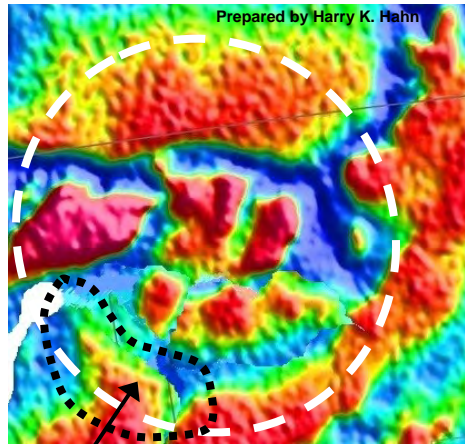


Oblique Impact Crater with \varnothing 400 x 350 km in the North-West of Western Australia. Expected age : ~ 253 Ma.

The gravity anomaly map of West-Australia shows evidence for another large impact crater near **Port Hedland** which has an elliptical shape. It's an oblique impact crater, which means that the impactor arrived in a shallow angle of probably $< 30^\circ$. The impactor probably had a diameter of approx.. 20 to 50 km and it probably was a fragment of the main impactor, which caused the mass extinction at the **Permian-Triassic boundary** 253 million years ago. This impact crater may be identical to the Bengal Bay Crater (BBC) in India and it may represent the SE-section of the BBC !

Elliptical Impact Crater \varnothing 400x350 km

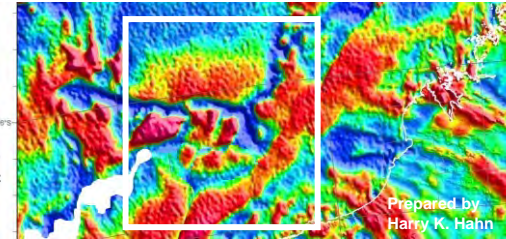
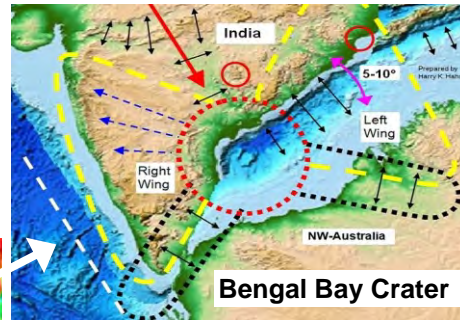


Because it was an **oblique impact** it produced a butterfly ejecta blanket. I have marked the two wings of the ejecta blanket with yellow dotted lines on the maps. Along the center lines of these ejecta wings big cracks in Earth's crust opened up. Here a majority of the ejecta mass impacted on the **surface**. **But there were also some thin forward ejecta rays thrown out of this Crater** They are marked with white lines. But there were also some thin forward ejecta rays thrown out of this impact crater. They are marked with white & purple lines on the gravity anomaly map. A few strong rays of these ejecta rays cut-off Australia from **Pangea**. One of the main mining sites for the Platinum-Group Elements (in Kalgoorlie) is located where some of these Ejecta Rays impacted on the Yilgarn Craton.

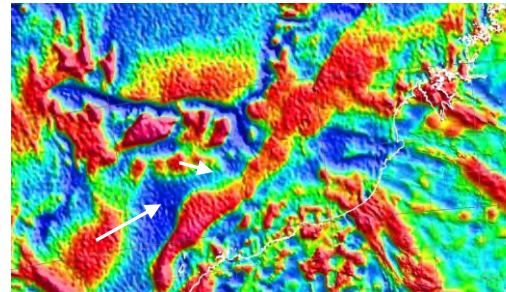
Please compare !

The **BBC** & the **Port-Headland Crater**

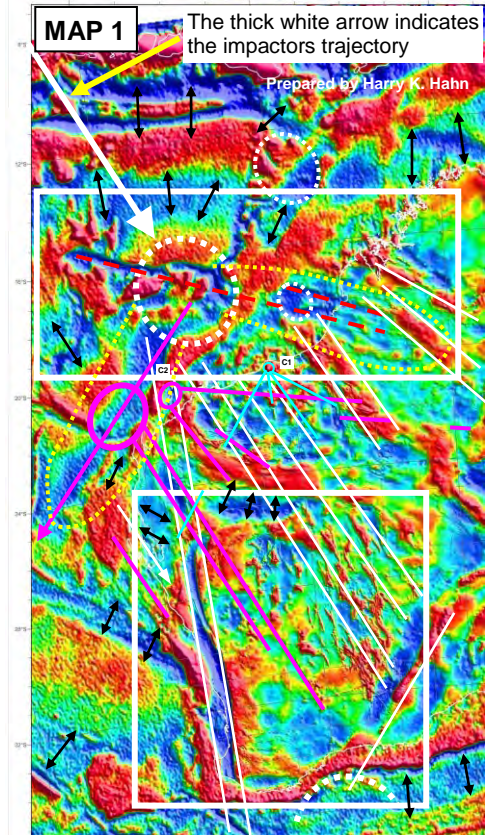
Note the precise crater-wall shape on the marked fragment !!



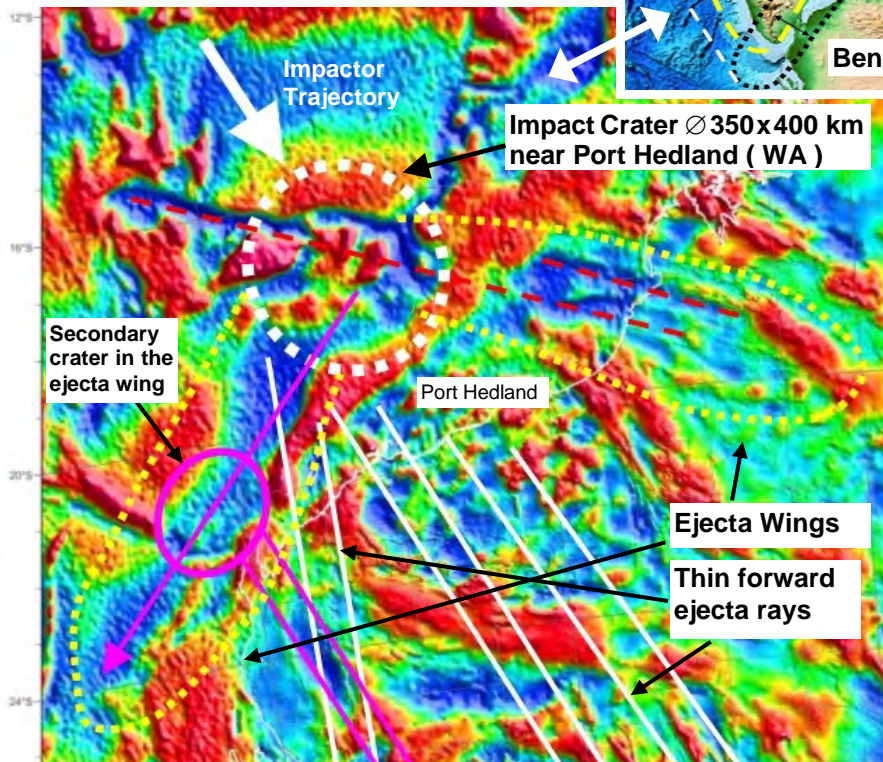
This image is manipulated and shows the crater roughly in it's original state



Here for comparison the original map



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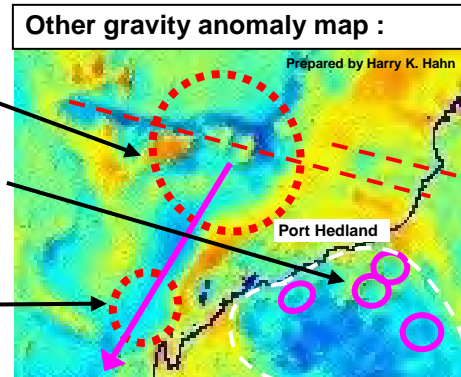


GRAVITY ANOMALY MAP OF THE AUSTRALIAN REGION 3RD EDITION, 2008

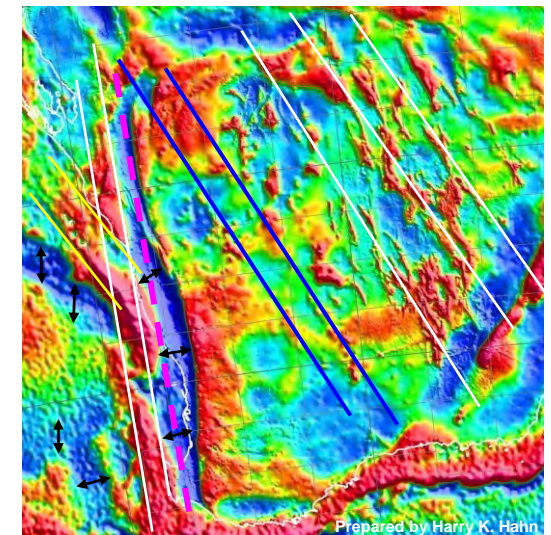
Elliptical Impact crater with central uplift visible

Note that there are many smaller impact craters are visible on the **Pilbara Craton**. But these are other mostly very old impact craters ! (> 3 Ga !)

Secondary Impact within the right ejecta wing



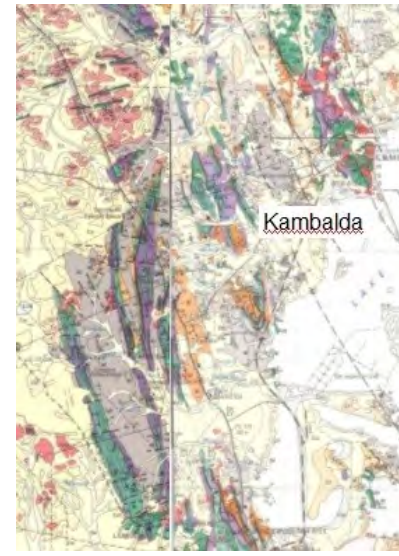
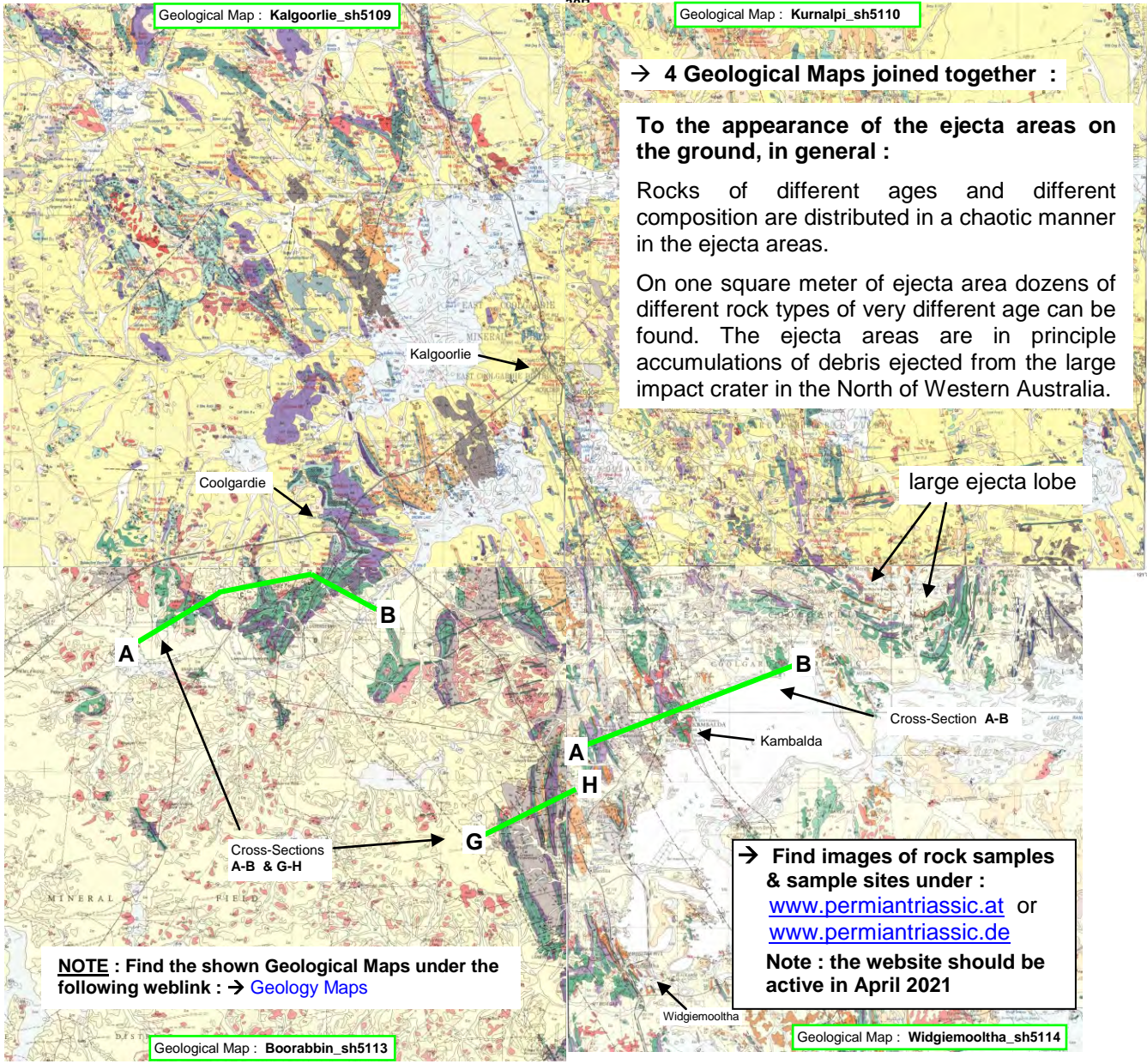
The left image shows that there is a smaller secondary elliptical structure within the right ejecta wing, from which further ejecta rays originate. The right image shows on the left side the strong ejecta rays which cut-off the Yilgarn Craton from Super-Continent **Pangea**.



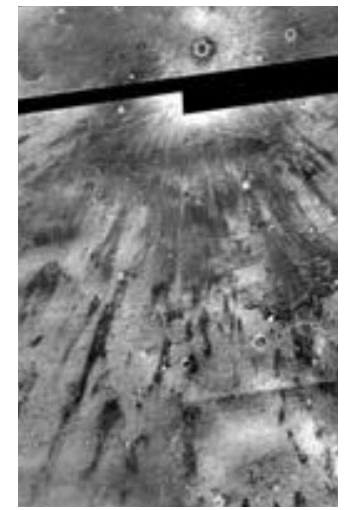
Prepared by Harry K. Hahn

To the appearance of the ejecta rays from the large Impact Crater in the NW, on the geological maps : Prepared by Harry K. Hahn

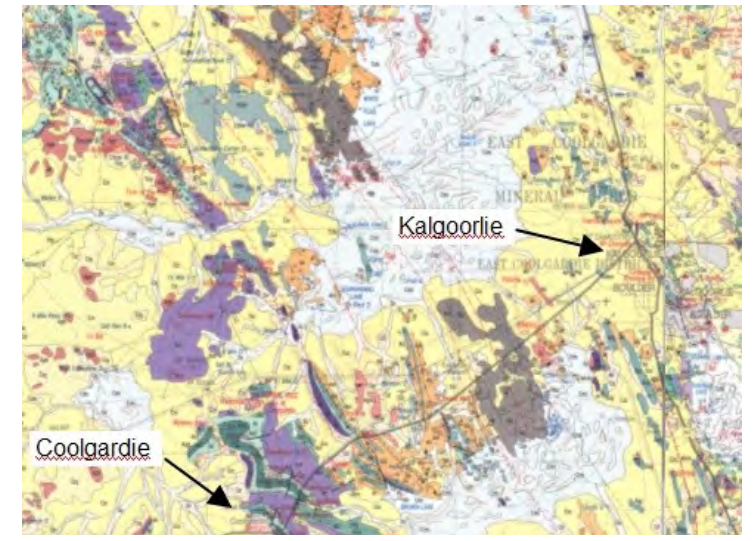
The following image shows the area around Kalgoorlie, where a considerable share of the forward ejecta material impacted on the **Yilgarn Craton**. The geological map indicates that that the stripe-shaped (linear) formations and the lobe-shaped formations with high probability are ejecta lobes and ejecta rays which originate from the large impact crater in the NW of Western Australia. And it is no coincidence that many Mines for **Platinum Group Elements** are located in close proximity to these ray-shaped and lobe-shaped geological formations.. One of the biggest **Gold Mines** of the world is located in **Kalgoorlie**, close to one of this ejecta rays.



Ejecta lobes near Kambalda



Graterri Crater on Mars :
 Compare the shape of the Ejecta-Lobes and -Rays !!

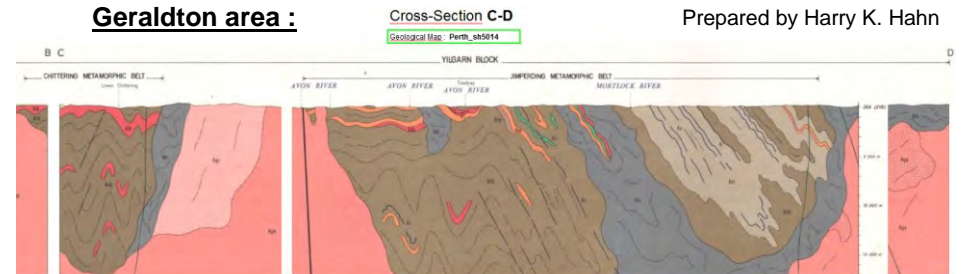
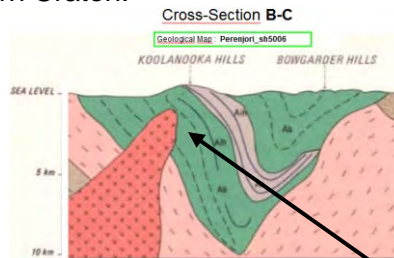
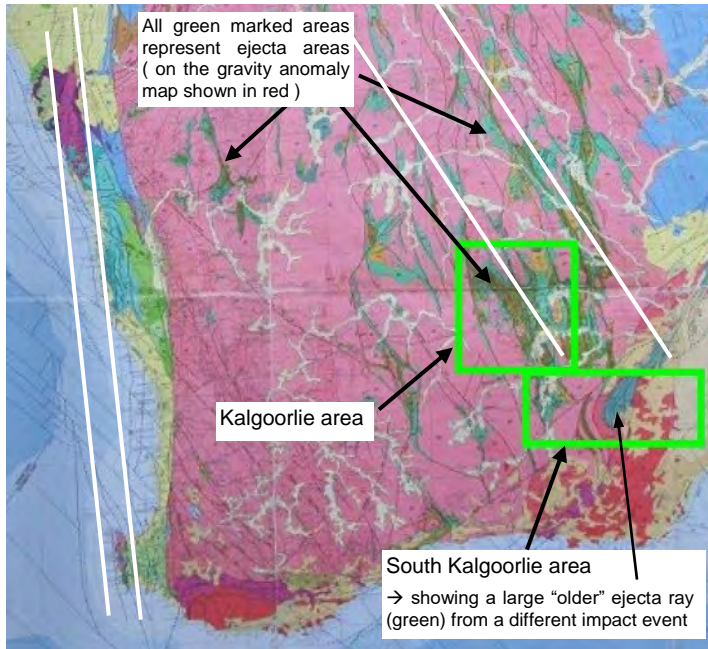


Ejecta lobes & rays near Kalgoorlie & Coolgardie

How the massive ejecta rays, originating from the large impact crater in the NW, appear underground :

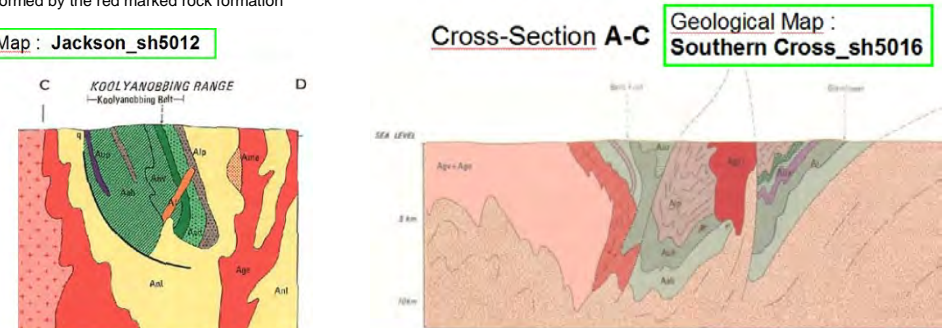
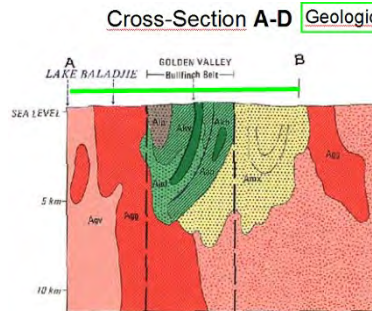
The ejecta rays visible on the gravity anomaly map of Australia, which were ejected from of the large crater north of the North-West Coast of Western Australia, were examined in many geological surveys. Here they show up in the geological cross sections on the maps, as parabola-shaped rock formations (intrusions) in the base rock of the **Yilgarn Craton**. These ejecta rays cut into the rock around **5 to 15 km deep**.

A strong ray along the west coast even cut-off the Yilgarn Craton.



Southern Cross area :

Note how this ejecta ray (green layers) got deformed by the red marked rock formation

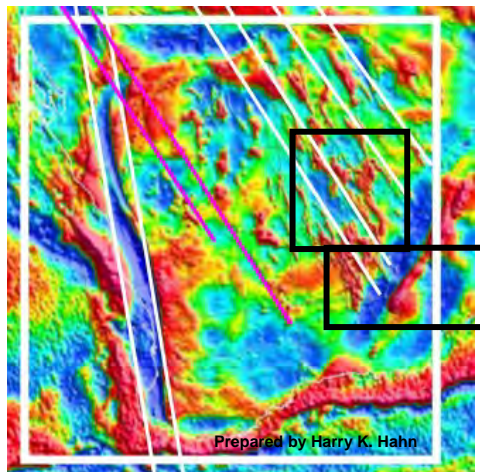


↓ Geological Map of Western Australia

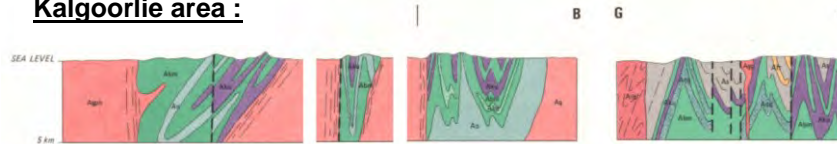
Cross-Sections from : Geological Map : Boorabbin_sh5113

Cross-Section from : Geological Map : Widgiemootha_sh5114

Compare with Gravity Anomaly Map :

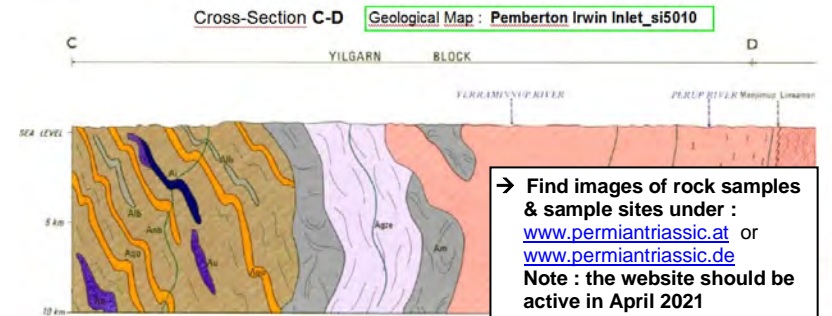
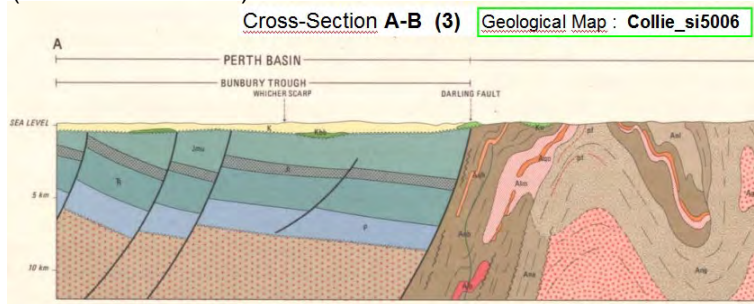


Kalgoorlie area :



Margaret River area : (SW corner of WA)

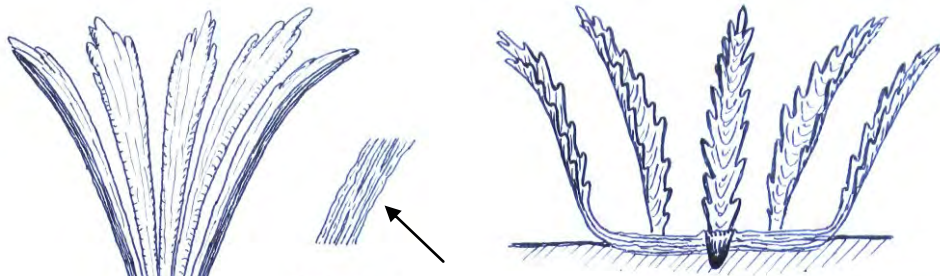
NOTE : Find the shown Geological Maps under the following weblink : → [Geology Maps](#)



→ Find images of rock samples & sample sites under : www.permiantrassic.at or www.permiantrassic.de
Note : the website should be active in April 2021

Parabola shaped geol. intrusions caused by ejecta rays

The following images shall demonstrate how ejecta rays have formed the deep parabola shaped intrusions (rock formations). Especially ejecta material which contains ductile material like iron, will form laminar sheet-like ejecta lobes, with many laminar layers, which includes other material too. On a planet with a dense atmosphere, like on Earth, these laminar sheet-like ejecta lobes will then take on the form of an U-shaped lobe before impacting on the ground, because of the strong airflow on the outside of the ejecta lobe. When impacting on the ground this ductile ejecta lobes will form the parabola shaped intrusions as described on the previous pages.



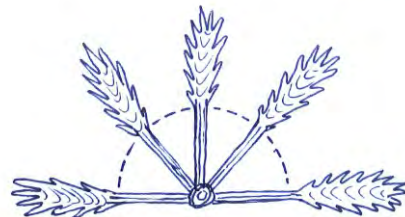
Cross Section through lobe
Laminar layered structure of the ejecta lobe

Harry K. Hahn
24.9.2015



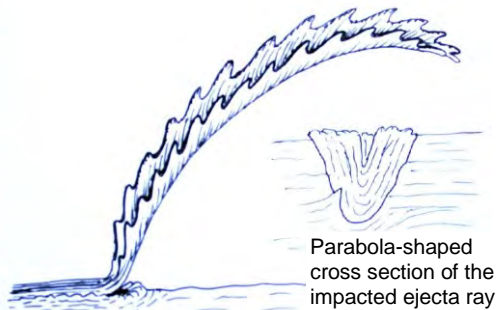
Ejecta lobes directly after impact

Harry K. Hahn
25.9.2015



a certain time after impact

Example of a sample site in WA which shows the described laminar iron-bearing rock which was ejected from the big impact crater in the North. It is from the Southern Cross area; Location : 30°47,882 S : 118°59,477 E . It seems that the whole linear mountain range is made of this laminar ejecta lobe which is orientated vertically. See Cross Section A-B Southern Cross area → (Golden Valley)



Parabola-shaped cross section of the impacted ejecta ray

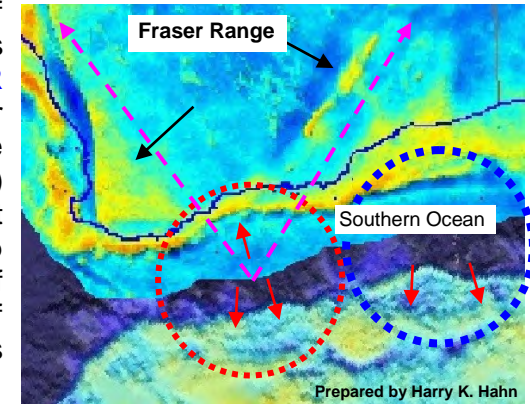
Harry K. Hahn
24.9.2015



because of aero-dynamic reasons the lobe takes on an U-shaped cross-section

Evidence of another ejecta ray structure south of Kalgoorlie This ejecta ray structure is also at least 253 Ma , or older :

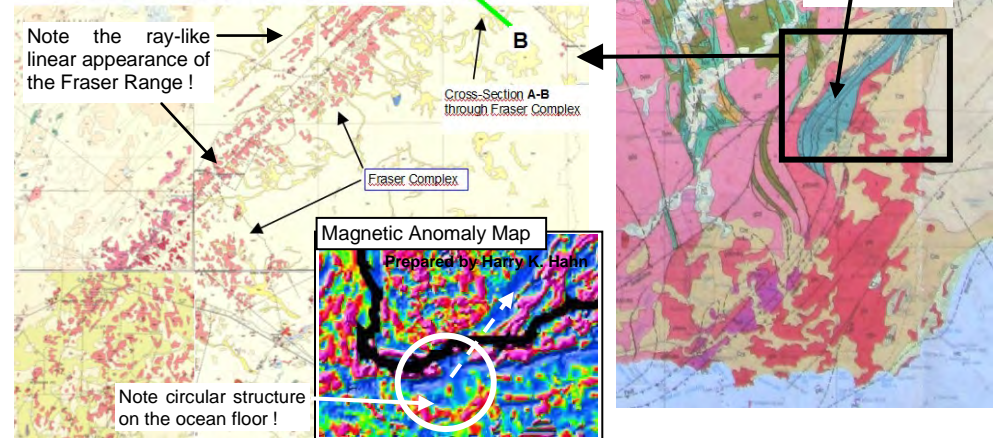
The geological map of the area south of Kalgoorlie already indicates a suspicious linear geological structure, the **FRASER RANGE**. Rock samples from the center line of the mountain range show large amounts of mineral glass (**diaplectic glass**) which is a strong indicator for an impact origin. Further indication gives a map combination of a gravity anomaly map of Australia and a topographic map of Antarctica, arranged to each other so as they were ~200 Ma ago (at Pangea time). The image indicates a **420 km crater** from which the large ejecta ray (the Fraser range) seems to be ejected from. A



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Note the ring structures, the strong ejecta ray and the cone shaped gravity anomaly which has its apex in the center of the red marked impact crater. And there is obviously another crater!

→ 4 Geological Maps joined together



Cross-Section from : **Geological Map : Zanthus_sh5115**

SECTION A - B

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