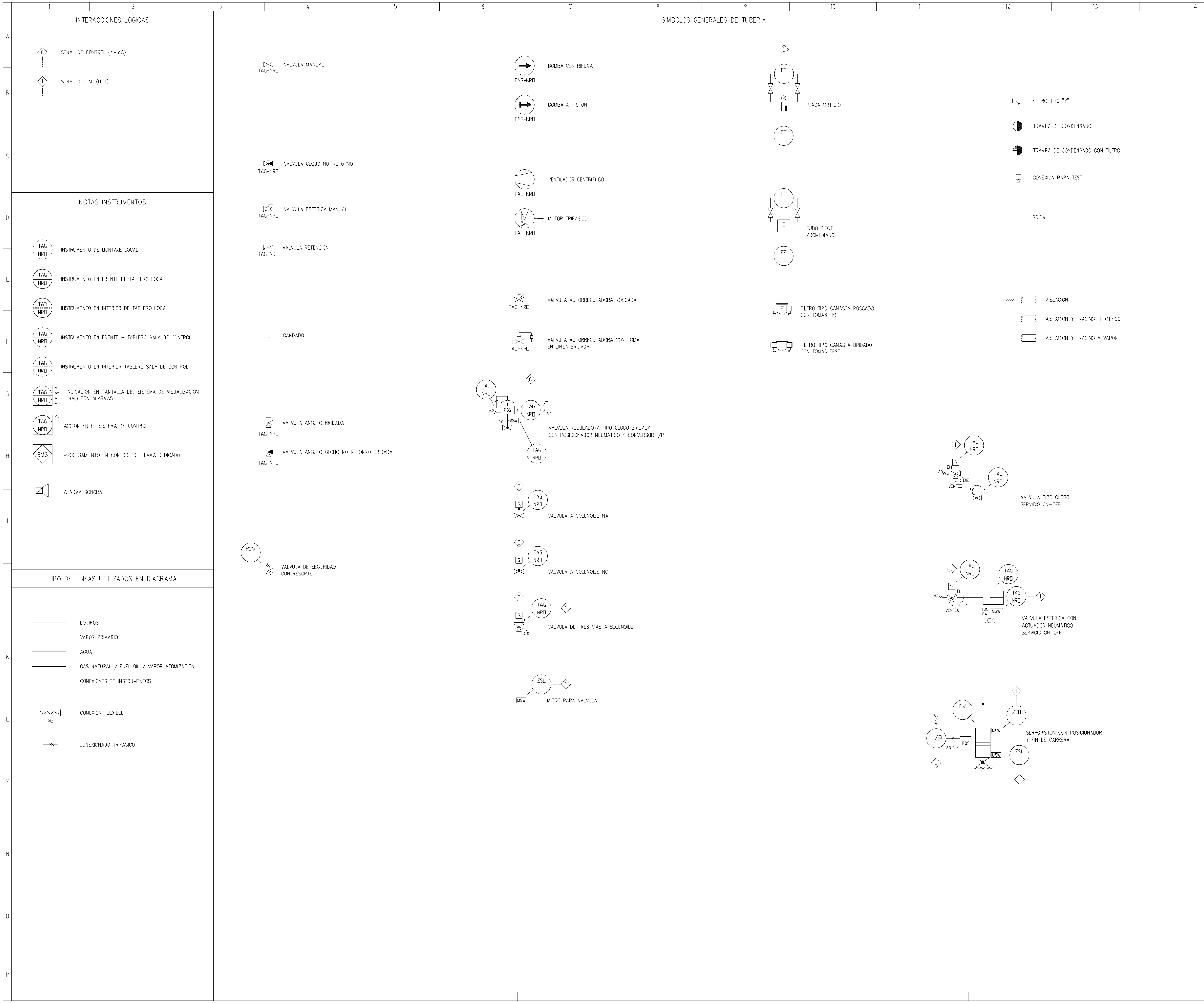


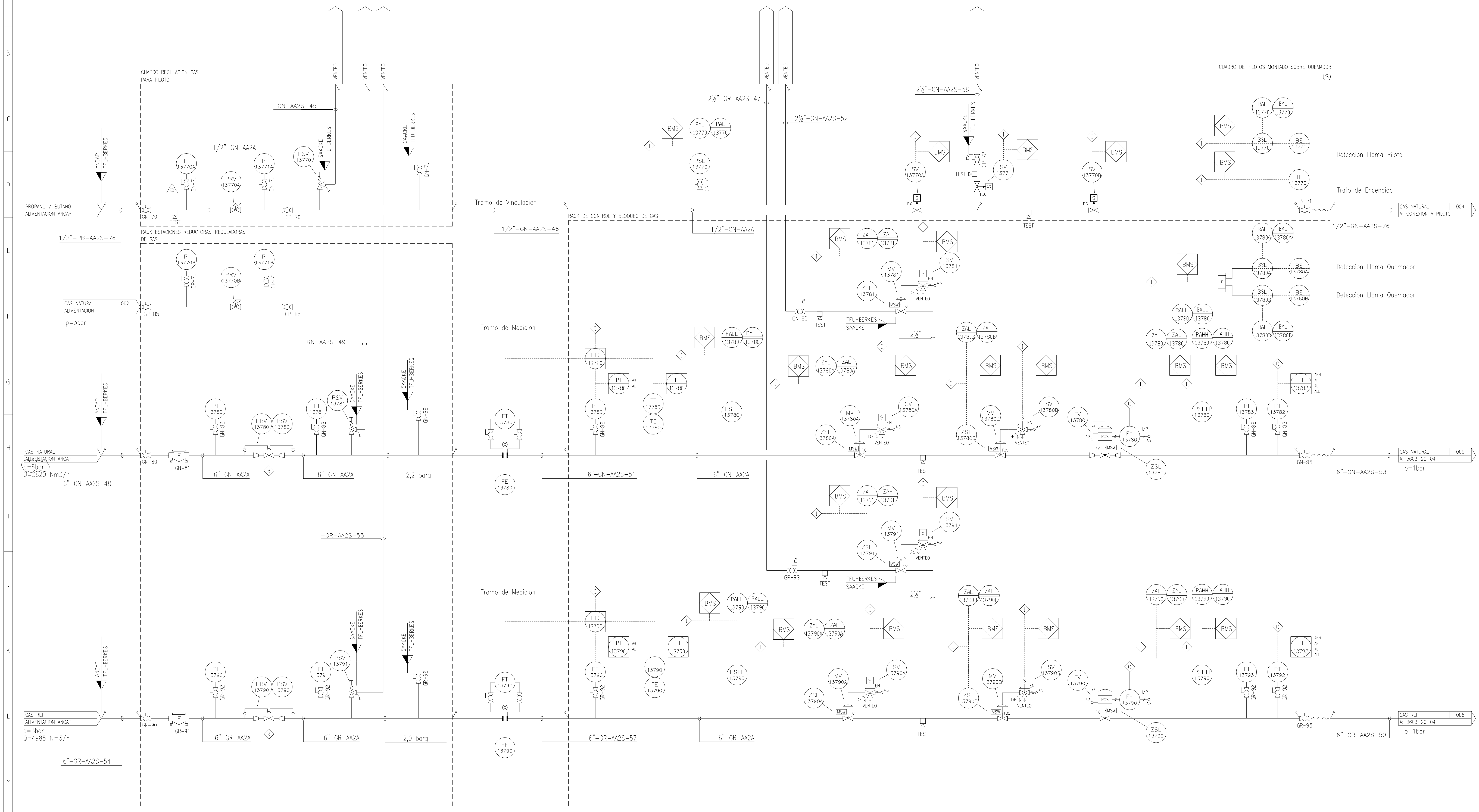
REVISION	FECHA	DESCRIPCION	APROBADO
0	11/06/07	CONFORME RELEVAMIENTO MARZO 2007	
B	05/05/05	PARA INFORMACION Y COMENTARIOS	
A	16/04/04	PARA INFORMACION Y COMENTARIOS	

P&ID SIMBOLOGIA P&ID
CALDERA DENAPAK ST530/13/4300/88 (9057)
OBRA: ANCAP–LP 0/1360–CALDERA 45 T/h

N° 3603–20–01 REV. 0 ESC. S/E FECHA ––
CAJ. A0 DIR ANCAP DIB. A. Salvatore APROB. S. Con

BERKES
Turboflow Uruguay S.A.

N° ANCAP: 02450–178



NOTA 1: (S) Suministrado por SAACKE.

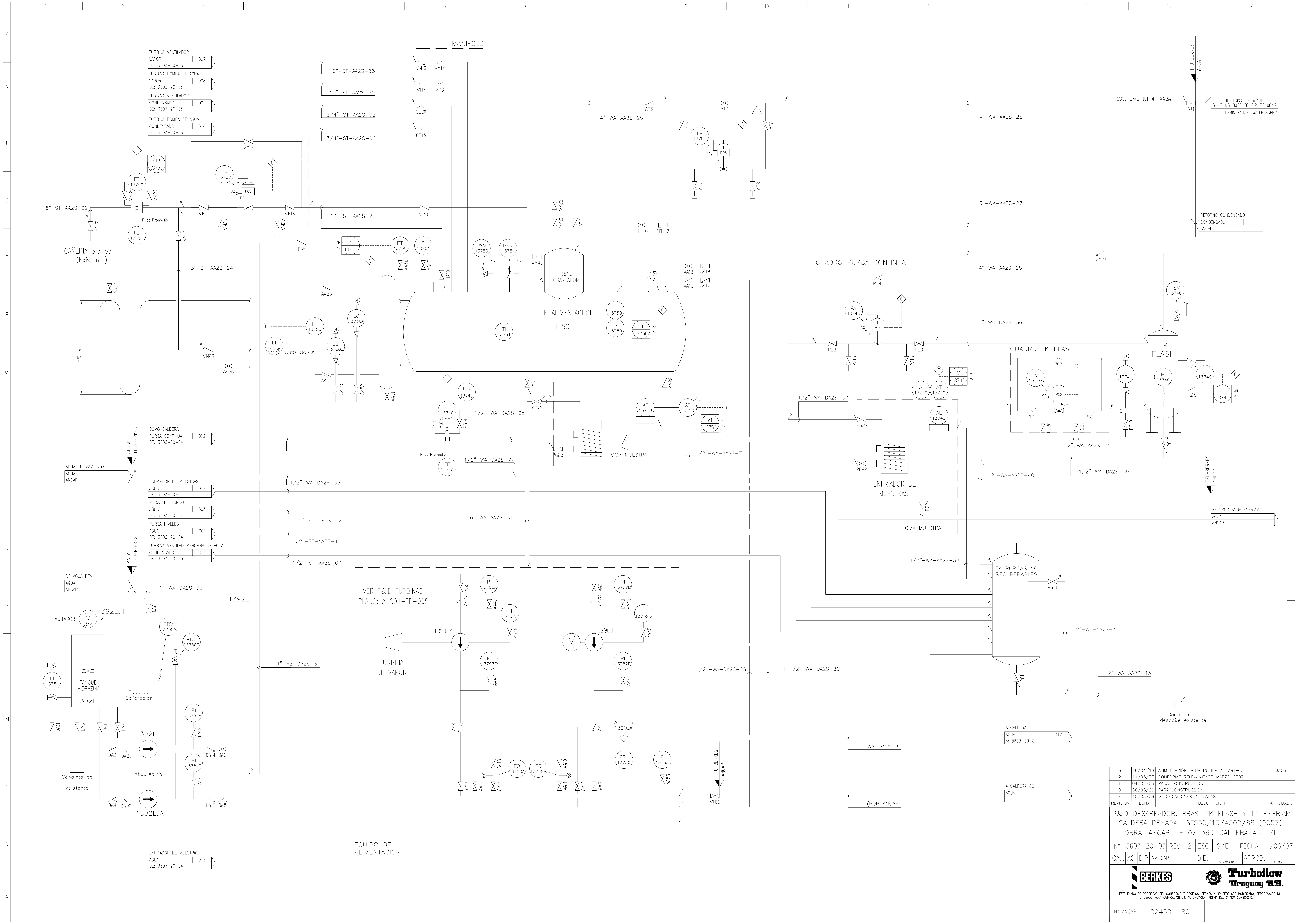
REVISION	FECHA	DESCRIPCION	APROBADO
2	11/06/07	CONFORME RELEVAMIENTO MARZO 2007	
1	04/09/06	PARA CONSTRUCCION	
0	30/06/06	PARA CONSTRUCCION	
0	13/06/05	MODIFICACIONES INDICADAS	

P&ID GAS NATURAL Y GAS PROCESO
CALDERA DENAPAK ST530/13/4300/88 (9057)
OBRA: ANCAP-LP 0/1360-CALDERA 45 T/h

Nº	3603-20-02	REV.	2	ESC.	S/E	FECHA	11/06/07
CAJ.	A0	DIR.	\ANCAP	DIB.		APROB.	

BERKES — Turboflow Uruguay S.A.

Nº ANCAP: 02450-179



REVISION	FECHA	DESCRIPCION	APROBADO
3	18/04/18	ALIMENTACIÓN AGUA PULIDA A 1391-C	J.R.S.
2	11/06/07	CONFORME RELEVAMIENTO MARZO 2007	
1	04/09/06	PARA CONSTRUCCION	
0	30/06/06	PARA CONSTRUCCION	
E	15/03/06	MODIFICACIONES INDICADAS	

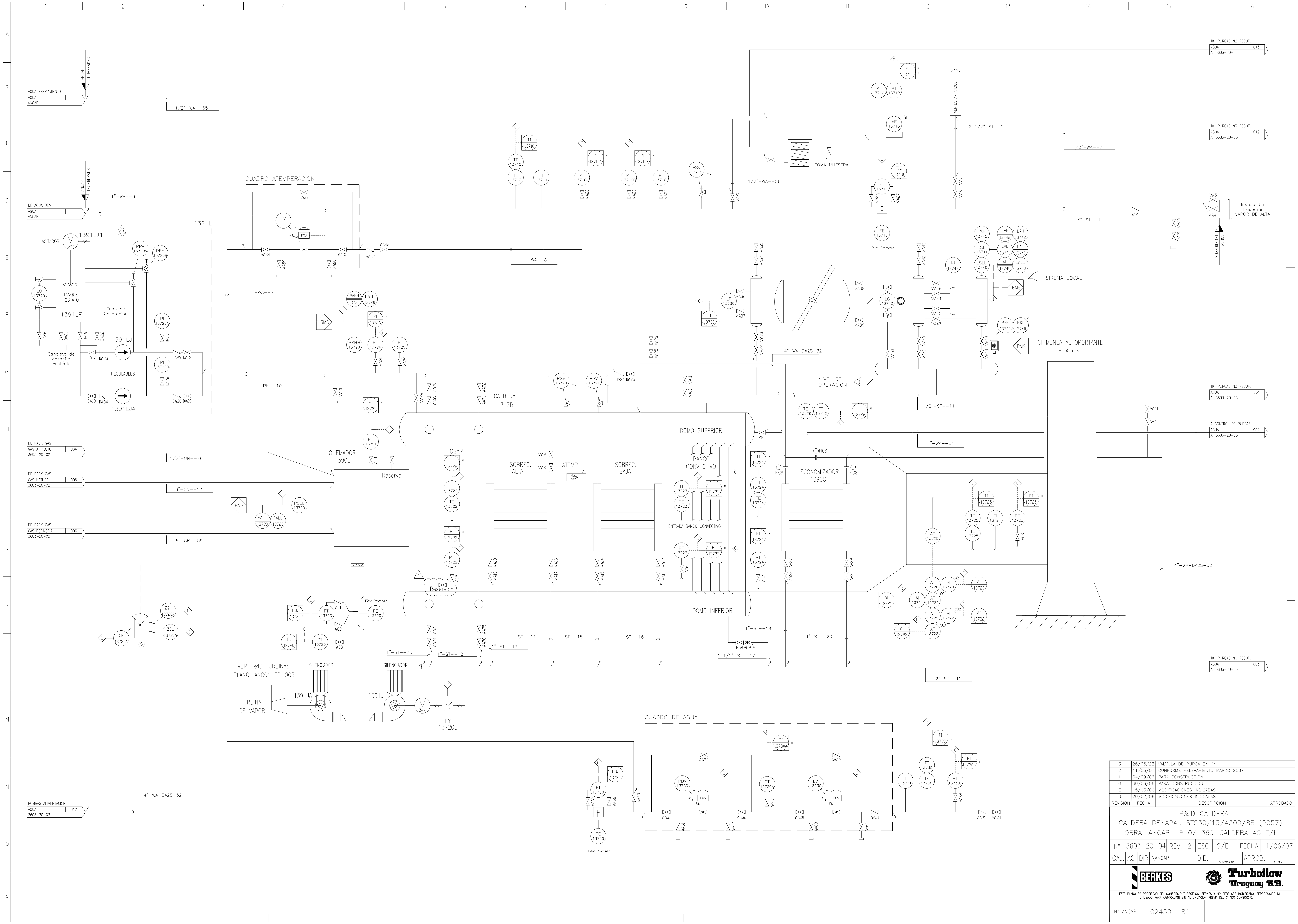
P&ID DESAREADOR, BBAS, TK FLASH Y TK ENFRIAM.
CALDERA DENAPAK ST530/13/4300/88 (9057)
OBRA: ANCAP-LP 0/1360-CALDERA 45 T/h

Nº	3603-20-03	REV.	2	ESC.	S/E	FECHA	11/06/07
CAJ.	A0	DIR.	ANCAP	DIB.		APROB.	

BERKES

Turboflow Uruguay S.A.

Nº ANCAP: 02450-180



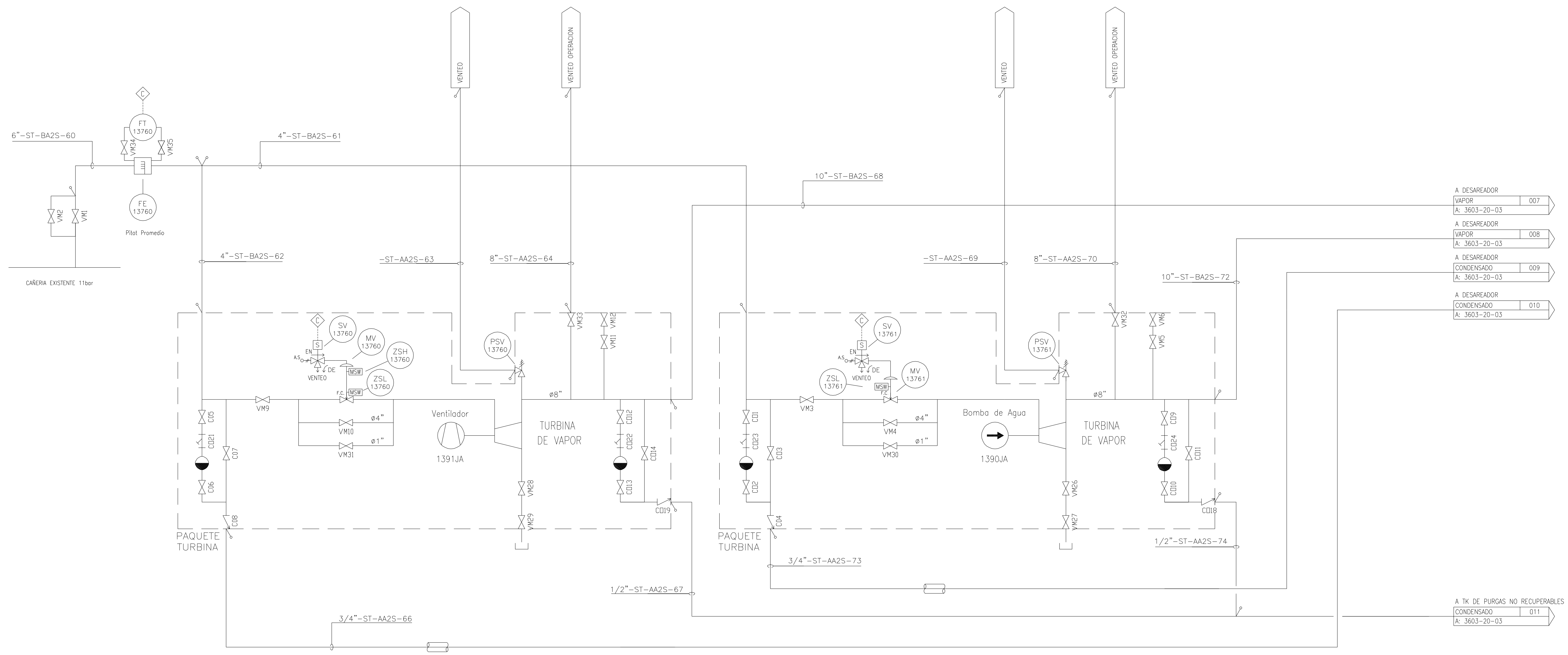
REVISION	FECHA	DESCRIPCION	APROBADO
3	26/05/22	VÁLVULA DE PURGA EN "Y"	
2	11/06/07	CONFORME RELEVAMIENTO MARZO 2007	
1	04/09/06	PARA CONSTRUCCION	
0	30/06/06	PARA CONSTRUCCION	
E	15/03/06	MODIFICACIONES INDICADAS	
D	20/02/06	MODIFICACIONES INDICADAS	

P&ID CALDERA
CALDERA DENAPAK ST530/13/4300/88 (9057)
OBRA: ANCAP-LP 0/1360-CALDERA 45 T/h

N°	3603-20-04	REV.	2	ESC.	S/E	FECHA	11/06/07
CAJ.	A0	DIR	ANCAP	DIB.		APROB.	

BERKES
Turboflow Uruguay S.A.

N° ANCAP: 02450-181



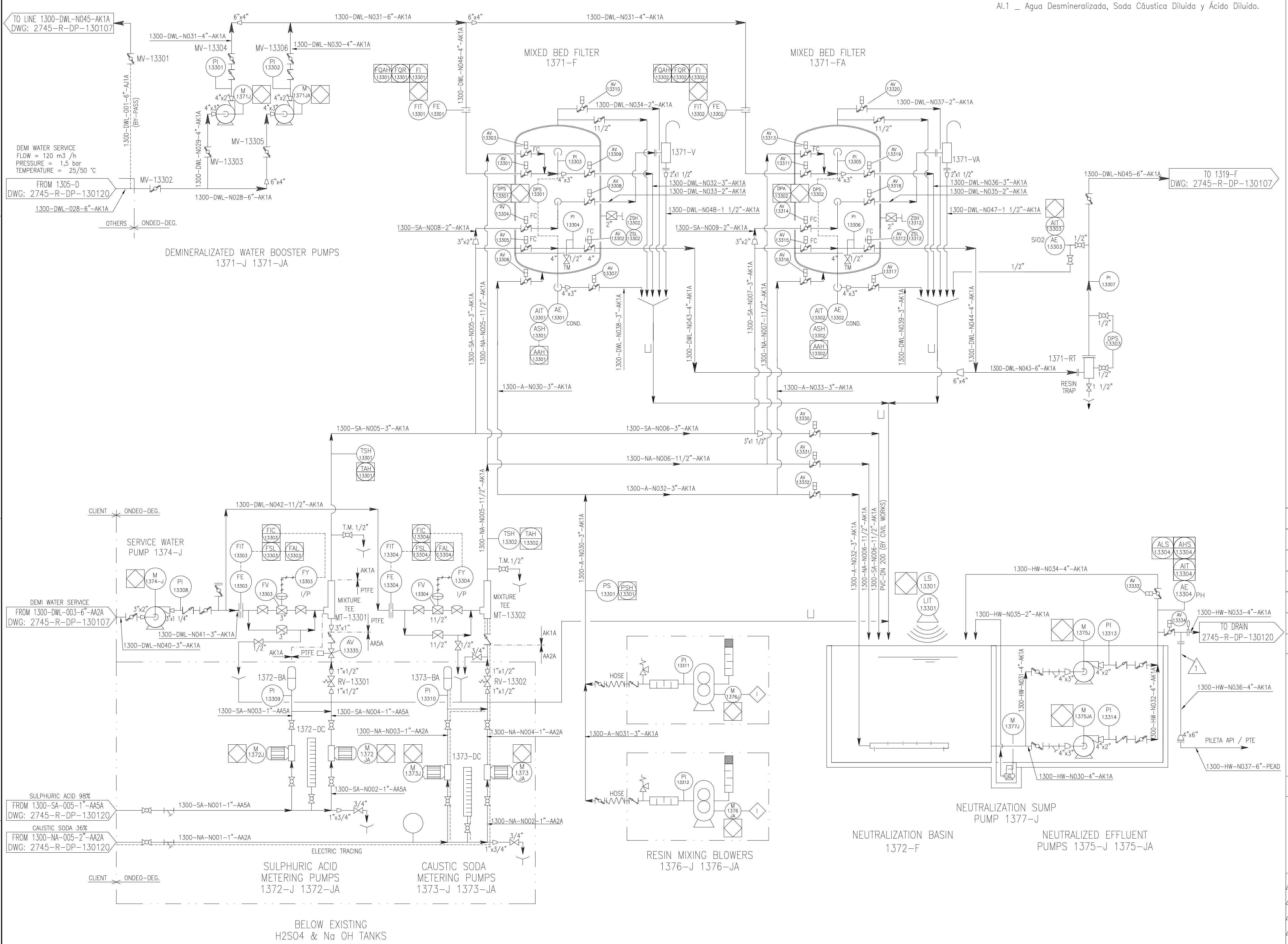
REVISION	FECHA	DESCRIPCION	APROBADO
2	11/06/07	CONFORME RELEVAMIENTO MARZO 2007	
1	04/09/06	PARA CONSTRUCCION	
0	27/06/06	PARA CONSTRUCCION	
C	16/06/06	PARA CONSTRUCCION	

P&ID TURBINAS
CALDERA DENAPAK ST530/13/4300/88 (9057)
OBRA: ANCAP-LP 0/1360-CALDERA 45 T/h

Nº	3603-20-05	REV.	2	ESC.	S/E	FECHA	11/06/07
CAJ.	A0	DIR	\ANCAP	DIB.		APROB.	

BERKES — Turboflow Uruguay S.A.

Nº ANCAP: 02450-182



ESPECIFICACIÓN DEGRÉMONT

AC.1 _ Agua Filtrada y Soda Cáustica Concentrada.

AC.2 _ Ácido Sulfúrico Concentrado.

AI.1 _ Agua Desmineralizada, Soda Cáustica Diluida y Ácido Diluido.

NOTES 2

1_ AC = CARBON STEEL (VER ESPECIFICACIÓN GENERAL DE CAÑERÍAS DE DEGRÉMONT)

2_ AI = STAINLESS STEEL (VER ESPECIFICACIÓN GENERAL DE CAÑERÍAS DE DEGRÉMONT)

3_ PEAD = POLIETILENO DE ALTA DENSIDAD (VER ESPECIFICACIÓN DE CAÑERÍAS ANCAP)

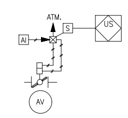
SIMBOLGY

- BUTTERFLY VALVE MANUAL
- BUTTERFLY VALVE AUTOMATIC NORMAL CLOSED (DOUBLE EFFECT).
- FC BUTTERFLY VALVE AUTOMATIC FAIL CLOSED (SIMPLE EFFECT).
- CHECK VALVE
- DIAPHRAGM VALVE TYPE A MANUAL
- DIAPHRAGM VALVE TOTAL PASSAGE
- DIAPHRAGM VALVE CONTROL
- RELIEF VALVE (INCORPORATED ON THE BLOWER)
- BALL PRESSURE VALVE
- SOLENOID VALVE (FESTO)
- LUBRICATED PLUG VALVE
- PIPING BY TRENCH

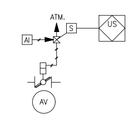
REMARKS

1 _TYPICAL FOR VALVES

DOBLE EFFECT



SIMPLE EFFECT



1 _TUBING PNEUMATIC PROVIDED FOR ONDEO-DEGREMONT
MATERIAL: SS or CU.

rev	description	DATE / BY	DATE / APR	DATE / V° B°
0	FOR CONSTRUCTION	12/12/02 R.C.G.	12/12/02 E.D.	12/12/02 E.D.
E	UPDATED	05/07/02 R.C.G.	05/07/02 E.D.	05/07/02 E.D.
D	UPDATED	27/05/02 E.M.P.L.	27/05/02 O.R.N.	27/05/02 F.M.
C	UPDATED	14/05/02 E.M.P.L.	14/05/02 O.R.N.	14/05/02 F.M.
B	UPDATED	27/03/02 E.M.P.L.	27/03/02 O.R.N.	27/03/02 F.M.
A	ORIGINAL ISSUE	29/01/02 E.M.P.L.	30/01/02 O.R.N.	30/01/02 F.M.

ONDEO Degrémont
Buenos Aires

CLIENT: TECHINT - ANCAP - URUGUAY

WATER TREATMENT UNIT
MIXED BED

P & I DIAGRAM

scale :

5498 005 /

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.	
2	ACTUALIZACIÓN DE CLASES DE CAÑERÍAS	28.DIC.18		JRS			
1	NUEVO DRENAJE A PILETA API/PTE	27.MAY.14	ANCAP	G.A.M.		N.S.S.	C.Z.M.
0	REV. AS BUILT 2003	09.AUG.03	DEGRE	SPI	PDA	PDA	

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB
ABB LUMMUS CREST

UNIT 1300
WATER TREATMENT UNIT. MIXED BED.

P&ID

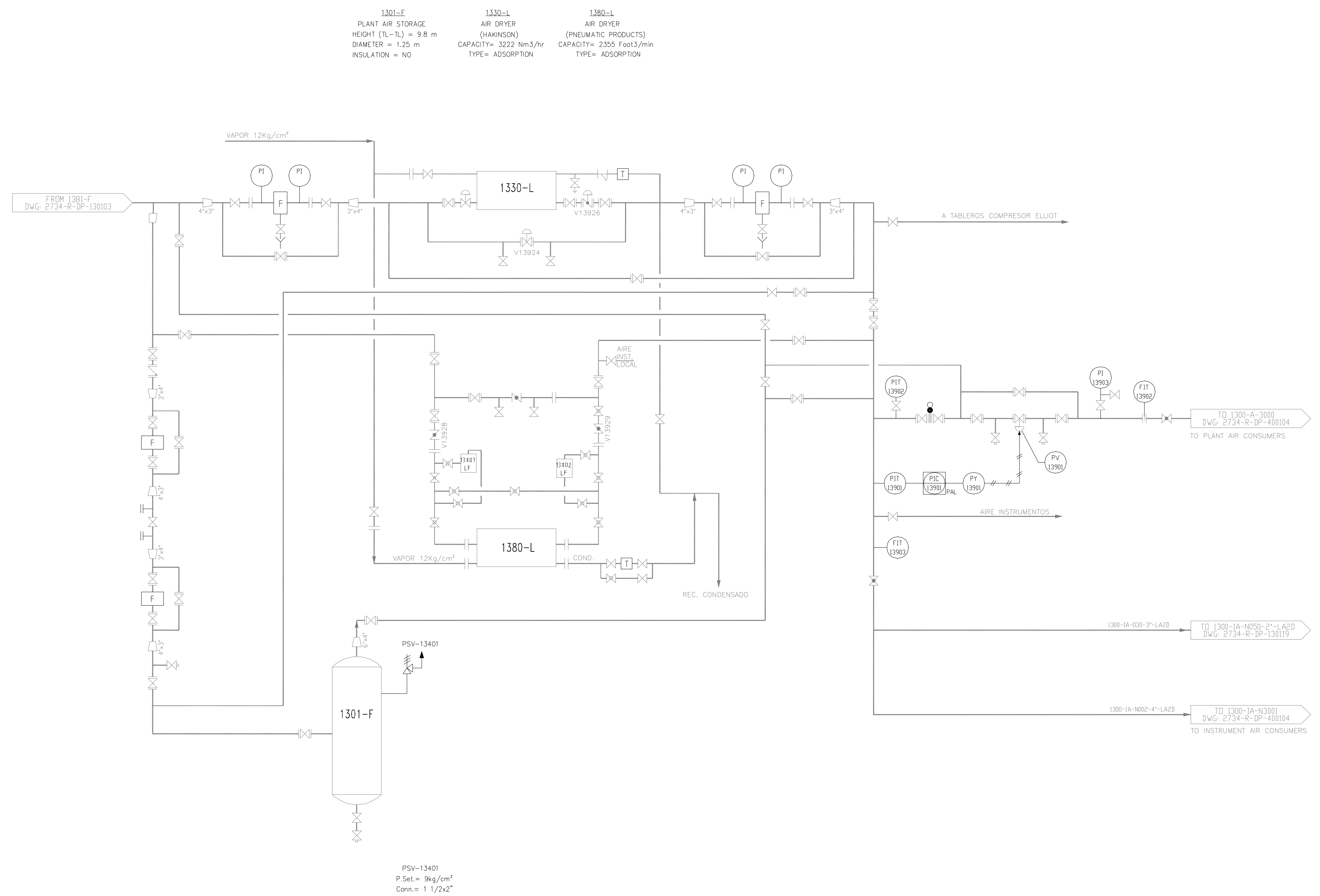
2734-R-DP-130101

S/E B100/20134

REVISION 2

SERVICE WATER PUMP 1374-J	DEMI WATER BOOSTER PUMPS 1371-J 1371-JA	MIXED BED FILTER 1371-F 1371-FA	MIXED BED BLOWERS 1376-J 1376-JA	SULPHURIC ACID METERING PUMPS 1372-J 1372-JA	CAUSTIC SODA METERING PUMPS 1373-J 1373-JA	NEUTRALIZED EFFLUENT PUMPS 1375-J 1375JA	NEUTRALIZATION BASIN 1372-F	NEUTRALIZATION SUMP PUMP 1377-J
QTY. = 1 ONE	QTY. = 2 TWO	QTY. = 2 TWO	QTY. = 2 TWO	QTY. = 2 TWO	QTY. = 2 TWO	QTY. = 2 TWO	LENGTH = 5 m.	QTY = 1 (ONE)
FLOW = 20 m^3/h	FLOW = 62 m^3 /h	ANION RES. VOL. = 1100 l. H=720mm	FLOW = 150 m^3 /h	FLOW = 300 l./h	FLOW = 650 l./h	FLOW = 48 m^3 /h	WIDTH = 4 m.	FLOW = 0,5 m3/h.
PRESSURE = 2,2 BAR	PRESSURE = 3,5 BAR	CATION RES.VOL. =738 l. H=480mm.	PRESSURE = 0,5 bar (g)	PRESSURE = 10 bar (g)	PRESSURE = 10 bar (g)	PRESSURE = HOLD	DEPTH = 3 m.	PRESSURE = 5 mca.
MOTOR POWER = 4 HP.	MOTOR POWER = 12,5 HP.	DIAMETER = 1400 mm.	MOTOR POWER = 7,5 HP.	MOTOR POWER = 0,37 Kw.	MOTOR POWER = 0,75 Kw.	MOTOR POWER = 5,5 HP.	VOL = 60 m3	MOTOR POWER = 1,1 Kw.
KSB MEGACHEN 32-125	KSB MEGACHEN 50-160	HEIGHT = 3000 mm.	REPICKY R 0.5 AV	DMR MAXROY A 330	DMR MAXROY B 650	KSB MEGACHEN 50-125		FLYGHT DXM 50-11

DOCUMENTO CREADO POR ORDENADOR
FORMATO : 594 x 841 mm



NOTES:

REFERENCES:

P&ID 2734-R-DP-100112 : PLANT AIR - INSTRUMENT AIR (1/3).
P&ID 2734-R-DP-200107 : PLANT AIR - INSTRUMENT AIR (2/3).
P&ID 2734-R-DP-400104 : PLANT AIR - INSTRUMENT AIR (3/3).
P&ID 2734-R-DP-130103 : NEW AIR GENERATION SYSTEM (1/2).
P&ID 2734-R-DP-220110 : SERVICE AND INSTRUMENT AIR - UNIT 2200.

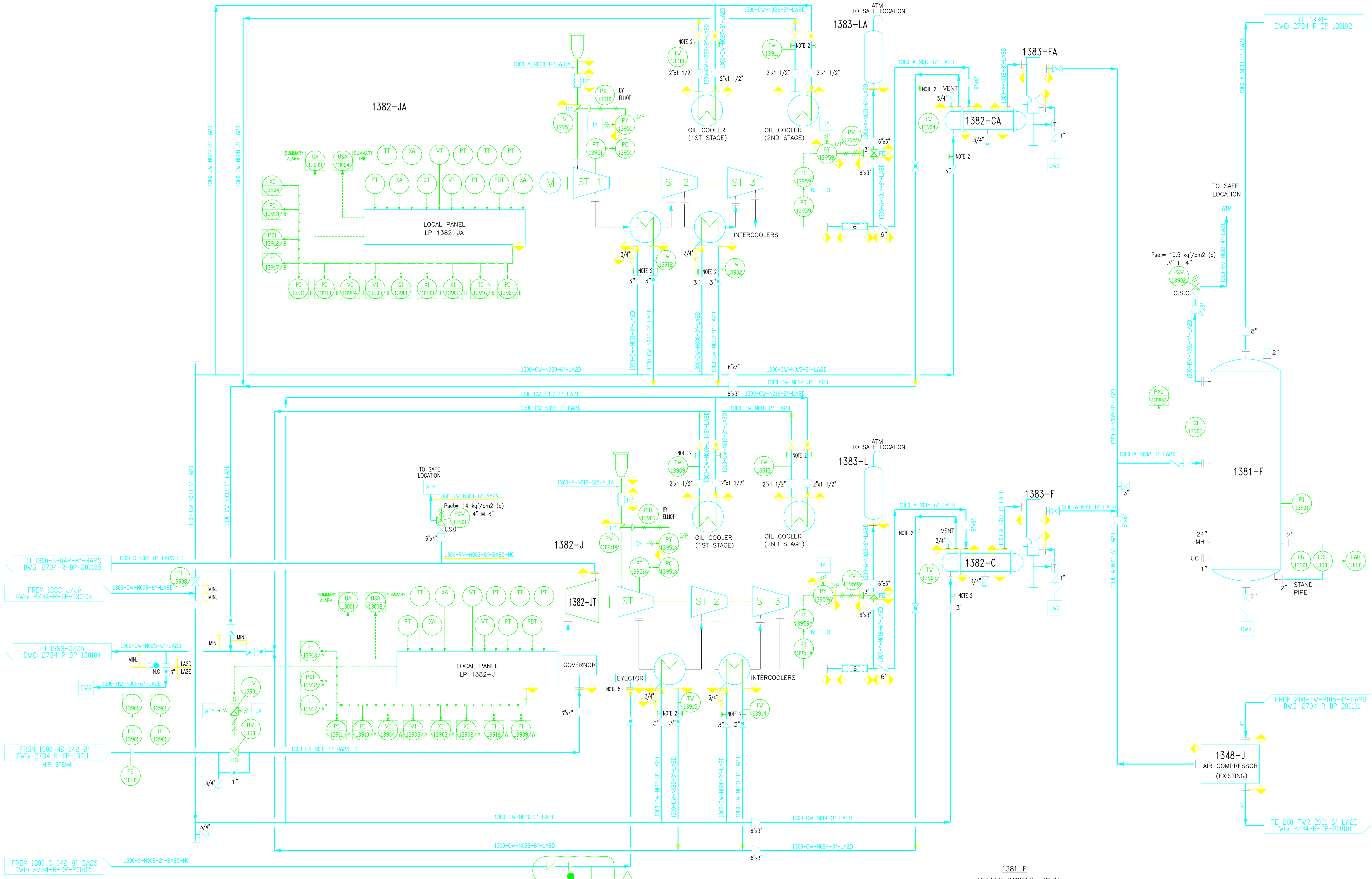
REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
5	SE INCORPORA 1380-L Y SE DA DE BAJA A 1311/1314-L	27.DIC.17	JRS	CG		GDG
4	REV. AS BUILT 2003	28.JUL.03	PDA	SPI	PDA	PDA
3	MODIFIED AS INDICATED	13.DIC.02	PDA	PDA	PDA	PDA
2	FOR CONSTRUCTION	05.JUL.02	PDA	SPI	PDA	PDA
1	HAZOP COMMENTS INCORPORATED	21.MAY.01	PDA	JUS	PDA	DOA
0	FOR CONSTRUCTION	06.NOV.00	PDA	JUS	PDA	DOA
A	FOR APPROVAL	10.MAY.00	PDA	JUS	DOA	

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

UNIT 1300
NEW AIR GENERATION SYSTEM 2/2
IA - A
P&ID

2734-R-DP-130102
S/E
B100/20134
REVISION 5



1382-J/JA

NEW CENTRIFUGAL AIR COMPRESSOR
Nº STAGES = 3
NORMAL FLOW RATE = 5305 Nm3/hr
AIR DISCHARGE PRESSURE = 8.1 kgf/cm2 g
POWER = 575 kW

1382-JT

STEAM TURBINE

RATED POWER = 630 kW
MAX. INLET STEAM PRESSURE = 49.2 kgf/cm2 g

1382-C/CA

COMPRESSOR AFTERCOOLER (BY ANCAP)

DESIGN PRESSURE (SHELL SIDE) = 10.6 kgf/cm2 g
MAX. AIR DISCHARGE TEMPERATURE = 35° C
DESIGN TEMPERATURE = 177° C

1383-F/FA

AFTERCOOLER SEPARATOR (BY ANCAP)

DESIGN PRESSURE = 10.6 kgf/cm2 g

1381-F

BUFFER STORAGE DRUM

HEIGHT (TL-TL) = 8.5 m
INTERNAL DIAMETER = 3.5 m
DESIGN PRESSURE = 10.6 kgf/cm2 (g)
DESIGN TEMPERATURE = 110 °C
INSULATION = NO

1348-J (EXISTING)

AIR COMPRESSOR

FLOW RATE = 3000 Nm3/hr
POWER = 336 kW

NOTES:

1- NEW COMPRESSORS 1382-J/JA WILL BE SUPPLIED BY ANCAP.
ONLY THE ACTUAL OPERATING COMPRESSOR 1348-J WILL REMAIN AS BACK UP .

2- PROVIDE PRESSURE GAUGE CONNECTIONS (WITH PLUGS).

3- LOCATED AT LOCAL PANEL LP-1382-J/JA.

4- INLET PIPING MUST BE CONSTRUCTED OF CORROSION RESISTANT MATERIALS OR PROTECTED WITH A SUITABLE INTERNAL COATING TO PREVENT THE IMPELLER EROSION. SUGGESTED MATERIAL ARE STAINLESS STEEL, ALUMINUM, OR RIGID PLASTIC.

5- A GLOBE VALVE AND A PI SHALL BE INSTALLED IN THE SUCTION LINE OF THE EYECTOR TO ALLOW THE INLET OF AIR IN ORDER TO KEEP THE SUCTION PRESSURE AT 14.2 Psi a

REFERENCES:

P&ID 2734-R-DP-100112 : PLANT AIR - INSTRUMENT AIR (1/3).
P&ID 2734-R-DP-200107 : PLANT AIR - INSTRUMENT AIR (2/3).
P&ID 2734-R-DP-400104 : PLANT AIR - INSTRUMENT AIR (3/3).
P&ID 2734-R-DP-130102 : NEW AIR GENERATION SYSTEM (2/2).
P&ID 2734-R-DP-220110 : SERVICE AND INSTRUMENT AIR - UNIT 2200.
P&ID 2734-R-DP-130104 : COOLING WATER SYSTEM FOR AIR COMPRESSORS.

SYMBOLOGY :

LNC: LINE NUMBER CHANGE

: NEW LINE

TAG	DCS SIGNALS DESCRIPTION
PI-13959 / A	3RD STAGE DISCHARGE PRESSURE
TI-13968 /A	3RD STAGE DISCHARGE TEMPERATURE
XI-13902 /A	COMPRESSOR STATUS
XI-13903 / A	AUXILIARY OIL PUMP STATUS
VI-13953 / A	LOW SPEED VIBRATION
VI-13954 / A	HIGH SPEED VIBRATION
PI-13964 / A	INLET AIR PRESSURE
PI-13961 / A	INLET OIL PRESSURE
TI-13967 /A	INLET OIL TEMPERATURE
PDI-13962 / A	INLET AIR DIFF. PRESSURE
PI-13963 / A	OIL FILTER PRESSURE
XI-13904	ELECTRIC DRIVER STATUS
SI-13951	ELECTRIC DRIVER SPEED

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
7	BLOQUEO EN SERIE SEGUN CR-02293	15.SET.20	AAE	RAD		GDG
6	REV. AS BUILT 2003	09.AUG.03	PDA	SPI	PDA	PDA
5	MODIFIED AS INDICATED	13.DIC.02	PDA	PDA	PDA	PDA
4	FOR CONSTRUCTION	20.AGO.02	PDA	HEG	PDA	PDA
3	FOR CONSTRUCTION	05.JUL.02	PDA	SPI	PDA	PDA
2	HAZOP COMMENTS INCORPORATED	21.MAY.01	PDA	JUS	PDA	DOA
1	REVISED AS NOTED	09/02/01	PDA	SPI	PDA	DOA
0	FOR CONSTRUCTION	07.NOV.00	PDA	JUS	PDA	DOA
A	FOR APPROVAL	27/10/00	PDA	JUS	DOA	

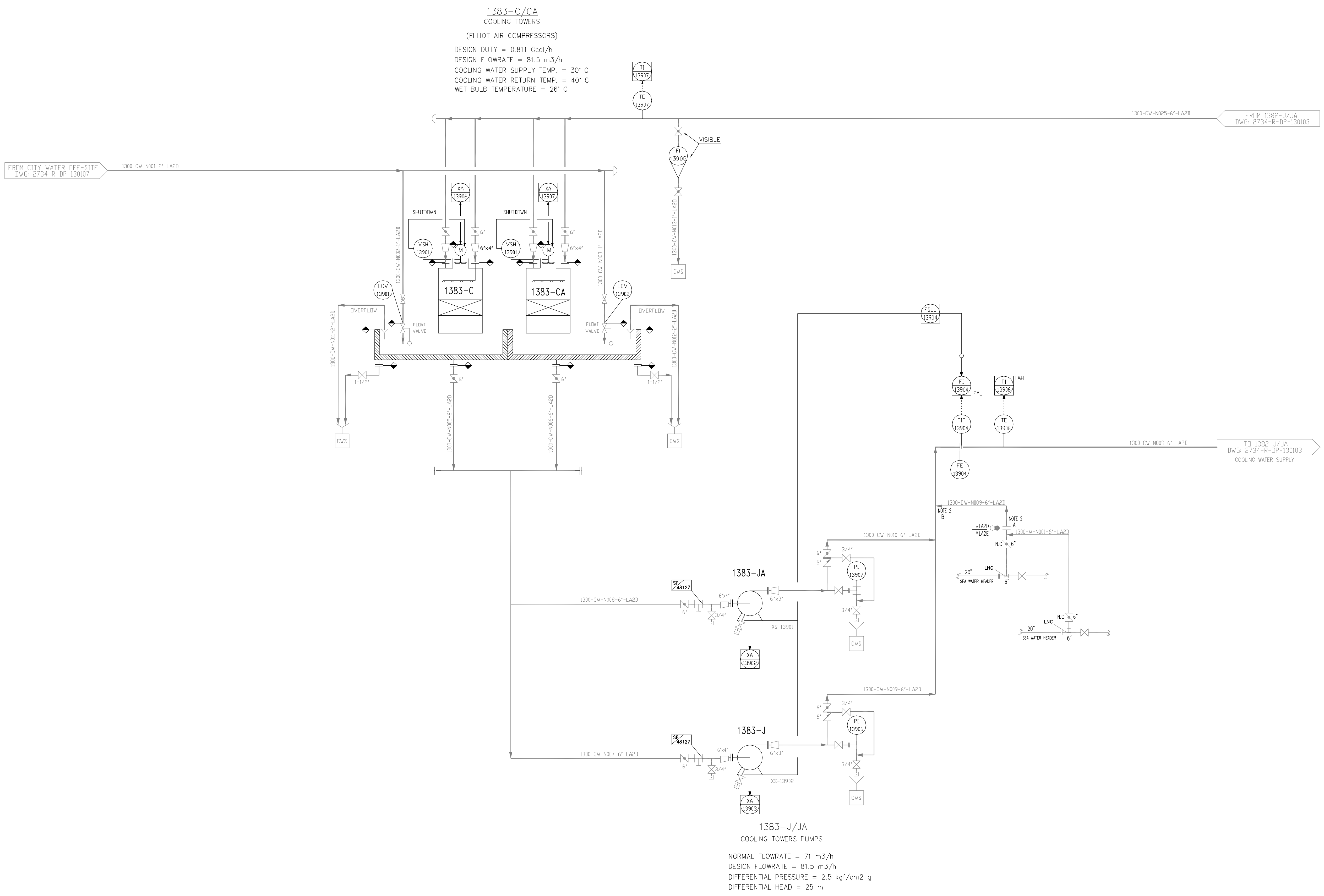
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
NEW AIR GENERATION SYSTEM 1/2
IA - A
P&ID

2734-R-DP-130103
S/E B100/20134
REVISION 7



NOTES:

1- TIE IN FOR CITY WATER WATER MAKE UP, TO BE LOCATED AT THE POWER STATION AREA.

2- MINIMUM DISTANCE (AS FAR POSSIBLE), BETWEEN POINT A AND B.

REFERENCES:

P&ID 2734-R-DP-100112 : PLANT AIR – INSTRUMENT AIR (1/3).
P&ID 2734-R-DP-200107 : PLANT AIR – INSTRUMENT AIR (2/3).
P&ID 2734-R-DP-400104 : PLANT AIR – INSTRUMENT AIR (3/3).
P&ID 2734-R-DP-130102 : NEW AIR GENERATION SYSTEM (2/2).
P&ID 2734-R-DP-130103 : NEW AIR GENERATION SYSTEM (1/2).
P&ID 2734-R-DP-220110 : SERVICE AND INSTRUMENT AIR – UNIT 2200.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE

: NEW LINE

REV./QTY.	DESCRIPTION	DATE	PREP.	BY	CONTR.	APPROB.
5	REV. AS BUILT 2003	09.AUG.03	PDA	SPI	PDA	PDA
4	MODIFIED AS INDICATED	13.DIC.02	PDA	PDA	PDA	PDA
3	FOR CONSTRUCTION	20.AGO.02	PDA	HEG	PDA	PDA
2	FOR CONSTRUCTION	05.JUL.02	PDA	SPI	PDA	PDA
1	VENDOR INFO. UPDATED (AS INDICATED)	22.NOV.01	PDA	JUS	PDA	PDA
0	FOR CONSTRUCTION – HAZOP COMMENTS INCORPORATED	21.MAY.01	PDA	JUS	PDA	DOA
A	FOR APPROVAL	09.FEB.01	PDA	JUS	PDA	DOA

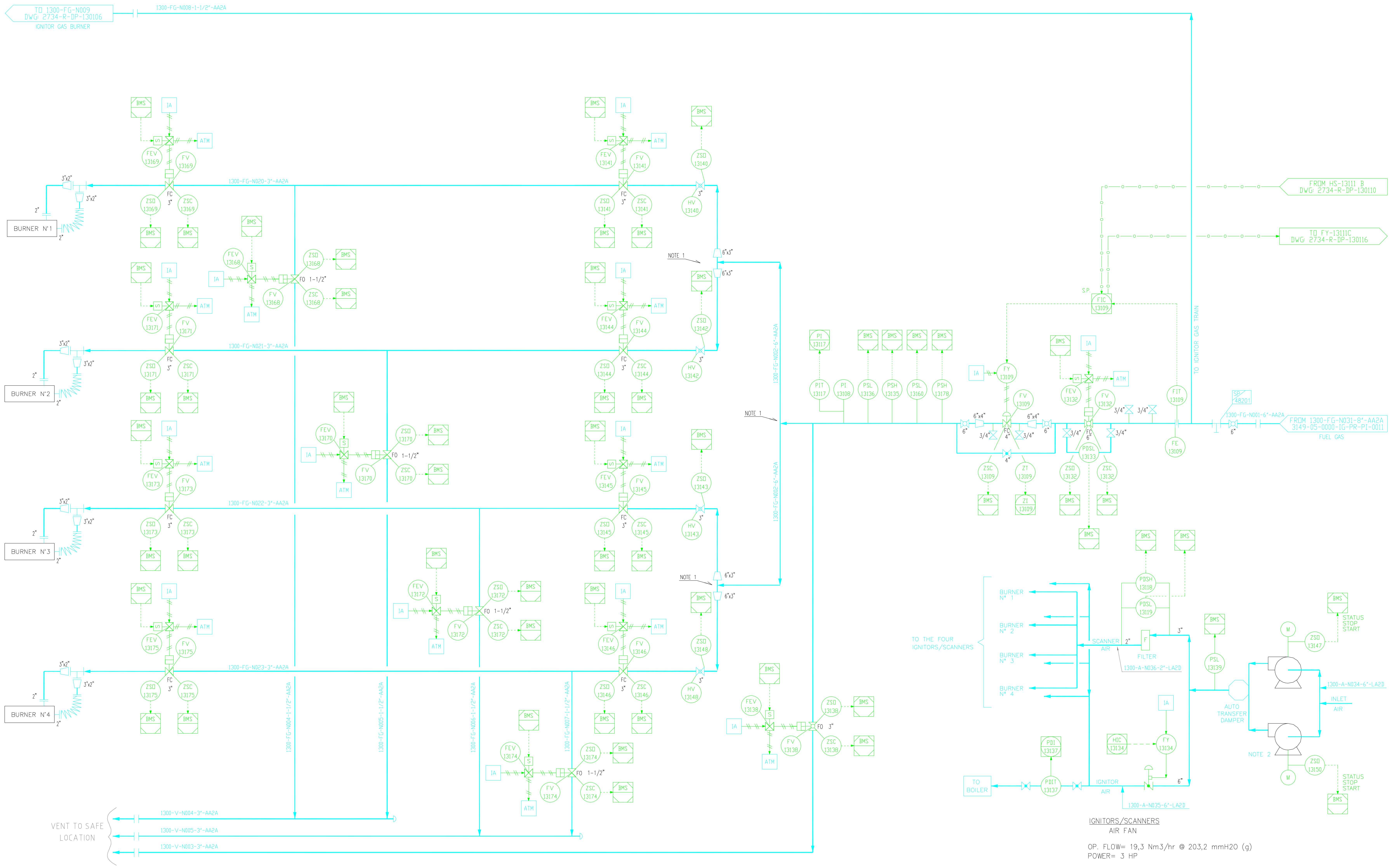
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
COOLING WATER SYSTEM FOR AIR COMPRESSORS
P&ID

2734-R-DP-130104
REVISION 5
S/E
B100/20134



NOTES:

INSTRUMENT TAG's WERE CHANGED ACCORDING TO VENDOR DATASHEET

1- SYMMETRICAL PIPING

2- BACK-UP FAN, 100% CAPACITY

SYMBOLOGY:

LNC LINE NUMBER CHANGE

NEW LINE

REFERENCES:

P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2 —	REV. AS BUILT 2003	09.AUG.03	PDA	SPI	PDA	PDA
1 —	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0 —	FOR CONSTRUCTION	27.SEP.02	PDA	PDA	PDA	PDA
A	PRELIMINARY	06.DEC.01	PDA	LAN	LAN	PAE

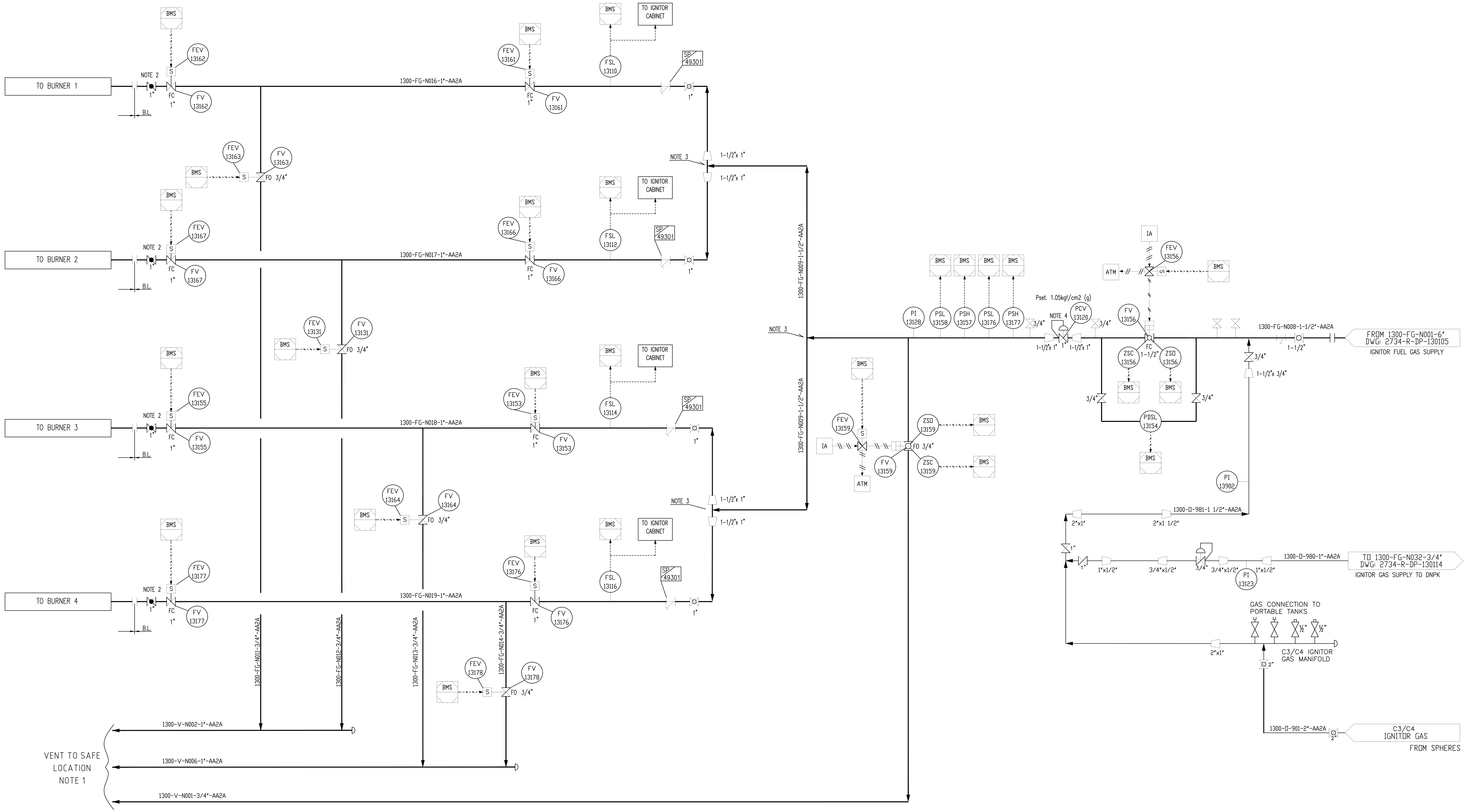
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
FUEL GAS SKID - CE BOILER MAIN GAS TRAIN
P&ID

2734-R-DP-130105
S/E B100/20134
REVISION 2



NOTES:

INSTRUMENT TAG's WERE CHANGED ACCORDING TO VENDOR DATASHEET.

1- VENTS TO ATMOSPHERE SHALL HAVE A DISCHARGE LINE THAT ENDS AT LEAST 3 METERS ABOVE ANY PLATFORM OR WORKING AREA.

2- MANUAL VALVES W/ LOCKABLE HANDLE.

3- SYMMETRICAL PIPING.

4- SELF REGULATING VALVE W/ PILOT. SEE TYPICAL DWG: 2734-I-TM-240001 FOR DETAILS.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE

: NEW LINE

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2	REV. AS BUILT 2003	26.JUL.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	PDA	PDA	PDA
A	PRELIMINARY	06.DEC.01	PDA	LAN	LAN	PAE

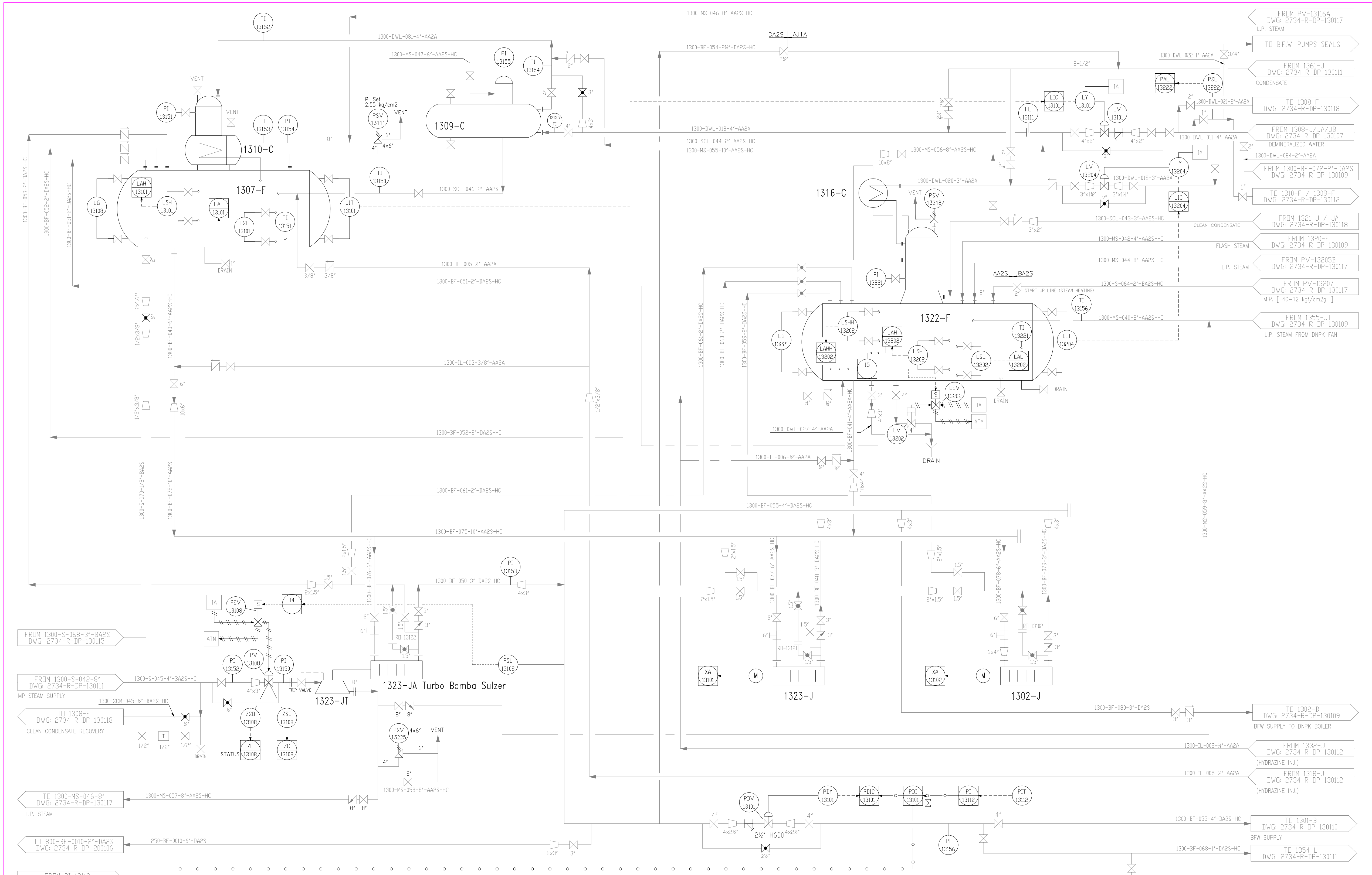
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
FUEL GAS SKID - CE BOILER IGNITOR GAS TRAIN
P&ID

2734-R-DP-130106
S/E B100/20134
REVISION 2



1307-F
DEAERATOR
(CE BOILER)
DIAMETER =
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1309-C
FEED WATER PREHEATER
DESIGN DUTY=
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1310-C
FEED WATER DEARATOR
DESIGN DUTY=
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1323-J/1323-JA/1302-J
BFW PUMPS FOR CE BOILER
,DNPK BOILER, CO BOILER AND OTHER SERVICES
1302-J:
DESIGN FLOWRATE = 70 m3/h
DIFFERENTIAL HEAD= 532 m
1323-J/JA:
DESIGN FLOWRATE = NORMAL 63 m3/h, MÁXIMO 83 m3/h
DIFFERENTIAL HEAD= 620 m (Q NORMAL), 559 m (Q MÁXIMO)

1322-F
DEAERATOR
(DNPK BOILER)
DIAMETER =
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1316-C
FEED WATER PREHEATER

SYMBOLOGY:

LNC: LINE NUMBER CHANGE
XXXX | YYYY CAMBIO CLASE DE CAÑERIAS
PROCESS LINE
SIGNAL LINE

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train –CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
4	NUEVOS TAGS DE LÍNEAS, PSVS Y RO	31.AGO.22		JRS	GCC	GDG
3	DESAEREADORES EN PARALELO (ANCAP)	04/09/17	NSS	PAA		
2	REV. AS BUILT 2003	30.JUL.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	PDA	PDA	PDA
A	PRELIMINARY FOR COMMENTS	8/02/02	PDA	PDA	PDA	PDA

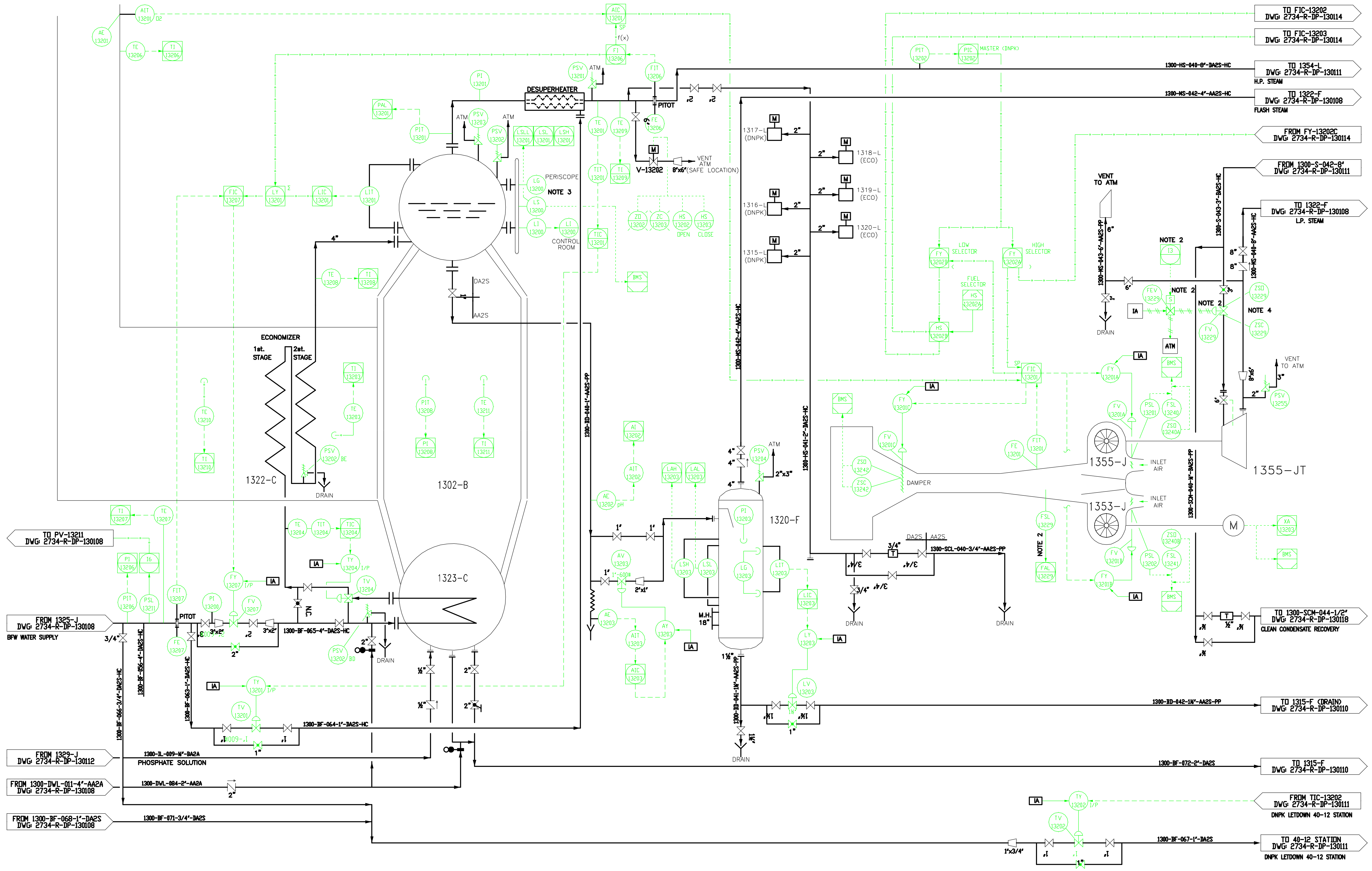
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

UNIT 1300
BFW SUPPLY TO BOILERS

P&ID

2734-R-DP-130108
S/E
B100/20134
4
REVISION



1302-B
DNPK BOILER (DENAPAK)

DESIGN FLOW= 30 tn/hr
DESIGN TEMPERATURE= 430 °C
DESIGN PRESSURE= 47 kgf/cm2g

1322-C
DNPK ECONOMIZER

HEATING SURFACE= 230 m2
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1320-F
PURGE FLASH TANK

DIAMETER =
DESIGN TEMPERATURE=
DESIGN PRESSURE=

1353-J
ELECTRIC AIR FAN

1355-J
TURBINE AIR FAN

1315-L
BLOWER N° 1
(RETRACTABLE)

1316-L
BLOWER N° 2

1317-L
BLOWER N° 1

1318-L
BLOWER N° 2

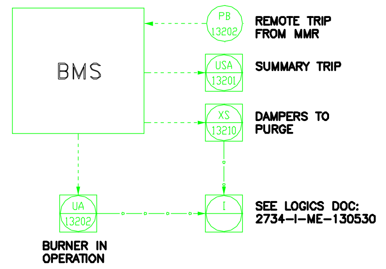
1319-L
BLOWER N° 3

1320-L
BLOWER N° 4

NOTES:

1– FINAL CHECKING AT SITE SHALL BE NECESSARY IN ORDER TO UPDATE THIS DIAGRAM.
2–
3– THREE PROBE SYSTEM ALL PROBE SWITCHES WIRED TO RELAYS. LOW LOW SWITCHES CONNECTED TO BMS. (LSLL–13201).
4– INDICATION ON DCS TO BE DONE LATER BY ANCAP.

DETAIL:



REFERENCES:

P&ID: 2734–R–DP–130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734–R–DP–130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734–R–DP–130107 Demineralized Water Supply.
P&ID: 2734–R–DP–130108 Boiler Feed Water Supply.
P&ID: 2734–R–DP–130110 CE Boiler.
P&ID: 2734–R–DP–130111 Steam Letdown Stations.
P&ID: 2734–R–DP–130112 Auxiliary Facilities Boiler Area.
P&ID: 2734–R–DP–130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734–R–DP–130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734–R–DP–130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734–R–DP–130116 F.O. Train –CE Boiler.
P&ID: 2734–R–DP–130117 Low Pressure Steam Manifold.
P&ID: 2734–R–DP–130118 Condensate Recovery System.
P&ID: 2734–R–DP–130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
3	VÁLV. PURGA CONTÌNUA Y RELEV. EN CAMPO	26.MAY.22		JRS		
2	REV. AS BUILT 2003	09.AUG.03	PDA	PPA	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA
A	PRELIMINARY FOR COMMENTS	8/02/02	PDA	PDA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

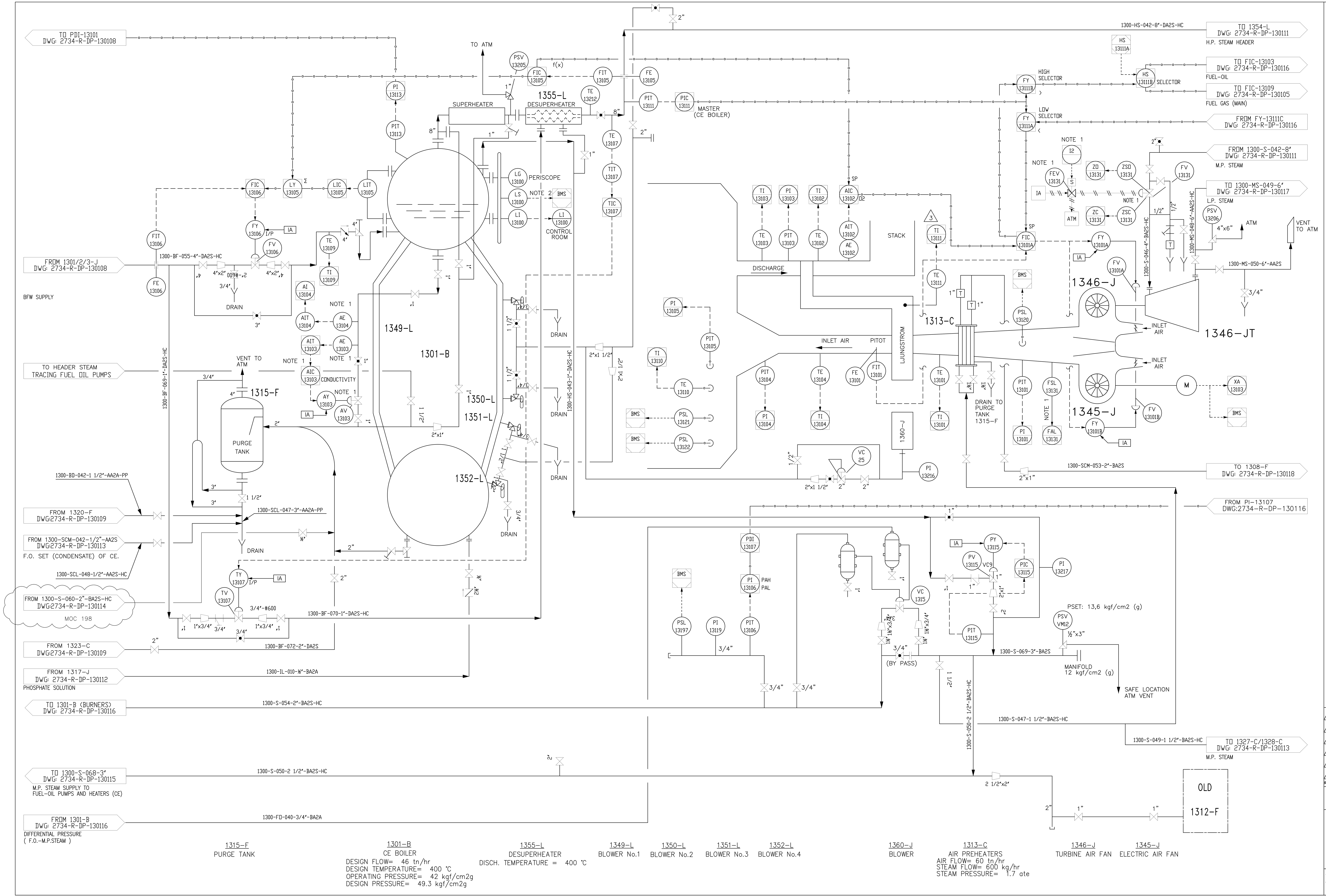
TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
DNPK BOILER

P&ID

2734–R–DP–130109
S/E
B100/20134
3
REVISION

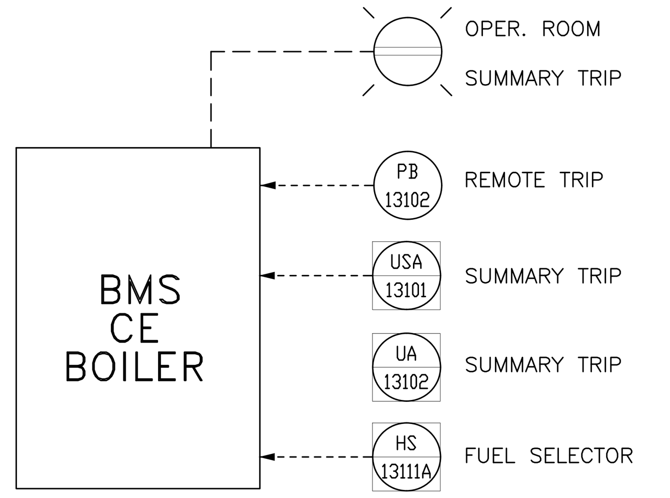


NOTES:

1- TO BE INSTALLED BY ANCAP (FUTURE).

2- FOUR PROBE SYSTEM. (LHH, LH, L, LL).

DETAIL:



REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
4	SE ELIMINA 1300-S-040-2"-BA2S	18.ABR.18		JRS		
3	TE 13111	29.MAR.05	JFB	DIM	AAE	
2	REV. AS BUILT 2003	09.AUG.03	PDA	PPA	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA
A	PRELIMINARY FOR COMMENTS	8/02/02	PDA	PDA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

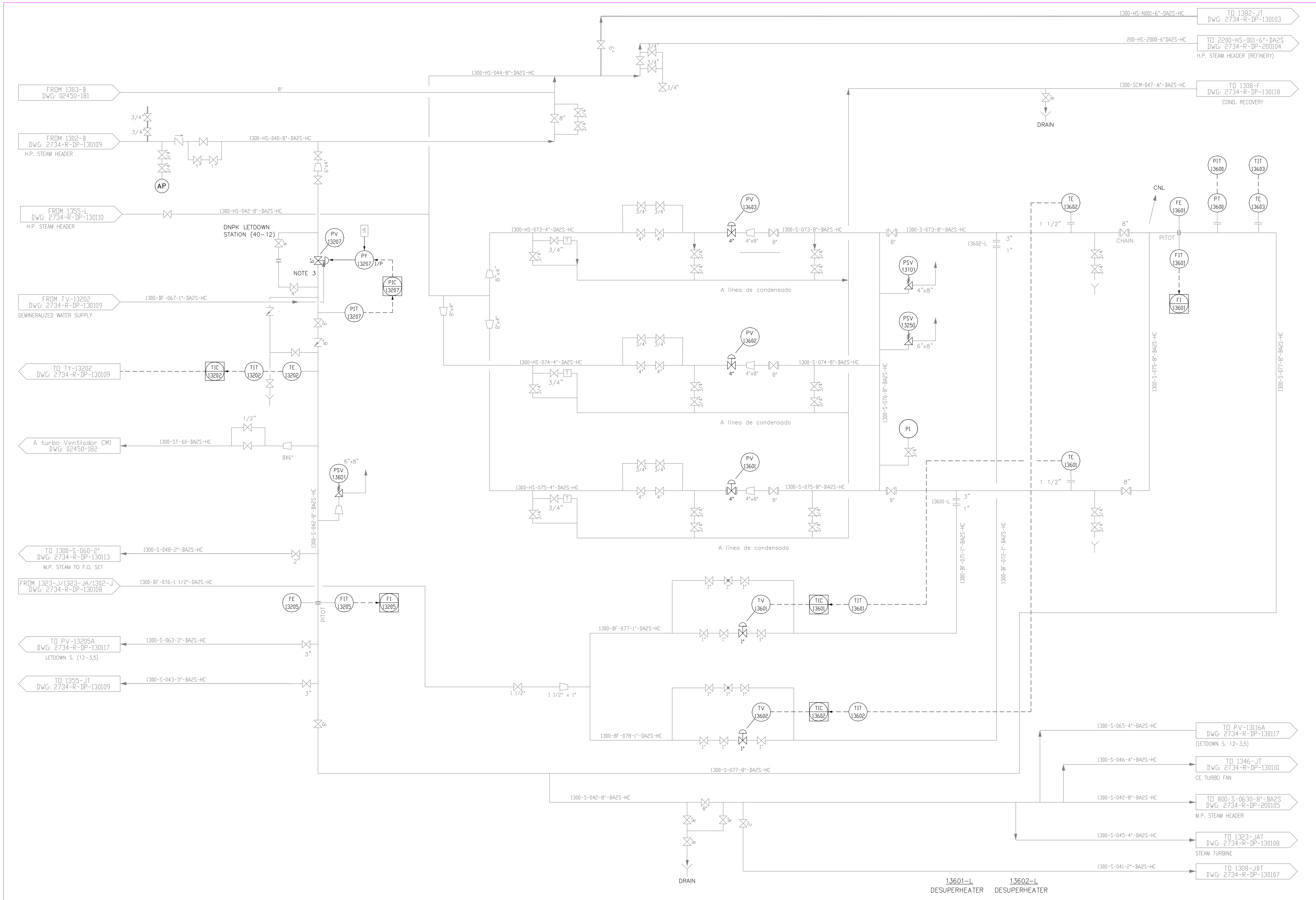
UNIT 1300
CE BOILER

P&ID

2734-R-DP-130110

S/E B100/20134

REVISION 4



SYMBOLOLOGY:

LNC : LINE NUMBER CHANGE

: NEW LINE

: TO BE DISMANTLED BY ANCAP

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).
P&ID: 02450-181 P&ID Caldera CMI.

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
3	ACTUALIZACIÓN 2017	26.FEB.24		CSL		GDD
2	REV. AS BUILT 2003	11.AUG.03	PDA	PPA	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA
A	PRELIMINARY FOR COMMENTS	8/02/02	PDA	PDA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300

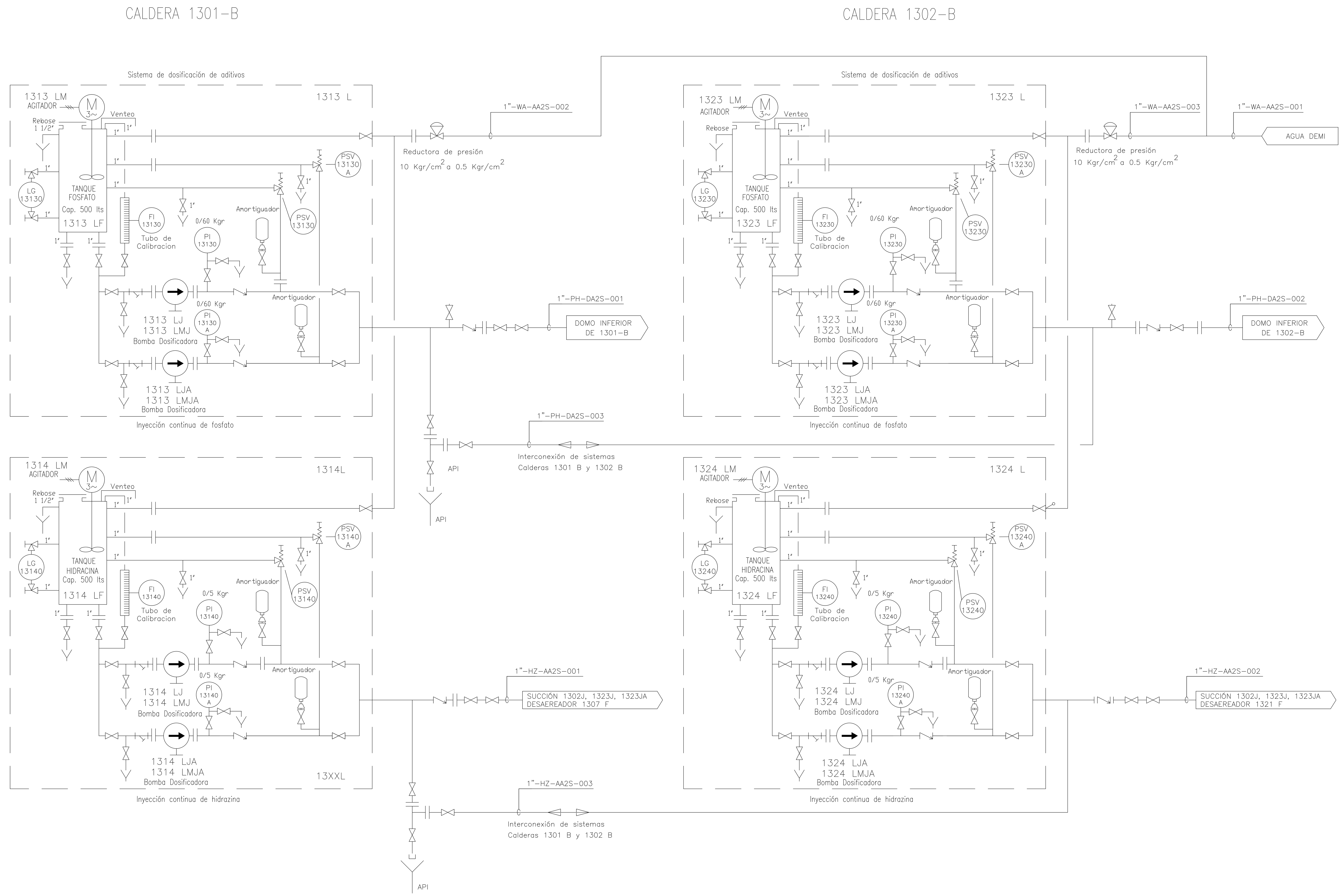
STEAM LETDOWN STATIONS

P&ID

2734-R-DP-130111

S/E B100/20134

REVISION 3



NOTES:

1– LOGIC TO BE IMPLEMENTED ON DCS.

2 _ Se instala un sistema de inyección continua para la dosificación de aditivos en las calderas 1301–B y 1302B.

REFERENCES:

P&ID: 2734–R–DP–130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734–R–DP–130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734–R–DP–130107 Demineralized Water Supply.
P&ID: 2734–R–DP–130108 Boiler Feed Water Supply.
P&ID: 2734–R–DP–130109 DNPK Boiler.
P&ID: 2734–R–DP–130110 CE Boiler.
P&ID: 2734–R–DP–130111 Steam Letdown Stations.
P&ID: 2734–R–DP–130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734–R–DP–130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734–R–DP–130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734–R–DP–130116 F.O. Train –CE Boiler.
P&ID: 2734–R–DP–130117 Low Pressure Steam Manifold.
P&ID: 2734–R–DP–130118 Condensate Recovery System.
P&ID: 2734–R–DP–130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
4	Revisado por Operaciones	Nov.21	GDG			
3	Ver nota 2	SET.21	GDG			
2	REV. AS BUILT 2003	11.AGO.03	PDA	PPA	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA
A	PRELIMINARY FOR COMMENTS	8/02/02	PDA	PDA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

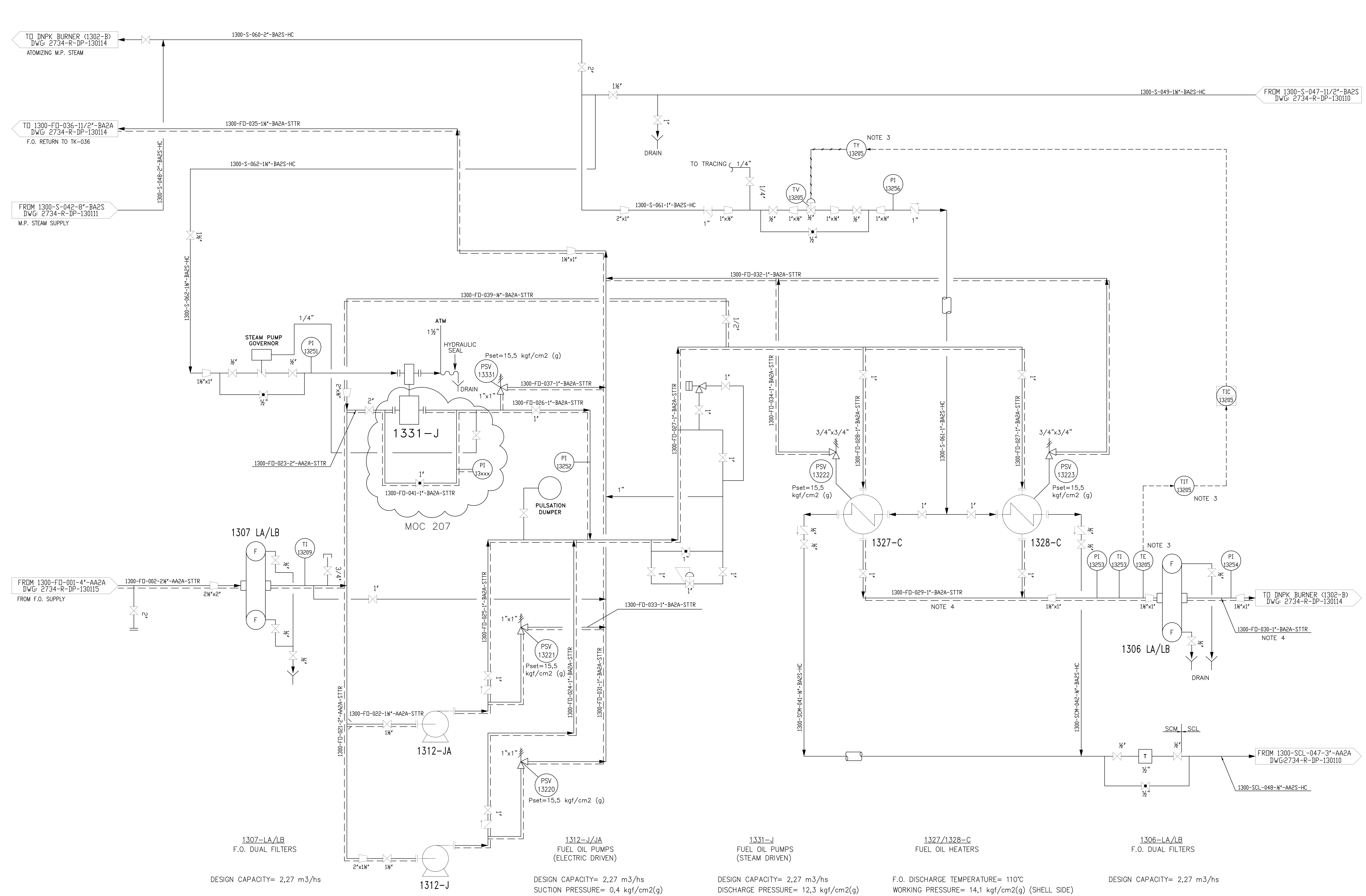
UNIT 1300
AUXILIARY FACILITIES–BOILERS AREA

P&ID

2734–R–DP–130112

S/E B100/20134

4
REVISION



1307-LA/LB F.O. DUAL FILTERS	1312-J/JA FUEL OIL PUMPS (ELECTRIC DRIVEN)	1331-J FUEL OIL PUMPS (STEAM DRIVEN)	1327/1328-C FUEL OIL HEATERS	1306-LA/LB F.O. DUAL FILTERS
DESIGN CAPACITY= 2,27 m3/hs	DESIGN CAPACITY= 2,27 m3/hs SUCTION PRESSURE= 0,4 kgf/cm2(g) DISCHARGE PRESSURE= 14,1 kgf/cm2(g) POWER= 5 HP (1500 RPM)	DESIGN CAPACITY= 2,27 m3/hs DISCHARGE PRESSURE= 12,3 kgf/cm2(g)	F.O. DISCHARGE TEMPERATURE= 110°C WORKING PRESSURE= 14,1 kgf/cm2(g) (SHELL SIDE)	DESIGN CAPACITY= 2,27 m3/hs

NOTES:

1- ALL PIPE IS SCH. 80; ASTM A53 SEAMLESS.

2- ALL FITTING IS:

PUMP SUCTION SIDE: #150
PUMP DISCHARGE: #300

3- TIT-13205, IS TO BE NEW.
TE/TY 13205 ARE EXISTING.

4- EXISTING FUEL OIL PIPING CLASS TO BE CONFIRMED.

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2	MOC 207 - MANIOBRA DE PRUEBA 1331-J	26.DIC.14	JRS	RBM		
1	REV. AS BUILT 2003	11.AGO.03	PDA	PPA	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA

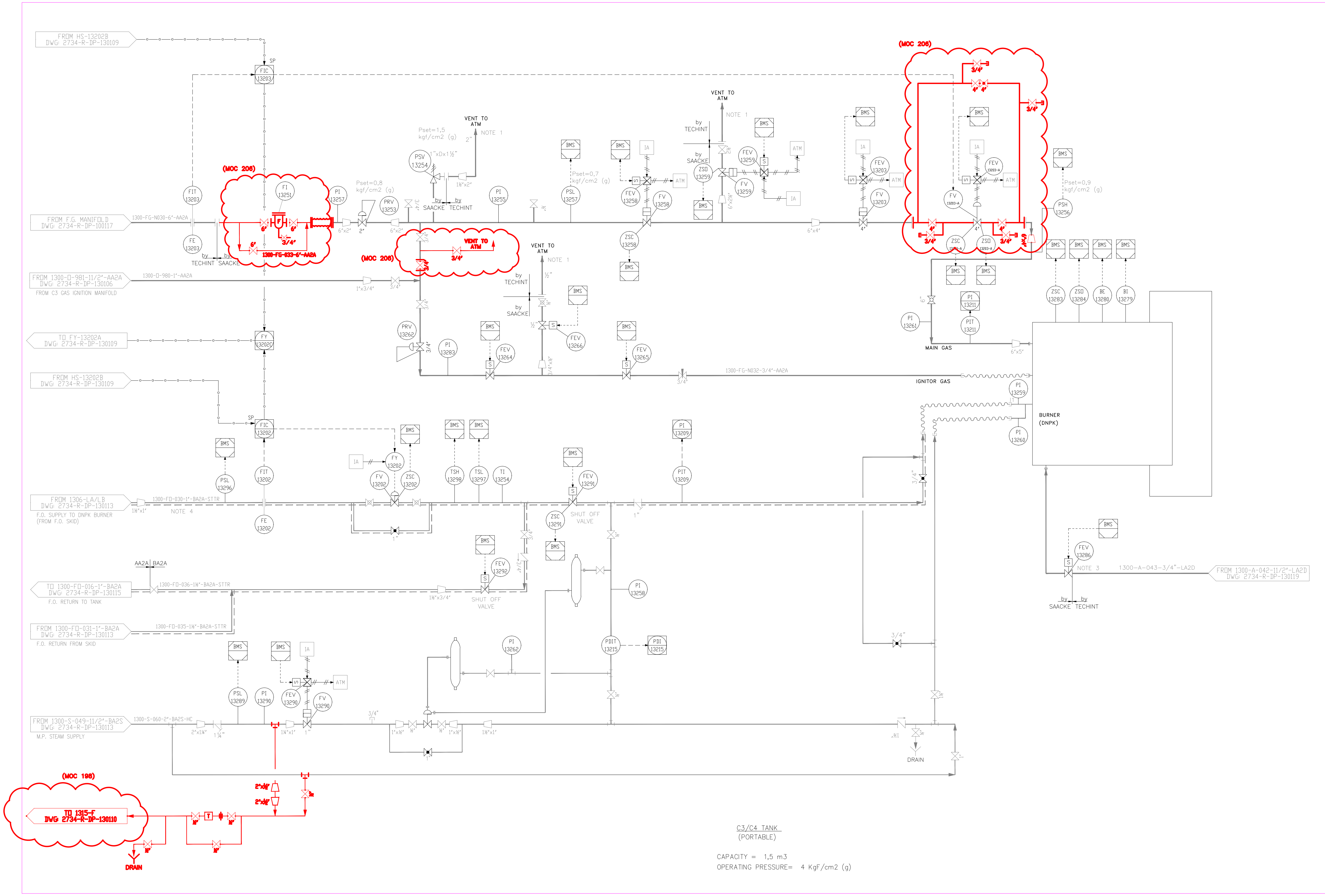
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
FUEL OIL PUMPS AND HEATER SET
DNPK BOILER
P&ID

2734-R-DP-130113
S/E B100/20134
REVISION 2



NOTES:

1– VENTS TO ATMOSPHERA SHALL HAVE A DISCHARGE LINE THAT ENDS AT LEAST 3 METERS ABOVE ANY PLATFORM OR WORKING AREA.

2– FOR BURNER ASSEMBLY SEE VENDO INFO.

3– SUPPLY PRESSURE= 4kgf/cm2 (g)(MIN.) INSTRUMENT AIR.

4– EXISTING FUEL OIL PIPING CLASS TO BE CONFIRMED.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE

NEW LINE

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train –CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
—						
3 —	MOC 206–BYPASS FILTRO Y VALV. DE GAS	23.DIC.14	JRS	RBM		
2 —	REV. AS BUILT 2003	11.AUG.03	PDA	SPI	PDA	PDA
1 —	MODIFIED AS INDICATED.	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA

ANCAP

EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300

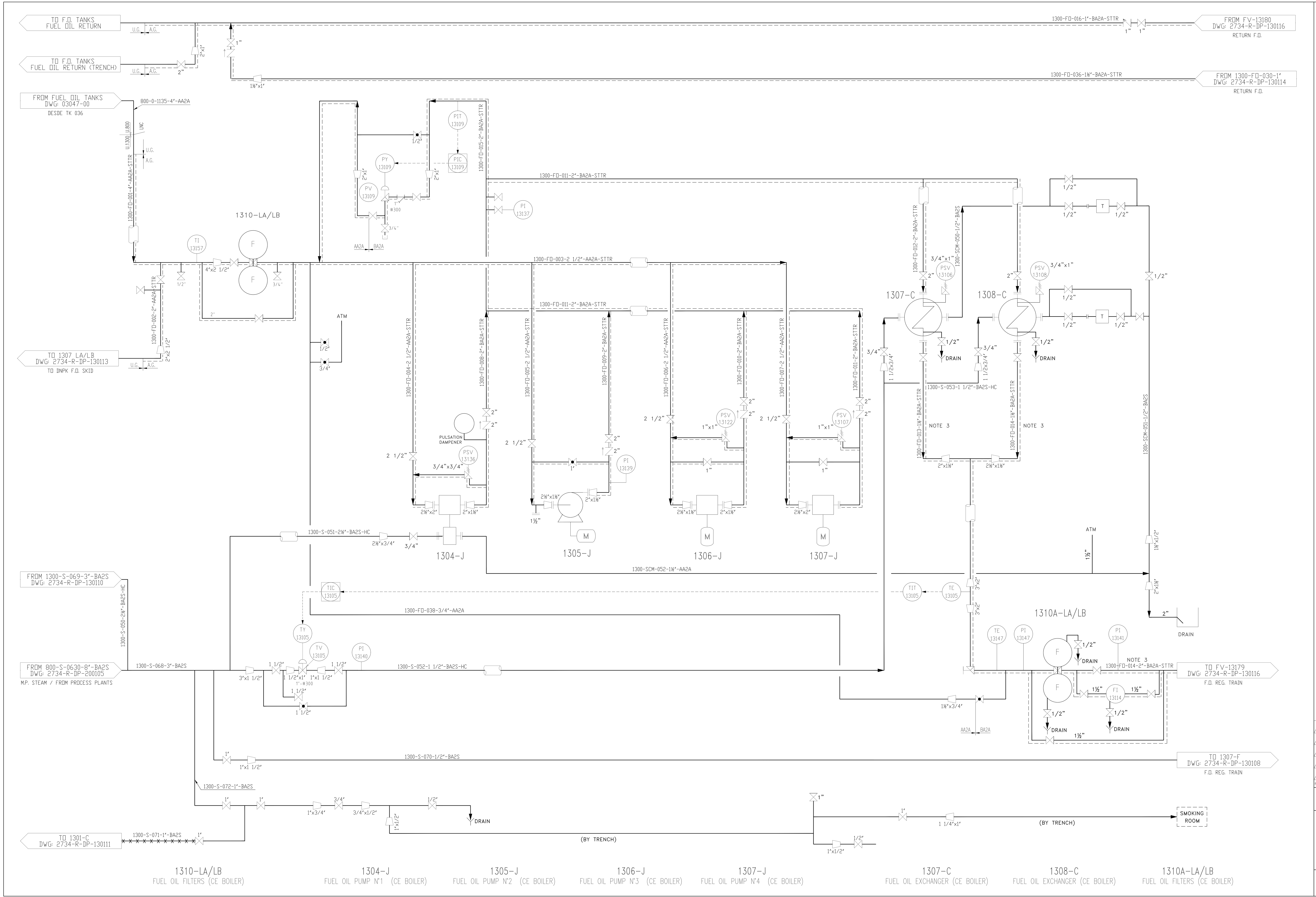
F.O.–F.G. MAIN AND IGNITOR TRAINS DNPK BOILER

P&ID

2734–R–DP–130114

S/E | B100/20134

REVISION 3



NOTES:

1- ALL FUEL OIL LINES ARE STEAM TRACED.

2- DELETED.

3- EXISTING FUEL OIL PIPING CLASS TO BE CONFIRMED.

REFERENCES:

x x x x TO BE DISMANTLED BY ANCAP.

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734-R-DP-130116 F.O. Train –CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
—						
3	VINCULO DWG: 03047-00	05.ABR.22		ISR		
2	REV. AS BUILT 2003	11.AGO.03	PDA	PPA	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	PDA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB
ABB LUMMUS CREST

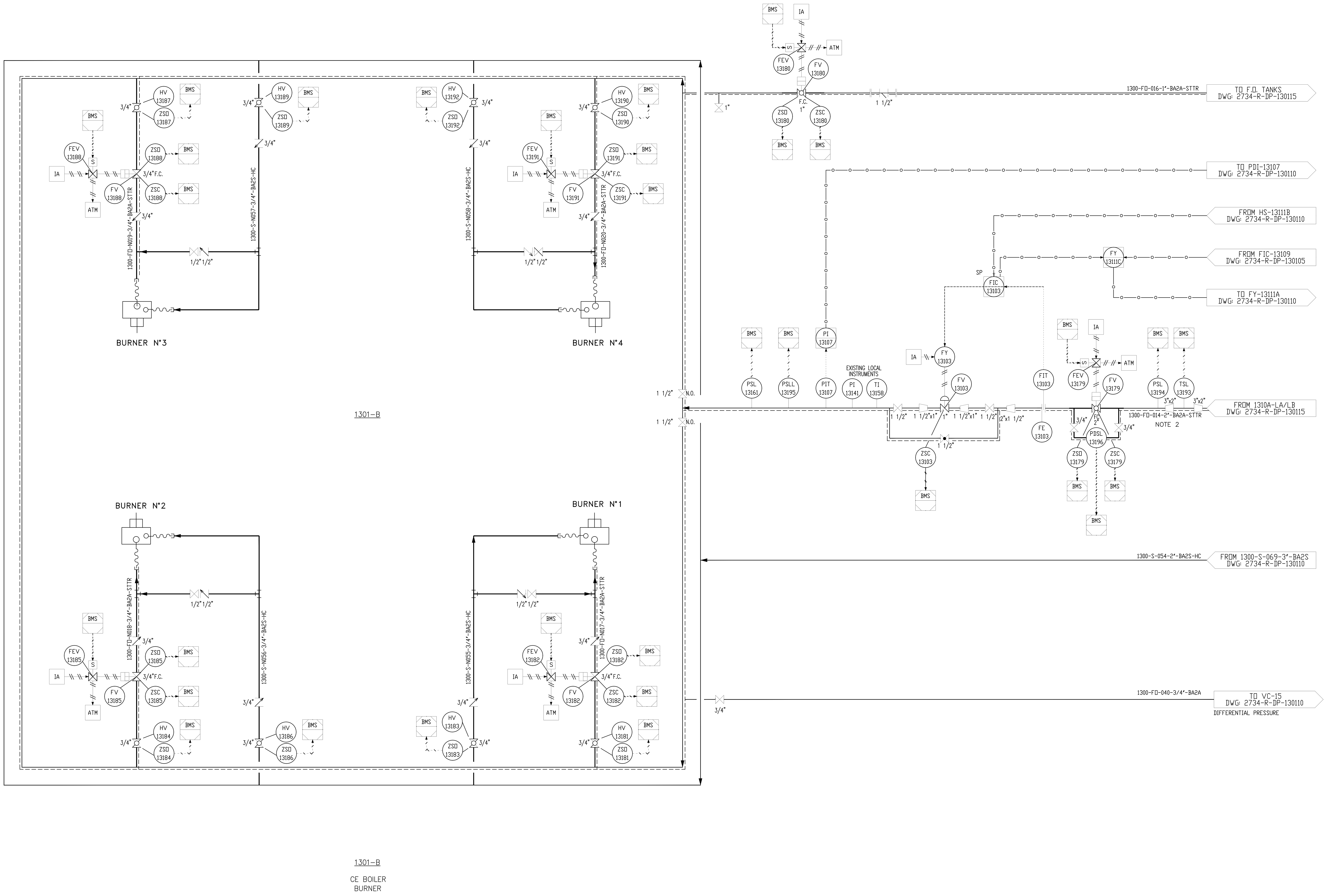
FUEL OIL PUMPS AND HEATER SET CE BOILER

P&ID

2734-R-DP-130115

S/E

REVISION 3



NOTES:

1.- EXISTING MANUAL VALVE TO BE REPLACED BY BLOCK ONE (ON OFF, TAG: FV-13180).

2.- EXISTING FUEL OIL PIPING CLASS TO BE CONFIRMED.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE

: NEW LINE

REFERENCES:

P&ID: 2734–R–DP–130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734–R–DP–130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734–R–DP–130107 Demineralized Water Supply.
P&ID: 2734–R–DP–130108 Boiler Feed Water Supply.
P&ID: 2734–R–DP–130109 DNPK Boiler.
P&ID: 2734–R–DP–130110 CE Boiler.
P&ID: 2734–R–DP–130111 Steam Letdown Stations.
P&ID: 2734–R–DP–130112 Auxiliary Facilities Boiler Area.
P&ID: 2734–R–DP–130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734–R–DP–130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734–R–DP–130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734–R–DP–130117 Low Pressure Steam Manifold.
P&ID: 2734–R–DP–130118 Condensate Recovery System.
P&ID: 2734–R–DP–130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2	REV. AS BUILT 2003	11.AUG.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	PDA	PDA	PDA

ANCAP

EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT

ABB LUMMUS CREST

UNIT 1300

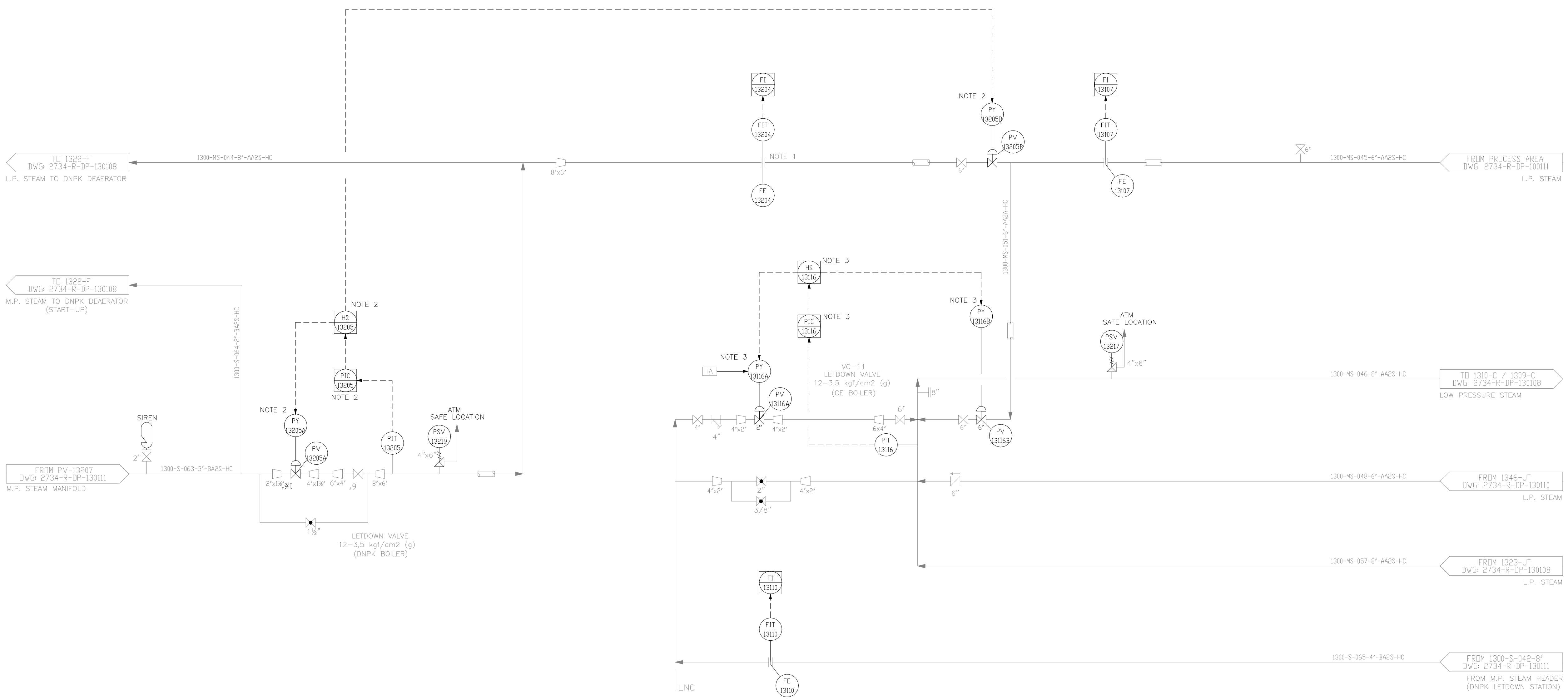
FUEL OIL TRAIN CE BOILER

P&ID

2734–R–DP–130116

S/E B100/20137

REVISION 2



NOTES:

1- FE-13204 TO BE NEW.

2- CONTROL LOOP PY-13205B/HS-13205 AND PY-13205A TO BE DONE IN THE FUTURE BY ANCAP.

3- CONTROL LOOP PY-13116A/B/HS-13116 AND PIC-13116 TO BE DONE IN THE FUTURE BY ANCAP.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE

: NEW LINE

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid – Main Gas Train –CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid – Ignitor Gas Train –CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set –DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.– F.O. Main and Ignitor Gas Train –DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set –CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train –CE Boiler.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
3	NUEVA LÍNEA 1300–MS–057–8"	31.AGO.22		JRS	GCC	GDG
2	REV. AS BUILT 2003	29.JUL.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA

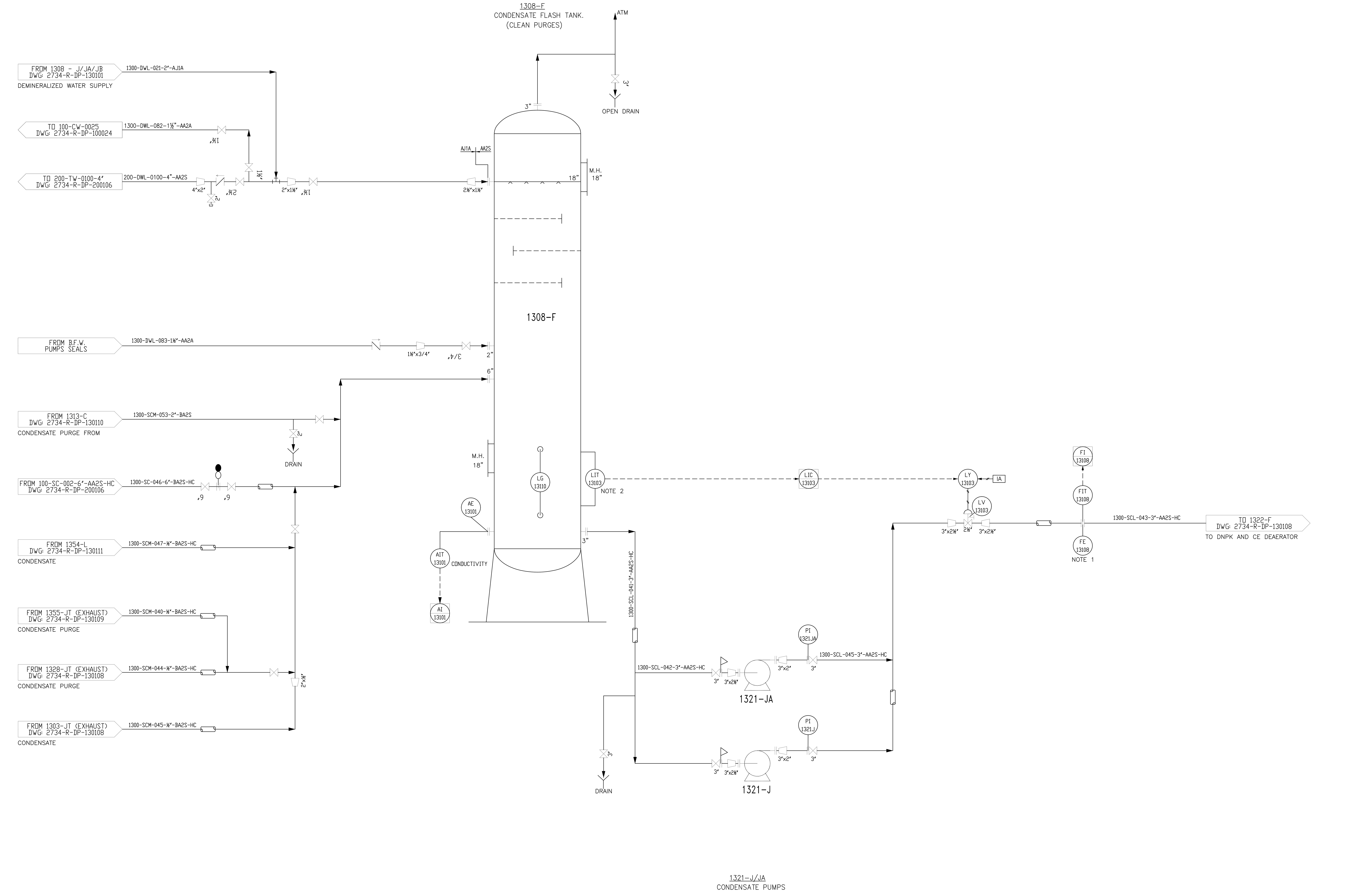
ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT
ABB LUMMUS CREST

UNIT 1300
LOW PRESSURE STEAM MANIFOLD LETDOWN STATION VALVES
P&ID

2734–R–DP–130117 | REVISION 3
S/E | B100/20134



NOTES:

1- FE-13108 TO BE NEW.
2- LIT-13103 TO BE NEW.

SYMBOLOGY:

LNC: LINE NUMBER CHANGE
: NEW LINE

REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2	REV. AS BUILT 2003	29.JUL.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA

ANCAP

EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT

ABB LUMMUS CREST

UNIT 1300

CLEAN CONDENSATE RECOVERY SYSTEM

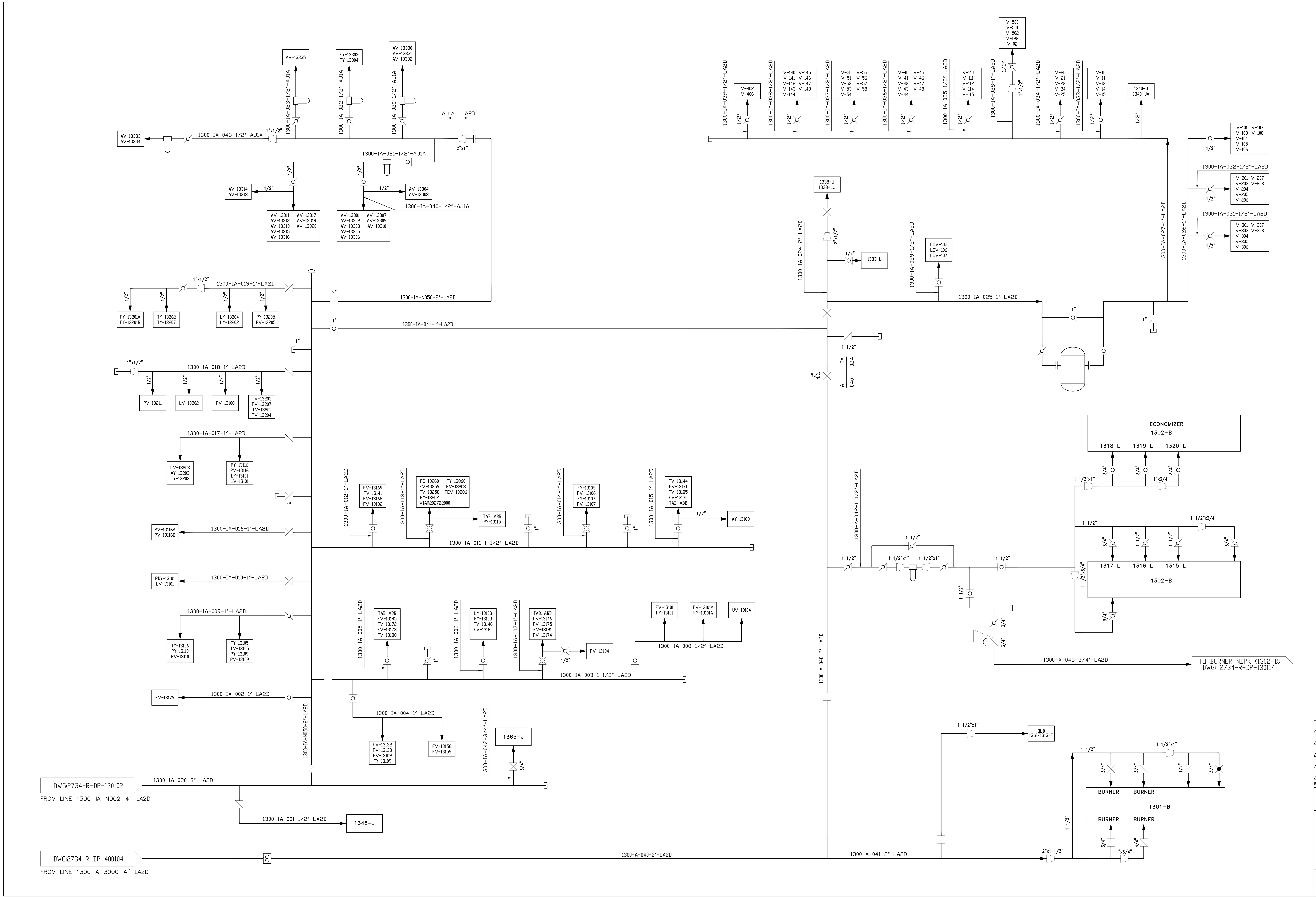
P&ID

2734-R-DP-130118

S/E

B100/20134

REVISION 2



REFERENCES:

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130107 Demineralized Water Supply.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.

REV./QTY.	DESCRIPTION	DATE	PROJ.	BY	CONTR.	APPROB.
2	REV. AS BUILT 2003	11.AUG.03	PDA	SPI	PDA	PDA
1	MODIFIED AS INDICATED	01.NOV.02	PDA	HEG	PDA	PDA
0	FOR CONSTRUCTION	27.SEP.02	PDA	HEG	PDA	PDA

ANCAP

EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

TECHINT

ABB LUMMUS CREST

UNIT 1300

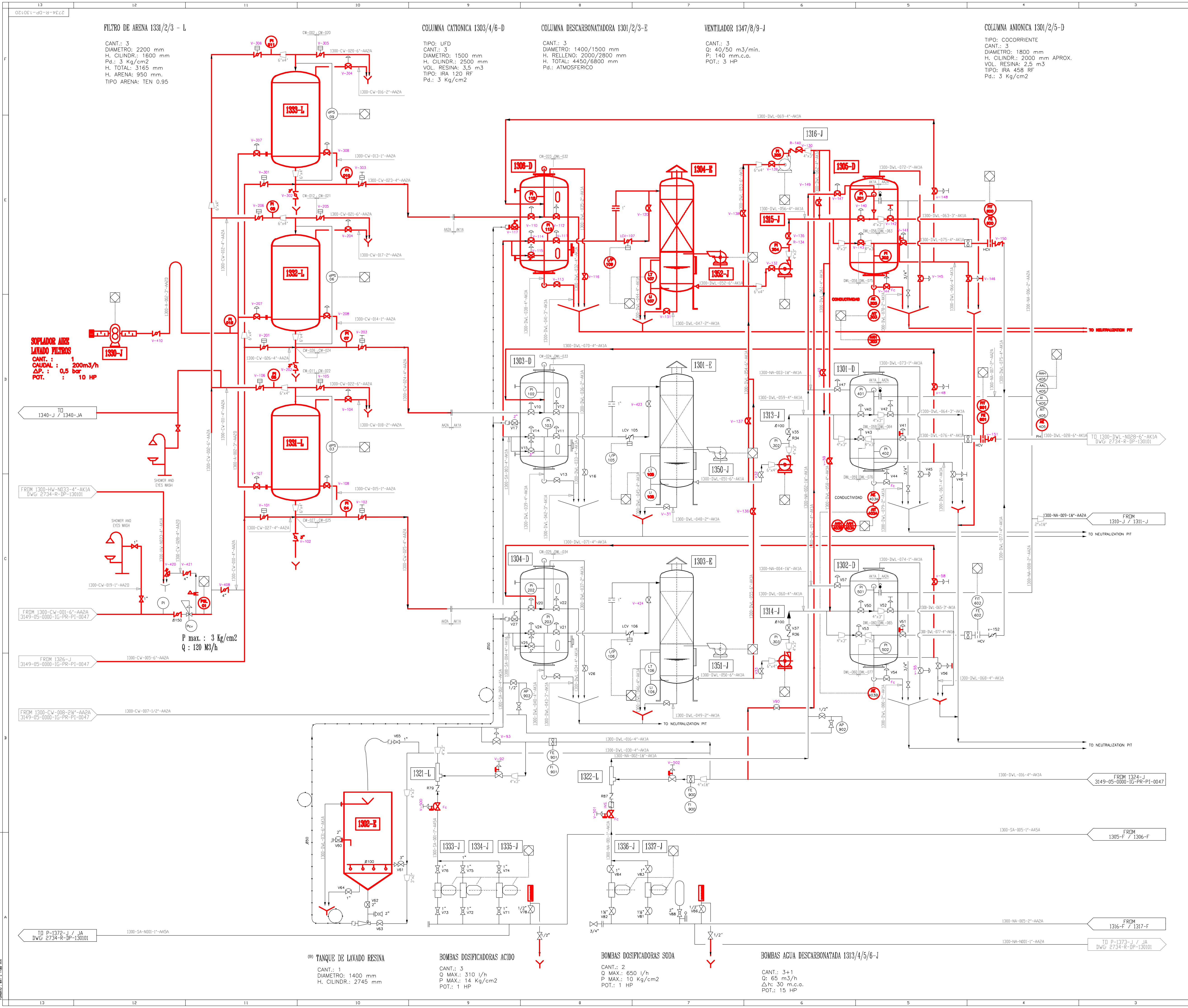
INSTRUMENT AIR AND PLANT AIR SUPPLY. (BOILER AREA)

P&ID

2734-R-DP-130119

S/E B100/20134

REVISION 2



NOTAS:

1- AC = ACERO AL CARBONO (VER ESPECIFICACIÓN DE CAÑERIA DE DEGRÉMONT).
2- AI = ACERO INOXIDABLE (VER ESPECIFICACIÓN DE CAÑERIA DE DEGRÉMONT).

ESPECIFICACIÓN DEGRÉMONT

AC.1 _ Agua Filtrada y Soda Cáustica Concentrada.
AC.2 _ Acido Sulfúrico Concentrado.
AI.1 _ Agua Desmineralizada, Soda Cáustica Diluida y Acido Diluido.

SIMBOLOGIA DE VALVULAS

- VALVULA MARIPOSA CON ACTUADOR MANUAL.
- VALVULA MARIPOSA CON ACTUADOR NEUMATICO DOBLE EFECTO.
- VALVULA A DIAFRAGMA CON ACTUADOR NEUMATICO SIMPLE EFECTO NORMAL ABIERTO.
- VALVULA A DIAFRAGMA CON ACTUADOR MANUAL.
- VALVULA A DIAFRAGMA CON ACTUADOR NEUMATICO SIMPLE EFECTO NORMAL ABIERTO Y LIMITE DE APERTURA.
- VALVULA A DIAFRAGMA CON ACTUADOR NEUMATICO SIMPLE EFECTO NORMAL ABIERTO Y LIMITE DE APERTURA- LIMITE DE CARRERA.
- VALVULA A DIAFRAGMA CON ACTUADOR NEUMATICO SIMPLE EFECTO NORMAL CERRADO Y LIMITE DE APERTURA- LIMITE DE CARRERA.
- FLEXIBLE.

rev	descripcion	FECHA REAL	FECHA APR	FECHA V B
2	ACTUALIZADO CONFORME A OBRA	30/09/97 G.A.A.G.		30/09/97 F.L.C
1	CONFORME A OBRA	06/08/97 E.M.P.L.		06/08/97 F.L.C
0	ACTUALIZADO PARA CONSTRUCCION	11/02/97 E.M.P.L.		12/02/97 F.L.C
A	EMISION ORIGINAL	31/10/96 E.M.P.L.		31/10/96 F.L.C

Degrémont
TRATAMIENTO DE AGUAS
Buenos Aires

CLIENTE: ANCAP -URUGUAY 02185-50

escala : S/E

DIAGRAMA DE INGENIERIA

PLANO N°: 5426 _ 001 / 2

EJECUCION NUMERO REV

REV/QTY	DESCRIPTION	DATE	PROJ	BY	CONTR	APPROB
4	ACTUALIZACION DE CLASES DE CAÑERIAS	27.DIC.18		JRS		
3	REV. AS BUILT 2003	11.AUG.03	PDA	PPA	PDA	PDA

ANCAP
EXPANSION OF LA TEJA REFINERY

TECHINT COMPAÑIA TECNICA INTERNACIONAL

UNIT 1300
DEMI WATER PLANT
P&ID

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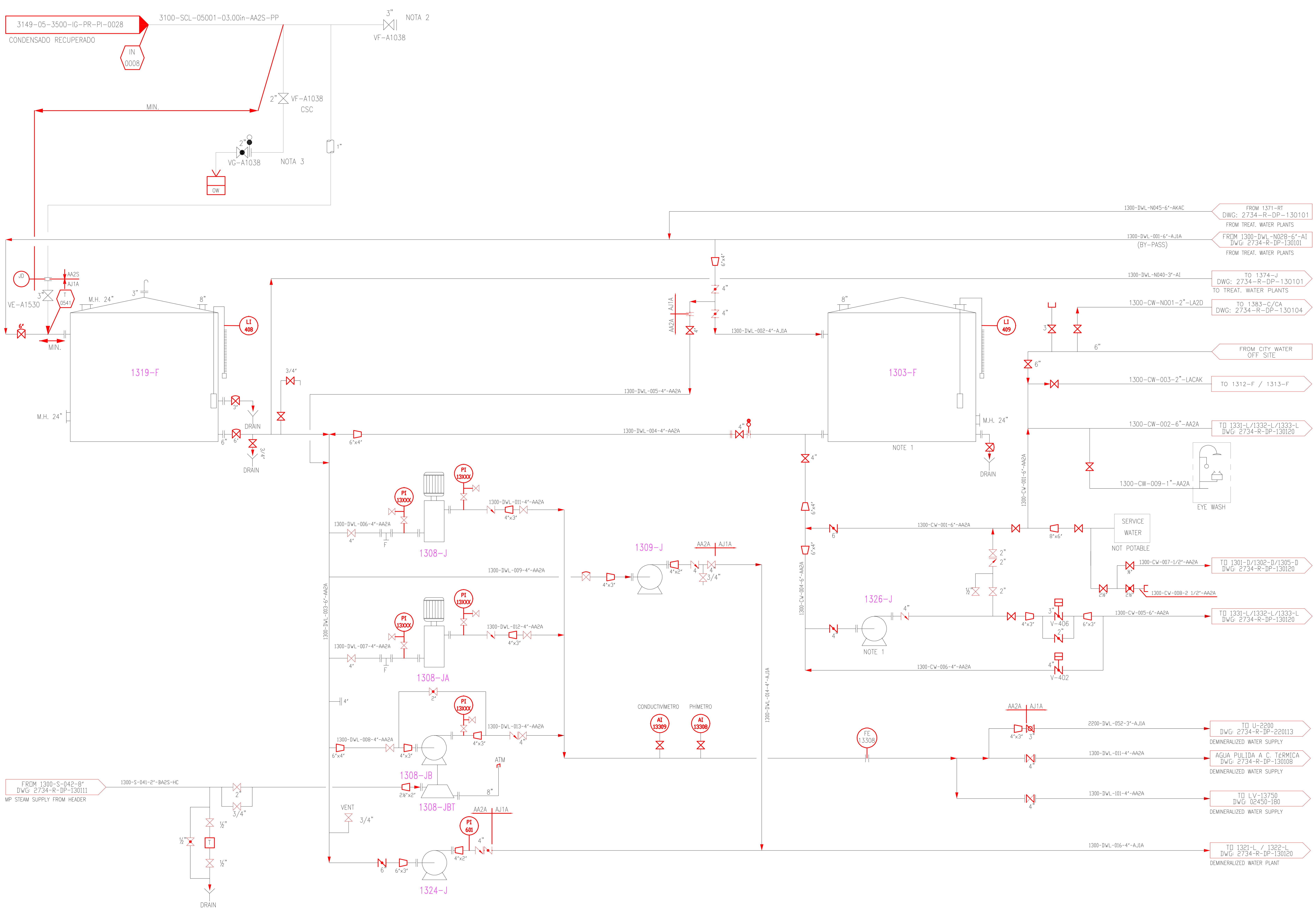
2734-R-DP-130120 4
SCALE:S/E JOB:B100/20134 REVISION



ESTE PLANO SUSTITUYE AL 2734-R-DP-130107

NOTAS

GENERAL NOTES:

ESTE P&ID SUSTITUYE AL 2734-R-DP-130107 Demineralized Water Supply.

SPECIFIC NOTES:

1- FOR DETAILS OF 1303-F AND 1326-J SEE DEGREMONT DWG: 5426-001 / 2

2- CONEXION FUTURA A DESAEREADOR DE CALDERA NUEVA 1303-B.

3- PURGA A UBICAR EN EL PUNTO MAS BAJO DE LA LINEA Y PROXIMO AL BLOQUEO DE MANERA DE PODER DESCONTAMINAR EL TRAMO DE CAÑERIA EN CASO QUE EL CONDUCTIVIMETRO DETECTE CONDENSADO CONTAMINADO EN LA DESCARGA DEL RECUPERADOR 3112-F.

PENDIENTES

REFERENCIAS

EQUIPMENT LIST:

1319-F
DEMINERALIZED WATER TANK
DIAMETER = 9.54 mts.
HEIGHT = 12 mts.
DESIGN PRESSURE= ATM

1324-J
DEMINERALIZED SERVICE WATER
DESIGN FLOWRATE = 45 m3/h
DIFFERENTIAL HEAD= 30 m

1308-J/JA
DEMINERALIZED WATER PUMPS
DESIGN FLOWRATE = 90 m3/h
DIFFERENTIAL HEAD= 75 m

1308-JBT
DEMINERALIZED WATER PUMPS
DESIGN FLOWRATE = 80 m3/h
DIFFERENTIAL HEAD= 75 m

1309-J
DEMINERALIZED WATER PUMPS
DESIGN FLOWRATE =
DIFFERENTIAL HEAD=

1326-J
WASH WATER PUMPS
DESIGN FLOWRATE = 40 m3/h
DIFFERENTIAL HEAD= 40 m

1303-F
WASH WATER TANK
DIAMETER =
HEIGHT =
DESIGN PRESSURE= ATM

LNC: LINE NUMBER CHANGE

P&ID: 2734-R-DP-130105 Fuel Gas Skid - Main Gas Train -CE Boiler.
P&ID: 2734-R-DP-130106 Fuel Gas Skid - Ignitor Gas Train -CE Boiler.
P&ID: 2734-R-DP-130108 Boiler Feed Water Supply.
P&ID: 2734-R-DP-130109 DNPK Boiler.
P&ID: 2734-R-DP-130110 CE Boiler.
P&ID: 2734-R-DP-130111 Steam Letdown Stations.
P&ID: 2734-R-DP-130112 Auxiliary Facilities Boiler Area.
P&ID: 2734-R-DP-130113 Fuel Oil Pumps And Heater Set -DNPK Boiler.
P&ID: 2734-R-DP-130114 F.G.- F.O. Main and Ignitor Gas Train -DNPK Boiler.
P&ID: 2734-R-DP-130115 Fuel Oil Pumps And Heater Set -CE Boiler.
P&ID: 2734-R-DP-130116 F.O. Train -CE Boiler.
P&ID: 2734-R-DP-130117 Low Pressure Steam Manifold.
P&ID: 2734-R-DP-130118 Condensate Recovery System.
P&ID: 2734-R-DP-130119 Instrument Air and Plant Air (Boiler Area).

P&ID: 3149-05-3100-IG-PR-PI-0003 Sistema de recuperación de condensados HTG/SRU.

REV	DENOMINACIÓN	FECHA	EJECUTÓ	REVISÓ	APROBÓ
2	SE ELIMINÓ 1309-JA Y SE INCORPORAN NUEVOS INSTRUMENTOS	18-04-18	JRS	GDG	AFA
CAO	CONFORME A OBRA	01-04-13	SVV	S&W	GVR
1	PARA CONSTRUCCION	01-03-10	LDA	S&W	GVR
0	PARA CONSTRUCCION	15-10-09	LDA	S&W	GVR
A	PARA APROBACION	31-07-09	CSR	S&W	GVR

AESA

CLIENTE: ANCAP

OBM: 3149

	PROYECTÓ	DIBUJÓ	REVISÓ	APROBÓ
INICIAL	LDA	CSR	RIM	RMT
FECHA	31-07-09	31-07-09	31-07-09	31-07-09
FIRMA				

REALIZADO EN AUTOCAD 2006 NO MODIFICAR MANUALMENTE

PROYECTO: GAS OIL Y GASOLINA DE BAJO AZUFRE

TITULO: DEMINERALIZED WATER SUPPLY CONEXIONES DE CONDENSADO RECUPERADO HDS/SRU

AESA N° 3149-05-0000-IG-PR-PI-0047

ANCAP N°

HOJA 1 DE 1

ESCALA S/E

VERSION 1

REVISION 2

A1 - 840 x 594