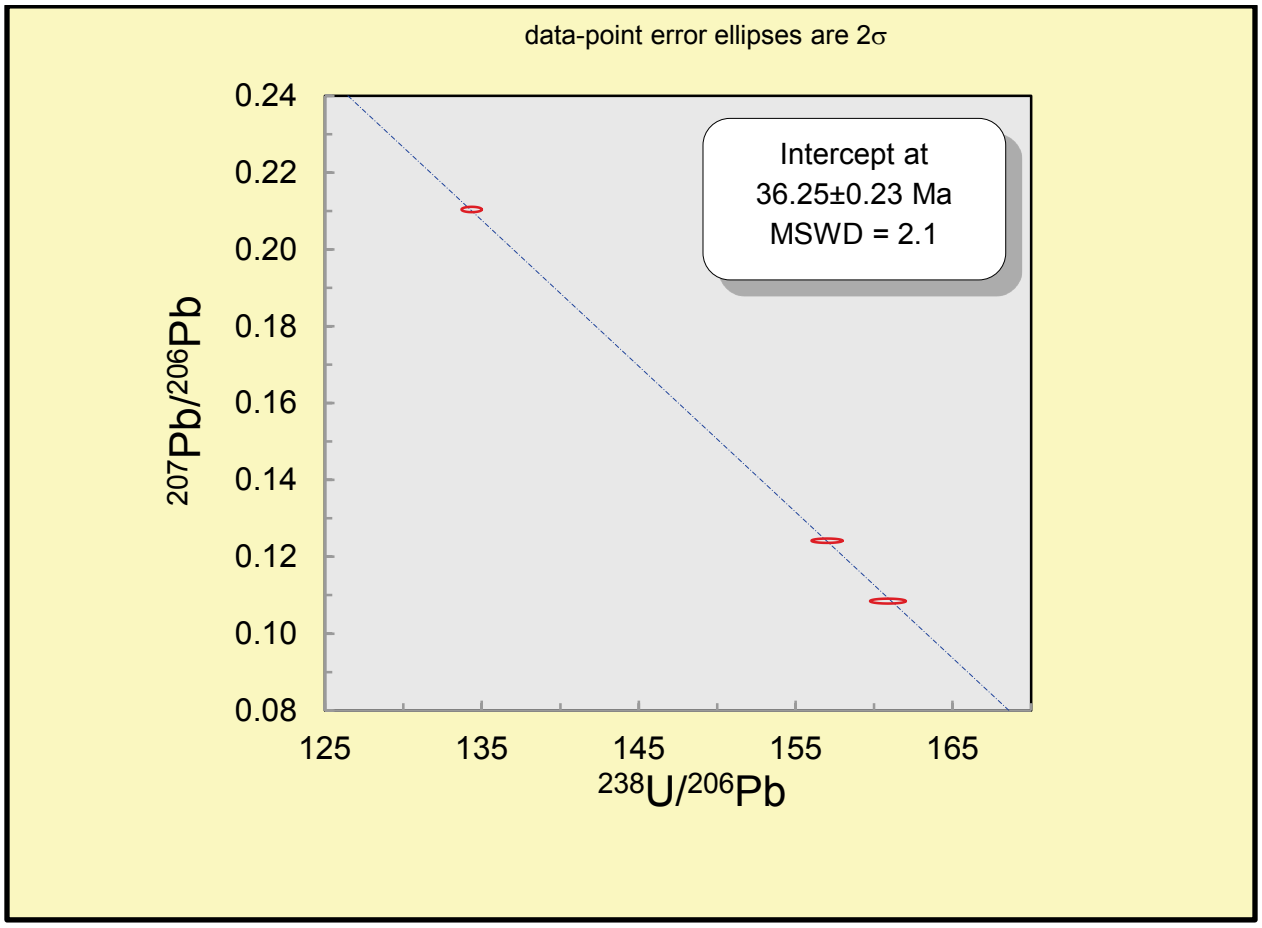
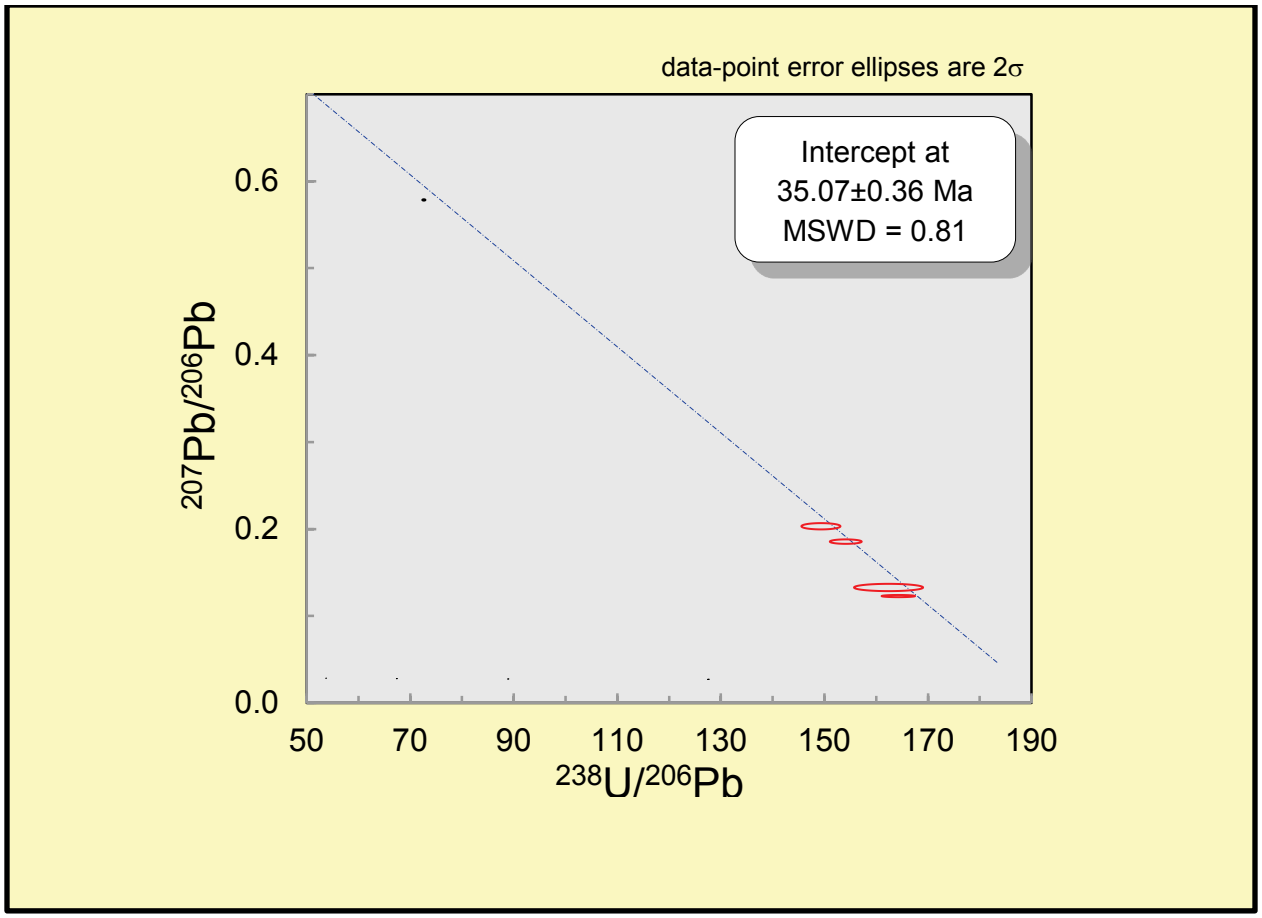
GSA Data Repository item #2015213

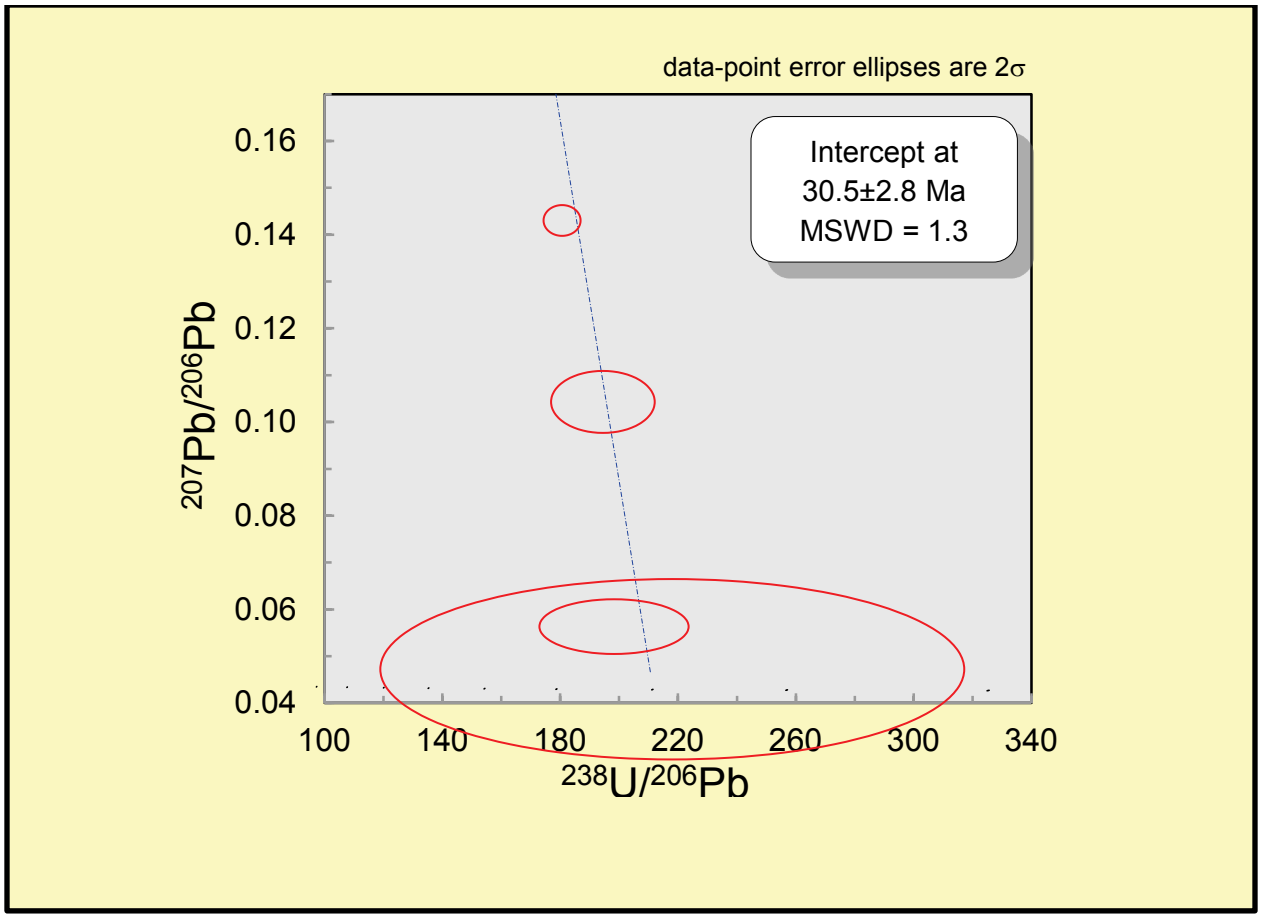
Decker, D.D., Polyak, V.J., and Asmerom, Y., 2015, Depth and timing of calcite spar and "spar cave" genesis: Implications for landscape evolution studies, *in* Feinberg, J., Gao, Y., and Alexander, E.C., Jr., eds., Caves and Karst across Time: Geological Society of America Special Paper 516, p. 103–111, doi:10.1130/2015.2516(08).



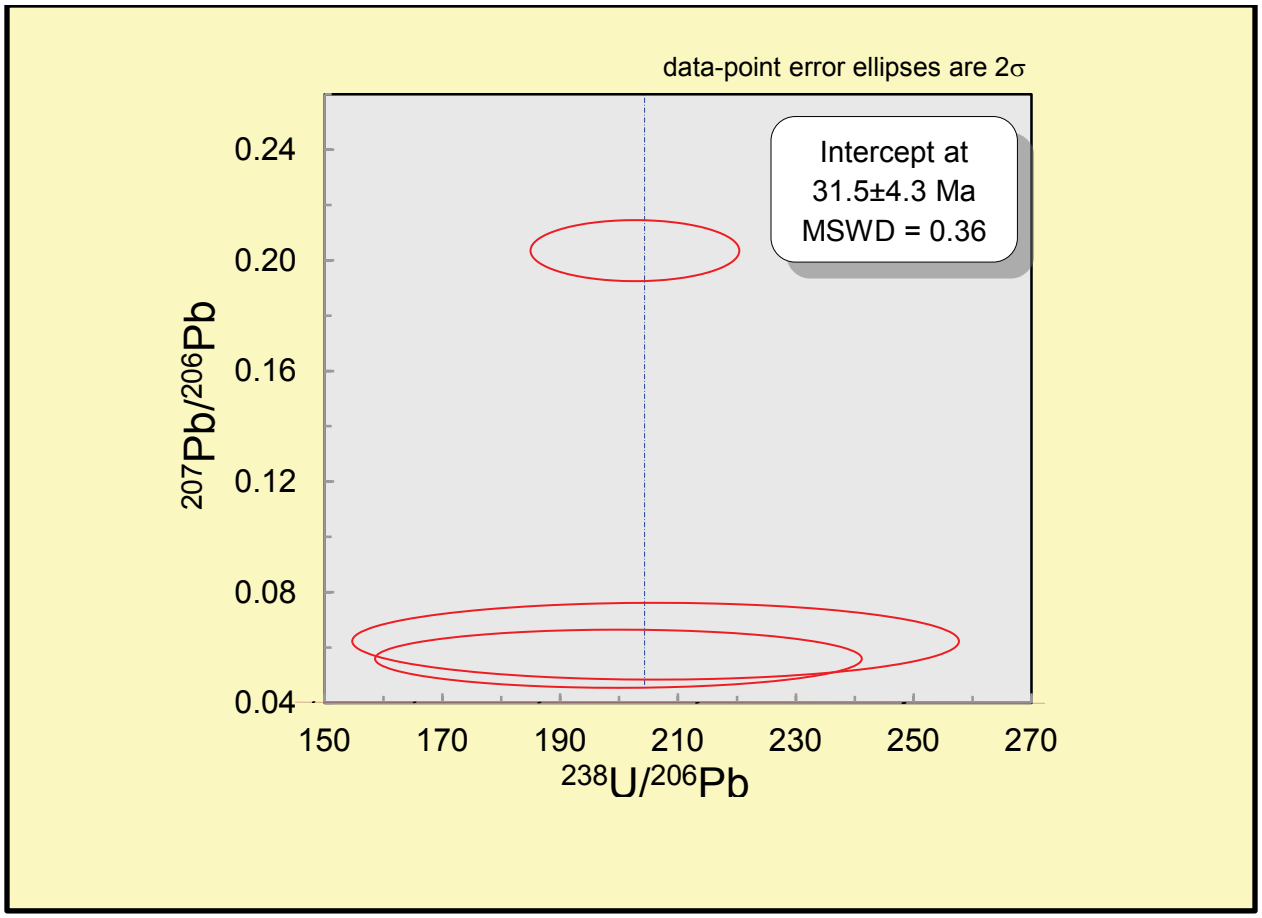
Graph 1: USFS-11290-002 U-Pb concordia



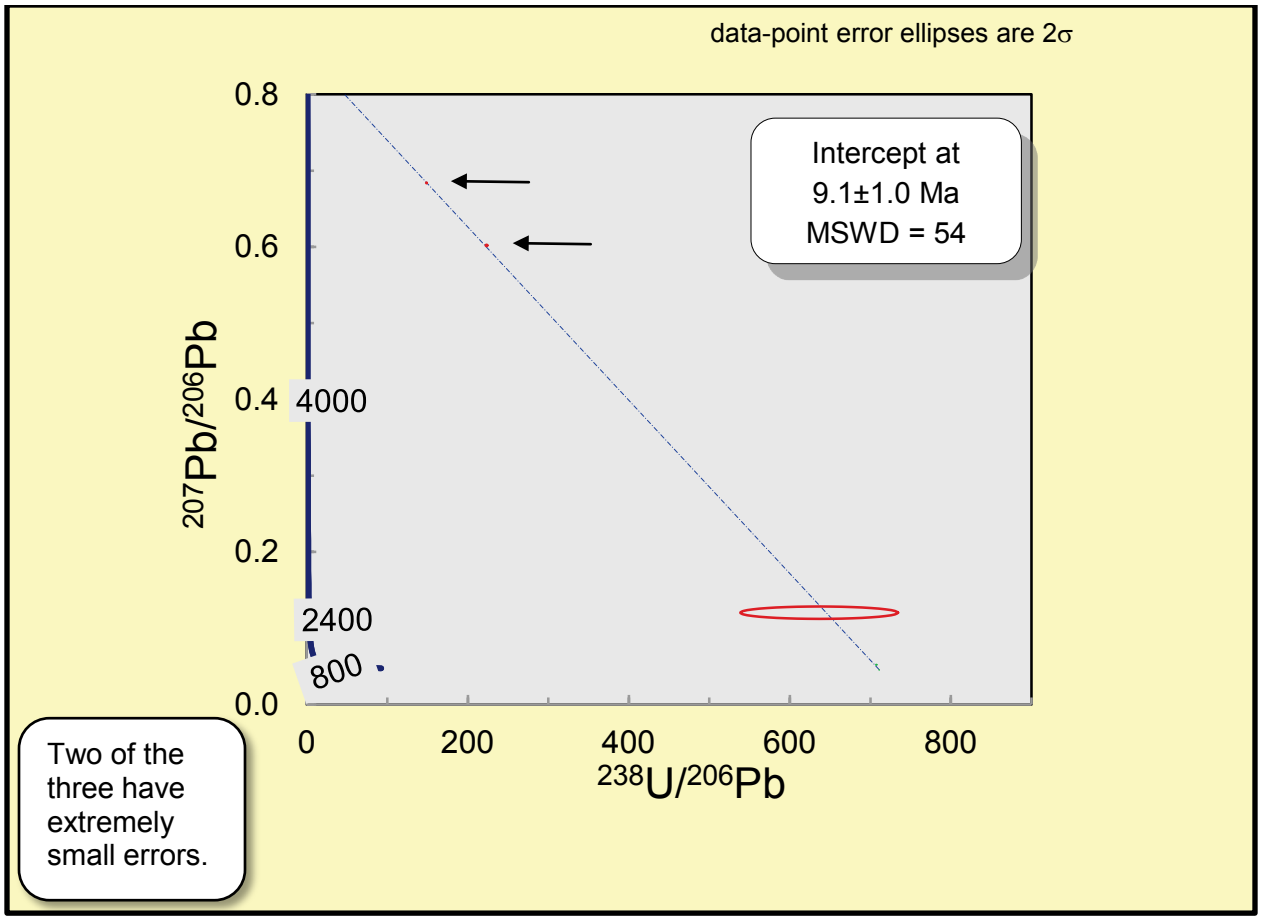
Graph 2: CAVE-02399-004 U-Pb concordia



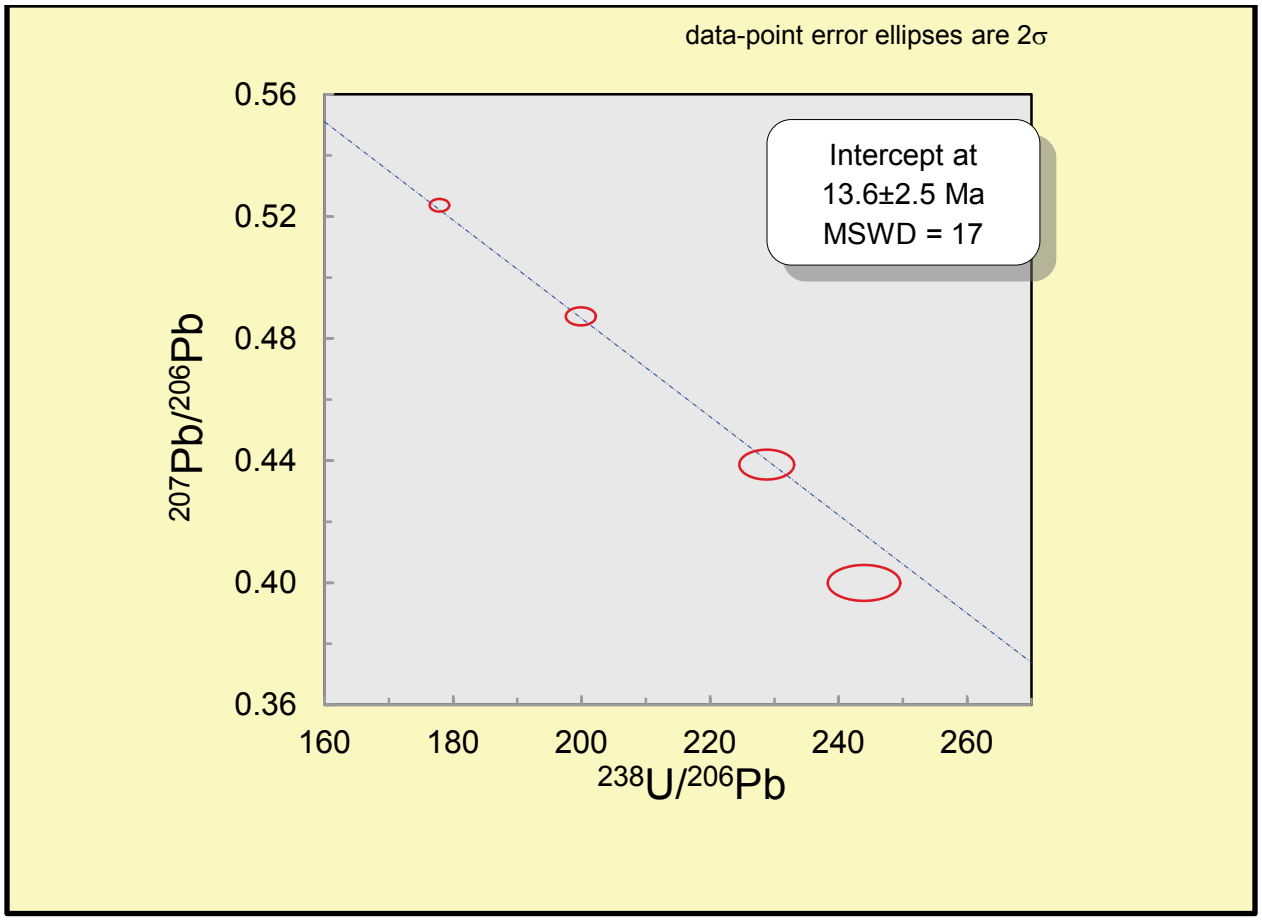
Graph 3: GUMO-00549-003 U-Pb concordia



Graph 4: BLMC-20122-005 U-Pb concordia



Graph 5: CAVE-02399-008 U-Pb concordia



Graph 6: CAVE-02399-003 U-Pb concordia

Collection location description

Designations are regional, not specific caves. See detailed description for cave number associated with the sample number (CAVE: Carlsbad Caverns National Park; GUMO: Guadalupe Mountains National Park; BLMC: Bureau of Land Management, Carlsbad Field Office; USFS: US Forest Service, Guadalupe District).

BLMC-20122-005	Small spar encrusted vugs truncated by later cave formation. Spar is of centimeter size with visible petroleum inclusions. BLM-NM-060-0030. Sample location is approximately 1085 meters ASL.
CAVE-02399-002	Small[1] vug exposed in fracture in intermediate level of CAVE-C-1 truncated by later cave formation. Spar of centimeter size. Elevation of sample is approximately 1115 meters above sea level (ASL).
CAVE-02399-003	Small vugs exposed in bone yard at bottom of small medium sized room in the intermediate level of CAVE-C-1, room truncated by later cave formation. Spar of decimeter size. Elevation of sample is approximately 1095 meters ASL.
CAVE-02399-004	Large[3] vug, heavily encrusted with large (decimeter) spar crystals in the upper levels of CAVE-C-5 truncated by later cave formation. Elevation of sample is approximately 1330 meters ASL.
CAVE-02399-007	Spar encrusting small vugs and fractures in the intermediate level of CAVE-C-1 exposed by later cave formation. Spar of centimeter to decimeter size. Elevation of sample is approximately 1205 meters ASL.
CAVE-02399-008	Spar encrusting very small vug in the lower level of CAVE-C-1 truncated by later cave formation. Spar of millimeter to centimeter size. Elevation of sample is approximately 1135 meters ASL.
GUMO-00549-001	Intermediate vug in two orthogonal passages entirely encrusted with centimeter size spar crystals located near the top of the Guadalupe escarpment. GUMO-GEO-00111. Sample location at the top of the Guadalupe escarpment at approximately 2080 meters ASL.
GUMO-00549-002	Small vug truncated by canyon down-cutting. Spar was acicular and centimeter in size. GUMO-GEO-00564. Sample location at the top of the Guadalupe escarpment at approximately 2065 meters ASL.
GUMO-00549-003	Intermediate vug truncated by canyon down-cutting. Spar was acicular and centimeter in size. GUMO-GEO-00108. Sample location in the middle of the Guadalupe escarpment at approximately 1946 meters ASL.

USFS-11290-002	Small vugs truncated by later cave formation in the intermediate level of the cave. Spar of decimeter size. FSGD-C-90. Sample elevation approximately 2035 meters ASL.
USFS-11290-007	Intermediate vug truncated by canyon down-cutting and surface erosion. Spar of decimeter to meter size. Spar exposed to sunlight had moss or algae growing on it. Some spar crystals were swallow tail twins. Much of the spar was heavily corroded, most likely from subsequent sulfuric acid speleogenesis. FSGD-C-72. Sample location at approximately 2040 meters ASL.
USFS-11290-008	Intermediate vug truncated by subsequent cave formation. Spar of centimeter size. FSGD-C-211. Sample location at approximately 1805 meters ASL.

1. Small vug defined as a vug with a volume of less than 10 m^3.

2. Intermediate vug defined as a vug with a volume of between 10 m^3 and 100 m^3.

3. Large vug defined as a vug with a volume of greater than 100 m^3.

4. All samples were encrusted with a thin outer layer of hydrated calcite. This layer has not yet been dated.

Cross-reference data for sample numbers to cave numbers to location numbers:

Sample #	Cave Number	Location Number
CAVE-02399-002	CAVE-C-1	Site 2
BLMC-20122-002	BLM-NM-060-0021	Site 1
GUMO-00549-001	GUMO-GEO-00111	Site 6
USFS-11290-002	FSGD-C-90	Site 5
GUMO-00549-002	GUMO-GEO-00564	Site 6
GUMO-00549-003	GUMO-GEO-00108	Site 6
USFS-11290-006	FSGD-C-202	Site 5
USFS-11290-007	FSGD-C-72	Site 5
CAVE-02399-004	CAVE-C-5	Site 3
BLMC-20122-005	BLM-NM-060-030	Site 1
CAVE-02399-006	CAVE-C-5	Site 3
USFS-11290-008	FSGD-C-211	Site 5
CAVE-02399-003	CAVE-C-1	Site 2
BLMC-20122-011	BLM-NM-060-27	Site 5
USFS-11290-009	FSGD-C-62	Site 5
CAVE-02399-007	CAVE-C-1	Site 2
CAVE-02399-008	CAVE-C-1	Site 2
CAVE-02399-009	CAVE-C-1	Site 2
CAVE-02399-011	CAVE-C-10	Site 4