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Interactive comment on "Erosion control blankets, organic amendments and site variability influenced the initial plant community at a limestone quarry in the Canadian Rocky Mountains" *by* A. C. Cohen-Fernández and M. A. Naeth

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General Comments This manuscript is a well-written account of a straightforward ïňĄeld experiment in vegetation establishment on a harsh substrate. The methods and experimental design are generally described clearly, and the discussion follows logically from the results presented. I note that this manuscript is being considered for a special theme issue, but am not able to comment on how closely it ïňĄts the intended

scope and theme(s) of that issue. Response of Authors We believe our manuscript provides new and useful information on the role of seeding season during early stages of assisted plant establishment in highly disturbed areas. Our manuscript evaluates the effect of different amendments on soil properties and the characteristics of the early plant community due to different soil treatments and locations. We consider that these contributions are in agreement with the Special Issue's scope, described by the editors as focused on ". . . observational, experimental, and theoretical studies elucidating processes as they occur during state transitions providing insights into feedback controls and threshold like behaviors of ecosystems. Particularly, processes contributing to self-organized pattern formation of young ecosystems in the very early stage of development. . .".

SpeciïňĄc Comments Pp. 3013, l. 10: capitalize Brunisolic; also, for international readers, make it clear that this is the Canadian soil classiïňĄcation term (citing 1998 classiïňĄcation), and provide an equivalent from the FAO World Reference Base http://www.fao.org/ïňĄleadmin/templates/nr/images/resources/pdf_documents/wrb2007_red.pdf and/or the U.S. Soil Taxonomy. Response of Authors Addressed as suggested in the manuscript. The word Brunisoilc has been capitalized and the soil type equivalent "Cambisol" (FAO and World Base System) has been included.

Pp. 3017, l. 21: it would be more accurate to amend this sentence to read: " ... being up to twice as high....." Response of Authors Addressed as suggested in the manuscript.

Table 1: What is "Saturation %"? Several chemical properties (soluble chloride ... sodium) are listed but the method isn't given in the text. Also, for these properties the concentrations are given on a volume base (mg L-1) which is difiïňĄcult to interpret. Is it necessary to give two sets of almost identical results for inorganic C? Response of Authors Saturation percentage refers to the water content in a water saturated soil paste sample. The saturated paste method was used to estimate soil exchangeable ion, hydrogen potential (pH) and electrical conductivity (EC) in our study. The satura-

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tion % listed in Table 1 is a result from the analyses. The value can be related to soil texture and if desired can be used to estimate soil field capacity (FC, 33 kPa) and permanent wilting point (PWP, 1500 k Pa) (Gaviak et al, 2003). Sodium adsorption ratio (SAR), soluble ions (chloride, calcium, potassium, magnesium, sodium and sulphate), pH and electrical conductivity in soil samples from our study site were determined using the saturated paste method, according to Carter (1993). Ions are exchanged in soil solution; therefore concentrations are given in a volume basis. An appropriate unit to express concentration of ions in soil solution is mg L-1. The total inorganic carbon and calcium carbonate equivalent is a useful parameter when the focus of the soil analyses is plant nutrition. In our study these values are similar to the total inorganic carbon obtained by the combustion method. Despite using two separate methods, the results were consistent. These results can be expected from soil in our study site because calcium carbonate is the parent material. Because of the consistent results and in the interest of simplifying information for the reader, only total inorganic carbon by combustion can be reported, since the value is complementary to the reported total and organic carbon values.

Table 6: Since the other plant density and cover data are presented graphically (Figures1 & 2), wouldn't it be more consistent to use a similar style of ïňĄgure to present these data? Response of Authors We agree that for consistency, the information can be presented in a figure rather than a table. The figure is now Figure 2 in the manuscript.

Technical Corrections Pp. 3010, l. 9 (and elsewhere): hyphenate "non seeded" wherever it precedes a noun Response of Authors The corrections have been incorporated to the manuscript.

Pp. 3011, l. 28: de Souza and Batista 2004 is missing from the reference list Response of Authors The reference has been added to the manuscript. de Souza, F.M. and J.L.F. Batista.: Restoration of seasonal semideciduous forests in Brazil: inïňĆuence of age and restoration design on forest structure. Forest Ecol. Manage., 191: 185–200, 2004.

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Pp. 3012, l. 25 – p. 3013, l. 1: Sentence would be clearer as follows: “These sites collectively represented the heterogeneity of conditions found around the world on typical limestone quarries requiring reclamation.” Response of Authors The correction has been incorporated to the manuscript.

Pp. 3015, l. 12: Kelowna is capitalized Response of Authors The correction has been incorporated to the manuscript.

Pp. 3020, l. 1: change “has” to “have” Response of Authors The correction has been incorporated to the manuscript.

Pp. 3020, l. 16 (and p. 3023, l. 15): Is “Cohen and Naeth, 2013” the same as CohenFernandez and Naeth 2013 in the reference list? Response of Authors Citations of “Cohen and Naeth” were replaced with “Cohen-Fernández and Naeth” in all instances

Pp. 3022, l. 24: insert comma after “New” Response of Authors The correction has been incorporated to the manuscript.

Interactive comment on Biogeosciences Discuss., 10, 3009, 2013.

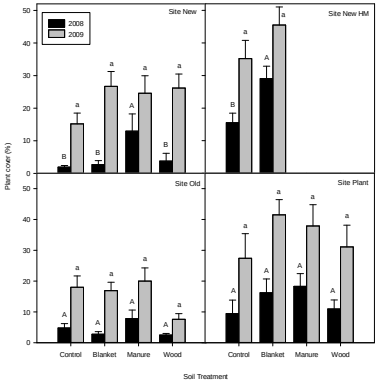

Figure 2. Mean percent plant cover at each soil treatment and site in 2008 and 2009. Letters indicate significant differences among soil treatments in the same year; upper case letters for 2008 and lower case letters for 2009. Bars indicate standard error.

Fig. 1.

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