From: American Piping Date: 3/17/2014 To: PLESA STEEL C/O SO#: S252521 Ln#: 11 PO#: 182 Part: 6625280X52S Heat#: J0002847

JUBAIL ENERGY SERVICES CO. (JESCO)
Tarseq 251, 31961, Jubail Industrial City
P.O. Box 10697 - Kingdom of Saudi Arabia

MILL TEST CERTIFICATE

EN 10204 - 3.1

No: JC-13-0109 Page: 1/1
Date: 04.02.2013

Doc. Ref.	JP-QC-06
Revision	0
Ver. Date	20.04.2010
Effective Date	24.04.2010

Customer	P.O. Number	Internal Order	Technical File	Packing list
	1100101775	C0000375-01	C-375.01_00	13029437690

Product Description: SEAMLESS LINE PIPE, API 5L PSL2/ASTM A 333/ASTM/ASME A/SA 53/ASTM/ASME A/SA 106, GRADE X52N/B/C, NACE MR 0175/NACE MR0103, NORMALIZED, PLAIN END-BEVELED, SURFACE PROTECTED WITH STANDARD MILL VARNISH, END PROTECTOR, PACKED IN HEXAGONAL BUNDLE

Standard: API 5L 44TH EDITION-2007; ASTM A106-2011; ASTM A53-2012; ASTM A333-2011; ASME SA106-2011; ASME SA53-2012; ASME SA333-2011;NACE MR 0175/ISO 15156-2009; NACE MR0103-2012

Dimensions:	Length [FT]		Quantity:	Total length [FT]	Total weight [MT]
6" SCH80 (6.625" x 0.280" 168.3 x 7.11mm)	Min: 38	Max: 42	PCS 420	18 676.340	152.963

CHEMICAL COMPOSITION

Heat	Test	Steel Grade	Pos.	C [%] max	Si [%] max	Mn [%] max	P [%] max	S [%] max	Cr [%] max	Ni [%] max	Mo [%] max	Al [%] min	Cu [%] max	Ti [%] max	Nb [%] max	V [%] max	B [%] max	CE [%] max	V+Nb+Ti [%] min	Cr+Cu+Mo+Ni+V [%] max	
		Gr. X52N/B/C		0.24	0.10-0.40	0.20-1.20	0.025	0.010	0.30	0.35	0.12		0.40	0.040	0.02	0.08		0.43	0.13	1.00	STD
J0002846			194	0.15	0.28	1.05	0.015	0.002	0.114	0.035	0.002	0.030	0.005	0.004	0.009	0.059	0.0005	0.36			HEAT
	2000016944			0.15	0.29	1.03	0.015	0.004	0.118	0.017	0.001	0.028	0.004	0.005	0.009	0.059	0.0002	0.36	0.005	0.200	PRODUCT
	2000016945			0.14	0.28	1.06	0.014	0.002	0.127	0.015	0.004	0.030	0.003	0.007	0.009	0.059	0.0002	0.36	0.005	0.213	PRODUCT
J0002847			201	0.14	0.28	1.07	0.013	0.002	0.112	0.008	0.002	0.022	0.005	0.004	0.009	0.054	0.0001	0.35			HEAT
	2000016940			0.14	0.27	1.05	0.012	0.003	0.118	0.020	0.005	0.020	0.006	0.003	0.009	0.054	0.0002	0.35	0.003	0.202	PRODUCT
	2000016941			0.14	0.27	1.05	0.012	0.002	0.122	0.018	0.005	0.022	0.007	0.003	0.010	0.054	0.0002	0.35	0.004	0.205	PRODUCT
	2000016942			0.14	0.28	1.07	0.013	0.004	0.123	0.012	0.004	0.021	0.008	0.003	0.010	0.054	0.0002	0.35	0.004	0.199	PRODUCT
	2000016943			0.13	0.28	1.07	0.014	0.004	0.119	0.019	0.001	0.023	0.007	0.007	0.008	0.054	0.0002	0.34	0.002	0.199	PRODUCT
J0002856			25	0.14	0.28	1.08	0.013	0.004	0.109	0.007	0.002	0.028	0.006	0.004	0.009	0.058	0.0005	0.35			HEAT
	2000016958			0.14	0.26	1.06	0.012	0.004	0.116	0.020	0.001	0.027	0.008	0.005	0.009	0.058	0.0002	0.35	0.007	0.202	PRODUCT
	2000016959			0.14	0.26	1.02	0.013	0.005	0.122	0.013	0.001	0.027	0.007	0.005	0.005	0.058	0.0002	0.35	0.008	0.199	PRODUCT

TENSILE TEST

*F	T/L	Type	Specimen Dim. [mm] Width	Thick	Sec. [mm²]	Rt0.5 [PSI]	Rm [PSI]	Elongation [%] (Cal: 50.8 mm)
						min: 52 200 max: 76 900	min: 70 000 max: 110 200	min: 22
68	L	Rec	37.89	6.55	252.04	63 081	77 087	42.27
68	L	Rec	37.80	7.29	276.56	60 320	76 328	46.72
68	L	Rec	37.76	6.55	250.26	62 069	77 461	46.05
68	L	Rec	37.90	6.72	254.69	63 409	77 995	47.22
68	L	Rec	37.90	7.50	284.25	56 594	74 889	45.28
68	L	Rec	38.09	6.76	256.88	65 998	75 695	41.93
68	L	Rec	38.50	6.42	245.89	61 944	76 778	43.97
68	L	Rec	38.40	6.50	253.44	62 068	76 270	43.87

L= Longitudinal ; T= Transverse ; Rt=Yield Strength ; Rm=Tensile Strength ; Rec=Rectangular

IMPACT TEST

Heat	Test			T/L	Size [mm]	°F	IMPACT TEST [J-lb] 1"	Single Min.	Single 6.6	2"	3"	Avg. Min.	Avg. 10.3
J0002846	2000016944			T	10 x 5	-76	65.9			71.5	56.4		58.5
	2000016945												
J0002847	2000016940			T	10 x 5	-76	63.3			46.2	72.8		60.8
	2000016941												
	2000016942			T	10 x 5	-76	32.7			44.0	61.4		45.0
	2000016943												
J0002856	2000016958			T	10 x 5	-76	71.9			72.2	75.1		73.1
	2000016959												

HARDNESS TEST

Type	Max. 250	REMARKS
	Value	
HV10	162	
HV10	162	
HV10	163	
HV10	161	
HV10	164	
HV10	164	
HV10	164	
HV10	163	

FOLLOWING CONTROLS/TESTS HAVE BEEN SATISFACTORILY PERFORMED:
- Hot Rolled seamless line pipes
- Hydrostatic Test at pressure 20.5 Mpa (2970 PSI) for 5 sec;
- Visual Inspection and Dimensional Control;
- Flux Leakage Examination acc. to ASTM E570 for detection of External & Longitudinal/Transversal imperfections with 5%
- Flux Leakage Examination acc. to ASTM E570 for detection of Internal & Longitudinal/Transversal imperfections with 10 %
- Flattening test - acc. to ASTM A530 - PASSED
- Wet Magnetical Particle Inspection on Special End Area, acc. to ASTM E709

REMARKS
-The material herein described has been manufactured, sampled, tested and inspected in accordance with above standard and specification and satisfies the requirements
- The material has not be subject to any weld repair.
- The material is free from mercury contamination and/or addition.
- The material is free from radioactive contamination (<100 becquerels/gram).
- Dimensions for outside diameter and wall thickness of pipe is acc. to ASME B36.10M-2004
- For each reduction of 0.01% below the specified maximum for carbon, an increase of 0.05% above the specified maximum for manganese is permissible, up to a maximum of 1.35%

MARKING
JESCO_Spec 5L-0724_ API MONOGRAM_MO-YR_ASTM/ASME A/SA 333_A/SA 53_ASTM/ASME A/SA 106_NACE MR 0175_NACE MR0103_6.625" 0.280" X52N/B/C PSL2 SMLS TEST PRESSURE-2970 PSI/NDE LENGTH ##.# (ft) WEIGHT/## (lb) 18.99 LB/FT HEAT NO ######## AMERICAN PIPING PRODUCTS P11### PIPE NO### TF C-375.01 MADE IN SAUDI ARABIA

STEEL IS FULLY KILLED WAS PRODUCED BY ELECTRIC ARC FURNACES TO A FINE GRAIN PRACTICE

QUALITY MANAGEMENT SYSTEM
acc. to ISO 9001
API Q1
ISO TS 29001

QI-0709
SCY-1079
5L-0724

QUALITY CERTIFICATION DEPARTMENT
Vasileios Florin
Signature:

QUALITY MANAGER
Alan West
Signature and stamp:

From: American Piping Date: 3/17/2014 To: PLESA STEEL C/O SO#: S252521 Ln#: 12 PO#: 182 Part: 8625322X52S Heat#: J0002980

JESCO

JUBAIL ENERGY SERVICES CO. (JESCO)
Tarseq 251, 31961, Jubail Industrial City
P.O. Box 10997 - Kingdom of Saudi Arabia

MILL TEST CERTIFICATE

EN 10204 - 3.1

No: JC-13-0112 Page: 1/1
Date: 04.02.2013

Doc. Ref.	JP-QC-08
Revision	0
Ver. Date	20.04.2010
Effective Date	24.04.2010

Customer	P.O. Number	Internal Order	Technical File	Packing list
	1103101775	60000376-04	C-376.04_00	13029437898

Product Description: SEAMLESS LINE PIPE, API 5L PSL2/ASTM A 333/ASTM/ASME A/SA 53/ASTM/ASME A/SA 106, GRADE X52N/S/NC, NACE MR 0175/NACE MR0103, NORMALIZED, PLAIN END BEVELED, SURFACE PROTECTED WITH STANDARD MILL VARNISH, END PROTECTOR, PACKED LOOSE IN LAYER, WITH WOOD SEPARATORS

Standard: API 5L 44TH EDITION-2007; ASTM A106-2011; ASTM A53-2012; ASTM A333-2011; ASME SA106-2011; ASME SA53-2012; ASME SA333-2011;NACE MR 0175/ISO 15156-2009; NACE MR0103-2012

Dimensions:	Length [FT]		Quantity:	Total length [FT]	Total weight [MT]
8" SCH40 (8.625" x 0.322" 219.1 x 8.18mm)	Min. 38	Max. 42	PCS 293	12 131.520	162.187

CHEMICAL COMPOSITION

Heat	Test	Steel Grade	Pos.	C [%] max	Si [%] max	Mn [%] max	P [%] max	S [%] max	Cr [%] max	Ni [%] max	Mo [%] max	Al [%] min	Cu [%] max	Ti [%] max	Nb [%] max	V [%] max	B [%] max	CE [%] max	V+Nb+Ti [%] min	Cr+Cu+Mo+Ni+V [%] max		T°	TA.	Type	Specimen Dim. [mm] Width	Thick	Sec. [mm²]	Rt0.5 [PSI]	Rm [PSI]	Elongation [%] (Calc 50.8 mm)
																											min: 52 200	min: 70 900	min: 24
		Gr. X52N/S/NC		0.24	0.10-0.40	0.29-1.20	0.025	0.010	0.30	0.30	0.12		0.40	0.040	0.02	0.08		0.43	0.15	1.55	STD							max: 76 900	max: 110 200	
J0002858			112	0.13	0.32	1.07	0.010	0.003	0.120	0.009	0.002	0.023	0.010	0.003	0.001	0.051	0.0001	0.34			HEAT									
	2000016767			0.13	0.32	1.11	0.012	0.002	0.121	0.015	0.001	0.022	0.010	0.002	0.001	0.050	0.0002	0.35	0.051	0.197	PRODUCT	68	L	Rec	38.00	8.44	320.72	57 881	73 716	51.83
	2000016768			0.14	0.33	1.09	0.014	0.003	0.122	0.016	0.001	0.023	0.010	0.002	0.001	0.049	0.0002	0.35	0.050	0.198	PRODUCT	68	L	Rec	38.10	8.87	337.95	59 595	73 975	46.08
J0002977			155	0.14	0.35	1.17	0.010	0.003	0.145	0.009	0.002	0.030	0.008	0.003	0.002	0.050	0.0002	0.38			HEAT									
	2000016755			0.15	0.35	1.19	0.015	0.003	0.152	0.018	0.001	0.026	0.008	0.002	0.001	0.052	0.0002	0.40	0.053	0.207	PRODUCT	68	L	Rec	37.80	8.58	324.70	54 237	77 793	40.85
	2000016756			0.15	0.33	1.11	0.013	0.002	0.146	0.014	0.001	0.027	0.009	0.004	0.001	0.048	0.0002	0.38	0.050	0.216	PRODUCT	68	L	Rec	37.40	7.78	290.97	51 858	76 923	46.69
J0002980			18	0.14	0.28	1.07	0.011	0.004	0.120	0.008	0.001	0.027	0.005	0.002	0.001	0.056	0.0001	0.36			HEAT									
	2000016759			0.15	0.29	1.05	0.013	0.002	0.124	0.016	0.001	0.025	0.006	0.001	0.001	0.047	0.0002	0.36	0.048	0.194	PRODUCT	68	L	Rec	38.00	8.65	328.70	58 232	74 414	51.78
	2000016729			0.14	0.28	1.06	0.011	0.002	0.124	0.015	0.001	0.027	0.005	0.001	0.001	0.048	0.0002	0.36	0.047	0.192	PRODUCT	68	L	Rec	38.10	8.56	326.09	58 957	74 342	49.08

L= Longitudinal ; T= Transverse ; Rt=Yield Strength ; Rm=Tensile Strength ; Rec=Rectangular

IMPACT TEST

Heat	Test			TA.	Size [mm]	°F	IMPACT TEST [ft-lb] Single Min. 10.0 1°	2°	3°	Avg. Min. 13.3 Avg.
J0002858	2000016767			T	10 x 6.67	-54	107.7	117.2	113.0	112.6
	2000016768									
J0002977	2000016755			T	10 x 6.67	-54	122.8	114.8	112.0	116.5
	2000016756									
J0002980	2000016759			T	10 x 6.67	-54	108.7	112.3	113.7	111.6
	2000016729									

HARDNESS TEST

Type	Max. 250 Value
HV10	160
HV10	167
HV10	161
HV10	155
HV10	161
HV10	164

REMARKS

FOLLOWING CONTROLS/TESTS HAVE BEEN SATISFACTORILY PERFORMED:
- Hot Rolled seamless line pipes
- Hydrostatic Test at pressure 20.2 Mpa (2929 PSI) for 5 sec;
- Visual Inspection and Dimensional Control;
- Flux Leakage Examination acc. to ASTM E570 for detection of External & Longitudinal/Transversal imperfections with 5%
- Flux Leakage Examination acc. to ASTM E570 for detection of Internal & Longitudinal/Transversal imperfections with 10 %
- Flattening test - acc. to ASTM A530 - PASSED
- Wet Magnetical Particle Inspection on Special End Area, acc. to ASTM E709

REMARKS
- The material herein described has been manufactured, sampled, tested and inspected in accordance with above standard and specification and satisfies the requirements.
- The material has not be subject to any weld repair.
- The material is free from mercury contamination and/or addition.
- The material is free from radioactive contamination (<100 bacquerels/gram).
- Dimensions for outside diameter and wall thickness of pipe in acc. to ASME B36.10M-2004
- For each reduction of 0.01% below the specified maximum for carbon, an increase of 0.05% above the specified maximum for manganese is permissible, up to a maximum of 1.35%

MARKING
JESCO_Spec SL-0724_ API MONOGRAM_MO-YR_ASTM/ASME A/SA 333_A/SA 53_ASTM/ASME A/SA 106_NACE MR 0175_NACE MR0103_8.625" 0.322" X52N/S/NC PSL2 SMLS TEST PRESSURE:2929 PSI/IDE LENGTH:##.# (ft) WEIGHT:### (lb) 26.58 LB/FT HEAT NO ######## AMERICAN PIPING PRODUCTS P11906 PIPE NO:### TF C-376.04 MADE IN SAUDI ARABIA

STEEL IS FULLY KILLED WAS PRODUCED BY ELECTRIC ARC FURNACES TO A FINE GRAIN PRACTICE

QUALITY MANAGEMENT SYSTEM		QUALITY CERTIFICATION DEPARTMENT	QUALITY MANAGER
acc. to ISO 9001 API Q1 ISO TS 29001	Q1-0709 SCC-1079 SL-0724	Vasilescu Florin Signature:	Alan Wist Signature and stamp: