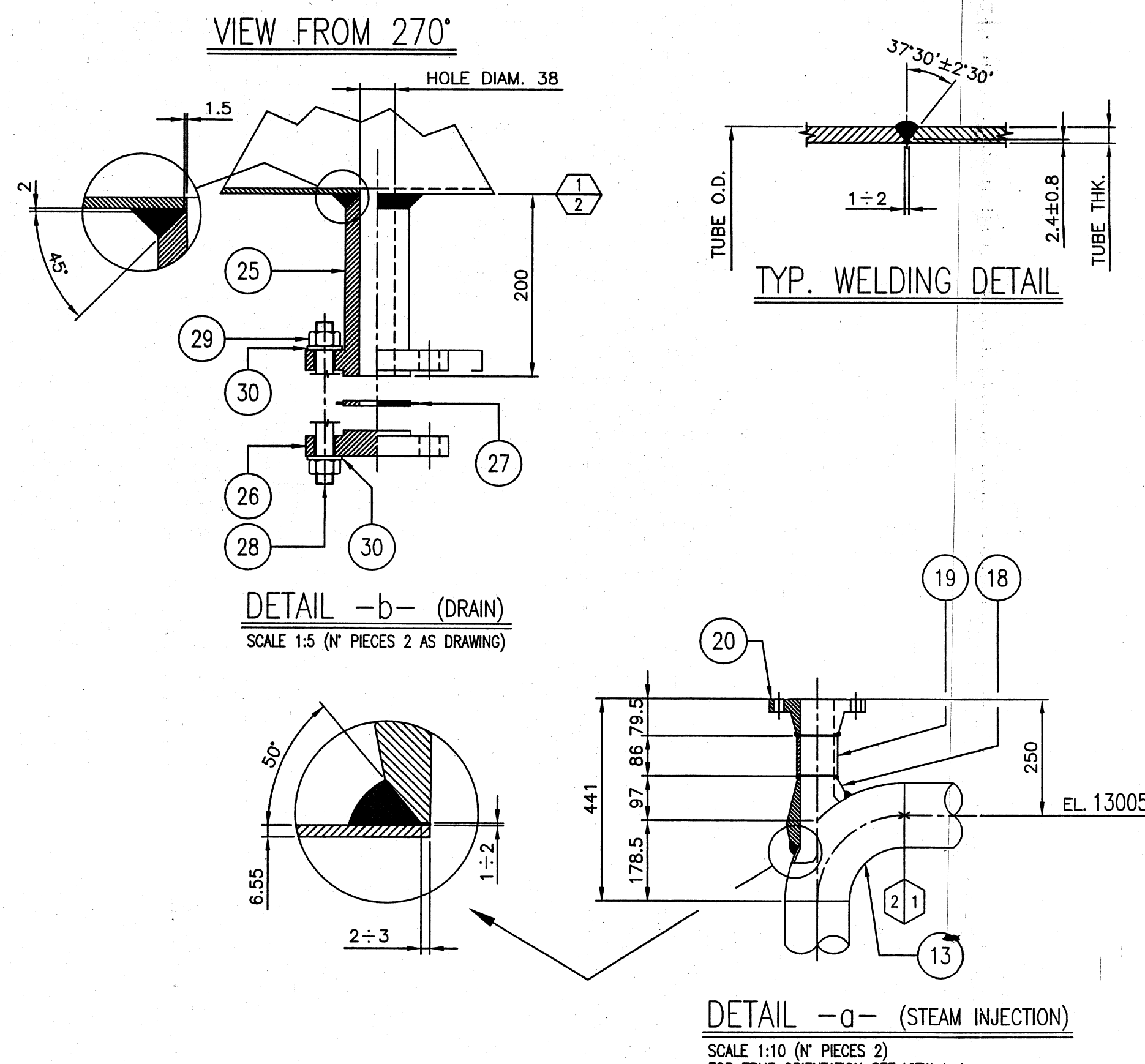
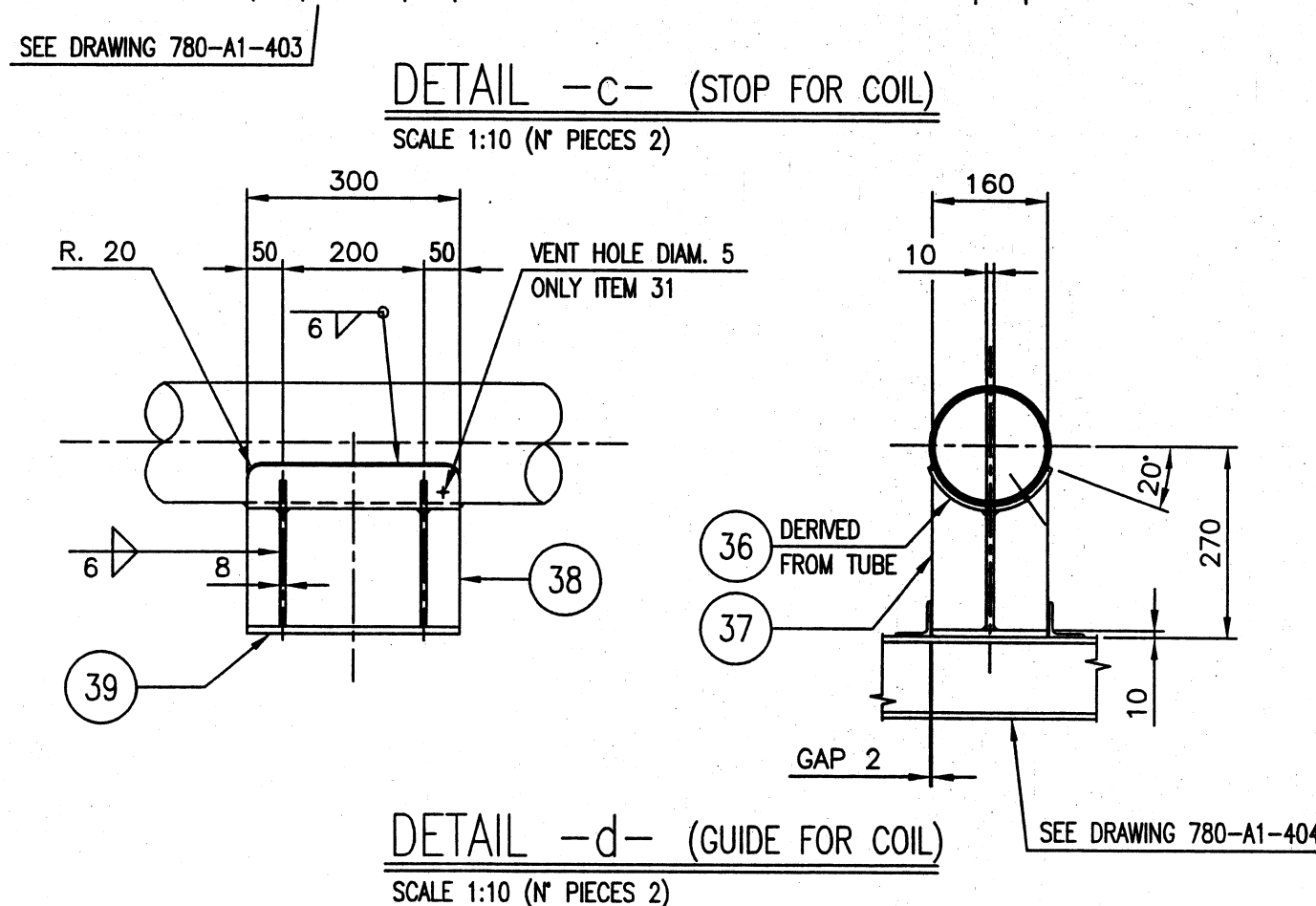
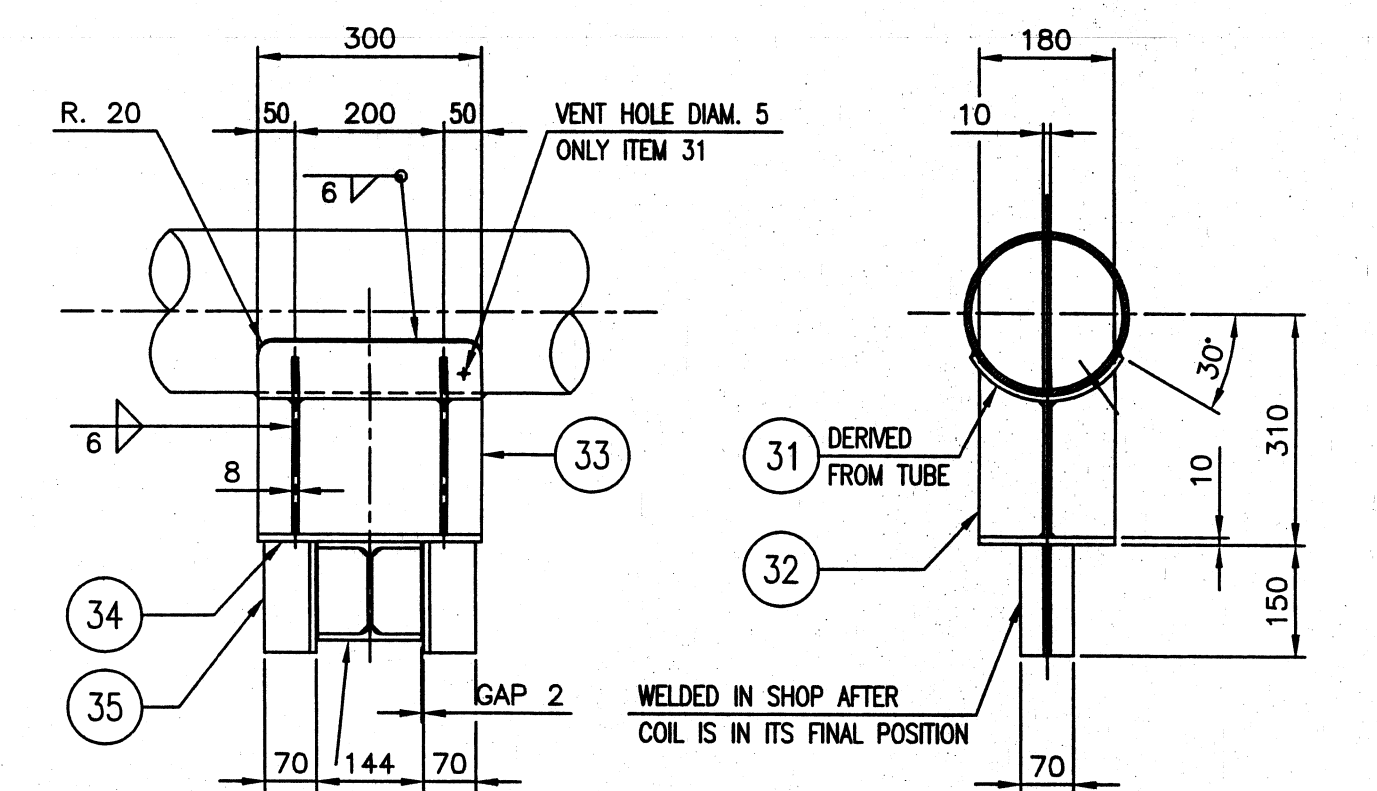
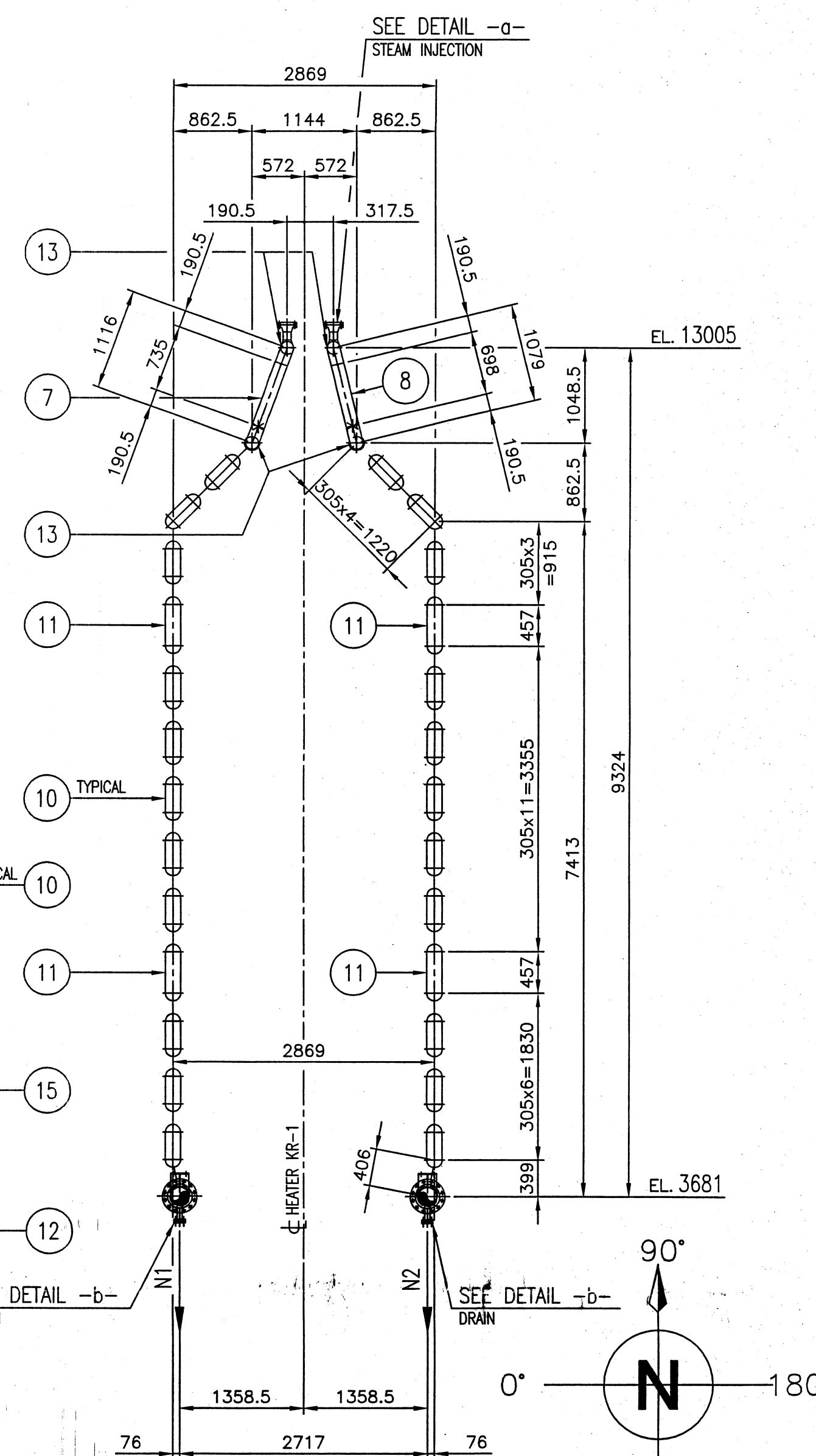
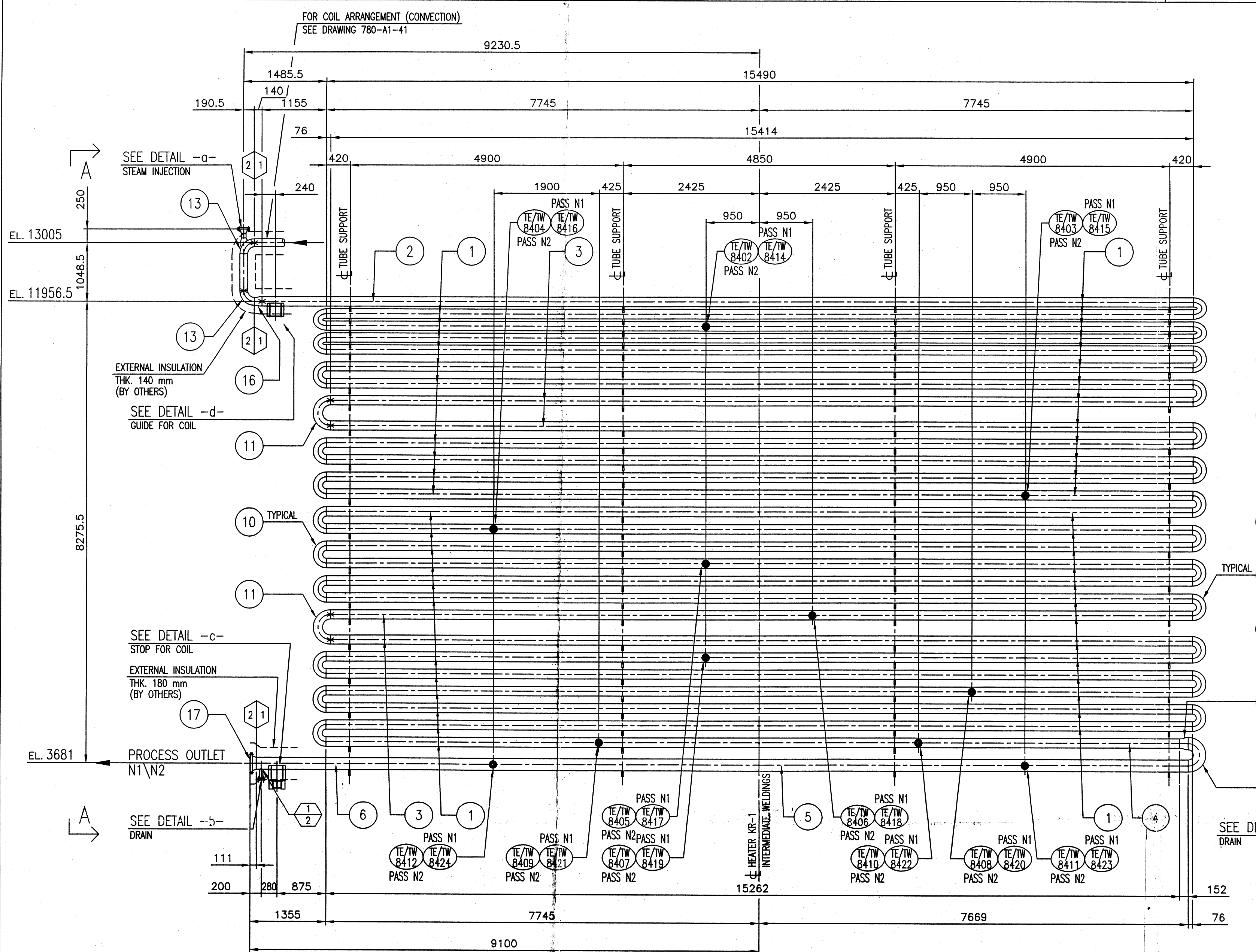




DESIGN AND OPERATING DATA (RADIANT + CONVECTION)				
DESCRIPTION	PROCESS			
TYPE OF FLUID	VISBREAKER RESIDUE			
DESIGN PRESSURE	1200 FV			
OPERATING PRESSURE	700			
HYDROSTATIC TEST PRESSURE	7760			
OPERATING FLUID TEMPERATURE (INLET)	270			
OPERATING FLUID TEMPERATURE (OUTLET)	393			
DESIGN FLUID TEMPERATURE	425			
DESIGN CASE	1	2	3	4
DESIGN TUBE WALL TEMPERATURE (MAX)	630	425	450	350
DESIGN TUBE WALL TEMPERATURE (MIN)	-28			
PED CATEGORY	IV, MOD. G			
CORROSION ALLOWANCE	mm			
PED FLUID GROUP	4			
TOTAL CAPACITY	litre			
TOTAL FLOW RATE	22492			
TOTAL EXPOSED SURFACE	kg/h			
TOTAL DUTY	221.875			
DESIGN CODE	API 530			
ITEM	KR-1			
SERIAL No.	12-310			

WELDING SPECIFICATIONS	
CODE	EN 15614-1
TUBE MATERIAL	A 335 P91
FITTINGS MATERIAL	A 234 WP91
FLANGES MATERIAL	A 182 F91
JOINT EFFICIENCY	1
WELD INSPECTION REQUIREMENTS	YES
WELDING PROCEDURE	YES
WELDING SPECIFICATION	YES
PROCEDURE QUALIFICATION	YES
WELDER QUALIFICATION	YES
X-RAY (SHOP)	100%
X-RAY (FIELD)	100%
STRESS RELIEVING	YES
HARDNESS TEST	YES
SHOP WELDS (DN/N)	5°/N90-6°/N154-8°/N8
FIELD WELDS (DN/N)	5°/N4-6°/N10

MATERIAL LIST					
ITEM	Q.TY REQ'D.	DESCRIPTION	LENGTH (mm)	MATERIAL CERTIFICATE	NOTES
1	96	TUBE O.D. 168.3 THK. 7.11 A.W.	7745	YES	A 335 P91
2	2	TUBE O.D. 168.3 THK. 7.11 A.W.	8900	YES	A 335 P91 +100 FOR ADJ.
3	8	TUBE O.D. 168.3 THK. 7.11 A.W.	7669	YES	A 335 P91
4	2	TUBE O.D. 168.3 THK. 7.11 A.W.	7517	YES	A 335 P91
5	2	TUBE O.D. 219.1 THK. 8.18 A.W.	7669	YES	A 335 P91
6	2	TUBE O.D. 219.1 THK. 8.18 A.W.	8989	YES	A 335 P91
7	1	TUBE O.D. 141.3 THK. 6.55 A.W.	735	YES	A 335 P91 +100 FOR ADJ.
8	1	TUBE O.D. 141.3 THK. 6.55 A.W.	698	YES	A 335 P91 +100 FOR ADJ.
9					
10	48	RETURN BEND N.D. 6" SCH. 40 (THK. 7.11 A.W.) S.R. 180°		YES	A 234 WP91 SEE NOTE E
11	4	RETURN BEND N.D. 6" SCH. 40 (THK. 7.11 A.W.) L.R. 180°		YES	A 234 WP91 SEE NOTE E
12	2	RETURN BEND N.D. 8" SCH. 40 (THK. 8.11 A.W.) S.R. 180°		YES	A 234 WP91 SEE NOTE E
13	4	ELBOW N.D. 5" SCH. 40 (THK. 6.55 A.W.) L.R. 90°		YES	A 234 WP91
14					
15	2	CONCENTRIC REDUCER N.D. 8"x6" SCH. 40		YES	A 234 WP91
16	2	CONCENTRIC REDUCER N.D. 6"x5" SCH. 40		YES	A 234 WP91
17	2	FLANGE N.D. 8" 300 lb W.N. R.F. SCH. 40		YES	A 182 F91 SEE NOTE D
18	2	ELBOW N.D. 5"x3" - 6.55x7.62 A.W.		YES	A 182 F91
19	2	TUBE O.D. 88.9 THK. 7.62 A.W.		YES	A 335 P91
20	2	FLANGE N.D. 3" 300 lb W.N. R.F. SCH. 80		YES	A 182 F91 SEE NOTE D
21					
22					
23					
24					
25	2	FLANGE N.D. 1 1/2" 300 lb W.N. R.F.		YES	A 182 F91 SEE NOTE D
26	2	BLIND FLANGE N.D. 1 1/2" 300 lb R.F.		YES	A 182 F91 SEE NOTE D
27	2	GASKET FOR FLANGE N.D. 1 1/2" 300 lb		YES	ASI 316/GRAPH. CAMPROFILE
28	8	STUD BOLTS M20 LENGTH 100		YES	A 193 Gr. B16
29	16	NUT M20		YES	A 194 Gr. 4
30	16	WASHER FOR M20		YES	11701.2-GALV.
31	2	PAD 267x8.11 LENGTH 300		YES	A 335 P91 DERIVED FROM TUBE
32	8	PLATE 224x85 THK. 8			ASI 310
33	2	PLATE 300x182 THK. 10			ASI 310
34	2	PLATE 300x180 THK. 10			ASI 310
35	4	T 70x70x9	150		ASI 310
36	2	PAD 206x7.11 LENGTH 300		YES	A 335 P91 DERIVED FROM TUBE
37	8	PLATE 216x75 THK. 8			ASI 310
38	2	PLATE 300x167 THK. 10			ASI 310
39	2	PLATE 300x160 THK. 10			ASI 310

GENERAL NOTES

A) ALL WELDS PREPARATION WILL BE IN ACCORDANCE WITH ANSI B 16.25

B) ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE INDICATED

C) DURING CONSTRUCTION VERIFY THE TUBES EXACT LENGTH SO THAT ALL THE COIL IS PERFECTLY ALIGNED

D) THE FLANGES WILL BE MACHINED WITH GASKET SURFACE 125 - 250 AARH. FLANGE DIMENSIONS ACCORDING TO ANSI B 16.25

E) RADIANT BENDS WITH ANTIEROSION LAYER (MAT. EUTALLOY 10611) DEPOSITED ON THE OUTER RADIUS OF THE INNER SURFACE

F) SHOWS FIELD WELDING
 SHOWS WORKSHOP WELDING

G) SHOWS DESIGN CASE

H) SKIN POINT MATERIAL AISI 310

I) CROSS OVERS AND FLANGES + COIL (EXTERNAL INSULATED PORTION) SHALL BE PAINTED ACCORDING TO SPEC. 8856-1132-000-4-101 REV. A-Cycle 1.8

J) MATERIAL FOR COIL SHALL WITHSTAND IMPACT TEST WITH 27J AT -28°C

BUREAU VERITAS ITALIA S.p.A.
IT FILE 3 IT 1458193

FOR COIL ARRANGEMENT (CONVECTION) SEE DRAWING 780-A1-41
FOR COIL ARRANGEMENT (STEAM SUPERHEATER) SEE DRAWING 780-A1-42
FOR COIL ARRANGEMENT (SPOOLS FOR PIGGING) SEE DRAWING 780-A1-43

2	2013.07.12	STATYBA - PATASYTA	2	Z. STANILIS	
LAIDA	DATA	KETIM? PAVADINIMAS (PRIEZASTIS)		BRAZ? TIKRINO	
ATESTATO Nr.	0999	PROVIVO LT	PROJEKTAS	Visbrekimo likučio vakuuminės rektifikacijos blokas, adresu Mažeikių r. sav. Juodelių k.	
			STATYBOS PAVADINIMAS	KROSNIS KR-1	
15749	FV	Z. STANILIS	PARAŠAS	DATA	2013.07.12
ETAPAS	STATYBOS		BRŪŽINIO PAVADINIMAS	Gyvatuko išdėstymas (radiacinės dalies) / Coil arrangement (radiant)	
DP	AB "ORLEN LIETUVA"		BRŪŽINIO INDEKSAS	73267-DP-2661000	LAPAS LAP? 1 1
OFISAS	KAUNAS	SKYRIUS 26	MASTELIS 1:50	FORMATAS A1	UŽSKYMO Nr. 73267/02
					OBJEKTO Nr. 2661000
ISSUED FOR CONSTRUCTION-REVISED WHERE INDICATED					
ISSUED FOR CONSTRUCTION-REVISED WHERE INDICATED					
ISSUED FOR APPROVAL					
DESCRIPTION:					
APPROVE BY: DATE REV					
DWG. VERGA N° 780-A1-040					
Sheet no.					
CLIENT: AB ORLEN Lietuva MAZEIKIAI, LITHUANIA			UNIT: BITUMEN VACUUM UNIT		
PROJECT NAME: VISBREAKER VACUUM FLASHER UNIT			TITLE: COIL ARRANGEMENT (RADIANT)		
PROJECT GRADE: DETAIL DESIGN			SCALE: 1:50		
DWG. No. 780-A1-040			REV. 2		

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