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COMET C/2008 S1 (McNAUGHT)

R. H. McNaught reports his discovery of a comet (discovery position tabulated below) with a 15″ circular coma and possible extension in p.a. ~ 30° on CCD images obtained with the 0.5-m Uppsala Schmidt telescope; additional stacked images from Sept. 18.38 UT show a 30″ coma extended to the north and a condensation with FHWM = 5″. Following posting on the 'NEOCP' webpage, other CCD observers have also reported cometary appearance. D. Mayes and J. Young (Table Mountain 0.6-m reflector, Sept. 18.1; low altitude) report a round coma with an 8″-diameter central condensation and a possible thin tail ≈ 20″ long in p.a. 55°–60°. E. Guido, G. Sostero, and P. Camilleri (0.25-m reflector at Moorook, Australia, remotely, Sept. 18.5; 31 co-added exposures) find a coma diameter of ~ 12″. A. Herring measures a 9″.9 tail in p.a. 59°.4 on exposures taken by R. Holmes (Charleston, IL, U.S.A., 0.61-m astrograph, Sept. 18.05–18.06).

2008 UT	α_{2000}	δ_{2000}	Mag.
Sept.17.40807	$16^h21^m33^s.37$	$-24°29'41''.3$	16.6

The available astrometry, preliminary parabolic orbital elements (T = 2008 Sept. 21.089 TT, q = 1.35320 AU, ω = 192°.082, Ω = 104°.558, i = 17°.974, equinox 2000.0), and an ephemeris appear on *MPEC* 2008-S10.

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W. J. Merline, Southwest Research Institute (SwRI); A. R. Conrad, W. M. Keck Observatory (WMKO); J. D. Drummond, Starfire Optical Range, AFRL; P. M. Tamblyn, Binary Astronomy, Dillon, CO, and SwRI; C. Dumas and B. Carry, European Southern Observatory; R. D. Campbell and R. W. Goodrich, WMKO; C. R. Chapman, SwRI; and W. M. Owen, Jet Propulsion Laboratory, report the first-ever near-infrared imaging of a close-approaching binary minor planet: on Aug. 9 UT, over a span of ~ 1 hr, they obtained J-, H-, and K_p-band images — using the 10-m Keck II Telescope (+ NIRC2/AO adaptive-optics system) on Mauna Kea — of clearly-separated components of (35107) 1991 VH, which was first suspected as a binary by Pravec *et al.* (it IAUC 6607). On Aug. 9.236 the satellite, designated S/2008 (35107) 1, was 0″.08 (projected separation 3.1 km) in p.a. 105° from the primary (the smallest angular and physical separations yet for a binary minor planet using adaptive optics). The brightness difference was $\Delta K_p \approx 2.0$ mag. The observed separation and size ratio are consistent with the parameters derived by Pravec *et al.* (2006, *Icarus* **181**, 63).

2008 September 19 *Daniel W. E. Green*