Penasquito Minesite Mexico
Stereo Satellite Volumetric Mapping
Jan 31 and Feb 27 2010

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Penasquito Minesite

Stereo WorldView-2 January 31, 2010

Penasquito Mill

Stereo WorldView-2 February 27, 2010

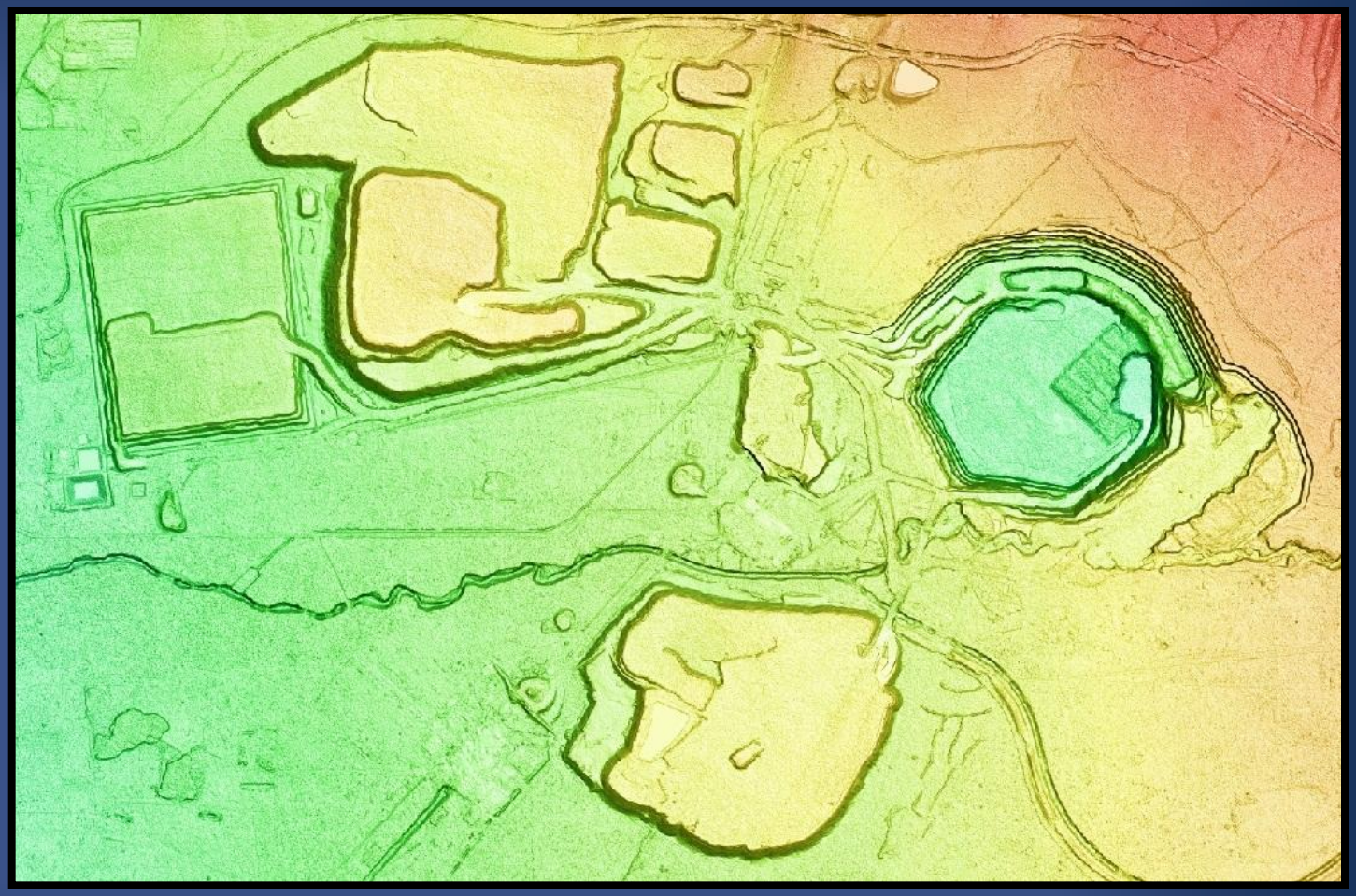
Penasquito Mill

Stereo WorldView-2 February 27, 2010

Penasquito Mill

Stereo WorldView-2 February 27, 2010

Penasquito Minesite

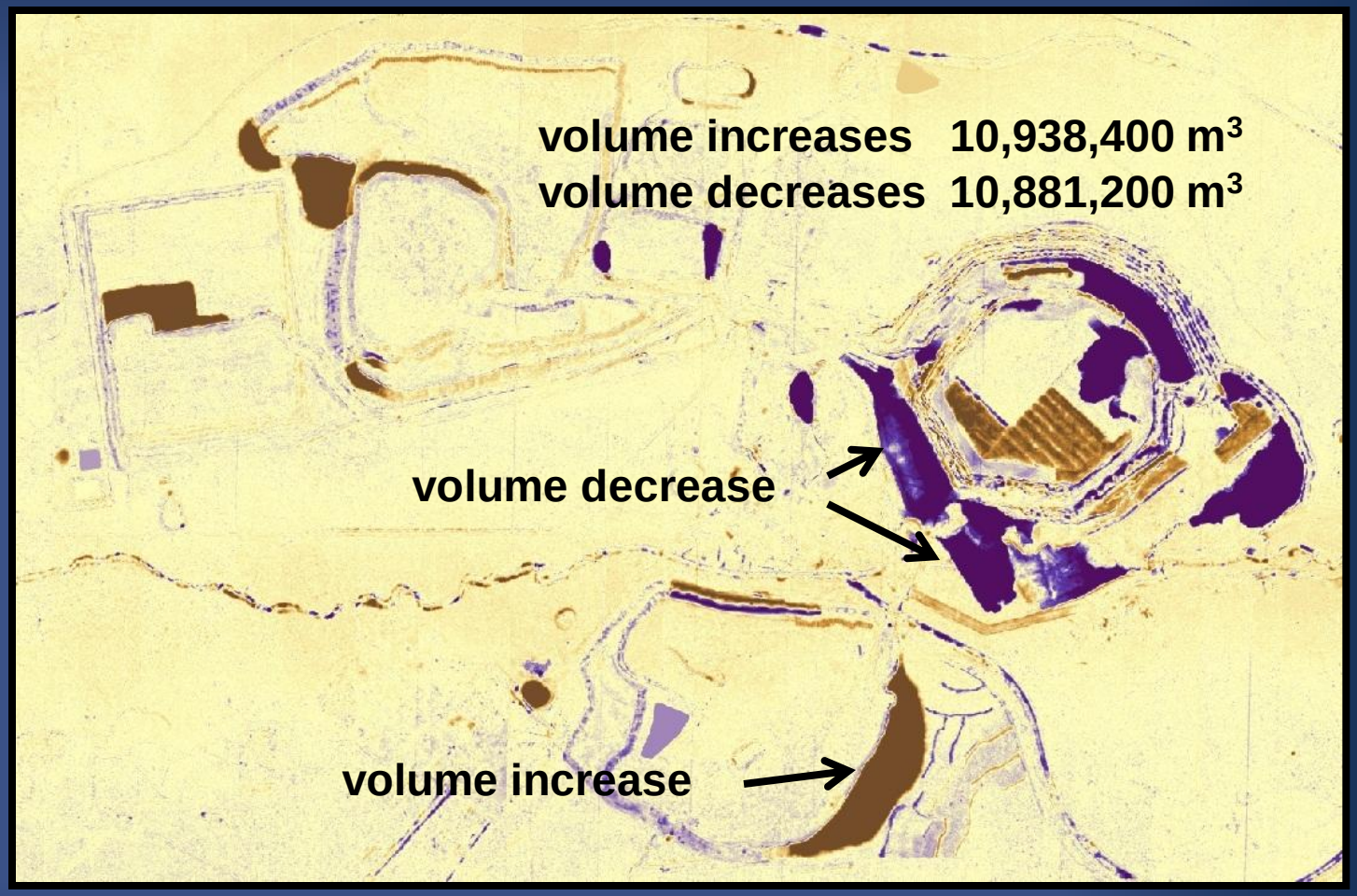


Stereo WorldView-2 elevation map
January 31, 2010

Penasquito Minesite

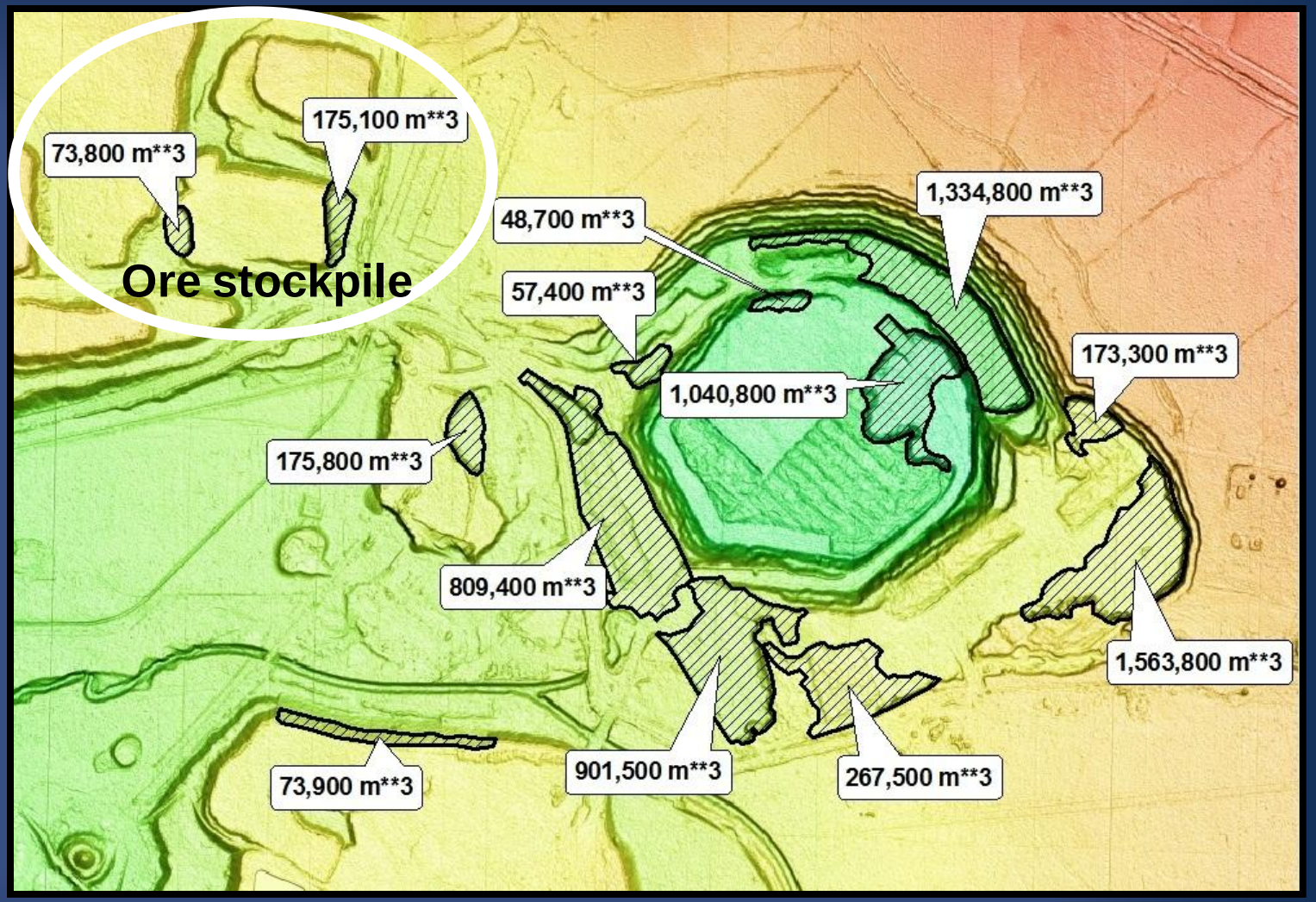
Stereo WorldView-2 elevation map
February 27, 2010

Penasquito Minesite



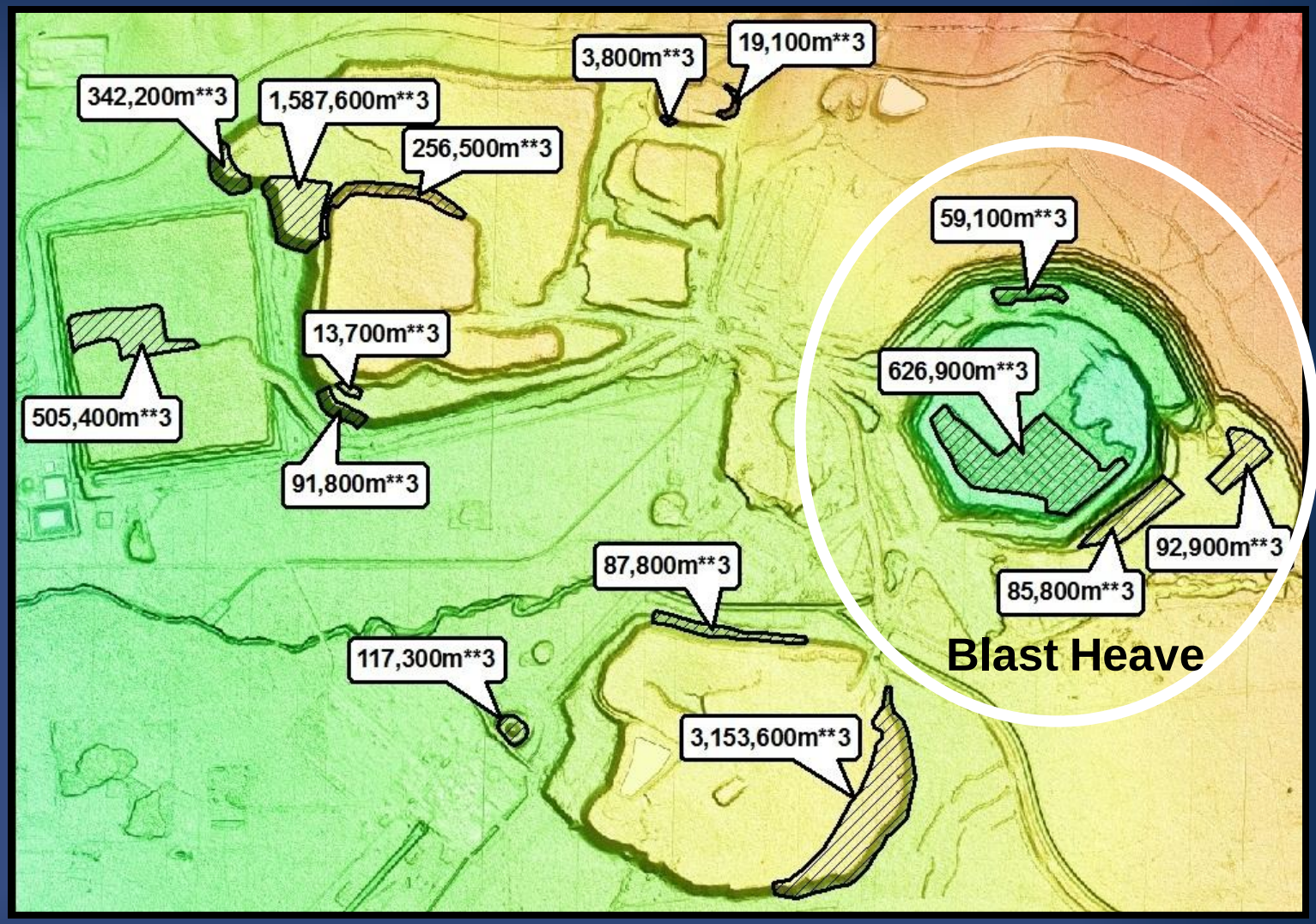
Stereo WorldView-2 elevation differences Jan 31 to Feb 27, 2010

Penasquito Minesite



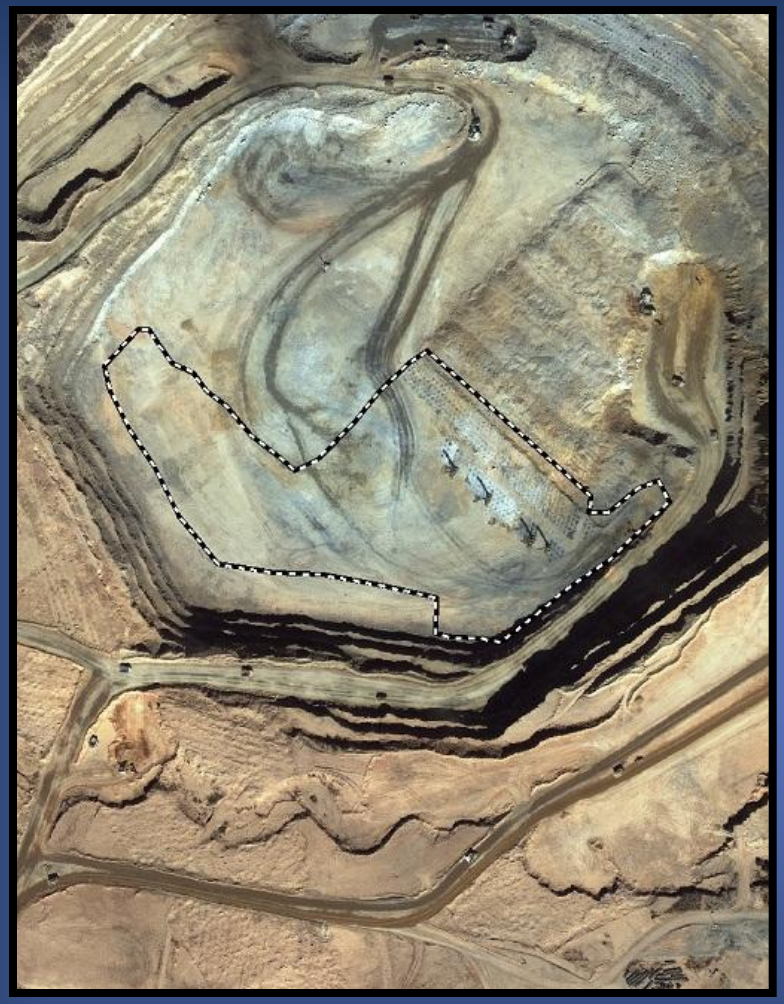
Volume decreases Jan 31 to Feb 27, 2010

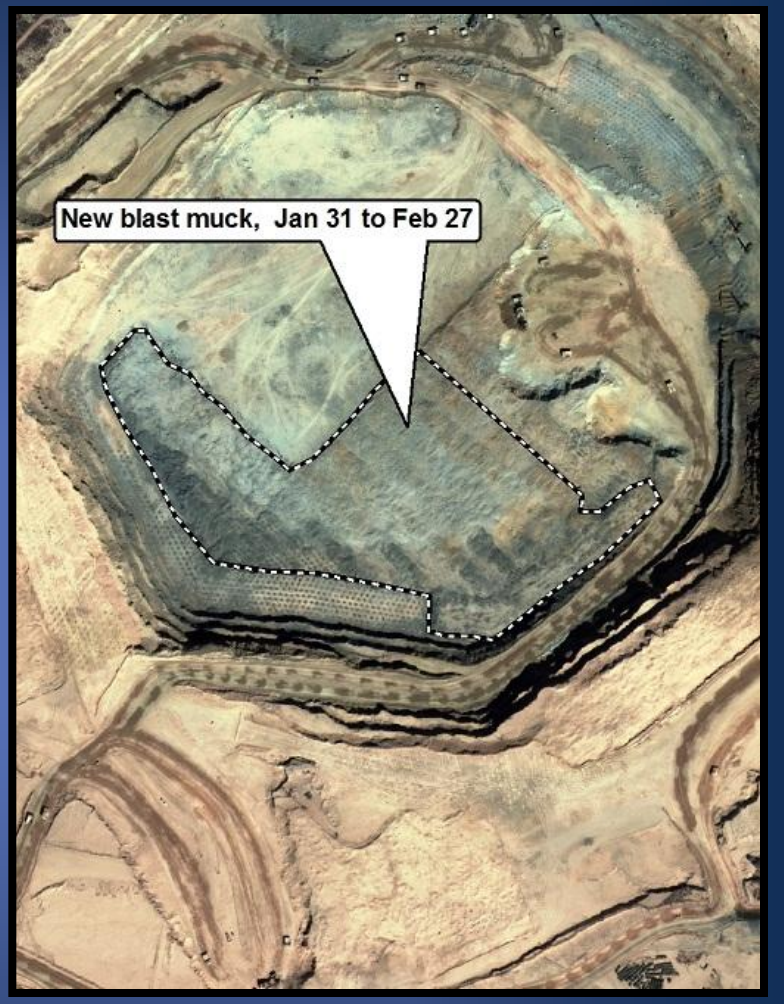
Penasquito Minesite



Volume increases Jan 31 to Feb 27, 2010

Penasquito blast heave

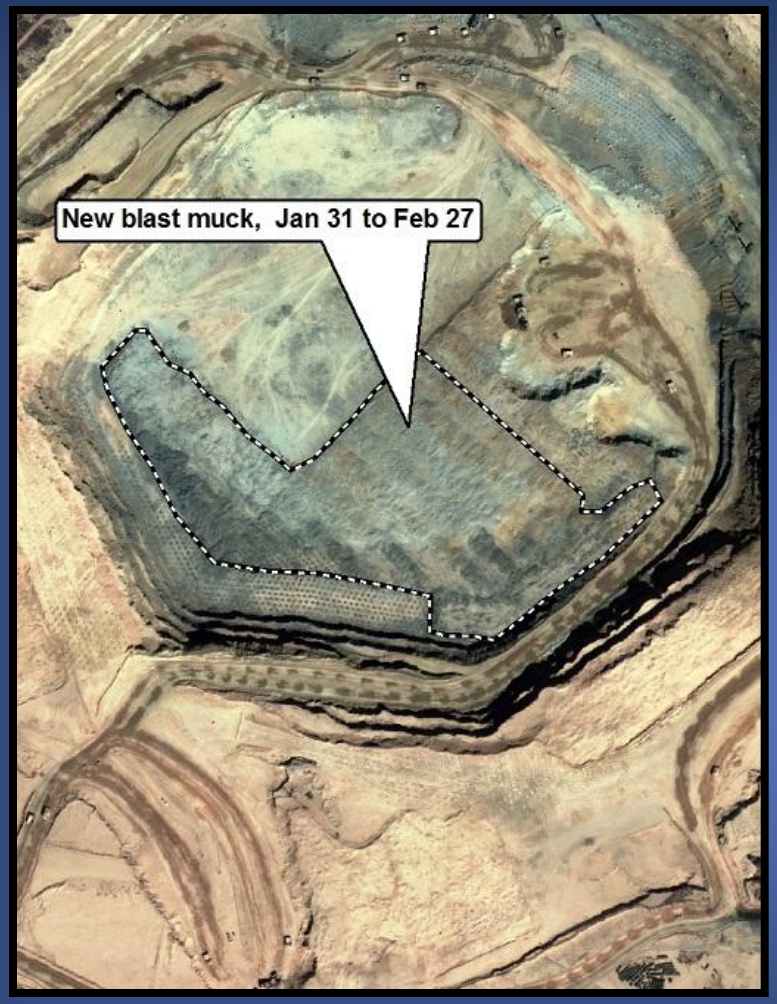


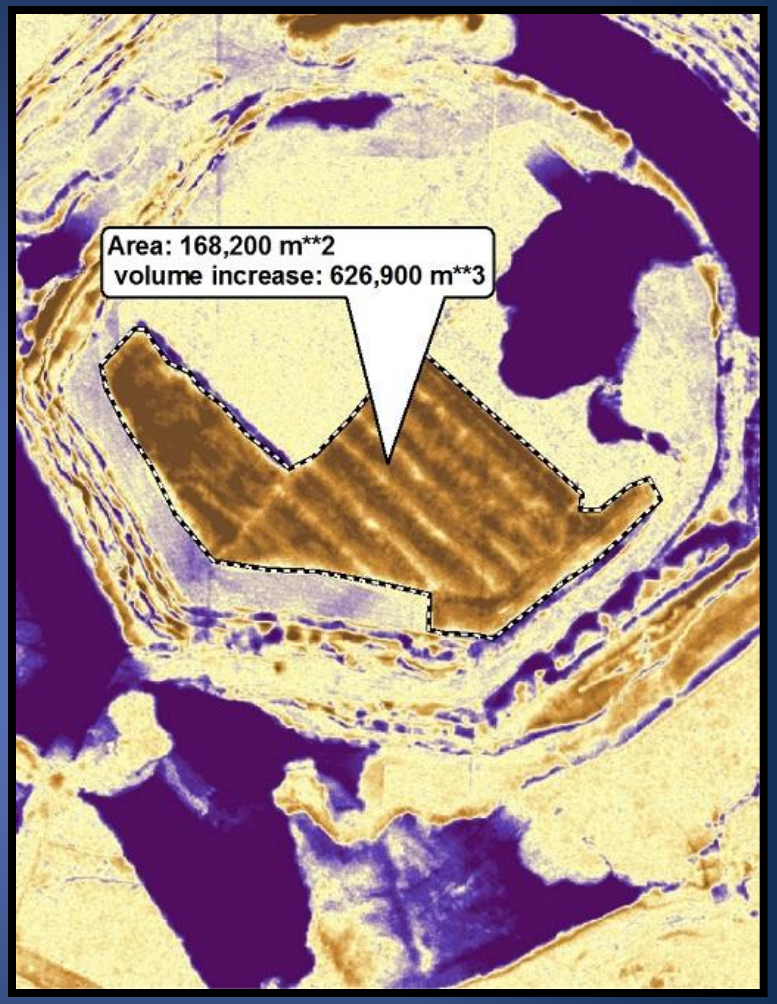


WorldView-2
January 31, 2010

WorldView-2
February 27, 2010

Penasquito blast heave

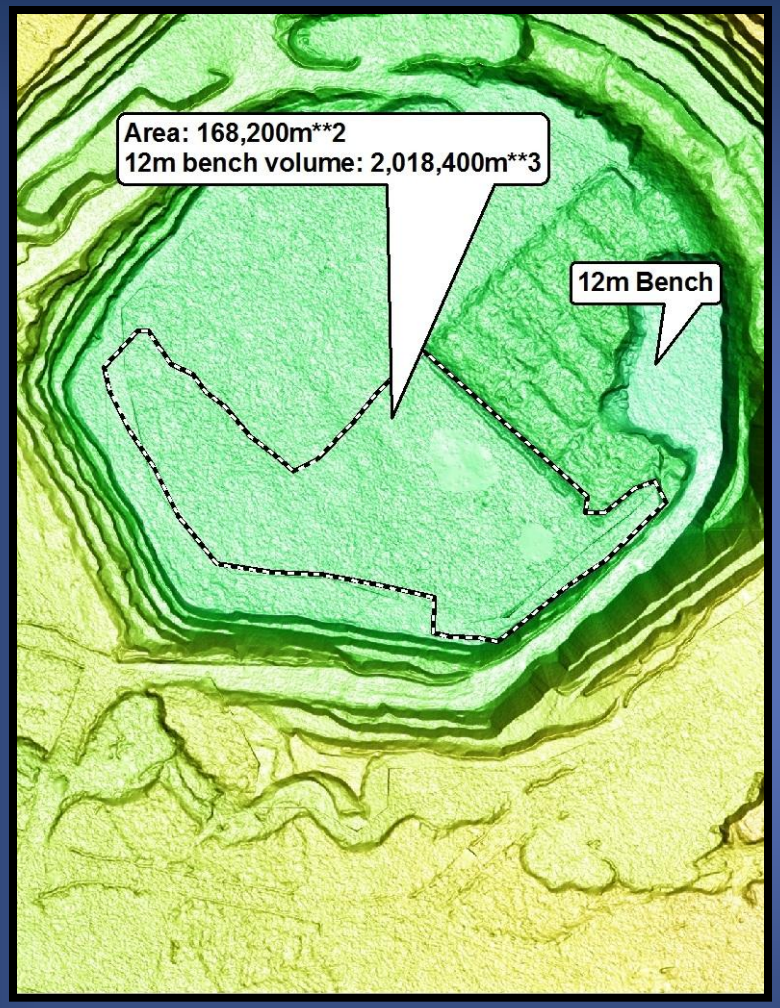




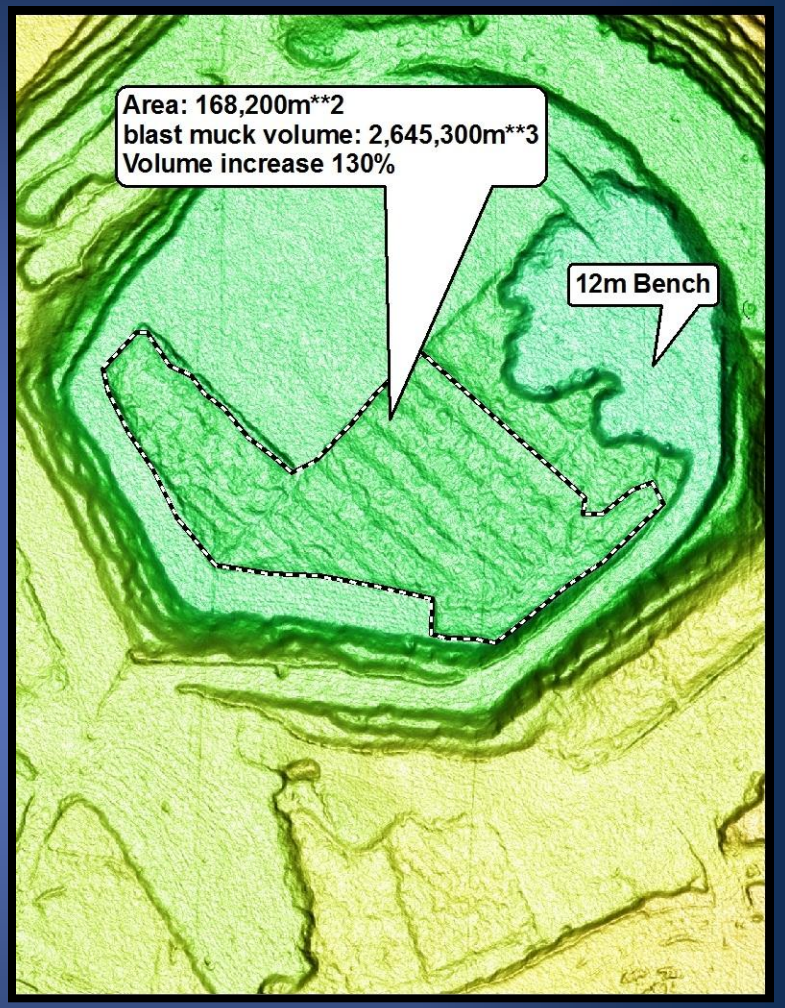
WorldView-2
February 27, 2010

Elevation differences
Jan 31 to Feb 27

Penasquito blast heave



Elevations
January 31, 2010



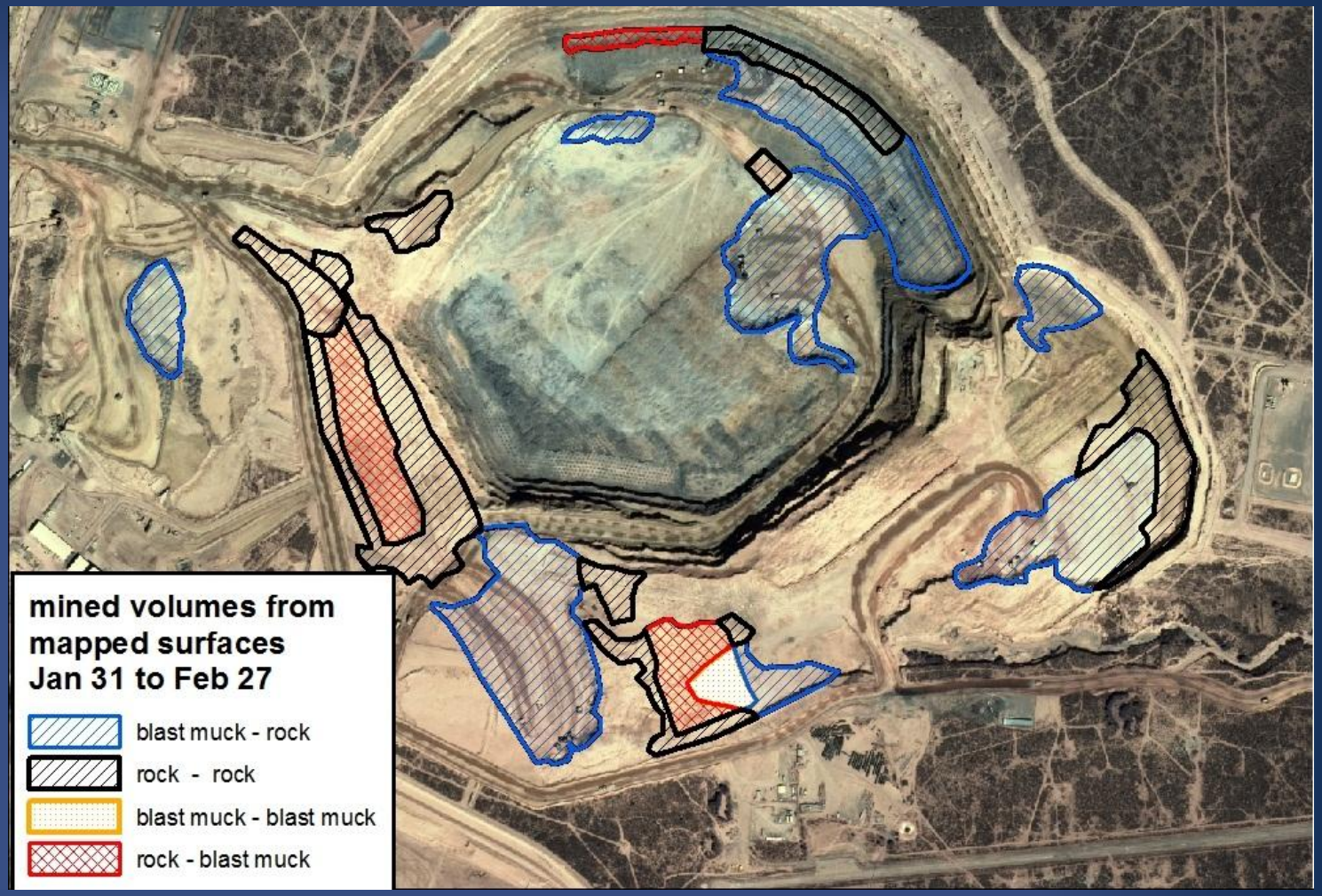
Elevations
February 27, 2010

Penasquito Pit Volumes

Mapped surfaces and volume factors

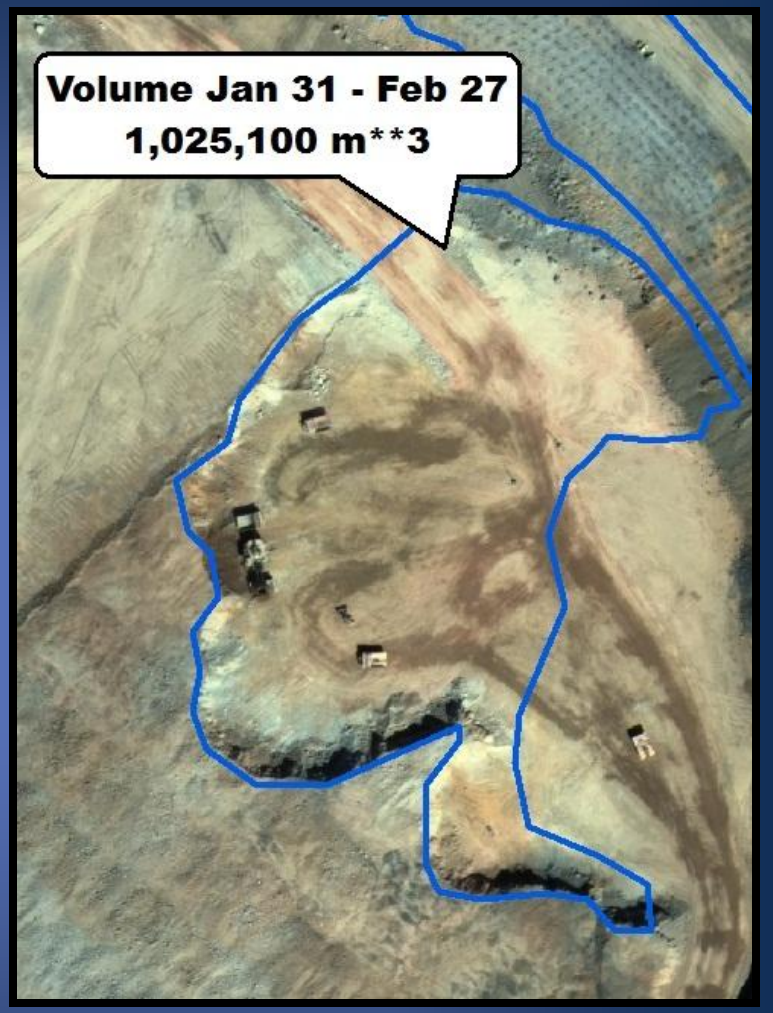
Jan 31	Feb27	volume factor
Blast muck	Rock	100%
Rock	Rock	130%
Blast muck	Blast muck	130%
Rock	Blast muck	190%

Penasquito Pit Volumes



Mapped surfaces Jan 31 to Feb 27

Penasquito Pit Volumes

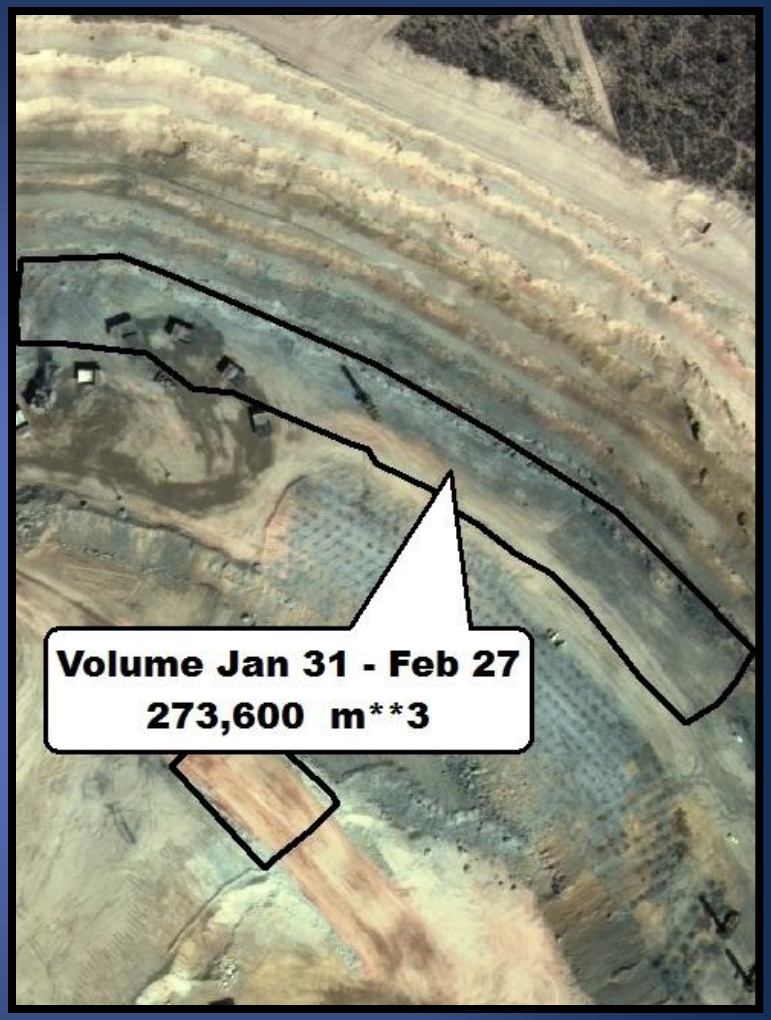


Jan 31

Feb 27

Blast muck to rock – volume factor 100%

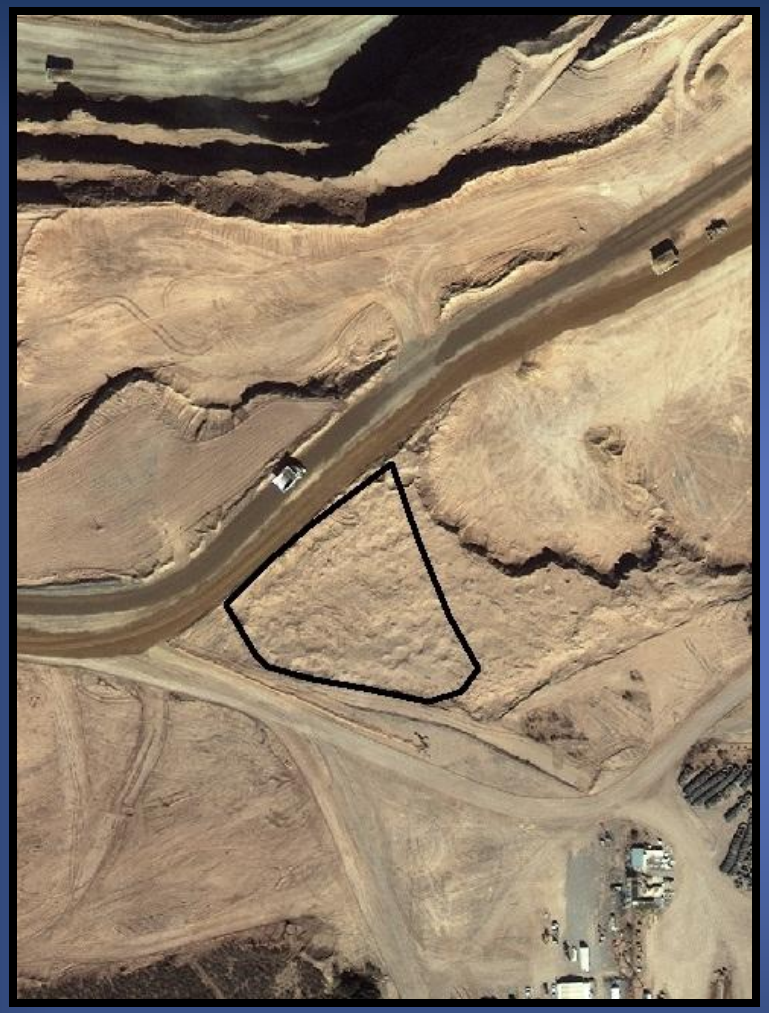
Penasquito Pit Volumes

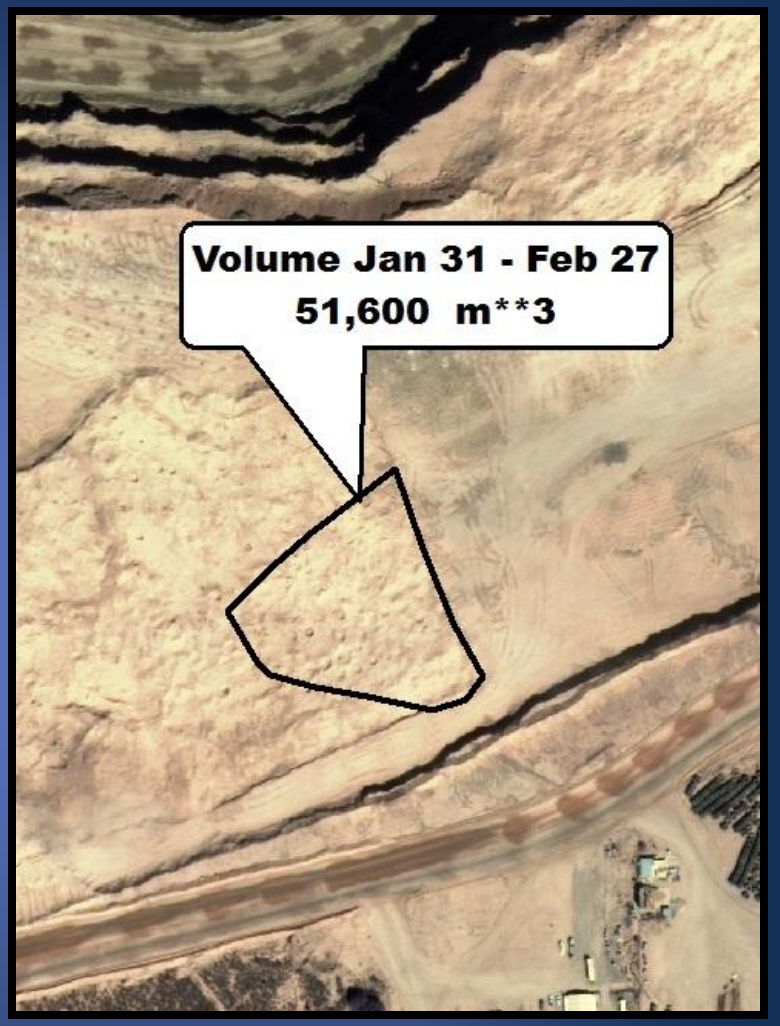


Jan 31 Feb 27

Rock to rock – volume factor 130%

Penasquito Pit Volumes

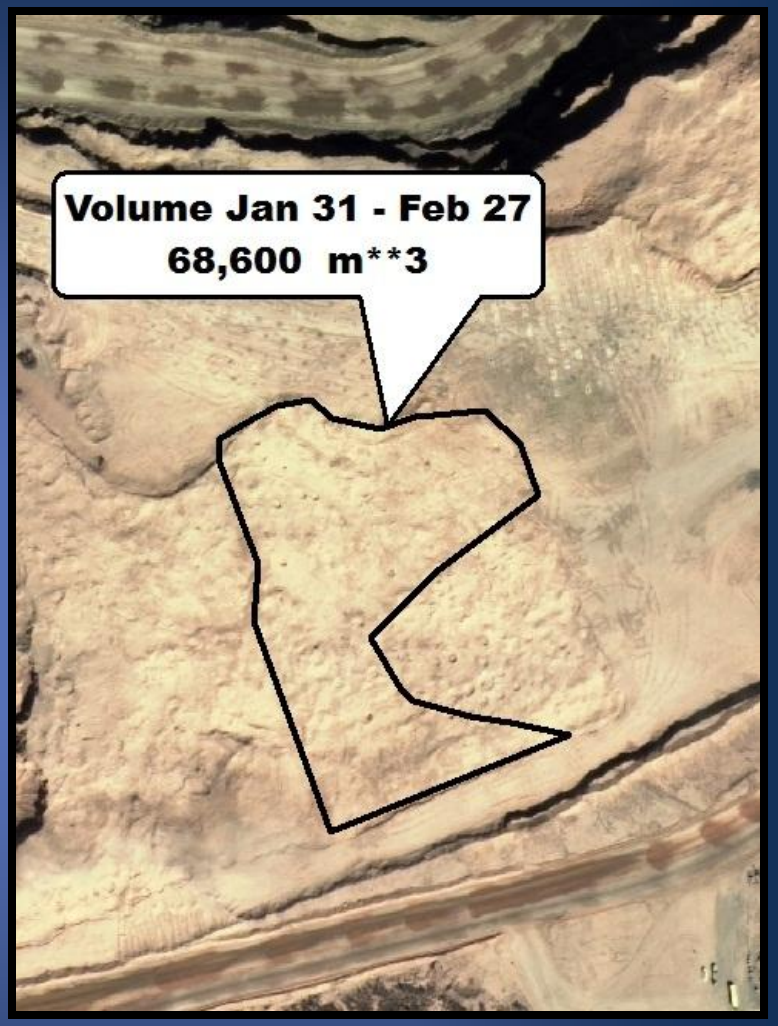




Jan 31 Feb 27

Blast muck to blast muck – volume factor 130%

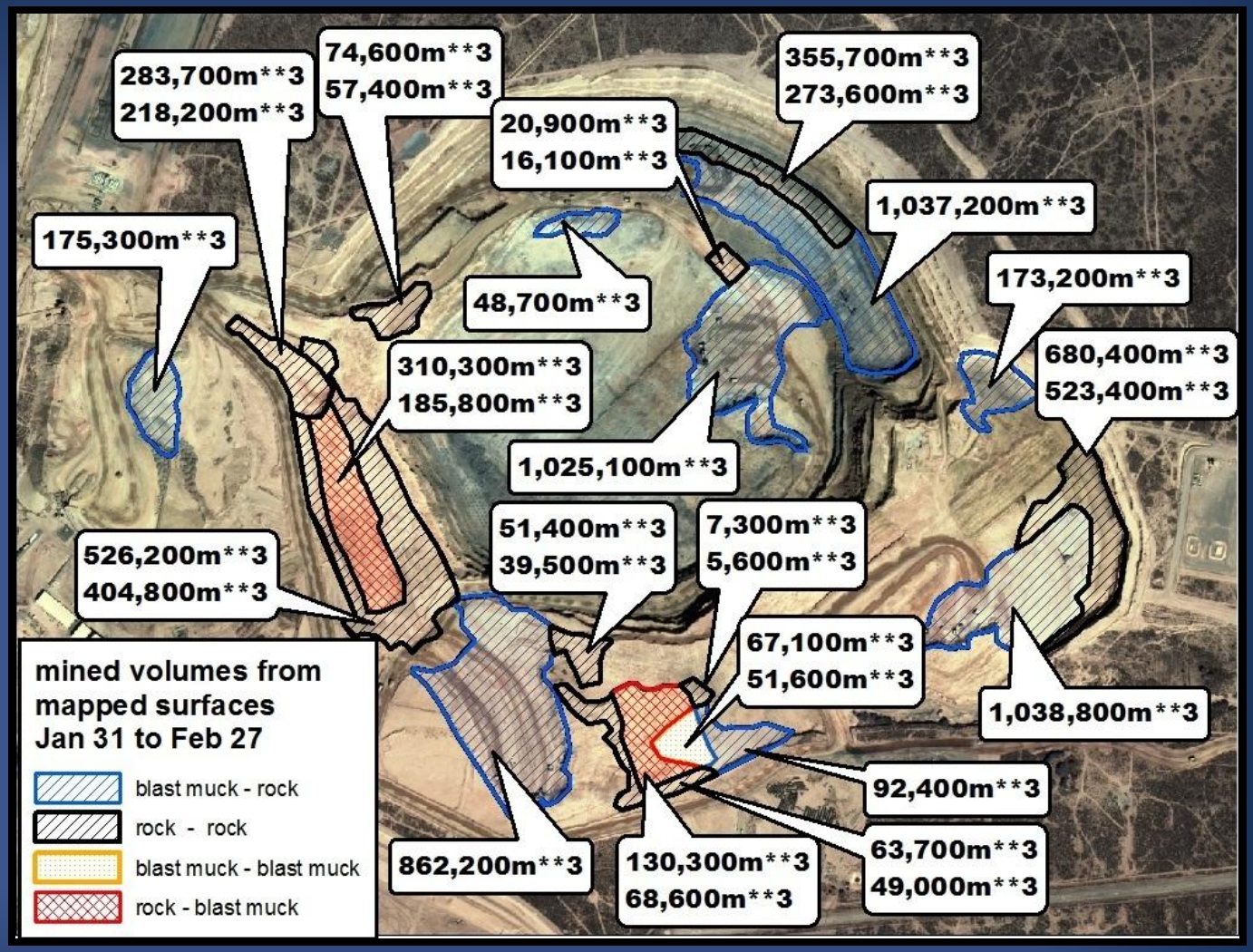
Penasquito Pit Volumes



Jan 31 Feb 27

Rock to blast muck – volume factor 190%

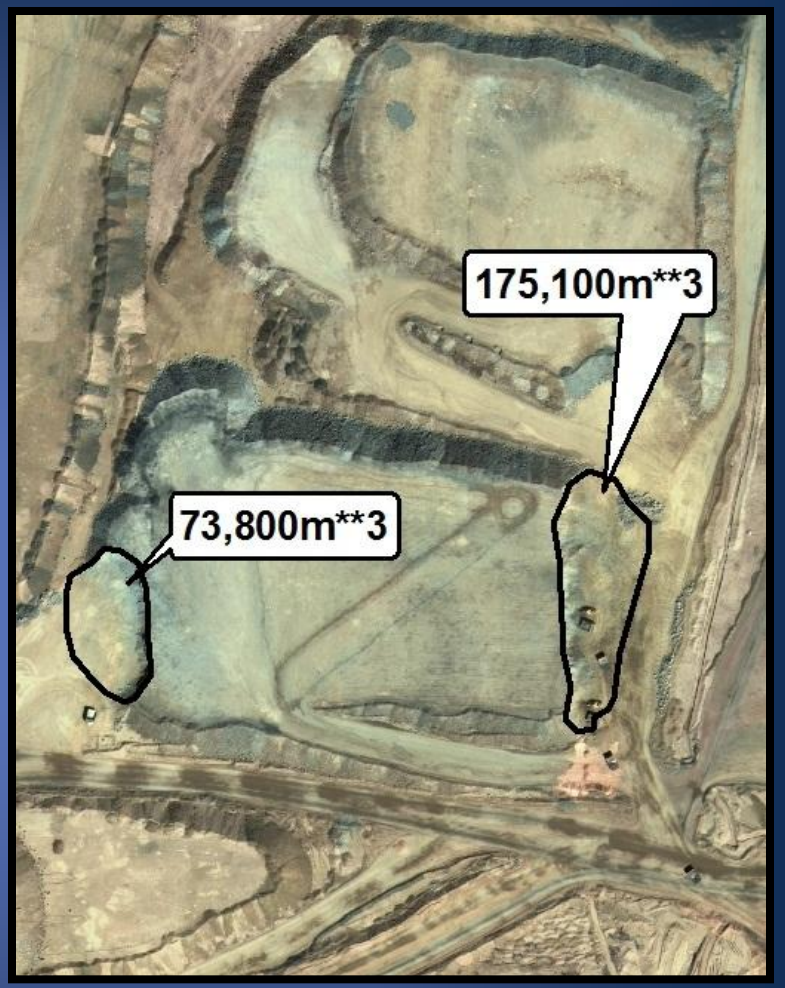
Penasquito Pit Volumes



6,988,500 m^3 of blast muck was removed from the pit from Jan 31 to Feb 27

The top numbers in the labels are the calculated blast muck volumes

Penasquito Ore Stockpiles



Jan 31 **Feb 27**

248,900 m^3 was removed from the ore stockpile from Jan 31 to Feb 27

Penasquito Leach Pad

Jan 31

Feb 27

505,400 m^3 was added to the leach pad between Jan 31 and Feb 27

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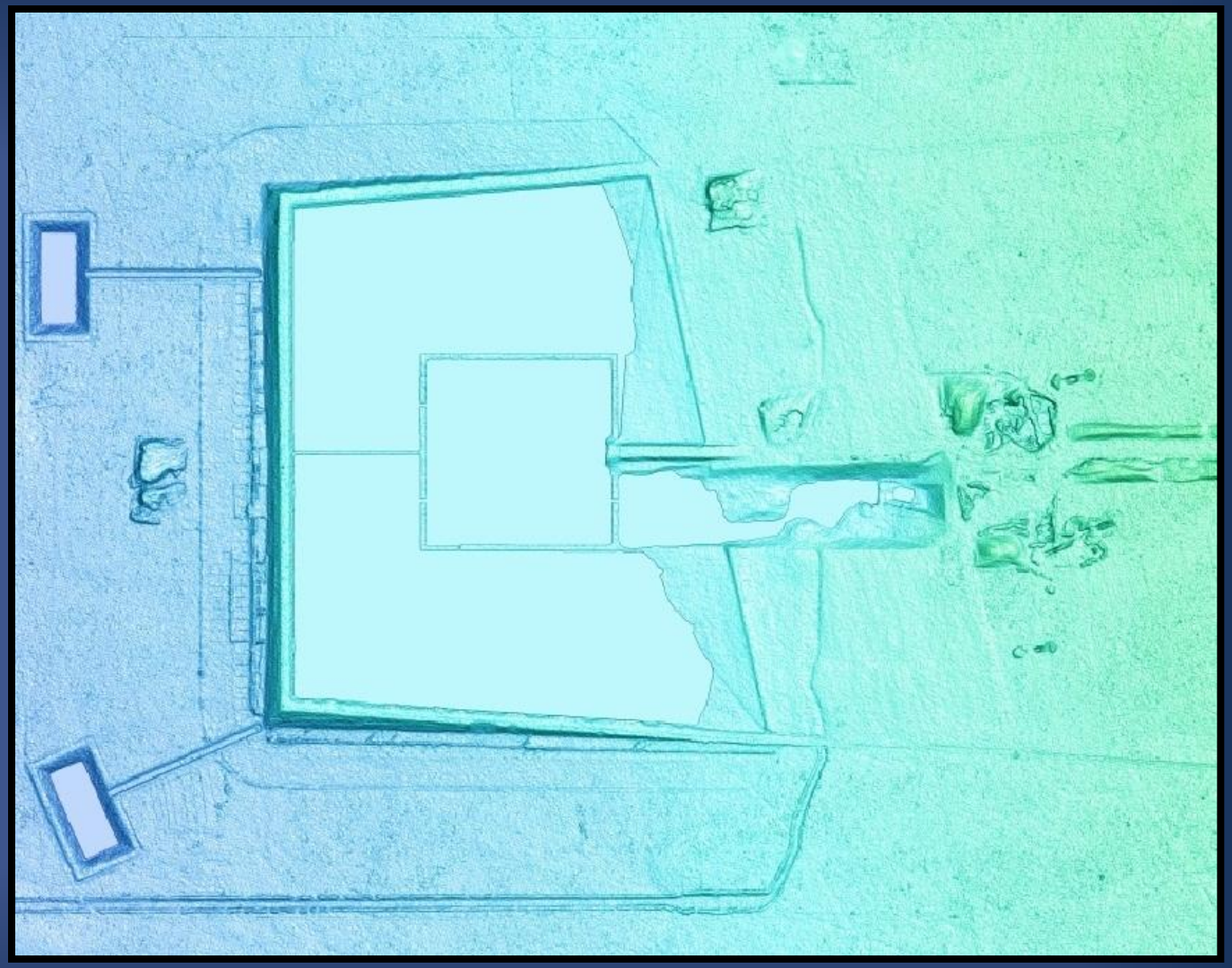
Penasquito Tailings

Stereo WorldView-2 January 31, 2010

Penasquito Tailings

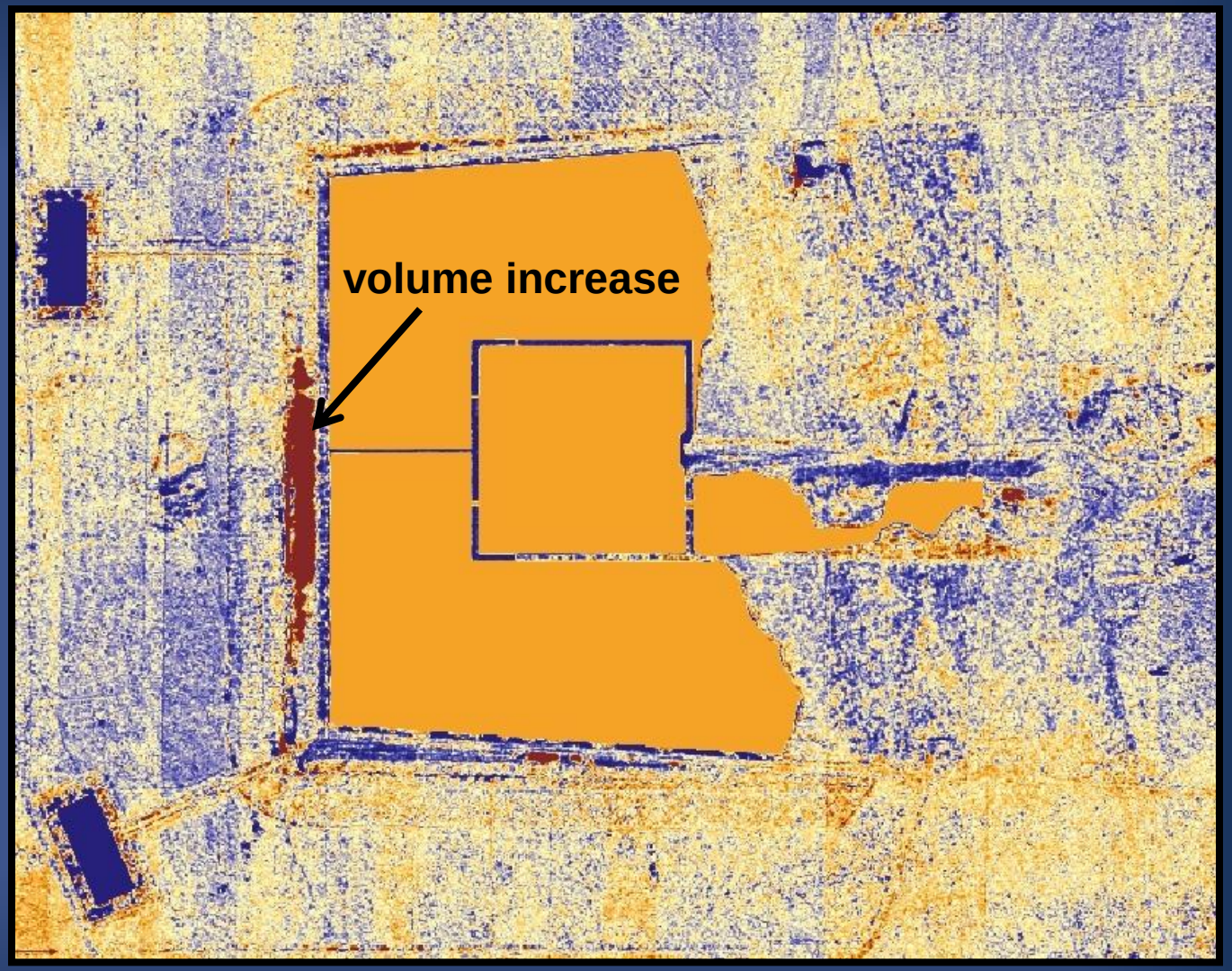
Stereo WorldView-2 February 27, 2010

Penasquito Tailings



WorldView-2 elevations January 31, 2010

Penasquito Tailings



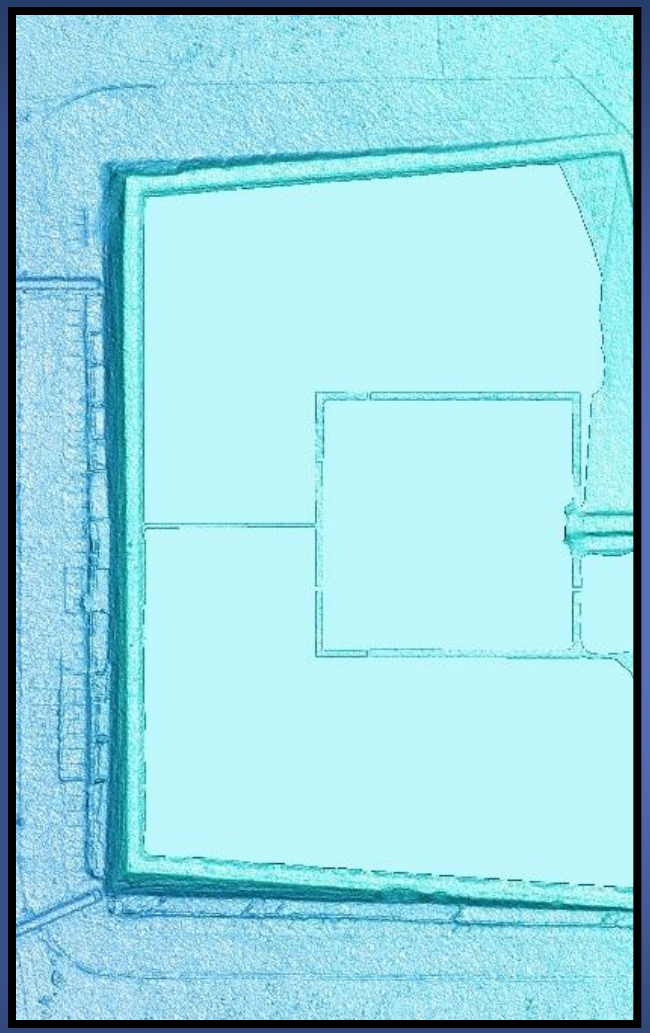
WorldView-2 elevation differences
Jan 31 to Feb 27, 2010

Penasquito Tailings

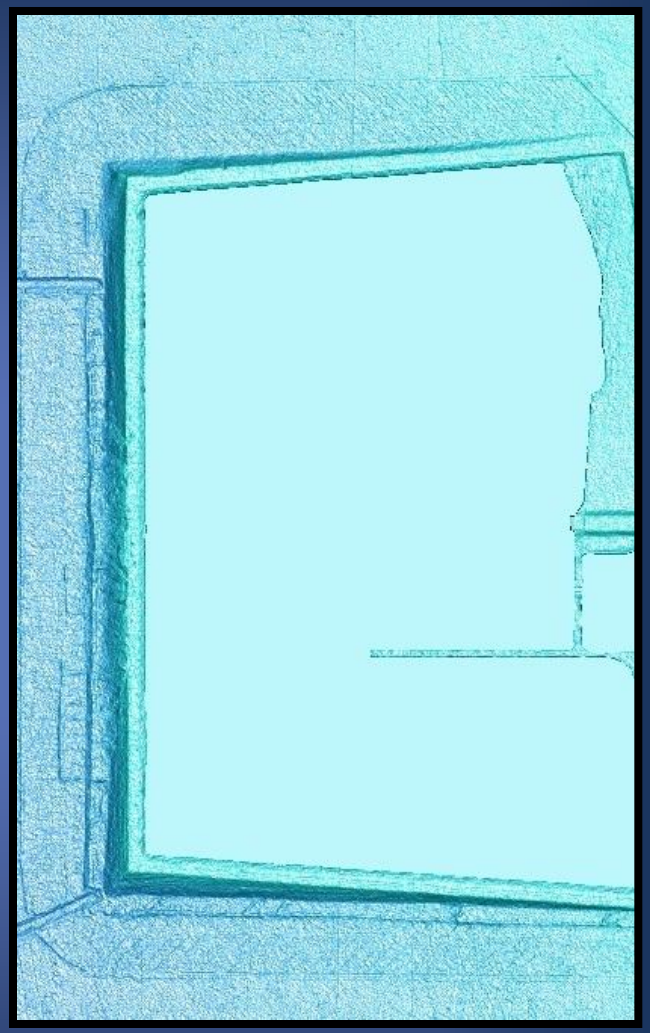
WorldView-2 Jan31

WorldView-2 Feb 27

Penasquito Tailings

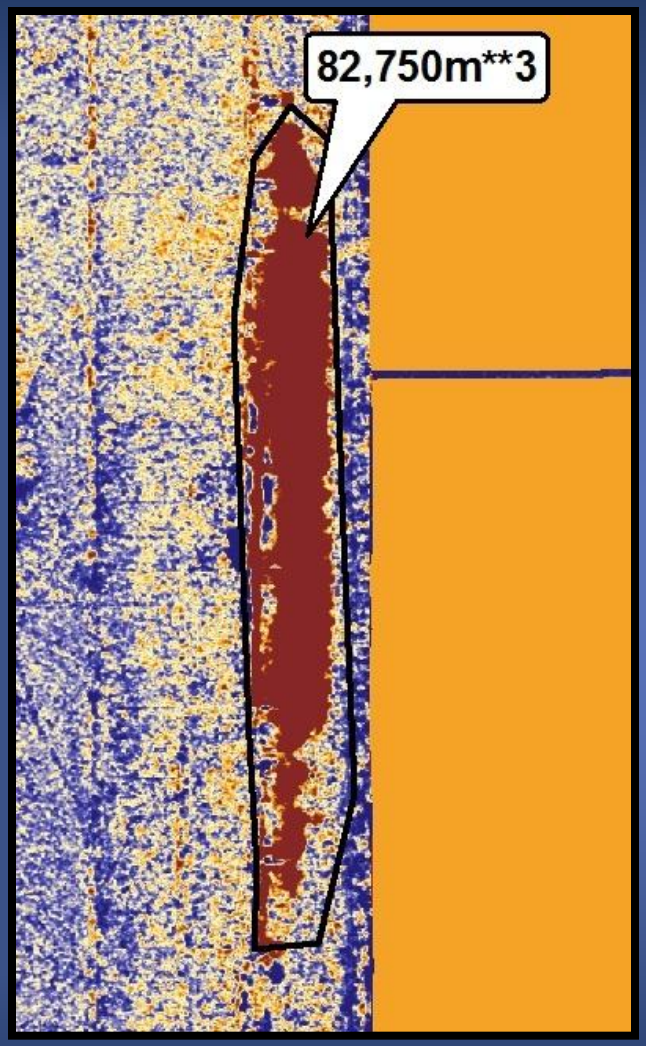


Elevations Jan31



Elevations Feb 27

Penasquito Tailings



Elevation difference
Jan 31 to Feb 27

WorldView-2 Feb 27

Some advantages of stereo satellite mine site elevation mapping

Independent estimate of mine site volumes

Uniform satellite camera look directions over the entire mine site enable consistent, highly accurate mapping.

Stereo satellite data may be acquired anywhere in the world.

No waiting for government surveying permits as no permits are required.

No aircraft mobilization expense nor standby charges .