

PMI REPORT

PROJECT: WORPAR

ITEM: W521D.2

1、WELD MAP

Weld Map
焊缝分布图

文件编号 Doc No: WZA21-23 Rev. 0

WXZC		焊缝分布图 Weld Map				第 1 页 共 4 页			
						PAGE 1 OF 4			
产品名称 JOB NAME	油蒸汽换热器 OIL/STEAM HEAT EXCHANGER	产品图号/版本号 DWG. No./Rev.	WXZC21A16-00		生产令号 JOB NO.	WZA21-23			
The diagram shows a horizontal oil/steam heat exchanger with various components labeled. Key features include: - Ends: A1 (left) and A4 (right) are the main cylindrical sections. A3 and B4 are the end flanges. A2 is the central cylindrical section. - Flanges: B1 and B2 are the central flanges. - Ports: D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D21, D22, D23, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46, D47, D48, D49, D50, D51, D52, D53, D54, D55, D56, D57, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D70, D71, D72, D73, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D98, D99, D100, D101, D102, D103, D104, D105, D106, D107, D108, D109, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, D120, D121, D122, D123, D124, D125, D126, D127, D128, D129, D130, D131, D132, D133, D134, D135, D136, D137, D138, D139, D140, D141, D142, D143, D144, D145, D146, D147, D148, D149, D150, D151, D152, D153, D154, D155, D156, D157, D158, D159, D160, D161, D162, D163, D164, D165, D166, D167, D168, D169, D170, D171, D172, D173, D174, D175, D176, D177, D178, D179, D180, D181, D182, D183, D184, D185, D186, D187, D188, D189, D190, D191, D192, D193, D194, D195, D196, D197, D198, D199, D200, D201, D202, D203, D204, D205, D206, D207, D208, D209, D210, D211, D212, D213, D214, D215, D216, D217, D218, D219, D220, D221, D222, D223, D224, D225, D226, D227, D228, D229, D230, D231, D232, D233, D234, D235, D236, D237, D238, D239, D240, D241, D242, D243, D244, D245, D246, D247, D248, D249, D250, D251, D252, D253, D254, D255, D256, D257, D258, D259, D260, D261, D262, D263, D264, D265, D266, D267, D268, D269, D270, D271, D272, D273, D274, D275, D276, D277, D278, D279, D280, D281, D282, D283, D284, D285, D286, D287, D288, D289, D290, D291, D292, D293, D294, D295, D296, D297, D298, D299, D300, D301, D302, D303, D304, D305, D306, D307, D308, D309, D310, D311, D312, D313, D314, D315, D316, D317, D318, D319, D320, D321, D322, D323, D324, D325, D326, D327, D328, D329, D330, D331, D332, D333, D334, D335, D336, D337, D338, D339, D340, D341, D342, D343, D344, D345, D346, D347, D348, D349, D350, D351, D352, D353, D354, D355, D356, D357, D358, D359, D360, D361, D362, D363, D364, D365, D366, D367, D368, D369, D370, D371, D372, D373, D374, D375, D376, D377, D378, D379, D380, D381, D382, D383, D384, D385, D386, D387, D388, D389, D390, D391, D392, D393, D394, D395, D396, D397, D398, D399, D400, D401, D402, D403, D404, D405, D406, D407, D408, D409, D410, D411, D412, D413, D414, D415, D416, D417, D418, D419, D420, D421, D422, D423, D424, D425, D426, D427, D428, D429, D430, D431, D432, D433, D434, D435, D436, D437, D438, D439, D440, D441, D442, D443, D444, D445, D446, D447, D448, D449, D450, D451, D452, D453, D454, D455, D456, D457, D458, D459, D460, D461, D462, D463, D464, D465, D466, D467, D468, D469, D470, D471, D472, D473, D474, D475, D476, D477, D478, D479, D480, D481, D482, D483, D484, D485, D486, D487, D488, D489, D490, D491, D492, D493, D494, D495, D496, D497, D498, D499, D500, D501, D502, D503, D504, D505, D506, D507, D508, D509, D510, D511, D512, D513, D514, D515, D516, D517, D518, D519, D520, D521, D522, D523, D524, D525, D526, D527, D528, D529, D530, D531, D532, D533, D534, D535, D536, D537, D538, D539, D540, D541, D542, D543, D544, D545, D546, D547, D548, D549, D550, D551, D552, D553, D554, D555, D556, D557, D558, D559, D560, D561, D562, D563, D564, D565, D566, D567, D568, D569, D570, D571, D572, D573, D574, D575, D576, D577, D578, D579, D580, D581, D582, D583, D584, D585, D586, D587, D588, D589, D590, D591, D592, D593, D594, D595, D596, D597, D598, D599, D600, D601, D602, D603, D604, D605, D606, D607, D608, D609, D610, D611, D612, D613, D614, D615, D616, D617, D618, D619, D620, D621, D622, D623, D624, D625, D626, D627, D628, D629, D630, D631, D632, D633, D634, D635, D636, D637, D638, D639, D640, D641, D642, D643, D644, D645, D646, D647, D648, D649, D650, D651, D652, D653, D654, D655, D656, D657, D658, D659, D660, D661, D662, D663, D664, D665, D666, D667, D668, D669, D670, D671, D672, D673, D674, D675, D676, D677, D678, D679, D680, D681, D682, D683, D684, D685, D686, D687, D688, D689, D690, D691, D692, D693, D694, D695, D696, D697, D698, D699, D700, D701, D702, D703, D704, D705, D706, D707, D708, D709, D710, D711, D712, D713, D714, D715, D716, D717, D718, D719, D720, D721, D722, D723, D724, D725, D726, D727, D728, D729, D730, D731, D732, D733, D734, D735, D736, D737, D738, D739, D740, D741, D742, D743, D744, D745, D746, D747, D748, D749, D750, D751, D752, D753, D754, D755, D756									



志成装备

ZHICHENG
2、PMI Report无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LUWEI				PURCHASE ORDER NUMBER									
SIGNATURE: LUWEI				P0619006									
DATE: 21.8.7													
PMI PERFORMED BY: PUJINBIAO				PMI WILL BE/WAS PERFORMED AT:									
SIGNATURE: PUJINBIAO				Materials to the factory									
DATE: 21.8.7													

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	SA-240 304	200229015	1910365	Shell (include head and expansion)
2	/	SA-240 304	200229015	1910365	Channel shell
3	/	SA-240 304	6144956108740562	A2101374	tubesheet
4	/	SA-213 TP304L	2021-08-0806	NY210413AS03	tubes
5	/	SA-182 F304	IC-ZLFL-2021A1302-2-1	J210122-6	Channel flange
6	/	SA-312 TP304	2021-05-20-001	YX2006-2001	Nozzle $\phi 114.3 \times 6.02$
7	/	SA-312 TP304	2021-7-26-002	YX2006-2121	Nozzle $\phi 21.3 \times 2.77$
8	/	SA-312 TP304	21G072013	YX2006-2163	Nozzle $\phi 168.3 \times 7.11$
9	/	SA-312 TP304	2021-7-26-002	YX2006-2121	Nozzle $\phi 33.4 \times 3.38$

EXAMINATION RESULTS														
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage									
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V	
1	shell	ACC	/	SA-240 304	18.14		8.06							
2	Channel shell	ACC	/	SA-240 304	18.14		8.06							
3	tubesheet	ACC	/	SA-240 304	18.03		8.28							
4	tubes	ACC	/	SA-213 TP304L	18.23		8.13							
5	Channel flange	ACC	/	SA-182 F304	18.05		8.19							
6	nozzle	ACC	/	SA-312 TP304	18.30		8.17							
7	nozzle	ACC	/	SA-312 TP304	18.34		8.17							
8	nozzle	ACC	/	SA-312 TP304	18.06		8.13							
9	nozzle	ACC	/	SA-312 TP304	18.04		8.13							

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION : NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC.: NA													
PMI Supervisor <u>LUWEI 21.8.7</u> Signature/Date													



无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LULEI			PURCHASE ORDER NUMBER			
SIGNATURE: LULEI			P0619006			
DATE: 21.8.15						
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:			
SIGNATURE: PUJINBIAO			After welding			
DATE: 21.8.15						

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	ER308L	200198331-02	486212	A1
2	/	ER308L	200198331-02	486212	A2
3	/	ER308L	200198331-02	486212	A3
4	/	ER308L	200198331-02	486212	A4
5	/	ER308	W200169	20-99013	A1 (expansion)
6	/	ER308	W200169	20-99013	B1
7	/	ER308	W200169	20-99013	B2
8	/	ER308L	200198331-02	486212	B3
9	/	ER308L	200198331-02	486212	B4

EXAMINATION RESULTS													
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage								
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V
1	A1	ACC	/	ER308L	18.14		8.07						
2	A2	ACC	/	ER308L	18.07		8.25						
3	A3	ACC	/	ER308L	18.65		8.12						
4	A4	ACC	/	ER308L	18.13		8.59						
5	A1	ACC	/	ER308	18.83		8.76						
6	B1	ACC	/	ER308	18.83		9.40						
7	B2	ACC	/	ER308	19.13		8.75						
8	B3	ACC	/	ER308L	18.38		8.65						
9	B4	ACC	/	ER308L	18.38		8.52						

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor LUWEI 21.8.15 Signature/Date													



无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LULEI			PURCHASE ORDER NUMBER			
SIGNATURE: LULEI			P0619006			
DATE: 21.8.15						
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:			
SIGNATURE: PUJINBIAO			After welding			
DATE: 21.8.15						

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	ER308	W200169	20-99013	C1
2	/	ER308	W200169	20-99013	C2
3	/	ER308	W200169	20-99013	C3
4	/	ER308	W200169	20-99013	C4
5	/	ER308	W200169	20-99013	C5
6	/	ER308	W200169	20-99013	C6
7	/	ER308	W200169	20-99013	C7
8	/	ER308	W200169	20-99013	C8

EXAMINATION RESULTS													
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage								
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V
1	C1	ACC	/	ER308	18.79		9.25						
2	C2	ACC	/	ER308	19.49		9.12						
3	C3	ACC	/	ER308	19.70		9.50						
4	C4	ACC	/	ER308	19.57		9.14						
5	C5	ACC	/	ER308	19.72		9.22						
6	C6	ACC	/	ER308	18.67		9.34						
7	C7	ACC	/	ER308	18.49		9.14						
8	C8	ACC	/	ER308	19.32		9.37						

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor <u>LUWEI 21.8.15</u> Signature/Date													



无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LULEI			PURCHASE ORDER NUMBER									
SIGNATURE: LULEI			P0619006									
DATE: 21.8.15												
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:									
SIGNATURE: PUJINBIAO			After welding									
DATE: 21.8.15												

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	ER308	W200169	20-99013	C9
2	/	ER308	W200169	20-99013	C10
3	/	ER308	W200169	20-99013	C11
4	/	ER308	W200169	20-99013	C12
5	/	ER308	W200169	20-99013	C13
6	/	ER308	W200169	20-99013	D1
7	/	ER308	W200169	20-99013	D2
8	/	ER308	W200169	20-99013	D3

EXAMINATION RESULTS														
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage									
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V	
1	C9	ACC	/	ER308	19.15		9.34							
2	C10	ACC	/	ER308	19.53		8.61							
3	C11	ACC	/	ER308	19.24		8.79							
4	C12	ACC	/	ER308	19.04		9.82							
5	C13	ACC	/	ER308	18.84		9.00							
6	D1	ACC	/	ER308	19.15		8.50							
7	D2	ACC	/	ER308	18.77		9.08							
8	D3	ACC	/	ER308	18.79		9.67							

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor <u>LUWEI 21.8.15</u> Signature/Date													



无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LULEI			PURCHASE ORDER NUMBER										
SIGNATURE: LULEI			P0619006										
DATE: 21.9.19													
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:										
SIGNATURE: PUJINBIAO			After welding										
DATE: 21.9.19													
ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION								
1	/	ER308	W200169	20-99013	D4								
2	/	ER308	W200169	20-99013	D5								
3	/	ER308	W200169	20-99013	D6								
4	/	ER308	W200169	20-99013	D7								
5	/	ER308	W200169	20-99013	D8								
6	/	ER308	W200169	20-99013	D9								
7	/	ER308	W200169	20-99013	E1								
8	/	ER308	W200169	20-99013	E2								
EXAMINATION RESULTS													
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage								
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V
1	D4	ACC	/	ER308	18.78		9.49						
2	D5	ACC	/	ER308	19.37		9.41						
3	D6	ACC	/	ER308	19.22		9.20						
4	D7	ACC	/	ER308	19.30		9.62						
5	D8	ACC	/	ER308	18.87		9.63						
6	D9	ACC	/	ER308	19.22		9.26						
7	E1	ACC	/	ER308	19.25		8.68						
8	E2	ACC	/	ER308	18.07		8.98						
ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor LUWEI 21.9.19 Signature/Date													



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DATE: 21.9.19						
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:			
SIGNATURE: PUJINBIAO			After welding			
DATE: 21.9.19						

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	ER308	W200169	20-99013	E3
2	/	ER308	W200169	20-99013	E4
3	/	ER308	W200169	20-99013	E5
4	/	ER308	W200169	20-99013	E6
5	/	ER308	W200169	20-99013	E7
6	/	ER308	W200169	20-99013	E8
7	/	ER308	W200169	20-99013	E9
8	/	ER308	W200169	20-99013	E10

EXAMINATION RESULTS													
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage								
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V
1	E3	ACC	/	ER308	19.64		10.16						
2	E4	ACC	/	ER308	19.41		9.51						
3	E5	ACC	/	ER308	18.83		9.19						
4	E6	ACC	/	ER308	19.07		9.07						
5	E7	ACC	/	ER308	19.32		9.15						
6	E8	ACC	/	ER308	18.92		9.01						
7	E9	ACC	/	ER308	19.41		8.89						
8	E10	ACC	/	ER308	19.72		8.87						

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor <u>LUWEI 21.9.19</u> Signature/Date													



无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

PMI REQUEST BY: LULEI			PURCHASE ORDER NUMBER			
SIGNATURE: LULEI			P0619006			
DATE: 21.9.19						
PMI PERFORMED BY: PUJINBIAO			PMI WILL BE/WAS PERFORMED AT:			
SIGNATURE: PUJINBIAO			After welding			
DATE: 21.9.19						

ITEM OR TAG NUMBER	SAMPLE SIZE	MATERIAL	MILL CERT. NUMBER	HEAT NUMBER	DESCRIPTION
1	/	ER308	W200169	20-99013	E11
2	/	ER308	W200169	20-99013	E12

EXAMINATION RESULTS													
ITEM OR TAG NUMBER	NO. OF PIECES EXAM.	NO. OF PIECES ACCEPT.	NO. OF PIECES REJ.	MATERIAL IDENTIFIED AS	Chemical Composition Percentage								
					Cr	Mo	Ni	C	Ti	Cb	Cu	Fe	V
1	E11	ACC	/	ER308	18.97		8.89						
2	E12	ACC	/	ER308	19.41		9.14						

ADDRESS OF SELLER RESPONSIBLE FOR REJECTION(S): NA													
ADDITIONAL INFORMATION: NA													
MANHOURS AND LOSS INCURRED FROM REJECTIONS, ETC. NA													
PMI Supervisor <u>LUWEI 21.9.19</u> Signature/Date													



志成装备
ZHICHENG

无锡市志成生化工程装备有限公司
Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd.

3、PMI 检测照片



PLATE 304/4mm

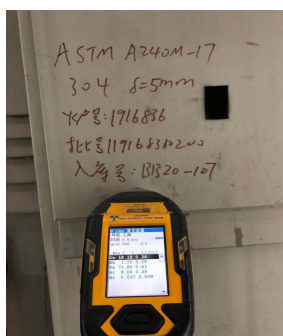


PLATE 304/5mm

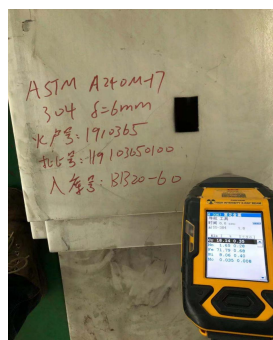


PLATE 304/6mm

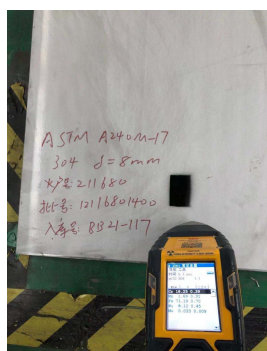


PLATE 304/8mm



PLATE 304/10mm



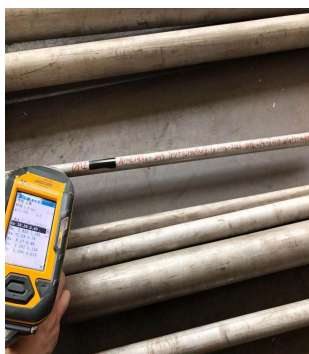
TUBES



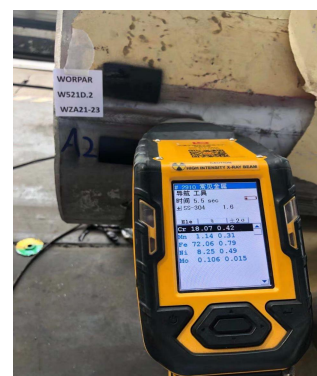
TUBESHEET



CHANNEL FLANGE

NOZZLE 304 ϕ 21.3NOZZLE 304 ϕ 33NOZZLE 304 ϕ 114NOZZLE 304 ϕ 168

WELD A1



WELD A2



WELD A3



WELD A4



WELD B1



WELD B2



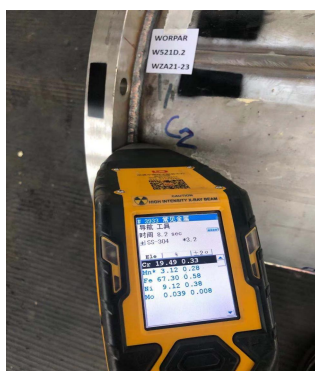
WELD B3



WELD B4



WELD C1



WELD C2



WELD C3



WELD C4



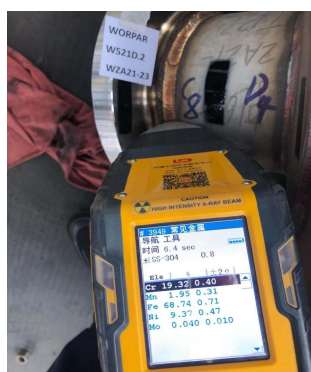
WELD C5



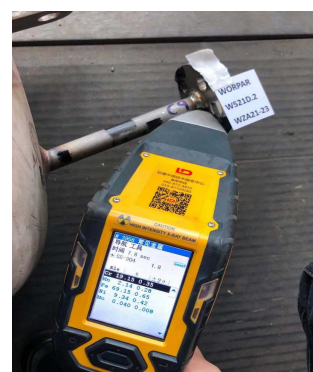
WELD C6



WELD C7



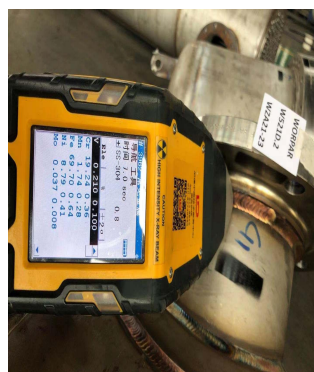
WELD C8



WELD C9



WELD C10



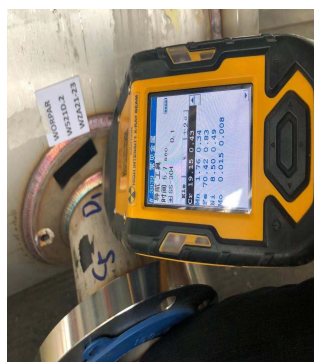
WELD C11



WELD C12



WELD C13



WELD D1



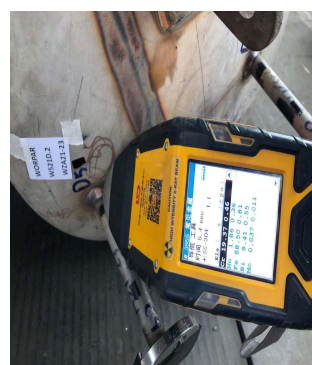
WELD D2



WELD D3



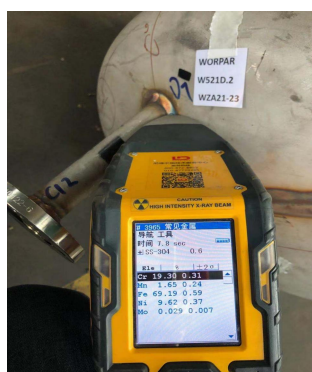
WELD D4



WELD D5



WELD D6



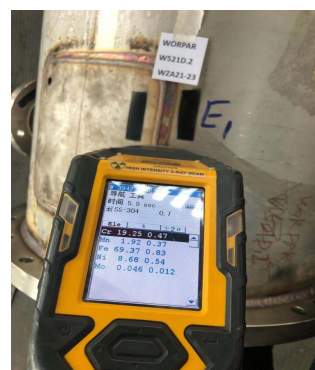
WELD D7



WELD D8



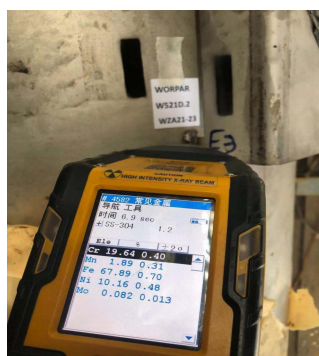
WELD D9



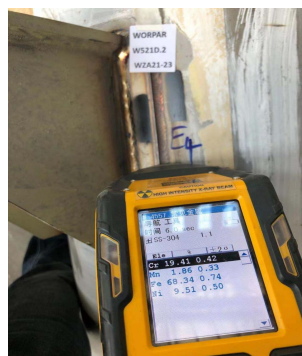
WELD E1



WELD E2



WELD E3



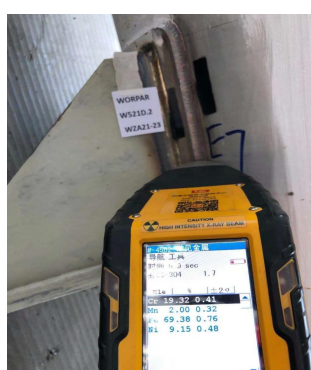
WELD E4



WELD E5



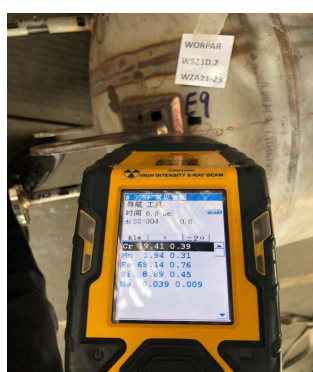
WELD E6



WELD E7



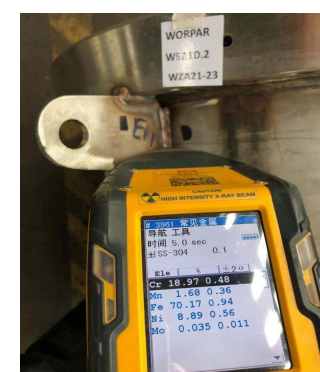
WELD E8



WELD E9



WELD E10



WELD E11



WELD E12



A1 (expansion)