***Gems & Gemology* Data Depository**
Details of the LA-ICP-MS analytical conditions to accompany: B. Rondeau et al., "Play-of-Color Opal from Wegel Tena, Wollo Province, Ethiopia," Summer 2010 *G&G*, pp. 90–105.

Nebulizer, auxiliary, and cool gas flows were set to 0.80, 0.70, and 16.0 l/min Ar, respectively. RF power was 1500 kV. The analytical setup was tuned for optimum performance across the entire mass range. Daily optimization of the analytical conditions were done to satisfy a ThO production rate below 0.2% (i.e., Th/ThO intensity ratio <0.002) and to achieve robust plasma conditions monitored by a Th/U sensitivity ratio of 1 as determined on a SRM 610 glass standard. More information on the setup and optimization strategies can be found in Pettke (2008).

LA-ICP-MS analyses were performed in sequence, and each ablation was stored individually as a transient (i.e., time-resolved) signal acquired in peak-hopping mode. Data acquisition parameters were one sweep per reading, one replicate with 200–300 readings per replicate. Dwell time per isotope was 10 ms. The SRM 610 standard was used to calibrate analyte sensitivities, and bracketing standardization provided a linear drift correction. Data reduction followed principles outlined in Longerich et al. (1996). Internal standardization was done assuming 85% SiO_2. Limits of detection for each signal interval were calculated for each element, for individual analyses, as three times the standard deviation of the gas background signal divided by the element sensitivity (Longerich et al., 1996).

Longerich H.P., Jackson S.E., Günther D. (1996) Laser ablation inductively coupled plasma mass spectrometric transient signal data acquisition and analyze concentration calculation. *Journal of Analytical Atomic Spectrometry*, Vol. 11, No. 9, pp. 899–904.

Pettke T. (2008) Analytical protocols for element concentration and isotope ratio measurements in fluid inclusions by LA-(MC)-ICP-MS. In P. Sylvester, Ed., *Laser Ablation ICP-MS in the Earth Sciences: Current Practices and Outstanding Issues*, Mineralogical Association of Canada Short Course Series, Vol. 40, pp. 189–218.