
Some Thoughts on Ore Controls in the J-M Reef, Stillwater Complex, Montana

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Underground exploration of the J-M Reef, the PGM-bearing portion(s) of the unique sequence of rocks informally designated the *J-M Reef Package*, revealed that the Reef Package lies unconformably upon truncated footwall layers in the Stillwater Mine sector of the Stillwater Complex (Bow, et.al., 1981; Turner, Wolfgram, and Barnes, 1985). Subsequently, extensive mine development-related drilling on 50-foot centers demonstrated that this unconformity represents two large channel features, one over 500 feet deep west of the Stillwater River and another yet to be entirely

defined to the east of it (Wolfgram and Evans-Holmgren, 1993). Although in the past the J-M Reef and Reef package have been compared and contrasted with the Merensky Reef of the Bushveld Complex by many investigators, it seems increasingly evident that the lava-channel localized nickel deposits of Kambalda, Western Australia, may be more analogous with respect to mappable geologic controls on the distribution of ore-grade mineralization and the general nature of the processes involved in their formation.