MILL'S QUALITY CERTIFICATES

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CERTIFICATE NO : HIE2007-0012 PAGE : 1

DATE OF ISSUE : Jan. 19, 2007

L/C NO (P/O NO) : 1103044854

COMMODITY : 1,395.71MT OF WELDED STEEL PIPE, ASTM 500GR-B AS PER FOLLOWING B/ DOWN

SPECIFICATION : ASTM 500 GR-B

CUSTOMER : DUFERCO SA

TYPE OF PIPE END		DIMENSION (OUTDIA.×THICK.×LENGTH)	QUANTITY (PCS)	WEIGHT (KG)	HYDRO-STATIC TEST Kg/cm² PSI	※5	HEAT-NO.	PHYSICAL PROPERTIES YIELD STRENGTH	TENSILE STRENGTH B ※6	W ※7	(EL)		CHEMICAL COMPOSITION C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	Ti	B	HARDNESS	Ceq	IMPACT TEST (0 ℃) ENERGY	SHEAR-VALUE	REMARK (HARDNESS)
※1	※2	※3 ※4						PSI			%	※8	×100			×1000		×100				×1000				HV	×1000	JOULE	%	
BPE	NB	10"X10" X 0.250" X 40'	172	101,706			C061201	46,397	65,971		35	H	17	2	58	15	14													
BPE	NB	10"X10" X 0.375" X 40'	120	104,315			C061204	46,397	66,696		29	H	19	2	56	13	14													
BPE	NB	10"X10" X 0.500" X 40'	88	99,672			H060901	53,936	67,421		23	H	17	9	46	16	4													
BPE	NB	12"X4" X 0.250" X 40'	168	78,653			C070104	46,252	62,346		31	H	12	1	63	15	7													
BPE	NB	12"X4" X 0.375" X 40'	124	84,812			H061108	46,542	63,506		24	H	13	2	55	12	8													
BPE	NB	12"X8" X 0.375" X 40'	120	104,315			C061204	46,397	66,696		29	H	19	2	56	13	14													
BPE	NB	12"X8" X 0.500" X 40'	27	30,581			H060901	53,936	67,421		23	H	17	9	46	16	4													
BPE	NB	12"X8" X 0.500" X 40'	41	46,438			SQ94007	46,107	65,391		28	H	18	Tr	76	11	6													
BPE	NB	6"X6" X 0.313" X 40'	78	32,999			SP68757	47,557	66,261		25	H	19	1	86	12	7													
BPE	NB	6"X6" X 0.375" X 40'	106	52,857			SR20637	46,107	66,261		26	H	16	1	32	13	3													
BPE	NB	6"X6" X 0.375" X 40'	60	29,919			H060605	52,342	63,071		27	H	16	1	81	9	6													

※9 P. S. A	※10 VISUAL & DIMENSION TEST	※11 FLATTENING (B) TEST	※12 WELD DUCTILITY TEST	※13 NONDESTRUCTIVE TEST (U.T)	※14 DRIFT TEST	※15 FLARING TEST	※16 CRUSH TEST	※17 REVERSE FLATTENING TEST
	GOOD							

NOTE 1 ※1 Type of pipe End

BPE :Black Plain End Square-cut	GPE :Galvanized Plain End Square-cut
BPEB :Black Plain End Beveled	GPEB :Galvanized Plain End Beveled
BTC :Black Threaded & Coupled	GTC :Galvanized Threaded & Coupled
BVJ :Black Victaulic Joint	GVJ :Galvanized Victaulic Joint
ETC :Enameled Threaded & Coupled	

※ 2 NB:Norminal Bore, OD:Outside Diameter
※ 3 Unit (M:mm, I:Inch)
※ 4 Unit (M:Meter, F:Feet, I:Inch)
※ 5 G:Good
※ 6 Base Metal
※ 7 W : Weld Part
※ 8 H:Heat (Ladle) Analysis P:Product Analysis
※ 9 POST SEAM ANNEALING
※10 Visual & Dimension Test
※11 Flattening or Bending Test
※12 Weld Ductility Test
※13 Nondestructive Test
※14 Drift Test
※15 Flaring Test
※16 Crush Test
※17 Reverse Flattening Test

ORIGINAL

SUPERVISOR

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPTED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER

INSPECTION MANAGER