

Accepted Manuscript

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PII: S0377-0273(16)30387-0

DOI: doi: [10.1016/j.jvolgeores.2017.05.002](https://doi.org/10.1016/j.jvolgeores.2017.05.002)

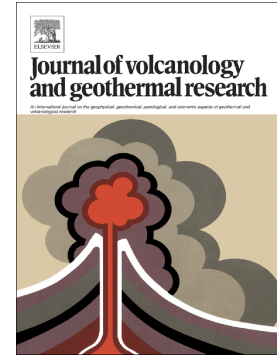
Reference: VOLGEO 6087

To appear in: *Journal of Volcanology and Geothermal Research*

Received date: 7 October 2016

Revised date: 3 May 2017

Accepted date: 4 May 2017



Please cite this article as: Jamal Amin, Greg A. Valentine , Compound maar crater and co-eruptive scoria cone in the Lunar Crater Volcanic Field (Nevada, USA), *Journal of Volcanology and Geothermal Research* (2017), doi: [10.1016/j.jvolgeores.2017.05.002](https://doi.org/10.1016/j.jvolgeores.2017.05.002)

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Compound maar crater and co-eruptive scoria cone in the Lunar Crater Volcanic Field (Nevada, USA)

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Abstract

Bea's Crater (Lunar Crater Volcanic Field, Nevada, USA) consists of two coalesced maar craters with diameters of ~440 m and ~1050 m, combined with a co-eruptive scoria cone that straddles the northeast rim of the larger crater. The two craters and the cone form an alignment that parallels many local and regional structures such as normal faults, and is interpreted to represent the orientation of the feeder dyke near the surface. The maar formed amongst a dense cluster of scoria cones; the cone-cluster topography resulted in crater rim that has a variable elevation. These older cones are composed of variably welded agglomerate and scoria with differing competence that subsequently affected the shape of Bea's Crater. Tephra ring deposits associated with phreatomagmatic maar-forming eruptions are rich in basaltic lithics derived from <250 m depth, with variable contents of deeper-seated ignimbrite lithic clasts, consistent with ejection from relatively shallow explosions although a diatreme might extend to deeper levels beneath the maar. Interbedding of deposits on the northeastern cone and in the tephra ring record

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