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**BARRIOS
INTERNATIONAL
SYMPOSIUM**

on Sustainable Non-ferrous Smelting
& Hydro/Electrochemical Processing

December 2016

PUBLICATIONS – P. Barrios

PUBLICATIONS:

2014	Barrios, P.; Lossin, A.; Teck: Mayhew, K; Mean, R.;	A sustainable hydrometallurgical process to develop copper deposits challenged with high arsenic	Expomin 2014
2011	Mayhew, K; Mean, R.; Joudrie, CM. Thompson, J. Barrios, P.; Koenig, C.; Omaynikova, V.; Wagner, O.	Teck – Aurubis: An integrated mine to metal approach to develop high arsenic copper deposits using the CESL process	PERUMIN, 30 Convención Minera Arequipa, 13 - 15 de setiembre de 2011
2008	Barrios, P.	NA / Cumerio – the leading integrated copper group in Europe	67th GDMB Copper Committee Meeting
2008	Carrillo, F.; Martinez, J.; Barrios, P.; Rosello, A.	Desulphurization Rate During Copper Blow In A Peirce Smith Converter	Metallurgical and Materials Transactions B 39(1): 16-22. February 2008.
2007	P.Barrios, T.Beamish, E. Marinov, I.Vasilev, T.Nikolov, D.Kirilov	NEW CHALLENGES FACING CUMERIO MED PIRDOP PLANT	"The Carlos Diaz Symposium on Pyrometallurgy", (Eds. A.E. M. Warner, C. J. Newman, A. Vahed, D.B.George, P.J. Mackey and A.Warczok), Vol. III, Book 1, Proceedings of the Sixth International Copper-Cobre Conference, August 25-30, 2007, Toronto, Ontario, Canada, pages 255-269, CIM, Montreal, Quebec, Canada, 2007
2004	Carrillo, F.; Martinez, J.; Barrios, P.; Rosello, A.	Cinética de Soplado a Cobre en un Convertidor Pierce Smith	Información Tecnológica. 2004, volumen 15, número 5, páginas 33 – 36
2003	Barrios, P.; Alonso, A.; Rich, C.	Plant Information System at the Atlantic Copper Smelter and Refinery	Proceeding of EMC (2003), pp. 1-11.
2002	Carrillo, F.; Martinez, J.; Barrios, P.; Rosello, A.	Kinetics of the conversion of copper sulfide to blister copper	Revista de Metalurgia (Madrid, Spain) (2002), 38(5), 334-338
2001	Barrios, P.; Contreras, J.; Alonso, A.; Meyer, U.	The increase in the recycling of scrap in the refining of copper.	Proceedings of European Metallurgical Conference EMC 2001; Volume 1, (2001), 310

2000	Barrios, P.; Alonso, A.; Meyer, U.	Sampling of FSD-type cathodes made from recycled copper	International Symposium on Recycling of Metals and Engineered Materials, Proceedings, 4th, Pittsburgh, PA, United States, Oct. 22-25, 2000 (2000), 567-581. Editor(s): Stewart, Donald L., Jr.; Daley, James C.; Stephens, Robert L. Publisher: Minerals, Metals & Materials Society, Warrendale, Pa.
1999	Barrios, P.; Alonso, A.; Meyer, U.	Reduction of silver losses during the refining of copper cathodes	Proceedings of the COPPER 99-COBRE 99 International Conference, 4th, Phoenix, Oct. 10-13, 1999 (1999), Volume 3, 237-247. Editor(s): Dutrizac, John E.; Ji, Jinxing; Ramachandran, V. Publisher: Minerals, Metals & Materials Society, Warrendale, Pa.

1999	Barrios, P.; Alonso, A.; Ortiz, C.	Improvements in the operating practices at the Atlantic Copper refinery.	Electrorefining and Electrowinning of Copper, (Oct. 1999), 291-299
1999	Barrios Patricio; Contreras Jesús; Palacios Miguel; Delgado Enrique; Alcón Lucas	Recent Operating Practices at Huelva Flash Smelter	9th International Flash Smelting Congress, Perth, Kalgoorlie and Adelaide, June 6-11, 1999
1999	Barrios, P.; Alonso, A.; Ortiz, C.	ISA Process in Atlantic Copper Refinery	ISA Conference, Sixth ISA Process Users Conference, Townsville, June 1999
1998	Barrios P.; Contreras J.; Palacios M.	Aumento de Productividad en Atlantic Copper, Planta de Huelva	X Congreso Internacional de Minería y Metalurgia, Valencia, Junio 2-4, 1998
1998	Barrios P.; Contreras J.; Palacios M.	Productivity Increase at Huelva Plant -A Review-	Trends in Copper Metallurgy International Conference, held in Gliwice, Apr. 20-22, 1998
1998	Barrios, Patricio; Palacios, Miguel; Donicke, Henning; Nepper, JeanPaul	Expansion of the copper smelter in Huelva	Sulfide Smelting '98: Current and Future Practices, Proceedings of the Symposium held at the TMS Annual Meeting, San Antonio, Feb. 16-19, 1998 (1998), 559-568. Editor(s): Asteljoki, Jussi A.; Stephens, Robert L. Publisher: Minerals, Metals & Materials Society, Warrendale, Pa.

1998	Barrios, Patricio; Contreras, Jesus; Palacios, Miguel	Recent operations at Atlantic Copper smelter in Huelva	Sulfide Smelting '98: Current and Future Practices, Proceedings of the Symposium held at the TMS Annual Meeting, San Antonio, Feb. 16-19, 1998 (1998), 135-146. Editor(s): Asteljoki, Jussi A.; Stephens, Robert L. Publisher: Minerals, Metals & Materials Society, Warrendale, Pa.
1997	Barrios, P.; Contreras, J.; Palacios, M.	The Expansion Project	Pyrometallurgical Operations, the Environment and Vessel Integrity in Nonferrous Smelting and Converting, Proceedings of the Nickel-Cobalt 97 International Symposium, Sudbury, Ont., Aug. 17-20, 1997 (1997), 577-588. Editor(s): Diaz, Carlos; Holubec, Igor; Tan, Chai G. Publisher: Canadian Institute of Mining, Metallurgy and Petroleum, Montreal, Que.
1997	Barrios, P.; Alonso, A.; Ortiz, C.	The Huelva Expansion Project -Change to the ISA Process-	ISA Conference, Fifth ISA Process Users Conference, Antwerpen, May 1997
1996	Barrios, Patricio; Bonano, Jose L.; Suarez, Juan A.	Recent operation of the acid plant at Huelva copper smelter	EPD Congress 1996, Proceedings of Sessions and Symposia held at the TMS Annual Meeting, Anaheim, Calif., Feb. 4-9, 1996 (1996), 907-21. Editor(s): Warren, Garry W. Publisher: Minerals, Metals & Materials Society, Warrendale, Pa.
1996	Barrios Patricio; Palacios Miguel	The modernization of the Rio Tinto Metal Huelva Copper Smelter	VIII Flash Smelting Congress, Tucson, Arizona and Salt Lake City, October 1996
1995	Barrios, P.; Alonso, A.; Ortiz, C.	Productivity and quality improvements in the Rio Tinto Minera (Huelva) Copper Refinery	Proceedings of the Copper 95--Cobre 95 International Conference, Santiago, Nov. 26-29, 1995 (1995), Volume 3, 93-102. Editor(s): Cooper, W. Charles. Publisher: Canadian Institute of Mining, Metallurgy and Petroleum, Montreal, Que.
1995	Barrios, P.	Estrategia en el desarrollo de una gran proyecto minero-metalurgico	Simposio sobre los Sulfuros Polimetálicos de la Franja Piritica Iberica, organizado por el Club Espanol de la Minería, Huelva, Oct., 1995
1993	de la Villa, D.; Barrios, P.; Contreras, J.; Bonano, J. L.; Palacios, M.	Productivity program at the Huelva Smelter	Extr. Metall. Copper, Nickel Cobalt, Proc. Paul E. Queneau Int. Symp. (1993), Volume 2, 1567-80. Editor(s): Landolt, Carlos A. Publisher: Miner. Met. Mater. Soc., Warrendale, Pa.
1991	Nepper, J. P.; Ruehl, B.; Barrios, P.	Improved converter control	Smelter Process Gas Handl. Treat., Proc. Int. Symp. (1991), 155-64. Editor(s): Smith, Tim J. A.; Newman, Chris J. Publisher: Miner. Met. Mater. Soc., Warrendale, Pa.

1990	De la Villa, Diego; Barrios, Patricio; Palacios, Miguel	Present operation of the Huelva smelter, Spain	Proceeding of GDMB Conference, Dortmund, March 28-29, 1990. Publisher: Erzmetall (1990), 43(7/8), 311-15
1987	De la Villa, D.; Contreras, J.; Barrios, P.	Increasing productivity by the use of tonnage oxygen at the Huelva Smelter	Proc. Int. Symp. Impact Oxygen Prod. NonFerrous Metall. Processes (1987), 269-82. Editor(s): Kachaniwsky, George; Newman, Chris J. Publisher: Pergamon, New York, N. Y.
1987	SMITH T J A; BARRIOS P; CEVALLOS F	REDESIGN OF THE CONVERTER GAS HANDLING-SYSTEM AT THE HUELVA SMELTER	JOURNAL OF METALS, (1987) Vol. 39, No. 10, pp. A76.
1986	De la Villa, D.; Contreras, J.; Barrios, P.	Use of High Oxygen Enrichment at the Huelva Smelter	Fifth International Flash Smelting Congress; Helsinki and Wroclaw; May 18-24, 1986
1985	DELAVILLA D; CEVALLOS F; BARRIOS P	RECENT INNOVATIONS AT THE HUELVA SMELTER	JOURNAL OF METALS, (1985) Vol. 37, No. 11, pp. A12.

PATENTS:

Method and apparatus for supplying reaction gas and solids into suspension melting furnace

Inventor Name: Miralles, Francisco; Delgado, Enrique; Barrios, Patricio; Savolainen, Heikki Olavi; Hanniala, Teuvo Pekka Tapio; Kojo, Ilkka Veikko

Patent Information: DE 19618845; FI 98071; US 5674310; CN 1144323 ; ES 2152120

Know-how Agreement with a technology company:

Invention consisted in a method and apparatus for Peirce Smith Converters air blowing control during turn-in and turn-out.