The Artifact-Analysis by Dr. Russell VernonClark

Is this Extraterrestrial Material?

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-- Dr. Russell VernonClark

On the morning of July 4, 1997, in an auditorium in Roswell, New Mexico, hundreds of news reporters and other interested onlookers came together for what was billed as a press conference on the scientific testing of an object said to have been recovered from the crash of a UFO near Roswell in 1947.

The main speaker, Dr. Russell VernonClark, a chemist from the University of California at San Diego, delivered prepared comments and then immediately left the auditorium, frustrating many journalists who wanted to ask him questions. Even so, VernonClark's announced findings undoubtedly represented the biggest surprise of the week-long festival called Roswell UFO Encounter 97.

Film producer Paul Davids of Los Angeles introduced the event with background on the Roswell incident. Television producer Christopher Wyatt, had arranged for scientific

testing of the object.

Investigating the Artifact

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Excerpts from the commentary follow:

"Today, we are here to make public the laboratory test results, scientific conclusions and the chain of evidence of what is, without a doubt, one of the most extraordinary discoveries of our time.

"Before I begin, I would like to thank Dr. Roger Leir, and producer Chris Wyatt. I would also like to thank Dr. Russell VernonClark, who is with us here today, for his patience during the lengthy testing process and for his courage to come forward with the findings."

"In August 1995, Dr. Leir was contacted by an individual who claimed to have possession of what he stated was 'pieces of debris from the 1947 Roswell crash.' After meeting with the individual, we began an extensive investigation into the history of the material and statements made by the source.

Subsequently, we learned that this material had been kept a secret for almost 50 years because of fear of ridicule and reprisals.

"Not until after we received the preliminary metallurgy test results did we find the source to be credible and the material worthy of further research. These preliminary results suggested the debris was unique enough in composition and structure to require our attention and further laboratory testing.

"At this time we took possession of the material. From there, it was fragmented for safekeeping and distributed to laboratories and scientists across the country. Then the testing process began.

"In order for any material to be considered a genuine extraterrestrial artifact, three main characteristics must be satisfied. First, the testing must provide conclusive results that the elemental composition of **the material is extraterrestrial in origin** and could not come from this world. Secondly, it must have **uniform structure**. And third, the laboratory tests must prove that **the material was manufactured** and not naturally formed. That is, it must not be a meteorite or meteorite fragment.

"This is the first time the Roswell debris has been shown to the public. After a year and a half of intensive research, scientists throughout the United States have conducted a battery of laboratory tests, which conclude the material you are now looking at is manufactured, has structure and is extraterrestrial in origin.

The alleged extraterrestrial artifact

"The piece of debris is approximately 1-1/2 inches across and 5/8 inches in thickness. The frontal surface shows a curvature on two levels and has temperature discoloration that was caused by exposure to extreme heat. This discoloration ranges in color from indigo to dark green.

Close-up of artifact shows unusual coloration

"Whether or not the subject of extraterrestrial intelligence is in your belief systems, the scientific evidence that is about to be presented, combined with the history of the debris, has led us to the conclusion that something of extraterrestrial origin, whether a vehicle or not, was in fact present in the desert outside Roswell in July of 1947."

Dr. VernonClark's comments follow:

"Good morning. My name is Dr. Russell VernonClark. I am a scientist currently employed by the University of California, San Diego and I hold a Ph.D. in chemistry.

"For the past year and a half, I have been privately involved in the testing and analysis of the material described to you. I am here today to present the laboratory test results and analysis conducted, so far, on this material by scientists throughout the United States.

"From the tests that have been completed -- these include Inductively Coupled Plasma/Mass Spectroscopy and Secondary Ion Mass Spectroscopy -- we have determined that this material shows significant variations from the normal isotopic compositions found on the Earth and should be considered extraterrestrial in origin. Further, using Inductively Coupled Plasma/Optical Emission Spectroscopy it has been determined that this material should be considered as manufactured, as it is not naturally occurring.

"It is well known that all matter is composed of atoms. And atoms consist of a nucleus surrounded by an electron cloud. All nuclei, other than the simplest hydrogen, are made up of both protons and neutrons.

"Atoms which have the same number of protons are all the same element, like aluminum or carbon. When the number of protons between two or more atoms is the same but the number of neutrons is different, these atoms are called isotopes. For example, one isotope of carbon has six protons and six neutrons and is called carbon-12. Another isotope has six protons and seven neutrons and is carbon-13. Naturally occurring on the Earth, carbon is a mixture of 98.9% carbon-12 and 1.1% carbon-13. This will be true for all of the naturally occurring terrestrial carbon.

"If a sample [of] carbon was found to be a 50%

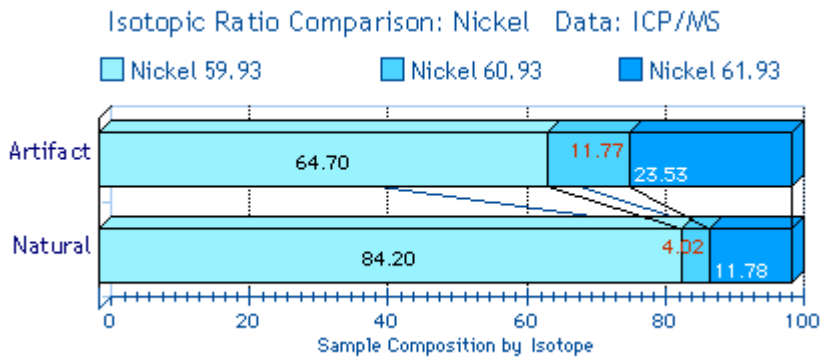
carbon-12 and 50% carbon-13 mixture, we would have to conclude that the sample was not naturally occurring on the Earth.

"I personally conducted the first set of isotopic ratio tests using **Inductively Coupled Plasma/Mass Spectroscopy** or ICP/MS for short. ICP/MS is useful for determining elemental composition and isotopic ratios for an extremely wide array of elements. In the case of this material, the sample was dissolved in a mixture of nitric acid and hydrofluoric acid. Then the material was sprayed into Argon plasma, which creates separate atomic ions.

"The ions are accelerated into a mass spectrometer for separation and detection. You are, in effect, counting the numbers of atomic nuclei that correspond to a specific isotope.

"Because our time is limited today, I'll skip the intricacies of the analysis and data and give you a brief overview of the ICP/MS results. All of the isotopes which I chose to analyze were present in trace amounts. The analysis I conducted uncovered the following isotopic anomalies. Let's begin with nickel.

Nickel



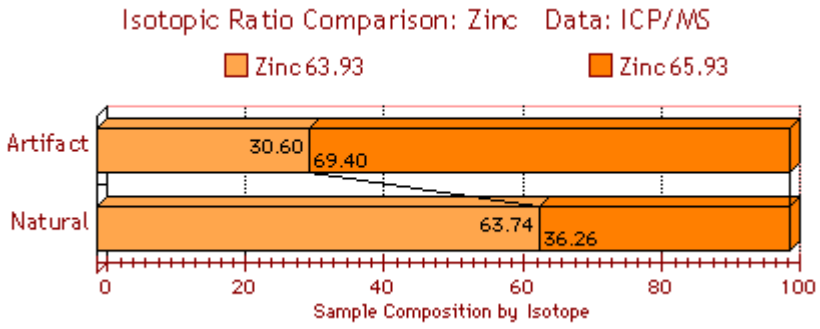
[Note: Nickel has five stable isotopes, numbered 58, 60, 61,62 and 64. Dr. VernonClark tested for three of these isotopes, as noted in the graphic above and the chart below. The results do not take account of any Nickel 58 or

Nickel 64 that might have been present in the sample. Thus, the numerical values of each isotope are expressed as "relative ratios" rather than true percentage amounts of each isotope in the sample. -- CNI News]

Nickel Artifact	Element Atomic Mass	Natural Relative Ratios
Ni 64.7	59.93	84.20
Ni 11.77	60.93	4.02
Ni 23.53	61.93	11.78

"Two of the isotopes of nickel present were masses 60 and 61. On the Earth, the natural abundance for these two nickel isotopes is 26.1% and 1.13% respectively. This is a ratio of about 23 to 1. In the sample tested, the ratio was dramatically diminished to 5 to 1, a 4 fold decrease! This is significantly different from the ratios for terrestrial nickel.

Zinc



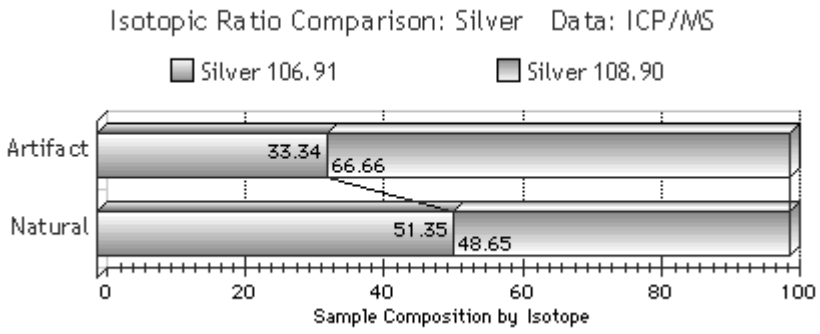
[Note: Zinc has five stable isotopes, numbered 64, 66, 67, 68, and 70. Dr. VernonClark tested for two of these isotopes, as noted in the graphic above and the chart below. The results do not take account of any Zinc 67, 68 or 70 that might have been present in the sample. Thus,

the numerical values of each isotope are expressed as "relative ratios" rather than true percentage amounts of each isotope in the sample. -- CNI News]

Zinc Artifact	Element Atomic Mass	Natural Relative Ratios
Zn 30.6	63.93	63.74
Zn 69.4	65.93	36.26

"Two of the isotopes of Zinc that were tested in this material were masses 64 and 66. On Earth, the natural abundance of zinc for these two isotopes is 48.6% and 27.9% respectively. That is a ratio of about 7 to 4. In the zinc tested, this ratio was dramatically reversed as 4 to 9! Again, this is significantly different from the terrestrial zinc.

Silver



[Note: Silver has only two stable isotopes, both of which were tested by Dr. VernonClark. Although labeled "relative ratios" in the graphic above and the chart below, the numerical values of the two silver isotopes are equivalent to true percentage abundance in the sample. -- CNI News]

Silver Artifact	Element	Natural

	Atomic Mass	Relative Ratios	Relative Ratios
Ag	106.91	51.35	33.34
Ag	108.90	48.65	66.66

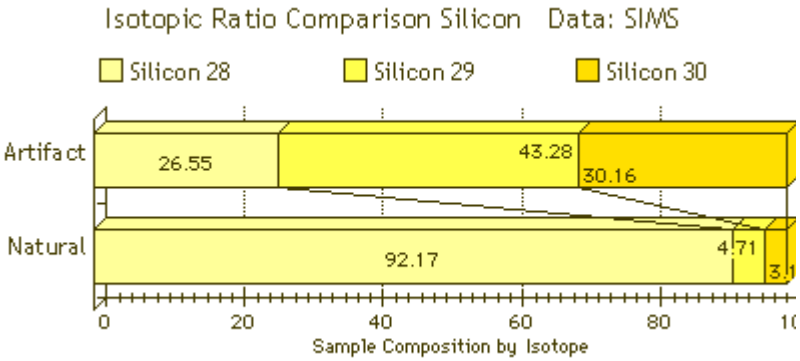
"Finally there were two stable Silver isotopes present in the material, Silver 107 and 109. The silver isotopes found on Earth are at an approximate ratio of 1 to 1. The silver ratio in the sample was 1 to 2. Once again this is a significant difference from the terrestrial silver isotopes.

"Due to the size of the sample I was given to work with, and because the test was double blinded, in that I had no idea of the origin of the sample or its composition, I strongly suggested that more tests be conducted to corroborate these findings and further investigate the elemental composition of the material.

"My original conclusions and recommendations led to a second set of tests. **Secondary Ion Mass Spectroscopy**, or SIMS, analysis was conducted by a colleague at another major west coast research university. With this method, a sample is bombarded with ions and the surface has material 'sputtered' away. This material is accelerated into a mass spectrometer for separation and detection. Again, you are, in effect, counting the numbers of atomic nuclei that correspond to a specific isotope.

"This SIMS test corroborated the initial ICP/MS findings and uncovered further isotopic anomalies not detected in the first analysis. **The sample, which we now know to be nearly pure silicon, shows a striking variation from natural abundance.**

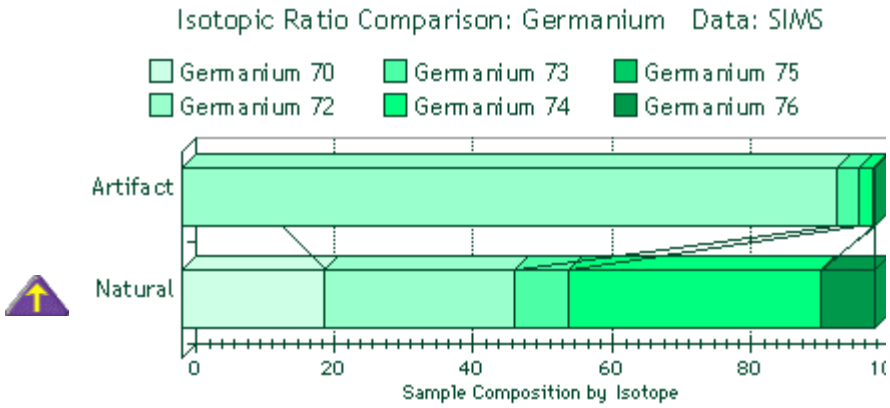
Silicon



Silicon Artifact	Element	Natural
Percentage	Atomic Mass	Percentage Abundance
26.55	Si 28	92.18
43.28	Si 29	4.71
30.16	Si 30	3.12

"For example, Silicon 28 is 92% abundant on the Earth. In this sample, it is present in only 26% abundance. The other two stable isotopes, silicon 29 and 30, are greatly enhanced at more than 10 times their terrestrial natural abundance.

Germanium



Germanium Artifact	Element Atomic Mass	Natural Percentage Abundance
Ge 0.0	70	20.52
Ge 94.46	72	27.43
Ge 3.28	73	7.76
Ge 2.11	74	36.54
Ge 0.11	75	0.0
Ge 0.04	76	7.76

"A similar variation for Germanium was found with the mass 72 isotope dominating in the tested sample at 94% of the total Germanium. Natural, terrestrial origin Germanium is only 27% abundant in this isotope."
[NOTE: Germanium 75 is radioactive with a very short half-life. Its presence in the sample is therefore anomalous. It may be an error in the testing process, or a decay product of some other unstable isotope in the test sample. -- CNI News.]

"The **Inductively Coupled Plasma/Optical Emission Spectroscopy** or ICP/OES was conducted on the material by a private laboratory in Texas. It is from these tests that it was determined that the material was most likely manufactured and not naturally occurring. ICP/OES is useful for determining the elemental composition for an extremely wide array of elements. The sample is sprayed into argon plasma, which creates separate atomic ions. These atoms are excited by the energy of the plasma and emit electromagnetic radiation, or light, with wavelengths (colors) specific for each element. This instrument cannot differentiate between isotopes.

The composition of this material was found to be greater than 99% silicon.

"Therefore it should be considered that **this material is both manufactured and extraterrestrial in origin.**

"Please keep in mind that despite the lengthy discussion and technical scientific descriptions, these are extremely precise laboratory tests. In the cases of ICP/MS and SIMS, we are essentially looking inside the atom at the nucleus and weighing its contents. Simply put, these tests have far less error than, if you will forgive the analogy, even the most sophisticated DNA testing performed today.

"While the test results are astounding, the testing process is ongoing. Portions of the material have already been handed over to other members of the scientific community and the objective analysis continues. Currently, the raw data and conclusions from these tests are being compiled and will be submitted to a peer reviewed publication when the rest of the testing is completed." [Conclusion of Dr. VernonClark's presentation.]

NOTE: CNI News offers the foregoing

information in the interest of public awareness and debate. In preparing this page, we have repeatedly consulted Dr. VernonClark regarding his data to assure accuracy in our presentation. We will stay in constant touch with the parties to this investigation and report new developments as they occur.

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