603644	30.476276
30	Cust 30	0.05	80.121933	30.431459
31	Cust 31	0.04	80.111302	29.746265
32	Cust 32	0.17	79.918119	29.992425
33	Cust 33	0.14	80.134295	29.656013
34	Cust 34	0	80.225068	29.325834
35	Cust 35	0.01	93.847112	34.0194
36	Cust 36	0.01	91.686055	52.210977
37	Cust 38	0.05	79.969766	30.004422
38	Cust 39	0.04	88.433722	48.339209
39	Cust 40	0.08	74.463775	35.510911
40	Cust 41	0	53.330548	29.997874
41	Cust 42	0	53.435679	30
42	Cust 43	0.01	53.429454	30.010481
43	Cust 44	0.01	53.162818	29.999999
44	Cust 45	0.003	53.162854	29.999936
45	Cust 46	0.01	53.317649	30.009176
46	Cust 47	0.01	56.515519	28.696443
47	Cust 48	0.004	81.247441	10.873037
48	Cust 49	0.07	48.783907	29.91929
49	Cust 50	0.02	43.154667	30.010769
50	Cust 52	0.94	80.101575	31.162571
51	Cust 53	0.18	80.326695	29.86358
52	Cust 54	0.01	80.302388	29.999779
53	Cust 55	0.010034713	81.072681	30.0022
54	Cust 56	0.002	53.830141	30.001101
55	Cust 57	0.05	81.624943	30.023835
56	Cust 58	0.006	80.807898	29.99657
57	Cust 59	0.05	43.681851	26.342622
58	Cust 61	0.015	81.218001	30.004062
59	Cust 62	0.01	79.227327	29.998758
60	Cust 63	0.02	79.578657	30.002178
61	Cust 64	0.01	78.74274	29.996486
62	Cust 65	0.2	80.565336	30.020534
63	Cust 66	0.005	48.039072	29.998994
64	Cust 67	0	81.165367	30
65	Cust 69	0.01	53.338085	29.998758
66	Cust 70	0.004	53.362117	29.997994
67	Cust 71	0.01	80.532406	29.994651
68	Cust 72	0.01	80.099626	29.999364
69	Cust 73	0.001	80.358016	29.999856
70	Cust 75	1.1238879	80.048947	29.992819
71	Cust 76	0.78928567	80.668844	30.022666
72	Cust 77	0.24	80.080629	29.98792
73	Cust 78	0.15	80.180971	29.954053
74	Cust 79	1	80.228398	27.444848
75	Cust 80	0.010034713	81.072274	30.000032
76	Cust 82	0.08	48.940861	26.559198
77	Cust 83	0.01	48.999921	29.966656

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.03374658	78.402285	41.875869	2.8751873

78	Cust 84	0.005	48.999532	29.999999
79	Cust 85	0	83.973572	5.6853908
80	Cust 86	0.003	83.970283	19.478298
81	Cust 87	0.06	84.128447	26.158665
82	Cust 89	0.0015	83.970913	22.641397
83	Cust 90	0	84.45955	30
84	Cust 91	1.15	84.442736	12.705953
85	Cust 92	0.09	83.94514	12.90503
86	Cust 93	0.03	83.972621	13.302565
87	Cust 94	0.22	84.341629	15.69811
88	Cust 95	0.02	84.332739	29.922236
89	Cust 96	0.04	93.847112	34.0194
90	Cust 97	0.01	81.624943	30.023835
91	Cust 98	0	81.803043	21.665542
92	Cust 100	0.02	79.980469	30.04954
93	Cust 101	0.01	81.249599	16.525459
94	Cust 102	0.1	80.944233	27.056701
95	Cust 103	0.005	79.673101	30.010338
96	Cust 104	0.004	53.817449	30.153193
97	Cust 105	0.0025	84.291569	28.261686
98	Cust 106	1.8	53.749514	28.496532
99	Cust 107	0.01	48.374102	26.926435
100	Cust 108	0.01	43.099929	30.023986
101	Cust 109	0.0025	79.258915	30.00782
102	Cust 110	0.006	79.889247	30.114644
103	Cust 111	9.977156	41.5	25.898118
104	Cust 112	0.02	83.56444	6.0389347
105	Cust 113	0.77	80.206326	27.780153
106	Cust 114	0.02	53.57847	29.998936
107	Cust 115	0.0001	80.049996	30
108	Cust 116	0.02	80.329873	28.819522
109	Cust 117	0.02	14	55
110	Cust 118	0.01	14	55
111	Cust 119	4.1	80.244201	17.01306
112	Cust 121	0.6	53.395094	29.786476
113	Cust 122	0.03	85.979381	40.710976
114	Cust 123	0.0085	53.206262	29.997731
	Total	32.13081142		

HP Network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5

57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8
71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45

115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.206
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106
143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7

173	Node2115	73.74862
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.136	-0.136	-0.43310004	-0.43310004
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.431	-2.303	-5.3829994	-5.3828229
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.5243	0.5479	0.68983634	0.68986409
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.603	-2.545	-6.0766583	-6.0766165
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	1.5468	1.633	3.6775346	3.6754688
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.7907	1.7988	1.1190977	1.1191122
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.9205	0.9238	1.9193854	1.9196338
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4455	0.4487	0.920345	0.92068299
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.2427	0.245	0.50700548	0.50714712
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.6791	0.6797	0.78950809	0.79006683
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.136	-0.147	-0.28159927	-0.28184928
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0947	1.0451	2.0979799	2.0968181
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.2416	0.2414	0.49790453	0.49797192
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.5033	0.5056	0.30997132	0.30999998
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.882	-0.881	-1.0861566	-1.0861356
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.5347	8.0535	11.443393	11.44288
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6649	5.8462	11.062173	11.06293
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.255	0.2549	0.52249957	0.5225
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	4.9642	5.223	4.2282586	4.2293573
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	4.9144	5.1591	3.9794839	3.9800718
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	5.1591	5.2699	3.9800718	3.9804264
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.9092	0.9162	0.68138063	0.68148127
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4091	0.4069	0.83764678	0.83773443
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.337	-0.336	-0.7362071	-0.73618901
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.1724	1.1761	0.6807656	0.68090083
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	4.566	4.6442	11.458452	11.45786
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	4.4802	4.4978	11.268371	11.268232
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.311	0.2994	0.61325922	0.61348302
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6022	5.6549	19.040767	19.040799
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.898	2.8325	5.9347451	5.9330484
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1231	0.1232	0.39310004	0.39310004
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.13	-1.102	-1.4698527	-1.4700895
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.1369	1.1798	2.5563711	2.5555002
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.592	-0.58	-1.2838865	-1.2838375
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.4485	9.1585	15.67553	15.673851
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.7869	2.7512	5.8912562	5.8894509
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	9.1585	10.319	15.673852	15.671651
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.0031	8.4916	15.757474	15.755488
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.136	-1.085	-1.4109235	-1.410869
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.176	-0.176	-0.56309962	-0.56309938
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.176	-0.176	-0.5631	-0.56309962
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.151	-0.151	-0.48310004	-0.48310004
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.139	-0.139	-0.44310004	-0.44310004
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.151	-0.151	-0.48310004	-0.48310003
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.044	0.0441	0.14010002	0.14010002
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1201	0.1202	0.38310004	0.38310004
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1199	0.1199	0.38210004	0.38210004
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.0069	0.0069	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1193	0.1194	0.38010004	0.38010004
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0139	0.0139	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.4165	0.4166	0.24000003	0.24000002
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.7828	1.7861	1.1091201	1.1091259
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.1169	0.1172	0.23991739	0.23993612
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.8462	0.8504	0.48992864	0.48999499
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.6797	0.6798	0.79006683	0.79018363
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.9106	0.9009	1.8269718	1.8269567
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.8763	0.868	1.7769856	1.7772364
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4021	0.4018	0.82773775	0.82777064
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.3776	0.3774	0.77778525	0.77784377
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.1613	0.1611	0.08982901	0.08983902
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.2283	0.2302	0.13999999	0.14000002
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.995	-0.991	-1.2261199	-1.226049
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.004	-0.999	-1.2410464	-1.2409637
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.64	5.6925	18.990799	18.990811
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0843	0.0754	0.05000008	0.04999996
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6895	5.804	18.980811	18.980793
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.2897	0.2872	0.59348357	0.59350007
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0795	0.0787	0.01999945	0.02
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.2601	0.2623	0.53750006	0.53749956
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0876	0.0875	0.05000001	0.05
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.1098	0.11	0.08149995	0.08149995
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0965	0.0966	0.07149995	0.07149996
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0269	0.0268	0.00999999	0.01
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0594	0.0595	0.04399997	0.04399997
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0272	0.0271	0.00999999	0.00999999
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.0465	9.1482	11.432888	11.431838
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.8272	0.8259	0.93958965	0.93970358
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.282	-0.272	-0.58308457	-0.58300948
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.1475	1.1741	2.4855804	2.4857361
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.835	0.8349	0.06999897	0.06999923
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.7369	0.835	0.06992645	0.06999897
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.4666	6.6199	10.999208	10.999377
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.2302	0.2321	0.0299788	0.03
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.6019	6.7713	10.969399	10.96955
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	6.1544	6.1779	9.9702432	9.9702699
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.804	5.913	18.980793	18.980737
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.9916	6.1119	18.980683	18.980588
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	6.1119	6.3204	18.980588	18.980471
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	4.5636	4.5739	11.478533	11.478451
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75	0.7514	0.19097218	0.19098866
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0394	0.0394	0.00999954	0.01
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0335	0.0332	0.01996423	0.01996337
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0647	0.064	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	1.1458	1.1692	2.4258011	2.4263908
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.7512	8.3146	16.373675	16.370733
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.6169	0.6162	0.99930712	0.99958998
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1	0.1021	0.059935	0.06000003
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.151	-0.151	-0.48310003	-0.4831
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.176	-0.175	-0.56309938	-0.5630851
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.8134	2.7869	5.8930346	5.8912562
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0361	0.0361	0.01299999	0.01299999
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0361	0.0361	0.01299999	0.01299999
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0278	0.0278	0.00999999	0.00999999
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.913	5.9916	18.980737	18.980683
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	2.8874	2.9044	2.1809117	2.1811179
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.182	-1.164	-1.5760773	-1.5762576
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0247	0.0246	0.01499745	0.015
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0246	0.0245	0.015	0.015
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0245	0.0245	0.015	0.015
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0245	0.0245	0.015	0.015
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0	0	0	0
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.0961	0.0961	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0261	0.026	0.01499999	0.015
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.244	-0.244	-0.5	-0.5
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.017	-0.017	-0.02	-0.02
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.053	0.0527	0.02999969	0.02999999
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3557	0.3438	0.19988613	0.20000005
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8383	6.496	11.047942	11.049172
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0149	0.0153	0.00499583	0.005
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0459	0.0454	0.03399998	0.034
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.027	-0.027	-0.00999999	-0.00999999
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.038	-0.037	-0.01399999	-0.014
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0431	0.0432	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.6394	0.6723	0.10598788	0.10599299
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0351	0.0353	0.01999999	0.02
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0689	0.069	0.01	0.01
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0177	0.018	0.01	0.01
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0694	0.0694	0.01	0.01
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.7475	0.7479	0.18998871	0.18999126
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.9321	0.9328	1.1178721	1.1180008
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0002	0.0002	0.0001	0.0001
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.973	0.9762	0.14000002	0.14
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.017	-0.017	-0.00999851	-0.00999668
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0657	0.0657	0.00998195	0.00998196
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0332	0.0331	0.01996337	0.01996391
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9988	4.0163	10.018321	10.018174
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.606	-0.536	-0.09499775	-0.09499443
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.933	-0.848	-0.08000007	-0.07999977
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.1589	0.1776	0.01499996	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.139	-0.139	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32	-0.304	-0.09449516	-0.09449445
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.2186	0.2274	0.06449669	0.06449745
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22	-0.216	-0.059999	-0.05999821
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.2169	0.2211	0.06149757	0.06149817
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	1.7097	1.7254	1.1499233	1.1499236
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.5251	0.5343	0.089994	0.0899942
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.8982	0.9252	1.2499112	1.2499166
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9111	4.0858	9.7556966	9.7541511
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.752	-0.711	-0.21998404	-0.21998115
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.128	0.1462	0.02249807	0.02249972
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.0283	0.0293	0.01999986	0.01999987
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.2847	3.2051	10.522788	10.514235
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.0213	0.0213	0.002	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1548	0.1545	0.02	0.02
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0173	0.0174	0.01	0.01
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1299	0.1311	0.01999975	0.01999999
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.6401	0.6624	0.76988046	0.7699633
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	0	0	0	0
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.007	-0.007	-0.01999999	-0.02
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.2281	0.2279	0.06000003	0.06
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.0162	0.0162	0.00099994	0.001
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0381	0.0389	0.0059996	0.006
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.6343	0.6345	0.09999338	0.09999347
175	GSPL 23-[illegible]	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	0.1096	0.1098	0.08149776	0.08149995

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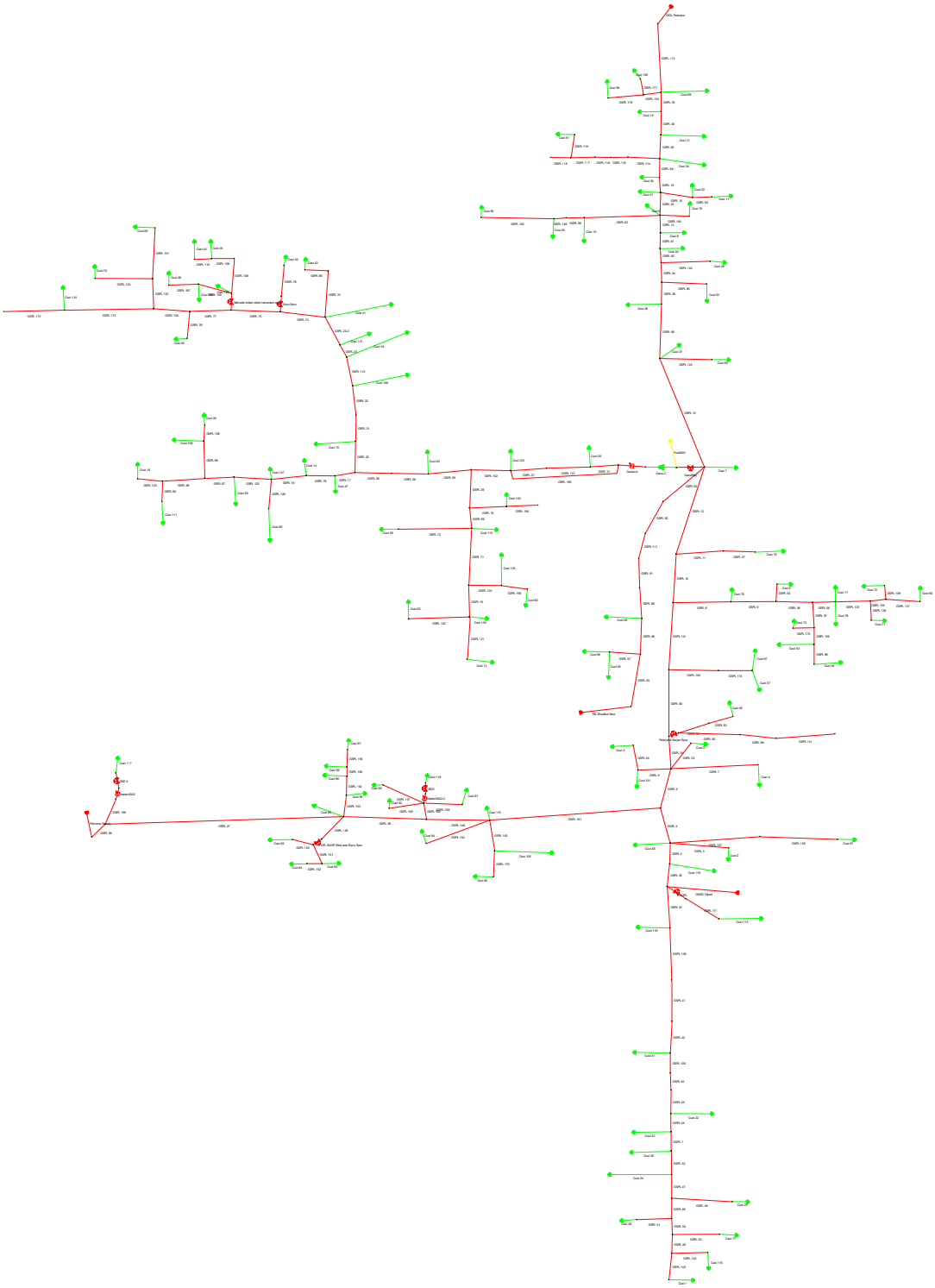
HP Network

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88

HP Network

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	94.52171	4.945095	0.2887	0.0507	0.0661	1.00E-04			0.1276
2	RGTIL	0.06719993	93.15391	5.432795	0.999399	0.1026	0.1216	0.0091	0.006	0.0095	0.0979
3	ONGC	0.03	99.63	0.21	0	0	0	0	0	0	0.13
4	GIGL	0.01007	83.94618	10.77163	3.025361	1.095591	0.651412	0.127917	0.077431	0.041147	0.253265

GSPL HP GAS GRID WITH COMP 19-20



Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.285751	94.5	55
2	Petronet Supply	9.8611021	85	5
3	ONGC Olpad	0.069	80.895658	22.340324
4	GLL	5.9655808	88	20
5	GIGL Palanpur	1.0724632	82	15.5556
	Total	**35.2538971**		

	Grid Capacity	**35.22**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	80.473	29.975
2	Cust 2	0.690	81.885	18.130
3	Cust 3	0.500	82.145	20.195
4	Cust 4	0.000	82.071	30.000
5	Cust 5	0.000	82.111	30.000
6	Cust 6	0.240	81.215	29.488
7	Cust 7	0.100	80.258	42.318
8	Cust 8	0.280	80.782	30.850
9	Cust 9	0.020	80.735	30.304
10	Cust 10	0.070	80.854	30.012
11	Cust 11	0.140	79.952	29.820
12	Cust 12	0.170	80.729	29.400
13	Cust 13	0.600	81.874	30.011
14	Cust 14	0.370	52.801	26.507
15	Cust 15	0.250	66.216	30.214
16	Cust 16	2.500	66.714	25.806
17	Cust 17	0.260	81.207	29.978
18	Cust 18	1.000	42.179	27.263
19	Cust 19	0.059	81.449	23.768
20	Cust 20	0.040	80.988	29.969
21	Cust 21	0.080	81.085	29.998
22	Cust 22	0.040	81.084	30.000
23	Cust 23	0.010	81.035	29.989
24	Cust 24	0.010	80.941	29.966
25	Cust 25	0.001	80.875	30.000
26	Cust 26	0.002	80.846	30.000
27	Cust 27	0.070	81.136	36.917
28	Cust 28	0.050	81.050	34.872
29	Cust 29	0.010	81.335	30.864
30	Cust 30	0.050	80.826	31.171
31	Cust 31	0.040	80.785	29.986
32	Cust 32	0.170	80.595	29.993
33	Cust 33	0.140	80.774	29.959
34	Cust 34	0.000	80.765	29.820
35	Cust 35	0.010	93.962	34.242
36	Cust 36	0.010	91.849	52.225
37	Cust 38	0.050	82.647	30.005
38	Cust 39	0.040	89.863	48.504
39	Cust 40	0.080	77.841	35.941
40	Cust 41	0.000	75.961	25.171
41	Cust 42	0.000	76.113	30.000
42	Cust 43	0.010	50.168	29.977
43	Cust 44	0.010	49.959	30.000
44	Cust 45	0.003	49.959	29.998
45	Cust 46	0.010	85.727	29.996
46	Cust 47	0.010	61.461	29.333
47	Cust 48	0.004	81.899	11.602
48	Cust 49	0.070	48.785	29.930
49	Cust 50	0.020	43.631	30.011
50	Cust 52	0.940	80.831	31.934
51	Cust 53	0.180	81.307	29.935
52	Cust 54	0.010	81.283	30.000
53	Cust 55	0.010	81.718	30.002
54	Cust 56	0.002	50.593	29.999
55	Cust 57	0.050	82.521	30.024
56	Cust 58	0.006	80.841	29.996
57	Cust 59	0.050	44.495	25.074
58	Cust 60	0.006	81.804	30.003
59	Cust 61	0.015	81.765	30.004
60	Cust 62	0.010	81.843	29.999
61	Cust 63	0.020	82.209	30.002
62	Cust 64	0.010	79.760	29.997
63	Cust 65	0.200	81.405	30.022
64	Cust 66	0.005	50.506	29.999
65	Cust 67	0.000	81.817	30.000
66	Cust 69	0.010	86.818	29.999
67	Cust 70	0.004	86.858	29.998
68	Cust 71	0.010	81.561	29.995
69	Cust 72	0.010	81.125	29.999
70	Cust 73	0.001	81.339	30.000
71	Cust 75	1.120	80.728	30.018
72	Cust 76	0.790	81.606	29.994
73	Cust 77	0.240	80.737	29.988
74	Cust 78	0.150	81.207	29.978
75	Cust 79	0.540	81.178	28.459
76	Cust 80	0.010	81.717	30.000
77	Cust 82	0.080	48.941	26.631
78	Cust 83	0.010	49.000	29.968
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.213	5.956
81	Cust 86	0.003	84.209	19.691
82	Cust 87	0.060	84.367	26.272
83	Cust 89	0.002	84.210	22.815
84	Cust 90	0.000	84.745	30.000
85	Cust 91	0.500	84.790	18.185
86	Cust 92	0.090	84.228	16.317
87	Cust 93	0.030	84.212	13.562
88	Cust 94	0.220	84.654	16.001
89	Cust 95	0.020	84.647	29.926
90	Cust 96	0.040	93.962	34.242
91	Cust 97	0.010	82.521	30.024
92	Cust 98	0.000	81.846	18.944
93	Cust 100	0.020	82.664	30.054
94	Cust 101	0.010	82.095	19.585
95	Cust 102	0.100	80.978	26.149
96	Cust 103	0.005	82.324	30.011
97	Cust 104	0.004	50.581	28.948
98	Cust 105	0.003	84.606	28.318
99	Cust 106	2.500	66.033	27.832
100	Cust 107	0.010	50.873	26.376
101	Cust 108	0.010	43.574	30.025
102	Cust 109	0.003	81.864	30.010
103	Cust 110	0.006	82.560	30.148
104	Cust 111	12.066	41.500	24.327
105	Cust 112	0.020	83.883	6.408
106	Cust 113	0.770	80.617	27.893
107	Cust 114	0.120	87.378	22.747
108	Cust 115	0.000	80.706	30.000
109	Cust 116	0.020	80.986	28.897
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.100	80.900	17.557
113	Cust 121	1.490	68.619	25.019
114	Cust 122	0.030	87.752	40.756
115	Cust 123	0.009	50.000	9.512
	Total	**35.221684**		

Note: 1) Limiting pressure at Jamnagar 41.5 barg

2) Following Exit Points are clubbed together to GGL Occhan: JCT, Cosmo Karjan, GGL Palej, GGL Kandari and Steelco.

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.032216669	79.25819	41.95443	2.7612962

3) Gala, ISC and SNF exit points are added to the network.
4) Gana Compressor is compressing gas towards Jamnagar end.

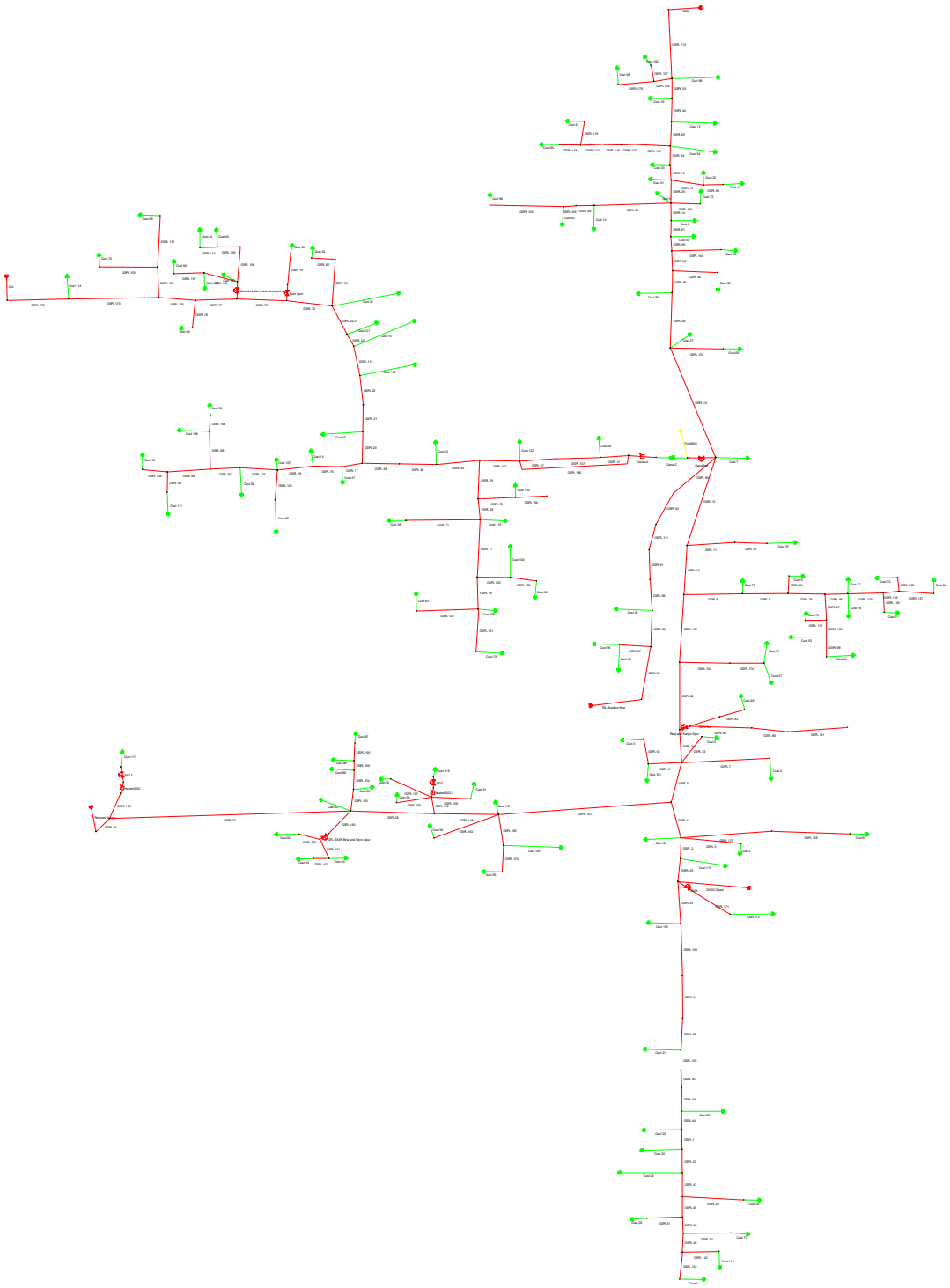
HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	95.2475	3.859496	0.382	0.0702	0.1074	2.40E-03	0	0	0.331
2	RGTIL	0	89.6655	8.9608	0.8916	0.1365	0.144	0.0024	0	0	0.1992
3	ONGC	0.1724	97.9225	0.2301	0.0057	0.0006	0	0	0.001	0	1.6677
4	Mundra LNG	0	94.17681	5.225295	0.4531	0.0554	0.0528	0.0046	0.0025	0.0006	0.0289
5	GIGL Palanpur	0.007785	83.970456	10.72639	3.059222	1.10831	0.60668	0.138219	0.086599	0.050985	0.245354

GSPL HP GAS GRID WITH COMP 20-21



HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	Gana -node	339
172	mundraLNG	7
173	Node2115	73.748619
174	Rochling Cst node	139.439
175	IRM node	190
176	IRM cst node	190.15
177	Node0193	339
178	Node0091-4	339
179	Node2153	339
180	Node2161	120.8879
181	Node2166	109.19
182	Node2169	109.19
183	Node2170	103.1
184	Node2176	109.19
185	Node2177	117.645
186	Node2183	155.2
187	Node2186	165.5

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	95.2475	3.859496	0.382	0.0702	0.1074	2.40E-03	0	0	0.331
2	RGTIL	0	89.6655	8.9608	0.8916	0.1365	0.144	0.0024	0	0	0.1992
3	ONGC	0.1724	97.9225	0.2301	0.0057	0.0006	0	0	0.001	0	1.6677
4	Mundra LNG	0	94.17681	5.225295	0.4531	0.0554	0.0528	0.0046	0.0025	0.0006	0.0289
5	GIGL Palanpur	0.007785	83.970456	10.72639	3.059222	1.10831	0.60668	0.138219	0.086599	0.050985	0.245354

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.558387	94.5	55.0
2	Petronet Supply	9.9894781	85.0	5.0
3	ONGC Olpad	0.069	80.4	21.2
4	GLL	6.1065731	88.0	20.0
5	GIGL	0.51494503	82.0	15.6
	Total	**35.23838323**		

	Grid Capacity	**35.21**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	79.946	29.976
2	Cust 2	0.690	81.641	18.096
3	Cust 3	0.720	82.051	20.950
4	Cust 4	0.000	81.992	30.000
5	Cust 5	0.000	82.032	30.000
6	Cust 6	0.340	81.318	29.764
7	Cust 7	0.100	80.543	42.150
8	Cust 8	0.280	81.214	30.169
9	Cust 9	0.020	81.184	30.022
10	Cust 10	0.070	81.288	30.009
11	Cust 11	0.148	80.478	29.851
12	Cust 12	0.170	81.042	29.948
13	Cust 13	1.200	78.775	30.009
14	Cust 14	0.370	51.953	26.608
15	Cust 15	0.250	64.765	30.020
16	Cust 16	2.500	65.435	25.471
17	Cust 17	0.260	81.305	29.986
18	Cust 18	1.000	42.121	27.813
19	Cust 19	0.059	81.545	27.848
20	Cust 20	0.040	80.454	29.970
21	Cust 21	0.080	80.549	29.998
22	Cust 22	0.040	80.547	30.000
23	Cust 23	0.010	80.500	29.989
24	Cust 24	0.010	80.408	29.967
25	Cust 25	0.001	80.344	30.000
26	Cust 26	0.002	80.316	30.000
27	Cust 27	0.070	81.422	35.382
28	Cust 28	0.050	81.375	33.285
29	Cust 29	0.010	81.706	30.398
30	Cust 30	0.050	81.245	30.320
31	Cust 31	0.042	81.222	30.023
32	Cust 32	0.179	81.038	29.995
33	Cust 33	0.140	81.196	30.009
34	Cust 34	0.000	81.132	30.013
35	Cust 35	0.010	93.907	33.694
36	Cust 36	0.010	91.890	52.134
37	Cust 38	0.050	79.660	30.004
38	Cust 39	0.040	87.084	46.024
39	Cust 40	0.080	75.395	34.477
40	Cust 41	0.000	75.431	25.009
41	Cust 42	0.000	75.581	30.000
42	Cust 43	0.010	50.167	29.978
43	Cust 44	0.010	49.959	30.000
44	Cust 45	0.003	49.959	29.998
45	Cust 46	0.010	85.675	29.996
46	Cust 47	0.010	60.162	28.901
47	Cust 48	0.004	81.656	11.345
48	Cust 49	0.070	48.787	29.944
49	Cust 50	0.020	43.451	30.010
50	Cust 52	0.940	81.224	30.968
51	Cust 53	0.180	81.405	29.981
52	Cust 54	0.010	81.381	30.000
53	Cust 55	0.010	82.055	30.002
54	Cust 56	0.002	50.588	29.999
55	Cust 57	0.050	82.544	30.023
56	Cust 58	0.006	80.885	29.997
57	Cust 59	0.050	44.246	25.731
58	Cust 60	0.006	82.171	30.003
59	Cust 61	0.015	82.132	30.004
60	Cust 62	0.010	78.925	29.999
61	Cust 63	0.020	79.077	30.002
62	Cust 64	0.010	79.885	29.997
63	Cust 65	0.200	81.662	30.019
64	Cust 66	0.005	49.818	29.999
65	Cust 67	0.000	81.576	30.000
66	Cust 69	0.010	86.812	29.999
67	Cust 70	0.004	86.852	29.998
68	Cust 71	0.010	81.652	29.995
69	Cust 72	0.010	81.225	29.999
70	Cust 73	0.001	81.436	30.000
71	Cust 75	0.000	81.184	30.000
72	Cust 76	0.790	81.710	30.461
73	Cust 77	0.240	80.209	29.989
74	Cust 78	0.150	81.305	29.986
75	Cust 79	0.630	81.285	29.367
76	Cust 80	0.010	82.054	30.000
77	Cust 82	0.080	48.941	26.801
78	Cust 83	0.010	49.000	29.970
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.197	5.976
81	Cust 86	0.003	84.193	19.918
82	Cust 87	0.060	84.347	26.435
83	Cust 89	0.002	84.194	23.033
84	Cust 90	0.000	84.712	30.000
85	Cust 91	0.300	84.753	22.041
86	Cust 92	0.090	84.202	18.881
87	Cust 93	0.030	84.196	13.741
88	Cust 94	0.220	84.607	16.187
89	Cust 95	0.020	84.601	29.932
90	Cust 96	0.040	93.907	33.694
91	Cust 97	0.010	82.544	30.023
92	Cust 98	0.000	81.879	21.734
93	Cust 100	0.020	79.745	30.047
94	Cust 101	0.010	82.006	20.537
95	Cust 102	0.100	81.020	27.103
96	Cust 103	0.005	79.343	30.009
97	Cust 104	0.004	50.577	28.969
98	Cust 105	0.003	84.561	28.388
99	Cust 106	2.499	64.672	27.005
100	Cust 107	0.010	50.148	26.623
101	Cust 108	0.010	43.398	30.022

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.026351085	79.54348	41.82085	1.9640461

102	Cust 109	0.003	78.778	30.007
103	Cust 110	0.006	79.585	30.282
104	Cust 111	11.778	41.500	25.160
105	Cust 112	0.020	83.854	6.427
106	Cust 113	1.000	80.293	26.885
107	Cust 114	0.120	87.376	22.714
108	Cust 115	0.000	80.179	30.000
109	Cust 116	0.020	80.453	28.783
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.610	80.374	16.800
113	Cust 121	1.320	67.671	24.792
114	Cust 122	0.030	84.973	38.845
115	Cust 123	0.009	50.000	9.696
	Total	**35.21203121**		

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13672419	-0.1367	-0.4330992	-0.4330992
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.790456	-2.6488	-6.1223167	-6.1215476
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.53011983	0.55311	0.68971243	0.6898163
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.9525689	-2.89	-6.8152584	-6.8149473
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0.978638	1.04642	2.2983149	2.2943491
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.196453	1.20207	0.72840339	0.72851165
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.77362874	0.77479	1.599099	1.5994704
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.47271268	0.47339	0.9700723	0.97053456
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.078638646	-0.0799	-0.16199089	-0.16159716
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.69361067	0.68304	0.78801556	0.78952392
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.46937367	-0.4967	-0.94961273	-0.95200548
13	GSPL 13	Node2153	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0747986	1.02557	2.0600336	2.0566718
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.22376018	0.22375	0.45983142	0.45998032
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.52217562	0.52343	0.30328323	0.30330736
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.015194459	-0.0152	-0.01894654	-0.01894629
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.2287261	8.8559	13.274743	13.269856
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.3706535	6.61491	12.881588	12.878622
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61003734	0.61154	1.2225197	1.2225006
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.71238939	0.71116	0.64452333	0.64360888
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.43485878	0.43849	0.39355456	0.39342782
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.43848848	0.43581	0.39342782	0.39349126
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.8898223	-4.6952	-4.6090405	-4.6089576
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.39099079	0.38935	0.79911026	0.79942705
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.17024582	0.17017	0.34999233	0.35000945
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0870012	1.0871	0.63069753	0.63085966
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	4.0364213	4.10006	9.9693313	9.9682737
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9453252	3.95955	9.7787966	9.7785493
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.67555128	0.65728	1.317381	1.3140503
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5441618	5.58915	18.558387	18.558537
31	GSPL 31	Gana -node	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.7671375	2.70471	5.5519202	5.5477048
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12409669	0.12417	0.39309927	0.39309928
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.31984133	-0.3051	-0.40623467	-0.40642181
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.71489343	0.74042	1.5659457	1.5657911
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.7031209	-0.6899	-1.5137674	-1.5136591
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.4899359	7.94142	13.932661	13.926488
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6587117	2.62264	5.5034806	5.4943556
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.9414222	8.62825	13.926488	13.919267
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.1983967	7.53305	14.017791	14.012869
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.2813596	-0.2737	-0.34986759	-0.34762572
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17753872	-0.1775	-0.56309859	-0.56309837
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17756127	-0.1775	-0.56309891	-0.56309859
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15234047	-0.1523	-0.48309909	-0.48309909
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.13980829	-0.1397	-0.44309918	-0.44309917
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15233921	-0.1523	-0.48309909	-0.48309909
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.044364558	0.04439	0.14009974	0.14009974
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12101299	0.12113	0.3830993	0.3830993
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.12081707	0.12086	0.3820993	0.3820993
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.006989037	0.00699	0.000999998	0.000999998
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1202252	0.12036	0.3800993	0.38009931
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.013982787	0.01398	0.001999996	0.001999996
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.41969721	0.41984	0.23999956	0.23999955
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	1.1856028	1.18786	0.71853204	0.71858687
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.16576096	0.16589	0.33983702	0.33986195
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.75803828	0.75987	0.43990214	0.4399676
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.68304025	0.68094	0.78952392	0.78980468
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.89115394	0.88212	1.787112	1.7871149
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.85748422	0.85039	1.7371963	1.7380289
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.38448448	0.38434	0.7894346	0.78952678
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.36001706	0.35995	0.73955866	0.7397102
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.16745656	0.16723	0.089990171	0.089999986
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.23638894	0.23804	0.13697752	0.13700092
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.12752695	-0.1276	-0.15895105	-0.15894635
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.14450841	-0.1446	-0.17994646	-0.17990541
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5740915	5.61903	18.508537	18.508645
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.085445369	0.07671	0.050000406	0.050000008
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.6159895	5.7139	18.498644	18.498765
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.64727517	0.64088	1.2940419	1.2935755
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.08149117	0.0804	0.020008379	0.020000036
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	0.61313381	0.61752	1.2375723	1.2375199
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.089722246	0.08949	0.05000292	0.049999961
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.3628297	-5.0841	-5.9289434	-5.9283015
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0	0	0	0
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-5.0927264	-4.8303	-5.938307	-5.9375267
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.026451975	0.02886	0.010001064	0.010000002
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.8526338	-4.6926	-5.9650381	-5.9644277
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.015840821	0.01627	0.01000311	0.010000009
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	8.8492206	10.2414	13.259844	13.251834
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.82815559	0.8273	0.93891861	0.93922082
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.28443686	-0.273	-0.58308292	-0.58297808
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.70739503	0.71867	1.4959511	1.4970994
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.83995973	0.83983	0.069999165	0.069999381
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.76148939	0.83996	0.069846912	0.069999165
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0	0	0	0
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.483665	7.70127	12.806974	12.805901
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.23018412	0.23269	0.029995011	0.030000001
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	7.6832308	7.93069	12.775906	12.774771
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	7.3100435	7.34318	11.775026	11.774896
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.7139002	5.80735	18.498765	18.498767
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.874627	5.97752	18.498724	18.498608
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.977518	6.15919	18.498608	18.498413
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	4.0360801	4.04452	9.9894781	9.989331
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0	0	0	0
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74814962	0.74864	0.19095752	0.19097543
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.039209533	0.03923	0.009998857	0.00999934
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0348188	0.03455	0.019999997	0.019999998
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.06288154	0.06838	0.006001226	0.006000075
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	0.68990951	0.6987	1.4371906	1.4381444
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.4119751	7.8749	15.342128	15.335172
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.62065076	0.6211	0.99974489	0.99985457
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.10157822	0.10188	0.05990881	0.060000007
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.15233779	-0.1523	-0.48309909	-0.48309907
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.17752663	-0.1766	-0.56309837	-0.5630835
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.68511	2.65871	5.507496	5.5034806
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.035068497	0.0388	0.013002656	0.013000019
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.03880014	0.03882	0.013000019	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0298649	0.02987	0.01	0.01
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.8073456	5.87463	18.498767	18.498724
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.2708172	-2.2308	-2.1067951	-2.1068869
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.38416469	-0.3681	-0.51176777	-0.51494503
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034389018	0.03405	0.021000107	0.020999999
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034045986	0.03396	0.020999999	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.033958197	0.0339	0.021	0.020999999
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0338958	0.0339	0.020999999	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.009686562	0.00968	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.094993208	0.09499	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.026723653	0.02658	0.015000242	0.01499999
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.60030769	-0.6003	-1.2000006	-1.2000005
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.017799925	-0.0179	-0.01999998	-0.02000001
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.052694321	0.05241	0.029997791	0.029998003
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.35555132	0.34517	0.1996739	0.20000002
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.607205	7.51288	12.863615	12.85697
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.014517071	0.01484	0.005002172	0.005
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0	0	0	0
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.6915062	-4.5913	-5.9744308	-5.9741605
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.015908577	-0.0159	-0.01	-0.01
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.022213887	-0.0215	-0.014	-0.01400372
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.025459328	0.02551	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.6362891	0.67157	0.10534596	0.1057822
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034937437	0.03515	0.019998669	0.019998682
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.06857761	0.06864	0.009999334	0.009999339
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.017573546	0.01791	0.009999341	0.009999351
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.069024646	0.06907	0.009999341	0.009999341
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.74472411	0.74498	0.18997556	0.18997829
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0	0	0	0
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0	0	0	0
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.000174992	0.00018	1.00E-04	1.00E-04
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.98058318	0.98371	0.13999974	0.13999972
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.017179478	-0.0173	-0.00999674	-0.00999246
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.068360273	0.06836	0.01	0.01
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.034549494	0.03446	0.019999998	0.02
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7976003	3.81355	9.3786077	9.3783412
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.61189611	-0.5441	-0.09499743	-0.09498852
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.94008514	-0.8584	-0.0800001	-0.08000065
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.16094976	0.1786	0.015000121	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.13970806	-0.1397	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.32459991	-0.3082	-0.0944921	-0.09448858
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.22155232	0.23019	0.064494609	0.064496705
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.22192982	-0.2181	-0.05999895	-0.05999792
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.21948111	0.22355	0.061496858	0.061497871
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0	0	0	0
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.47093283	0.48145	0.29997532	0.2999846
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.55444933	0.5603	0.089992597	0.089993714
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.29156708	0.31262	0.39994156	0.3999671
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	3.7068257	3.86461	9.1158871	9.1132622
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.76144487	-0.7214	-0.21997633	-0.21996161
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.12986363	0.14734	0.022496074	0.022499725
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0	0	0	0
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.028714164	0.02981	0.019999706	0.019999764
163	GSPL 166	Gana -node	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	3.1541358	3.0707	9.89996	9.8778712
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.02279364	0.0229	0.002000025	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.15512437	0.15492	0.020000001	0.02
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.01772111	0.01782	0.009999993	0.009999991
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.13097141	0.13202	0.019999756	0.01999999
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.83557567	0.86351	0.99979091	0.99992782
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1314727	1.16002	6.1065731	6.1076907
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	1.1372229	1.15561	5.9876688	5.9881642
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.22764502	0.22743	0.060000007	0.059999998
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.016150714	0.01615	0.000999871	0.000999934
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.038013155	0.03892	0.005987672	0.005999998
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.63355258	0.63382	0.099794525	0.099798225
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-6.0410374	-5.3628	-5.9300709	-5.9289434

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		95
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88
5	GIGL	20		82

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	96.951736	1.865636	0.50246	0.072531	0.105821	4.99E-03	0.001809	0	0.495043
2	RGTIL	0.12598	97.319995	1.82133	0.28304	0.0474	0.04556	0.01162	0.003325	0.0348	0.30695
3	ONGC	0.1724	97.9225	0.2301	0.0057	0.0006	0	0	0.001	0	1.6677
4	Mundra LNG	0	95.5093	3.4214	0.6782	0.2079	0.1355	0.0103	0.0026	0	0.0349
5	GIGL Palanpur	0.009119	84.157841	10.68499	2.996303	1.039879	0.587839	0.140012	0.087694	0.050885	0.245437

COMPRESSOR PERFORMANCE (GANA):

```
Compressor No.=   1                              Family = C45
Case(kcx) 30, Type 0 Operation                   Driven End= suction
EOS used= REDLICH-KWONG(components input)        Seals= Dry Gas
Reynolds Correction: 3rd_Gen  Mach: First        Driver= Mars 90
```

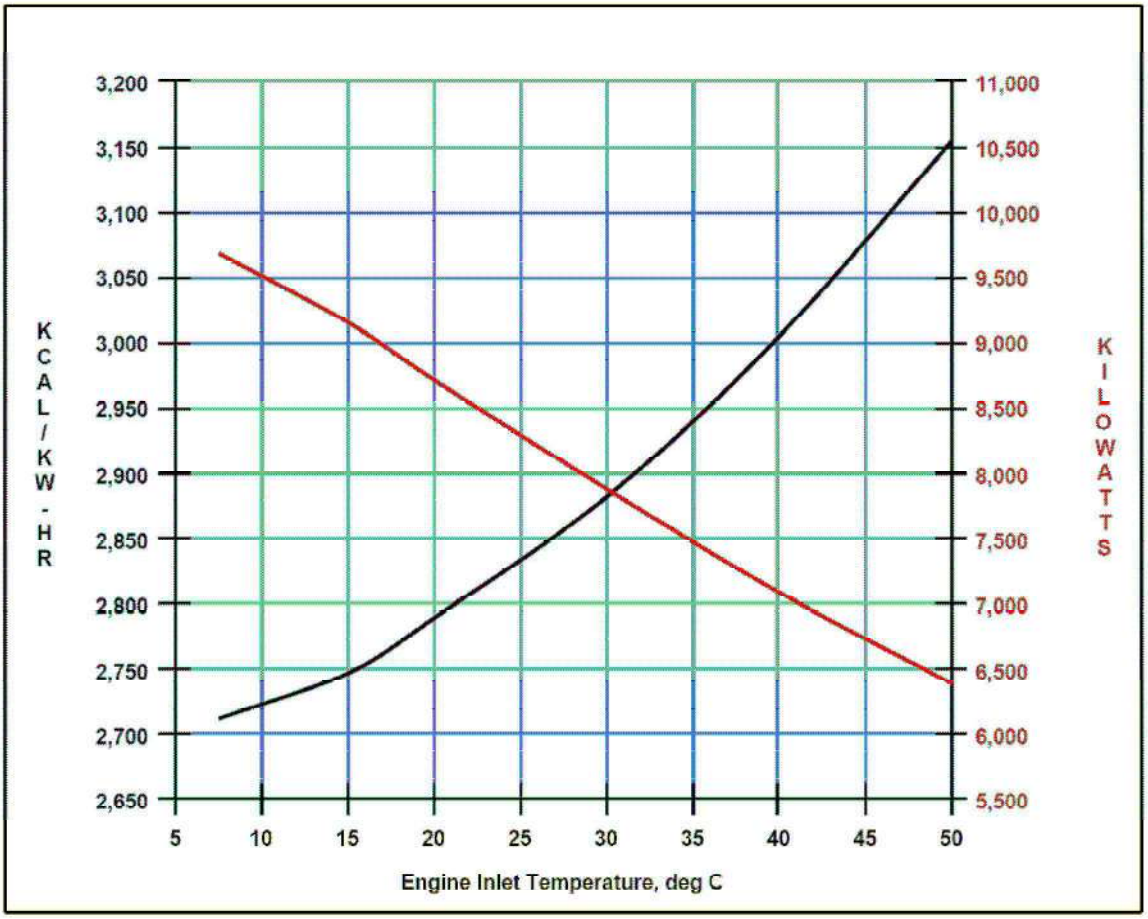
Oper Case	Light Gas			Gana Gas			
	Rated	Normal	Min	Rated	Normal	Min	
P1	71.01	71.01	71.01	71.01	71.01	71.01	Bara
P2	96.07	96.07	96.07	96.07	96.07	96.07	Bara
HEAD, ISEN	4477.4	3995.7	3995.7	4124.9	3652.5	3652.5	m-kgf/kgm
HEAD, POLY	4504.3	4022.6	4023.9	4148.9	3676.1	3677.5	m-kgf/kgm
INLET FLOW	7888.42	6101.78	5724.11	7722.72	5925.09	5474.81	m^3/hr
STANDARD FLOW	14150.00	12300.00	11538.70	14150.00	12300.00	11365.26	sm^3/day-e3
MASS FLOW	111.79	97.17	91.16	118.64	103.13	95.29	kg/sec
POWER	5795.	4550.	4301.	5660.	4403.	4105.	kW
SPEED	8015.	7330.	7271.	7719.	7020.	6949.	rpm
PRESS. RATIO	1.353	1.353	1.353	1.353	1.353	1.353	
T1	30.0	8.3	8.3	30.0	8.3	8.3	Deg C
T2	56.3	33.6	33.8	55.5	32.8	33.0	Deg C
EFF, ISEN	85.6	84.6	83.9	85.7	84.8	84.0	percent
EFF, POLY	86.1	85.1	84.5	86.2	85.3	84.6	percent
SURGE MARGIN	27.5	14.8	10.0	28.5	15.9	10.0	percent
TURNDOWN	31.8	16.8	11.4	33.2	18.1	11.4	
SPEC. GRAVITY	0.5574	0.5574	0.5574	0.5916	0.5916	0.5916	
K1	1.305	1.319	1.319	1.291	1.304	1.304	
K2	1.290	1.303	1.303	1.276	1.289	1.289	
PCP	673.8	673.8	673.8	674.8	674.8	674.8	psia
PCT	344.5	344.5	344.5	358.6	358.6	358.6	Deg R
Z1	0.8913	0.8541	0.8541	0.8726	0.8294	0.8294	
Z2	0.9046	0.8708	0.8710	0.8855	0.8460	0.8463	
K - 50 DEG F	1.318	1.318	1.318	1.303	1.303	1.303	
K - 300 DEG F	1.246	1.246	1.246	1.233	1.233	1.233	
API Output:							
Molecular Wt.	16.144	16.144	16.144	17.134	17.134	17.134	
Gas Components (Mol.%):							
2-C1H4	99.4987	99.4987	99.4987	94.6319	94.6319	94.6319	Methane
3-C2H6	0.1046	0.1046	0.1046	3.2221	3.2221	3.2221	Ethane
4-C3H8	0.0142	0.0142	0.0142	1.2808	1.2808	1.2808	Propane
5-IC4H10	0.0000	0.0000	0.0000	0.2101	0.2101	0.2101	I-Butane
6-NC4H10	0.0000	0.0000	0.0000	0.3032	0.3032	0.3032	N-Butane
7-IC5H12	0.0000	0.0000	0.0000	0.0200	0.0200	0.0200	I-Pentane
10-C6H14	0.0000	0.0000	0.0000	0.0006	0.0006	0.0006	N-Hexane
46-N2	0.1532	0.1532	0.1532	0.2502	0.2502	0.2502	Nitrogen
49-CO2	0.2293	0.2293	0.2293	0.0801	0.0801	0.0801	Carbon Dioxide
61-H20	0.0000	0.0000	0.0000	0.0010	0.0010	0.0010	Water

ENGINE CURVE AT FULL LOAD OPTIMUM SPEED (GANA):

Elevation	metres	36
Relative Humidity	%	64
Inlet Loss	mmH2O	100
Exhaust Loss	mmH2O	250

MARS 90S
CS/MD

GAS FUEL			CUSTOMER GAS FUEL
LHV	kJ/Std.m3	33834.8	TME-2S REV. 2.1
SG		0.5574	
W.I. @15.56C	kJ/Std.m3	45321.1	



ENGINE PERFORMANCE AT FULL LOAD (GANA):

MARS 90S
CS
GAS
TME-2S REV. 2.1

DATA FOR PERFORMANCE

Fuel Type		CHOICE GAS		
Elevation	metres	36		
Inlet Loss	mm H2O	100.0		
Exhaust Loss	mm H2O	250.0		
Engine Inlet Temp.	deg C	7.5	36.1	44.5
Relative Humidity	%	33.0	90.0	64.0
Driven Equipment Speed	RPM	8752	8403	8279
Optimum Equipment Speed	RPM	8752	8403	8279
Gas Generator Speed	RPM	11155	11168	11165
Specified Load	kW	FULL	FULL	FULL
Net Output Power	kW	9671	7324	6767
Fuel Flow	kcal/sec IT	7279.77	6039.82	5764.24
Heat Rate	kcal/kW-hr	2710	2969	3066
Inlet Air Flow	kg/hr	145584	120770	114737
Engine Exhaust Flow	kg/hr	147316	122207	116111
PCD	barG	15.8	13.1	12.5
Compensated PTIT	deg C	691	688	691
PT Exit Temperature	deg C	465	497	511
Exhaust Temperature	deg C	465	497	511

FUEL GAS COMPOSITION (VOLUME PERCENT)
LHV (kcal/Nm3) = 8522.6 SG = 0.5574 W.I. @15C (Btu/Scf) = 1214.6
W.I. @15C (kcal/Nm3) = 11415.9

Methane (CH4)	=	99.4985
Ethane (C2H6)	=	0.1046
Propane (C3H8)	=	0.0142
Hexane (C6H14)	=	0.0001
Carbon Dioxide (CO2)	=	0.2293
Nitrogen (N2)	=	0.1532

4 DATASHEETS

4.1 API DATASHEETS

4.1.1 API 616

Solar Turbines
A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
PURCHASE ORDER NO. TBD
SPECIFICATION NO.
REVISION NO. 00 DATE 3/21/2012
PAGE 1 OF 10 BY

1 APPLICABLE TO: (X) PROPOSAL ( ) PURCHASE ( ) AS BUILT
2 FOR Purchaser Company Name UNIT
3 SITE SERIAL NUMBER TBD
4 SERVICE NUMBER REQUIRED
5 (X) CONTINUOUS ( ) INTERMITTENT ( ) STANDBY DRIVEN EQUIPMENT
6 MANUFACTURER Solar Turbines [X] MODEL MARS 90S ISO RATING (3.17) 9860 kW, 13220 hp @ See line 11 RPM
7 NOTE: INFORMATION TO BE COMPLETED: ( ) BY PURCHASER [ ] BY MANUFACTURER [O] BY MFR IF NOT BY PURCHASER
8 **GENERAL**
9 CYCLE: ( ) REGEN (X) SIMPLE ( ) EXHAUST HEAT RECOVERY TYPE: [O] SINGLE SHAFT [X] MULTI SHAFT
10 DRIVEN EQUIPMENT: NORMAL SHAFT, kW ____ @ ____ RPM RATED SHAFT, kW ____ @ ____ RPM
11 OUTPUT SHAFT SPEED RANGE (4.1.5) [X] MIN 4000 [X] MAX 9500 RPM
12 ( ) DESIRED MINIMUM SITE POWER ____ kW @ ____ RPM
13 OPERATION ( ) ATTENDED ( ) UNATTENDED [X] POTENTIAL MAXIMUM POWER (3.33) See line 22 kW
14 **PREDICTED PERFORMANCE**
15 Please refer to
16 Section 3 of Proposal
17
18
19
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37 APPLICABLE SPECIFICATIONS:
38 ( ) API 616 GAS TURBINES FOR THE PETROLEUM, CHEMICAL
39 & GAS INDUSTRY SERVICES
40 ( ) GOVERNING SPECIFICATION (IF DIFFERENT)
41
42 (X) VENDOR HAVING UNIT RESPONSIBILITY (4.1.2) Solar
43
44 SHIPMENT: (6.4)
45 ( ) DOMESTIC ( ) EXPORT ( ) EXPORT BOXING REQUIRED
46 ( ) OUTDOOR STORAGE MORE THAN 6 MONTHS (6.4.1)
47 ( ) SPARE ROTOR ASSEMBLY PACKAGED FOR (6.4.3.10) N/A
48 ( ) DOMESTIC ( ) EXPORT ( ) SHIPMENT
49 COMMENTS:
50

LOCATION (4.1.16)
( ) INDOOR (X) OUTDOOR (X) GRADE
( ) HEATED ( ) UNDER ROOF ( ) MEZZANINE
( ) UNHEATED (X) PARTIAL SIDES ( )
ELECRICAL AREA CLASSIFICATION (4.1.14)
( ) NON-HAZARDOUS (X) HAZARDOUS
APPLICABLE CODE: ( ) NEC 500 ( ) NEC 505 ( ) IEC
CLASS: ____ GROUP: IIA TEMP CODE: ____
AREA CLASSIFICATION: ( ) DIVISION ____ (X) ZONE 2
( ) THIRD PARTY CERTIFICATION REQUIRED (Note 2)
( ) WINTERIZATION REQUIRED
( ) TROPICALIZATION REQUIRED (5.4.6.6)
UNUSUAL CONDITIONS: ( ) DUST ( ) FUMES
( ) CORROSIVE AGENTS (4.10.1.1)
( ) OTHER (5.5.34)
NOISE SPECIFICATIONS: (4.1.10) (Note 1)
( ) APPLICABLE TO MACHINE: (5.7.4.1)
SEE SPECIFICATION
( ) APPLICABLE TO NEIGHBORHOOD: (5.7.4.2)
SEE SPECIFICATION

PAINTING:
(X) MANUFACTURER'S STANDARD
( ) OTHER

NOTE: All Data Sheets References to GG=Gas Generator
SS = Single Shaft and PT = Power Turbine
REMARKS:
Note 1: 85 dBA @ 1 m, Refer to proposal
Note 2: N/A - Not Applicable

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Solar Turbines
A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 03/21/12
PAGE 2 OF 10 BY

FUEL SYSTEM (5.8)

TYPE ⊗ GAS (5.8.2) ○ LIQUID (5.8.3) ○ DUAL (5.8.1.5.1)
DUAL SYSTEM REQMTS (5.8.1.5.1) ○ GAS/GAS ○ GAS/LIQUID ○ LIQUID/LIQUID
○ COMPLETE FUEL RECEIVING SYSTEM (5.8.1.1) ○ MAX. TIME ALLOWED TO COMPLETE TRANSFER _____ SECONDS

GAS FUELS (5.8.2)	LIQUID FUELS (5.8.3)
Please refer to Section 3 of Proposal	Not applicable

REMARKS:
Note 1: If C6+ is greater than 0.3%, must specify C7 through C14.
Note 2: At least 28°C above fuel dewpoint (per ES 9-98).
Note 3: Please refer to Mechanical Installation Drawings.

FUEL SYSTEM PIPING

○ BY PASS AND VENT VALVE (3.7.1.3) ☐ ISOLATION BLOCK VALVES ○ ANSI FLANGE RATING _____
○ TWIN Y-TYPE STRAINER WITH CONTINUOUS FLOW ☐ NACE MATERIAL STANDARDS (4.10.1.8)
○ TRANSFER VALVE (5.8.1.2.4)

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MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 3 OF 10 BY 0

1 *Gas Producer Rotor — CONSTRUCTION FEATURES (NOTE 1)

2 [X] SPEEDS:
3 MAX. CONT. ____ RPM TRIP 11319 RPM
4 [X] LATERAL CRITICAL SPEEDS (DAMPED)
5 FIRST CRITICAL 3032 RPM Critically damped MODE
6 SECOND CRITICAL 4650 RPM Critically damped MODE
7 THIRD CRITICAL 10,385 RPM Critically damped MODE
8 FOURTH CRITICAL - RPM - MODE
9 [ ] PROTOTYPE OR MODIFIED ROTOR SUPPORT (4.7.3.5)
10 ○ TRAIN LATERAL ANALYSIS REQUIRED (D.1.3)
11 ○ TRAIN TORSIONAL ANALYSIS REQUIRED (2.7.4.5)
12 [ ] TORSIONAL CRITICAL SPEEDS:
13 FIRST CRITICAL Note 1 RPM
14 SECOND CRITICAL Note 1 RPM
15 THIRD CRITICAL Note 1 RPM
16 FOURTH CRITICAL Note 1 RPM
17 VIBRATION: (4.7.4.5) (7.2.3 o)
18 [X] ALLOWABLE TEST LEVEL SHAFT 50.8 std 26.3 API w/ SER MIC P/P
19 CASE ____ mm/SEC
20 [X] ROTATION, VIEWED FROM DRIVE END ⊗ CW ○ CCW
21 AIR COMPRESSOR:
22 STAGES 15 MAX. TIP SPEED 355 m/SEC
23 TYPE Axial PRESSURE RATIO 16.4:1
24 CASING SPLIT (2.2.3) ⊗ AXIAL ○ RADIAL
25 ROTOR [ ] SOLID [X] BUILT UP
26 TURBINE:
27 STAGES 2 MAX. TIP SPEED 466.24 m/SEC
28 CASING SPLIT (4.2.3) ○ AXIAL ⊗ RADIAL
29 ROTOR [ ] SOLID [X] BUILT UP
30 COMBUSTORS: (4.3.2)
31 [X] SINGLE [ ] MULTIPLE, NUMBER ____
32 [X] GAS [ ] LIQUID [ ] DUAL FUEL
33 MAXIMUM ALLOW TEMP. VARIATION 93 from avg °C
34 APPLICABLE PLANE T5 (PT Inlet)
35 FUEL NOZZLES PER COMBUSTOR 21 (Conv); 14 (SoLoNOx)
36 ⊗ WOBBE INDEX NO. REQD (4.3.7) [X] MAX 40969 MIN
37 MAINTENANCE INTERVALS, HOURS
38 [X] HOT GAS PATH INSPECTIONS 4000 hrs
39 [X] MAJOR OVERHAULS 30000 hrs
40 [ ] OTHER ____
41
42 GOVERNOR (5.4.3)
43 ⊗ MFR'S STD. ○ OTHER ⊗ MAKE A.B. ⊗ MODEL Note 3
44 ○ CONSTANT SPEED ⊗ VARIABLE SPEED
45 ○ ISOCHRONOUS ○ DROOP
46 REMOTE SHUTDOWN SIGNAL ⊗ ELECTRIC
47 ○ PNEUMATIC ○ HYDRAULIC ○ NONE
48 MANUAL SPEED CHANGER, RPM ____ MAX. ____ MIN.
49 ○ MAINTAIN TURBINE SPEED UPON FAILURE OF CONTROL
50 SIGNAL OR ACTUATOR

MATERIALS OF CONSTRUCTION (4.10)

COMPRESSOR ROTOR BLADES 718 Ni Alloy
COMPRESSOR STATOR VANES 17-4PH SS (variable) & 410 SS (fixed)
SHAFT AISI 4340 BLADE/VANE COATING Platinum Aluminide

TURBINE STAGE	NOZZLES	BLADES	WHEELS OR DISCS
1	CM-247LC	CMSX-4	Waspaloy
2	CM-247LC	CMSX-3	Waspaloy
3			
4			

COMBUSTORS Haynes 230 (Conv); Haynes 230 & 214 (SoLoNOx)
COMPRESSOR CASING Nodular Iron & WCI
COMBUSTOR CASING 410 Stainless Steel
TURBINE CASING IN 903

GAUGE BOARDS AND CONTROL PANELS

GAUGE BOARDS
[X] LOCATION Digital Gauge Panel (VDU On Skid)
CONTROL PANELS (5.4.5.1.1) ○ ON-SKID ○ OFF SKID LOCAL ⊗ OFF SKID REMOTE
WEATHER PROTECTION REQUIRED ○ YES ○ NO
○ SPECIFICATION ____
○ ANNUNCIATOR REQUIRED (5.4.4.8.5)
[X] VISUAL DISPLAY UNIT (VDU) [X] KEYBOARD

CONTROL SYSTEMS

TYPE (5.4.1.5)
○ MECH ○ PNEU ○ HYDRA ○ ELECTRIC ⊗ ELECTRONIC
⊗ MICROPROCESSOR BASED ○ COMBINED ____

SIGNAL SOURCE N/A
○ SENSITIVITY N/A ○ RANGE ____ TO ____
○ TIME OF AC OUTAGE RIDEOUT N/A MIN (5.4.1.6)
○ SHUT OFF VALVES FOR SHUT DOWN SENSORS (5.4.4.9) N/A
STARTING SYSTEM (5.4.2.1)
○ MANUAL ○ SEMI AUTOMATIC ⊗ AUTOMATIC
[X] PURGE (5.4.2.2) 4 minimum MINUTES (Note 2)
○ SEPARATE SHUTDOWN VALVE TEST DURING OPERATION N/A

NOTE (1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PROTIONS FOR EACH SHAFT.
REMARKS: Note 1: Refer to train torsional report.
Note 2: Purge time is set during commissioning per SB 3.0/105.
Note 3: Control Logix

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COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 3b OF 10 BY 0

1 *Power Turbine Rotor — CONSTRUCTION FEATURES (NOTE 1)

2 [X] SPEEDS:
3 MAX. CONT. _____ RPM TRIP 9899 RPM
4 [X] LATERAL CRITICAL SPEEDS (DAMPED)
5 FIRST CRITICAL 3,085 RPM Critically damped MODE
6 SECOND CRITICAL 8670 RPM Critically damped MODE
7 THIRD CRITICAL >20000 RPM Critically damped MODE
8 FOURTH CRITICAL - RPM - MODE
9 [ ] PROTOTYPE OR MODIFIED ROTOR SUPPORT (4.7.3.5)
10 ( ) TRAIN LATERAL ANALYSIS REQUIRED (D.1.3)
11 ( ) TRAIN TORSIONAL ANALYSIS REQUIRED (2.7.4.5)
12 [ ] TORSIONAL CRITICAL SPEEDS:
13 FIRST CRITICAL Note 1 RPM
14 SECOND CRITICAL Note 1 RPM
15 THIRD CRITICAL Note 1 RPM
16 FOURTH CRITICAL Note 1 RPM
17 VIBRATION: (4.7.4.5) (7.2.3 o)
18 [X] ALLOWABLE TEST LEVEL SHAFT 50.8 std 28.4 API w/SER MIC P/P
19 CASE _____ mm/SEC
20 [X] ROTATION, VIEWED FROM DRIVE END (X) CW ( ) COW
21 AIR COMPRESSOR:
22 STAGES _____ MAX. TIP SPEED _____ m/SEC
23 TYPE _____ PRESSURE RATIO _____
24 CASING SPLIT (2.2.3) ( ) AXIAL ( ) RADIAL
25 ROTOR [ ] SOLID [ ] BUILT UP
26 TURBINE:
27 STAGES 2 MAX. TIP SPEED 567.53 m/SEC
28 CASING SPLIT (4.2.3) ( ) AXIAL (X) RADIAL
29 ROTOR [ ] SOLID [X] BUILT UP
30 COMBUSTORS: (4.3.2)
31 [ ] SINGLE [ ] MULTIPLE, NUMBER _____
32 [X] GAS [ ] LIQUID [ ] DUAL FUEL
33 MAXIMUM ALLOW TEMP. VARIATION _____ °C
34 APPLICABLE PLANE _____
35 FUEL NOZZLES PER COMBUSTOR _____
36 ( ) WOBBE INDEX NO. REQD (4.3.7) [ ] MAX _____ MIN
37 MAINTENANCE INTERVALS, HOURS
38 [X] HOT GAS PATH INSPECTIONS 4000 hrs
39 [X] MAJOR OVERHAULS 30000 hrs
40 [ ] OTHER _____
41
42 GOVERNOR (5.4.3)
43 (X) MFR'S STD. ( ) OTHER (X) MAKE A.B. (X) MODEL Note 3
44 ( ) CONSTANT SPEED (X) VARIABLE SPEED
45 ( ) ISOCHRONOUS ( ) DROOP
46 REMOTE SHUTDOWN SIGNAL (X) ELECTRIC
47 ( ) PNEUMATIC ( ) HYDRAULIC ( ) NONE
48 MANUAL SPEED CHANGER, RPM _____ MAX. _____ MIN.
49 ( ) MAINTAIN TURBINE SPEED UPON FAILURE OF CONTROL
50 SIGNAL OR ACTUATOR

MATERIALS OF CONSTRUCTION (4.10)

COMPRESSOR ROTOR BLADES _____
COMPRESSOR STATOR VANES _____
SHAFT AISI 4340 BLADE/VANE COATING Platinum Aluminide

TURBINE STAGE	NOZZLES	BLADES	WHEELS OR DISCS
1	N 155	IN 792	718 Ni Alloy
2	N 155	IN 792	718 Ni Alloy
3			
4			

COMBUSTORS _____
COMPRESSOR CASING _____
COMBUSTOR CASING _____
TURBINE CASING _____

GAUGE BOARDS AND CONTROL PANELS

GAUGE BOARDS
[X] LOCATION Digital Gauge Panel (VDU On Skid)
CONTROL PANELS (5.4.5.1.1) ( ) ON-SKID ( ) OFF SKID LOCAL (X) OFF SKID REMOTE
WEATHER PROTECTION REQUIRED ( ) YES ( ) NO
( ) SPECIFICATION _____
( ) ANNUNCIATOR REQUIRED (5.4.4.8.5)
[X] VISUAL DISPLAY UNIT (VDU) [X] KEYBOARD

CONTROL SYSTEMS

TYPE (5.4.1.5)
( ) MECH ( ) PNEU ( ) HYDRA ( ) ELECTRIC (X) ELECTRONIC
(X) MICROPROCESSOR BASED ( ) COMBINED _____

SIGNAL SOURCE N/A
( ) SENSITIVITY N/A ( ) RANGE _____ TO _____
( ) TIME OF AC OUTAGE RIDEOUT N/A MIN (5.4.1.6)
( ) SHUT OFF VALVES FOR SHUT DOWN SENSORS (5.4.4.9) N/A
STARTING SYSTEM (5.4.2.1)
( ) MANUAL ( ) SEMI AUTOMATIC (X) AUTOMATIC
[X] PURGE (5.4.2.2) 4 minimum MINUTES (Note 2)
( ) SEPARATE SHUTDOWN VALVE TEST DURING OPERATION N/A

NOTE (1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PROTIONS FOR EACH SHAFT.
REMARKS: Note 1: Refer to train torsional report.
Note 2: Purge time is set during commissioning per SB 3.0/105.
Note 3: Control Logix

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Solar Turbines
A Caterpillar Company

COMBUSTION GAS TURBINE (API 616-4TH)
DATA SHEET, S.I. UNITS
MARS 90S

JOB NO. IN11-0004 ITEM NO. MARS 90S
REVISION 00 DATE 3/21/2012
PAGE 4 OF 10 BY 0

CONSTRUCTION FEATURES CONTINUED (NOTE 1)

*Gas Producer Rotor

BEARINGS AND BEARING HOUSINGS (4.8)

RADIAL	BRG#1	BRG#2	BRG#3
[X] TYPE	Tilt Pad	Tilt Pad	Tilt Pad
[X] MANUFACTURER	Waukesha	Waukesha	Waukesha
[X] LENGTH, mm	57.252	57.252	57.252
[X] SHAFT DIAMETER, mm	114.491	114.491	114.491
[X] UNIT LD (ACT/ALLOW), kPA	4.31 / 17.2	4.93 / 17.2	6.96 / 17.2
[X] BASE MATERIAL	AISI 1010-103	AISI 1010-103	AISI 1010-103
[X] BABBITT THICKNESS, mm	1.524	1.524	1.524
[X] NO. PADS	5	5	5
[X] LOAD: BETWEEN/ON PAD	Between	Between	On
[X] PIVOT: CENTER/OFFSET, %	55.5	55.5	55.5
[X] DAMPER BEARING	No	No	No
[ ]			

THRUST	ACTIVE	INACTIVE
[X] TYPE	Tilt Pad	Fixed Tapered
[X] MANUFACTURER	Waukesha	Solar
[X] UNIT LOAD (ULTIMATE), kPA	76	>68.94
[ ] UNIT LOAD (SITE RATED), kPA		
[X] UNIT LOAD (MAX POTEN), kPA	33.43	N/A
[X] NO. OF PADS/AREA, cm^2	10 / 20,258	8 / 21,290
[X] BASE MATERIAL	Chrome Copper	Carbon Steel
[X] BABBITT THICKNESS, mm	1.52	0.62
[X] PIVOT: CENTER/OFFSET, %	70	N/A

LUBRICATION: ( ) FLOODED (X) DIRECTED
THRUST COLLAR: ( ) INTEGRAL (X) REPLACEABLE
BEARING MATERIAL

BEARING TEMPERATURE DEVICES (4.8.5.5) ( ) SEE ATTACHED API-670 DATA SHEET

( ) THERMOCOUPLES
( ) SELECTOR SWITCH & IND. BY: ___ PURCH ___ MFR

(X) RESISTANCE TEMPERATURE DETECTORS
(X) RESISTANCE MAT'L platinum [X] 100 OHMS
(X) SELECTOR SWITCH & IND. BY: ___ PURCH X MFR

(X) LOCATION-JOURNAL BEARING
NUMBER ___ EA PD ___ EVERY OTH PAD ___ PER BRG
OTHER Total of 2 (# 1, # 2&3 bearing common drains, Note 2)

(X) LOCATION-THRUST BEARING
NO. (ACT) ___ EA PD ___ EVERY OTH PAD 2 PER BRG
OTHER
NO.(INACT) ___ EA PD ___ EVERY OTH PAD 0 PER BRG
OTHER

(X) MONITOR SUPPLIED BY (5.4.7.5) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Allen Bradley [X] MODEL Logix5000
[X] SCALE RGE -18 to 160 [X] ALARM SET @ 115.6 (3) °C
(X) SHTDWN [X] SET @ 121.1 (3) °C ( ) TIME DLY ___ SEC
REMARKS:

VIBRATION DETECTORS (4.8.5.3) ( ) SEE ATTACHED API-670 DATA SHEET

RADIAL VIBRATION DETECTORS:
(X) TYPE Proximity Probes [X] MODEL 3300XL
[X] MFR Bently Nevada
(X) NO. AT EACH SHAFT BEARING 2 TOTAL NO. 6
(X) OSCILLATOR-DEMODULATOR SUPPLIED BY Solar
[X] MFR Bently Nevada [X] MODEL 3300XL
(X) MONITOR SUPPLIED BY (5.4.7.8.2) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 0-254 [X] ALARM SET @ 63.5 µm
(X) SHTDWN [X] SET @ 101.6 µm (X) TIME DELAY 1 SEC

AXIAL POSITION DETECTOR (4.8.5.3):
( ) SEE ATTACHED API-670 DATA SHEETS
(X) TYPE Proximity Probes [X] MODEL 3300XL
[X] MFR Bently Nevada (X) NO. REQUIRED 2
(X) OSCILLATOR-DEMODULATOR SUPPLIED BY Solar
(X) MFR Bently Nevada [X] MODEL 3300XL
(X) MONITOR SUPPLIED BY (3.4.7.8.2) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 635-0-635 [X] ALARM SET @ 101.6 µm
(X) SHTDWN [X] SET @ 177.8 µm (X) TIME DELAY 1 SEC

ACCELERATION TRANSDUCERS
( ) SEE ATTACHED API-670 DATA SHEETS
(X) MFR Bently Nevada [X] MODEL 4-131
(X) LOCATION Accessory Gearbox [X] NUMBER 1
(X) MONITOR SUPPLIED BY (3.4.7.8.4) (X) Solar
(X) LOCATION Control Console ENCLOSURE Non EP
(X) MFR Bently Nevada [X] MODEL 1701
[X] SCALE RGE 2.5 [X] ALARM SET @ 0.64 cm/s
(X) SHTDWN [X] SET @ 0.71 cm/s (X) TIME DELAY 1 SEC

NOTES
(1) FOR MULTIPLE SHAFT TURBINES, COMPLETE ALL APPLICABLE PORTIONS FOR EACH SHAFT.
(2) Alarm @ 51.1 °C, Shutdown @ 69.4 °C, bearing drain temperature above bearing oil inlet temperature.
(3) Additional settings are: Alarm @ 50 °C, Shutdown @ 55.6 °C, thrust bearing temperature above bearing oil inlet temperature.

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REVISION HISTORY		RELEASE - REV_360	
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL SUBMITTAL	4/5/2013	D. GORDON
B	CUSTOMER REQUEST	6/3/2013	D. GORDON
C	AS SHIPPED	1/3/2014	D. GORDON

DEVICE ID AND SYMBOL LEGEND

COMPONENTS

- AUTO VALVE (AV)
- CHECK VALVE (CV)
- COMPRESSOR
- CONVERTER
  - SIGNAL (UA)
  - FREQUENCY (UF)
- DETECTOR
  - SENSOR (DT)
  - FIRE (DTF)
  - GAS (DTG)
- ELECTRIC FAN/MOTOR (M)
- ELEMENT/SENSOR
  - FLOW (FE)
  - PRESSURE (PE)
  - SPEED (SE)
  - TEMPERATURE (TE)
  - VIBRATION (VE)
- FILTER/COALESCER (F)
- FILTER, STRAINER (F)
- FIRE DAMPER (FD)
- FLAME ARRESTOR (XFA)
- FLOW CONTROL VALVE, ELECTRIC, 2 POSITION (FCE)
- FLOW CONTROL VALVE, ELECTRIC, 3 POSITION (FCE)
- FLOW CONTROL VALVE, MECHANICAL (FCM)
- FLOW ORIFICE (FO)
- GAS TURBINE (T)
- GAS TURBINE (T)
- HAND VALVE (HV)
- HAND VALVE, BLOCK AND BLEED (HV)
- HAND VALVE, TRANSFER 3 WAY (HV)
- HAND VALVE, TRANSFER 5 WAY (HV)

COMPONENTS

- HEATER (H)
- HEAT EXCHANGER (HE)
- INDICATOR
  - FLOW (FI)
  - LEVEL (LI)
  - PRESSURE (PI)
  - PRESSURE DIFFERENTIAL (PDI)
  - TEMPERATURE (TI)
- INDUCTANCE (LB)
- MOTOR, PNEUMATIC (M)
- MOTOR, ELECTRIC (M)
- NOISE REDUCER/MUFFLER (NR)
- NOZZLE, FIRE SYSTEM (N)
- PRESSURE CONTROL ELECTRICAL (PCE)
- PRESSURE CONTROL VALVE (PCV)
- PRESSURE CONTROL VALVE AND REGULATOR (PCV)
- PRESSURE SAFETY VALVE (PSV)
- PUMP (P)
- RESERVOIR, ENGINE CLEANING (T)
- RESERVOIR, FIRE SYSTEM BOTTLE (R)
- SIGHT GLASS (SG)
- SOLENOID VALVE, 2 POSITION (SV)
- SOLENOID VALVE, 3 POSITION (SV)
- SOLENOID VALVE, 4 WAY (SV)

COMPONENTS

- SOLENOID VALVE, 5 POSITION (SV)
- SOLENOID DRIVING PNEUMATIC BALL VALVE (SV)
- SOLENOID VALVE, 2WAY-4WAY ASSY (SV)
- SWITCH
  - FLOW (FS)
  - LEVEL (LS)
  - POSITION (ZS)
  - PRESSURE (PS)
  - PRESSURE DIFFERENTIAL (PDS)
  - TEMPERATURE (TS)
  - VIBRATION (VS)
- TEMPERATURE CONTROL ELECTRICAL (TCE)
- TEMPERATURE CONTROL VALVE (TCV)
- THERMOWELL, NPT CONNECTION (TW)
- THERMOWELL, FLANGED CONNECTION (TW)
- TRANSMITTER
  - FLOW (FT)
  - LEVEL (LT)
  - POSITION (ZT)
  - PRESSURE (PT)
  - PRESSURE DIFFERENTIAL (PDT)
  - TEMPERATURE (TT)
  - VIBRATION (VT)

SYMBOLS

- CONTROL SYSTEM INTERFACE, WITH CROSS REFERENCE TO ELECTRIC LOOP SCHEMATIC, SHEET 44, DRAWING ZONE C1 (=ELS/44C1; HH, H, L, LL)

HH	HIGH SHUTDOWN
H	HIGH ALARM
L	LOW ALARM
LL	LOW SHUTDOWN

- CUSTOMER INTERFACE REFER TO MECHANICAL INTERFACE DRAWING FOR CONNECTION INFORMATION (SOLAR SUPPLY / CUSTOMER SUPPLY)
- CYLINDER, HYDRAULIC
- DECREASER/INCREASER
- DRAIN, BELOW FLUID LEVEL
- DRAIN, ABOVE FLUID LEVEL
- FIND NUMBER SYMBOL (FN)
- FLANGED, CONNECTION
- PORT PLUGGED/NPT CONNECTION
- FLOW DIRECTION
- LINES CROSSING
- LINES JOINING
- VENT, AIR
- MAIN LINE
- SECONDARY PROCESS, INSTRUMENT LINE
- PNEUMATIC LINE
- HYDRAULIC LINE
- SKID LIMIT
- FLOAT, LIQUID LEVEL

GENERAL NOTES:

1. SYMBOLS IN THE LEGEND ARE DERIVED FROM ISA S5.1 AND ARE CONSIDERED BASIC STANDARDS. NOT ALL SYMBOLS MAY BE USED ON THIS DRAWING. SYMBOLS MAY BE COMBINED.
2. PIPE AND TUBE SIZES SHOWN ARE MINIMUM DIAMETERS. ACTUAL SIZES MAY BE LARGER. ALL LINE SIZES ARE IN INCHES. NO METRIC EQUIVALENTS HAVE BEEN ADOPTED. STATIC PRESSURE MONITORING, SENSING AND ORIFICED HOT DRIP DRAIN LINES TO BE ⅜" TUBING.
3. REFERENCE ONLY, PART OF ENGINE.
4. CUSTOMER FURNISHED.
5. LOOSE SHIPPED FOR SITE INSTALLATION.

INSTRUMENT ABBREVIATIONS

ASY	ASSEMBLY	PE	PRESSURE ELEMENT
AV	AUTO/TRANSFER VALVE	PI	PRESSURE INDICATOR
CV	CHECK VALVE	PS	PRESSURE SWITCH
CYL	CYLINDER	PSV	PRESSURE SAFETY VALVE
DT	SENSOR DETECTOR	PT	PRESSURE TRANSMITTER
DTF	FIRE DETECTOR	R	RESERVOIR
DTG	GAS DETECTOR	SE	SPEED ELEMENT
F	FILTER/SEPARATOR/COALESCER	SG	SIGHT GLASS
FCE	FLOW CONTROL VALVE, ELECTRICAL	SV	SOLENOID VALVE
FCM	FLOW CONTROL VALVE, MECHANICAL	T	GAS TURBINE
FD	FIRE DAMPER	TCE	TEMPERATURE CONTROL ELECTRICAL
FE	FLOW ELEMENT	TCV	TEMPERATURE CONTROL VALVE
FI	FLOW INDICATOR	TE	TEMPERATURE ELEMENT
FO	FLOW ORIFICE	TI	TEMPERATURE INDICATOR
FS	FLOW SWITCH	TS	TEMPERATURE SWITCH
FT	FLOW TRANSMITTER	TT	TEMPERATURE TRANSMITTER
H	HEATER	TW	THERMOWELL
HE	HEAT EXCHANGER	UA	SIGNAL CONVERTER
HV	HAND VALVE	UF	FREQUENCY CONVERTER
LI	LEVEL INDICATOR	VE	VIBRATION ELEMENT
LS	LEVEL SWITCH	VS	VIBRATION SWITCH
LT	LEVEL TRANSMITTER	VT	VIBRATION TRANSMITTER
M	MOTOR	XFA	FLAME ARRESTOR
N	NOZZLE, FIRE SYSTEM	ZS	POSITION SWITCH
MS	MOTOR/STARTER	ZT	POSITION TRANSMITTER
NR	NOISE REDUCER		
P	PUMP		
PCE	PRESSURE CONTROL ELECTRIC		
PCV	PRESSURE CONTROL VALVE		
PDI	PRESSURE DIFFERENTIAL INDICATOR		
PDS	PRESSURE DIFFERENTIAL SWITCH		
PDT	PRESSURE DIFFERENTIAL TRANSMITTER		

TAG NUMBERING SYSTEM

0000	CONTROLS
1000	TURBINE
2000	FUEL
3000	LUBE OIL
4000	DRIVEN EQUIPMENT
5000	DRY SEAL
6000	GENERAL
7000	BALANCE OF PLANT
8000	STEAM TURBINE/EMD
9000	SPARE

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LEGEND AND GENERAL NOTES

APPROVED	
PROJECT MGR. J. SCHMIDT	DATE 1/9/2013
PROJECT ENGR. D. GORDON	DATE 1/9/2013
DESIGN T. HEGSTAD	DATE 1/9/2013
RELEASE STAMP PD-3P961 (CDM) C	CAGE CODE 66195

Solar® Turbines
A Caterpillar Company

DRAWING NO. 3P961-149446 | SIZE D | DWG REV C | SHEET 1 OF 22

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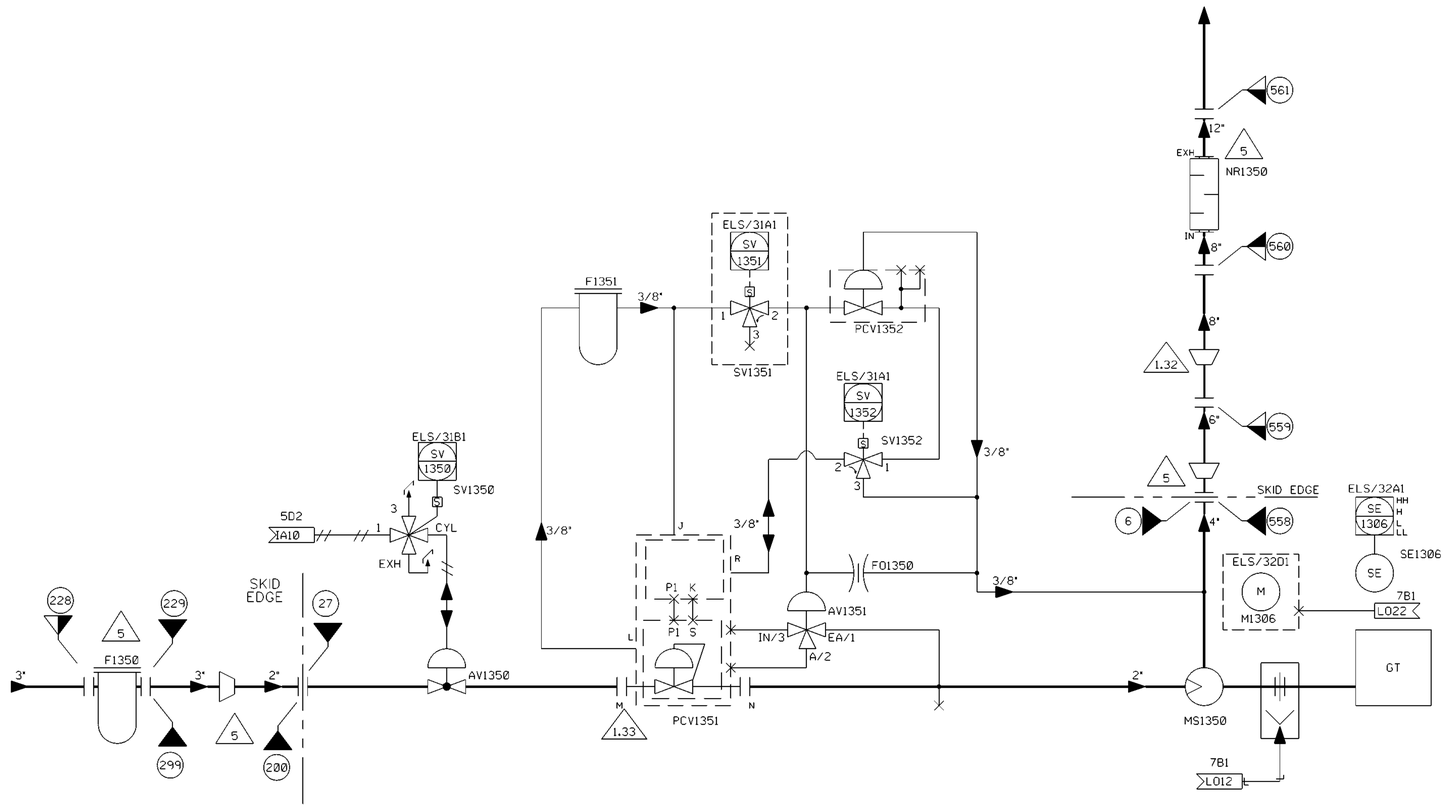

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

1.31 NOT USED

1.32 PNEUMATIC START VENT SHALL NOT CONTAIN ANY SHUTOFF VALVE DEVICES WHICH COULD FAIL TO REMAIN OPEN DURING STARTER ACTIVATION.

1.33 PCV1351: CONNECTION P1 TO P1 AND K TO S ARE NOT PART OF THE ASSEMBLY

CUSTOMER
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Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
START SYSTEM

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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 2 OF 22

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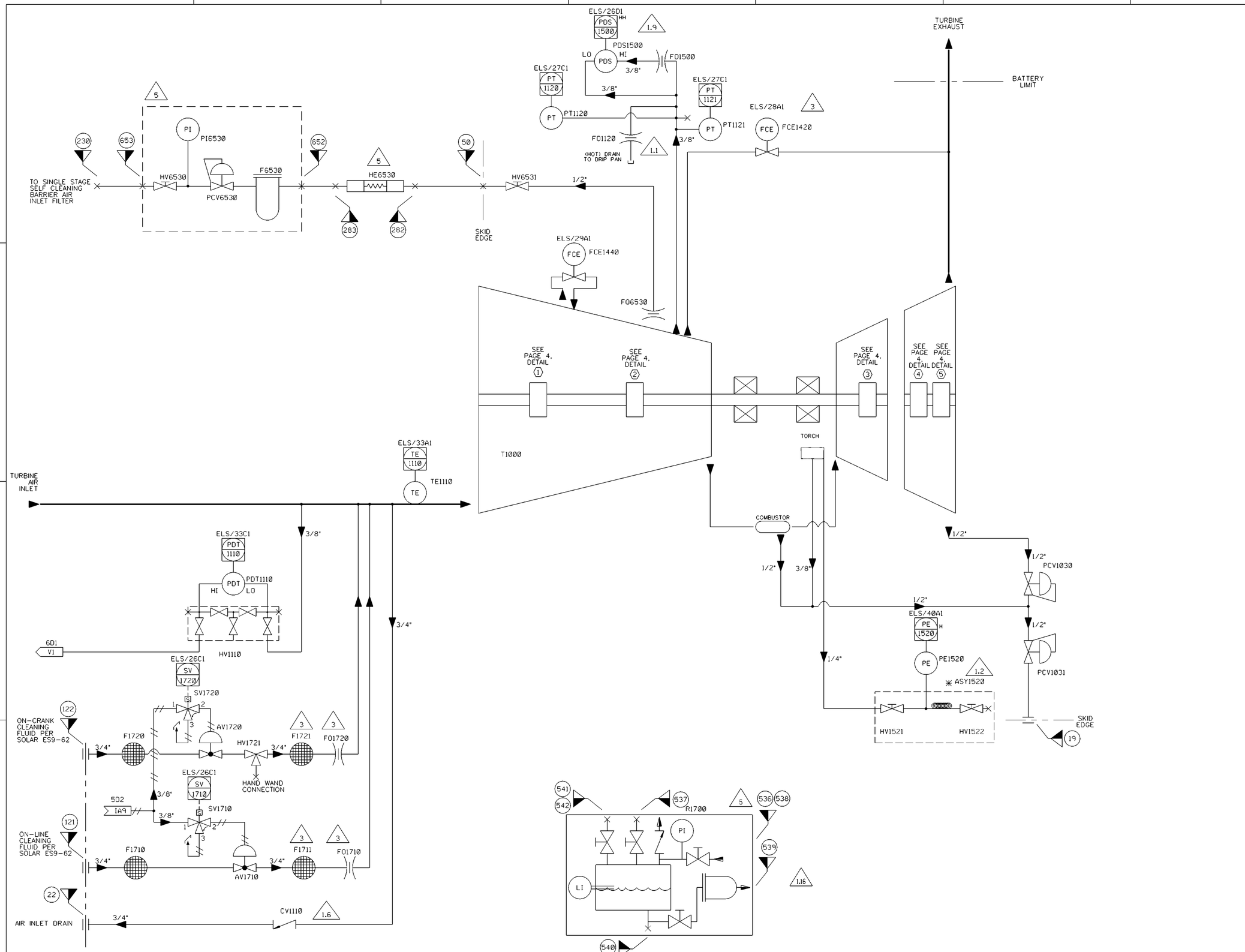

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 PAGE FOR NOTES 1 THROUGH 5.

1.1 FO1120 SHALL BE INSTALLED AT THE LOWEST POINT OF THE TRAP. THE CONDENSATE IS TO BE DRAINED TO THE DRIP PAN.

1.2 BAM (BURNER ACOUSTIC MONITOR) COIL MUST BE MOUNTED BETWEEN 6 AND 36 INCHES OF TORCH "P.T." PORT. NO SHARP BENDS PERMITTED IN TRANSFER TUBE. (MINIMUM BEND RADIUS 3 INCHES TO ID).

1.3 NOT USED

1.4 NOT USED

1.5 NOT USED

1.6 INSTALL CV1110 IN HORIZONTAL PLANE.

1.7 NOT USED

1.8 NOT USED

1.9 10 INCHES (254 MM) OF 3/8" TUBING REQUIRED BETWEEN PDS1500 AND FO1500 FOR PROPER TIMING.

1.10 NOT USED

1.11 NOT USED

1.12 NOT USED

1.13 NOT USED

1.14 NOT USED

1.15 NOT USED

1.16 NOT USED

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
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Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
TURBINE SYSTEM PAGE 1

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DRAWING NO.	DWG REV	SHT REV
3P961-149446	C	C
	SHEET 3 OF 22	

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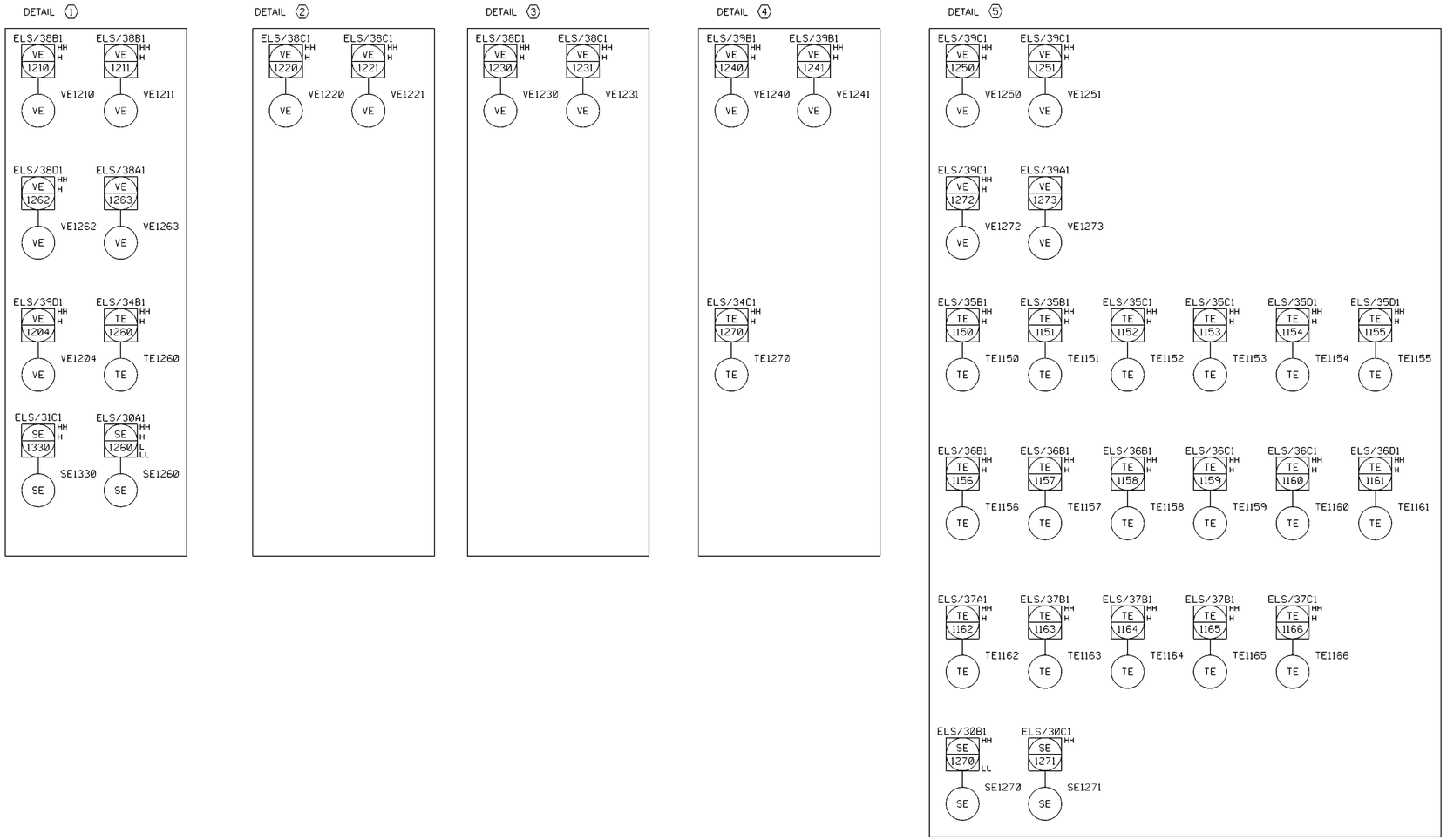

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.

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DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
TURBINE SYSTEM PAGE 2

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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 4 OF 22

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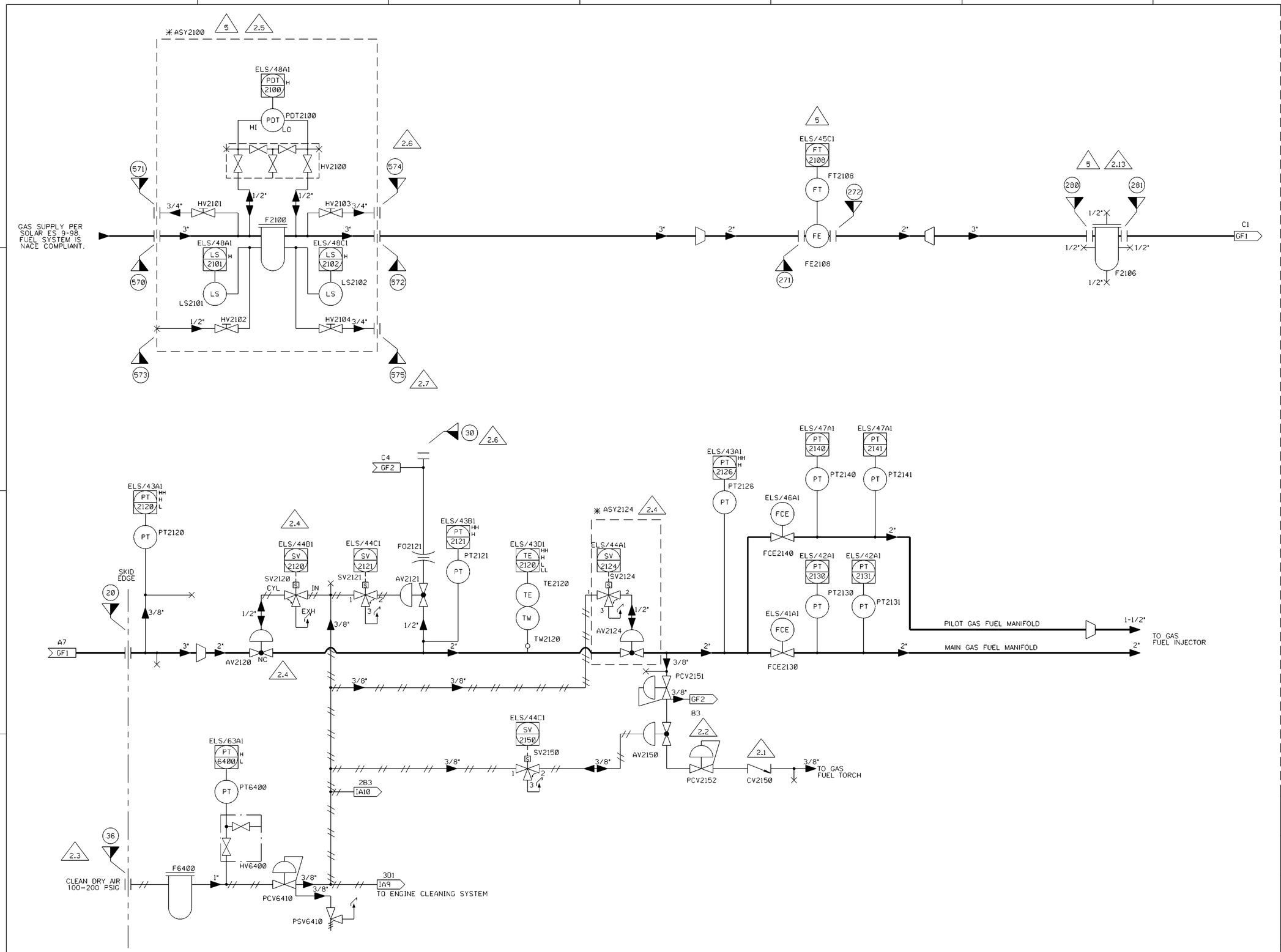

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 PAGE FOR NOTES 1 THROUGH 5.

2.1 CV2150 TO BE LOCATED WITHIN 6 INCHES OF TORCH.

2.2 PCV2152 TO BE ADJUSTED FOR BEST TORCH PERFORMANCE. TYPICAL SET POINT IS MIDPOINT OF STATED RANGE.

2.3 PILOT AIR IS REQUIRED FOR ALL PHASES OF PACKAGE OPERATION.

2.4 FOR FUEL SHUTOFF CERTIFIED REQUIREMENTS REFER TO "FUEL SHUT-OFF VALVE ASSEMBLY GUIDE". COMPLIANCE ENGINEER MUST APPROVE ANY CHANGES OR REPLACEMENTS OF THESE PARTS. CERTIFIED ASSEMBLY DRAWING IS 149098.

2.5 INSTALL AS CLOSE TO SKID EDGE AS POSSIBLE. OVER PRESSURE PROTECTION PROVIDED BY OTHERS.

2.6 VENT TO A SAFE LOCATION.

2.7 EFFLUENT WILL BE HYDROCARBON FLUIDS AND WATER.

2.8 NOT USED

2.9 NOT USED

2.10 NOT USED

2.11 NOT USED

2.12 NOT USED

2.13 INSTALL AS CLOSE TO SKID EDGE AS POSSIBLE.

2.14 NOT USED

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
GAS FUEL SYSTEM

Solar® Turbines
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DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 5 OF 22	

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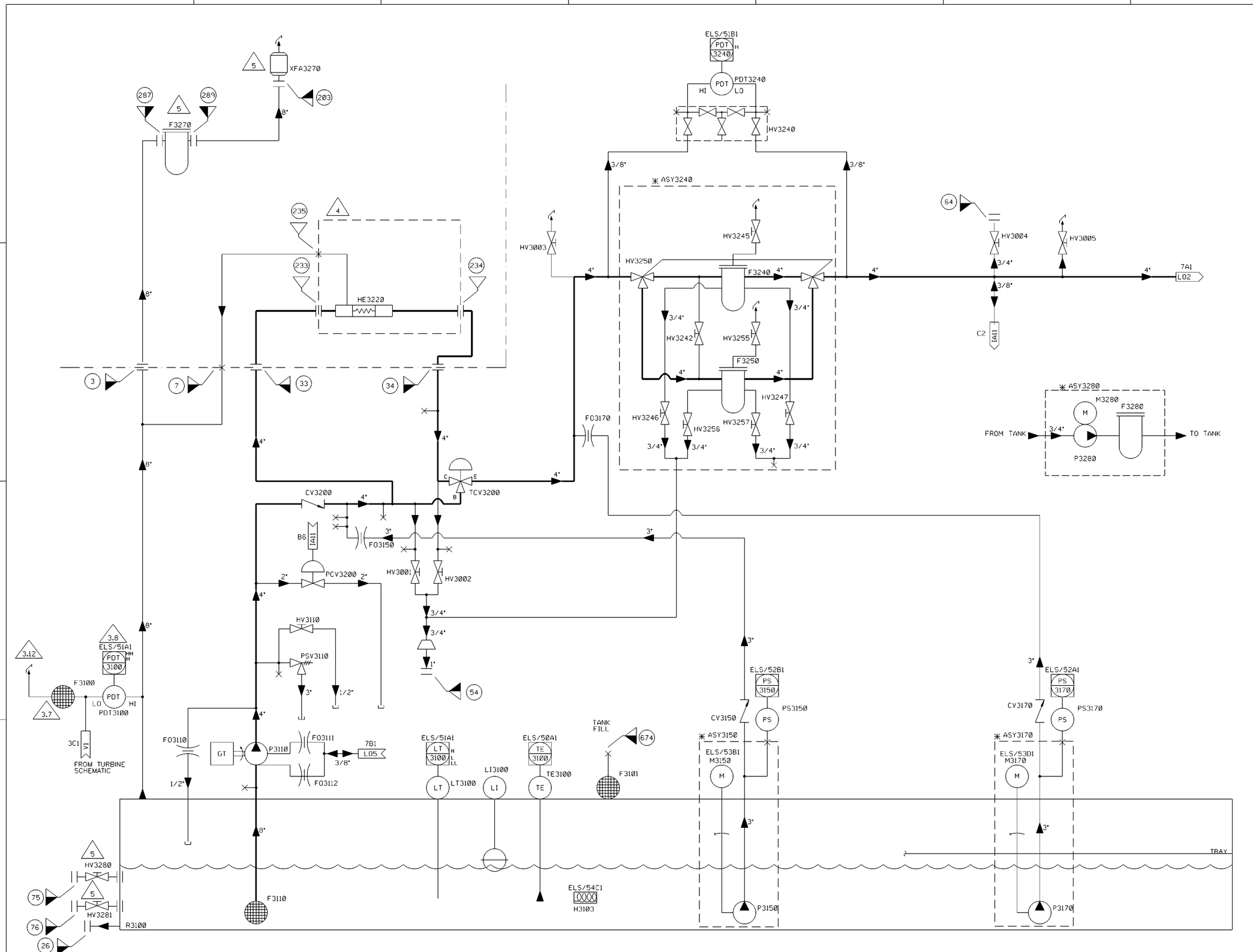

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

3.1 NOT USED

3.2 NOT USED

3.3 NOT USED

3.4 NOT USED

3.5 NOT USED

3.6 NOT USED

3.7 TERMINATE F3100 VENT LINE AT SKID EDGE EXTERNAL TO THE ENCLOSURE. ROUTE TUBING FOR CONTINUOUS DRAINAGE AWAY FROM TRANSMITTER.

3.8 TRANSMITTER (PDT3100) SENSING LINES TO BE ROUTED FOR CONTINUOUSLY SLOPED DRAINAGE AWAY FROM TRANSMITTER WITH NO LOW POINTS OR TRAPS. HIGH SIDE OF PDT3100 MUST BE REFERENCED TO THE CENTER OF THE TANK.

3.9 NOT USED

3.10 NOT USED

3.11 NOT USED

3.12 ATMOSPHERIC VENT. DO NOT PLUG.

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LUBE SYSTEM PAGE 1

Solar® Turbines
A Caterpillar Company

DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 6 OF 22	

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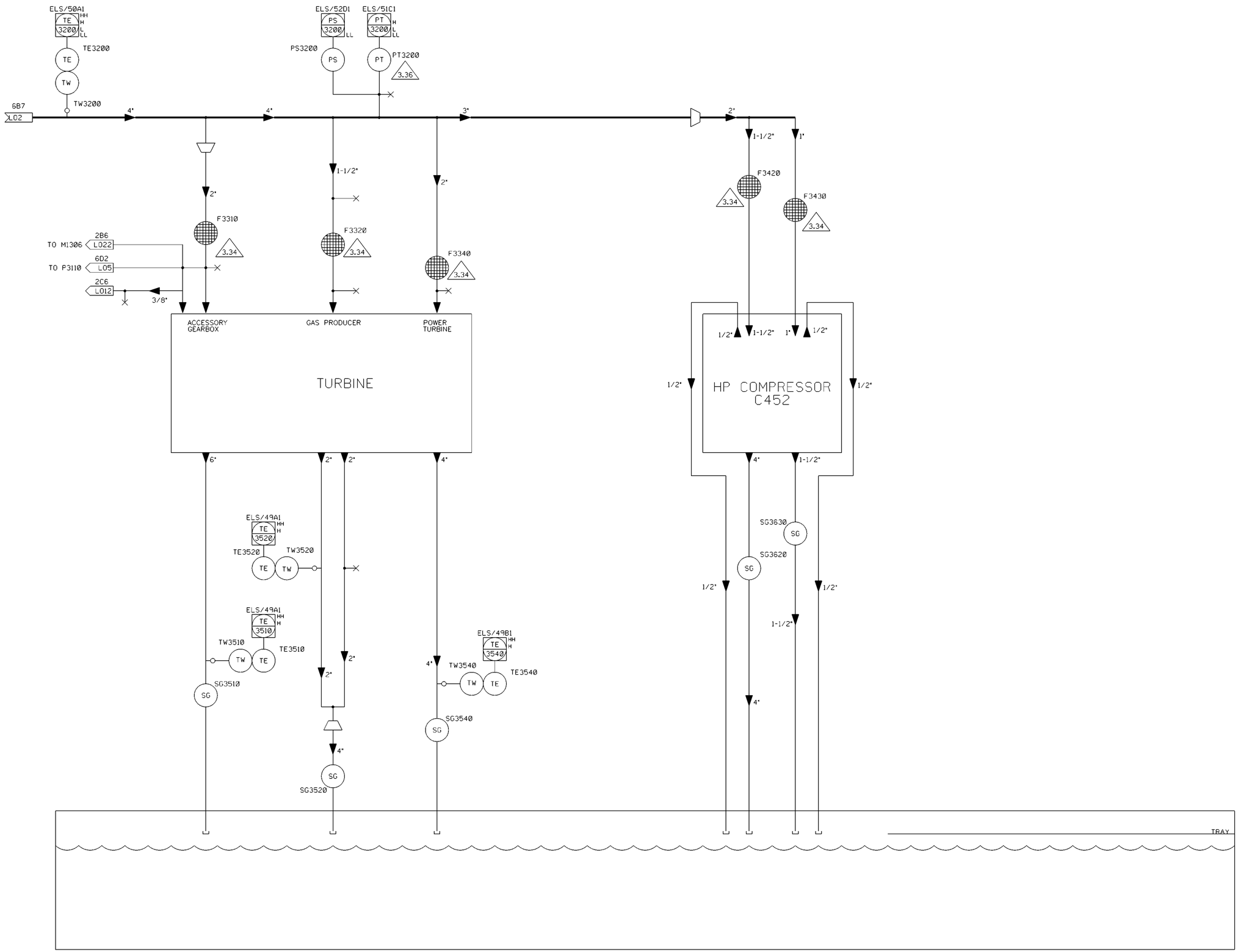

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.

3.31 NOT USED

3.32 NOT USED

3.33 NOT USED

3.34 START UP STRAINERS TO BE REMOVED AFTER UNIT COMMISSIONING.

3.35 NOT USED

3.36 REFER TO ENGINE CONTROL SPEC FOR LUBE OIL HEADER PRESSURE SET POINTS.

CUSTOMER
GSPL - Gana Gas
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Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
LUBE SYSTEM PAGE 2

Solar® Turbines
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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 7 OF 22

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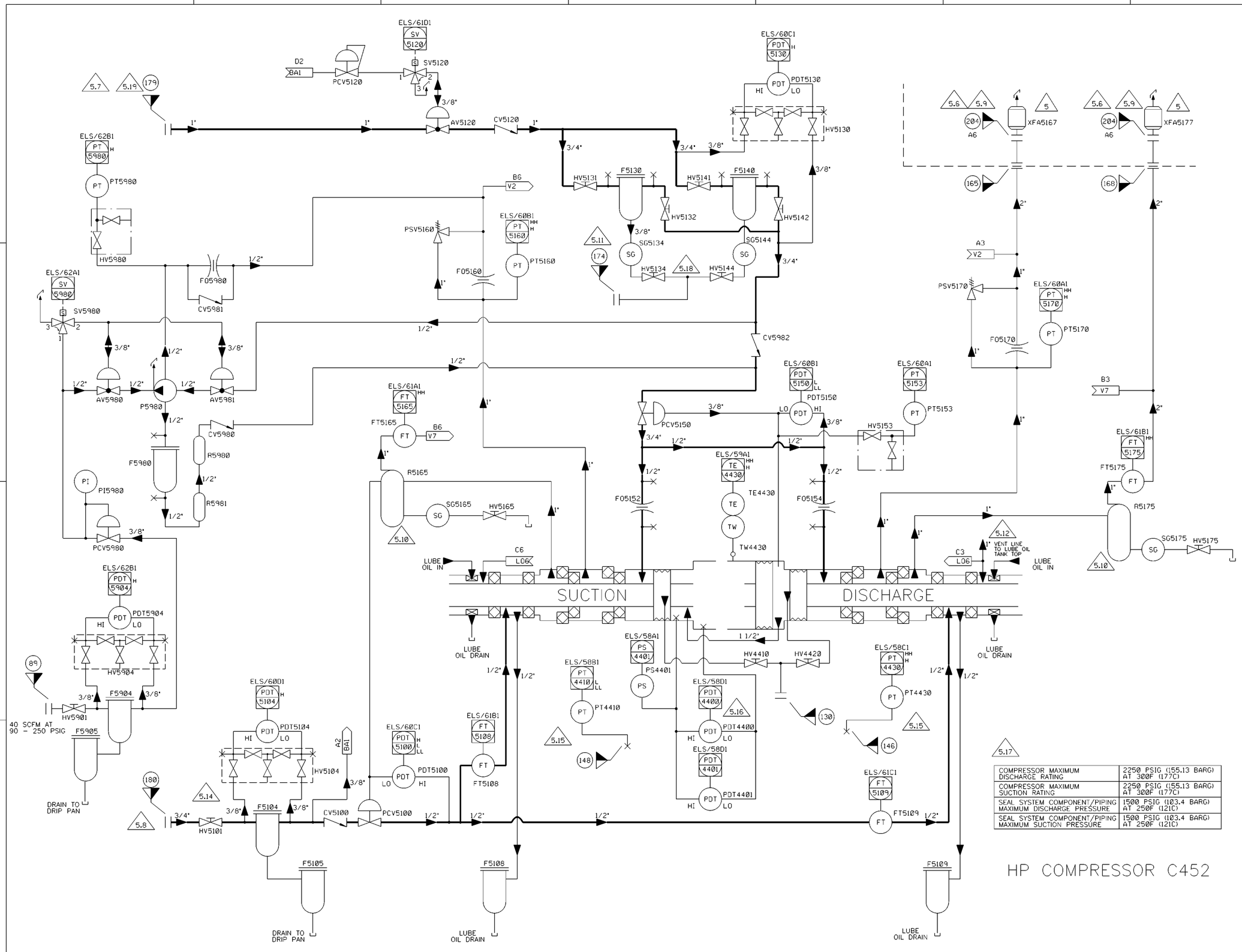

COMPRESSOR MAXIMUM DISCHARGE RATING	2250 PSIG (155.13 BARG) AT 300F (177C)
COMPRESSOR MAXIMUM SUCTION RATING	2250 PSIG (155.13 BARG) AT 300F (177C)
SEAL SYSTEM COMPONENT/PIPING MAXIMUM DISCHARGE PRESSURE	1500 PSIG (103.4 BARG) AT 250F (121C)
SEAL SYSTEM COMPONENT/PIPING MAXIMUM SUCTION PRESSURE	1500 PSIG (103.4 BARG) AT 250F (121C)

HP COMPRESSOR C452

NOTE: SEE LEGEND SHEET FOR GENERAL AND FLAG NOTES.
SEE SHEET 1 FOR NOTES 1 THROUGH 5.

5.6 MAXIMUM ALLOWABLE VENT BACK PRESSURE IS 5 PSIG (35 KPA).

5.7 SEAL GAS SUPPLY FROM COMP. DISCHARGE. RECOMMEND THAT SUPPLY COME FROM DOWNSTREAM OF GAS COOLER. IF COOLER IS DOWNSTREAM OF COMP. DISCHARGE ISOLATION VALVE, AN OFF SKID ISOLATION VALVE IS REQUIRED. SEE PIL 140 FOR REQUIREMENTS.

5.8 BUFFER AIR/N2 PER PIL 140. SUPPLY REQUIRED WHENEVER COMPRESSOR CASE IS PRESSURIZED (I.E. STARTUP SHUTDOWN, PRESSURIZED HOLD AND RUN, OR WHEN PUMP IS ON. SUPPLY TEMPERATURERANGE IS 32F TO 200F (0-93C).

5.9 FLAME ARRESTOR IS DESIGNED FOR VERTICAL INSTALLATION.

5.10 RESERVOIR MOUNTED IN LOW POINT OF SEPARATION AIR VENT LINE. VENT LINE TO HAVE NO LIQUID TRAPS OR LOW POINTS.

5.11 DRAIN TO A SAFE LOCATION.

5.12 VENT LINE TO HAVE NO LIQUID TRAPS OR LOW POINTS.

5.13 NOT USED

5.14 HV5101 TO REMAIN OPEN UNLESS ALL LUBE OIL PUMPS ARE SECURED AND COMPRESSOR IS ISOLATED FROM ANY GAS SOURCE (INCLUDING DRY SEAL VENT LINES).

5.15 PROCESS TAPS FOR COMPRESSOR SUCTION AND DISCHARGE PRESSURE TO BE APPROXIMATELY 5 PIPE DIAMETERS +/- 1 FOOT UP AND DOWNSTREAM OF COMPRESSOR, IN STRAIGHT SECTIONS AND INSIDE OF STRAINERS, CHECK VALVES, ETC. SEE PIL 140 FOR COMPLETE REQUIREMENTS.

5.16 PDT4400 IS MOUNTED ON COMPRESSOR ABOVE SUCTION PORT. TUBING SHOULD HAVE A CONTINUOUS DOWNWARD SLOPE TO THE SUCTION PORT (HIGH SIDE) AND INLET STATOR PRESSURE PORT (LOW SIDE).

5.17 COMPRESSOR MAXIMUM DEPRESSURIZATION RATE: 290 PSIG/MIN

5.18 MAXIMIZE TUBING LENGTH BETWEEN SEAL GAS FILTERS AND ASSOCIATED DRAIN VALVE FOR MAXIMUM FILTER DRAIN CAPACITY.

5.19 OVER PRESSURE PROTECTION PROVIDED BY OTHERS

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
DRY SEAL SYSTEM - HP

Solar® Turbines
A Caterpillar Company

DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 8 OF 22	

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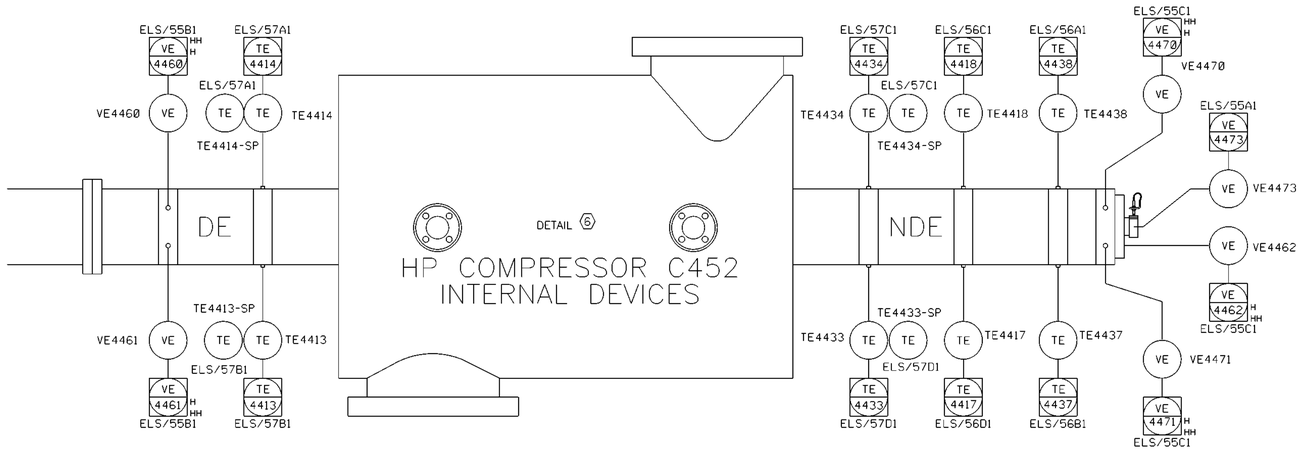

CUSTOMER

GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE

MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
DRIVEN EQUIPMENT - HPC

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3P961-149446	SHEET 9 OF 22	

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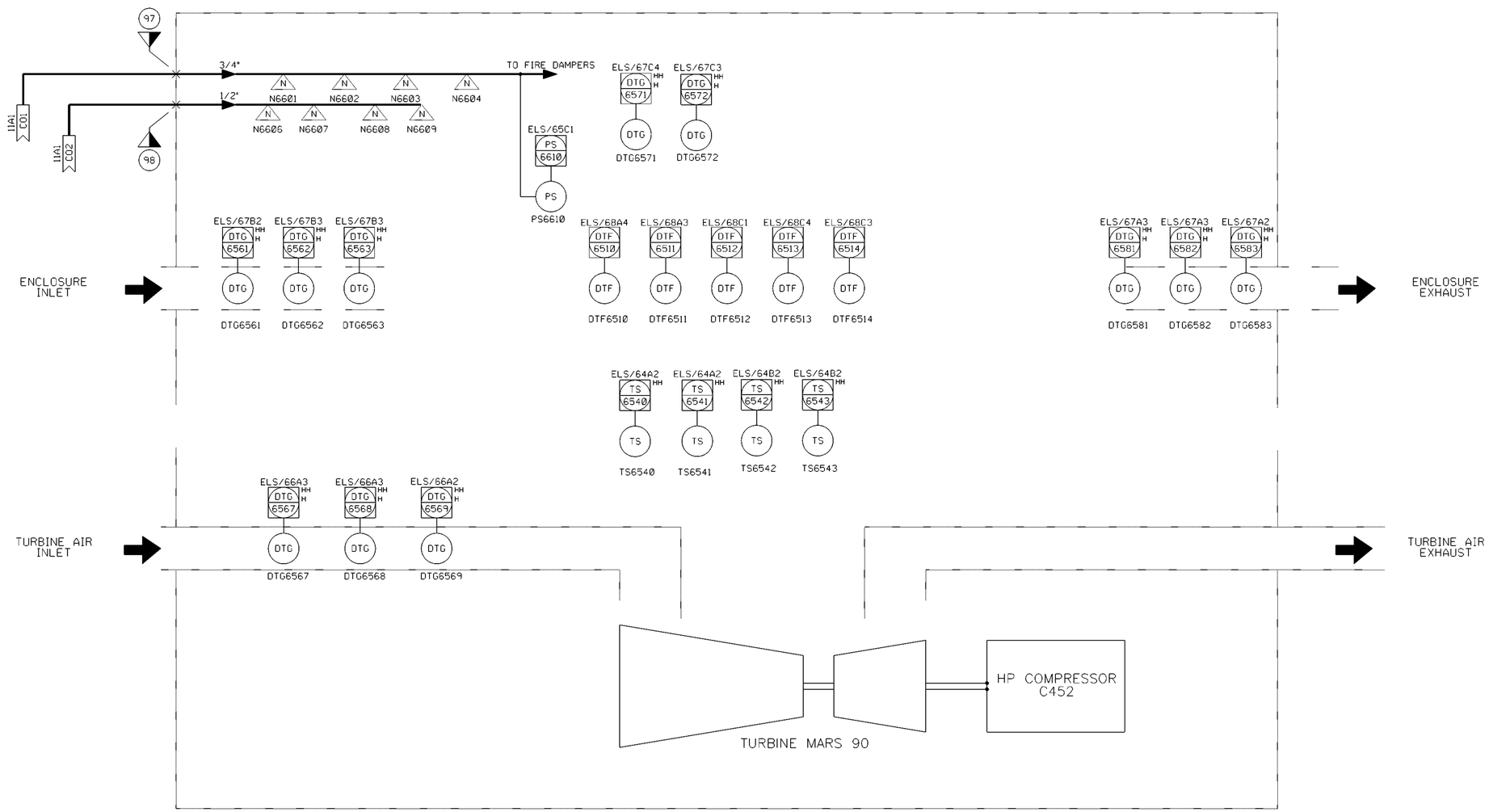

CUSTOMER

GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE

MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
FIRE AND GAS SYSTEM

Solar® Turbines
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DRAWING NO.	DWG REV	SHT REV
3P961-149446	C	C
	SHEET 10 OF 22	

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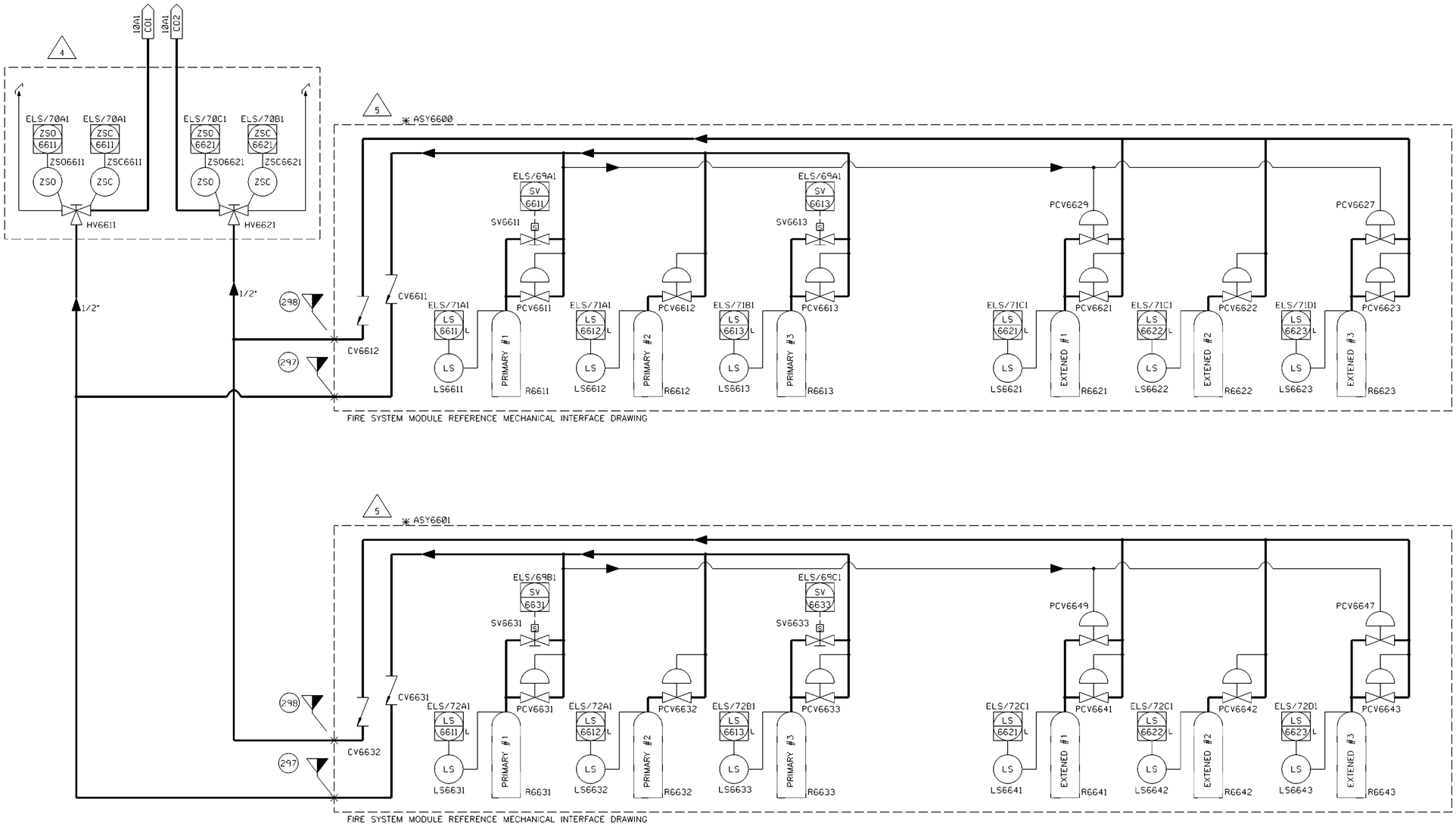

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
CO2 FIRE CABINET

Solar® Turbines
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DRAWING NO.	DWG REV	SHT REV
3P961-149446	C	C
	SHEET 11 OF 22	

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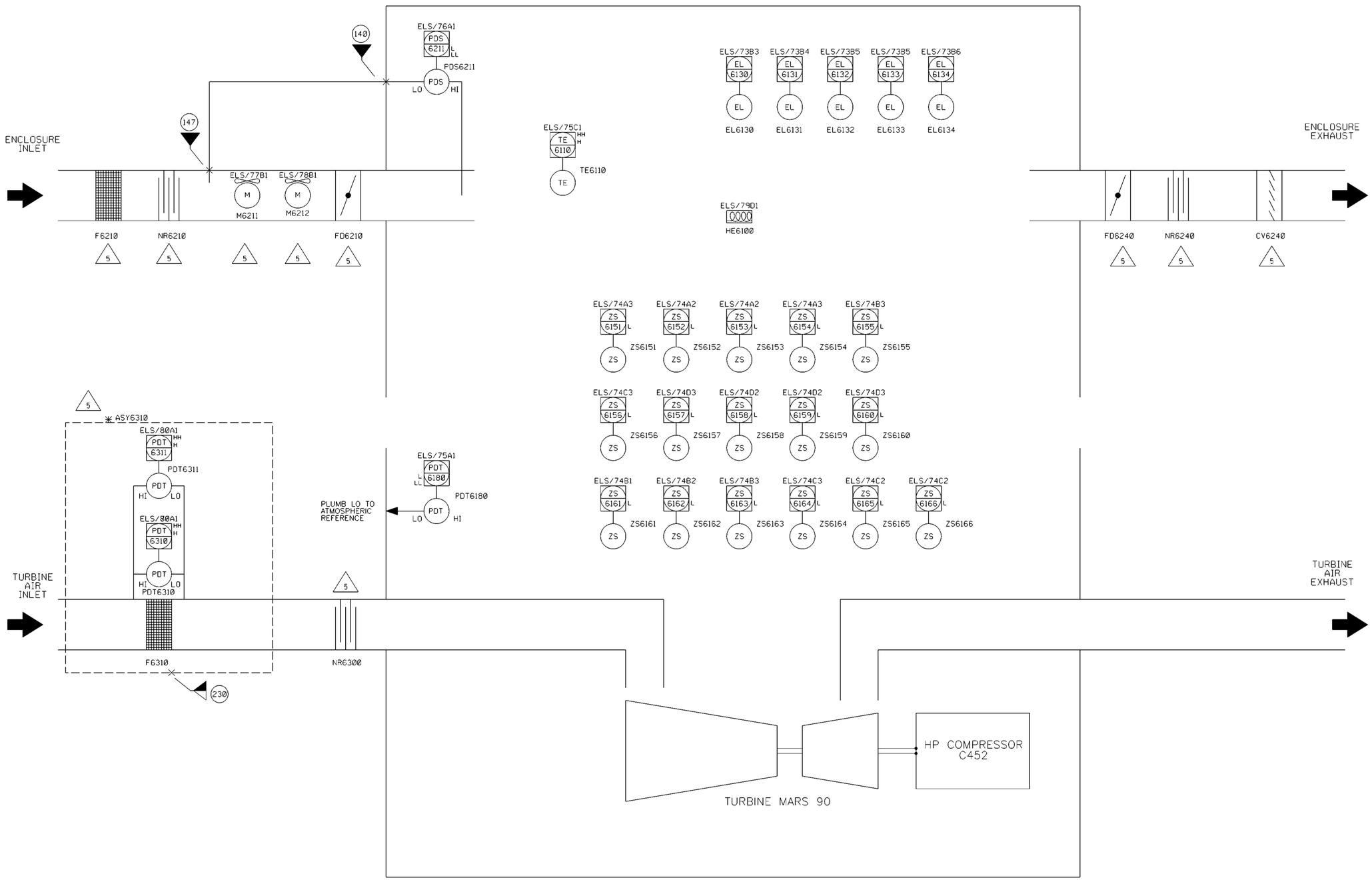

CUSTOMER
GSPL - Gana Gas
Fernas Construction Company Inc
Gujarat State Petronet Ltd
Gana Compressor Station

DRAWING TITLE
MARS 90 - COMPRESSOR SET
PROCESS & INSTRUMENTATION DIAGRAM
ENCLOSURE SYSTEM

Solar® Turbines
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DRAWING NO.	DWG REV C	SHT REV C
3P961-149446	SHEET 12 OF 22	

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PAGE	REVISION	DESCRIPTION
1	A	LEGEND AND GENERAL NOTES
2	C	START SYSTEM
3	C	TURBINE SYSTEM PAGE 1
4	C	TURBINE SYSTEM PAGE 2
5	C	GAS FUEL SYSTEM
6	C	LUBE SYSTEM PAGE 1
7	C	LUBE SYSTEM PAGE 2
8	C	DRY SEAL SYSTEM - HP
9	C	DRIVEN EQUIPMENT - HPC
10	C	FIRE AND GAS SYSTEM
11	C	CO2 FIRE CABINET
12	C	ENCLOSURE SYSTEM

Table of Contents (PID)

Solar® Turbines
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DRAWING NO. 3P961-149446

DWG REV C | SHT REV C

SHEET 13 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
ASY1520	3.C6		303504-100	ASSEMBLY	BURNER ACOUSTIC MONITOR			
ASY2100	5.A1		1056369-500	ASSEMBLY	CLEAN/DRAIN GAS SUPPLY			5
ASY2124	5.C4		1062883-100	ASSEMBLY	GAS FUEL SECONDARY SHUTOFF VALVE			
ASY3150	6.D4		1053843-2200	PUMP	PRE/POST LUBE, AC MOTOR DRIVEN	330 GPM (1250 LPM) AT 32.5 PSIG (2.24 BARG)		
ASY3170	6.D6		1037996-3P961	ASSEMBLY	POST BACKUP LUBE OIL SUPPLY			
ASY3240	6.A4		1064722-3P961	ASSEMBLY	MAIN LUBE FILTER			
ASY3280	6.B6		1023450-3P961	ASSEMBLY	PORTABLE LUBE OIL CONDITIONER			5
ASY6310	12.B1		SEE MID	ASSEMBLY	TURBINE AIR INLET FILTER ASSEMBLY			5
ASY6600	11.A2		1091510-3P961	ASSEMBLY	FIRE SUPPRESSION SYSTEM	CO2 CABINET		5
ASY6601	11.B2		1091510-3P961	ASSEMBLY	FIRE SUPPRESSION SYSTEM	CO2 CABINET		5
AV1350	2.C3		186232-2700	AUTOMATIC VALVE	STARTER SHUTOFF	CV = 130, NORMALLY CLOSED	MAX PRESSURE= 675 PSIG (46.6 BARG)	
AV1351	2.B4		120079-1	AUTOMATIC VALVE	STARTER PILOT		NORMALLY OPEN	
AV1710	3.D2		186648-300	AUTOMATIC VALVE	ON-LINE CRANK CLEANING SHUTOFF VALVE	CV = 38	MAX PRESSURE= 2200 PSIG (151.7 BARG),	
AV1720	3.D2		186648-300	AUTOMATIC VALVE	ON-CRANK CRANK CLEANING SHUTOFF VALVE	CV = 38	MAX PRESSURE= 2200 PSIG (151.7 BARG),	
AV2120	5.C2		186232-2900	AUTOMATIC VALVE	PRIMARY GAS FUEL SHUTOFF	CV = 130	MAX PRESSURE= 675 PSIG (46.6 BARG) NORMALLY CLOSED	
AV2121	5.C3		190537-500	AUTOMATIC VALVE	GAS VENT	CV = 0.9	MAX DESIGN PRESS= 1500 PSIG (103.4 BARG) MAX ACTUATOR PRESSURE: 200 PSIG (13.80 BARG) NORMALLY CLOSED	
AV2124	5.C4		PART OF ASY2124	AUTOMATIC VALVE	SECONDARY GAS FUEL SHUTOFF	CV = 430	MAX PRESSURE= 700 PSIG (48.27 BARG) NORMALLY CLOSED	
AV2150	5.D4		190537-500	AUTOMATIC VALVE	GAS TORCH SHUTOFF	CV = 0.9	MAX DESIGN PRESS= 1500 PSIG (103.4 BARG) MAX ACTUATOR PRESSURE: 200 PSIG (13.80 BARG) NORMALLY CLOSED	
AV5120	8.A3		1099332-100	VALVE BALL	SEAL GAS SUPPLY, HP COMPRESSOR	CV = 32	NORMALLY CLOSED	
AV5980	8.B1		186648-1	AUTOMATIC VALVE	HPC SEAL GAS BOOST PUMP AIR SUPPLY			
AV5981	8.B2		190537-500	AUTOMATIC VALVE	HPC SEAL GAS BOOST PUMP AIR SUPPLY			
CV1110	3.D2		915498C1	CHECK VALVE	AIR INLET DUCT DRAIN	0.25 PSIG (0.017 BARG) CRACKING		
CV2150	5.D4		1030794-12	CHECK VALVE	GAS TORCH	2 PSIG (0.14 BARG) CRACKING		
CV3150	6.D4		1059700-15	CHECK VALVE	PRE/POST LUBE OIL PUMP	0.5 PSIG (0.035 BARG) CRACKING PRESSURE		
CV3170	6.D6		1059700-15	CHECK VALVE	ISOLATE BACKUP PUMP	0.5 PSIG (0.035 BARG) CRACKING PRESSURE		
CV3200	6.C2		1059700-10	CHECK VALVE	MAIN LUBE SUPPLY	0.45 PSID (0.031 BARD) CRACKING		
CV5100	8.D2		1030794-12	CHECK VALVE	BUFFER AIR, HP COMPRESSOR	CV = 1.5, 2 PSI (0.14 BAR) CRACKING		
CV5120	8.A3		190303-15	CHECK VALVE	EXTERNAL SEAL GAS SUPPLY, HP COMPRESSOR	CV = 13.0, 1 PSI (0.069 BAR) CRACKING		
CV5980	8.B2		190303-12	CHECK VALVE	SEAL GAS BOOST BACK FLOW PREVENTION	CV = 10.0, 1 PSIG (0.070 KG/CM2) CRACKING		
CV5981	8.B2		1030794-12	CHECK VALVE	SEAL GAS BOOST PUMP SHAFT LEAKAGE RELIEF	CV = 1.7, 10 PSIG (0.69) BAR		
CV5982	8.B5		190303-13	CHECK VALVE	SEAL GAS BOOST BACK FLOW PREVENTION	CV = 10.0, 1 PSIG (0.070 KG/CM2) CRACKING		
CV6240	12.A7		SEE MID	CHECK VALVE	BACK DRAFT DAMPER, ENCLOSURE EXHAUST			5
CV6611	11.A2		PART OF ASY6600	CHECK VALVE	PRIMARY RELEASE SYSTEM			
CV6612	11.B2		PART OF ASY6600	CHECK VALVE	EXTENDED RELEASE SYSTEM			
CV6631	11.C2		PART OF ASY6601	CHECK VALVE	PRIMARY RELEASE SYSTEM			
CV6632	11.C2		PART OF ASY6601	CHECK VALVE	EXTENDED RELEASE SYSTEM			
DTF6510	10.B3		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,2,3,4,6,8 CLOSED: 5,7		
DTF6511	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 2,3,4,6,8 CLOSED: 1,5,7		
DTF6512	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,3,4,6,8 CLOSED: 2,5,7		
DTF6513	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 3,4,6,8 CLOSED: 1,2,5,7		
DTF6514	10.B4		1078695-28	FIRE DETECTOR	MULTI-SPECTRUM (FIRE)	OPEN: 1,2,4,6,8 CLOSED: 3,5,7		
DTG6561	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 4,5,8 CLOSED: 1,2,3,6,7		
DTG6562	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 1,2,3,5,8 CLOSED: 4,6,7		
DTG6563	10.B2		1078325-7	GAS DETECTOR	ENCLOSURE AIR INLET	OPEN: 2,3,5,8 CLOSED: 1,4,6,7		
DTG6567	10.B2		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 1,3,5,8 CLOSED: 2,4,6,7		
DTG6568	10.B2		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 3,5,8 CLOSED: 1,2,4,6,7		
DTG6569	10.B3		1078325-7	GAS DETECTOR	TURBINE AIR INLET	OPEN: 1,2,5,8 CLOSED: 3,4,6,7		
DTG6571	10.A4		1078325-7	GAS DETECTOR	FUEL MODULE AREA	OPEN: 1,2,3,4,8 CLOSED: 5,6,7		
DTG6572	10.A4		1078325-7	GAS DETECTOR	FUEL MODULE AREA	OPEN: 2,3,4,8 CLOSED: 1,5,6,7		
DTG6581	10.B5		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 1,2,4,5,8 CLOSED: 3,6,7		

Solar® Turbines
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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 14 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
DTG6582	10.B6		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 2,4,5,8 CLOSED: 1,3,6,7		
DTG6583	10.B6		1078325-7	GAS DETECTOR	ENCLOSURE AIR EXHAUST	OPEN: 1,4,5,8 CLOSED: 2,3,6,7		
EL6130	12.A4		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6131	12.A4		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6132	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6133	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
EL6134	12.A5		1069407-6	LIGHT SOURCE	AC FLUORESCENT WITH DC BACKUP		120-277 VAC, 50/60 HZ, 72 WATTS	
F1350	2.C2		120835-16	FILTER	FILTER START GAS		0.033 INCH (0.8 MM) PERFORATIONS	5
F1351	2.B3		1035758-100	FILTER	FILTER PILOT GAS	0.1 MICRON NOMINAL		
F1710	3.D1		120848-4	FILTER	ON-LINE ENGINE CLEANING SUPPLY	40 MESH		
F1711	3.D2		PART OF ENGINE	FILTER	PROTECT SPRAY RING (ON-LINE)	100 MESH		
F1720	3.D1		120848-4	FILTER	ON-CRANK ENGINE CLEANING SUPPLY	40 MESH		
F1721	3.D2		PART OF ENGINE	FILTER	PROTECT SPRAY RING (ON-CRANK)	100 MESH		
F2100	5.A2		PART OF ASY2100	FILTER SEPARATOR	REMOVE LIQUIDS/DIRT	10 MICRON NOMINAL		5
F2106	5.A6		1060817-900	FILTER	FILTER GAS FUEL	10 MICRON ABSOLUTE	MAX DESIGN PRESS= 690 PSIG AT 160F (47.60 BAR AT 71C) ELEMENT CHANGE OUT: 14 PSID (0.97 BARD) ELEMENT COLLAPSE: 90 PSID (6.21 BARD)	5
F3100	6.C1		700872C1	FILTER	PDT3100 REFERENCE PRESSURE	40 MESH		
F3101	6.D4		190187-300	FILTER	LUBE OIL TANK FILL	20 MESH		
F3110	6.D2		REFERENCE	FILTER	MAIN PUMP SUCTION	0.125 INCH (3.175 MM) DIAMETER OPENINGS		
F3240	6.B4		PART OF ASY3240	FILTER	MAIN LUBE FILTER	10 MICRON, EFFICIENCY 99.9%		
F3250	6.B4		PART OF ASY3240	FILTER	MAIN LUBE FILTER	10 MICRON, EFFICIENCY 99.9%		
F3270	6.A1		190242-101	FILTER SEPARATOR	TANK VENT	340 ACFM AT 40 MG PER ACF		5
F3280	6.B6		PART OF ASY3280	FILTER	LUBE OIL CONDITIONING	POP UP INDICATOR AT 35 PSID (241 KPAD)	3 MICRON FILTER	5
F3310	7.A2		1026189-2	FILTER	START-UP, #1 ENGINE BEARING	70 MICRON		
F3320	7.B2		1026189-4	FILTER	STARTUP, GAS PRODUCER	70 MICRON NOMINAL		
F3340	7.B3		1026189-5	FILTER	STARTUP, #4 AND #5 ENGINE BEARING	70 MICRON		
F3420	7.A4		1026189-4	FILTER	STARTUP, HP COMPRESSOR SUCTION	70 MICRON NOMINAL		
F3430	7.A5		118602-23	FILTER	STARTUP, HP COMPRESSOR DISCHARGE	70 MICRON		
F5104	8.D2		170596-100	FILTER	BUFFER AIR, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5105	8.D2		948282C1	FILTER	BUFFER AIR, HP COMPRESSOR			
F5108	8.D3		948282C1	FILTER	BUFFER AIR, SUCTION END, HP COMPRESSOR			
F5109	8.D5		948282C1	FILTER	BUFFER AIR, DISCHARGE END, HP COMPRESSOR			
F5130	8.A4		190247-101	FILTER	SEAL GAS, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5140	8.A4		190247-101	FILTER	SEAL GAS, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5904	8.C1		170596-100	FILTER	SEAL GAS BOOST, HP COMPRESSOR	0.1 MICRON, BETA = 14		
F5905	8.D1		948282C1	FILTER/DRAINER	SEAL GAS BOOST, HP COMPRESSOR			
F5980	8.B1		190247-101	FILTER	HPC SEAL GAS BOOST SYSTEM	0.1 MICRON, BETA = 14		
F6210	12.A1		SEE MID	FILTER	ENCLOSURE INLET FILTER			5
F6310	12.C1		PART OF ASY6310	FILTER	TURBINE AIR INLET			5
F6400	5.D1		1089034-1	FILTER	FILTER PACKAGE AIR SUPPLY	3 MICRON ABSOLUTE	200 PSIG (13.8 BARG) MAX OPERATING PRESSURE	
F6530	3.A2		REFERENCE	FILTER	PCD AIR FOR FILTER CLEANING			5
FCE1420	3.A5		PART OF ENGINE	FLOW CONTROL, ELECTRIC	COMPRESSOR BLEED AIR, MOTOR DRIVEN (BV)		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE1440	3.B3		PART OF ENGINE	FLOW CONTROL, ELECTRIC	COMPRESSOR VARIABLE GUIDE VANE		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE2130	5.C5		1088209-900	FLOW CONTROL, ELECTRIC	MAIN ELECTRIC GAS FUEL		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FCE2140	5.C5		1042018-3300	FLOW CONTROL, ELECTRIC	ELECTRIC PILOT GAS FUEL		120 VDC, 0.5 A CONTINUOUS, 5 A PEAK FOR 120 MILLISECONDS 20 A TRANSIENT FOR 60 MILLISECONDS	
FD6210	12.A2		SEE MID	FIRE DAMPER	ENCLOSURE INLET FIRE DAMPER			5
FD6240	12.A6		SEE MID	FIRE DAMPER	ENCLOSURE EXHAUST FIRE DAMPER			5
FE2108	5.A5		1065717-200	FLOW ELEMENT	GAS FUEL FLOW MEASUREMENT			5
FO1120	3.A4		124427-4401	FLOW ORIFICE	PCD CONDENSATE DRAIN	0.06 INCH (1.5 MM) DIAMETER		
FO1350	2.B4		182627-2035	FLOW ORIFICE	PILOT PRESSURE BLEED	0.035 INCH (0.9 MM)		
FO1500	3.A4		908601C1	FLOW ORIFICE	FLAMEOUT TIME DELAY	8800 LOHMS, 0.009 INCH (0.23 MM),		
FO1710	3.D2		PART OF ENGINE	FLOW ORIFICE	CLEANING FLUID INJECTION (ON-LINE)			
FO1720	3.D2		PART OF ENGINE	FLOW ORIFICE	CLEANING FLUID INJECTION (ON-CRANK)			
FO2121	5.C3		124427-4401	FLOW ORIFICE	RESTRICT VENT BLEED	0.059 INCH (1.5 MM), DIAMETER ORIFICE		
FO3110	6.D1		182627-2118	FLOW ORIFICE	P3110 PRIMING ASSIST, AIR VENT	0.118 INCHES (3.0 MM) DIAMETER		
FO3111	6.D2		1014293-10	FLOW ORIFICE	MAIN LUBE OIL PUMP WETTING	CV = 0.09		
FO3112	6.D2		1014293-10	FLOW ORIFICE	MAIN LUBE OIL PUMP PRE-LUBE	CV = 0.09		
FO3150	6.C2		186103-69	FLOW ORIFICE	P3150 THROTTLING		1.25 INCH (31.8MM) DIAMETER ORIFICE	
FO3170	6.B4		186103-94	FLOW ORIFICE	P3170 THROTTLING			

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Schematic Functional Component List

DRAWING NO. 3P961-149446 | DWG REV C | SHT REV C | SHEET 15 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
FO5152	8.C4		182627-2140	FLOW ORIFICE	LIMIT SEAL GAS FLOW, SUCTION END HP COMPRESSOR	0.14 INCH (3.6 MM) DIAMETER		
FO5154	8.C5		182627-2140	FLOW ORIFICE	LIMIT SEAL GAS FLOW, DISCHARGE END HP COMPRESSOR	0.14 INCH (3.6 MM) DIAMETER		
FO5160	8.B3		182627-1187	FLOW ORIFICE	MEASURE PRIMARY SEAL LEAKAGE, SUCTION END HP COMPRESSOR	0.187 INCH (4.4 MM) DIAMETER		
FO5170	8.B6		182627-1187	FLOW ORIFICE	MEASURE PRIMARY SEAL LEAKAGE, DISCHARGE END HP COMPRESSOR	0.187 INCH (4.4 MM) DIAMETER		
FO5980	8.B2		182627-2070	FLOW ORIFICE	LIMIT SEAL GAS BOOST PUMP FLOW	0.070 INCH (1.8 MM) DIAMETER		
FO6530	3.B4		124427-4700	FLOW ORIFICE	LIMIT PCD TO AIR INLET FILTER	0.22 INCH (5.59 MM) DIAMETER		
FT2108	5.A5		PART OF FE2108	FLOW TRANSMITTER	MONITOR GAS FUEL FLOW		4 - 20 MA= 0 - 12000 LB/H (0 - 5440 KG/H)	5
FT5108	8.D3		1083867-7	FLOW TRANSMITTER	SEPARATION GAS FLOW (SUCTION) HP COMPRESSOR		4 - 20 MA = 0 - 20 SCFM (0.63 - 32.2 NM3/HR)	
FT5109	8.D5		1083867-7	FLOW TRANSMITTER	SEPARATION GAS FLOW (DISCHARGE) HP COMPRESSOR		4 - 20 MA = 0 - 20 SCFM (0.63 - 32.2 NM3/HR)	
FT5165	8.B3		1083867-8	FLOW TRANSMITTER	SECONDARY SEAL VENT FLOW (SUCTION) HP COMPRESSOR	HIGH SHUTDOWN: REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 40 SCFM (0 - 64.3 NM3/HR)	
FT5175	8.C6		1083867-8	FLOW TRANSMITTER	SECONDARY SEAL VENT FLOW (DISCHARGE) HP COMPRESSOR	HIGH SHUTDOWN: REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 40 SCFM (0 - 64.3 NM3/HR)	
H3103	6.D4		1077480-3P961	HEATER	LUBE OIL TANK HEATER	SET PROCESS THERMOSTAT TO 125F (52C) HIGH LIMIT THERMOSTAT (NON-ADJUSTABLE)	380-415 VAC, 3-PH, 21-25 KW	
HE3220	6.B2		SUPPLIED BY OTHERS	HEAT EXCHANGER	LUBE OIL COOLER		110 F (43.3 C) AMBIENT	5
HE6100	12.A4		1078095-10	HEATER	ENCLOSURE SPACE		415VAC, 3-PH, 7.5 KW	
HE6530	3.A2		REFERENCE	HEAT EXCHANGER	PCD COOLER			
HV1110	3.C2		186426-5	HAND VALVE	BLOCK AND BLEED, PDT1110		BLOCK OPEN, BLEED CLOSED	
HV1521	3.C5		PART OF ASY1520	HAND VALVE	BAM ISOLATION AIR		NORMALLY OPEN	
HV1522	3.C6		PART OF ASY1520	HAND VALVE	BAM: PCD DRAIN		NORMALLY CLOSED	
HV1721	3.D2		1012230-2	HAND VALVE	AUXILIARY WATER WASH PORT		MAX DESIGN 800 PSIG (55.2 BARG)	
HV2100	5.A2		PART OF ASY2100	HAND VALVE	BLOCK AND BLEED	BLOCK OPEN, BLEED CLOSED		5
HV2101	5.A1		PART OF ASY2100	HAND VALVE	VENT, GAS FUEL FILTER/COALESCER		NORMALLY CLOSED	5
HV2102	5.B2		PART OF ASY2100	HAND VALVE	INLET N2 PURGE, GAS FUEL		NORMALLY CLOSED	5
HV2103	5.A2		PART OF ASY2100	HAND VALVE	DRAIN, UPPER SUMP, GAS FUEL		NORMALLY CLOSED	5
HV2104	5.B2		PART OF ASY2100	HAND VALVE	DRAIN, LOWER SUMP, GAS FUEL		NORMALLY CLOSED	5
HV3001	6.C3		1015168-2	HAND VALVE	LOW POINT DRAIN, COOLER BYPASS			
HV3002	6.C3		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER, COOLER RETURN			
HV3003	6.A3		190170-1	HAND VALVE	SAMPLING PORT VALVE, DOWNSTREAM OF TCV3200			
HV3004	6.A6		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER			
HV3005	6.A6		190170-1	HAND VALVE	SAMPLING PORT VALVE, MAIN LUBE OIL HEADER			
HV3110	6.C2		1015168-2	HAND VALVE	LOW POINT DRAIN, MAIN LUBE OIL HEADER			
HV3240	6.A4		186426-5	HAND VALVE	TRANSMITTER BLOCK AND BLEED		BLOCK OPEN, BALANCE CLOSED	
HV3242	6.B4		PART OF ASY3240	HAND VALVE	FILTER CROSSOVER		NORMALLY CLOSED	
HV3245	6.A5		PART OF ASY3240	HAND VALVE	VENT, OIL FILTER		NORMALLY CLOSED	
HV3246	6.B4		PART OF ASY3240	HAND VALVE	FILTER DRAIN, DIRTY SIDE		NORMALLY CLOSED	
HV3247	6.B5		PART OF ASY3240	HAND VALVE	FILTER DRAIN, CLEAN SIDE		NORMALLY CLOSED	
HV3250	6.B4		PART OF ASY3240	TRANSFER VALVE	MAIN LUBE FILTER			
HV3255	6.B5		PART OF ASY3240	HAND VALVE	VENT, OIL FILTER		NORMALLY CLOSED	
HV3256	6.B4		PART OF ASY3240	HAND VALVE	FILTER DRAIN, DIRTY SIDE		NORMALLY CLOSED	
HV3257	6.B5		PART OF ASY3240	HAND VALVE	FILTER DRAIN, CLEAN SIDE		NORMALLY CLOSED	
HV3280	6.D1		131248-7	HAND VALVE	LUBE OIL CONDITIONING		NORMALLY CLOSED	5
HV3281	6.D1		131248-7	HAND VALVE	LUBE OIL CONDITIONING		NORMALLY CLOSED	5
HV4410	8.C4		186071-6	HAND VALVE	COMPRESSOR CASE DRAIN, BLOCK		NORMALLY CLOSED	
HV4420	8.C5		186071-6	HAND VALVE	COMPRESSOR CASE DRAIN, BLOCK		NORMALLY CLOSED	
HV5101	8.D2		1093582-2	HAND VALVE	BUFFER AIR SHUTOFF, HP COMPRESSOR		NORMALLY OPEN	
HV5104	8.D2		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5104			
HV5130	8.A4		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5130			
HV5131	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5132	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5134	8.B4		1098092	HAND VALVE	SEAL GAS FILTER DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5141	8.A4		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5142	8.A5		120240-10	HAND VALVE	SEAL GAS FILTER ISOLATION HP COMPRESSOR	CV = 7.35		
HV5144	8.B4		1098092	HAND VALVE	SEAL GAS FILTER DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5153	8.B5		186488-2	HAND VALVE	INSTRUMENTATION ISOLATION, HP COMPRESSOR			
HV5165	8.C3		915370C1	HAND VALVE	SECONDARY VENT DRAIN, HP COMPRESSOR		NORMALLY CLOSED	
HV5175	8.C7		915370C1	HAND VALVE	SECONDARY VENT DRAIN, HP COMPRESSOR		NORMALLY CLOSED	

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Schematic Functional Component List

DRAWING NO. 3P961-149446 | DWG REV C | SHT REV C | SHEET 16 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
HV5901	8.C1		1093582-2	HAND VALVE	SEAL BOOST AIR SHUTOFF, HP COMPRESSOR		NORMALLY OPEN	
HV5904	8.C1		186426-5	HAND VALVE	BLOCK AND BLEED, PDT5904			
HV5980	8.B1		186488-2	HAND VALVE	INSTRUMENTATION ISOLATION, PT5980			
HV6400	5.D2		190392-3	HAND VALVE	BLOCK AND BLEED, PT6400	BLOCK OPEN, BLEED CLOSED		
HV6530	3.A1		REFERENCE	HAND VALVE	PCD AIR FOR FILTER CLEANING			5
HV6531	3.A3		120010-18	HAND VALVE	PCD AIR FOR FILTER CLEANING			
HV6611	11.A1		CUSTOMER SUPPLIED	HAND VALVE	MANUAL LOCKOUT FOR PRIMARY RELEASE OF CO2			4
HV6621	11.A2		CUSTOMER SUPPLIED	HAND VALVE	MANUAL LOCKOUT FOR EXTENDED RELEASE OF CO2			4
LI3100	6.D3		116091-23	LEVEL INDICATOR	LUBE OIL TANK LEVEL		WHITE= INITIAL FILL, GREEN= OPERATING RANGE, YELLOW: ALARM ZONE, RED: ENGINE SHUTDOWN	
LS2101	5.B2		PART OF ASY2100	LEVEL SWITCH	GAS FUEL COALESCING LIQUID LEVEL, UPPER SUMP			5
LS2102	5.B2		PART OF ASY2100	LEVEL SWITCH	GAS FUEL COALESCING LIQUID LEVEL, LOWER SUMP			5
LS6611	11.B3		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #1	ALARM: 10% LOSS OF CO2		5
LS6612	11.B3		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #2	ALARM: 10% LOSS OF CO2		5
LS6613	11.B4		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #3	ALARM: 10% LOSS OF CO2		5
LS6621	11.B5		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #1	ALARM: 10% LOSS OF CO2		5
LS6622	11.B6		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #2	ALARM: 10% LOSS OF CO2		5
LS6623	11.B6		PART OF ASY6600	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #3	ALARM: 10% LOSS OF CO2		5
LS6631	11.C3		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #1	ALARM: 10% LOSS OF CO2		5
LS6632	11.C3		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #2	ALARM: 10% LOSS OF CO2		5
LS6633	11.C4		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH MAIN #3	ALARM: 10% LOSS OF CO2		5
LS6641	11.C5		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #1	ALARM: 10% LOSS OF CO2		5
LS6642	11.C6		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #2	ALARM: 10% LOSS OF CO2		5
LS6643	11.C6		PART OF ASY6601	LEVEL SWITCH	CO2 LOW LEVEL SWITCH EXTEND #3	ALARM: 10% LOSS OF CO2		5
LT3100	6.D3		1064829-1	LEVEL TRANSMITTER	TANK OIL LEVEL	LOW ALARM: 19.32 IN (49.1 CM) LOW SHUTDOWN: 16.93 IN (43.0 CM) HIGH ALARM: 23.74 IN (60.3 CM)	4 - 20 MA = 14.08 - 28.96 IN (35.76 - 73.56 CM), ABOVE TANK FLOOR AT FILL PORT	
M1306	2.B6		1094224-900	MOTOR	ENGINE SLOW ROLL DRIVER		415 VAC, 3 HP (2.2 KW), 1800 RPM SPACE HEATER: 115 VAC, 50/60 HZ, 1-PH, 200 WATTS MAX	
M3150	6.D4		PART OF ASY3150	MOTOR	AC PRE/POST LUBE PUMP MOTOR		380-420 VAC, 3-PH, 50 HZ, 14.8 HP (11 KW), SPACE HEATER: 220 VAC, 1-PH, 50 HZ, 200 WATTS MAX	
M3170	6.D6		PART OF ASY3170	MOTOR	DC BACKUP LUBE PUMP MOTOR		120 VDC, 5 HP (3.7 KW), 2700 RPM, 36.9 FLA SPACE HEATER: 240 VAC, 1-PH, 50 HZ 200W MAXIMUM	
M3280	6.B6		PART OF ASY3280	MOTOR	PORTABLE LUBE OIL CONDITIONING		415 VAC, 3-PH, 50 HZ	5
M6211	12.A2		1100612-300	MOTOR	VENTILATION FAN, DRIVER #1		415 VAC, 3-PH, 50 HZ, 30 HP (22 KW) RATED, SPACE HEATER: 120 VAC, 1-PH, 200 WATTS MAX	
M6212	12.A2		1100612-300	MOTOR	VENTILATION FAN, DRIVER #2		415 VAC, 3-PH, 50 HZ, 30 HP (22 KW) RATED, SPACE HEATER: 120 VAC, 1-PH, 200 WATTS MAX	
MS1350	2.C5		1063500-200	MOTOR	ENGINE STARTING		0-4500 SCFM (0-127 NM3/MIN) AT 115 PSIG	
N6601	10.A2		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6602	10.A2		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6603	10.A3		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6604	10.A3		969362C1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6606	10.A2		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6607	10.A2		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6608	10.A3		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
N6609	10.A3		70-30437-1	NOZZLE	FIRE EXTINGUISH SYSTEM			
NR1350	2.A5		1038499-100	NOISE REDUCER	STARTER EXHAUST		4500 SCFM (127 NM3/MIN)	5
NR6210	12.A1		SEE MID	NOISE REDUCER	ENCLOSURE INLET SILENCER			5
NR6240	12.A6		SEE MID	NOISE REDUCER	ENCLOSURE EXHAUST SILENCER			5
NR6300	12.C2		SEE MID	NOISE REDUCER	TURBINE AIR INLET SILENCER			5
P3110	6.D2		1063384-1	PUMP	MAIN LUBE OIL PUMP, ENGINE DRIVEN		433 GPM (1639 LPM), 88 PSIG (6.07 BARG)	
P3150	6.D4		PART OF ASY3150	PUMP	PRE/POST LUBE, AC MOTOR DRIVEN		330 GPM (1250 LPM) AT 32.5 PSIG (2.24 BARG)	
P3170	6.D6		PART OF ASY3170	PUMP	BACKUP LUBE, DC MOTOR DRIVEN		250 GPM (946 LPM) AT 18 PSIG (1.24 BARG)	
P3280	6.B6		PART OF ASY3280	PUMP	PORTABLE LUBE OIL CONDITIONING		9 GPM (34.1 LPM), 1500 RPM	5
P5980	8.B1		1074064-200	PUMP	HPC SEAL BOOST SYSTEM			
PCV1030	3.C6		1083334-100	PRESSURE CONTROL VALVE	EXHAUST COLLECTOR DRAINAGE	5 PSIG (0.34 BARG)	275 PSIG (19.0 BARG) MAX	
PCV1031	3.C6		1083334-100	PRESSURE CONTROL VALVE	EXHAUST COLLECTOR DRAINAGE	5 PSIG (0.34 BARG)	275 PSIG (19.0 BARG) MAX	

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 17 OF 22

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
PCV1351	2.C4		120073-16	PRESSURE CONTROL VALVE	PRESSURE REGULATOR AND	90 PSIG (6.21 BARG) NOMINAL		
PCV1352	2.B4		186273-37	PRESSURE CONTROL VALVE	PCV1352 BIAS, PRESSURE BOOST FOR FULL POWER CRANK, ADDITIVE TO PCV1351 SETTING	60 PSI (4.15 BAR) NOMINAL		
PCV2151	5.C4		186273-42	PRESSURE CONTROL VALVE	TORCH COARSE ADJUST REGULATOR	35 PSIG (2.41 BARG) SET	ADJUSTABLE RANGE= 25-50 PSIG (1.72-3.45 BARG)	
PCV2152	5.D4		186273-40	PRESSURE CONTROL VALVE	TORCH FINE ADJUST REGULATOR	15 - 20 PSIG (1.03 - 1.38 BARG)	ADJUSTABLE RANGE= 0-50 PSIG (0-3.45 BARG)	
PCV3200	6.C2		1038428-1	PRESSURE CONTROL VALVE	MAIN LUBE PRESSURE CONTROL	35 PSIG (2.41 BARG) SET		
PCV5100	8.D2		120759-4	PRESSURE CONTROL VALVE	BUFFER AIR, HP COMPRESSOR	18 PSIG (1.24 BARG)		
PCV5120	8.A2		186273-1	PRESSURE CONTROL VALVE	PILOT FOR SEAL GAS SHUTOFF VALVE, HP COMPRESSOR	95 PSIG (6.55 BARG)	95 TO 195 PSIG (6.55 TO 13.44 BARG)	
PCV5150	8.B4		120247-4	PRESSURE CONTROL VALVE	SEAL GAS HP COMPRESSOR	20 PSID (1.38 BARD)		
PCV5980	8.C1		1043380-1	PRESSURE CONTROL VALVE	HPC SEAL GAS BOOST,HP COMPRESSOR	80-100 PSIG (5.52 - 6.89 BAR) VARIABLE		
PCV6410	5.D2		186273-1	PRESSURE CONTROL VALVE	PRESSURE CONTROL, PILOT AIR	90 +/- 5 PSIG (6.21 +/- 0.34 BARG)	ADJUSTABLE RANGE= 75-200 PSIG (5.17-13.80 BARG)	
PCV6530	3.A2		REFERENCE	PRESSURE CONTROL VALVE	PCD AIR FOR FILTER CLEANING			5
PCV6611	11.B3		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #1			
PCV6612	11.B4		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #2			
PCV6613	11.B4		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #3			
PCV6621	11.B5		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #1			
PCV6622	11.B6		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #2			
PCV6623	11.B7		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6627	11.A7		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6629	11.A5		PART OF ASY6600	PRESSURE CONTROL VALVE	MANUAL RELEASE			
PCV6631	11.C3		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #1			
PCV6632	11.C4		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #2			
PCV6633	11.C4		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF PRIMARY #3			
PCV6641	11.C5		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #1			
PCV6642	11.C6		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #2			
PCV6643	11.C7		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6647	11.C7		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE OF EXTENDED #3			
PCV6649	11.C5		PART OF ASY6601	PRESSURE CONTROL VALVE	MANUAL RELEASE			
PDS1500	3.A4		1053929-16	PRESSURE DIFF SWITCH	FLAMEOUT PROTECTION	HIGH SHUTDOWN: 2 PSID (0.138 BARD) INCREASING	DPDT	
PDS6211	12.A3		1036679-10	PRESSURE DIFF SWITCH	ENCLOSURE VENT FAN FAIL	LOW ALARM: 0.5 INH2O (0.00124 BARD) LOW SHUTDOWN: SEE SOFTWARE		
PDT1110	3.C2		1052120-1	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET DUCT LOSSES		4 - 20 MA = 0 - 15 INH2O (0 - 37 MBARD)	
PDT2100	5.A2		PART OF ASY2100	PRESSURE DIFF TRANSMITTER	GAS FUEL COALESCING FILTER	HIGH ALARM: 221 INH2O (0.55 BARD)	4 - 20 MA = 0 - 300 INH2O (0 - 0.74 BARD)	5
PDT3100	6.C1		1052120-1	PRESSURE DIFF TRANSMITTER	LUBE OIL TANK VENT PRESSURE	HIGH ALARM: 8.5 INH2O (0.021 BARD) HIGH SHUTDOWN: 10 INH2O (0.0248 BAR)	4 - 20 MA = 0 - 15 INH2O (0 - 37 MBARD)	
PDT3240	6.A4		1052120-4	PRESSURE DIFF TRANSMITTER	MONITOR LUBE OIL FILTER	HIGH ALARM: 30 PSID (2.07 BAR)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT4400	8.D4	FIT-0X01	1052120-3	PRESSURE DIFF TRANSMITTER	IMPELLER EYE, HP COMPRESSOR		4 - 20 MA = 0 - 300 INH2OD (0 - 0.747 BARD)	
PDT4401	8.D4	PT-0X02	1052120-12	PRESSURE DIFF TRANSMITTER	IMPELLER EYE MAX FLOW, HP COMPRESSOR		4 - 20 MA = 0 - 50 PSID (0 - 3.347 BARD)	
PDT5100	8.D3		1052120-4	PRESSURE DIFF TRANSMITTER	BUFFER AIR DIFFERENTIAL PRESSURE, HP COMPRESSOR	LOW ALARM: 15 PSID (1.03 BARD) LOW SHUTDOWN: 13 PSID (0.9 BARD) HIGH ALARM: 22 PSID (1.52 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5104	8.D2		1052120-4	PRESSURE DIFF TRANSMITTER	BUFFER AIR FILTER DIFFERENTIAL PRESSURE, HP COMPRESSOR	HIGH ALARM: 30 PSID (2.07 BAR)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5130	8.A5		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL GAS FILTER DIFFERENTIAL PRESSURE, HP COMPRESSOR	HIGH ALARM: 20 PSID (1.38 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5150	8.B5		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL GAS DIFFERENTIAL, HP COMPRESSOR	LOW ALARM: 7 PSID (0.48 BARD) LOW SHUTDOWN: 4 PSID (0.28 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 6.89 BARD)	
PDT5904	8.C1		1052120-4	PRESSURE DIFF TRANSMITTER	SEAL BOOST AIR FILTER DELTA-P	HIGH ALARM: 30 PSID (2.09 BARD)	4 - 20 MA = 0 - 100 PSID (0 - 7.03 KG/CM2)	
PDT6180	12.C3		1052120-11	PRESSURE DIFF TRANSMITTER	ENCLOSURE PRESSURE DELTA (PRIMARY)	LOW ALARM: 0.25 INH2O (0.0062 BARD) LOW SHUTDOWN: 0.15 INH2O (0.0037 BARD)	4 - 20 MA = 0 - 3 INH2O (0.0075 BARG)	
PDT6310	12.C1		PART OF ASY6310	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET FILTER	HIGH ALARM: 3 INH2O (0.0075 BAR) HIGH SHUTDOWN: 6 INH2O (0.015 BAR)	4 - 20 MA = 0 - 10 INH2O (0 - 254 MM)	
PDT6311	12.B1		PART OF ASY6310	PRESSURE DIFF TRANSMITTER	TURBINE AIR INLET FILTER	HIGH ALARM: 3 INH2O (0.0075 BAR) HIGH SHUTDOWN: 6 INH2O (0.015 BAR)	4 - 20 MA = 0 - 10 INH2O (0 - 254 MM)	
PE1520	3.C5		1071327-1	PRESSURE ELEMENT	COMBUSTOR PRESSURE MONITOR	REFERENCE SOFTWARE FOR SET POINTS		
PI5980	8.C1		PART OF PCV5980	PRESSURE INDICATOR	HPC SEAL BOOST REGULATOR	PART OF PCV5980	0-160 PSIG (0 - 11.03 BAR)	
PI6530	3.A1		REFERENCE	PRESSURE INDICATOR	PCD AIR FOR FILTER CLEANING			5
PS3150	6.D5		1053923-53	PRESSURE SWITCH	AC PRE/POST PUMP CHECK	12 +/- 1 PSIG (0.83 +/- 0.07 BARG) INCREASING, BY 9 PSIG (0.62 BARG) DECREASING		
PS3170	6.D6		1053923-53	PRESSURE SWITCH	BACKUP PUMP LOW PRESSURE TEST	12 +/- 1 PSIG (0.83 +/- 0.07 BARG) INCREASING, BY 9 PSIG (0.62 BARG) DECREASING		
PS3200	7.A2		1053923-68	PRESSURE SWITCH	BACKUP LUBE PUMP ACTIVATION, PLC FAILURE	BY 8 PSIG (0.55 BARG) DECREASING, 10 PSIG (0.69 BARG) INCREASING		
PS4401	8.C4		1053923-31	PRESSURE SWITCH	COMPRESSOR CASE PRESSURE, HP COMPRESSOR	4 PSIG (0.28 BARG) DECREASING, BY 8 PSIG (0.55 BARG) INCREASING		
PS6610	10.A3		1053923-15	PRESSURE SWITCH	C02 RELEASE CONFIRM			
PSV3110	6.C2		120485-400	PRESSURE SAFETY VALVE	MAIN LUBE RELIEF	150 PSIG (10.34 BARG)		

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C SHT REV C
SHEET 18 OF 22

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GSPL

DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
PSV5160	8.A3		120652-5	PRESSURE SAFETY VALVE	PRIMARY SEAL VENT ORIFICE BYPASS, SUCTION END HP COMPRESSOR	30 PSI (2.07 BAR) CRACKING		
PSV5170	8.B6		120652-5	PRESSURE SAFETY VALVE	PRIMARY SEAL VENT ORIFICE BYPASS, DISCHARGE END HP COMPRESSOR	30 PSI (2.07 BAR) CRACKING		
PSV6410	5.D2		967664C1	PRESSURE SAFETY VALVE	LIMIT PILOT AIR PRESSURE	100 PSIG (6.90 BARG)		
PT1120	3.A3		1052168-23	PRESSURE TRANSMITTER	MONITOR PCD		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT1121	3.A4		1052168-23	PRESSURE TRANSMITTER	MONITOR PCD #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2120	5.C1		1052168-3	PRESSURE TRANSMITTER	GAS FUEL PRESSURE	LOW ALARM: REFERENCE SOFTWARE FOR SET POINTS HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2121	5.C3		1052168-23	PRESSURE TRANSMITTER	GAS VALVE CHECK	HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2126	5.C4		1052168-23	PRESSURE TRANSMITTER	FUEL CONTROL UPSTREAM PRESSURE	HIGH ALARM: 500 PSIG (34.47 BAR) HIGH SHUTDOWN: 505 PSIG (34.82 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2130	5.C5		1052168-23	PRESSURE TRANSMITTER	MAIN GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #1		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2131	5.C5		1052168-23	PRESSURE TRANSMITTER	MAIN GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2140	5.C5		1052168-23	PRESSURE TRANSMITTER	PILOT GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #1		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT2141	5.C5		1052168-23	PRESSURE TRANSMITTER	PILOT GAS MANIFOLD FUEL VALVE DISCHARGE PRESSURE #2		4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
PT3200	7.A3		1052168-2	PRESSURE TRANSMITTER	LUBE OIL HEADER PRESSURE	REFERENCE SOFTWARE FOR SET POINTS	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT4410	8.D4	PT-0X09	1052168-4	PRESSURE TRANSMITTER	SUCTION PRESSURE, HP COMPRESSOR	LOW ALARM: 910 PSIG (62.74 BAR) LOW SHUTDOW: 860 PSIG (59.29 BARG)	4 - 20 MA = 0-1500 PSIG (0-103.42 BAR)	
PT4430	8.C5	PT-0X10	1052168-5	PRESSURE TRANSMITTER	DISCHARGE PRESSURE, HP COMPRESSOR	HIGH ALARM: 1520 PSIG (104.8 BAR) HIGH SHUTDOWN: 1590 PSIG (109.63 BARG)	4 - 20 MA = 0-3500 PSIG (0-241.31 BAR)	
PT5153	8.B5		1052168-4	PRESSURE TRANSMITTER	BALANCE PISTON STATIC PRESSURE MEASUREMENT, HP COMPRESSOR		4 - 20 MA = 0-1500 PSIG (0-103.42 BAR)	
PT5160	8.B3		1052168-2	PRESSURE TRANSMITTER	PRIMARY SEAL VENT SUCTION FLOW, HP COMPRESSOR	HIGH ALARM: 8 PSIG (0.55 BAR) HIGH SHUTDOWN: 20 PSIG (1.38 BAR)	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT5170	8.B6		1052168-2	PRESSURE TRANSMITTER	PRIMARY SEAL VENT DISCHARGE FLOW, HP COMPRESSOR	HIGH ALARM: 8 PSIG (0.55 BAR) HIGH SHUTDOWN: 20 PSIG (1.38 BAR)	4 - 20 MA = 0 - 150 PSIG (0 - 10.34 BARG)	
PT5980	8.A1		1052168-1	PRESSURE TRANSMITTER	HPC SEAL PUMP SHAFT SEAL LEAKAGE MEASUREMENT	HIGH ALARM: 8 PSIG (0.55 BAR)	4-20 MA = 0-25 PSIG (0-172 KPAG)	
PT6400	5.D2		1052168-3	PRESSURE TRANSMITTER	MONITOR AIR SUPPLY	LOW ALARM: 80 PSIG (5.51 BARG) HIGH ALARM: 200 PSIG (13.80 BAR)	4 - 20 MA = 0 - 700 PSIG (0 - 48.3 BARG)	
R1700	3.D4		1056012-100	RESEVOIR	ENGINE CLEANING SYSTEM TANK	CHARGE WITH D.I. WATER/CLEANING FLUID/AIR: 26 GAL (100 L) AND 85-100 PSIG (5.86-6.90 BARG)	200F (93.3C), 130 PSIG (8.96 BARG) MAX	5
R3100	6.D1		PART OF SKID	RESERVOIR	OIL STORAGE		NORMAL OPERATING VOLUME= 1300 GAL (4920 L)	
R5165	8.C3		185616-9311W	RESERVOIR	SECONDARY SEAL VENT, SUCTION END, HP COMPRESSOR			
R5175	8.C6		185616-9311W	RESERVOIR	SECONDARY SEAL VENT, DISCHARGE END, HP COMPRESSOR			
R5980	8.B2		1110374-2	RESERVOIR PNEUMATIC	HPC SEAL GAS BOOST SYSTEM, PULSATION DAMPING	0.584-0.606 GALLONS (2.212-2.294 LITERS)		
R5981	8.C2		1110374-2	RESERVOIR PNEUMATIC	HPC SEAL GAS BOOST SYSTEM,PULSATION DAMPING	0.584-0.606 GALLONS (2.212-2.294 LITERS)		
R6611	11.B3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #1			5
R6612	11.B3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #2			5
R6613	11.B4		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #3			5
R6621	11.B5		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #1			5
R6622	11.B6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #2			5
R6623	11.B6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #3			5
R6631	11.C3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #1			5
R6632	11.C3		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #2			5
R6633	11.C4		1052743-3P961	CO2	CO2 FIRE SYSTEM PRIMARY BOTTLE #3			5
R6641	11.C5		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #1			5
R6642	11.C6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #2			5
R6643	11.C6		1052743-3P961	CO2	CO2 FIRE SYSTEM EXTENDED BOTTLE #3			5
SE1260	4.C1		PART OF ENGINE	SPEED ELEMENT	GAS PRODUCER SPEED (NGP)	REFERENCE SOFTWARE FOR SET POINTS		
SE1270	4.C4		PART OF ENGINE	SPEED ELEMENT	POWER TURBINE SPEED (NPT)	REFERENCE SOFTWARE FOR SET POINTS		
SE1271	4.C5		PART OF ENGINE	SPEED ELEMENT	BACKUP POWER TURBINE SPEED (NPT)	REFERENCE SOFTWARE FOR SET POINTS		
SE1306	2.B6		PART OF TURNING GEAR	SPEED ELEMENT	TURNING GEAR MOTOR	REFERENCE SOFTWARE FOR SET POINTS		
SE1330	4.C1		PART OF ENGINE	SPEED ELEMENT	PNEUMATIC START OVERSPEED			
SG3510	7.C2		1039199-5 (2 EACH)	SIGHT GLASS	#1 BEARING LUBE DRAIN			
SG3520	7.D2		1039199-5 (2 EACH)	SIGHT GLASS	#2 AND #3 ENGINE BEARING DRAIN			
SG3540	7.D3		1039199-5 (2 EACH)	SIGHT GLASS	#4 AND #5 ENGINE BEARING DRAIN			
SG3620	7.C5		1039199-5 (2 EACH)	SIGHT GLASS	COMPRESSOR SUCTION, HP			
SG3630	7.C5		1039199-4 (2 EACH)	SIGHT GLASS	COMPRESSOR DISCHARGE, HP			
SG5134	8.B4		908489C1	SIGHT GLASS	SEAL GAS FILTER, HP COMPRESSOR			
SG5144	8.B4		908489C1	SIGHT GLASS	SEAL GAS FILTER, HP COMPRESSOR			

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 19 OF 22

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GSPL

DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
SG5165	8.C3		908489C1	SIGHT GLASS	SECONDARY VENT DRAIN, HP COMPRESSOR			
SG5175	8.C7		908489C1	SIGHT GLASS	SECONDARY VENT DRAIN, HP COMPRESSOR			
SV1350	2.B3		1067310-100	SOLENOID VALVE	QUICK CLOSING	CV = 0.4 PRESSURE, CV = 9.6 VENT	MAX DESIGN PRESS= 261 PSIG (18 BAR)	
SV1351	2.B4		1067312-1	SOLENOID VALVE	START INITIATE		MAX PRESSURE= 508 PSIG (35.02 BARG), 24 VDC, 6 WATTS	
SV1352	2.B4		1067311-1	SOLENOID VALVE	INCREASED CRANK	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV1710	3.D2		1067311-1	SOLENOID VALVE	ON-LINE CLEANING SHUTOFF	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV1720	3.C2		1067311-1	SOLENOID VALVE	ON-CRANK CLEANING SHUTOFF	CV=0.4	MAX PRESSURE= 508 PSIG (35.02 KG/CM2),	
SV2120	5.C2		1091605-100	SOLENOID VALVE	PRIMARY GAS FUEL PILOT SHUTOFF VALVE	CV = 0.11 PRESSURE, CV = 8.8 VENT	MAX DESIGN PRESS= 125 PSIG (8.61 BARG), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2121	5.C2		1067311-1	SOLENOID VALVE	GAS FUEL VENT, PILOT		MAX PRESSURE= 508 PSIG (35.02 KG/CM2), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2124	5.C4		PART OF ASY2124	SOLENOID VALVE	SECONDARY GAS FUEL SHUTOFF VALVE, PILOT	CV = 0.7, EXHAUST CV = 3.95	MAX PRESSURE= 145 PSIG (10 BARG), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV2150	5.D3		1067311-1	SOLENOID VALVE	GAS TORCH SHUTOFF, PILOT		MAX PRESSURE= 508 PSIG (35.02 KG/CM2), NORMAL RANGE: 80-100 PSIG (5.52-6.89 BARG)	
SV5120	8.A3		1067311-1	SOLENOID VALVE	SEAL GAS SUPPLY SHUTOFF HP COMPRESSOR		24 VDC, 12 WATTS	
SV5980	8.B1		1067311-1	SOLENOID VALVE	HPC SEAL BOOST PILOT	24 VDC, 6 WATTS		
SV6611	11.A3		PART OF ASY6600	SOLENOID VALVE	PRIMARY RELEASE #1	CO2		
SV6613	11.A4		PART OF ASY6600	SOLENOID VALVE	PRIMARY RELEASE #3	CO2		
SV6631	11.C3		PART OF ASY6601	SOLENOID VALVE	SUBSEQUENT RELEASE #1	CO2		
SV6633	11.C4		PART OF ASY6601	SOLENOID VALVE	SUBSEQUENT RELEASE #3	CO2		
T1000	3.B3		TURBINE	GAS TURBINE				
TCV3200	6.C3		120713-20	TEMPERATURE CONTROL VALVE	OIL TEMPERATURE CONTROL	VALVE TRANSFER RANGE: 126F - 139F (52 - 59C)		
TE1110	3.C3		918801C1	TEMPERATURE ELEMENT	ENGINE AIR INLET TEMPERATURE		100 OHM PLATINUM	
TE1150	4.B4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1151	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1152	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1153	4.B5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1154	4.B6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1155	4.B6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1156	4.C4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1157	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1158	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1159	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1160	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1161	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1162	4.C4		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1163	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1164	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1165	4.C5		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1166	4.C6		PART OF ENGINE	TEMPERATURE ELEMENT	T5 THERMOCOUPLE	REFERENCE SOFTWARE FOR SET POINTS	TYPE K, CHROMEL/ALUMEL	
TE1260	4.B1		PART OF ENGINE	TEMPERATURE ELEMENT	GAS PRODUCER THRUST BEARING TEMPERATURE	REFERENCE SOFTWARE FOR SET POINTS	100 OHM PLATINUM	
TE1270	4.B3		PART OF ENGINE	TEMPERATURE ELEMENT	POWER TURBINE THRUST BEARING TEMPERATURE	REFERENCE SOFTWARE FOR SET POINTS		
TE2120	5.C3		131230-6	TEMPERATURE ELEMENT	GAS FUEL TEMPERATURE	LOW ALARM: -18 F (-27.8 C) LOW SHUTDOWN: -20 F (-28.9 C) HIGH ALARM: 200 F (93 C) HIGH SHUTDOWN: 215 F (102 C)	-328 TO + 752 F (-200 TO + 400 C)	
TE3100	6.D3		1014598	TEMPERATURE ELEMENT	MONITOR LUBE OIL TANK TEMPERATURE HEATER SYSTEM CONTROL	ON: 75 F (24 C) OFF: 80 F (27 C) START PERMIT: 62 F (17 C)	100 OHM PLATINUM	
TE3200	7.A1		964192C1	TEMPERATURE ELEMENT	LUBE OIL HEADER TEMPERATURE	LOW ALARM: 110F (43C) HIGH ALARM: 175 F (80C) HIGH SHUTDOWN: 180F (82C)	100 OHM PLATINUM	
TE3510	7.C2		959839C1	TEMPERATURE ELEMENT	#1 BEARING DRAIN	HIGH ALARM: HEADER TEMP + 45F (25C) HIGH SHUTDOWN: HEADER TEMP+50F (28C)	100 OHM PLATINUM	
TE3520	7.C2		964192C1	TEMPERATURE ELEMENT	#2 AND #3 BEARING COMMON DRAIN	HEADER TEMP+110F (61 C) HIGH SHUTDOWN: HEADER TEMP+125F (69 C)	100 OHM PLATINUM	
TE3540	7.C3		918777C1	TEMPERATURE ELEMENT	#4 AND #5 ENGINE BEARING COMMON DRAIN	HIGH ALARM: HEADER TEMP + 45F (25C) HIGH SHUTDOWN: HEADER TEMP+50F (28C)	100 OHM PLATINUM	
TE4413	9.C3	TE-02-5410A	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (UPPER PAD)			
TE4413-SP	9.C3		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (UPPER PAD - SPARE)			
TE4414	9.B3	TE-02-5410B	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (LOWER PAD)			
TE4414-SP	9.B3		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC SUCTION JOURNAL BEARING (LOWER PAD - SPARE)			
TE4417	9.C5	TE-02-5410C	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC INBOARD THRUST BEARING (UPPER PAD)			

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Schematic Functional Component List

DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 20 OF 22

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TE4418	9.B5	TE-02-5410D	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC INBOARD THRUST BEARING (LOWER PAD)			
TE4430	8.C4	TE0X04	1065035-13	TEMPERATURE ELEMENT	HIGH GAS DISCHARGE TEMPERATURE SHUTDOWN, HP COMPRESSOR	HIGH ALARM: 155 F (68 C) HIGH SHUTDOWN: 160 F (71 C)		
TE4433	9.C5	TE-02-5410E	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (UPPER PAD)			
TE4433-SP	9.C5		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (UPPER PAD - SPARE)			
TE4434	9.B5	TE-02-5410F	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (LOWER PAD)			
TE4434-SP	9.B5		DRIVEN COMMON	TEMPERATURE ELEMENT	HPC DISCHARGE JOURNAL BEARING (LOWER PAD - SPARE)			
TE4437	9.C5	TE-02-5410G	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC OUTBOARD THRUST BEARING (UPPER PAD)			
TE4438	9.B5	TE-02-5410H	DRIVEN COMMON	TEMPERATURE ELEMENT	HPC OUTBOARD THRUST BEARING (LOWER PAD)			
TE6110	12.A3		918801C1	TEMPERATURE ELEMENT	ENCLOSURE TEMPERATURE	HIGH ALARM: 167 F (75C) HIGH SHUTDOWN: 185F (85C)		
TS6540	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6541	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6542	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TS6543	10.B4		1105336-1	TEMPERATURE SWITCH	THERMAL DETECTOR, ENCLOSURE	HIGH SHUTDOWN: 325 F (163 C)		
TW2120	5.C3		1039733-1	THERMOWELL	GAS FUEL TEMPERATURE FOR TE2120			
TW3200	7.A1		1039733-1	THERMOWELL	LUBE OIL HEADER TEMPERATURE			
TW3510	7.C2		1039733-3	THERMOWELL	#1 BEARING DRAIN			
TW3520	7.C2		1039733-1	THERMOWELL	GAS PRODUCER DRAIN			
TW3540	7.C3		1039733-2	THERMOWELL	#4 AND #5 ENGINE BEARING COMMON DRAIN			
TW4430	8.C4		1008764	THERMOWELL	HP COMPRESSOR DISCHARGE			
VE1204	4.B1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE ACCESSORY DRIVE GEARBOX VELOCITY	REFERENCE SOFTWARE FOR SET POINTS		
VE1210	4.A1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #1 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1211	4.A1		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #1 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1220	4.A2		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #2 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1221	4.A2		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #2 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1230	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #3 (GP X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1231	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #3 (GP Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1240	4.A3		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #4 (PT X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1241	4.A4		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #4 (PT Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1250	4.A4		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #5 (PT X-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1251	4.A5		PART OF ENGINE	VIBRATION ELEMENT	ENGINE BEARING #5 (PT Y-AXIS)	REFERENCE SOFTWARE FOR SET POINTS		
VE1262	4.B1		PART OF ENGINE	VIBRATION ELEMENT	GAS PRODUCER (AXIAL)	REFERENCE SOFTWARE FOR SET POINTS		
VE1263	4.B1		PART OF ENGINE	VIBRATION ELEMENT	GAS PRODUCER (KEY PHASOR)	MONITORING ONLY		
VE1272	4.B4		PART OF ENGINE	VIBRATION ELEMENT	POWER TURBINE (AXIAL)	REFERENCE SOFTWARE FOR SET POINTS		
VE1273	4.B5		PART OF ENGINE	VIBRATION ELEMENT	POWER TURBINE KEY PHASOR	MONITORING ONLY		
VE4460	9.B3	VE-02-5310Q	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END (X-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4461	9.C3	VE-02-5310R	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END (Y-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4462	9.C6	VE-02-5310S	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR FORWARD END AXIAL #1 (Z-AXIS)	HIGH ALARM: 6 mils (.152 mm) HIGH SHUTDOWN: 11 mils (279 mm)	RANGE: -25 to 25 mils (-0.635 to 0.635 mm) END-PLAY WILL BE DETERMINED DURING INSTALLATION	
VE4470	9.B6	VE-02-5310T	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (X-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4471	9.C6	VE-02-5310U	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (Y-AXIS)	HIGH ALARM: 3 mils (76 um) HIGH SHUTDOWN: 3.5 mils (89 um)	RANGE: 0 - 5 mils (0 - 127 um)	
VE4473	9.B6	VE-02-5310V	DRIVEN COMMON	VIBRATION ELEMENT	HP COMPRESSOR AFT END (KEYPHASOR)			
XFA3270	6.A2		1065667-5	FLAME ARRESTOR	TANK VENT		VERTICAL MOUNTING	5
XFA5167	8.A6		1065667-1	FLAME ARRESTOR	SEAL VENT PROTECTION, PRIMARY, HP COMPRESSOR		VERTICAL MOUNTING	5
XFA5177	8.A7		1065667-1	FLAME ARRESTOR	SEAL VENT PROTECTION, SECONDARY, HP COMPRESSOR		VERTICAL MOUNTING	5
ZS6151	12.B3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6152	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			

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DRAWING NO. 3P961-149446
DWG REV C
SHT REV C
SHEET 21 OF 22

Schematic Functional Component List

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DEVICE ID	PAGE ZONE	CUSTOMER TAG	COMPONENT PART NUMBER	COMPONENT DESCRIPTION	SYSTEM FUNCTION	COMPONENT SETTING	SYSTEM NORMAL OR OPERATING VALUE	NOTES
ZS6153	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6154	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6155	12.B5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6156	12.B3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6157	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6158	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6159	12.B4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6160	12.B5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6161	12.C3		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6162	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6163	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6164	12.C4		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6165	12.C5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZS6166	12.C5		1045588	POSITION SWITCH	ENCLOSURE DOOR			
ZSC6611	11.A1		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION CLOSED			4
ZSC6621	11.A2		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION CLOSED			4
ZSO6611	11.A1		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION OPEN			4
ZSO6621	11.A2		CUSTOMER SUPPLIED	POSITION SWITCH	DETECT VALVE OPERATION OPEN			4

Schematic Functional Component List

Solar® Turbines
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GCASE REV 3.8.2: DB197.00

ESTIMATED COMPRESSOR PERFORMANCE

C45-2

[405] C2F C3R

Solar® Turbines

A Caterpillar Company

CONTROL NO.
P-35480 SHT.1
ISSUE DATE
02 JAN. 2013
ENGINEER
R. BERGENER

HFHR = 0.500

GUJARAT STATE PETRONET LTD

GANA

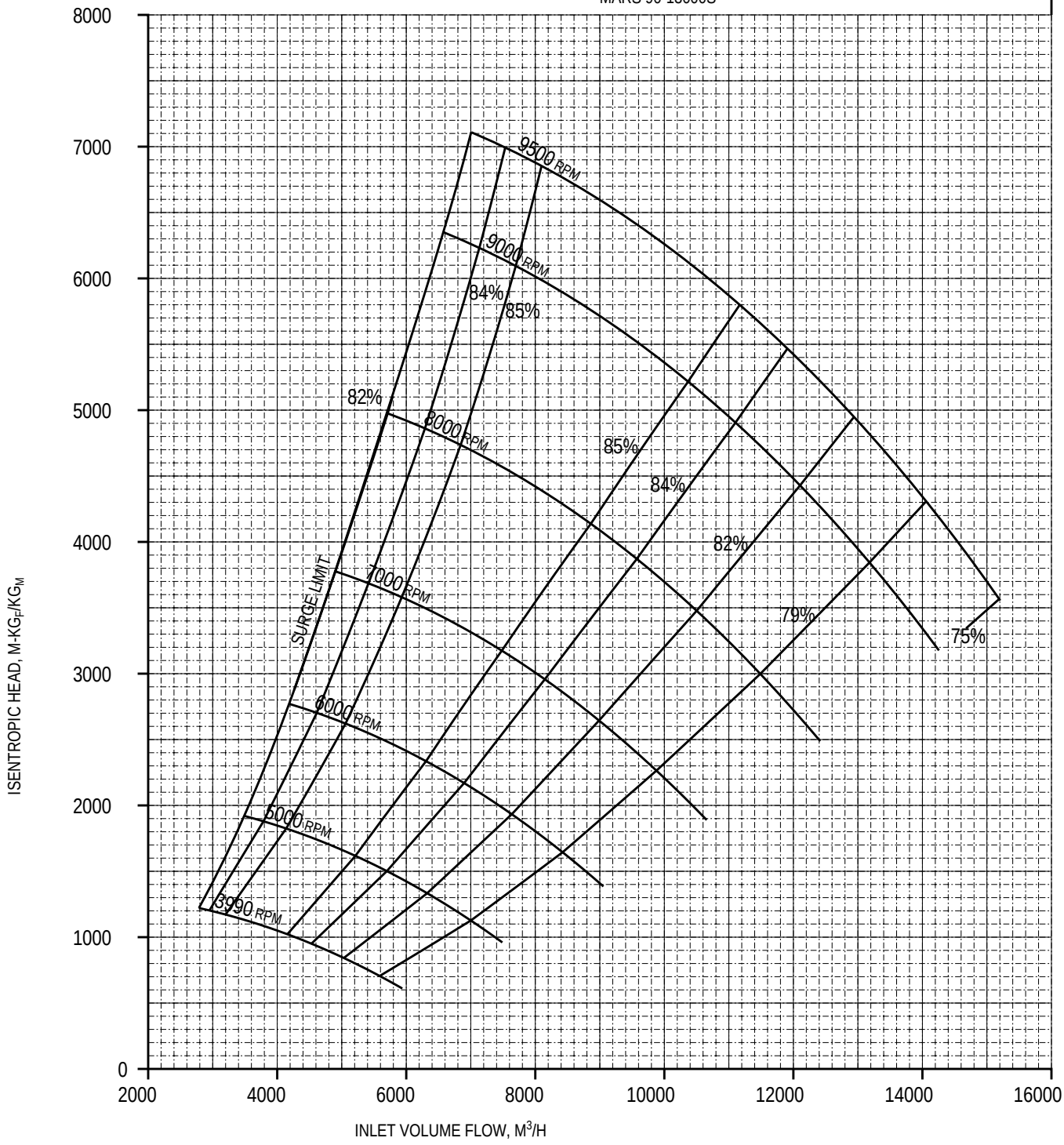
SG	K50	K300	PCP	PCT
0.5574	1.318	1.246	673.8	344.5

SUCTION TEMPERATURE 30.0 C

SUCTION PRESSURE 71.01 BARA

IN11-0004/3P961

MARS 90-13000S



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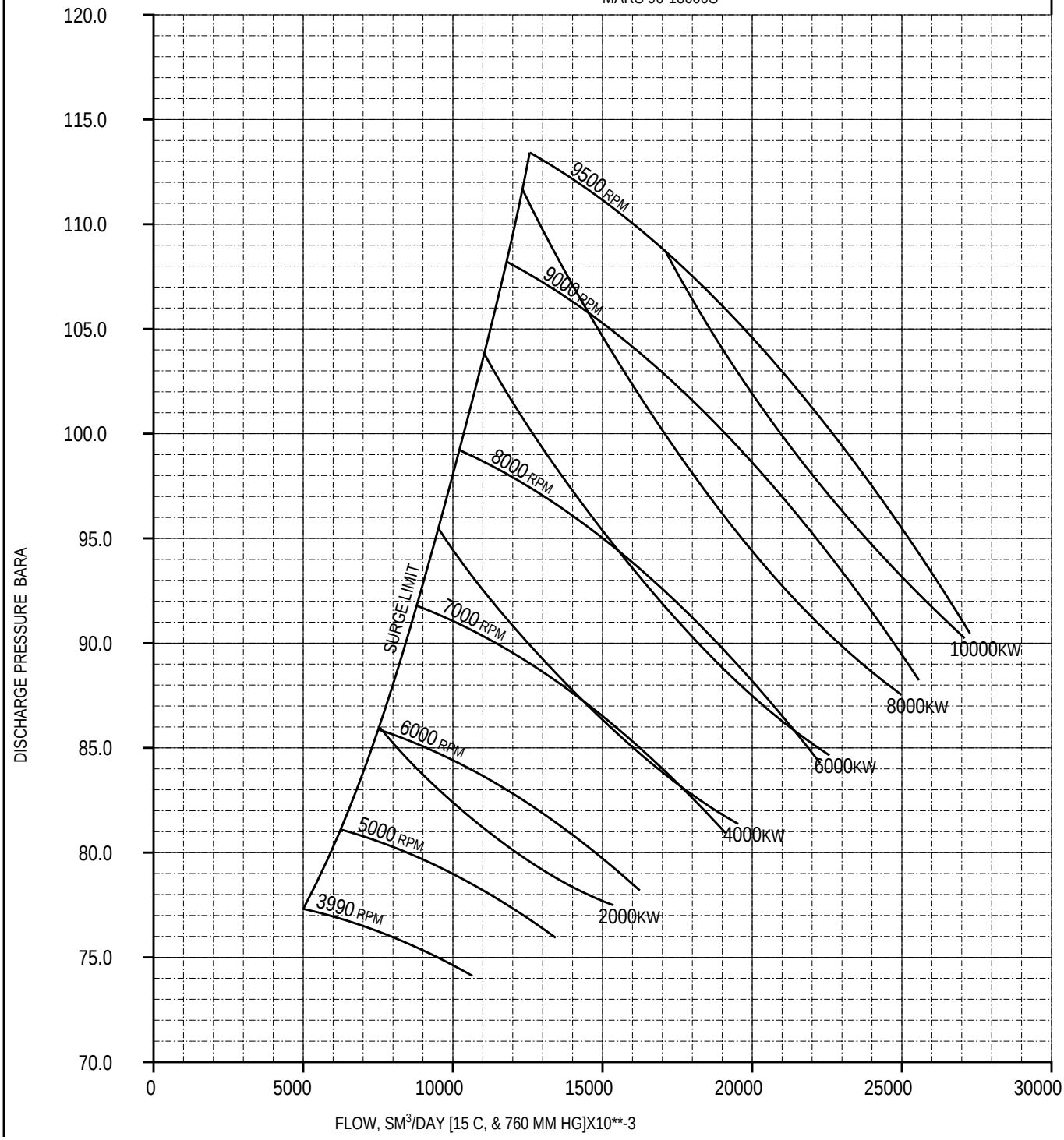

GCASE REV 3.8.2: DB197.00

ESTIMATED COMPRESSOR PERFORMANCE

C45-2

[405] C2F C3R

Solar® Turbines

A Caterpillar Company

CONTROL NO.
P-35480 SHT.3
ISSUE DATE
02 JAN. 2013
ENGINEER
R. BERGENER

HFHR = 0.500

GUJARAT STATE PETRONET LTD

GANA

SG	K50	K300	PCP	PCT
0.5574	1.318	1.246	673.8	344.5

SUCTION TEMPERATURE 30.0 C

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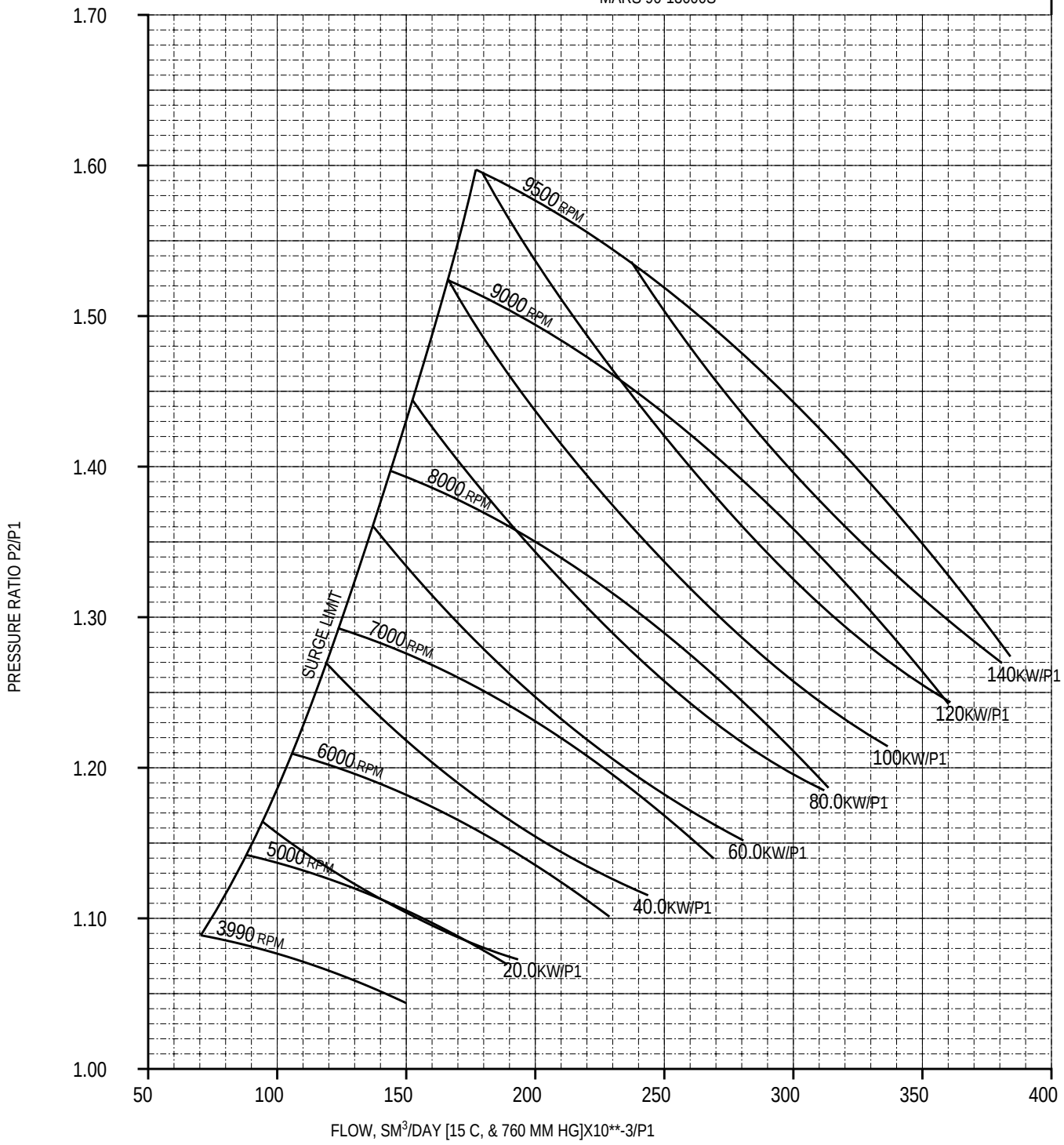
MARS 90-13000S



Gujarat State Petronet Ltd.

GSPL Bhavan, South Wing (Ground Floor), E-18,
GIDC Electronic Estate, Nr. K-7 Circle, Sector-26,
Gandhinagar - 382028.
Tel.: +91-79-23268515, 79-66701610
E-mail : ravindra@gspc.in
Website : www.gspcgroup.com

Ravindra Agrawal
Group Executive Director
(Gas Business)

GSPL/COMM/2022
3rd June 2022

Shri S C Gupta,
Joint Adviser (A&T)
Petroleum and Natural Gas Regulatory Board
1st Floor, World Trade Centre,
Babar Road,
New Delhi- 110 001

Subject: Submission of Capacity data for GSPL High Pressure Gas Grid for years 2021-22 and 2022-23

Ref : (i) PNGRB email dated 28th April 2022 and 26th May 2022

Dear Sir,

With reference to the above, GSPL is pleased to submit the capacity data as sought by PNGRB for the years 2021-22 and 2022-23 under PNGRB (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations 2010 for GSPL HP Gas Grid. The information sought is attached as Annexure 1 to this letter.

We would like to draw your kind attention to the fact that Capacity Assessment Group, in its Final report for Capacity Assessment of GSPL HP & LP Grid had stated that, to maintain parity with the operating margins offered to other entities, a reduction in the capacity of about 5% has been considered while determining the capacity of GSPL HP and LP Grid. The HP capacity was thus determined at 31 MMSCMD. Accordingly a reduction of 5% may please be applied to the HP & LP Capacity figures, for the respective year.

We hope that you will find the above information in order. Please feel free for seeking any clarification in the matter.

Thanking You,

Yours faithfully,

Ravindra Agrawal
Group ED (Gas Business)

Annexure 1

(i) Year wise Schedule A duly filled in the format given as given in PNGRB (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations 2010 for Capacity Determination for the year 2011-12

GSPL Response: Filled in Schedule A for the years 2021-2022 and 2022-23 is attached to this letter.

(ii) A schematic diagram of the Pipeline Network indicating pipeline sections, spur lines, pipeline size /lengths, entry and exit points, compressor stations as well as intermediate compressors etc.

GSPL Response : Year wise schematic diagram is attached as pdf file.

(iii) Input data for each pipe section data such as length (km), inside diameter(mm), wall thickness (mm), pipe wall roughness (micron), knot spacing, gas equation used, ground elevation profile, subsoil temperature, pipeline efficiency, drag factor etc.

GSPL Response: Pl. refer to excel files 'PNGRB Point 3 Data April*.xlsx' files for each year

(iv) Input data including all gas sources, gas entry temperature & pressure, quality & composition of natural gas, minimum and maximum gas flow etc.

GSPL Response: Pl. refer to excel files 'PNGRB Point 4 Data April*.xlsx' files for each year.

(v) The Constant & variable parameters considered as defined in PNGRB (Determining Capacity of Petroleum, Petroleum Products and Natural Gas Pipeline) Regulations 2010

GSPL Response: Pl. refer to Annexure A of Schedule A

(vi) Ground or Elevation profile of entire pipeline system

GSPL Response: Pl. refer to excel files 'PNGRB Point 3 Data April*.xlsx' files, Sheet "Nodes" for each year

(vii) Compressor data (performance data, performance curves, fuel gas consumption, standby scenario, as built-Datasheets, P&IDs etc)

GSPL Response : Pl. see attached pdf files (a) com_.performance data.pdf (ii) engine performance curve.pdf (iii) Engine Performance at Full load.pdf (iv) Gas Turbine Data Sheet.pdf (v) GTC – P&ID.pdf (vi) Performance Curve –P-35480.pdf

(viii) The year wise native input & output files of simulations for the entire pipeline system considering steady state condition of the pipeline hydraulics with contractual flow parameters (pressure, temperature and flow) at entry and exit points along with input and output summary.

GSPL Response :Pl. refer to the *.TGW files for respective year.

(ix) Designed & current operational data including power consumption at compressor stations.

GSPL Response: Pl. see attached "Compressor Design data.pdf", excel files "Capacity *.xlsx" and TGW files of respective year for the details

(x) System pressure drop considered at the outlet of supply points, at intermediate compressor stations and at the inlet of exit points

GSPL Response: Pl. refer to the *.TGW files of respective year.

(xi) Consumer and supply contracts with contractual pressure, flow, temperature, gas quality etc. at all source and delivery nodes.

GSPL Response: The Contractual volume details are incorporated in the excel & *.tgw files.

(xii) In case some shippers receive gas from a common point on the trunkline, provide the information / data /details about such groups of shippers for gas delivery point of view from trunkline.

GSPL Response: May please refer schematic map.

(xiii) Inlet pressure at any other source points

GSPL Response: Inlet pressure at each source point is included in excel files 'PNGRB Point 4 Data April*.xlsx' files for each year

(xiv) MAOP of the Pipeline

GSPL Response:Pl. refer to excel files 'PNGRB Point 3 Data *.xlsx' files and Sheet "Pipelines" for each year

(xv) Methodology followed for carrying out capacity determination

GSPL Response: Using Panhandle Modified flow equation (Pl. refer Schedule A Sl#5)

Schedule A

[see regulation 5(5)(a)(x)]

Format for furnishing information regarding determining capacity of Natural Gas Pipeline

1	Name of Entity	Gujarat State Petronet Ltd.
2	Address & Contact details of Entity	GSPL Bhavan, E-18, GIDC Electronic Estate, Nr. K-7 Circle,Sector-26, Gandhinagar-382028 Tel.: +91-79-23268500/600
3	Name of Natural Gas Pipeline	GSPL's High Pressure Gujarat Gas Grid
4	Name of Software package used	TGNet
5	Approved Flow equation used (mention name of flow equation)	**Panhandle -A** Module for ≤ 24" Ø pipelines **Panhandle -B** Module for ≥ 24" Ø pipelines
6	Details of injection/entry point and delivery/exit points and sections on the pipeline	This information is continuously variable. The Excel and *.tgw files capture the relevant information for determination of Capacity.
7	Composition of natural gas	Please refer Excel File "PNGRB Point 4 Data April*.xlsx" for respective year
8	Entity agrees to have considered the Technical standards, specifications and safety standards as specified by the Board	Yes/ ~~No~~
9	Entity agrees to have considered the relevant provisions of Petroleum and Natural Gas Regulatory Board Regulations	Yes/ ~~No~~
10	Constant and variable parameters used under steady state conditions for determining capacity of the pipeline	Please refer **Annexure-A**
11	Capacity of the pipeline under existing operating conditions	Same as submitted
12	Maximum achievable Capacity of the pipeline under steady state	Please refer **Annexure-B**

	conditions as determined under section 5 of these regulations	
13	Section wise maximum achievable capacity of the pipeline as determined under section 5 of these regulations	Several combinations are possible, section wise capacity is given in excel file "PNGRB Point 3 Data.xlsx" under headings of Flow (head) MMSCMD and Flow (tail) MMSCMD
14	Expected addition of entry points and exit points scheduled in near future	Currently not anticipated

Note: Submit the system flow diagram & hydraulic gradient

Annexure-A

Sr. No.	Constant Parameter	Variable Parameter
1.	Internal Diameter	Operating Temperature
2.	Length	Inlet Temperature
3.	Roughness	Outlet Temperature
4.	Efficiency factor	Inlet Pressure
5.	Formula	Outlet pressure
6.	Velocity	Source Supply flow
7.	STP	Delivery flow
8.	-----	Elevation difference
9.	-----	Gas composition

Annexure-B

Sr. No.	Natural Gas Pipeline	Financial Year	Maximum Capacity (MMSCMD)
1.	GSPL's High Pressure Gujarat Gas Grid	2021-22	35.21
2.		2022-23	34.17

Units	Exit Points	Flow (MMSCMD)	Pressure (barg)	Temperature (Deg C)
1	Cust 1	0.14	81.186713	29.975095
2	Cust 2	0.77	82.156327	18.091106
3	Cust 3	1.13	82.045348	17.431721
4	Cust 4	0	82.019688	30
5	Cust 5	0	82.060413	30
6	Cust 6	0.13	81.005808	29.477856
7	Cust 7	0.1	80.221832	42.259736
8	Cust 8	0.28	80.392318	31.511729
9	Cust 9	0.02	80.316232	30.911015
10	Cust 10	0.07	80.426415	30.011691
11	Cust 11	0.14	79.622285	29.85609
12	Cust 12	0.17	80.160351	29.980334
13	Cust 13	0.5	73.838261	30.008691
14	Cust 14	0.37	49.227626	25.502567
15	Cust 15	0.18	58.286981	28.696576
16	Cust 16	1.55	57.222735	29.869027
17	Cust 17	0.2	81.139893	29.992021
18	Cust 18	1	42.103155	27.989666
19	Cust 19	0	80.533976	30.014456
20	Cust 20	0.04	81.702508	29.969344
21	Cust 21	0.08	81.800697	29.99965
22	Cust 22	0.02	81.798996	29.999816
23	Cust 23	0.01	81.750129	29.98879
24	Cust 24	0.01	81.654833	29.965647
25	Cust 25	0.001	81.588641	30.000158
26	Cust 26	0.002	81.5594	29.999997
27	Cust 27	0.07	80.963711	37.400041
28	Cust 28	0.05	80.821135	35.552371
29	Cust 29	0.01	80.947204	31.166987
30	Cust 30	0.05	80.452046	31.888174
31	Cust 31	0.04	80.350988	30.578132
32	Cust 32	0.17	80.161917	29.995018
33	Cust 33	0.14	80.31957	30.247894
34	Cust 34	0	80.249938	30.000522
35	Cust 35	0.01	93.925055	34.016894
36	Cust 36	0.01	91.837594	52.194575
37	Cust 38	0.05	74.491419	30.004285
38	Cust 39	0.04	81.145392	40.87006
39	Cust 40	0.08	70.054261	31.771661
40	Cust 41	0	57.010524	29.996851
41	Cust 42	0	57.123582	30
42	Cust 43	0.01	50.16848	30.004762
43	Cust 44	0.01	49.959196	29.999998
44	Cust 45	0.003	49.959234	29.999653
45	Cust 46	0.01	56.999679	30.009385
46	Cust 47	0.01	55.574796	26.925759
47	Cust 48	0.004	82.174289	12.351463
48	Cust 49	0.02	48.867675	29.988743
49	Cust 50	0.01	48.891073	30.010138
50	Cust 51	0.02	43.077024	30.010765
51	Cust 53	0.94	80.509538	32.437606
52	Cust 54	0.18	81.153172	29.932658
53	Cust 55	0.01	81.128677	29.999779
54	Cust 56	0.01	81.231312	30.001873
55	Cust 57	0.002	50.58657	30.0007
56	Cust 58	0.05	82.387961	30.02374
57	Cust 59	0.006	80.001925	29.997662
58	Cust 60	0.05	43.543385	25.837096
59	Cust 62	0.015	81.085743	30.003615
60	Cust 63	0.01	73.804276	29.998793
61	Cust 66	0	81.300782	30
62	Cust 67	0.005	47.599896	29.998996
63	Cust 70	0.01	57.021888	29.99873
64	Cust 71	0.004	57.047742	29.997948
65	Cust 72	0.01	81.495082	29.994555
66	Cust 73	0.01	81.058451	29.999365
67	Cust 74	0.001	81.184529	29.999939
68	Cust 76	0.76	80.312991	30.022476
69	Cust 77	1.02	81.368003	31.020118
70	Cust 78	0	48.97674	30
71	Cust 79	0.24	81.448926	29.988053
72	Cust 80	0.1	81.139893	29.992021

73	Cust 81	1.95	80.96292	27.519755
74	Cust 82	0.01	81.230913	30.000019
75	Cust 84	0.08	84.148621	28.89328
76	Cust 85	0.01	84.182514	29.986523
77	Cust 86	0.005	84.182298	30
78	Cust 87	0.2	84.228236	5.9690698
79	Cust 88	0.003	84.224947	19.66032
80	Cust 89	0.06	84.382785	26.246471
81	Cust 91	0.0015	84.225576	22.783692
82	Cust 92	0	84.77201	30
83	Cust 93	0.45	84.818568	18.909755
84	Cust 94	0.09	84.252808	16.764672
85	Cust 95	0.03	84.22728	13.543657
86	Cust 96	0.22	84.689064	15.992241
87	Cust 97	0.02	84.67989	29.940577
88	Cust 98	0	48.979981	29.999621
89	Cust 99	0.04	93.925055	34.016894
90	Cust 100	0.01	82.387961	30.02374
91	Cust 101	0.025	80.788187	30.037672
92	Cust 103	0.02	74.503124	30.047699
93	Cust 104	0.01	82.011009	17.081343
94	Cust 105	0.02	48.979981	29.999621
95	Cust 106	0.07	80.115488	29.829601
96	Cust 107	0.04	80.788187	30.037672
97	Cust 108	0.005	74.21653	30.010042
98	Cust 109	0.004	50.574696	29.974114
99	Cust 111	0.55	57.107695	29.379336
100	Cust 112	0.01	47.93183	25.904107
101	Cust 113	0.01	43.022368	30.023983
102	Cust 114	0.0025	73.829751	30.00726
103	Cust 116	9.5618093	41.5	25.557575
104	Cust 117	0.02	83.914292	6.4410274
105	Cust 118	0.3	80.667582	29.789703
106	Cust 121	0.0001	81.417395	30
107	Cust 122	0.02	81.699991	29.433361
108	Cust 123	0.02	14	55
109	Cust 124	0.01	14	55
110	Cust 125	3.25	81.605192	19.659948
	Total	**28.2909093**		

Note:

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	81.699991	29.433361
2	Torrent_Node	81.605192	19.659948
3	Sajod_Node	82.174289	12.351463
4	GGCL_Node	82.156327	18.091106
5	Paguthan_Noc	82.051207	16.486147
6	GNFC_Node	82.045348	17.431721
7	NTPCJanore_N	82.019688	30
8	Barodasherkh	81.028344	27.177651
9	Dhanora Term	80.96292	27.519755
10	GSFC_Node	81.058603	29.221099
11	Gorwa	81.385754	31.957124
12	BAKPL-Gandhi	80.392318	31.511729
13	kalol_Node	80.350988	30.578132
14	Himmatnagar_	79.622285	29.85609
15	Ratanpar	59.29759	27.970566
16	Rajkot-Gaurid	49.227626	25.502567
17	RIL-N1	41.656831	25.638501
18	Tana_Node	73.743062	29.821871
19	GPPC-Pipavav_	73.838261	30.008691
20	Thangadh-SV1	58.286981	28.696576
21	jetparda-Wan	57.079692	28.67254
22	SV-2+TOP2+H	57.222735	29.869027
23	Kharapaswaria	56.832782	29.998733
24	Mehsana_Noc	80.160351	29.980334
25	Halol_Node	81.139893	29.992021
26	Petronet_Nod	84.910622	5.1167563
27	GACL_Node	84.228236	5.9690698
28	Vapi_Node-2	81.417395	29.974631
29	CH35.66	81.702508	29.969344
30	Palanpur cust	80.872715	30
31	Gatrad	80.575736	33.371073
32	Darod-Node	74.042784	33.520099
33	Olpad node	81.608717	25.708154
34	ARPL-Sudama	65.395484	30.161838
35	bhrugupur	70.054261	31.771661
36	Bhadbhut_No	82.445364	9.3939687
37	Sidhpur node	80.533976	30.014456
38	MVPL CH102.8	81.802923	29.998995
39	MVPL CH72.47	81.799989	29.999772
40	CH60.815	81.798996	29.999816
41	CH40.074	81.750129	29.98879
42	CH3.55	81.464536	29.964038
43	CH30.023	81.654833	29.965647
44	CH20.6	81.578982	29.965759

45	Raymond nod	81.588641	30.000158
46	CH13.58	81.559432	29.981318
47	Welspun	81.5594	29.999997
48	GPEC node	82.060413	30
49	Paguthan-GNF	82.011009	17.081343
50	GSFC+Adani	81.005808	29.477856
51	Suz-node	81.234655	29.862886
52	Dhuvaran_No	81.368003	31.020118
53	Dabhan	80.963711	37.400041
54	Chappara	80.821135	35.552371
55	BAKPL-Ranaso	80.469489	32.098604
56	BAKPL-VALAD	80.452046	31.888174
57	IFFCO node	80.316232	30.911015
58	santej node	80.426415	30.011691
59	KHPL-Node-1	80.161917	29.995018
60	KMPL- Kadi	80.31957	30.247894
61	KMPL-Mandli	80.249938	30.000522
62	Bhesaram	93.12692	53.527536
63	vilayat-Jubilan	93.925055	34.016894
64	Kelod	91.837594	52.194575
65	Vadhela	73.842918	30.02114
66	Samdhiyala-no	74.200281	30
67	DJPL-Meglana	74.417296	30.105289
68	Vartej1	74.491419	30.004285
69	Isharvada	80.679816	38.577879
70	Nava-Kataria-S	57.010524	29.996851
71	Sumangal-nod	57.123582	30
72	Vondh-SV4-M	56.925019	29.996506
73	Euro-node	50.16848	30.004762
74	Bhimasar-SV5-	56.879505	29.998576
75	Motimaladi	55.574796	26.925759
76	AEC node	80.509538	32.437606
77	Ochhan	81.879393	21.926565
78	GGL Palej Nod	48.867675	29.988743
79	Steelco node	48.891073	30.010138
80	ICT tap	48.985802	29.992699
81	cosmo node	48.979981	29.999621
82	SV4-chella-RJF	43.543385	25.837096
83	GSFCspur1	42.61617	25.697096
84	RIL-Jamnagar	41.5	25.557575
85	BGPL-Ochhan	89.269091	49.672628
86	Serkhi_Node	85.630865	46.461081
87	Anjar-Node	56.999679	30.009385
88	Petronet_Nod	85	5
89	Sumangal-N1	57.123582	30
90	Nirma node	81.153172	29.932658
91	Suzlon-N	81.128677	29.999779

92	Nano node	81.231312	30.001873
93	chimique cst n	50.58657	30.0007
94	Bhadari node	81.709866	25.251894
95	hadala	79.230384	35.75771
96	Essar-N1-2	42.103155	27.989666
97	Bhadar-N1	82.312539	30.021053
98	Piramal node	82.387961	30.02374
99	Node1269	81.800697	29.99965
100	MVPL CH102.8	81.803364	29.998563
101	Node1277	81.799492	29.999802
102	Silvai	81.145392	40.87006
103	Indiansteel-No	49.959279	29.975578
104	ratnamani-noc	49.959234	29.999653
105	metrade-Node	49.959196	29.999998
106	Node1308-2	83.571162	44.808902
107	Anklav-node	81.447265	35.598649
108	Node1358	87.082316	47.694977
109	SV-1+Gala+MI	57.107695	29.379336
110	Takarwada No	80.788187	30.037672
111	Becharaji Nod	81.11796	30
112	SV1-fatehpura	80.837116	30.00793
113	SV2-ghirojpura	80.985317	30.002469
114	Honda Node	81.09889	30.010369
115	Maruti node	81.079383	29.999668
116	Maruti CST no	81.085743	30.003615
117	Amreli1	73.804276	29.998793
118	Lonthpur	73.829751	30.00726
119	Dahod node	79.687958	30
120	Thasara node	81.300782	30
121	Bhodigodi	47.93183	25.904107
122	Ambardi	47.599896	29.998996
123	Ratatalav-ABP	57.390117	30.021585
124	Bhuj	57.021888	29.99873
125	SV-1-ABPL	57.154696	29.994129
126	Parle node	57.047742	29.997948
127	Banas node	80.001925	29.997662
128	Ineos node	81.585463	30.034789
129	Ineos CST nod	81.495082	29.994555
130	Panchmahal n	81.106587	29.997247
131	Panchmahal C	81.058451	29.999365
132	Rochling-node	81.184529	29.934321
133	Iffco- node	80.312991	30.022476
134	JCT-node	48.97674	30
135	GGL vapi node	81.448926	29.988053
136	Eklere shrikris	81.417395	30
137	sarigam GIDC	81.186713	29.975095
138	Node1377-2	80.947204	31.166987

139	Shah alloy noc	81.062882	30.076336
140	Birla_Node	84.182559	24.300444
141	Node1512-2	84.148621	28.89328
142	BASF node	84.182514	29.986523
143	styrolution no	84.182298	30
144	GGL Dahej-no	84.22728	13.543657
145	Roxul-node	84.224947	19.66032
146	Sarju node	84.382785	26.246471
147	Dic - node	84.225576	22.783692
148	Torrent DGEN	84.77201	30
149	SEZ I node	84.089514	14.436342
150	OPAL CST nod	84.818568	18.909755
151	Node1410	84.252808	16.764672
152	Node1520	14	55
153	SEZ-I- node	84.089604	6.1981715
154	GNFC Hot tap	83.914292	6.4410274
155	china steel cst	84.67989	29.940577
156	Nano CNG noc	81.230913	30.000019
157	GGL Vadhela N	74.503124	30.047699
158	Node1479	14	55
159	Node1711	84.910619	10.424034
160	Node1712	14	55
161	GNFC CST nod	84.689064	15.992241
162	Ramacylinder	50.574696	29.974114
163	GSFC-cst-node	43.077024	30.010765
164	GGLsaparpatia	43.022368	30.023983
165	GGLpalitana1	74.21653	30.010042
166	toyo-navin-co	84.638746	28.631336
167	Uttran node	80.667582	29.789703
168	Bhadbhut-noc	94.5	55
169	Rochling Cst n	81.184529	29.999939
170	IRM node	80.116819	29.824947
171	IRM cst node	80.115488	29.829601
172	Node2153	80.221832	42.259736
173	Node2163	14	55
174	Node2166	49	6.3440007
175	Node2172	84.182559	24.300444
176	Node2180	50	27.001788
177	Node2183	50	27.023911
178	Node2183-2	80.65	25.345924

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	81.217937	29.065633
2	Torrent_Node	81.13838	18.819888
3	Sajod_Node	81.897008	12.043375
4	GGCL_Node	81.878211	17.923113
5	Paguthan_Noc	81.917033	17.291525
6	GNFC_Node	81.930089	18.423466
7	NTPCJanore_N	81.886449	30
8	Barodasherkh	80.959585	27.644151
9	Dhanora Term	80.900456	27.955366
10	GSFC_Node	80.992401	29.320089
11	Gorwa	81.438236	30.535655
12	BAKPL-Gandhi	80.855468	30.320447
13	kalol_Node	80.869753	30.00561
14	Himmatnagar_	80.047104	29.823851
15	Ratanpar	63.449992	30.296748
16	Rajkot-Gaurid	51.312243	26.165922
17	RIL-N1	41.692931	24.756366
18	Tana_Node	79.940922	29.778022
19	GPPC-Pipavav_	80.047233	30.011356
20	Thangadh-SV1	62.475873	29.866583
21	jetparda-Wan	61.222194	29.275057
22	SV-2+TOP2+H	61.528714	30.144596
23	Kharapaswaria	61.076717	29.998562
24	Mehsana_Noc	80.800654	29.642379
25	Halol_Node	81.057288	29.992237
26	Petronet_Nod	84.901099	5.1113528
27	GACL_Node	84.147026	5.9240263
28	Vapi_Node-2	80.943749	29.975703
29	CH35.66	81.220164	29.970215
30	Palanpur cust	82	20
31	Gatrad	80.940029	31.801949
32	Darod-Node	80.299441	37.554179
33	Olpad node	81.129043	22.760964
34	ARPL-Sudama	70.438237	33.193843
35	bhrugupur	75.754572	35.367918
36	Bhadbhut_No	82.246299	9.3429194
37	Sidhpur node	81.484917	26.165521
38	MVPL CH102.8	81.31766	29.990433
39	MVPL CH72.47	81.314729	29.999543
40	CH60.815	81.313738	29.99978
41	CH40.074	81.26633	29.989192
42	CH3.55	80.989445	29.965345
43	CH30.023	81.173946	29.966826
44	CH20.6	81.100409	29.967084

45	Raymond nod	81.109771	30.000153
46	CH13.58	81.081447	29.982242
47	Welspun	81.081415	29.999998
48	GPEC node	81.925966	30
49	Paguthan-GNF	81.890601	18.011708
50	GSFC+Adani	80.940759	29.488165
51	Suz-node	81.158203	29.892852
52	Dhuvaran_No	81.47714	30.189564
53	Dabhan	81.087489	35.753956
54	Chappara	81.036069	33.769347
55	BAKPL-Ranaso	80.894722	30.666258
56	BAKPL-VALAD	80.891304	30.532615
57	IFFCO node	80.820565	30.046761
58	santej node	80.942878	30.011874
59	KHPL-Node-1	80.679465	29.993029
60	KMPL- Kadi	80.857124	29.992018
61	KMPL-Mandli	80.842072	29.915224
62	Bhesaram	93.115916	53.562821
63	vilayat-Jubilan	93.97597	34.452507
64	Kelod	91.816748	52.258585
65	Vadhela	80.062708	30.255448
66	Samdhiyala-no	80.484996	30
67	DJPL-Meglana	80.738933	30.149871
68	Vartej1	80.827142	30.005017
69	Isharvada	87.905246	44.463343
70	Nava-Kataria-S	61.282739	29.996416
71	Sumangal-nod	61.41405	30
72	Vondh-SV4-M	61.183637	29.996024
73	Euro-node	50.180611	30.000043
74	Bhimasar-SV5-	61.130929	29.998381
75	Motimaladi	59.002537	28.628508
76	AEC node	80.870084	31.318417
77	Ochhan	81.760722	22.762118
78	GGL Palej Nod	48.870637	29.989493
79	Steelco node	48.89347	30.010024
80	ICT tap	48.985998	29.993666
81	cosmo node	48.98025	29.999651
82	SV4-chella-RJF	44.103017	25.255057
83	GSFCspur1	42.927858	24.967754
84	RIL-Jamnagar	41.5	24.654306
85	BGPL-Ochhan	89.236623	49.785475
86	Serkhi_Node	85.58029	46.612868
87	Anjar-Node	61.270508	30.010631
88	Petronet_Nod	85	5
89	Sumangal-N1	61.41405	30
90	Nirma node	81.077454	29.943512
91	Suzlon-N	81.053479	29.999786

92	Nano node	81.831635	30.002159
93	chimique cst n	50.63005	30.000393
94	Bhadari node	81.607043	25.945144
95	hadala	86.229407	40.351507
96	Essar-N1-2	42.171432	27.421614
97	Bhadar-N1	82.191646	30.020158
98	Piramal node	82.264745	30.022737
99	Node1269	81.315436	29.998863
100	MVPL CH102.8	81.3181	29.984738
101	Node1277	81.314234	29.999708
102	Silvai	88.448105	47.581708
103	Indiansteel-No	49.956343	29.954524
104	ratnamani-noc	49.956297	29.999274
105	metrade-Node	49.956258	29.999996
106	Node1308-2	83.509895	44.969482
107	Anklav-node	81.412273	33.227476
108	Node1358	87.039291	47.835164
109	SV-1+Gala+MI	61.343043	29.805091
110	Takarwada No	81.855821	22.590455
111	Becharaji Nod	81.863958	30
112	SV1-fatehpura	81.533004	30.010043
113	SV2-ghirojpura	81.707609	30.003128
114	Honda Node	81.841448	30.013065
115	Maruti node	81.818491	29.999579
116	Maruti CST no	81.825997	30.004017
117	Amreli1	80.013404	29.998603
118	Lonthpur	80.037567	30.009677
119	Dahod node	79.635705	29.996597
120	Thasara node	81.452451	30
121	Bhodigodi	49.657101	26.190428
122	Ambardi	49.288665	29.998896
123	Node1397-2	81.816879	30
124	Node1419	81.827764	30
125	Ratatalav-ABP	61.72409	30.024461
126	Bhuj	61.296382	29.99856
127	SV-1-ABPL	61.450591	29.993333
128	Parle node	61.326422	29.997675
129	Banas node	80.912527	29.996817
130	Ineos node	81.492888	30.048313
131	Ineos CST nod	81.404499	29.994817
132	Panchmahal n	81.024025	29.995031
133	Panchmahal C	80.9769	29.999386
134	Rochling-node	81.108332	29.947651
135	Iffco- node	80.818935	30.000771
136	JCT-node	48.977087	30
137	GGL vapi node	80.973822	29.98878
138	Eklere shrikris	80.943749	30

139	sarigam GIDC	80.713032	29.976247
140	Node1377-2	81.416619	30.561141
141	Shah alloy noc	81.645494	30.08739
142	Birla_Node	84.101465	24.512537
143	Node1512-2	48.941324	26.83364
144	BASF node	48.999922	29.970243
145	styrolution no	48.999537	29.999999
146	GGL Dahej-no	84.146026	13.736321
147	Roxul-node	84.14374	19.937188
148	Sarju node	84.296576	26.457407
149	Dic - node	84.144328	23.057369
150	Torrent DGEN	84.653821	30
151	SEZ I node	83.991475	12.13768
152	OPAL CST nod	84.678957	15.655952
153	Node1410	84.151656	14.849383
154	Node1520	14	55
155	SEZ-I- node	83.991672	6.1428996
156	GNFC Hot tap	83.809252	6.3870812
157	china steel cst	84.552031	29.933426
158	Nano CNG noc	81.831231	30.00003
159	GGL Vadhela N	80.843072	30.056691
160	Node1479	14	55
161	Node1711	84.901096	10.599662
162	Node1712	14	55
163	GNFC CST nod	84.557019	16.194118
164	Ramacylinder	50.617337	29.818566
165	GSFC-cst-node	43.424301	30.011803
166	GGLsaparpatia	43.36544	30.026222
167	GGLpalitana1	80.500409	30.011649
168	toyo-navin-co	84.512139	28.398101
169	Uttran node	80.578412	27.374692
170	Bhadbhut-noc	94.5	55
171	Gana -node	87.404574	49.795209
172	mundraLNG	61.937915	30
173	Node2115	61.596534	30
174	Rochling Cst n	81.108332	29.999954
175	IRM node	81.048378	28.121757
176	IRM cst node	81.046857	28.170625
177	Node0193	87.404574	49.795209
178	Node0091-4	79.058399	42.004284
179	Node2153	80.058399	42.379139
180	Node2163	14	55
181	Node2174	49	7.8783823
182	Node2178	49	8.7472671
183	Node2185	50	24.705041
184	Node2188	50	24.733079

185	Node2192	80.65	22.581237

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	80.329873	28.819522
2	Torrent_Node	80.244201	17.01306
3	Sajod_Node	81.247441	10.873037
4	GGCL_Node	81.232702	17.60629
5	Paguthan_Noc	81.288602	15.89531
6	GNFC_Node	81.284488	16.894097
7	NTPCJanore_N	81.257265	30
8	Barodasherkh	80.27419	26.942139
9	Dhanora Term	80.228398	27.444848
10	GSFC_Node	80.316462	28.885178
11	Gorwa	80.660007	30.010489
12	BAKPL-Gandhi	80.08873	30.246192
13	kalol_Node	80.111302	29.746265
14	Himmatnagar_	79.281536	29.820309
15	Ratanpar	60.456689	30.076125
16	Rajkot-Gaurid	49.772879	26.778262
17	RIL-N1	41.664809	25.989087
18	Tana_Node	79.161017	29.813571
19	GPPC-Pipavav_	79.268607	30.009147
20	Thangadh-SV1	57.466361	29.120343
21	jetparda-Wan	54.728265	28.172872
22	SV-2+TOP2+H	53.621343	29.156363
23	Kharapaswaria	53.162464	29.997833
24	Mehsana_Noc	80.283806	28.698625
25	Halol_Node	80.180971	29.954053
26	Petronet_Nod	84.880891	5.082473
27	GACL_Node	83.973572	5.6853908
28	Vapi_Node-2	80.049996	29.974534
29	CH35.66	80.331608	29.969226
30	Palanpur cust	82	20
31	Gatrad	80.167747	31.630007
32	Darod-Node	79.479645	37.793352
33	Olpad node	80.239523	21.911849
34	ARPL-Sudama	68.408332	33.175901
35	bhrugupur	74.463775	35.510911
36	Bhadbhut_No	81.678003	8.4682509
37	Sidhpur node	81.326492	24.223744
38	MVPL CH102.8	80.431273	29.978759
39	MVPL CH72.47	80.428052	29.999033
40	CH60.815	80.426953	29.999638
41	CH40.074	80.378645	29.988734
42	CH3.55	80.096548	29.963902
43	CH30.023	80.284518	29.965515
44	CH20.6	80.209596	29.965626

45	Raymond nod	80.219134	30.000159
46	CH13.58	80.190277	29.981239
47	Welspun	80.190245	29.999997
48	GPEC node	81.297755	30
49	Paguthan-GNF	81.249599	16.525459
50	GSFC+Adani	80.26386	29.107485
51	Suz-node	80.408575	29.645582
52	Dhuvaran_No	80.668844	30.022666
53	Dabhan	80.312948	35.749719
54	Chappara	80.261967	33.633307
55	BAKPL-Ranaso	80.125268	30.550989
56	BAKPL-VALAD	80.121933	30.431459
57	IFFCO node	80.056474	29.898383
58	santej node	80.179407	30.0117
59	KHPL-Node-1	79.918119	29.992425
60	KMPL- Kadi	80.134295	29.656013
61	KMPL-Mandli	80.225068	29.325834
62	Bhesaram	93.049707	53.537548
63	vilayat-Jubilan	93.847112	34.0194
64	Kelod	91.686055	52.210977
65	Vadhela	79.266394	30.123534
66	Samdhiyala-no	79.65294	30
67	DJPL-Meglana	79.889247	30.114644
68	Vartej1	79.969766	30.004422
69	Isharvada	87.829958	45.044754
70	Nava-Kataria-S	53.330548	29.997874
71	Sumangal-nod	53.435679	30
72	Vondh-SV4-M	53.249757	29.994832
73	Euro-node	53.429454	30.010481
74	Bhimasar-SV5-	53.206262	29.997731
75	Motimaladi	56.515519	28.696443
76	AEC node	80.101575	31.162571
77	Ochhan	81.117438	21.577562
78	GGL Palej Nod	48.765391	29.858195
79	Steelco node	48.783907	29.91929
80	ICT tap	48.996186	30
81	cosmo node	48.995463	30
82	SV4-chella-RJF	43.681851	26.342622
83	GSFCspur1	42.693167	26.125933
84	RIL-Jamnagar	41.5	25.898118
85	BGPL-Ochhan	88.958132	49.693102
86	Serkhi_Node	85.085161	46.468364
87	Anjar-Node	53.317649	30.009176
88	Petronet_Nod	85	5
89	Sumangal-N1	53.435679	30
90	Nirma node	80.326695	29.86358
91	Suzlon-N	80.302388	29.999779

92	Nano node	81.072681	30.0022
93	chimique cst n	53.830141	30.001101
94	Bhadari node	80.950791	25.074463
95	hadala	85.979381	40.710976
96	Essar-N1-2	42.110679	28.194296
97	Bhadar-N1	81.550018	30.021134
98	Piramal node	81.624943	30.023835
99	Node1269	80.428836	29.997438
100	MVPL CH102.8	80.431755	29.966866
101	Node1277	80.427502	29.999449
102	Silvai	88.433722	48.339209
103	Indiansteel-No	53.162896	29.995762
104	ratnamani-noc	53.162854	29.999936
105	metrade-Node	53.162818	29.999999
106	Node1308-2	82.887015	44.800172
107	Anklav-node	80.677054	29.999982
108	Node1358	86.631485	47.709959
109	SV-1+Gala+MI	53.749514	28.496532
110	Takarwada No	81.803043	21.665542
111	Becharaji Nod	81.256309	30
112	SV1-fatehpura	80.922348	30.010283
113	SV2-ghirojpura	81.098535	30.003203
114	Honda Node	81.233593	30.013373
115	Maruti node	81.210426	29.999569
116	Maruti CST no	81.218001	30.004062
117	Amreli1	79.227327	29.998758
118	Lonthpur	79.258915	30.00782
119	Gundala1	79.578657	30.002178
120	Dahod node	78.74274	29.996486
121	Thasara node	80.565336	30.020534
122	Bhodigodi	48.374102	26.926435
123	Ambardi	48.039072	29.998994
124	Node1397-2	81.165367	30
125	Node1419	81.176516	30
126	Ratatalav-ABP	53.68053	30.046485
127	Bhuj	53.338085	29.998758
128	SV-1-ABPL	53.461608	29.99426
129	Parle node	53.362117	29.997994
130	Banas node	80.807898	29.99657
131	Ineos node	80.621875	30.048862
132	Ineos CST nod	80.532406	29.994651
133	Panchmahal n	80.147329	29.994862
134	Panchmahal C	80.099626	29.999364
135	Rochling-node	80.358016	29.845398
136	Iffco- node	80.048947	29.992819
137	JCT-node	48.99221	30
138	GGL vapi node	80.080629	29.98792

139	Eklere shrikris	80.049996	30
140	sarigam GIDC	79.81489	29.97426
141	Node1377-2	80.603644	30.476276
142	Shah alloy noc	80.88558	30.088945
143	Birla_Node	83.927839	24.190177
144	Node1512-2	48.940861	26.559198
145	BASF node	48.999921	29.966656
146	styrolution no	48.999532	29.999999
147	GGL Dahej-no	83.972621	13.302565
148	Roxul-node	83.970283	19.478298
149	Sarju node	84.128447	26.158665
150	Dic - node	83.970913	22.641397
151	Torrent DGEN	84.45955	30
152	SEZ I node	83.77674	10.019477
153	OPAL CST nod	84.442736	12.705953
154	Node1410	83.94514	12.90503
155	SEZ-I- node	83.777137	5.847012
156	GNFC Hot tap	83.56444	6.0389347
157	china steel cst	84.332739	29.922236
158	Nano CNG noc	81.072274	30.000032
159	GGL Vadhela N	79.980469	30.04954
160	Node1479	14	55
161	Node1711	84.880888	10.358275
162	Node1712	14	55
163	GNFC CST nod	84.341629	15.69811
164	Ramacylinder	53.817449	30.153193
165	GSFC-cst-node	43.154667	30.010769
166	GGLsaparpatia	43.099929	30.023986
167	GGLpalitana1	79.673101	30.010338
168	toyo-navin-co	84.291569	28.261686
169	Uttran node	80.206326	27.780153
170	Bhadbhut-noc	94.5	55
171	Gana -node	87.568393	50.802981
172	mundraLNG	53.851548	30
173	Node2115	53.57847	29.998936
174	Rochling Cst n	80.358016	29.999856
175	IRM node	80.946138	27.003054
176	IRM cst node	80.944233	27.056701
177	Node0193	87.568393	50.802981
178	Node0091-4	78.402285	41.875869
179	Node2153	79.402285	42.226919
180	Node2161	53.395094	29.786476
181	Node2166	14	55
182	Node2169	14	55
183	Node2170	80.239518	21.911847
184	Node2176	49	7.7673577
185	Node2177	49	6.1994899

186	Node2183	53.249757	29.994832
187	Node2186	53.206262	29.997731

Units	Exit Points	Flow (MMSCMD)	Pressure (barg)	Temperature (Deg C)
1	Cust 1	0.140	80.473	29.975
2	Cust 2	0.690	81.885	18.130
3	Cust 3	0.500	82.145	20.195
4	Cust 4	0.000	82.071	30.000
5	Cust 5	0.000	82.111	30.000
6	Cust 6	0.240	81.215	29.488
7	Cust 7	0.100	80.258	42.318
8	Cust 8	0.280	80.782	30.850
9	Cust 9	0.020	80.735	30.304
10	Cust 10	0.070	80.854	30.012
11	Cust 11	0.140	79.952	29.820
12	Cust 12	0.170	80.729	29.400
13	Cust 13	0.600	81.874	30.011
14	Cust 14	0.370	52.801	26.507
15	Cust 15	0.250	66.216	30.214
16	Cust 16	2.500	66.714	25.806
17	Cust 17	0.260	81.207	29.978
18	Cust 18	1.000	42.179	27.263
19	Cust 19	0.059	81.449	23.768
20	Cust 20	0.040	80.988	29.969
21	Cust 21	0.080	81.085	29.998
22	Cust 22	0.040	81.084	30.000
23	Cust 23	0.010	81.035	29.989
24	Cust 24	0.010	80.941	29.966
25	Cust 25	0.001	80.875	30.000
26	Cust 26	0.002	80.846	30.000
27	Cust 27	0.070	81.136	36.917
28	Cust 28	0.050	81.050	34.872
29	Cust 29	0.010	81.335	30.864
30	Cust 30	0.050	80.826	31.171
31	Cust 31	0.040	80.785	29.986
32	Cust 32	0.170	80.595	29.993
33	Cust 33	0.140	80.774	29.959
34	Cust 34	0.000	80.765	29.820
35	Cust 35	0.010	93.962	34.242
36	Cust 36	0.010	91.849	52.225
37	Cust 38	0.050	82.647	30.005
38	Cust 39	0.040	89.863	48.504
39	Cust 40	0.080	77.841	35.941
40	Cust 41	0.000	75.961	25.171
41	Cust 42	0.000	76.113	30.000
42	Cust 43	0.010	50.168	29.977
43	Cust 44	0.010	49.959	30.000
44	Cust 45	0.003	49.959	29.998
45	Cust 46	0.010	85.727	29.996
46	Cust 47	0.010	61.461	29.333
47	Cust 48	0.004	81.899	11.602
48	Cust 49	0.070	48.785	29.930
49	Cust 50	0.020	43.631	30.011
50	Cust 52	0.940	80.831	31.934
51	Cust 53	0.180	81.307	29.935
52	Cust 54	0.010	81.283	30.000
53	Cust 55	0.010	81.718	30.002
54	Cust 56	0.002	50.593	29.999
55	Cust 57	0.050	82.521	30.024
56	Cust 58	0.006	80.841	29.996
57	Cust 59	0.050	44.495	25.074
58	Cust 60	0.006	81.804	30.003
59	Cust 61	0.015	81.765	30.004
60	Cust 62	0.010	81.843	29.999
61	Cust 63	0.020	82.209	30.002
62	Cust 64	0.010	79.760	29.997
63	Cust 65	0.200	81.405	30.022
64	Cust 66	0.005	50.506	29.999
65	Cust 67	0.000	81.817	30.000
66	Cust 69	0.010	86.818	29.999
67	Cust 70	0.004	86.858	29.998
68	Cust 71	0.010	81.561	29.995
69	Cust 72	0.010	81.125	29.999
70	Cust 73	0.001	81.339	30.000
71	Cust 75	1.120	80.728	30.018
72	Cust 76	0.790	81.606	29.994

73	Cust 77	0.240	80.737	29.988
74	Cust 78	0.150	81.207	29.978
75	Cust 79	0.540	81.178	28.459
76	Cust 80	0.010	81.717	30.000
77	Cust 82	0.080	48.941	26.631
78	Cust 83	0.010	49.000	29.968
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.213	5.956
81	Cust 86	0.003	84.209	19.691
82	Cust 87	0.060	84.367	26.272
83	Cust 89	0.002	84.210	22.815
84	Cust 90	0.000	84.745	30.000
85	Cust 91	0.500	84.790	18.185
86	Cust 92	0.090	84.228	16.317
87	Cust 93	0.030	84.212	13.562
88	Cust 94	0.220	84.654	16.001
89	Cust 95	0.020	84.647	29.926
90	Cust 96	0.040	93.962	34.242
91	Cust 97	0.010	82.521	30.024
92	Cust 98	0.000	81.846	18.944
93	Cust 100	0.020	82.664	30.054
94	Cust 101	0.010	82.095	19.585
95	Cust 102	0.100	80.978	26.149
96	Cust 103	0.005	82.324	30.011
97	Cust 104	0.004	50.581	28.948
98	Cust 105	0.003	84.606	28.318
99	Cust 106	2.500	66.033	27.832
100	Cust 107	0.010	50.873	26.376
101	Cust 108	0.010	43.574	30.025
102	Cust 109	0.003	81.864	30.010
103	Cust 110	0.006	82.560	30.148
104	Cust 111	12.066	41.500	24.327
105	Cust 112	0.020	83.883	6.408
106	Cust 113	0.770	80.617	27.893
107	Cust 114	0.120	87.378	22.747
108	Cust 115	0.000	80.706	30.000
109	Cust 116	0.020	80.986	28.897
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.100	80.900	17.557
113	Cust 121	1.490	68.619	25.019
114	Cust 122	0.030	87.752	40.756
115	Cust 123	0.009	50.000	9.512
	Total	**35.221684**		

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	80.98615	28.897223
2	Torrent_Node	80.900278	17.557049
3	Sajod_Node	81.899325	11.601528
4	GGCL_Node	81.884648	18.129731
5	Paguthan_Noc	82.10223	18.457265
6	GNFC_Node	82.145375	20.194768
7	NTPCJanore_N	82.070796	30
8	Barodasherkhi	81.212049	28.032326
9	Dhanora Term	81.178029	28.45878
10	GSFC_Node	81.267673	29.379592
11	Gorwa	81.596514	29.942681
12	BAKPL-Gandhi	80.782357	30.850144
13	kalol_Node	80.785426	29.986088
14	Himmatnagar_	79.951717	29.819723
15	Ratanpar	66.420552	31.194905
16	Rajkot-Gaurida	52.800856	26.507488
17	RIL-N1	41.715027	24.437487
18	Tana_Node	81.771121	29.781969
19	GPPC-Pipavav_	81.874034	30.011052
20	Thangadh-SV1	66.215942	30.213633
21	jetparda-Wanl	65.529379	29.753809
22	SV-2+TOP2+Hi	66.713838	25.805717
23	Kharapaswaria	85.469869	24.828564
24	Mehsana_Noc	80.728901	29.399993
25	Halol_Node	81.207273	29.978317
26	Petronet_Nod	84.908803	5.1152134
27	GACL_Node	84.212713	5.9563045
28	Vapi_Node-2	80.705794	29.974779
29	CH35.66	80.987982	29.969432
30	Palanpur cust	82	15.5556
31	Gatrad	80.899185	32.650602
32	Darod-Node	82.127409	38.044396
33	Olpad node	80.895658	22.340324
34	ARPL-Sudama	72.892749	33.890404
35	bhrugupur	77.840884	35.94107
36	Bhadbhut_No	82.328826	9.2585188
37	Sidhpur node	81.449218	23.768376
38	MVPL CH102.8	81.087787	29.981657
39	MVPL CH72.47	81.084595	29.999151
40	CH60.815	81.083506	29.999668
41	CH40.074	81.035115	29.988831
42	CH3.55	80.752445	29.964203
43	CH30.023	80.940796	29.965789
44	CH20.6	80.865722	29.965932
45	Raymond nod	80.875281	30.000158
46	CH13.58	80.846367	29.981452
47	Welspun	80.846335	29.999997
48	GPEC node	82.111412	30

49	Paguthan-GNF	82.094817	19.58528
50	GSFC+Adani	81.214944	29.488387
51	Suz-node	81.388576	29.869239
52	Dhuvaran_No	81.606481	29.994223
53	Dabhan	81.135597	36.916853
54	Chappara	81.05028	34.87211
55	BAKPL-Ranaso	80.833839	31.359895
56	BAKPL-VALAD	80.825738	31.171313
57	IFFCO node	80.735191	30.303539
58	santej node	80.853907	30.011962
59	KHPL-Node-1	80.594727	29.992754
60	KMPL- Kadi	80.77445	29.95893
61	KMPL-Mandli	80.76484	29.819954
62	Bhesaram	93.132655	53.543994
63	vilayat-Jubilan	93.962455	34.242489
64	Kelod	91.849211	52.224542
65	Vadhela	81.892844	30.277346
66	Samdhiyala-no	82.310071	30
67	DJPL-Meglana	82.55998	30.147981
68	Vartej1	82.64715	30.004785
69	Isharvada	89.345478	45.124339
70	Nava-Kataria-S	75.960949	25.170959
71	Sumangal-nod	76.112622	30
72	Vondh-SV4-M	79.465169	25.091357
73	Euro-node	50.168048	29.97682
74	Bhimasar-SV5-	83.102322	24.973516
75	Motimaladi	61.461339	29.333285
76	AEC node	80.831116	31.933859
77	Ochhan	81.970585	23.713923
78	GGL Palej Nod	48.766242	29.872013
79	Steelco node	48.784616	29.929674
80	ICT tap	48.99621	30
81	cosmo node	48.995492	30
82	SV4-chella-RJF	44.494633	25.074115
83	GSFCspur1	43.147772	24.721919
84	RIL-Jamnagar	41.5	24.32728
85	BGPL-Ochhan	89.298103	49.726134
86	Serkhi_Node	85.68489	46.534423
87	Anjar-Node	85.727486	29.995581
88	Petronet_Nod	85	5
89	Sumangal-N1	76.112622	30
90	Nirma node	81.307356	29.935012
91	Suzlon-N	81.282933	29.999781
92	Nano node	81.717689	30.002071
93	chimique cst n	50.593128	29.998621
94	Bhadari node	81.844005	26.660626
95	hadala	87.751588	40.756108
96	Essar-N1-2	42.179294	27.262903
97	Bhadar-N1	82.445363	30.020956
98	Piramal node	82.520669	30.023633

99	Node1269	81.085372	29.99778
100	MVPL CH102.8	81.088265	29.971334
101	Node1277	81.084051	29.999507
102	Silvai	89.863079	48.50355
103	Indiansteel-No	49.959192	29.859687
104	ratnamani-noc	49.959148	29.99808
105	metrade-Node	49.95911	29.999992
106	Node1308-2	83.639878	44.887601
107	Anklav-node	81.612103	29.736203
108	Node1358	87.126364	47.762164
109	SV-1+Gala+MI	66.033477	27.832428
110	Takarwada No	81.846185	18.943615
111	Becharaji Nod	81.803787	30.003228
112	SV1-fatehpura	81.467495	30.014082
113	SV2-ghirojpura	81.644942	30.004384
114	Honda Node	81.781082	30.017989
115	Maruti node	81.757529	29.999407
116	Maruti CST no	81.765168	30.003952
117	Amreli1	81.842759	29.998664
118	Lonthpur	81.86439	30.009513
119	Gundala1	82.20949	30.002344
120	Dahod node	79.759975	29.996513
121	Thasara node	81.405323	30.022158
122	Bhodigodi	50.872599	26.376254
123	Ambardi	50.506488	29.998931
124	Node1397-2	81.817171	30
125	Node1419	81.828331	30
126	Ratatalav-ABP	87.390854	25.435042
127	Bhuj	86.818093	29.998553
128	SV-1-ABPL	87.024278	29.993303
129	Parle node	86.858331	29.997664
130	Banas node	80.841031	29.99644
131	Ineos node	81.650892	30.049136
132	Ineos CST nod	81.560883	29.994696
133	Panchmahal n	81.173424	29.994904
134	Panchmahal C	81.125479	29.99937
135	Rochling-node	81.338617	29.937193
136	Iffco- node	80.727741	30.018105
137	JCT-node	48.992259	30
138	GGL vapi node	80.736667	29.988132
139	Eklere shrikrisl	80.705794	30
140	sarigam GIDC	80.472727	29.974944
141	Node1377-2	81.334926	30.863903
142	Shah alloy noc	81.536825	30.084029
143	Birla_Node	84.16704	24.325149
144	Node1512-2	48.940911	26.631207
145	BASF node	48.999921	29.967616
146	styrolution no	48.999532	29.999999
147	GGL Dahej-noc	84.211751	13.562325
148	Roxul-node	84.209424	19.691402

149	Sarju node	84.366646	26.271722
150	Dic - node	84.210047	22.815487
151	Torrent DGEN	84.745155	30
152	SEZ I node	84.065196	13.910179
153	OPAL CST nod	84.790044	18.185286
154	Node1410	84.228361	16.3172
155	SEZ-I- node	84.065302	6.1749563
156	GNFC Hot tap	83.882514	6.4079096
157	china steel cst	84.646633	29.926154
158	Nano CNG noc	81.717287	30.000027
159	GGL Vadhela N	82.663767	30.054194
160	Node1479	14	55
161	Node1711	84.9088	10.444792
162	Node1712	14	55
163	GNFC CST nod	84.653908	16.000885
164	Ramacylinder	50.58147	28.947877
165	GSFC-cst-node	43.631264	30.011319
166	GGLsaparpatia	43.573953	30.025176
167	GGLpalitana1	82.323906	30.011131
168	toyo-navin-co	84.605626	28.318298
169	Uttran node	80.616969	27.893161
170	Bhadbhut-nod	94.5	55
171	Gana -node	88.838059	51.058901
172	mundraLNG	88	20
173	Node2115	87.377608	22.746963
174	Rochling Cst n	81.338617	29.999942
175	IRM node	80.979535	26.078828
176	IRM cst node	80.977626	26.148888
177	Node0193	88.838059	51.058899
178	Node0091-4	79.258188	41.954429
179	Node2153	80.258188	42.318155
180	Node2161	68.61862	25.018947
181	Node2166	14	55
182	Node2169	14	55
183	Node2170	80.65	22.245493
184	Node2176	49	8.0126202
185	Node2177	49	8.3882975
186	Node2183	50	11.415132
187	Node2186	50	9.5120423

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.558387	94.5	55.0
2	Petronet Supply	9.9894781	85.0	5.0
3	ONGC Olpad	0.069	80.4	21.2
4	GLL	6.1065731	88.0	20.0
5	GIGL	0.51494503	82.0	15.6
	Total	**35.23838323**		

	Grid Capacity	**35.21**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	79.946	29.976
2	Cust 2	0.690	81.641	18.096
3	Cust 3	0.720	82.051	20.950
4	Cust 4	0.000	81.992	30.000
5	Cust 5	0.000	82.032	30.000
6	Cust 6	0.340	81.318	29.764
7	Cust 7	0.100	80.543	42.150
8	Cust 8	0.280	81.214	30.169
9	Cust 9	0.020	81.184	30.022
10	Cust 10	0.070	81.288	30.009
11	Cust 11	0.148	80.478	29.851
12	Cust 12	0.170	81.042	29.948
13	Cust 13	1.200	78.775	30.009
14	Cust 14	0.370	51.953	26.608
15	Cust 15	0.250	64.765	30.020
16	Cust 16	2.500	65.435	25.471
17	Cust 17	0.260	81.305	29.986
18	Cust 18	1.000	42.121	27.813
19	Cust 19	0.059	81.545	27.848
20	Cust 20	0.040	80.454	29.970
21	Cust 21	0.080	80.549	29.998
22	Cust 22	0.040	80.547	30.000
23	Cust 23	0.010	80.500	29.989
24	Cust 24	0.010	80.408	29.967
25	Cust 25	0.001	80.344	30.000
26	Cust 26	0.002	80.316	30.000
27	Cust 27	0.070	81.422	35.382
28	Cust 28	0.050	81.375	33.285
29	Cust 29	0.010	81.706	30.398
30	Cust 30	0.050	81.245	30.320
31	Cust 31	0.042	81.222	30.023
32	Cust 32	0.179	81.038	29.995
33	Cust 33	0.140	81.196	30.009
34	Cust 34	0.000	81.132	30.013
35	Cust 35	0.010	93.907	33.694
36	Cust 36	0.010	91.890	52.134
37	Cust 38	0.050	79.660	30.004
38	Cust 39	0.040	87.084	46.024
39	Cust 40	0.080	75.395	34.477
40	Cust 41	0.000	75.431	25.009
41	Cust 42	0.000	75.581	30.000
42	Cust 43	0.010	50.167	29.978
43	Cust 44	0.010	49.959	30.000
44	Cust 45	0.003	49.959	29.998
45	Cust 46	0.010	85.675	29.996
46	Cust 47	0.010	60.162	28.901
47	Cust 48	0.004	81.656	11.345
48	Cust 49	0.070	48.787	29.944
49	Cust 50	0.020	43.451	30.010
50	Cust 52	0.940	81.224	30.968
51	Cust 53	0.180	81.405	29.981
52	Cust 54	0.010	81.381	30.000
53	Cust 55	0.010	82.055	30.002
54	Cust 56	0.002	50.588	29.999
55	Cust 57	0.050	82.544	30.023
56	Cust 58	0.006	80.885	29.997
57	Cust 59	0.050	44.246	25.731
58	Cust 60	0.006	82.171	30.003
59	Cust 61	0.015	82.132	30.004
60	Cust 62	0.010	78.925	29.999
61	Cust 63	0.020	79.077	30.002
62	Cust 64	0.010	79.885	29.997
63	Cust 65	0.200	81.662	30.019
64	Cust 66	0.005	49.818	29.999
65	Cust 67	0.000	81.576	30.000
66	Cust 69	0.010	86.812	29.999
67	Cust 70	0.004	86.852	29.998
68	Cust 71	0.010	81.652	29.995
69	Cust 72	0.010	81.225	29.999
70	Cust 73	0.001	81.436	30.000
71	Cust 75	0.000	81.184	30.000
72	Cust 76	0.790	81.710	30.461
73	Cust 77	0.240	80.209	29.989
74	Cust 78	0.150	81.305	29.986
75	Cust 79	0.630	81.285	29.367
76	Cust 80	0.010	82.054	30.000
77	Cust 82	0.080	48.941	26.801
78	Cust 83	0.010	49.000	29.970
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.197	5.976
81	Cust 86	0.003	84.193	19.918
82	Cust 87	0.060	84.347	26.435
83	Cust 89	0.002	84.194	23.033
84	Cust 90	0.000	84.712	30.000
85	Cust 91	0.300	84.753	22.041
86	Cust 92	0.090	84.202	18.881
87	Cust 93	0.030	84.196	13.741
88	Cust 94	0.220	84.607	16.187
89	Cust 95	0.020	84.601	29.932
90	Cust 96	0.040	93.907	33.694
91	Cust 97	0.010	82.544	30.023
92	Cust 98	0.000	81.879	21.734
93	Cust 100	0.020	79.745	30.047
94	Cust 101	0.010	82.006	20.537
95	Cust 102	0.100	81.020	27.103
96	Cust 103	0.005	79.343	30.009
97	Cust 104	0.004	50.577	28.969
98	Cust 105	0.003	84.561	28.388
99	Cust 106	2.499	64.672	27.005
100	Cust 107	0.010	50.148	26.623
101	Cust 108	0.010	43.398	30.022

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.026351085	79.54348	41.82085	1.9640461

102	Cust 109	0.003	78.778	30.007
103	Cust 110	0.006	79.585	30.282
104	Cust 111	11.778	41.500	25.160
105	Cust 112	0.020	83.854	6.427
106	Cust 113	1.000	80.293	26.885
107	Cust 114	0.120	87.376	22.714
108	Cust 115	0.000	80.179	30.000
109	Cust 116	0.020	80.453	28.783
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.610	80.374	16.800
113	Cust 121	1.320	67.671	24.792
114	Cust 122	0.030	84.973	38.845
115	Cust 123	0.009	50.000	9.696
	Total	**35.21203121**		

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	80.452706	28.782698
2	Torrent_Node	80.374344	16.800355
3	Sajod_Node	81.655891	11.344728
4	GGCL_Node	81.641224	18.096038
5	Paguthan_Noc	82.023155	19.807192
6	GNFC_Node	82.050831	20.95002
7	NTPCJanore_N	81.992381	30
8	Barodasherkhi	81.322461	29.225302
9	Dhanora Term	81.284954	29.36743
10	GSFC_Node	81.36959	29.757312
11	Gorwa	81.701737	31.086348
12	BAKPL-Gandhi	81.213747	30.169313
13	kalol_Node	81.221733	30.022605
14	Himmatnagar_	80.478135	29.850964
15	Ratanpar	64.877745	30.465355
16	Rajkot-Gaurida	51.952795	26.608315
17	RIL-N1	41.696213	25.257107
18	Tana_Node	78.863199	29.763899
19	GPPC-Pipavav_	78.775001	30.008656
20	Thangadh-SV1	64.765205	30.020417
21	jetparda-Wanl	64.197686	29.84166
22	SV-2+TOP2+Hi	65.434709	25.470538
23	Kharapaswaria	85.420124	24.767331
24	Mehsana_Noc	81.0422	29.948118
25	Halol_Node	81.305173	29.986492
26	Petronet_Nod	84.906891	5.1176056
27	GACL_Node	84.196632	5.9757057
28	Vapi_Node-2	80.17925	29.975622
29	CH35.66	80.454236	29.970112
30	Palanpur cust	82	15.5556
31	Gatrad	81.287639	31.386014
32	Darod-Node	79.348525	36.338508
33	Olpad node	80.364576	21.24138
34	ARPL-Sudama	70.8187	32.737972
35	bhrugupur	75.395073	34.477327
36	Bhadbhut_No	82.192977	9.2246188
37	Sidhpur node	81.545101	27.847644
38	MVPL CH102.8	80.551638	29.98017
39	MVPL CH72.47	80.548441	29.999154
40	CH60.815	80.547351	29.999679
41	CH40.074	80.500164	29.989149
42	CH3.55	80.224704	29.965229
43	CH30.023	80.408256	29.966712
44	CH20.6	80.335098	29.966972
45	Raymond nod	80.344411	30.000154
46	CH13.58	80.316229	29.98218
47	Welspun	80.316197	29.999998
48	GPEC node	82.032143	30

49	Paguthan-GNF	82.00649	20.53683
50	GSFC+Adani	81.317828	29.7635
51	Suz-node	81.485586	30.014912
52	Dhuvaran_No	81.709945	30.461296
53	Dabhan	81.422125	35.382063
54	Chappara	81.375066	33.285461
55	BAKPL-Ranaso	81.248038	30.418883
56	BAKPL-VALAD	81.24508	30.319788
57	IFFCO node	81.183515	30.021743
58	santej node	81.288412	30.009377
59	KHPL-Node-1	81.038029	29.995016
60	KMPL- Kadi	81.195802	30.008976
61	KMPL-Mandli	81.131627	30.013267
62	Bhesaram	93.154096	53.494024
63	vilayat-Jubilan	93.906927	33.694111
64	Kelod	91.890337	52.134147
65	Vadhela	79.075534	30.772321
66	Samdhiyala-no	79.437928	30
67	DJPL-Meglana	79.584501	30.281599
68	Vartej1	79.659879	30.004046
69	Isharvada	86.566045	42.832213
70	Nava-Kataria-S	75.431347	25.009171
71	Sumangal-nod	75.580617	30
72	Vondh-SV4-M	79.122371	24.963462
73	Euro-node	50.166789	29.977532
74	Bhimasar-SV5-	82.939255	24.883827
75	Motimaladi	60.16228	28.900876
76	AEC node	81.224013	30.967937
77	Ochhan	81.949898	25.752368
78	GGL Palej Nod	48.768983	29.891449
79	Steelco node	48.786993	29.944224
80	ICT tap	48.996275	30
81	cosmo node	48.995569	30
82	SV4-chella-RJF	44.246412	25.731103
83	GSFCspur1	43.009176	25.458755
84	RIL-Jamnagar	41.5	25.159694
85	BGPL-Ochhan	89.369569	49.568254
86	Serkhi_Node	85.802157	46.324281
87	Anjar-Node	85.675322	29.995586
88	Petronet_Nod	85	5
89	Sumangal-N1	75.580617	30
90	Nirma node	81.405121	29.981366
91	Suzlon-N	81.381146	29.999787
92	Nano node	82.054623	30.00172
93	chimique cst n	50.588481	29.998683
94	Bhadari node	81.881206	28.308654
95	hadala	84.973204	38.845472
96	Essar-N1-2	42.120763	27.81305
97	Bhadar-N1	82.470346	30.020294
98	Piramal node	82.544106	30.022915

99	Node1269	80.54922	29.997725
100	MVPL CH102.8	80.552116	29.968701
101	Node1277	80.547896	29.999517
102	Silvai	87.084267	46.024473
103	Indiansteel-No	49.9595	29.86268
104	ratnamani-noc	49.959456	29.998143
105	metrade-Node	49.959419	29.999992
106	Node1308-2	83.784089	44.666694
107	Anklav-node	81.719883	34.433239
108	Node1358	87.22485	47.567278
109	SV-1+Gala+MI	64.672372	27.004551
110	Takarwada No	81.878919	21.734283
111	Becharaji Nod	82.171029	30.003213
112	SV1-fatehpura	81.834575	30.014009
113	SV2-ghirojpura	82.012108	30.004361
114	Honda Node	82.148311	30.0179
115	Maruti node	82.12475	29.99941
116	Maruti CST no	82.132393	30.003942
117	Amreli1	78.92536	29.998863
118	Lonthpur	78.77754	30.006502
119	Gundala1	79.076561	30.00199
120	Dahod node	79.884739	29.996613
121	Thasara node	81.662415	30.018806
122	Bhodigodi	50.148383	26.623417
123	Ambardi	49.818072	29.999047
124	Node1397-2	81.57564	30
125	Node1419	81.586542	30
126	Ratatalav-ABP	87.379588	25.382697
127	Bhuj	86.8119	29.998573
128	SV-1-ABPL	87.016268	29.993396
129	Parle node	86.851783	29.997696
130	Banas node	80.884557	29.996605
131	Ineos node	81.740403	30.047919
132	Ineos CST nod	81.652093	29.99484
133	Panchmahal n	81.271948	29.995057
134	Panchmahal C	81.224871	29.999389
135	Rochling-node	81.435943	29.996652
136	Iffco- node	81.184224	30
137	JCT-node	48.992392	30
138	GGL vapi node	80.208875	29.988701
139	Eklere shrikrisl	80.17925	30
140	sarigam GIDC	79.945567	29.975793
141	Node1377-2	81.705598	30.398492
142	Shah alloy noc	81.894355	30.070259
143	Birla_Node	84.151038	24.493465
144	Node1512-2	48.941214	26.800986
145	BASF node	48.999922	29.969822
146	styrolution no	48.999536	29.999999
147	GGL Dahej-noc	84.195639	13.740752
148	Roxul-node	84.193344	19.918056

149	Sarju node	84.347064	26.435013
150	Dic - node	84.193939	23.032612
151	Torrent DGEN	84.711633	30
152	SEZ I node	84.045633	16.824914
153	OPAL CST nod	84.753155	22.041306
154	Node1410	84.202082	18.881062
155	SEZ-I- node	84.045685	6.198212
156	GNFC Hot tap	83.854218	6.4268429
157	china steel cst	84.601264	29.932415
158	Nano CNG noc	82.054235	30.000014
159	GGL Vadhela N	79.745345	30.047441
160	Node1479	14	55
161	Node1711	84.906888	10.579321
162	Node1712	14	55
163	GNFC CST nod	84.606646	16.186623
164	Ramacylinder	50.576907	28.969296
165	GSFC-cst-node	43.450848	30.010064
166	GGLsaparpatia	43.398483	30.02246
167	GGLpalitana1	79.343289	30.009446
168	toyo-navin-co	84.561147	28.38834
169	Uttran node	80.293021	26.885057
170	Bhadbhut-nod	94.5	55
171	Gana -node	86.231965	48.473001
172	mundraLNG	88	20
173	Node2115	87.375615	22.713674
174	Rochling Cst n	81.435943	29.999997
175	IRM node	81.022392	27.049419
176	IRM cst node	81.020491	27.102595
177	Node0193	86.231965	48.473001
178	Node0091-4	79.543483	41.820846
179	Node2153	80.543483	42.149592
180	Node2161	67.670653	24.791964
181	Node2166	14	55
182	Node2169	14	55
183	Node2170	80.364569	21.241377
184	Node2176	49	8.6275749
185	Node2177	49	11.081039
186	Node2183	50	11.618138
187	Node2186	50	9.695753

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.542225	94.5	55
2	Petronet Supply	9.2201481	85	5
3	ONGC Olpad	0.069	80.932447	21.828753
4	GLL	5.5368548	88	20
5	GIGL Palanpur	0.8387719	82	15.5556
	Total	**34.2069998**		

	Grid Capacity	**34.17**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	80.515	29.976
2	Cust 2	0.690	82.025	18.439
3	Cust 3	0.210	82.397	23.274
4	Cust 4	0.000	82.313	30.000
5	Cust 5	0.000	82.353	30.000
6	Cust 6	0.380	81.524	29.595
7	Cust 7	0.100	80.697	42.120
8	Cust 8	0.280	81.025	30.839
9	Cust 9	0.020	80.973	30.402
10	Cust 10	0.070	81.076	30.010
11	Cust 11	0.140	80.181	29.821
12	Cust 12	0.170	80.886	29.753
13	Cust 13	1.120	81.752	30.010
14	Cust 14	0.470	53.634	26.885
15	Cust 15	0.250	68.359	29.849
16	Cust 16	2.000	69.336	26.292
17	Cust 17	0.260	81.514	29.983
18	Cust 18	1.000	42.143	27.583
19	Cust 19	0.059	81.496	25.208
20	Cust 20	0.040	81.023	29.970
21	Cust 21	0.080	81.118	29.998
22	Cust 22	0.040	81.116	30.000
23	Cust 23	0.010	81.069	29.989
24	Cust 24	0.010	80.976	29.967
25	Cust 25	0.001	80.912	30.000
26	Cust 26	0.002	80.884	30.000
27	Cust 27	0.070	81.428	36.672
28	Cust 28	0.050	81.328	34.668
29	Cust 29	0.010	81.527	30.775
30	Cust 30	0.050	81.070	31.141
31	Cust 31	0.040	81.012	30.015
32	Cust 32	0.170	80.822	29.993
33	Cust 33	0.140	80.992	30.013
34	Cust 34	0.000	80.952	29.974
35	Cust 35	0.010	93.908	33.605
36	Cust 36	0.010	91.917	52.115
37	Cust 38	0.050	82.606	30.004
38	Cust 39	0.040	89.688	48.004
39	Cust 40	0.080	78.416	35.517
40	Cust 41	0.000	77.435	25.703
41	Cust 42	0.000	77.593	30.000
42	Cust 43	0.010	50.171	29.975
43	Cust 44	0.010	49.958	30.000
44	Cust 45	0.003	49.958	29.998
45	Cust 46	0.010	85.877	29.996
46	Cust 47	0.010	63.005	29.626
47	Cust 48	0.004	82.040	11.880
48	Cust 49	0.070	48.787	29.941
49	Cust 50	0.020	43.703	30.010
50	Cust 52	0.940	81.091	31.766
51	Cust 53	0.180	81.613	29.959
52	Cust 54	0.010	81.589	30.000
53	Cust 55	0.010	81.826	30.002
54	Cust 56	0.002	50.606	29.998
55	Cust 57	0.050	82.785	30.023
56	Cust 58	0.006	80.861	29.996
57	Cust 59	0.050	44.699	25.455
58	Cust 60	0.006	81.991	30.003
59	Cust 61	0.015	81.953	30.004
60	Cust 62	0.010	81.863	29.999
61	Cust 63	0.020	82.058	30.002
62	Cust 64	0.010	80.093	29.997
63	Cust 65	0.200	81.663	30.018
64	Cust 66	0.005	51.196	29.999
65	Cust 67	0.000	81.959	30.000
66	Cust 69	0.010	86.837	29.999
67	Cust 70	0.004	86.878	29.998
68	Cust 71	0.010	81.861	29.995
69	Cust 72	0.010	81.434	29.999
70	Cust 73	0.001	81.644	30.000
71	Cust 75	1.120	80.966	30.018
72	Cust 76	1.000	81.837	29.980
73	Cust 77	0.240	80.776	29.989
74	Cust 78	0.150	81.514	29.983
75	Cust 79	0.040	81.493	28.977
76	Cust 80	0.010	81.826	30.000
77	Cust 82	0.080	48.941	26.803
78	Cust 83	0.010	49.000	29.970
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.302	6.115
81	Cust 86	0.003	84.299	19.982
82	Cust 87	0.060	84.453	26.459
83	Cust 89	0.002	84.300	23.078
84	Cust 90	0.000	84.838	30.000
85	Cust 91	0.040	84.855	29.637
86	Cust 92	0.090	84.322	25.579
87	Cust 93	0.030	84.301	13.840
88	Cust 94	0.220	84.748	16.304
89	Cust 95	0.020	84.743	29.933
90	Cust 96	0.040	93.908	33.605
91	Cust 97	0.010	82.785	30.023
92	Cust 98	0.000	81.862	19.753
93	Cust 100	0.020	82.676	30.047
94	Cust 101	0.010	82.344	22.251
95	Cust 102	0.100	80.998	26.428
96	Cust 103	0.005	82.291	30.009
97	Cust 104	0.004	50.594	28.902
98	Cust 105	0.003	84.703	28.403
99	Cust 106	1.500	68.475	26.814
100	Cust 107	0.010	51.531	26.739
101	Cust 108	0.010	43.651	30.022

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.034044569	79.69677	41.79695	2.6982238

102	Cust 109	0.003	81.752	30.008
103	Cust 110	0.006	82.528	30.263
104	Cust 111	13.007	41.500	24.724
105	Cust 112	0.020	83.997	6.616
106	Cust 113	1.000	80.579	27.057
107	Cust 114	0.120	87.384	22.876
108	Cust 115	0.000	80.746	30.000
109	Cust 116	0.020	81.021	28.864
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.150	80.942	17.600
113	Cust 121	1.000	71.218	25.730
114	Cust 122	0.030	87.659	39.927
115	Cust 123	0.009	50.000	9.271
	Total	**34.172955**		

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	81.02103	28.86381
2	Torrent_Node	80.942103	17.600356
3	Sajod_Node	82.039772	11.87982
4	GGCL_Node	82.025167	18.439067
5	Paguthan_Node	82.34403	20.154609
6	GNFC_Node	82.396681	23.273767
7	NTPCJanore_Node	82.313201	30
8	Barodasherkhi_Node	81.519776	28.573935
9	Dhanora Terminal	81.492547	28.976863
10	GSFC_Node	81.5762	29.562015
11	Gorwa	81.852061	29.929689
12	BAKPL-Gandhinagar	81.025033	30.839162
13	kalol_Node	81.011782	30.015191
14	Himmatnagar_Node	80.181244	29.821289
15	Ratanpar	68.327041	31.430563
16	Rajkot-Gauridad-RJPL	53.633588	26.885371
17	RIL-N1	41.723165	24.831118
18	Tana_Node	81.799837	29.767865
19	GPPC-Pipavav_Node	81.751917	30.010118
20	Thangadh-SV1-Morbi spur	68.358659	29.849181
21	jetparda-Wankaner_Node-Morbi spurline	67.852318	28.27279
22	SV-2+TOP2+Hirapar+MMPL	69.335537	26.291564
23	Kharapaswaria-MMPL	85.61334	25.055852
24	Mehsana_Node	80.886497	29.753341
25	Halol_Node	81.513831	29.98297
26	Petronet_Node	84.919246	5.1344985
27	GACL_Node	84.30228	6.1145191
28	Vapi_Node-2	80.746276	29.975614
29	CH35.66	81.022705	29.970134
30	Palanpur cust	82	15.5556
31	Gatrad	81.153782	32.507511
32	Darod-Node	82.254194	37.402163
33	Olpad node	80.932447	21.828753
34	ARPL-Sudamada	74.023157	33.760207
35	bhrugupur	78.416048	35.517372
36	Bhadbhut_Node	82.507228	9.6268885
37	Sidhpur node	81.496175	25.208414
38	MVPL CH102.863	81.120533	29.982281
39	MVPL CH72.474	81.117368	29.99922
40	CH60.815	81.116288	29.999693
41	CH40.074	81.068873	29.989152
42	CH3.55	80.791974	29.965233
43	CH30.023	80.976484	29.966722
44	CH20.6	80.902943	29.966971
45	Raymond node	80.912306	30.000154
46	CH13.58	80.883979	29.982167

47	Welspun	80.883947	29.999998
48	GPEC node	82.353034	30
49	Paguthan-GNFC	82.344184	22.251223
50	GSFC+Adani	81.524338	29.595123
51	Suz-node	81.693307	29.940995
52	Dhuvaran_Node-2	81.836726	29.980172
53	Dabhan	81.428181	36.672236
54	Chappara	81.3281	34.667548
55	BAKPL-Ranason	81.080481	31.317982
56	BAKPL-VALAD	81.069941	31.141375
57	IFFCO node	80.97305	30.402219
58	santej node	81.075634	30.009559
59	KHPL-Node-1	80.821803	29.992923
60	KMPL- Kadi	80.991518	30.012738
61	KMPL-Mandli	80.951684	29.973785
62	Bhesaram	93.167692	53.483363
63	vilayat-Jubilant-Node	93.907675	33.604653
64	Kelod	91.916848	52.115053
65	Vadhela	81.991665	30.793012
66	Samdhiyala-node	82.362045	30
67	DJPL-Meglana	82.528448	30.262513
68	Vartej1	82.605609	30.003992
69	Isharvada	89.18951	44.389841
70	Nava-Kataria-SV3-MMPL	77.435027	25.703116
71	Sumangal-node	77.593396	30
72	Vondh-SV4-MMPL	80.426086	25.525022
73	Euro-node	50.171494	29.97516
74	Bhimasar-SV5-MMPL	83.563613	25.290693
75	Motimaladi	63.005452	29.625566
76	AEC node	81.091021	31.765729
77	Ochhan	82.230094	24.996361
78	GGL Palej Node	48.769502	29.886911
79	Steelco node	48.787467	29.940833
80	ICT tap	48.996285	30
81	cosmo node	48.99558	30
82	SV4-chella-RJPL	44.699123	25.454747
83	GSFCspur1	43.263751	25.111505
84	RIL-Jamnagar	41.5	24.724126
85	BGPL-Ochhan	89.42173	49.535879
86	Serkhi_Node	85.892131	46.28333
87	Anjar-Node	85.877331	29.995783
88	Petronet_Node-2	85	5
89	Sumangal-N1	77.593396	30
90	Nirma node	81.613117	29.958645
91	Suzlon-N	81.589135	29.999788
92	Nano node	81.826051	30.001674
93	chimique cst node	50.605633	29.998465
94	Bhadari node	82.121439	27.524505
95	hadala	87.659204	39.926664

96	Essar-N1-2	42.143179	27.582954
97	Bhadar-N1	82.711161	30.02028
98	Piramal node	82.784999	30.022885
99	Node1269	81.118139	29.997935
100	MVPL CH102.863-2	81.121007	29.972071
101	Node1277	81.116828	29.999547
102	Silvai	89.687704	48.004389
103	Indiansteel-Node	49.958356	29.852765
104	ratnamani-node	49.958311	29.997916
105	metrade-Node	49.958273	29.999991
106	Node1308-2	83.896243	44.62532
107	Anklav-node	81.906361	29.767661
108	Node1358	87.299521	47.528438
109	SV-1+Gala+MMPL	68.475295	26.814023
110	Takarwada Node	81.862111	19.75276
111	Becharaji Node	81.991388	30.003222
112	SV1-fatehpura- node	81.654837	30.01405
113	SV2-ghirojpura node	81.832421	30.004374
114	Honda Node	81.968664	30.017951
115	Maruti node	81.945095	29.999408
116	Maruti CST node	81.952739	30.003948
117	Amreli1	81.863417	29.998877
118	Lonthpur	81.751913	30.00812
119	Gundala1	82.057734	30.001966
120	Dahod node	80.092649	29.996618
121	Thasara node	81.663011	30.018362
122	Bhodigodi	51.531294	26.739314
123	Ambardi	51.195662	29.999055
124	Node1397-2	81.959307	30
125	Node1419	81.970238	30
126	Ratatalav-ABPL-18	87.423326	25.629579
127	Bhuj	86.837187	29.998504
128	SV-1-ABPL	87.048178	29.993073
129	Parle node	86.878363	29.997585
130	Banas node	80.861389	29.996492
131	Ineos node	81.949286	30.047761
132	Ineos CST node	81.860934	29.994847
133	Panchmahal node	81.480595	29.995063
134	Panchmahal Cst Node	81.433508	29.99939
135	Rochling-node	81.643893	29.967126
136	Iffco- node	80.965837	30.018383
137	JCT-node	48.992411	30
138	GGL vapi node	80.776301	29.98871
139	Eklere shrikrishna	80.746276	30
140	sarigam GIDC	80.514845	29.976032
141	Node1377-2	81.527268	30.774902
142	Shah alloy node	81.669112	30.06846
143	Birla_Node	84.256819	24.528644
144	Node1512-2	48.941335	26.803087

145	BASF node	48.999922	29.969875
146	styrolution node	48.999537	29.999999
147	GGL Dahej-node	84.301291	13.839518
148	Roxul-node	84.299001	19.981703
149	Sarju node	84.452525	26.45928
150	Dic - node	84.299596	23.077697
151	Torrent DGEN node	84.838367	30
152	SEZ I node	84.17291	24.662223
153	OPAL CST node	84.855385	29.636966
154	Node1410	84.32204	25.579394
155	SEZ-I- node	84.172918	6.3662335
156	GNFC Hot tap - node	83.996857	6.6157995
157	china steel cst node	84.743084	29.933075
158	Nano CNG node	81.825664	30.000013
159	GGL Vadhela Node	82.676116	30.046876
160	Node1479	14	55
161	Node1711	84.919243	10.596694
162	Node1712	14	55
163	GNFC CST node	84.748042	16.304275
164	Ramacylinder	50.59374	28.901689
165	GSFC-cst-node	43.702726	30.009913
166	GGLsaparpatia	43.650691	30.022133
167	GGLpalitana1	82.290556	30.009325
168	toyo-navin-convergence node	84.702987	28.402676
169	Uttran node	80.578849	27.056622
170	Bhadbhut-node	94.5	55
171	Gana -node	88.804616	50.960223
172	mundraLNG	88	20
173	Node2115	87.384411	22.876386
174	Rochling Cst node	81.643893	29.999971
175	IRM node	80.999627	26.363328
176	IRM cst node	80.99772	26.428498
177	Node0193	88.804616	50.960223
178	Node0091-4	79.696769	41.796945
179	Node2153	80.696769	42.119524
180	Node2161	71.218176	25.729728
181	Node2166	14	55
182	Node2169	14	55
183	Node2170	80.65	21.72167
184	Node2176	49	8.6159061
185	Node2177	49	10.098981
186	Node2183	50	11.096843
187	Node2186	50	9.2713665

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.542225	94.5	55
2	Petronet Supply	9.2201481	85	5
3	ONGC Olpad	0.069	80.932447	21.828753
4	GLL	5.5368548	88	20
5	GIGL Palanpur	0.8387719	82	15.5556
	Total	**34.2069998**		

	Grid Capacity	**34.17**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	80.515	29.976
2	Cust 2	0.690	82.025	18.439
3	Cust 3	0.210	82.397	23.274
4	Cust 4	0.000	82.313	30.000
5	Cust 5	0.000	82.353	30.000
6	Cust 6	0.380	81.524	29.595
7	Cust 7	0.100	80.697	42.120
8	Cust 8	0.280	81.025	30.839
9	Cust 9	0.020	80.973	30.402
10	Cust 10	0.070	81.076	30.010
11	Cust 11	0.140	80.181	29.821
12	Cust 12	0.170	80.886	29.753
13	Cust 13	1.120	81.752	30.010
14	Cust 14	0.470	53.634	26.885
15	Cust 15	0.250	68.359	29.849
16	Cust 16	2.000	69.336	26.292
17	Cust 17	0.260	81.514	29.983
18	Cust 18	1.000	42.143	27.583
19	Cust 19	0.059	81.496	25.208
20	Cust 20	0.040	81.023	29.970
21	Cust 21	0.080	81.118	29.998
22	Cust 22	0.040	81.116	30.000
23	Cust 23	0.010	81.069	29.989
24	Cust 24	0.010	80.976	29.967
25	Cust 25	0.001	80.912	30.000
26	Cust 26	0.002	80.884	30.000
27	Cust 27	0.070	81.428	36.672
28	Cust 28	0.050	81.328	34.668
29	Cust 29	0.010	81.527	30.775
30	Cust 30	0.050	81.070	31.141
31	Cust 31	0.040	81.012	30.015
32	Cust 32	0.170	80.822	29.993
33	Cust 33	0.140	80.992	30.013
34	Cust 34	0.000	80.952	29.974
35	Cust 35	0.010	93.908	33.605
36	Cust 36	0.010	91.917	52.115
37	Cust 38	0.050	82.606	30.004
38	Cust 39	0.040	89.688	48.004
39	Cust 40	0.080	78.416	35.517
40	Cust 41	0.000	77.435	25.703
41	Cust 42	0.000	77.593	30.000
42	Cust 43	0.010	50.171	29.975
43	Cust 44	0.010	49.958	30.000
44	Cust 45	0.003	49.958	29.998
45	Cust 46	0.010	85.877	29.996
46	Cust 47	0.010	63.005	29.626
47	Cust 48	0.004	82.040	11.880
48	Cust 49	0.070	48.787	29.941
49	Cust 50	0.020	43.703	30.010
50	Cust 52	0.940	81.091	31.766
51	Cust 53	0.180	81.613	29.959
52	Cust 54	0.010	81.589	30.000
53	Cust 55	0.010	81.826	30.002
54	Cust 56	0.002	50.606	29.998
55	Cust 57	0.050	82.785	30.023
56	Cust 58	0.006	80.861	29.996
57	Cust 59	0.050	44.699	25.455
58	Cust 60	0.006	81.991	30.003
59	Cust 61	0.015	81.953	30.004
60	Cust 62	0.010	81.863	29.999
61	Cust 63	0.020	82.058	30.002
62	Cust 64	0.010	80.093	29.997
63	Cust 65	0.200	81.663	30.018
64	Cust 66	0.005	51.196	29.999
65	Cust 67	0.000	81.959	30.000
66	Cust 69	0.010	86.837	29.999
67	Cust 70	0.004	86.878	29.998
68	Cust 71	0.010	81.861	29.995
69	Cust 72	0.010	81.434	29.999
70	Cust 73	0.001	81.644	30.000
71	Cust 75	1.120	80.966	30.018
72	Cust 76	1.000	81.837	29.980
73	Cust 77	0.240	80.776	29.989
74	Cust 78	0.150	81.514	29.983
75	Cust 79	0.040	81.493	28.977
76	Cust 80	0.010	81.826	30.000
77	Cust 82	0.080	48.941	26.803
78	Cust 83	0.010	49.000	29.970
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.302	6.115
81	Cust 86	0.003	84.299	19.982
82	Cust 87	0.060	84.453	26.459
83	Cust 89	0.002	84.300	23.078
84	Cust 90	0.000	84.838	30.000
85	Cust 91	0.040	84.855	29.637
86	Cust 92	0.090	84.322	25.579
87	Cust 93	0.030	84.301	13.840
88	Cust 94	0.220	84.748	16.304
89	Cust 95	0.020	84.743	29.933
90	Cust 96	0.040	93.908	33.605
91	Cust 97	0.010	82.785	30.023
92	Cust 98	0.000	81.862	19.753
93	Cust 100	0.020	82.676	30.047
94	Cust 101	0.010	82.344	22.251
95	Cust 102	0.100	80.998	26.428
96	Cust 103	0.005	82.291	30.009
97	Cust 104	0.004	50.594	28.902
98	Cust 105	0.003	84.703	28.403
99	Cust 106	1.500	68.475	26.814
100	Cust 107	0.010	51.531	26.739
101	Cust 108	0.010	43.651	30.022

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C	Power Required (MW)
1	Fuel0001	0.034044569	79.69677	41.79695	2.6982238

102	Cust 109	0.003	81.752	30.008
103	Cust 110	0.006	82.528	30.263
104	Cust 111	13.007	41.500	24.724
105	Cust 112	0.020	83.997	6.616
106	Cust 113	1.000	80.579	27.057
107	Cust 114	0.120	87.384	22.876
108	Cust 115	0.000	80.746	30.000
109	Cust 116	0.020	81.021	28.864
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.150	80.942	17.600
113	Cust 121	1.000	71.218	25.730
114	Cust 122	0.030	87.659	39.927
115	Cust 123	0.009	50.000	9.271
	Total	**34.172955**		

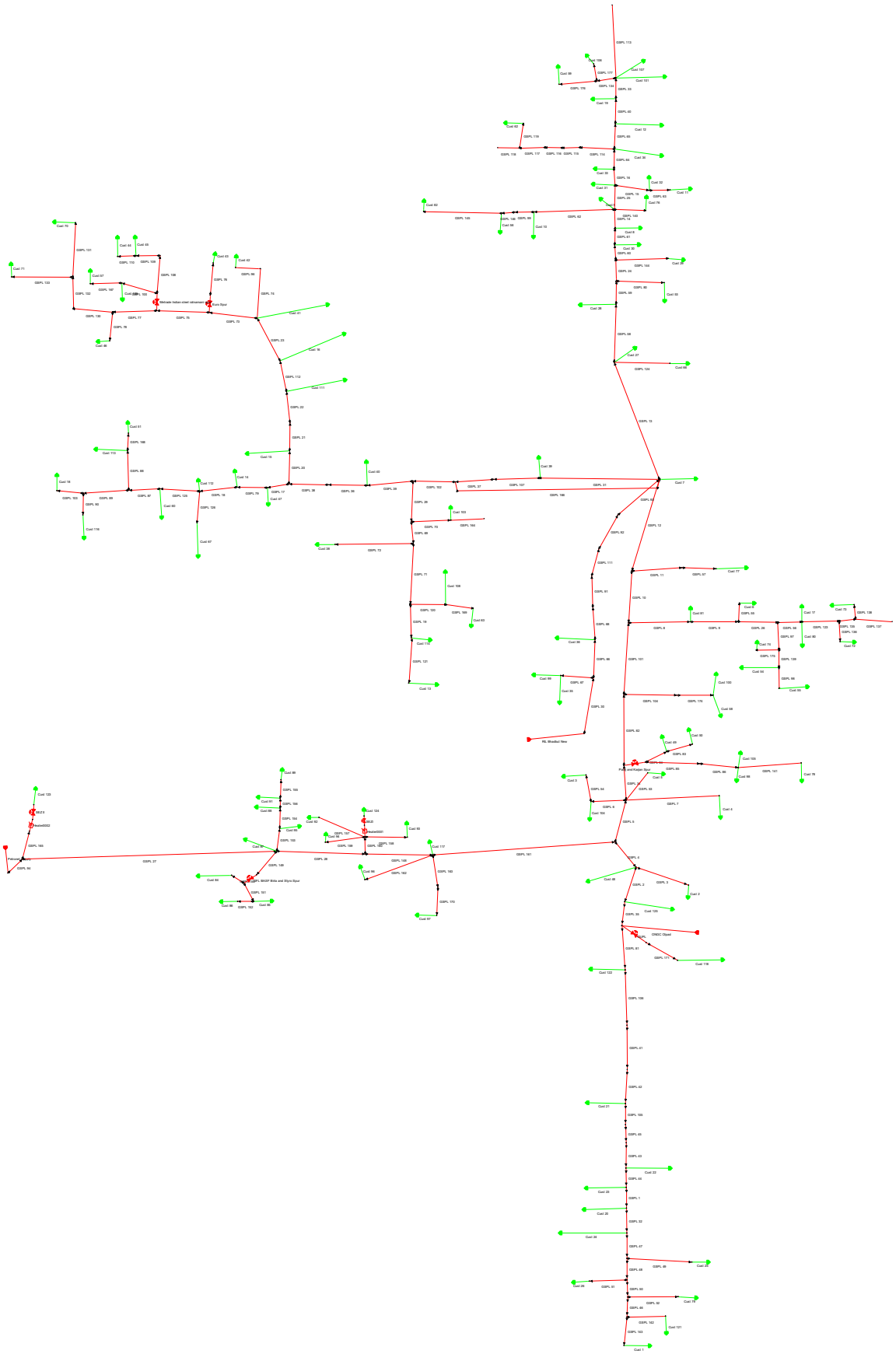
Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	81.02103	28.86381
2	Torrent_Node	80.942103	17.600356
3	Sajod_Node	82.039772	11.87982
4	GGCL_Node	82.025167	18.439067
5	Paguthan_Node	82.34403	20.154609
6	GNFC_Node	82.396681	23.273767
7	NTPCJanore_Node	82.313201	30
8	Barodasherkhi_Node	81.519776	28.573935
9	Dhanora Terminal	81.492547	28.976863
10	GSFC_Node	81.5762	29.562015
11	Gorwa	81.852061	29.929689
12	BAKPL-Gandhinagar	81.025033	30.839162
13	kalol_Node	81.011782	30.015191
14	Himmatnagar_Node	80.181244	29.821289
15	Ratanpar	68.327041	31.430563
16	Rajkot-Gauridad-RJPL	53.633588	26.885371
17	RIL-N1	41.723165	24.831118
18	Tana_Node	81.799837	29.767865
19	GPPC-Pipavav_Node	81.751917	30.010118
20	Thangadh-SV1-Morbi spur	68.358659	29.849181
21	jetparda-Wankaner_Node-Morbi spurline	67.852318	28.27279
22	SV-2+TOP2+Hirapar+MMPL	69.335537	26.291564
23	Kharapaswaria-MMPL	85.61334	25.055852
24	Mehsana_Node	80.886497	29.753341
25	Halol_Node	81.513831	29.98297
26	Petronet_Node	84.919246	5.1344985
27	GACL_Node	84.30228	6.1145191
28	Vapi_Node-2	80.746276	29.975614
29	CH35.66	81.022705	29.970134
30	Palanpur cust	82	15.5556
31	Gatrad	81.153782	32.507511
32	Darod-Node	82.254194	37.402163
33	Olpad node	80.932447	21.828753
34	ARPL-Sudamada	74.023157	33.760207
35	bhrugupur	78.416048	35.517372
36	Bhadbhut_Node	82.507228	9.6268885
37	Sidhpur node	81.496175	25.208414
38	MVPL CH102.863	81.120533	29.982281
39	MVPL CH72.474	81.117368	29.99922
40	CH60.815	81.116288	29.999693
41	CH40.074	81.068873	29.989152
42	CH3.55	80.791974	29.965233
43	CH30.023	80.976484	29.966722
44	CH20.6	80.902943	29.966971
45	Raymond node	80.912306	30.000154
46	CH13.58	80.883979	29.982167

47	Welspun	80.883947	29.999998
48	GPEC node	82.353034	30
49	Paguthan-GNFC	82.344184	22.251223
50	GSFC+Adani	81.524338	29.595123
51	Suz-node	81.693307	29.940995
52	Dhuvaran_Node-2	81.836726	29.980172
53	Dabhan	81.428181	36.672236
54	Chappara	81.3281	34.667548
55	BAKPL-Ranason	81.080481	31.317982
56	BAKPL-VALAD	81.069941	31.141375
57	IFFCO node	80.97305	30.402219
58	santej node	81.075634	30.009559
59	KHPL-Node-1	80.821803	29.992923
60	KMPL- Kadi	80.991518	30.012738
61	KMPL-Mandli	80.951684	29.973785
62	Bhesaram	93.167692	53.483363
63	vilayat-Jubilant-Node	93.907675	33.604653
64	Kelod	91.916848	52.115053
65	Vadhela	81.991665	30.793012
66	Samdhiyala-node	82.362045	30
67	DJPL-Meglana	82.528448	30.262513
68	Vartej1	82.605609	30.003992
69	Isharvada	89.18951	44.389841
70	Nava-Kataria-SV3-MMPL	77.435027	25.703116
71	Sumangal-node	77.593396	30
72	Vondh-SV4-MMPL	80.426086	25.525022
73	Euro-node	50.171494	29.97516
74	Bhimasar-SV5-MMPL	83.563613	25.290693
75	Motimaladi	63.005452	29.625566
76	AEC node	81.091021	31.765729
77	Ochhan	82.230094	24.996361
78	GGL Palej Node	48.769502	29.886911
79	Steelco node	48.787467	29.940833
80	ICT tap	48.996285	30
81	cosmo node	48.99558	30
82	SV4-chella-RJPL	44.699123	25.454747
83	GSFCspur1	43.263751	25.111505
84	RIL-Jamnagar	41.5	24.724126
85	BGPL-Ochhan	89.42173	49.535879
86	Serkhi_Node	85.892131	46.28333
87	Anjar-Node	85.877331	29.995783
88	Petronet_Node-2	85	5
89	Sumangal-N1	77.593396	30
90	Nirma node	81.613117	29.958645
91	Suzlon-N	81.589135	29.999788
92	Nano node	81.826051	30.001674
93	chimique cst node	50.605633	29.998465
94	Bhadari node	82.121439	27.524505
95	hadala	87.659204	39.926664

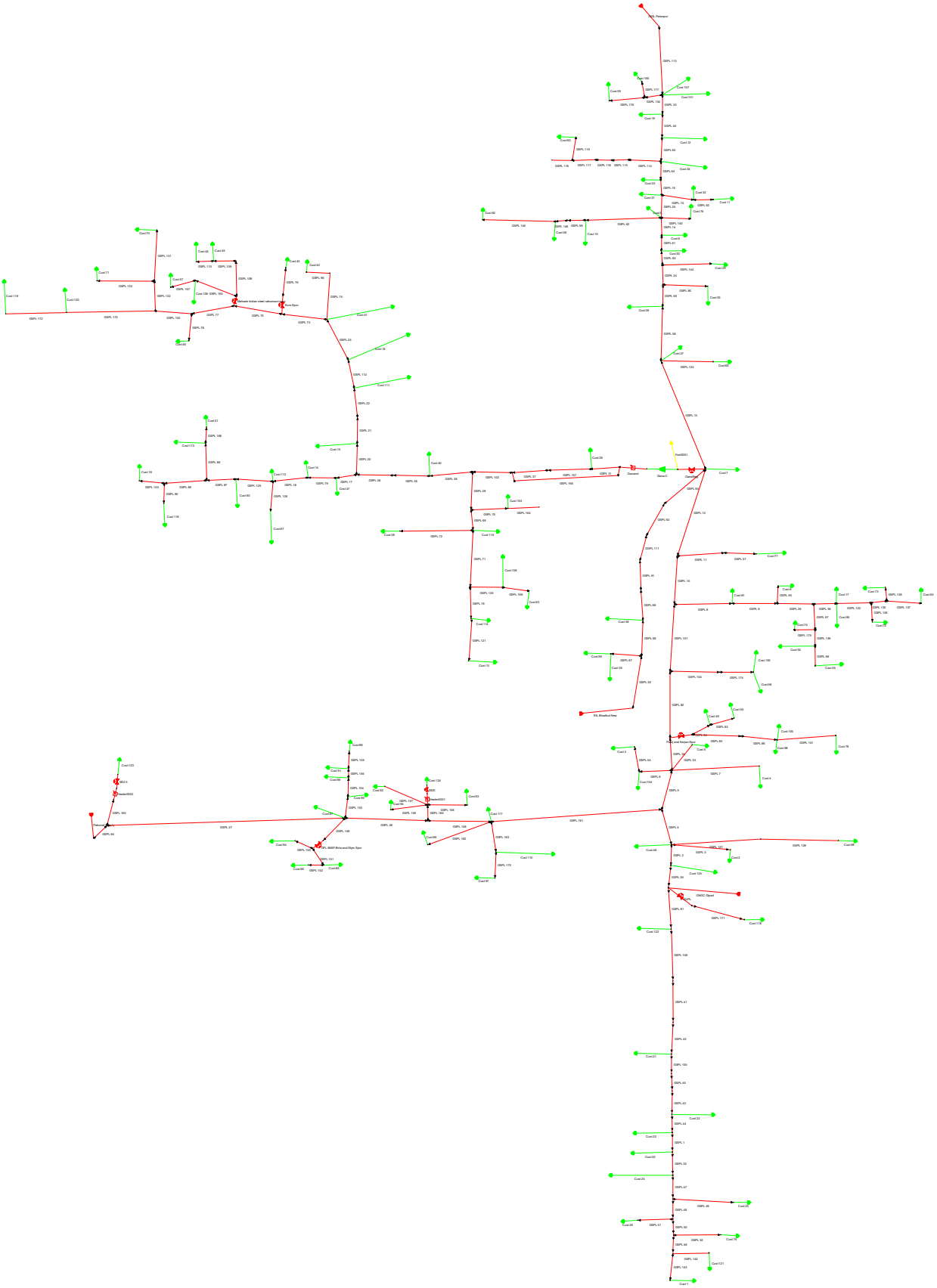
96	Essar-N1-2	42.143179	27.582954
97	Bhadar-N1	82.711161	30.02028
98	Piramal node	82.784999	30.022885
99	Node1269	81.118139	29.997935
100	MVPL CH102.863-2	81.121007	29.972071
101	Node1277	81.116828	29.999547
102	Silvai	89.687704	48.004389
103	Indiansteel-Node	49.958356	29.852765
104	ratnamani-node	49.958311	29.997916
105	metrade-Node	49.958273	29.999991
106	Node1308-2	83.896243	44.62532
107	Anklav-node	81.906361	29.767661
108	Node1358	87.299521	47.528438
109	SV-1+Gala+MMPL	68.475295	26.814023
110	Takarwada Node	81.862111	19.75276
111	Becharaji Node	81.991388	30.003222
112	SV1-fatehpura- node	81.654837	30.01405
113	SV2-ghirojpura node	81.832421	30.004374
114	Honda Node	81.968664	30.017951
115	Maruti node	81.945095	29.999408
116	Maruti CST node	81.952739	30.003948
117	Amreli1	81.863417	29.998877
118	Lonthpur	81.751913	30.00812
119	Gundala1	82.057734	30.001966
120	Dahod node	80.092649	29.996618
121	Thasara node	81.663011	30.018362
122	Bhodigodi	51.531294	26.739314
123	Ambardi	51.195662	29.999055
124	Node1397-2	81.959307	30
125	Node1419	81.970238	30
126	Ratatalav-ABPL-18	87.423326	25.629579
127	Bhuj	86.837187	29.998504
128	SV-1-ABPL	87.048178	29.993073
129	Parle node	86.878363	29.997585
130	Banas node	80.861389	29.996492
131	Ineos node	81.949286	30.047761
132	Ineos CST node	81.860934	29.994847
133	Panchmahal node	81.480595	29.995063
134	Panchmahal Cst Node	81.433508	29.99939
135	Rochling-node	81.643893	29.967126
136	Iffco- node	80.965837	30.018383
137	JCT-node	48.992411	30
138	GGL vapi node	80.776301	29.98871
139	Eklere shrikrishna	80.746276	30
140	sarigam GIDC	80.514845	29.976032
141	Node1377-2	81.527268	30.774902
142	Shah alloy node	81.669112	30.06846
143	Birla_Node	84.256819	24.528644
144	Node1512-2	48.941335	26.803087

145	BASF node	48.999922	29.969875
146	styrolution node	48.999537	29.999999
147	GGL Dahej-node	84.301291	13.839518
148	Roxul-node	84.299001	19.981703
149	Sarju node	84.452525	26.45928
150	Dic - node	84.299596	23.077697
151	Torrent DGEN node	84.838367	30
152	SEZ I node	84.17291	24.662223
153	OPAL CST node	84.855385	29.636966
154	Node1410	84.32204	25.579394
155	SEZ-I- node	84.172918	6.3662335
156	GNFC Hot tap - node	83.996857	6.6157995
157	china steel cst node	84.743084	29.933075
158	Nano CNG node	81.825664	30.000013
159	GGL Vadhela Node	82.676116	30.046876
160	Node1479	14	55
161	Node1711	84.919243	10.596694
162	Node1712	14	55
163	GNFC CST node	84.748042	16.304275
164	Ramacylinder	50.59374	28.901689
165	GSFC-cst-node	43.702726	30.009913
166	GGLsaparpatia	43.650691	30.022133
167	GGLpalitana1	82.290556	30.009325
168	toyo-navin-convergence node	84.702987	28.402676
169	Uttran node	80.578849	27.056622
170	Bhadbhut-node	94.5	55
171	Gana -node	88.804616	50.960223
172	mundraLNG	88	20
173	Node2115	87.384411	22.876386
174	Rochling Cst node	81.643893	29.999971
175	IRM node	80.999627	26.363328
176	IRM cst node	80.99772	26.428498
177	Node0193	88.804616	50.960223
178	Node0091-4	79.696769	41.796945
179	Node2153	80.696769	42.119524
180	Node2161	71.218176	25.729728
181	Node2166	14	55
182	Node2169	14	55
183	Node2170	80.65	21.72167
184	Node2176	49	8.6159061
185	Node2177	49	10.098981
186	Node2183	50	11.096843
187	Node2186	50	9.2713665

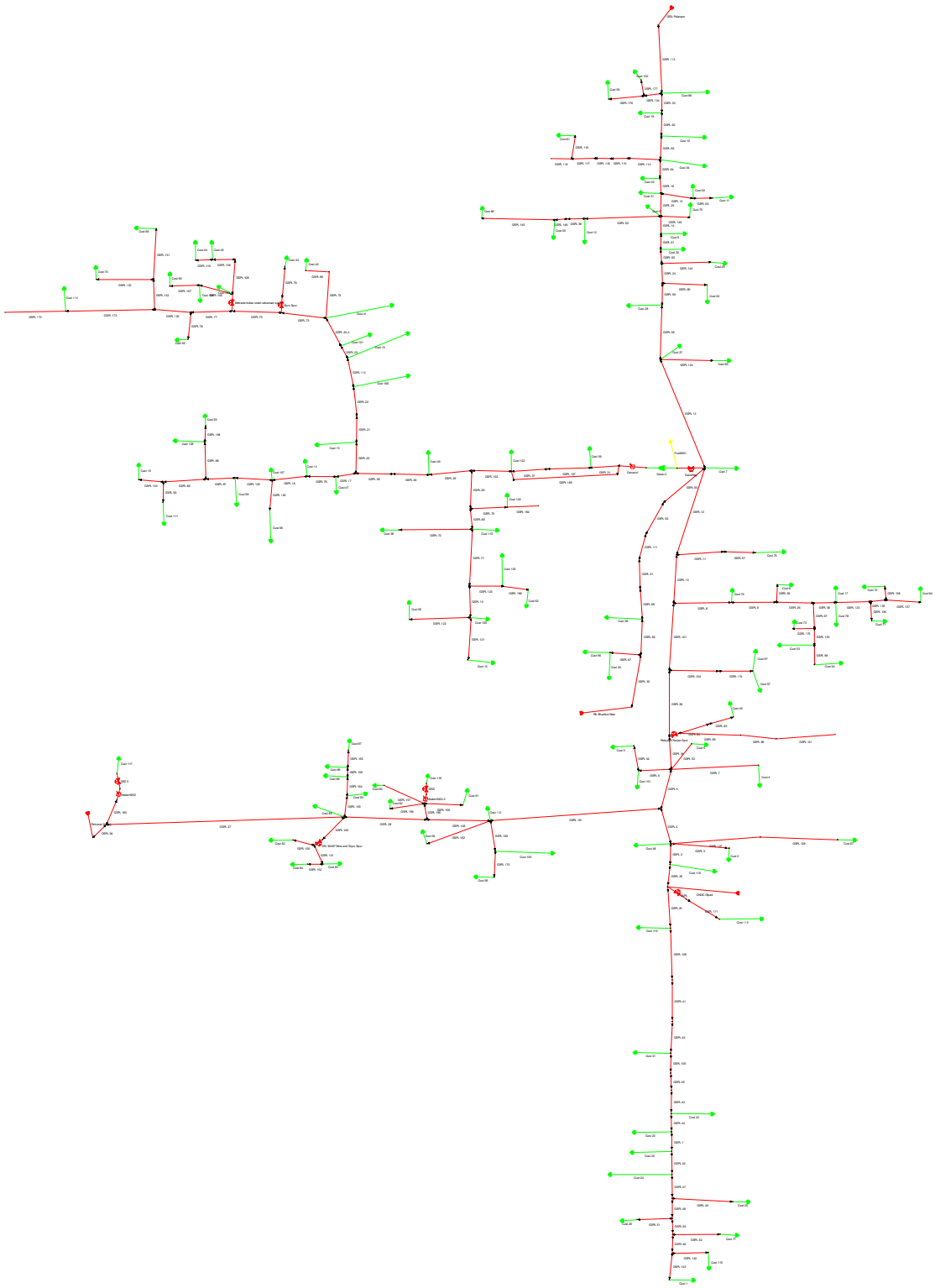
GSPL HP GAS GRID 17-18



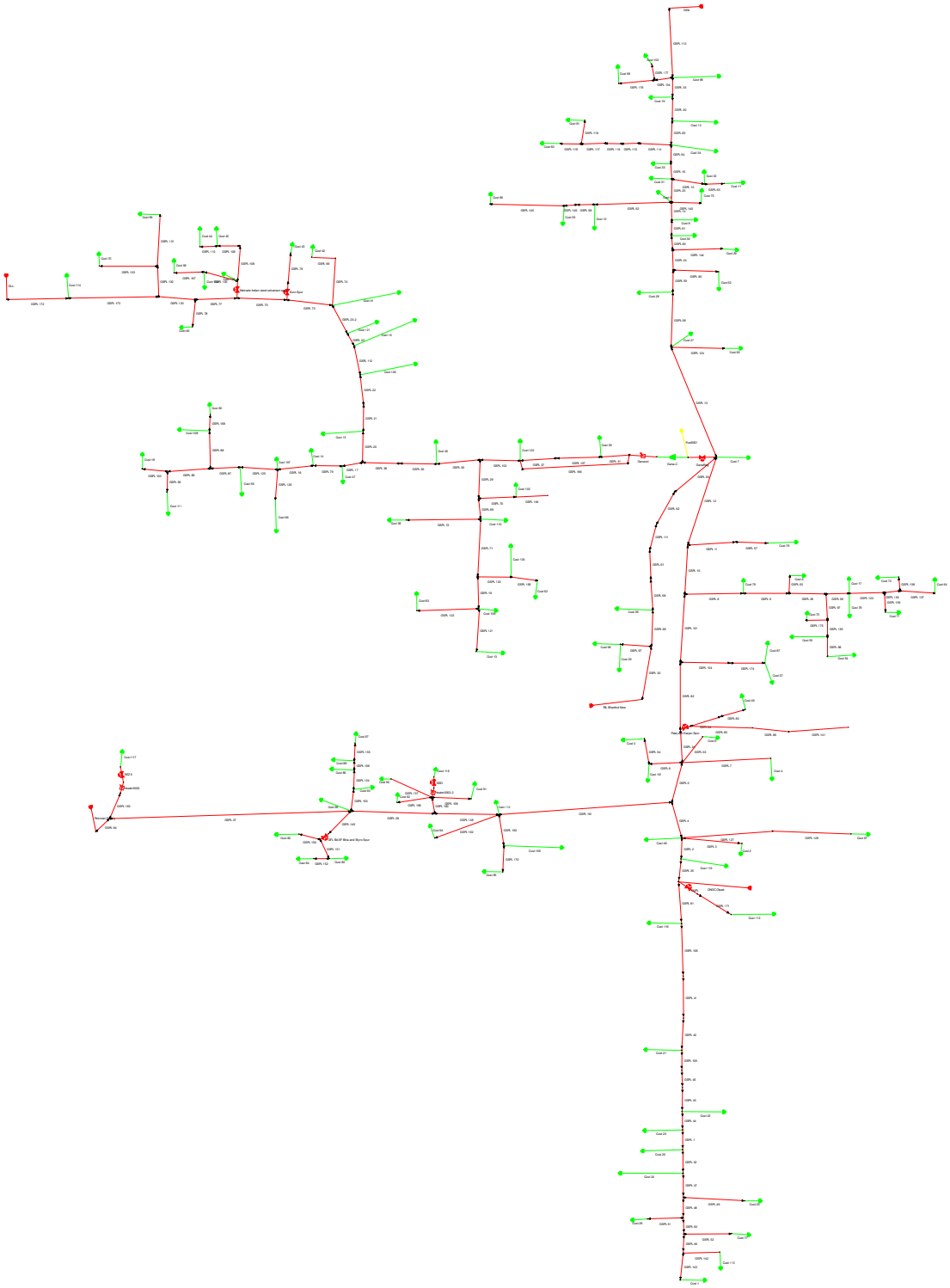
GSPL HP GAS GRID WITH COMP 18-19



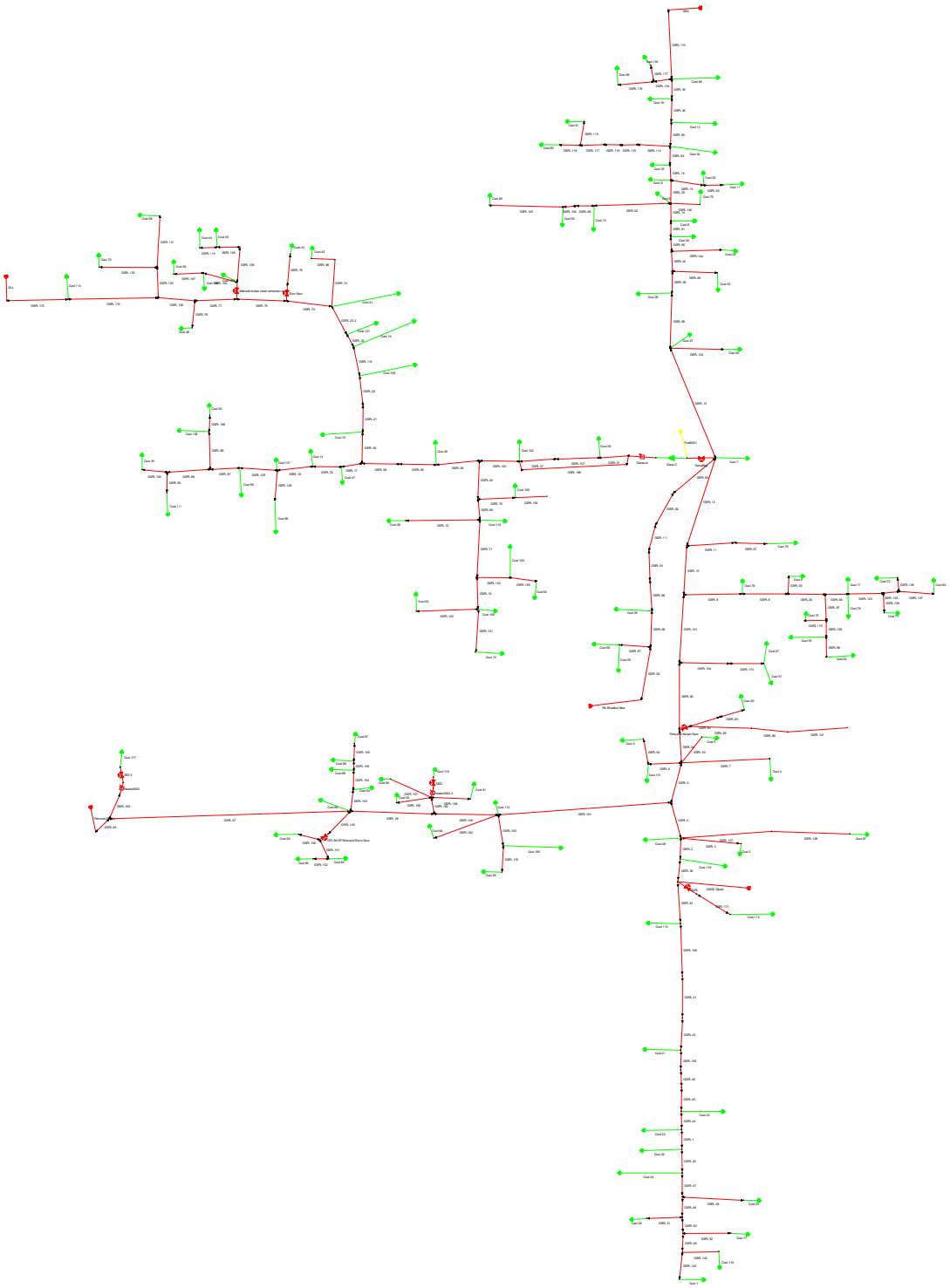
GSPL HP GAS GRID WITH COMP 19-20



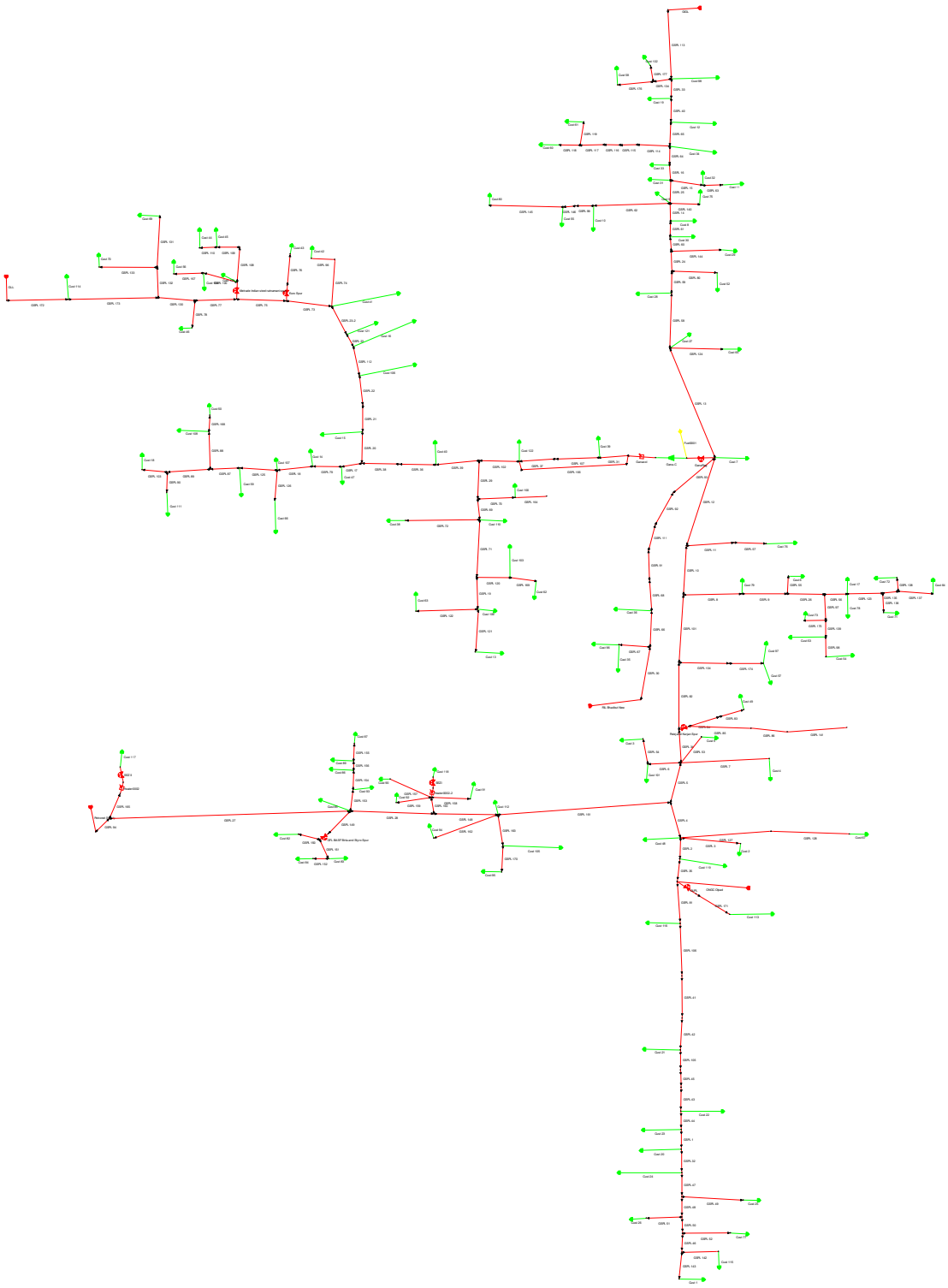
GSPL HP GAS GRID WITH COMP 20-21



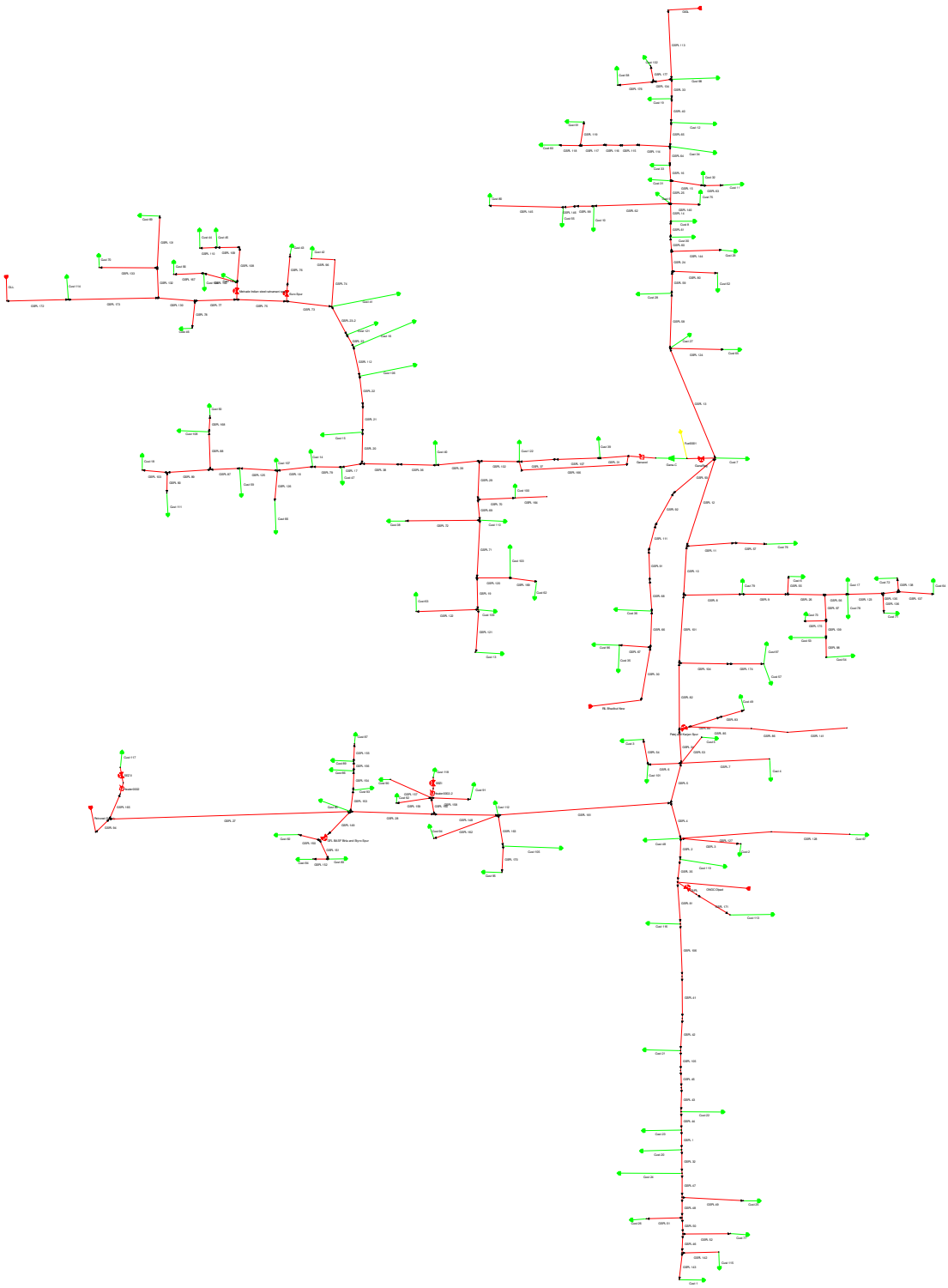
GSPL HP GAS GRID WITH COMP APRIL 21-22



GSPL HP GAS GRID WITH COMP APRIL 22-23



GSPL HP GAS GRID WITH COMP APRIL 23-24



HP-SwanChara1

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	17.16	94.50	55.00
2	Petronet Supply	6.68	85.00	5.00
3	ONGC Olpad	0.07	82.06	23.18
4	GLL	5.40	88.00	20.00
5	SWAN	3.45	94.00	15.00
6	Chhara	4.29	94.10	15.00
	Total	**37.04**		

	Grid Capacity	**37.01**	**MMSCMD**	

Units	Exit Points	MMSCMD	barg	Deg C
1	Cust 1	0.140	81.640	29.976
2	Cust 2	0.690	83.147	20.191
3	Cust 3	0.210	83.675	30.041
4	Cust 4	0.000	83.594	30.000
5	Cust 5	0.000	83.634	30.000
6	Cust 6	0.380	83.164	31.267
7	Cust 7	0.100	82.559	42.026
8	Cust 8	0.280	91.057	40.746
9	Cust 9	0.020	90.488	39.247
10	Cust 10	0.070	90.605	30.022
11	Cust 11	0.140	89.615	29.866
12	Cust 12	0.170	86.074	33.972
13	Cust 13	0.000	93.990	15.786
14	Cust 14	0.470	58.683	23.373
15	Cust 15	0.250	69.713	29.693
16	Cust 16	2.500	70.319	26.575
17	Cust 17	0.260	83.160	30.019
18	Cust 18	1.000	50.828	27.056
19	Cust 19	0.059	81.563	31.150
20	Cust 20	0.040	82.148	29.970
21	Cust 21	0.080	82.245	29.998
22	Cust 22	0.040	82.243	30.000
23	Cust 23	0.010	82.195	29.989
24	Cust 24	0.010	82.101	29.967
25	Cust 25	0.001	82.036	30.000
26	Cust 26	0.002	82.008	30.000
27	Cust 27	0.070	94.331	49.844
28	Cust 28	0.050	93.551	47.499
29	Cust 29	0.010	92.017	35.401
30	Cust 30	0.050	91.375	41.555
31	Cust 31	0.040	90.339	38.472
32	Cust 32	0.170	90.181	29.998
33	Cust 33	0.140	89.613	37.571
34	Cust 34	0.000	87.810	35.540
35	Cust 35	0.010	94.088	33.601
36	Cust 36	0.010	92.267	52.033
37	Cust 38	0.050	87.778	30.004
38	Cust 39	0.040	83.829	38.021
39	Cust 40	0.080	79.015	27.725
40	Cust 41	0.000	77.916	25.924
41	Cust 42	0.000	78.076	30.000
42	Cust 43	0.010	50.171	29.975
43	Cust 44	0.010	49.958	30.000
44	Cust 45	0.003	49.958	29.998
45	Cust 46	0.010	85.933	29.996

Gana Compressor Fuel

Units	Fuel	MMSCMD	barg	Deg C
1	Fuel0001	0.027	81.559	41.706

46	Cust 47	0.010	65.673	24.602
47	Cust 48	0.004	83.162	14.594
48	Cust 49	0.070	48.790	29.963
49	Cust 50	0.020	51.907	30.011
50	Cust 52	0.940	92.172	40.113
51	Cust 53	0.180	83.256	30.185
52	Cust 54	0.010	83.232	30.000
53	Cust 55	0.010	91.451	30.002
54	Cust 56	0.002	50.606	29.998
55	Cust 57	0.050	84.296	30.022
56	Cust 58	0.006	79.794	29.998
57	Cust 59	0.050	52.394	24.174
58	Cust 60	0.006	88.693	30.002
59	Cust 61	0.015	88.661	30.003
60	Cust 62	0.010	88.225	29.999
61	Cust 63	0.020	94.275	30.002
62	Cust 64	0.010	81.736	29.997
63	Cust 65	0.200	94.628	30.020
64	Cust 66	0.005	56.874	29.999
65	Cust 67	0.000	83.080	30.000
66	Cust 69	0.010	86.850	29.999
67	Cust 70	0.004	86.891	29.998
68	Cust 71	0.010	83.507	29.995
69	Cust 72	0.010	83.079	29.999
70	Cust 73	0.001	83.286	30.000
71	Cust 75	1.120	90.482	30.460
72	Cust 76	1.000	83.530	31.335
73	Cust 77	0.240	81.899	29.989
74	Cust 78	0.150	83.160	30.019
75	Cust 79	0.040	83.133	33.206
76	Cust 80	0.010	91.451	30.000
77	Cust 82	0.080	48.941	26.805
78	Cust 83	0.010	49.000	29.970
79	Cust 84	0.005	49.000	30.000
80	Cust 85	0.000	84.594	6.713
81	Cust 86	0.003	84.591	20.236
82	Cust 87	0.060	84.745	26.548
83	Cust 89	0.002	84.591	23.252
84	Cust 90	0.000	85.192	30.000
85	Cust 91	0.040	85.209	29.651
86	Cust 92	0.090	84.674	25.715
87	Cust 93	0.030	84.593	14.250
88	Cust 94	0.220	85.164	16.830
89	Cust 95	0.020	85.161	29.936
90	Cust 96	0.040	94.088	33.601
91	Cust 97	0.010	84.296	30.022
92	Cust 98	0.000	80.548	30.791
93	Cust 100	0.020	85.420	30.033
94	Cust 101	0.010	83.625	30.005
95	Cust 102	0.100	79.898	29.979
96	Cust 103	0.005	88.716	30.010
97	Cust 104	0.004	50.594	28.907
98	Cust 105	0.003	85.120	28.463
99	Cust 106	2.000	69.635	27.753
100	Cust 107	0.010	57.259	23.921
101	Cust 108	0.010	51.842	30.024
102	Cust 109	0.003	93.897	22.171
103	Cust 110	0.006	87.690	26.283
104	Cust 111	11.500	50.118	23.990
105	Cust 112	0.020	84.412	7.478
106	Cust 113	1.000	80.578	27.394

107	Cust 114	0.120	87.390	22.947
108	Cust 115	0.000	81.868	30.000
109	Cust 116	0.020	82.146	29.052
110	Cust 117	0.020	14.000	55.000
111	Cust 118	0.010	14.000	55.000
112	Cust 119	4.150	82.066	19.445
113	Cust 121	1.000	72.053	26.006
114	Cust 122	0.030	83.577	32.345
115	Cust 123	0.009	50.000	9.360
116	GIGL Exit	4.464	80.000	30.598
	Total	**37.010**		

HP Network Details

Sr no.	Supplier	Temp (Deg C)	Flow (MMSCMD)	Pressure (barg)
1	RIL Bhadbut New	55		94.5
2	Petronet Supply	5		85
3	ONGC Olpad	50	0.069	93
4	GLL	20		88
5	SWAN	15		94
6	Chhara	15		94.1

HP Network Details

Sr no.	Entry Point	Carbon Dioxide (CO2) percent	Methane percent	Ethane percent	Propane percent	I - Butane percent	n- Butane percent	I - Pentane percent	n- Pentane percent	C6+ percent	Nitrogen percent
1	Petronet	0	97.175743	1.900081	0.426562	0.070607	0.103487	3.84E-03	0.000726	0	0.318939
2	RGTIL	0.22509	98.862468	0.34271	0.19174	0.04709	0.03543	0.01889	0.007092	0.04207	0.22742
3	ONGC	0.1708009	97.87329	0.227101	0.0053	0.0059					1.717609
4	Mundra LNG	0	92.4291	6.8256	0.5142	0.0867	0.0715	0.0019	0.0004	0	0.0706
5	GIGL Palanpur	0.019772	84.170043	10.55368	3.009617	1.032347	0.603601	0.170983	0.112088	0.073879	0.253993
6	Swan-1	0	94.17681	5.225295	0.4531	0.0554	0.0528	0.0046	0.0025	0.0006	0.0289
7	Chara	0	94.17681	5.225295	0.4531	0.0554	0.0528	0.0046	0.0025	0.0006	0.0289

HP network

Sr no.	Node Name	Elevation (m)
1	Mora_Node	87.22
2	Torrent_Node	104.51
3	Sajod_Node	111.88
4	GGCL_Node	111.88
5	Paguthan_Node	116.74
6	GNFC_Node	108.07
7	NTPCJanore_Node	121.74
8	Barodasherkhi_Node	198.92
9	Dhanora Terminal	201.95
10	GSFC_Node	185.55
11	Gorwa	124.95
12	BAKPL-Gandhinagar	167.83
13	kalol_Node	165.59
14	Himmatnagar_Node	245.22
15	Ratanpar	153.24
16	Rajkot-Gauridad-RJPL	113
17	RIL-N1	170
18	Tana_Node	135.93
19	GPPC-Pipavav_Node	110.93
20	Thangadh-SV1-Morbi spur	160.15
21	jetparda-Wankaner_Node-Morbi spurline	274.89
22	SV-2+TOP2+Hirapar+MMPL	87.84
23	Kharapaswaria-MMPL	176.2
24	Mehsana_Node	190.22
25	Halol_Node	136.9
26	Petronet_Node	103
27	GACL_Node	109.19
28	Vapi_Node-2	130.78
29	CH35.66	85.35
30	Palanpur cust	76.955
31	Gatrad	159.2
32	Darod-Node	94
33	Olpad node	103.1
34	ARPL-Sudamada	114
35	bhrugupur	149.52
36	Bhadbhut_Node	115.2
37	Sidhpur node	130.25
38	MVPL CH102.863	70.21
39	MVPL CH72.474	70.21
40	CH60.815	70.21
41	CH40.074	77.78
42	CH3.55	123.21
43	CH30.023	92.93
44	CH20.6	105
45	Raymond node	103.45
46	CH13.58	108.07
47	Welspun	108.07
48	GPEC node	115.28
49	Paguthan-GNFC	116.4
50	GSFC+Adani	193.99
51	Suz-node	139.05
52	Dhuvaran_Node-2	116.33
53	Dabhan	160.64
54	Chappara	159.27
55	BAKPL-Ranason	163.5
56	BAKPL-VALAD	163.5
57	IFFCO node	172.117
58	santej node	153.62
59	KHPL-Node-1	160.95
60	KMPL- Kadi	169
61	KMPL-Mandli	177.9
62	Bhesaram	114.12
63	vilayat-Jubilant-Node	1.29
64	Kelod	124.27
65	Vadhela	124.53
66	Samdhiyala-node	62.84
67	DJPL-Meglana	21.902
68	Vartej1	8.85
69	Isharvada	98
70	Nava-Kataria-SV3-MMPL	135.8

71	Sumangal-node	109.93
72	Vondh-SV4-MMPL	155.2
73	Euro-node	110.93
74	Bhimasar-SV5-MMPL	165.5
75	Motimaladi	156.32
76	AEC node	165.28
77	Ochhan	117.645
78	GGL Palej Node	146.55
79	Steelco node	140
80	ICT tap	118.7
81	cosmo node	118.9
82	SV4-chella-RJPL	115
83	GSFCspur1	150
84	RIL-Jamnagar	190
85	BGPL-Ochhan	126.58
86	Serkhi_Node	131.58
87	Anjar-Node	137.89
88	Petronet_Node-2	102.35
89	Sumangal-N1	109.93
90	Nirma node	142.55
91	Suzlon-N	146.32
92	Nano node	27.812
93	chimique cst node	12.3
94	Bhadari node	118.5
95	hadala	87
96	Essar-N1-2	28
97	Bhadar-N1	22.29
98	Piramal node	9.73
99	Node1269	70.21
100	MVPL CH102.863-2	70.21
101	Node1277	70.21
102	Silvai	105.02
103	Indiansteel-Node	176.2
104	ratnamani-node	176.2
105	metrade-Node	176.2
106	Node1308-2	134.25
107	Anklav-node	133.57
108	Node1358	129.14
109	SV-1+Gala+MMPL	170.8
110	Takarwada Node	90.15
111	Becharaji Node	42
112	SV1-fatehpura- node	85.83
113	SV2-ghirojpura node	62.685
114	Honda Node	45
115	Maruti node	48
116	Maruti CST node	47
117	Amreli1	125.244
118	Lonthpur	112.93
119	Gundala1	62
120	Dahod node	371.895
121	Thasara node	108.239
122	Bhodigodi	60.343
123	Ambardi	152.279
124	Node1397-2	124.9874
125	Node1419	123.20602
126	Ratatalav-ABPL-18	48.76
127	Bhuj	132.69
128	SV-1-ABPL	102.367
129	Parle node	126.756
130	Banas node	208.05
131	Ineos node	65.666
132	Ineos CST node	79.985
133	Panchmahal node	142.18
134	Panchmahal Cst Node	149.47
135	Rochling-node	139.439
136	Iffco- node	172
137	JCT-node	119.8
138	GGL vapi node	123.156
139	Eklere shrikrishna	130.78
140	sarigam GIDC	130.78
141	Node1377-2	88.144
142	Shah alloy node	54.106

143	Birla_Node	109.19
144	Node1512-2	109.19
145	BASF node	109.19
146	styrolution node	109.19
147	GGL Dahej-node	109
148	Roxul-node	109.19
149	Sarju node	85.35
150	Dic - node	109
151	Torrent DGEN node	4.29
152	SEZ I node	109.19
153	OPAL CST node	2.8
154	Node1410	85
155	SEZ-I- node	109.19
156	GNFC Hot tap - node	114.537
157	china steel cst node	1.9
158	Nano CNG node	27.812
159	GGL Vadhela Node	10.99
160	Node1479	103
161	Node1711	103
162	Node1712	103
163	GNFC CST node	3.95
164	Ramacylinder	15.4
165	GSFC-cst-node	3.01
166	GGLsaparpatia	20.27
167	GGLpalitana1	54.385
168	toyo-navin-convergence node	8.437
169	Uttran node	98.5
170	Bhadbhut-node	102.12
171	mundraLNG	7
172	Node2115	73.748619
173	Rochling Cst node	139.439
174	IRM node	190
175	IRM cst node	190.15
176	Node0193	339
177	Node0091-4	339
178	Node2153	339
179	Node2161	120.8879
180	Node2166	109.19
181	Node2169	109.19
182	Node2170	103.1
183	Node2176	109.19
184	Node2177	117.645
185	Node2183	155.2
186	Node2186	165.5
187	Node2190	110.93
188	Node2190-2	110.93
189	Node2197	339

HP Network Details

Sr no.	Pipeline			Length (km)	Inside diameter (mm)	Wall Thickness (mm)	Roughness (micron)	Knot Spacing (km)	Gas Equation	Efficiency	Drag Factor	Ambient Temp. (Deg C)	MAOP (barg)	Velocity (Head) (m/s)	Velocity (Tail) (m/s)	Flow (head) MMSCMD	Flow (Tail) MMSCMD
1	GSPL 1	CH35.66	CH40.074	4.414	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1337	-0.1336	-0.433	-0.433
2	GSPL 2	Torrent_Node	Sajod_Node	35	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.5635	-2.4519	-5.664	-5.664
3	GSPL 3	Sajod_Node	GGCL_Node	5.5	439.8	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.5306	0.5491	0.690	0.690
4	GSPL 4	Sajod_Node	Bhadbhut_Node	12.5	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	-2.7558	-2.7051	-6.358	-6.358
5	GSPL 5	Bhadbhut_Node	Paguthan_Node	25.74	584.6	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.1390	-0.1390	-0.292	-0.292
6	GSPL 6	Paguthan_Node	Paguthan-GNFC	1	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3772	0.3772	0.220	0.220
7	GSPL 7	Paguthan_Node	NTPCJanore_Node	12.52	584.8	12.4	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0000	0.0000	0.000	0.000
8	GSPL 8	Barodasherkhi_Node	Dhanora Terminal	5.5	585.72	11.94	19	1.60934	Pan (A)	0.95	0.96	30	95	0.5136	0.5101	1.051	1.051
9	GSPL 9	Dhanora Terminal	GSFC_Node	11.3	583.98	12.81	19	1.60934	Pan (A)	0.95	0.96	30	95	0.4936	0.4889	1.011	1.011
10	GSPL 10	Barodasherkhi_Node	Anklav-node	14	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.8259	-0.8380	-1.693	-1.693
11	GSPL 11	Anklav-node	Gorwa	18.51	439.28		19	1.60934	Pan (A)	0.95	0.96	30	95	0.8814	0.8562	1.000	1.000
12	GSPL 12	Anklav-node	Node2153	16.11	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.3329	-1.3737	-2.693	-2.693
13	GSPL 13	Node2197	Dabhan	27.03	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.8008	3.7433	8.140	8.140
14	GSPL 14	BAKPL-Gandhinagar	IFFCO node	12.452	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	2.9869	2.9843	6.540	6.540
15	GSPL 15	kalol_Node	KHPL-Node-1	53.8	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.5014	0.4804	0.310	0.310
16	GSPL 16	kalol_Node	KMPL- Kadi	6.7	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	4.0136	4.0298	4.960	4.960
17	GSPL 17	Ratanpar	Motimaladi	20.566	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.2653	7.7325	13.075	13.075
18	GSPL 18	Rajkot-Gauridad-RJPL	Bhodigodi	21.75	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3568	5.5171	12.595	12.595
19	GSPL 19	Tana_Node	Lonthpur	103.38	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-3.2740	-2.9921	-7.714	-7.714
20	GSPL 20	Ratanpar	Thangadh-SV1-Morbi spur	24.3	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.5296	0.5421	0.535	0.535
21	GSPL 21	Thangadh-SV1-Morbi spur	jetparda-Wankaner_Node-Morbi spurline	19.62	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.2886	0.2916	0.285	0.285
22	GSPL 22	jetparda-Wankaner_Node-Morbi spurline	SV-1+Gala+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.2916	0.2896	0.285	0.285
23	GSPL 23	SV-2+TOP2+Hirapar+MMPL	Node2161	19.84	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.1178	-3.9951	-4.215	-4.215
24	GSPL 24	Gatrad	BAKPL-Ranason	14.242	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.1511	3.1443	6.880	6.880
25	GSPL 25	IFFCO node	kalol_Node	6.46	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	2.4230	2.4177	5.310	5.310
26	GSPL 26	GSFC_Node	Suz-node	11.4	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	1.0781	1.0715	0.631	0.631
27	GSPL 27	Petronet_Node	GACL_Node	7.49	580.18	14.71	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6959	2.7379	6.658	6.658
28	GSPL 28	GACL_Node	SEZ-I- node	1.83	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	2.6092	2.6185	6.469	6.469
29	GSPL 29	Darod-Node	Vadhela	38.835	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-3.5101	-3.4033	-7.623	-7.623
30	GSPL 30	Bhadbhut-node	Bhesaram	11.327	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.1470	5.1763	17.156	17.156
31	GSPL 31	Node2153	Silvai	15.4	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0752	1.0373	2.115	2.115
32	GSPL 32	CH35.66	CH30.023	5.637	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1213	0.1214	0.393	0.393
33	GSPL 33	Sidhpur node	Takarwada Node	12.84	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9767	4.0235	4.570	4.570
34	GSPL 34	Paguthan_Node	Ochhan	21	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.2439	-0.2440	-0.512	-0.512
35	GSPL 35	Olpad node	Torrent_Node	6.38	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.6956	-0.6853	-1.514	-1.514
36	GSPL 36	bhrugupur	ARPL-Sudamada	22.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	6.6795	7.0366	13.610	13.610
37	GSPL 37	Isharvada	hadala	49.97	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0008	0.9841	2.075	2.075
38	GSPL 38	ARPL-Sudamada	Ratanpar	24.904	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.0366	7.5623	13.610	13.610
39	GSPL 39	Darod-Node	bhrugupur	17.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	6.4413	6.7188	13.690	13.690
40	GSPL 40	Mehsana_Node	Sidhpur node	50.24	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.8570	4.0281	4.629	4.629
41	GSPL 41	MVPL CH102.863	MVPL CH102.863-2	3.788	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1736	-0.1736	-0.563	-0.563
42	GSPL 42	Node1269	MVPL CH102.863	19.144	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1736	-0.1736	-0.563	-0.563
43	GSPL 43	CH60.815	Node1277	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1490	-0.1490	-0.483	-0.483
44	GSPL 44	CH40.074	CH60.815	19.847	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1367	-0.1366	-0.443	-0.443
45	GSPL 45	Node1277	MVPL CH72.474	5.8295	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1490	-0.1490	-0.483	-0.483
46	GSPL 46	CH3.55	Vapi_Node-2	3.494	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.0434	0.0434	0.140	0.140
47	GSPL 47	CH30.023	CH20.6	9.416	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1183	0.1184	0.383	0.383
48	GSPL 48	CH20.6	CH13.58	7.025	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1181	0.1182	0.382	0.382
49	GSPL 49	CH20.6	Raymond node	1.56	155.475	15.52	45	1.56	Pan (A)	0.9	0.96	30	95	0.0068	0.0068	0.001	0.001
50	GSPL 50	CH13.58	CH3.55	10.031	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	0.1176	0.1177	0.380	0.380
51	GSPL 51	CH13.58	Welspun	3.18	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0137	0.0137	0.002	0.002
52	GSPL 52	CH3.55	GGL vapi node	6.5	311.05	15.52	45	1.60934	Pan (A)	0.9	0.96	30	95	0.4104	0.4105	0.240	0.240
53	GSPL 53	Paguthan_Node	GPEC node	3.45	579.88	12.5	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0000	0.0000	0.000	0.000
54	GSPL 54	Paguthan-GNFC	GNFC_Node	0.53	308.05	14.86	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3600	0.3599	0.210	0.210
55	GSPL 55	GSFC_Node	GSFC+Adani	1	583.98	6.59	19	1.60934	Pan (A)	0.95	0.96	30	95	0.1838	0.1836	0.380	0.380
56	GSPL 56	Suz-node	Halol_Node	25.57	310.67	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.7472	0.7462	0.440	0.440
57	GSPL 57	Gorwa	Dhuvaran_Node-2	11.75	439.28	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	0.8562	0.8501	1.000	1.000
58	GSPL 58	Dabhan	Chappara	12.793	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.6191	3.6104	7.870	7.870
59	GSPL 59	Chappara	Gatrad	21.655	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.5874	3.5816	7.820	7.820
60	GSPL 60	BAKPL-Ranason	BAKPL-VALAD	3.174	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.1397	3.1386	6.870	6.870
61	GSPL 61	BAKPL-VALAD	BAKPL-Gandhinagar	6.184	586.2	11.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.1158	3.1147	6.820	6.820
62	GSPL 62	IFFCO node	santej node	15.22	299.71	13.8	19	1.60934	Pan (A)	0.9	0.96	30	95	0.1571	0.1495	0.090	0.090
63	GSPL 63	KHPL-Node-1	Himmatnagar_Node	6.89	311.01	6.42	45	1.60934	Pan (A)	0.9	0.96	30	95	0.2170	0.2183	0.140	0.140
64	GSPL 64	KMPL- Kadi	KMPL-Mandli	17.4	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9160	3.9607	4.820	4.820
65	GSPL 65	KMPL-Mandli	Mehsana_Node	16.46	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9435	3.9965	4.799	4.799
66	GSPL 66	Bhesaram	Kelod	10.673	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.1612	5.1908	17.106	17.106
67	GSPL 67	Bhesaram	vilayat-Jubilant-Node	2.47	308.05	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0856	0.0769	0.050	0.050
68	GSPL 68	Kelod	BGPL-Ochhan	22.028	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.1878	5.2521	17.096	17.096
69	GSPL 69	Vadhela	DJPL-Meglana	40.602	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-3.4123	-3.2813	-7.643	-7.643
70	GSPL 70	Vadhela	GGL Vadhela Node	5.1	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0727	0.0736	0.020	0.020
71	GSPL 71	DJPL-Meglana	Tana_Node	22.37	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	-3.3054	-3.2677	-7.699	-7.699
72	GSPL 72	DJPL-Meglana	Vartej1	14.3	308.75	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0777	0.0794	0.050	0.050
73	GSPL 73	Nava-Kataria-SV3-MMPL	Vondh-SV4-MMPL	23.246	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.5272	-4.3447	-5.215	-5.215
74	GSPL 74	Nava-Kataria-SV3-MMPL	Sumangal-node	1.9	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	95	0.0000	0.0000	0.000	0.000
75	GSPL 75	Vondh-SV4-MMPL	Bhimasar-SV5-MMPL	24.913	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.3531	-4.1732	-5.225	-5.225
76	GSPL 76	Node2183	Euro-node	4	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0262	0.0287	0.010	0.010
77	GSPL 77	Bhimasar-SV5-MMPL	Kharapaswaria-MMPL	16.952	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.1951	-4.0817	-5.253	-5.253
78	GSPL 78	Kharapaswaria-MMPL	Anjar-Node	3.95	309.63	8.96	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0156	0.0160	0.010	0.010
79	GSPL 79	Motimaladi	Rajkot-Gauridad-RJPL	32.99	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	7.7266	8.6833	13.065	13.065
80	GSPL 80	Gatrad	AEC node	5	436.6	10.3	19	1.60934	Pan (A)	0.95	0.96	30	95	0.7761	0.7615	0.940	0.940
81	GSPL 81	Mora_Node	Olpad node	18	586.16	11.72	19	1.60934	Pan (A)	0.95	0.96	30	95	-0.2785	-0.2699	-0.583	-0.583
82	GSPL 82	Ochhan	Bhadari node	20.95	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.2774	-0.2782	-0.582	-0.582
83	GSPL 83	GGL Palej Node	Steelco node	0.397	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.8431	0.8430	0.070	0.070
84	GSPL 84	Node2177	GGL Palej Node	10.283	155.235	12.5	45	1.60934	Pan (A)	0.9	0.96	30	49	0.7841	0.8431	0.070	0.070
85	GSPL 85	Node2177	ICT tap	7.799	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.0000	0.0000	0.000	0.000
86	GSPL 86	ICT tap	cosmo node	3.786	152.695	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.0000	0.0000	0.000	0.000
87	GSPL 87	SV4-chella-RJPL	GSFCspur1	10.518	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.0500	6.1783	12.530	12.530
88	GSPL 88	GSFCspur1	GGLsaparpatia	14	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1888	0.1922	0.030	0.030
89	GSPL 89	GSFCspur1	RIL-N1	11.392	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	6.1636	6.3034	12.500	12.500
90	GSPL 90	RIL-N1	RIL-Jamnagar	1.424	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	5.7991	5.8195	11.500	11.500
91	GSPL 91	BGPL-Ochhan	Node1358	18.4	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.2521	5.3145	17.096	17.096
92	GSPL 92	Serkhi_Node	Node1308-2	16.82	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3597	5.4291	17.096	17.096
93	GSPL 93	Node1308-2	Node2153	16.952	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.4291	5.5654	17.096	17.096
94	GSPL 94	Petronet_Node-2	Petronet_Node	1	580.18	14.71	19	0.481	Pan (A)	0.95	0.96	30	95	2.6983	2.7040	6.678	6.678
95	GSPL 96	Sumangal-node	Sumangal-N1	2.5	206.035	8.96	45	0.5	Pan (A)	0.9	0.96	30	98	0.0000	0.0000	0.000	0.000
96	GSPL 97	Suz-node	Rochling-node	4	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.7374	0.7363	0.191	0.191
97	GSPL 98	Nirma node	Suzlon-N	19.35	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0385	0.0385	0.010	0.010
98	GSPL 99	santej node	Shah alloy node	2.619	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0311	0.0309	0.020	0.020
99	GSPL 100	Node2186	Ramacylinder	0.597	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0623	0.0679	0.006	0.006
100	GSPL 101	Bhadari node	Barodasherkhi_Node	22.05	584.32	12.64	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.3069	-0.3152	-0.642	-0.642
101	GSPL 102	hadala	Darod-Node	24.15	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	2.8999	2.9247	6.066	6.066
102	GSPL 103	RIL-N1	Essar-N1-2	6.695	734	14	19	1.60934	Pan (B)	0.95	0.96	30	95	0.5043	0.5057	1.000	1.000
103	GSPL 104	Bhadari node	Bhadar-N1	25.5	310.91	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1013	0.1002	0.060	0.060
104	GSPL 105	MVPL CH72.474	Node1269	8.322	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1490	-0.1490	-0.483	-0.483
105	GSPL 106	MVPL CH102.863-2	Mora_Node	25.854	730.96	15.52	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.1736	-0.1730	-0.563	-0.563
106	GSPL 107	Silvai	Isharvada	16.65	587.168	11.216	19	1.60934	Pan (A)	0.95	0.96	30	95	1.0177	1.0008	2.075	2.075
107	GSPL 108	Node2186	Indiansteel-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0347	0.0386	0.013	0.013
108	GSPL 109	Indiansteel-Node	ratnamani-node	2.2	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0386	0.0386	0.013	0.013
109	GSPL 110	ratnamani-node	metrade-Node	3	306.45	6.4	45	1.60934	Pan (A)	0.9	0.96	30	50	0.0297	0.0297	0.010	0.010
110	GSPL 111	Node1358	Serkhi_Node	12	733.8	14.1	19	1.60934	Pan (B)	0.95	0.96	30	98	5.3145	5.3597	17.096	17.096
111	GSPL 112	SV-1+Gala+MMPL	SV-2+TOP2+Hirapar+MMPL	11.935	439.72	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	-1.6980	-1.6724	-1.715	-1.715
112	GSPL 113	Takarwada Node	Palanpur cust	6.64	439.6	8.7	19	1.60934	Pan (A)	0.95	0.96	30	95	3.9301	3.9553	4.464	4.464
113	GSPL 114	KMPL-Mandli	SV1-fatehpura- node	18.4	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0352	0.0339	0.021	0.021
114	GSPL 115	SV1-fatehpura- node	SV2-ghirojpura node	14.859	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0339	0.0339	0.021	0.021
115	GSPL 116	SV2-ghirojpura node	Honda Node	2.67	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0339	0.0338	0.021	0.021
116	GSPL 117	Honda Node	Maruti node	14.399	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0338	0.0338	0.021	0.021
117	GSPL 118	Maruti node	Becharaji Node	1.694	307.93	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0097	0.0097	0.006	0.006
118	GSPL 119	Maruti node	Maruti CST node	0.16	155.475	6.4	45	0.16	Pan (A)	0.9	0.96	30	95	0.0948	0.0948	0.015	0.015
119	GSPL 120	Tana_Node	GGLpalitana1	12.456	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0227	0.0232	0.015	0.015
120	GSPL 121	GPPC-Pipavav_Node	Lonthpur	6.913	587.58	11.9	19	1.60934	Pan (A)	0.95	0.96	30	98	1.2818	1.2967	3.451	3.451
121	GSPL 122	Gundala1	Lonthpur	45.27	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	98	-0.0145	-0.0139	-0.020	-0.020
122	GSPL 123	Halol_Node	Ineos node	4	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0517	0.0515	0.030	0.030
123	GSPL 124	Dabhan	Thasara node	44.1	310.21	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.3284	0.2958	0.200	0.200
124	GSPL 125	Bhodigodi	SV4-chella-RJPL	57.396	734	14	19	1.60934	Pan (B)	0.95	0.96	30	98	5.5105	6.0742	12.580	12.580
125	GSPL 126	Bhodigodi	Ambardi	46.98	308.79	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0124	0.0128	0.005	0.005
126	GSPL 127	Sajod_Node	Node1419	5	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0000	0.0000	0.000	0.000
127	GSPL 128	Node1419	Node1397-2	31.79	439.6	8.74	19	1.60934	Pan (A)	0.95	0.96	30	95	0.0000	0.0000	0.000	0.000
128	GSPL 130	Kharapaswaria-MMPL	Ratatalav-ABPL-18	7.4	439.7	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.0817	-4.0029	-5.263	-5.263
129	GSPL 131	Bhuj	SV-1-ABPL	23.172	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.0157	-0.0157	-0.010	-0.010
130	GSPL 132	SV-1-ABPL	Ratatalav-ABPL-18	11.934	310.83	6.59	45	1.60934	Pan (A)	0.9	0.96	30	98	-0.0220	-0.0213	-0.014	-0.014
131	GSPL 133	SV-1-ABPL	Parle node	5.5	155.195	6.4	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0252	0.0252	0.004	0.004
132	GSPL 134	Takarwada Node	IRM node	3.95	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.7509	0.7543	0.106	0.106
133	GSPL 135	Ineos node	Panchmahal node	29.49	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0343	0.0345	0.020	0.020
134	GSPL 136	Ineos node	Ineos CST node	2.9	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0673	0.0674	0.010	0.010
135	GSPL 137	Panchmahal node	Dahod node	68.96	308.05	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0173	0.0176	0.010	0.010
136	GSPL 138	Panchmahal node	Panchmahal Cst Node	13.6	155.435	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0678	0.0678	0.010	0.010
137	GSPL 139	Rochling-node	Nirma node	1.01	206.035	6.59	45	1.60934	Pan (A)	0.9	0.96	30	95	0.7324	0.7324	0.190	0.190
138	GSPL 140	IFFCO node	Iffco- node	1	439.8	15.9	19	1	Pan (A)	0.9	0.96	30	95	0.9080	0.8671	1.120	1.120
139	GSPL 141	JCT-node	cosmo node	8.015	152.695	6.4	45	0.25	Pan (A)	0.9	0.96	30	49	0.0000	0.0000	0.000	0.000
140	GSPL 142	Vapi_Node-2	Eklere shrikrishna	9.44	311.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0002	0.0002	0.000	0.000
141	GSPL 143	Vapi_Node-2	sarigam GIDC	8.8	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.9588	0.9618	0.140	0.140
142	GSPL 144	Node1377-2	BAKPL-Ranason	0.2	311.1	6.4	45	0.2	Pan (A)	0.9	0.96	30	95	-0.0156	-0.0162	-0.010	-0.010
143	GSPL 145	Nano node	Nano CNG node	2	155.455	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0611	0.0611	0.010	0.010
144	GSPL 146	Shah alloy node	Nano node	28.951	309.63	7.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0309	0.0308	0.020	0.020
145	GSPL 148	SEZ-I- node	GNFC Hot tap - node	1.989	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	2.5618	2.5726	6.329	6.329
146	GSPL 149	Birla_Node	GACL_Node	4.01	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.6093	-0.5440	-0.095	-0.095
147	GSPL 150	Node1512-2	Node2176	3.85	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	49	-0.9401	-0.8584	-0.080	-0.080
148	GSPL 151	Node2176	BASF node	0.11	155.475	6.4	45	0.15	Pan (A)	0.9	0.96	30	49	0.1610	0.1786	0.015	0.015
149	GSPL 152	styrolution node	BASF node	0.52	101.5	6.4	45	0.5	Pan (A)	0.9	0.96	30	49	-0.1397	-0.1397	-0.005	-0.005
150	GSPL 153	GGL Dahej-node	GACL_Node	0.855	206.035	11.9	45	0.855	Pan (A)	0.9	0.96	30	95	-0.3240	-0.3081	-0.095	-0.094
151	GSPL 154	GGL Dahej-node	Roxul-node	0.705	206.035	11.9	45	0.705	Pan (A)	0.9	0.96	30	95	0.2211	0.2294	0.065	0.064
152	GSPL 155	Sarju node	Dic - node	0.889	206.035	11.9	45	0.889	Pan (A)	0.9	0.96	30	95	-0.2209	-0.2172	-0.060	-0.060
153	GSPL 156	Roxul-node	Dic - node	0.501	206.035	11.9	45	0.501	Pan (A)	0.9	0.96	30	95	0.2188	0.2227	0.061	0.062
154	GSPL 157	Torrent DGEN node	SEZ I node	0.524	308.05	6.4	45	0.525	Pan (A)	0.9	0.96	30	95	0.0000	0.0000	0.000	0.000
155	GSPL 158	SEZ I node	OPAL CST node	2.73	308.05	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0654	0.0666	0.040	0.040
156	GSPL 159	SEZ I node	Node1410	0.745	155.5	6.4	45	0.745	Pan (A)	0.9	0.96	30	95	0.5778	0.5796	0.090	0.090
157	GSPL 160	SEZ-I- node	SEZ I node	0.049	436.58	12.7	19	0.034	Pan (A)	0.95	0.96	30	95	0.1020	0.1140	0.140	0.140
158	GSPL 161	GNFC Hot tap - node	Bhadbhut_Node	22.262	585.8	11.9	19	1.60934	Pan (A)	0.95	0.96	30	95	2.4659	2.5662	6.066	6.066
159	GSPL 162	GNFC CST node	GNFC Hot tap - node	2.25	206.275	12.7	45	1.60934	Pan (A)	0.9	0.96	30	95	-0.7590	-0.7213	-0.220	-0.220
160	GSPL 163	GNFC Hot tap - node	toyo-navin-convergence node	2.11	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1298	0.1463	0.023	0.023
161	GSPL 164	GGL Vadhela Node	Samdhiyala-node	18.2	205.915	8.7	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0000	0.0000	0.000	0.000
162	GSPL 165	Petronet_Node	Node1711	0.139	308.1	7.9	45	0.05	Pan (A)	0.9	0.96	30	95	0.0287	0.0298	0.020	0.020
163	GSPL 166	Node2153	hadala	81.23	734.4	13.8	19	1.60934	Pan (B)	0.95	0.96	30	98	1.3069	1.2338	4.021	4.021
164	GSPL 167	Ramacylinder	chimique cst node	1.023	155.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	49	0.0226	0.0228	0.002	0.002
165	GSPL 168	GGLsaparpatia	GSFC-cst-node	2.9	205.475	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1281	0.1280	0.020	0.020
166	GSPL 169	GGLpalitana1	Amreli1	62.701	310.97	7.9	45	1.60934	Pan (A)	0.9	0.96	30	98	0.0155	0.0156	0.010	0.010
167	GSPL 170	toyo-navin-convergence node	china steel cst node	2.39	155.475	11.9	45	1.60934	Pan (A)	0.9	0.96	30	95	0.1301	0.1311	0.020	0.020
168	GSPL 171	Node2170	Uttran node	17.3	438.76	10.5	19	1.60934	Pan (A)	0.95	0.96	30	80.65	0.8395	0.8629	1.000	1.000
169	GSPL 172	mundraLNG	Node2115	30.791	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	0.9871	1.0138	5.397	5.397
170	GSPL 173	Node2115	Ratatalav-ABPL-18	36.537	877.46	15.5	19	1.60934	Pan (B)	0.95	0.96	30	95	0.9913	1.0078	5.277	5.277
171	GSPL 174	Bhadar-N1	Piramal node	3.11	207.995	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.2239	0.2237	0.060	0.060
172	GSPL 175	Rochling-node	Rochling Cst node	0.015	101.5	6.4	45	0.015	Pan (A)	0.9	0.96	30	95	0.0159	0.0159	0.001	0.001
173	GSPL 176	IRM node	Banas node	5.85	154.975	6.4	45	1.60934	Pan (A)	0.9	0.96	30	95	0.0427	0.0428	0.006	0.006
174	GSPL 177	IRM node	IRM cst node	0.05	154.975	6.4	45	0.05	Pan (A)	0.9	0.96	30	95	0.7116	0.7116	0.100	0.100
175	GSPL 23-2	Node2161	Nava-Kataria-SV3-MMPL	43.969	439.28	8.96	19	1.60934	Pan (A)	0.95	0.96	30	95	-4.9428	-4.5272	-5.215	-5.215
176	Swan Conr	GPPC-Pipavav_Node	Node2190	3	734.4	12.7	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.8205	-0.8160	-3.451	-3.451
177	Chhara Co	Lonthpur	Node2190-2	85	877.46	12.7	19	1.60934	Pan (B)	0.95	0.96	30	95	-0.7638	-0.7090	-4.286	-4.286

Units	Exit Points	Flow (MMSCMD)	Pressure (barg)	Temperature (Deg C)
1	Cust 1	0.14	81.64	29.98
2	Cust 2	0.69	83.15	20.19
3	Cust 3	0.21	83.68	30.04
4	Cust 4	0.00	83.59	30.00
5	Cust 5	0.00	83.63	30.00
6	Cust 6	0.38	83.16	31.27
7	Cust 7	0.10	82.56	42.03
8	Cust 8	0.28	91.06	40.75
9	Cust 9	0.02	90.49	39.25
10	Cust 10	0.07	90.60	30.02
11	Cust 11	0.14	89.62	29.87
12	Cust 12	0.17	86.07	33.97
13	Cust 13	0.00	93.99	15.79
14	Cust 14	0.47	58.68	23.37
15	Cust 15	0.25	69.71	29.69
16	Cust 16	2.50	70.32	26.57
17	Cust 17	0.26	83.16	30.02
18	Cust 18	1.00	50.83	27.06
19	Cust 19	0.06	81.56	31.15
20	Cust 20	0.04	82.15	29.97
21	Cust 21	0.08	82.24	30.00
22	Cust 22	0.04	82.24	30.00
23	Cust 23	0.01	82.20	29.99
24	Cust 24	0.01	82.10	29.97
25	Cust 25	0.00	82.04	30.00
26	Cust 26	0.00	82.01	30.00
27	Cust 27	0.07	94.33	49.84
28	Cust 28	0.05	93.55	47.50
29	Cust 29	0.01	92.02	35.40
30	Cust 30	0.05	91.38	41.55
31	Cust 31	0.04	90.34	38.47
32	Cust 32	0.17	90.18	30.00
33	Cust 33	0.14	89.61	37.57
34	Cust 34	0.00	87.81	35.54
35	Cust 35	0.01	94.09	33.60
36	Cust 36	0.01	92.27	52.03
37	Cust 38	0.05	87.78	30.00
38	Cust 39	0.04	83.83	38.02
39	Cust 40	0.08	79.01	27.72
40	Cust 41	0.00	77.92	25.92
41	Cust 42	0.00	78.08	30.00
42	Cust 43	0.01	50.17	29.98
43	Cust 44	0.01	49.96	30.00
44	Cust 45	0.00	49.96	30.00

45	Cust 46	0.01	85.93	30.00
46	Cust 47	0.01	65.67	24.60
47	Cust 48	0.00	83.16	14.59
48	Cust 49	0.07	48.79	29.96
49	Cust 50	0.02	51.91	30.01
50	Cust 52	0.94	92.17	40.11
51	Cust 53	0.18	83.26	30.19
52	Cust 54	0.01	83.23	30.00
53	Cust 55	0.01	91.45	30.00
54	Cust 56	0.00	50.61	30.00
55	Cust 57	0.05	84.30	30.02
56	Cust 58	0.01	79.79	30.00
57	Cust 59	0.05	52.39	24.17
58	Cust 60	0.01	88.69	30.00
59	Cust 61	0.02	88.66	30.00
60	Cust 62	0.01	88.22	30.00
61	Cust 63	0.02	94.27	30.00
62	Cust 64	0.01	81.74	30.00
63	Cust 65	0.20	94.63	30.02
64	Cust 66	0.01	56.87	30.00
65	Cust 67	0.00	83.08	30.00
66	Cust 69	0.01	86.85	30.00
67	Cust 70	0.00	86.89	30.00
68	Cust 71	0.01	83.51	29.99
69	Cust 72	0.01	83.08	30.00
70	Cust 73	0.00	83.29	30.00
71	Cust 75	1.12	90.48	30.46
72	Cust 76	1.00	83.53	31.33
73	Cust 77	0.24	81.90	29.99
74	Cust 78	0.15	83.16	30.02
75	Cust 79	0.04	83.13	33.21
76	Cust 80	0.01	91.45	30.00
77	Cust 82	0.08	48.94	26.81
78	Cust 83	0.01	49.00	29.97
79	Cust 84	0.01	49.00	30.00
80	Cust 85	0.00	84.59	6.71
81	Cust 86	0.00	84.59	20.24
82	Cust 87	0.06	84.74	26.55
83	Cust 89	0.00	84.59	23.25
84	Cust 90	0.00	85.19	30.00
85	Cust 91	0.04	85.21	29.65
86	Cust 92	0.09	84.67	25.72
87	Cust 93	0.03	84.59	14.25
88	Cust 94	0.22	85.16	16.83
89	Cust 95	0.02	85.16	29.94
90	Cust 96	0.04	94.09	33.60
91	Cust 97	0.01	84.30	30.02

92	Cust 98	0.00	80.55	30.79
93	Cust 100	0.02	85.42	30.03
94	Cust 101	0.01	83.63	30.01
95	Cust 102	0.10	79.90	29.98
96	Cust 103	0.01	88.72	30.01
97	Cust 104	0.00	50.59	28.91
98	Cust 105	0.00	85.12	28.46
99	Cust 106	2.00	69.64	27.75
100	Cust 107	0.01	57.26	23.92
101	Cust 108	0.01	51.84	30.02
102	Cust 109	0.00	93.90	22.17
103	Cust 110	0.01	87.69	26.28
104	Cust 111	11.50	50.12	23.99
105	Cust 112	0.02	84.41	7.48
106	Cust 113	1.00	80.58	27.39
107	Cust 114	0.12	87.39	22.95
108	Cust 115	0.00	81.87	30.00
109	Cust 116	0.02	82.15	29.05
110	Cust 117	0.02	14.00	55.00
111	Cust 118	0.01	14.00	55.00
112	Cust 119	4.15	82.07	19.45
113	Cust 121	1.00	72.05	26.01
114	Cust 122	0.03	83.58	32.35
115	Cust 123	0.01	50.00	9.36
116	GIGL Exit	4.46	80.00	30.60

Sr no.	Node Name	Pressure (barg)	Temperature (Deg C)
1	Mora_Node	82.146342	29.051987
2	Torrent_Node	82.066072	19.44502
3	Sajod_Node	83.161811	14.594465
4	GGCL_Node	83.147235	20.191104
5	Paguthan_Node	83.625073	30.005314
6	GNFC_Node	83.675239	30.041083
7	NTPCJanore_Node	83.594352	30
8	Barodasherkhi_Node	83.159723	34.596072
9	Dhanora Terminal	83.132966	33.205738
10	GSFC_Node	83.215383	31.557685
11	Gorwa	83.544962	32.727314
12	BAKPL-Gandhinagar	91.056681	40.746062
13	kalol_Node	90.339119	38.472047
14	Himmatnagar_Node	89.615273	29.866142
15	Ratanpar	69.801	25.473418
16	Rajkot-Gauridad-RJPL	58.682963	23.373036
17	RIL-N1	50.299579	24.066589
18	Tana_Node	88.150063	25.334405
19	GPPC-Pipavav_Node	93.989947	15.786054
20	Thangadh-SV1-Morbi spur	69.712792	29.693444
21	jetparda-Wankaner_Node-Morbi spurline	69.105072	29.869992
22	SV-2+TOP2+Hirapar+MMPL	70.318626	26.574811
23	Kharapaswaria-MMPL	85.669275	25.171113
24	Mehsana_Node	86.073895	33.972156
25	Halol_Node	83.15985	30.019051
26	Petronet_Node	84.953412	5.2082246
27	GACL_Node	84.594003	6.7127343
28	Vapi_Node-2	81.867987	29.975513
29	CH35.66	82.148297	29.970083
30	Palanpur cust	80	30.597839
31	Gatrad	92.235295	44.074715
32	Darod-Node	82.57924	28.863579
33	Olpad node	82.056573	23.17695
34	ARPL-Sudamada	75.032039	26.848725
35	bhrugupur	79.014895	27.72474
36	Bhadbhut_Node	83.630846	12.67801
37	Sidhpur node	81.563476	31.14981
38	MVPL CH102.863	82.247339	29.987334
39	MVPL CH72.474	82.244222	29.99938
40	CH60.815	82.243158	29.999727
41	CH40.074	82.195113	29.989124
42	CH3.55	81.914335	29.965126
43	CH30.023	82.101428	29.966632
44	CH20.6	82.026855	29.966857

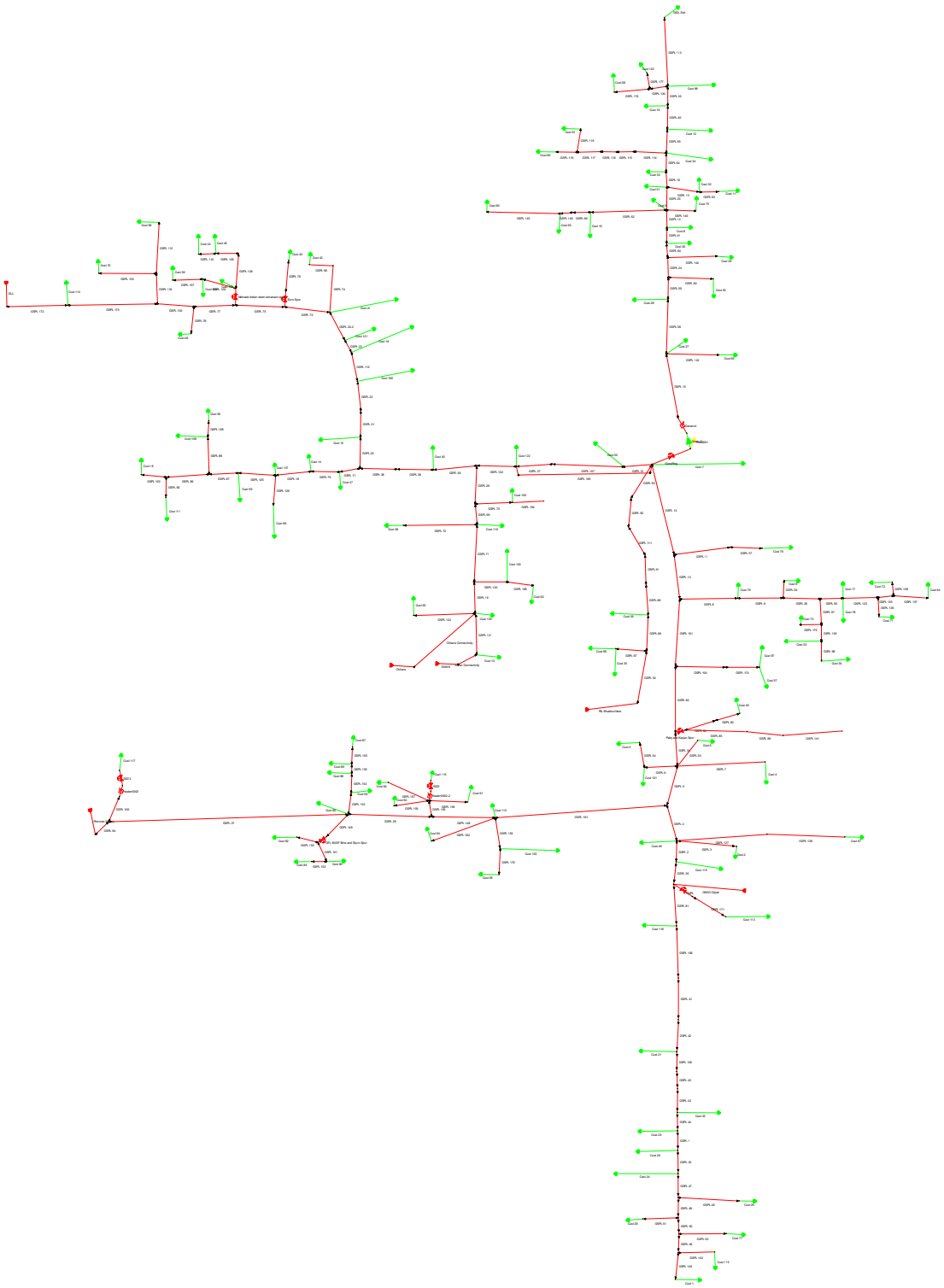
45	Raymond node	82.036352	30.000154
46	CH13.58	82.007634	29.982074
47	Welspun	82.007602	29.999998
48	GPEC node	83.634046	30
49	Paguthan-GNFC	83.62506	30.005005
50	GSFC+Adani	83.163952	31.266788
51	Suz-node	83.334367	30.684911
52	Dhuvaran_Node-2	83.530457	31.334626
53	Dabhan	94.331243	49.844473
54	Chappara	93.551273	47.498602
55	BAKPL-Ranason	91.526344	41.978484
56	BAKPL-VALAD	91.375021	41.554716
57	IFFCO node	90.488026	39.246686
58	santej node	90.60453	30.022315
59	KHPL-Node-1	90.181182	29.998329
60	KMPL- Kadi	89.613422	37.570733
61	KMPL-Mandli	87.810398	35.540466
62	Bhesaram	93.34662	53.436488
63	vilayat-Jubilant-Node	94.088179	33.601431
64	Kelod	92.267343	52.032954
65	Vadhela	84.66416	26.299374
66	Samdhiyala-node	85.074743	30
67	DJPL-Meglana	87.690404	26.28311
68	Vartej1	87.778412	30.003807
69	Isharvada	83.77959	34.584001
70	Nava-Kataria-SV3-MMPL	77.916496	25.923887
71	Sumangal-node	78.075957	30
72	Vondh-SV4-MMPL	80.744611	25.713407
73	Euro-node	50.171483	29.975261
74	Bhimasar-SV5-MMPL	83.721858	25.438545
75	Motimaladi	65.672974	24.601866
76	AEC node	92.171539	40.113071
77	Ochhan	83.628064	30.063578
78	GGL Palej Node	48.77226	29.916221
79	Steelco node	48.789862	29.962579
80	ICT tap	48.996349	30
81	cosmo node	48.995657	30
82	SV4-chella-RJPL	52.394278	24.174042
83	GSFCspur1	51.362475	24.080355
84	RIL-Jamnagar	50.118366	23.990154
85	BGPL-Ochhan	90.137981	49.407228
86	Serkhi_Node	87.141232	46.141638
87	Anjar-Node	85.933416	29.996132
88	Petronet_Node-2	85	5
89	Sumangal-N1	78.075957	30
90	Nirma node	83.255627	30.185453
91	Suzlon-N	83.231639	29.999793

92	Nano node	91.451197	30.001739
93	chimique cst node	50.605529	29.998477
94	Bhadari node	83.633649	30.638441
95	hadala	83.577455	32.345453
96	Essar-N1-2	50.82835	27.05576
97	Bhadar-N1	84.222418	30.019792
98	Piramal node	84.296305	30.022353
99	Node1269	82.244981	29.998441
100	MVPL CH102.863-2	82.247805	29.980117
101	Node1277	82.24369	29.99962
102	Silvai	83.829003	38.021375
103	Indiansteel-Node	49.958361	29.853388
104	ratnamani-node	49.958316	29.997924
105	metrade-Node	49.958278	29.999991
106	Node1308-2	85.456161	44.498828
107	Anklav-node	83.600439	38.599931
108	Node1358	88.334123	47.385329
109	SV-1+Gala+MMPL	69.635395	27.752639
110	Takarwada Node	80.548336	30.79085
111	Becharaji Node	88.693318	30.002325
112	SV1-fatehpura- node	88.407551	30.009917
113	SV2-ghirojpura node	88.558383	30.003086
114	Honda Node	88.67404	30.012829
115	Maruti node	88.654031	29.999584
116	Maruti CST node	88.660518	30.003369
117	Amreli1	88.224617	29.998743
118	Lonthpur	93.896618	22.170563
119	Gundala1	94.27452	30.002255
120	Dahod node	81.736254	29.996692
121	Thasara node	94.628499	30.020387
122	Bhodigodi	57.259294	23.920675
123	Ambardi	56.873953	29.998993
124	Node1397-2	83.080221	30
125	Node1419	83.091305	30
126	Ratatalav-ABPL-18	87.436342	25.729651
127	Bhuj	86.850126	29.998504
128	SV-1-ABPL	87.061152	29.993073
129	Parle node	86.891309	29.997585
130	Banas node	79.793619	29.997925
131	Ineos node	83.595905	30.047609
132	Ineos CST node	83.507449	29.994961
133	Panchmahal node	83.126569	29.995176
134	Panchmahal Cst Node	83.079487	29.999405
135	Rochling-node	83.286102	30.261914
136	Iffco- node	90.481695	30.460092
137	JCT-node	48.992544	30
138	GGL vapi node	81.898909	29.988685

139	Eklere shrikrishna	81.867987	30
140	sarigam GIDC	81.640074	29.976429
141	Node1377-2	92.016578	35.400828
142	Shah alloy node	91.273985	30.071343
143	Birla_Node	84.548626	24.663841
144	Node1512-2	48.941333	26.805445
145	BASF node	48.999922	29.969897
146	styrolution node	48.999537	29.999999
147	GGL Dahej-node	84.593016	14.250096
148	Roxul-node	84.590725	20.235693
149	Sarju node	84.744732	26.548221
150	Dic - node	84.591326	23.251707
151	Torrent DGEN node	85.192489	30
152	SEZ I node	84.524004	24.8237
153	OPAL CST node	85.209352	29.650897
154	Node1410	84.673753	25.715478
155	SEZ-I- node	84.524012	7.0903772
156	GNFC Hot tap - node	84.411735	7.4777021
157	china steel cst node	85.16056	29.935566
158	Nano CNG node	91.450855	30.000018
159	GGL Vadhela Node	85.419573	30.032947
160	Node1479	14	55
161	Node1711	84.953409	10.655106
162	Node1712	14	55
163	GNFC CST node	85.163789	16.830011
164	Ramacylinder	50.593637	28.907164
165	GSFC-cst-node	51.906872	30.010799
166	GGLsaparpatia	51.842492	30.02404
167	GGLpalitana1	88.715941	30.010457
168	toyo-navin-convergence node	85.120235	28.462929
169	Uttran node	80.578427	27.393688
170	Bhadbhut-node	94.5	55
171	mundraLNG	88	20
172	Node2115	87.390468	22.946745
173	Rochling Cst node	83.286102	30.000219
174	IRM node	79.899578	29.978967
175	IRM cst node	79.897982	29.978536
176	Node0193	95	54.727327
177	Node0091-4	81.558978	41.705735
178	Node2153	82.558978	42.025917
179	Node2161	72.052763	26.006288
180	Node2166	14	55
181	Node2169	14	55
182	Node2170	80.65	22.649116
183	Node2176	49	8.6314205
184	Node2177	49	15.504389
185	Node2183	50	11.150468

186	Node2186	50	9.3604147
187	Node2190	94	15
188	Node2190-2	94.1	15
189	Node2197	95	54.727327

GSPL HP GAS GRID with Swan & Chara



Name						
Chhara, Swan and Mundra Tie in Connectivity	**Commissioned (Yes/No)**	**Auth KM**	**Actual KM**			
Chhara Tie-In	No (01-12-2023)	85	45+		36"-30"	
Swan Tie-In	Ready for Comm	3	3		30"	
Mundra Tie-in and Anjar Mundra Line	Yes (01-01-2020)	50	70			
Dahej Bhadbhut Replacement Pipeline						
Dahej Bhadbhut Tie In/Replacement P/L	**Exisitng- 24" inch and 30" new line is till not laid and also capex not claimed**					class II
Gana Compressor						
Gana Compressor	Yes (01-10-2018)	**EIL to let us know the impact with Gana on capacity and without GANA**				
Torrent Spur line						
Torrent Spur Line	**Dedicated Pipeline**					
Jamnagar Dwarka Spur Line						
Jamnagar Dwarka Spur Line	**Construction yet not started (Expec Com in 2 Year)**	**100**	0			
Dahej SEZ Spur line						
Dahej SEZ Spur Line						
Hazira Mora Replacement Pipeline						
Hazira Mora Replacement Pipeline	**No Capex Considered**					LP GRID TO HP GRID

PIL COMPRESSOR	2018-19 2020-21 2021-22	3 YEARS , DESIGN PR. OF COMPRESSOR DISCHARGE 94 KG/CM2,	PRESSURE CONFIRMATION

GSPL HP GRID

2017-18

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.474989	94.5	55
2	Petronet Supply	9.7469233	85	5
3	ONGC Olpad	0.069	81.608717	25.708154
	Total	**28.291**		

2018-19

	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	18.237895	94.5	55
2	Petronet Supply	10.344799	85	5
3	ONGC Olpad	0.069	81.129043	22.760964
4	GIGL Palanpur	0.99819143	82	20
	Total	**29.650**		
	Grid Capacity	**29.621**	**MMSCMD**	

2019-20

	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	19.040767	94.5	55
2	Petronet Supply	11.478533	85	5
3	ONGC Olpad	0.069	80.239523	21.911849
4	GIGL Palanpur	1.5762576	82	20
	Total	**32.165**		
	Grid Capacity	**32.131**	**MMSCMD**	

2020-21

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.558387	94.5	55.0
2	Petronet Supply	9.9894781	85.0	5.0
3	ONGC Olpad	0.069	80.4	21.2
4	GLL	6.1065731	88.0	20.0
5	GIGL	0.51494503	82.0	15.6
	Total	**35.23838323**		
	Grid Capacity	**35.22**	**MMSCMD**	

2021-22

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.285751	94.5	55
2	Petronet Supply	9.8611021	85	5
3	ONGC Olpad	0.069	80.895658	22.340324
4	GLL	5.9655808	88	20
5	GIGL Palanpur	1.0724632	82	15.5556
	Total	**35.2538971**		

	Grid Capacity	**35.21**	**MMSCMD**	

2022-23

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.542225	94.5	55
2	Petronet Supply	9.2201481	85	5
3	ONGC Olpad	0.069	80.932447	21.828753
4	GLL	5.5368548	88	20
5	GIGL Palanpur	0.8387719	82	15.5556
	Total	**34.2069998**		
	Grid Capacity	**34.17**	**MMSCMD**	

GSPL HP GRID

2017-18

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.474989	94.5	55
2	Petronet Supply	9.7469233	85	5
3	ONGC Olpad	0.069	81.608717	25.708154
	Total	**28.291**		

2018-19

	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	18.237895	94.5	55
2	Petronet Supply	10.344799	85	5
3	ONGC Olpad	0.069	81.129043	22.760964
4	GIGL Palanpur	0.99819143	82	20
	Total	**29.650**		
	Grid Capacity	**29.621**	**MMSCMD**	

2019-20

	With Compressor			
Units	**Entry Points**	**MMSCMD**	**barg**	**Deg C**
1	RIL Bhadbut New	19.040767	94.5	55
2	Petronet Supply	11.478533	85	5
3	ONGC Olpad	0.069	80.239523	21.911849
4	GIGL Palanpur	1.5762576	82	20
	Total	**32.165**		
	Grid Capacity	**32.131**	**MMSCMD**	

2020-21

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.558387	94.5	55.0
2	Petronet Supply	9.9894781	85.0	5.0
3	ONGC Olpad	0.069	80.4	21.2
4	GLL	6.1065731	88.0	20.0
5	GIGL	0.51494503	82.0	15.6
	Total	**35.23838323**		
	Grid Capacity	**35.22**	**MMSCMD**	

2021-22

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.285751	94.5	55
2	Petronet Supply	9.8611021	85	5
3	ONGC Olpad	0.069	80.895658	22.340324
4	GLL	5.9655808	88	20
5	GIGL Palanpur	1.0724632	82	15.5556
	Total	**35.2538971**		

	Grid Capacity	**35.21**	**MMSCMD**	

2022-23

Units	Entry Points	MMSCMD	barg	Deg C
1	RIL Bhadbut New	18.542225	94.5	55
2	Petronet Supply	9.2201481	85	5
3	ONGC Olpad	0.069	80.932447	21.828753
4	GLL	5.5368548	88	20
5	GIGL Palanpur	0.8387719	82	15.5556
	Total	**34.2069998**		
	Grid Capacity	**34.17**	**MMSCMD**	

HP17-18.TGW	05-08-2021 16:33	TGW File	1,669 KB
HP18-19.TGW	06-08-2021 15:09	TGW File	1,758 KB
HP19-20.TGW	07-08-2021 11:25	TGW File	1,778 KB
HP20-21.TGW	05-08-2021 16:55	TGW File	1,760 KB
HPAPR21-22.TGW	26-05-2022 14:22	TGW File	1,778 KB