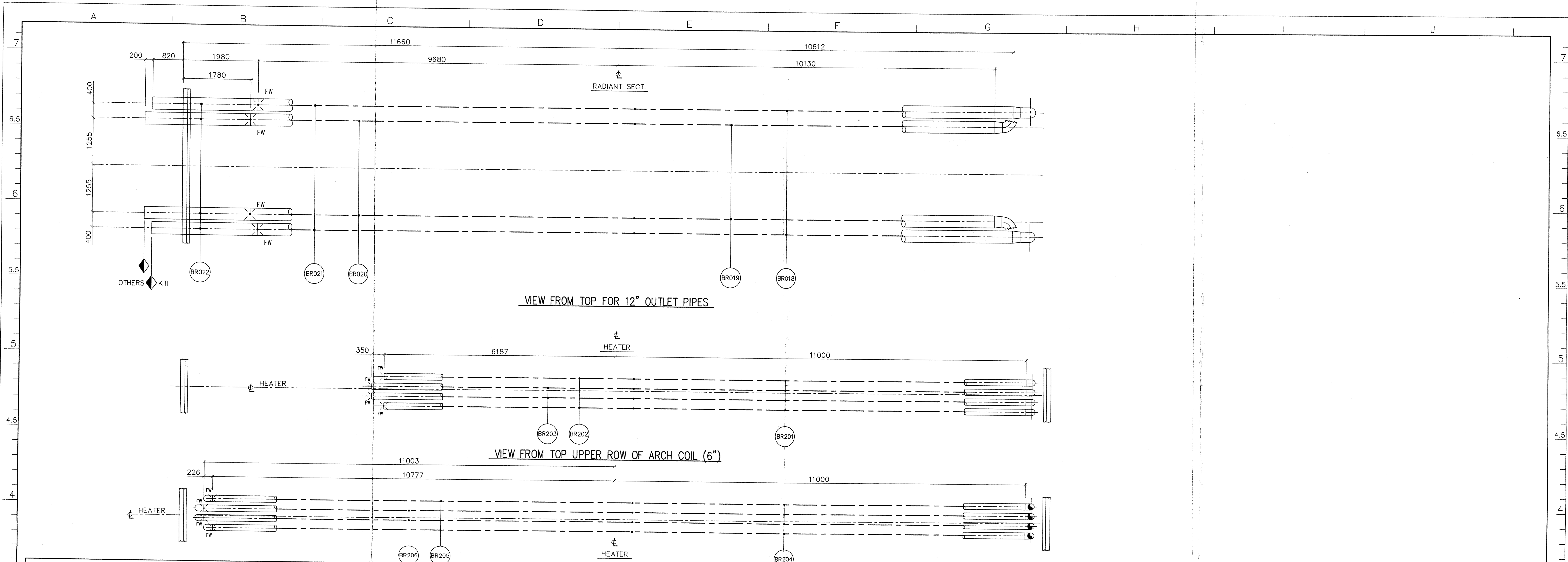




BILL OF MATERIAL							
M.T.O. N° 30589-601-MTO-0122-001 REV.A							
KTJ DWG. N° 30589-601-DW-0122-001-03/4 REV.A							
TUBES							
REV.	POS.N	QTY	DESCRIPTION	LENGTH	EXTRA LENGTH	TOTAL LENGTH (IF ANY)	REMARKS
A	BR001+BR002	2	6" SCH.40 PIPE	22006		22006	A 335 P5
A	BR001+BR004	22	6" SCH.40 PIPE	21780		21780	A 335 P5
A	BR001+BR005	2	6" SCH.40 PIPE	21385		21385	A 335 P5
A	BR003+BR004	2	6" SCH.40 PIPE	21554		21554	A 335 P5
A	BR003+BR002	24	6" SCH.40 PIPE	21780		21780	A 335 P5
A	BR006	24	6" SCH.40 PIPE	610		610	A 335 P5
A	BR007+BR009	2	8" SCH.40 PIPE	21410		21410	A 335 P5
A	BR008+BR010	2	8" SCH.40 PIPE	21147		21147	A 335 P5
A	BR011	2	8" SCH.40 PIPE	1012	100	1112	A 335 P5
A	BR012+BR014	2	10" SCH.40 PIPE	21290		21290	A 335 P5
A	BR013+BR015	2	10" SCH.40 PIPE	21030		21030	A 335 P5
A	BR016	2	10" SCH.40 PIPE	236		236	A 335 P5
A	BR017	2	10" SCH.40 PIPE	20292		20292	A 335 P5
A	BR018+BR021	2	12" SCH.40 PIPE	20010		20010	A 335 P5
A	BR019+BR020	2	12" SCH.40 PIPE	2800		2800	A 335 P5
A	BR022	4	12" SCH.40 PIPE	705		705	A 335 P5
A	BR023	4	1" SCH.80 PIPE	2000		2000	A 312 TP 304H
A	BR201+BR202	2	6" SCH.40 PIPE	17187		17187	A 335 P5
A	BR201+BR203	2	6" SCH.40 PIPE	17537		17537	A 335 P5
A	BR204+BR205	2	6" SCH.40 PIPE	21777		21777	A 335 P5
A	BR204+BR206	2	6" SCH.40 PIPE	22003		22003	A 335 P5
A	BR201	1	6" SCH.40 PIPE	894		894	A 335 P5
A	BR102	1	6" SCH.40 PIPE	410		410	A 335 P5
A	BR103	1	6" SCH.40 PIPE	280		280	A 335 P5
A	BR104	1	6" SCH.40 PIPE	8863	-50	8813	A 335 P5 COLD SPRING
A	BR105	1	6" SCH.40 PIPE	8335	-50	8285	A 335 P5 COLD SPRING
A	BR106	1	6" SCH.40 PIPE	8863	-50	8813	A 335 P5 COLD SPRING
A	BR107	1	6" SCH.40 PIPE	8335	-50	8285	A 335 P5 COLD SPRING
A	BR108	1	6" SCH.40 PIPE	850		850	A 335 P5
A	BR109	1	6" SCH.40 PIPE	534		534	A 335 P5
A	BR110	1	6" SCH.40 PIPE	534		534	A 335 P5
A	BR111	1	6" SCH.40 PIPE	850		850	A 335 P5
A	BR112	1	6" SCH.40 PIPE	850		850	A 335 P5

M.T.O. N° 30589-601-MTO-0122-001 REV.A				FITTINGS		(BENDS, ELBOWS, CAPS, REDUCTIONS, TEES)	
KTI DWG. N° 30589-601-DW-0122-001-03/4 REV.A							
REV.	POS.N	QTY	DESCRIPTION	MATERIAL	REMARKS		
	BR101	58	6" SCH.40 90° S.R. ELBOW	A 234 WP5			
A	BR102	24	6" SCH.40 180° S.R. RETURN BEND	A 234 WP5			
A	BR103	4	6" SCH.40 X 8" SCH.40 CONCENTRIC REDUCER	A 234 WP5			
A	BR104	4	8" SCH.40 180° S.R. RETURN BEND	A 234 WP5			
A	BR105	4	8" SCH.40 90° S.R. ELBOW	A 234 WP5			
A	BR106	4	8" SCH.40 X 10" SCH.40 CONCENTRIC REDUCER	A 234 WP5			
A	BR107	2	10" SCH.40 180° S.R. RETURN BEND	A 234 WP5			
A	BR108	8	10" SCH.40 90° S.R. ELBOW	A 234 WP5			
A	BR109	4	10" SCH.40 X 12" SCH.40 CONCENTRIC REDUCER	A 234 WP5			
A	BR110	2	1" SCH.80 45° L.R. ELBOW	A 403 WP304H			
A	BR111	4	6" SCH.40 45° L.R. ELBOW	A 234 WP5			
1	BR112	4	8" SCH.80 90° S.R. ELBOW	A 234 WP5			
1	BR113	2	6" SCH.80 90° S.R. ELBOW	A 234 WP5			
A	BR121	4	6" SCH.40 180° S.R. RETURN BEND	A 234 WP5			
M.T.O. N° 30589-601-MTO-0122-001 REV.A				FORGED FITTINGS (FLANGES, WELDOLETS, ELBOLETS, ETC.)			
KTI DWG. N° 30589-601-DW-0122-001-03/4 REV.A							
REV.	POS.N	QTY	DESCRIPTION	MATERIAL	REMARKS		
A	BR301	4	1" 300# W.N. R.F. FLANGE SCH.80	A182 F304H	*		
A	BR302	2	6" X 1" SCH.80 ELBOLET	A182 Gr-F5	*		
A	BR303	2	8" X 1" SCH.80 LATROLETS	A182 Gr-F5	*		
M.T.O. N° 30589-601-MTO-0122-001 REV.A				MISCELLANEOUS (GASKETS, STUD BOLTS, NUTS, ETC.)			
KTI DWG. N° 30589-601-DW-0122-001-03/4 REV.A							
REV.	POS.N	QTY	DESCRIPTION	MATERIAL	REMARKS		

DESIGN DATA			
PART		COIL	
DESIGN PRESSURE IN/ OUT		bar (g)	6
DESIGN TEMPERATURE		°C	534
CORROSION ALLOWANCE		mm	3
HYDRO-TEST/PRESSURE (SHOP)		bar (g)	N/A
HYDRO-TEST/PRESSURE (FIELD)		bar (g)	24
ERECTION WEIGHT		kg	55600
OPERATING WEIGHT		kg	87600
WEIGHT FILL OF WATER		kg	95600
TOTAL VOLUME		m³	40
POST WELD HEAT - TREATMENT		YES (9)	
RADIOGRAPHING SHOP WELD PERC.		%	100 (7)
RADIOGRAPHING FIELD PERC.		%	100 (7)
DYE PENETRANT		%	(8)
MAGNETIC EXAMINATION		%	100 (8)
ULTRASONIC EXAMINATION		%	(8)
HARDNESS		HB	241 MAX (9)
POSITIVE MATERIAL IDENTIFICATION		YES (10)	
CONSTRUCTION AS PER		API 530 / KTJ ENG. SPEC.	
INSPECTION BY		KTJ/CLIENT NOTIFIED BODY	
CATEGORY		M	
GROUP		1	
MODULE		G	

- GENERAL NOTES FOR MATERIALS / PREFABRICATION
1. ALL DIMENSIONS ARE IN mm EXCEPT OTHERWISE NOTED ON THIS DWG AND/OR DETAIL DRAWINGS
 2. ALL ELEVATIONS ARE RELATIVE TO CLIENT REFERENCE EL.+0.00
 3. ALL WELD PREPARATIONS CONFORM TO ANSI B 16.25/ANSI B 31.3 AND WPS-PQR-WPQ ACCORDING TO APPLICABLE CODE ASME VIII + IX
 4. BOLTSHOLES IN FLANGE TO STRADDLE THE HORIZONTAL AND VERTICAL CENTERLINE EXCEPT OTHERWISE NOTED ON THIS DRAWING AND/OR DETAIL DRAWINGS
 5. ALL REQUIREMENTS AS SPECIFIED IN PERTAINING REQUISITIONS AND SPECIFICATIONS HAVE TO BE MET BY VENDOR.
 6. F.W. = FIELD WELD (F-W)
 7. RADIOGRAPHIC AND MAGNETIC EXAMINATIONS SHALL BE PERFORMED UPON COMPLETION OF P.W.H.T.
 8. FOR NOT RADIOGRAPHABLE JOINTS OR IN CASES WHERE RADIOGRAPHIC EXAMINATION IS DIFFICULT TO INTERPRET, ULTRASONIC EXAMINATION MAY BE SUBSTITUTED. WHEN ULTRASONIC IS IMPRACTICAL, LIQUID PENETRANT OR MAGNETIC EXAMINATION MAY BE SUBSTITUTED, UPON COMPLETION OF P.W.H.T.
 9. POST WELD HEAT TREATMENT SHALL BE EXECUTED ACCORDING TO THE ASME B31.3 CODE AND MN SPEC. (MN-PG-1000) PWHT SHALL BE FOLLOWED BY HARDNESS TEXT EXECUTION TO MEET 241 HB (TEST WILL BE EXECUTED ON WELDING JOINT AND ON EACH HAZ AT THE TOE OF WELD)
 10. 100% POSITIVE MATERIAL IDENTIFICATION (PMI) ON TUBES, FITTINGS AND WELDS SHALL BE PERFORMED
 11. SUPPLY / PREFABRICATION SHALL COMPLY WITH 97/23/CE (PED) REQUIREMENTS
 12. IMPACT TEST SHALL BE PERFORMED ON BASE MATERIAL AND WELD , ACCORDING TO PED REQUIREMENTS. 27 J MINIMUM SHALL BE GUARANTEED AT MINIMUM METAL TEMPERATURE OF 20°C

REFERENCE DRAWINGS	
30589.601.DW.0131.002.01	GENERAL ARRANGEMENT - LONGITUDINAL VIEW
30589.601.DW.0131.002.02	GENERAL ARRANGEMENT - CROSS SECTION
30589.601.DW.0122.001.01	RADIANT COIL KR-601/1
30589.601.DW.0122.001.02	RADIANT COIL SECTION & BILL OF MATERIAL KR-601/1
30589.601.DW.0122.001.03	RADIANT COIL KR-601/2
30589.601.DW.0127.001.01	CONNECTION COIL & CROSSOVER KR-601/1
30589.601.DW.0127.001.02	CONNECTION COIL & CROSSOVER KR-601/2

NOTES		MAZEIKIU NAFTA		LITHUANIA	
		INTERNAL REVISION		AS MAZEIKIU NAFTA	
		PROJ. N° 30589		Technip KTI	
		CRUDE OIL PLANT		VACUUM HEATER KR-601/2	
		RADIANT COIL			
		1:33.3		30589 601 DW 0122 - 001	
		Scale		Project Unit	
		ISS.		CHK.	
		APP.		AUTH.	
		DATE		DATE	
		REV.		DESCRIPTION	
		2		REVISED AS INDICATED	
		1		REVISED AS INDICATED	
		0		FOR CONSTRUCTION	
		A		FOR APPROVAL	
		18/9 2007		18/9 2007	
		3/9 2007		10/7 2007	
		11/05 2007		11/05 2007	
		4 of 4		Page	
		2		Rev	
		Doc. Code & Serial No.			
		93		93	
		TECHNIP KTI S.p.A. - 00148 ROMA - Viale Castello della Magliana, 75			