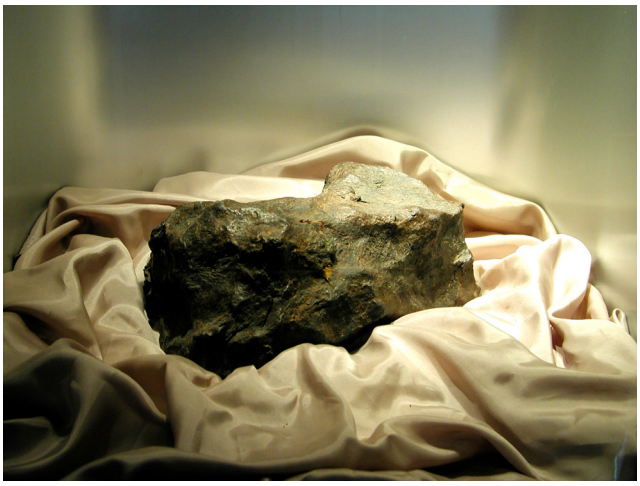
City of Casey

The Cranbourne Meteorites



1. *Information on the History of the Meteorites – edited reprint of an article published in the "Australian Gem and Treasure Hunter, Year Book 1982".*

2. *Pictorial and diagrammatic representation of the Meteorites.*

3. *Copy of an article printed in "The Examiner" of 11 January 2000.*

Acknowledgement

The Historical information contained in this document is an edited reprint of an article published in the "Australian Gem and Treasure Hunter, Year Book, 1982. The article was written by William J. Cappadonna and the Council acknowledges with appreciation, the consent given by the Publishers to this reprint.

History

The exact year in which the first of the Cranbourne meteorites was discovered is somewhat vague. Some stories tell of Aborigines dancing around the meteorite long before a settler, passing that way, attempted to tether his horse to what he thought was a stump protruding from the ground. Years later, that "stump" was to be recognised as the Cranbourne No. 1 meteorite.

The first mention of the meteorite resulted from the Melbourne Exhibition held in 1854. This occasion of the times featured an exhibit, of a horseshoe made by a Melbourne Farrier from (quote) "a specimen of iron from Western Port". Later investigations were to reveal that a small portion of the meteorite had been chiselled off the main mass to forge the horseshoe. The Cranbourne No.1 meteorite, which still lay in its original resting place, was still considered to be an outcrop of an iron deposit.

A further "outcrop of iron" had been discovered some 6 kilometres from the first and it was not until 1860, as a result of economic considerations, that the then Town Clerk of Melbourne visited the locality to check the authenticity of the reports. He was to find that the "iron outcrops" were in fact two separate and distinct masses of iron which, when excavated, were identified as meteorites. The two masses of iron were thereafter named Cranbourne No. 1 and Cranbourne No. 2 meteorites, their weights being 3,550 kilograms and 1,525 kilograms respectively.

A third smaller meteorite, the original weight of which was estimated to be 6.8 kilograms was recovered by a farmhand on the same property where the Cranbourne No. 1 find was made. This specimen was found in 1857 but, when brought to light in 1860, only 3.2 kilograms of the original mass remained. The meteorite had apparently been broken when put to use as a kitchen hob, the broken piece having been discarded and subsequently lost. Unfortunately in the very same year of 1860, the remaining portion of Cranbourne No. 3 after having been sent for scientific investigation was reported lost.

The Cranbourne No. 2 meteorite was the first to be reported in scientific papers and aroused considerable interest in Europe, where an iron meteorite of this size (1,525 kilograms) far exceeded the weight of all other known iron meteorites. Because of this fact an astute mineral dealer of the day purchased the meteorite and promptly sold it to the British Museum in 1861. When the even larger Cranbourne No. 1 find was reported, considerable debate ensued as to where this specimen was to reside. Eventually it was decided that Cranbourne No. 1 would be sent to the British Museum but only on the condition that Cranbourne No. 2 was donated to the National Museum of Victoria. This agreement was adhered to and Cranbourne No. 2, after some delay was returned to Melbourne where it is presently on display at the National Museum of Victoria.

The Beaconsfield iron (Cranbourne No. 9) weighing 74.9 kilograms was found in 1876 in a railway cutting approximately 3 kilometres east of the Beaconsfield Railway Station. It has been reported that the meteorite was in situ when found and that it had been exposed and lain unnoticed for many years. The main Gippsland railway (to Sale) was under construction between the years 1873 and 1877, so it is most likely that this activity lead to its early recovery. Unfortunately, after a chain of ownership, the main body of Cranbourne No. 9 was acquired by a German mineral dealer who, it is alleged, cut the specimen up into many pieces, which were subsequently sold. This specimen is now listed as "probably widely distributed".

In 1866, the Langwarrin (Cranbourne No. 10) meteorite was discovered approximately 8 kilometres south-east of the Langwarrin Railway Station by a farmer while ploughing a field. The weight of the find was 915 kilograms and was, at the time, simply pushed aside by the farmer so that a clear access to his field could be maintained. The site was later visited by a Government geologist, who immediately recognised the iron mass and suggested that the landowner present the meteorite to the Museum. This he did and the specimen is presently lodged in the National Museum of Victoria.

It was not until after the turn of the century that the next Cranbourne meteorite was to be found. The Pearcedale (Cranbourne No. 11) iron was found 2 kilometres north north-east of Pearcedale and 5 kilometres east-south east of the Langwarrin Station. The meteorite weighed 762 kilograms and was reportedly found in 1903, just below the surface of the ground. The find was not reported at the time and, from all accounts the meteorite was kept in the possession of the finder until 1938, when it was sold to the U.S. National Museum, Washington.

Four Cranbourne meteorites were found in 1923, all in the vicinity of the Cranbourne No. 1 find. The largest of these irons was Cranbourne No. 4, which weighed 1,270 kilograms. The other three meteorites, Cranbourne No's 5, 7 and 8 weighed 356 kilograms, 153 kilograms, and 23.6 kilograms respectively, these meteorites having been found in the one paddock. All four meteorites were recovered at shallow depths as a result of landowners ploughing their fields. As we will discuss later, these four finds give us a vital clue as to the nature of the meteorite shower and serve as strong indicators that several more could be recovered.

The last of the meteorites to be discovered was the Pakenham (Cranbourne No. 6) meteorite, which was found in 1928. This iron was found during the widening of the Princes Highway at a point approximately 1.3 kilometres west of Tomuc Creek, near the township of Pakenham. It was discovered during an earth moving operation and the exact depth of burial is unknown. What is known is that the iron was recovered from the first metre of soil removed. The meteorite weighed 40.5 kilograms and is currently lodged in the Victorian Geological Survey Museum, Melbourne.

Two general comments may be made in relation to the history of the eleven Cranbourne meteorites so far recovered. Firstly, all meteorites were found by chance encounter i.e. the ploughing of paddocks, the widening of a roadway and the construction of a railway. Of the first meteorites found Cranbourne No's. 1, 2 and 3) they were all thought to be outcrops of native iron and although a year is designated in which they were found, it was several years later that they were recognised to be meteorites. As the author has already pointed out, no systematic search of the area, with the specific intent of finding further meteorites, has ever been conducted.

Secondly, too high a praise cannot be given to public officials and geologists of the time for providing us with such comprehensive documentation in relation to the meteorite finds. We not only know the circumstances of the finds but also, and more importantly, the exact locations. There have been several meteorite showers throughout the world, similar to the Cranbourne shower, where man's early and impetuous removal of the masses have resulted in very little documentation. Under such circumstances, a thorough and accurate appraisal of present day knowledge is extremely difficult, however, in our case, the task has been made relatively easy.

General

Of the three main subdivisions of iron meteorites - Hexadedrites, Octahedrites and Nickel-rich Ataxites - The Cranbourne irons all fall within the Octahedrite grouping which are by far the most common type of iron meteorites.

All meteorites, whether they be iron, stone or stony-iron, have to withstand the rigors of atmospheric flights, and the tremendous aerodynamic pressure forces this involves. It is not surprising therefore that the larger masses recovered are all irons, their inherent composition enhancing their chances of surviving large scale fragmentation.

When an iron does destruct during flight, invariably one or more of the fragments so generated will have a significantly large mass. In the case of the Cranbourne fall, Cranbourne irons No's. 1 and 2 certainly bear witness to this fact (3,550 kilograms and 1,525 kilograms respectively). It is interesting to note that the weight of these irons rank them in eleventh place on a list of the world's heaviest known meteorites.

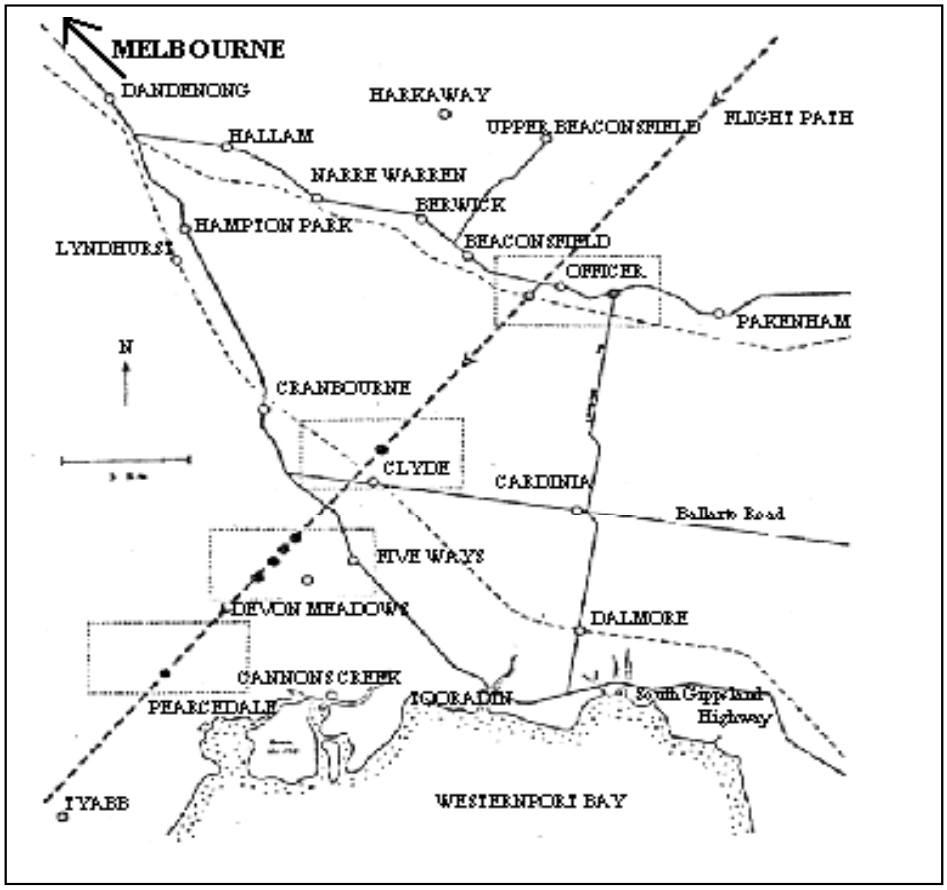
Heading this list is the world's largest single meteorite mass, the Hoba iron of South West Africa, weighing an estimated 60,962 kilograms. Within Australia, the Cranbourne irons are second only to the Mundrabilla (Nullarbor Plain, Western Australia) fall, which boasts two large masses of 12,192 and 5,080 kilograms. Other large irons have been found in Greenland (36,577 and 20,320 kilograms), Mexico (27,433, 14,224, 11,176 and 7,112 kilograms), Tanganyika (26,417 kilograms), Mongolia (20,320 kilograms), U.S.A. (14,224 kilograms), Argentina (14,224 kilograms) and Brazil (5,080 kilograms).

Having gained some insight into where the Cranbourne meteorites broadly fit into the overall scene, let us now turn our attention to the specific locations of the finds. In attempting to present the locations and, at the same time, portray to the reader the broader aspect of the fall, a master map and four insert maps have been prepared. The insert maps are referred to as A (Officer), B (Clyde), C (Devon Meadows) and D (Pearcedale). The solid circles and heavy broken line in all maps refer to the meteorite site locations and flight path respectively.

With reference to the master map, the almost linear distribution of locations is fully confirmed. With the exceptions of the Pakenham and Pearcedale irons, all the sites lie on a perfectly straight line joining the Langwarrin and Beaconsfield locations, which are approximately 21 kilometres apart. The deviation of the Pakenham and Pearcedale irons from this line is only approximately 2 kilometres which, in terms of the total distance the main mass has travelled along the flight path, indicates a very narrow scatter of the fragments during the breaking-up of the parent body. Interestingly, these two sites are at the extremities of the presently known locations and, as we will see later, a possible explanation for their deviation may be advanced.

In concluding this section, the author would like to remind the reader that all locations given are on private property. Unfortunately some locations are in closely settled areas which obviously do not present a great scope for a full scale search. On the brighter side, other finds have been made in areas, which can still be classified, as broad acreages, most of which are used for grazing and general farming.

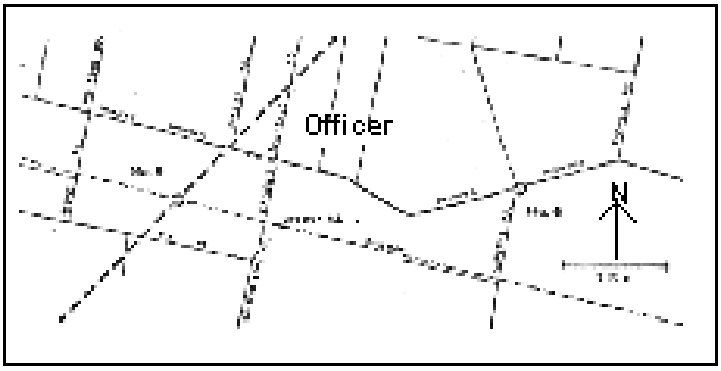
The table given should serve as a useful guide in assessing the feasibility of all search areas that may be considered. In this table, it has been assumed that the main meteorite mass was travelling in a south-westerly direction - an important point which we will come to in later discussion. On this basis, both "Approach". and "Departure" embrace a distance of 1 kilometre from the location, measured along the flight path, "Approach" directly towards the north-east and "Departure" towards ' the south-west.



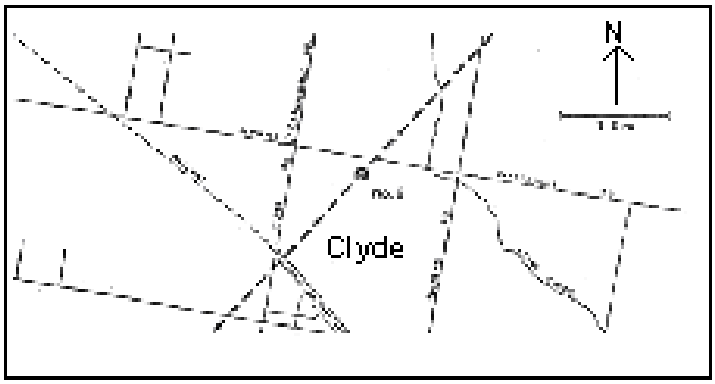
Master Map of the general area applicable to Cranbourne meteorite finds. Meteorite sites, and cluster sites, are indicated by solid circles. The detailed location of each meteorite may be obtained by reference to the appropriate Insert Map (A, B, C or D).

		Original Mass		
Cranbourne Meteorite No.	**Year of Find**	**Imperial**	**Kg**	**Present Location**
1	1853	3.5 ton	3,550	British Museum, London
2	1853	1.5 ton	1,525	National Museum, Melbourne
3	1857	15 lbs.	6.8	Lost
4	1923	1.25 ton	1,270	National Museum, Melbourne
5	1923	7 cwt.	356	Victorian Mines Dept, Melbourne
6 (Pakenham)	1928	89 lbs.	40.5	Victorian Geological Survey Museum, Melbourne
7	1923	3 cwt.	153	Geology Department University of Melbourne
8	1923	52 lbs	23.6	Victorian Geological Survey Museum, Melbourne
9 (Beaconsfield)	1876	165 lbs.	75	Probably widely distributed
10 (Langwarrin)	1886	18 cwt.	914	National Museum, Melbourne
11 (Pearcedale)	1903	15 cwt.	762	U.S. National Museum, Washington

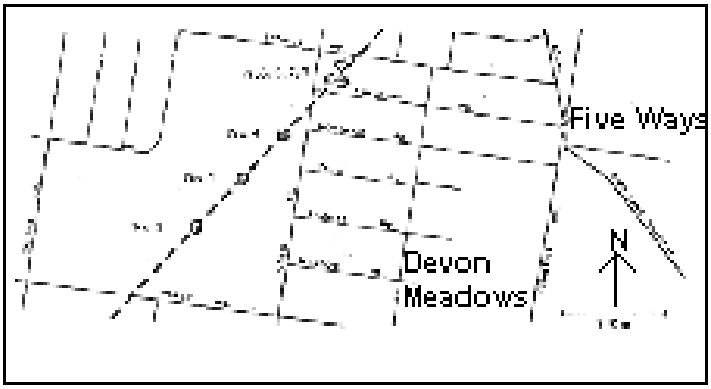
Insert Map A - Officer



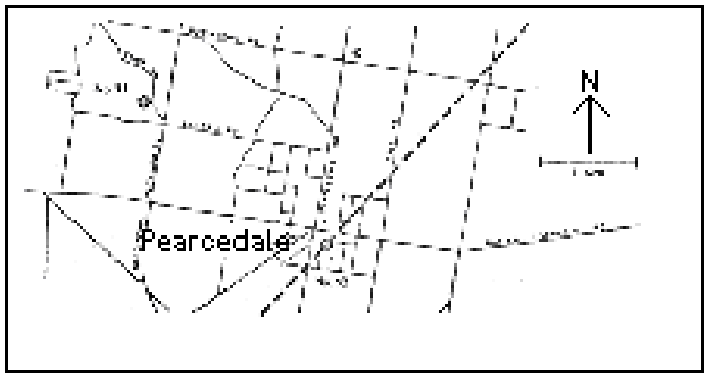
Insert Map B - Clyde



Insert Map C - Devon Meadows



Insert Map D - Pearcedale



Theory

Let us now discuss some important concepts which we should appreciate before we embark upon attempting to pin-point possible search areas. Firstly, some definitions of terms to be used.

Main Mass - refers to the single meteorite body from which all other meteorites are generated in the form of fragments.

Fragment - a meteorite in its own right, which has detached from the main mass. The fragment may vary in size from only a small fraction up to half the weight of the main mass.

Separation - the event when a fragment, or fragments, are separated from the main mass during its flight through the atmosphere.

For the purposes of discussion, let us consider a single main mass approaching the earth's surface at an oblique angle. During its atmospheric flight, this body is subjected to immense pressure forces, which it may be unable to sustain. In such cases, separation will occur and a fragment, or more likely several fragments, will detach and fall to earth as separate meteorites. In the meantime the main mass will continue to descend earthwards and, providing excessive fragmentation has not taken place, will maintain its original flight path.

Given that a separation has taken place, there is no reason to suspect that the remainder of the parent body can withstand the ever-present aerodynamic pressures. Consequently another distinct separation, or separations for that matter, could occur from the main mass, which may still be relatively large and capable of stable flight.

Let us now specifically relate this theory to the Cranbourne fall. Although we have not, as yet, justified our previous assumption that the main mass was travelling in a south-westerly direction, for the purpose of explanation this is considered to be the case. The author contends that at least four distinct separations occurred. The first of these was north-east of Officer with the other three occurring in order, north-east of Clyde, Devon Meadows and Pearcedale.

When considering the distribution of meteorites generated during a single separation, let us, for simplicity, talk in terms of small, medium and large weight fragments. We know that all bodies have forward momentum immediately after separation has taken place, so it is not unreasonable to assume that their trajectory is in the general direction of the main mass flight path. Since all the fragments are approaching the earth's surface at an oblique angle, the scatter (or dispersion) pattern will be elliptical.

The larger bodies will retain their velocity for slightly longer than their smaller counterparts and therefore travel further down the flight path. The meteorites are therefore scattered within the ellipse in a systematic manner, the largest carrying further to the forepart of the ellipse, the medium sized fragments, falling in the centre, while the smallest occupy the rear end of the ellipse.

Figure 1 depicts a typical dispersion ellipse within which the meteorites are distributed in accordance with their size.

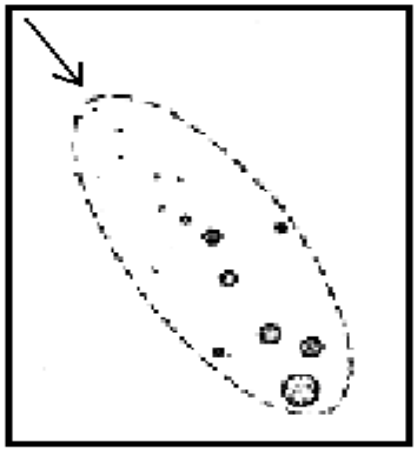


Figure 1:
Typical scatter (dispersion) ellipse. Meteorite fragments separated during atmospheric flight will be located, within the ellipse, in accordance with the size of each mass.

Cranbourne Meteorite	Immediate Vicinity	Approach	Departure
1	BA	BA	BA
2	BA	BA	BA
3	BA	BA	BA
4	BA	CS	BA
5	CS	CS	CS
6	BA	BA	BA
7	CS	CS	CS
8	CS	CS	CS
9	BA	CS/BA	BA
10	BA	CS/BA	CS/BA
11	CS	CS/BA	CS/BA

A tabulated guide to the present day land usage of, and in the vicinity of the Cranbourne meteorite site locations.

Key: BA - Broad Acreage
CS - Closer Settlement

Of the four separations that are thought to have taken place, the author contends that the meteorite scatter at Devon Meadows is the only instance where a significant number of finds have been made which would justify the conclusion that all meteorites, within this dispersion ellipse, have been located. That is not to say that other irons could not be recovered from this area, however, this likelihood is somewhat remote. It will be noted in relation to this scatter, that Cranbourne No. 1 (3,550 kilograms) is approximately 0.6 kilometres distant from Cranbourne No. 4 (1,270 kilograms) which in turn is 0.7 kilometres distant from Cranbourne No's 5,7 and 8 (356, 153, 23.6 kilograms).

From our previous consideration of large, medium and small masses and their eventual distribution, the previous assumption that the main mass was travelling in a south-westerly direction is fully confirmed.

As we noted earlier when discussing the linear distribution of the Cranbourne irons, both the Pakenham (No. 6) and Pearcedale (No. 11) meteorite locations were offset from flight path. We are now in a position to attempt to explain why.

In the case of the Pakenham iron, we may reasonably assume that the height above the earth of the main mass at the time of separation of this meteorite was considerable. This assumption is justified by virtue of the fact that the main mass continued to travel some 21 kilometres to its final resting place. Given that the weight of this meteorite is only 40.5 kilograms it is not unreasonable to assume that a slight deviation of this iron at separation could, from a great height, result in the observed discrepancy between its location and the flight path.

Obviously, the same cannot be said for the Pearcedale iron for its weight is 762 kilograms and the weight of the adjacent Langwarrin iron (No. 10) is 914 kilograms. Both of these meteorites were presumably a significant proportion of the main mass prior to the last separation. If we assume that no meteorites of significant size (i.e. approximately 1,016 kilograms in weight) remain to be recovered between Devon Meadows and Pearcedale, then the second last separation becomes an important consideration. This event, north-east of Devon Meadows, has obviously robbed the parent body of over half its weight since Cranbourne Nos. 1, 4, 5, 7 and 8 fell as a result. The second last separation could therefore have been a catastrophic event, disorientating the remaining main mass which, in its latter stages of flight, would be rapidly losing momentum and tending towards vertical decent. Another separation under these circumstances could have conceivably produced a more radial scatter of fragments which may not necessarily be located on the flight path.

The Search

One cannot go out and search blindly for meteorites in the same way as one might fossick a creek for gem material. One must start with an initial lead or clue which comes either from a fall being reported or a meteorite being found. This information in itself is not necessarily a sufficient ingredient for success for, without theoretical understanding, we might search for a lifetime and never find a meteorite. Armed with both the locations of the eleven Cranbourne meteorites so far recovered and our elementary theoretical considerations, we are now in a position to piece together all the clues and discuss the possible search areas.

In the closely settled area of Devon Meadows, Cranbourne irons Nos. 1, 4, 5, 7 and 8 have been recovered, the largest of these being Cranbourne No. 1 (3,550 kilograms). Because this area is closely settled, the likelihood of recovering further meteorites is rather remote, however, the presence of Cranbourne No. 3 (6.8 kilograms) cannot be overlooked. This iron is south-west of the main cluster and may well be a small meteorite generated by yet another separation. If this is the case, then possibly significantly larger masses may be recovered on the broad acreages to the south-west of this location.

The presence of the large Cranbourne No. 2 iron (1,525 kilograms.) north-west of Clyde, and more importantly the absence of any smaller irons, is in itself an enigma. We have already noted that at Devon Meadows the large Cranbourne No. 1 iron was accompanied by at least four other meteorites. In accordance with our theory we might well anticipate that any smaller meteorites associated with the Cranbourne No. 2 iron would be distributed north-east of this iron's recovery site. Again, the proposed search area is a broad acreage which presumably has never come under the close scrutiny of the land in the closer settlement areas.

Further broad acreages worth investigating are to be found in the immediate vicinity of the Cranbourne No. 9 (Beaconsfield) find and also south-west of this recovery site. The weight of this iron is 75 kilograms, which would suggest that comparable masses may be found near this site and possibly heavier irons could be found to the south-west. A search north-east of this site may also be worthwhile in an attempt to recover any smaller meteorites which may have been associated with this separation.

As we have already noted, the Langwarrin and Pearcedale irons (Cranbourne No's. 10 and 11 respectively) are most probably the last remnants of the main mass which would have scattered, radially after separation. Since these two irons weigh 914 and 762 kilograms respectively, the

possibility exists that smaller meteorites may be found within a dispersion circle which incorporates these irons near its perimeter.

The author would like to give every encouragement to those readers who may wish to investigate the Cranbourne meteorite fall further, and to wish them well in their endeavours. Although many of us are still striving to find our first gold nugget, be it ever so small, there can be no doubting the uniqueness of finding Cranbourne No. 12.

Foot Note

Cranbourne No. 12 meteorite has been discovered and in April 1982 it was donated to the then Cranbourne Shire Council for display purposes. This meteorite was first found in 1927 but only recently came to scientific notice. Weighing 23 kilograms it has been registered as Cranbourne No. 12 in the collections of the National Museum of Victoria and is on long term loan to the City of Casey, for display purposes. It was found on a property located on the north-east corner of Pearcedale Road, Pearcedale (Refer Insert Map D) and may be viewed at the City of Casey Council Offices, 340-350 Princes Highway, Narre Warren, 3805, Telephone 9705 5200.

The Cranbourne Meteorites

One of the world's significant meteorite falls.

Perhaps not so long ago, pieces of a gigantic "Shooting Star" fell out of the sky.

After roaring down low over the mountains they crashed to the ground close to what is now Cranbourne.

1854 The first record of the Cranbourne Meteorites was at the Melbourne Exhibition of 1854, where Mr. James Scott, a Farrier, exhibited "A Specimen of Iron from Westernport and a Horseshoe made from it".

1860 E. G. Fitzgibbon, a Melbourne based enthusiast, investigated the alleged iron ore outcrops, which were five miles apart, and recognised them as meteorites.

The largest, the Cranbourne No. 1 excited the scientific community, particularly in Europe, as it was at that time the largest known meteorite mass in the world.

Amid controversy, the Cranbourne No. 1 and the smaller No. 2 mass were shipped from the then Port Phillip Colony to London.

Such was the local commotion, there was even talk of sending a fast vessel to intercept the steamer.

Another proposal was to cut it in half, one half for Britain and the other for Australia.

The Cranbourne No. 2 was eventually returned to the National Museum, Melbourne.

The issue of returning No. 1 to its "Native Soil" reappeared when this display was being planned – "WE WANT OUR ROCKS BACK" was the heading in the local paper.

1982 Twelve pieces have now been found, the last in 1982, and they are located in the Institutions listed on the adjoining panel.

When and where did it fall?

There is no definite landing date. While the meteorite material is the same age as the Earth they may have fallen as recently as 200 years ago.

Scientists are unable to use standard comparison or dating techniques, as the land was swampy or sandy and quite changeable.

The 12 known masses have the same composition, suggesting they entered the atmosphere as a large single body travelling in a south-westerly direction. Friction caused this to heat, melt and break into pieces; the fragments landing in a straight line between Officer and Pearcedale.

No Craters

The Cranbourne meteorites impacted at a low angle on swampy or sandy ground, forming pits or being buried, not leaving volcano-like craters as did the Wolfe's Creek meteorite in Western Australia. They were mostly discovered below the surface; in railway cutting excavations or farm cultivation.

Are there any more?

There could well be other pieces of the Cranbourne Meteorite shower yet to be discovered.

A potential meteorite will be:

- close to the known landing line
- very heavy for its size
- iron and rusty

BUT, most of the target area is private property and to tossick around without permission is trespassing.

Likely specimens can be referred to the Cranbourne Shire Offices.

Composition

The Cranbourne meteorite masses are classified as iron meteorites and are predominantly metallic iron with some nickel and traces of rare elements.

Meteorite Facts

Meteoroid "Shooting Star" – an asteroid fragment entering the Earth's atmosphere.

Meteorite Meteoroids that hit the Earth's surface. Meteorites are often referred to as "irons".

Meteorites are believed to be fragments of small planets called asteroids, which are in orbit between the planets Mars and Jupiter, in the so-called 'asteroid belt'.

Collisions between asteroids cause them to fragment and go out of orbit. Some travel until they reach the Earth.

More than 50,000 kg of meteoritic material enters the Earth's atmosphere each day. Most of this is the size of dust particles and grains of sand. Very few larger objects actually reach the ground, the rest burns up from friction with the atmosphere.

There are two known incidents of people being struck by meteorites. In 1827, a man was killed in the north west of India, while in 1954, an American woman was more "fortunate", escaping only with bruises when a meteorite came through the ceiling.

The world's largest single meteorite is the Hoba Iron, from Namibia in south west Africa, estimated to be 61,000 kg.

The Cranbourne irons are Australia's second largest meteorite mass. The largest is the Mundrabilla (Nullarbor Plain, Western Australia) fall which was two large bodies, 12,200 kg and 5,100 kg.

There are three huge meteorite impact craters known to exist larger than 100 km diameter – Sudbury in Canada and Vredefort in South Africa. Both have been dated as 570 million years old. The Popigay crater in Poland is 40 million years old.

Location of The Cranbourne Meteorites

CRANBOURNE METEORITE NUMBER	ORIGINAL MASS: KG	ORIGINAL MASS: IMPERIAL	PRESENT LOCATION: COLLECTION	CITY	COUNTRY
1	3,550	3.5 ton	British Museum	London	England
2	1,525	1.5 ton	National Museum	Melbourne	Australia
3	6.8	15 lbs	Not known, possibly in private hands	—	—
4	1,270	1.25 ton	National Museum	Melbourne	Australia
5	508	7 cwt	National Museum	Melbourne	Australia
6	40.5	89 lbs	National Museum	Melbourne	Australia
7	16.3	7 cwt	Geology Department, University of Melbourne	Melbourne	Australia
			Sample in Australian Museum	Sydney	Australia
8	23.6	52 lbs	National Museum	Melbourne	Australia
9	75	165 lbs	Widely distributed, samples in:		
			Koenig Collection	Bonn	Germany
			National Museum	Vienna	Austria
			National Museum	Budapest	Hungary
			Field Museum of Natural History	Chicago	U.S.A.
			Australian Museum Sydney	Australia	
			Harvard University	Boston	U.S.A.
10	814	18 cwt	National Museum	Melbourne	Australia
11	762	15 cwt	US National Museum	Washington	U.S.A.
12	23	57 lbs	Cranbourne Shire Offices	Melbourne	Australia

Our famous missing meteorites

"THE EXAMINER" 11/1/00

LAST month, with the millennium looming and doomseekers predicting an impending apocalypse, there was a flurry of interesting cosmic activity.

Melbourne had a small comet shower that disappointed stargazers; a tiny meteorite went through the window of a northern suburbs home, causing headlines for two days; there was a lunar eclipse and the full moon glowered; and a UFO – believed to be a meteorite – landed in the reservoir of the small northern NSW town of Guyra making a big hole in the mud.

Guyra's water was declared off limits. The town made worldwide news. Experts flocked to the sleepy hamlet (pop: 2000) in the mountains. Men with American accents, wearing dark suits and sunglasses were seen furtively sniffing about the scene.

Then the story disappeared like the UFO.

Last week a spokesperson from the Shire of Guyra told *The Examiner* the UFO was believed to have been a large meteorite. The council had called for public tenders for someone to salvage the visitor from outerspace. The water supply is back on.

But this region can boast of a remarkable strafing of meteorites before European settlement when some massive iron balls dropped in an almost straight line from Officer near Pakenham to Pearcedale.

Twelve iron meteorites weighing between 3550 and six kilograms were discovered between the 1850s and 1982, most in the vicinity of Cranbourne–Devon Meadows.

It is believed the fragments were part of a main mass that disintergrated when it hit the atmosphere, hitting first at Officer–Beaconsfield and finishing at Pearcedale.

No one has been able to determine when they arrived, but according to the *Australian Gem and Treasure Hunter, Year Book, 1982* there were early stories of Aborigines dancing around a large metal ball in Devon Meadows.

An early settler of the Cranbourne area tried to tether his horse to a stump in Devon Meadows early in the 1850s. The stump, about two kilometres southwest of Five Ways, was to later be identified as Cranbourne No. 1 meteorite.

The first mention of this meteorite was at the Melbourne Exhibition in 1854 when a farrier displayed a horseshoe made from "a specimen of iron from Western Port". The meteorite was still lying in its resting place and was believed to be an outcrop of iron.

Another one was discovered at Clyde, six kilometres from the first and in 1860 the town clerk of Melbourne travelled out to Cranbourne in the hope that there was a field of iron ore.

The meteorites were named No. 1 and No. 2, weighing 3.5 tons and 1.5 tons respectively.

Then a third, weighing only seven pounds, was shown to the world in 1860, after being discovered in 1857. It had been broken up to use as a kitchen hob. The remaining mass was sent for scientific investigation but was later lost.

Over the next years there were further discoveries of meteorites at Officer, Clyde, Langwarrin and Pearcedale – in an almost straight line along a distance of 21 kms. They weighed between 1.25 tons and 52 pounds. Four more were found at Devon Meadows in the vicinity of No. 1. They weighed from 1.25 tons to 52 pounds.

Discoveries were made by farmers ploughing fields except in the case of the Officer find, which was unearthed in 1928 when they were widening Princes Hwy.

The discovery of No. 2 was made public before No. 1 and attracted attention in Europe because its weight and size exceeded all previous discoveries (the Cranbourne meteorites are now listed as the 11th on the list of the world's heaviest. The biggest of 60 tons was found in Southwest Africa. In the 1950s something landed in a forest in Siberia, destroying it. They still haven't told the world what it was. Scientists now say the dinosaur age was destroyed during a massive meteorite show).

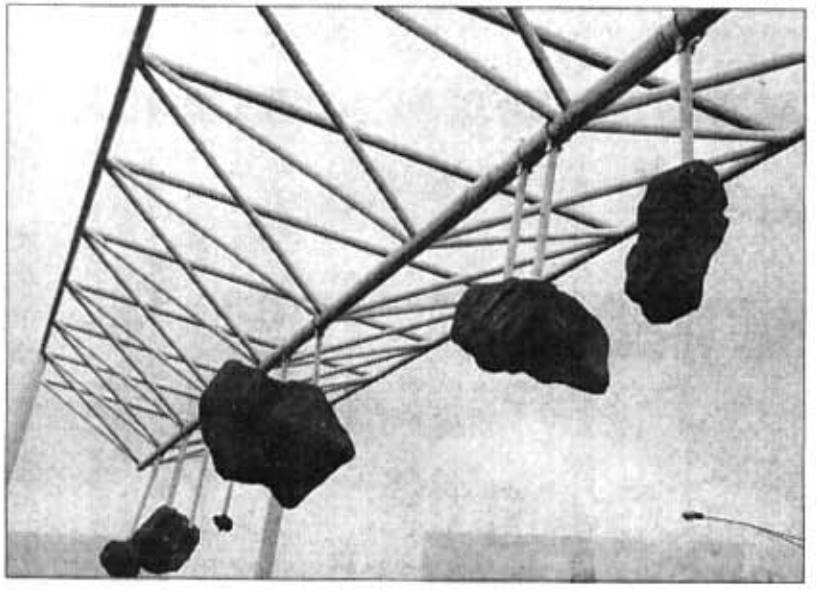
An astute Melbourne minerals dealer bought No. 2 and sold it to the British Museum for an undisclosed sum in 1861.

When No. 1 was unearthed, there was lengthy debate about where it should reside. It was decided to send it to the British Museum in exchange for No. 2, which was returned and is now at the National Museum of Victoria.

Some years back the then Cranbourne Shire commemorated the meteorites with a park on South Gippsland Hwy on the Melbourne side of Cranbourne. There is a kitschy display of polystyrene "meteorites" hanging on wires.

All but one of Cranbourne's most famous objects are at museums around the world – British Museum, National Museum at Melbourne, Victorian Mines Dept, Victorian Geological Survey Museum, the Geology Department at Melbourne University and US National Museum in Washington.

The last discovered meteorite, found at Pearcedale in April 1982, weighs 23 kgs and is about the size of a football. It is in a safe at Casey Council.



LEFT: Not the real thing: miniature plastic replicas of the Cranbourne meteorites at Meteorite Park in Cranbourne.

METEORITE No. 12 at Casey Council and a 30cm ruler for size comparison.