

Story of The **GREAT WHITE SANDS**



by Tom Charles

White Sands at Midnight

Snowy whiteness, mile on mile,
And not the faintest sound,
A thousand ghosts are here tonight,
You can see 'em all around.
Some are standing death-like still,
Others come and go
Dreamy-like upon the wind
That whispers soft and low.
Starlight melting into all
Makes the vision seem
Like you're in some spirit land
Stranger than a dream.

—NAT CAMPBELL.

Foreword

This book is dedicated to the loyal friends who have done their bit to make White Sands the leading playground of the Great Southwest.

To Nature Itself which put these miles of alabaster sand dunes here and no place else in the world.

To the White Mice, white lizards, white bugs and all the unusual things which make publicity headlines so easy.

To the Abundance of Water which lies within a few inches of the surface of the ground in the middle of a perfect desert, making possible an ideal road into these sands.

To the Prevailing Wind which carries the snow-white crystals onward toward Alamogordo, constantly covering the myriads of tracks, keeping the hills rippled and clean, despite the hundreds who have trampled and dug the day before.

To the Chambers of Commerce of a dozen adjoining towns, which have persistently helped the local Chamber develop these sands into a national attraction.

To the Editors of Local Newspapers, and H. S. Hunter of the El Paso Times, and other newspaper men who gave freely of their news and editorial space.

To Gilbert Grosvenor, Editor of the National Geographic, who first placed the Sands on a par with the Carlsbad Caverns and Grand Canyon, and gave us 17 pages in his publication.

To Ex-Governor Jim Hinkle, of Roswell, who as State Land Commissioner, in the midst of our struggle to get even 640 acres of the sand withdrawn for conservation, said "Take all you want, I'd take at least half of it."

To the Late Governor Arthur Seligman, who wrote in 1933,



"They shall not miss the Great White Sands with Federal Highway No. 70 so long as I am Governor of New Mexico."

To the Late Roger Toll, who first inspected the Sands for the National Park Service and helped to formulate the plans which finally gave us a Federal Highway past the door of the headquarters.

To Arno B. Cammerer, Director, who encouraged us with the statement, "I think you have the finest headquarters set-up in the National Park Service."

To Frank Pinkley, "The Boss", the most understanding, kindly boss in the world; and to all the rest of the Park Service officials who have done so much work and given so much of their time and thought to the development of the Great White Sands.

And Finally, to the woman who put up with all these dreams, calmed the enthusiasm when it ran rampant and gave encouragement when it seemed that all was lost.

In fact, this book is dedicated to all the friends of the Great White Sands.

Respectfully,

TOM CHARLES,
Alamagordo, New Mexico.
December, 1938.

Since the publication of this booklet Tom Charles and his good friends, Director Cammerer and "Boss" Pinkley, have passed on; but their work for the preservation of the White Sands is deathless. They would have been deeply interested in the visits of the thousands of military men who enjoyed the Sands during the war years, as they would also have been in the nearby site of the atomic bomb tests, now under consideration as a national monument. To their memory this 1950 edition of the Story of the Great White Sands is dedicated.

MRS. TOM CHARLES

The Story of White Sands

In over 30 years of intimate association with the White Sands I have heard at least a dozen theories as to their origin, most of them as far from right as the one theory that they are the ashes from the once active volcano about 60 miles up the valley or from the other, that they are the wash from Carlsbad Caverns.

Scientists tell us that a few thousand years ago the area which is now white sand was an inland lake or sea, and that when the lake began to dry up mud flats formed along the northeast side. The first trace of white sand was a narrow strip of those snow white crystals just at the water's edge. As the evaporation became greater that strip of gypsum crystals grew wider and wider and before long was being piled in rippled dunes on those mud flats.

There are now 176,000 acres of these alabaster sand dunes from 30 to 60 feet high. They have the appearance of granulated sugar, rippled and wind blown like great drifts of snow. They are in the constant process of making and move toward Alamogordo an av-





erage of 8 inches a year over a thirty mile front. In the heart of the sands there is no vegetable life and but little animal or insect life. One may see an occasional white lizard or possibly a few insects. Some of these insects are extremely light while others retain their natural color. There will probably be a few flies but when we first went out into the heart of the sands there were neither flies nor mosquitoes. Both of these seem to follow the human family and the garbage pits.

This area is known the world over as the Great White Sands but there is not a particle of sand in it. The ordinary silica sand, when heated, makes glass but this sand heated makes Plaster of Paris.

One of the common questions asked about the sands is, "Will you ever be able to do anything with it?" As a matter of fact one can do anything with it now that can be done with ordinary gypsum which is one of the most common of building materials. Skyscrapers are made of steel and the fire proof walls are made of gypsum. Wall boards, interior finishings, tile of the floors are practically all gypsum. Millions of tons of it are used annually in the United States and if there were no other source of supply the White Sands would be very valuable in furnishing gypsum products, for it is said



that we have enough gypsum here to supply the world for 60,000 years under the present rate of consumption. But everybody has gypsum. It is loaded on board ship in Nova Scotia for \$1.00 per ton and they are said to have enough to supply the Atlantic sea coast for years to come. Nearly every state in the union seems to have an inexhaustible supply. And for commercial purposes their gypsum is as good as ours, possibly better. So why should any one come to the heart of the desert, way out to White Sands for gypsum when they have plenty in their own back yard?

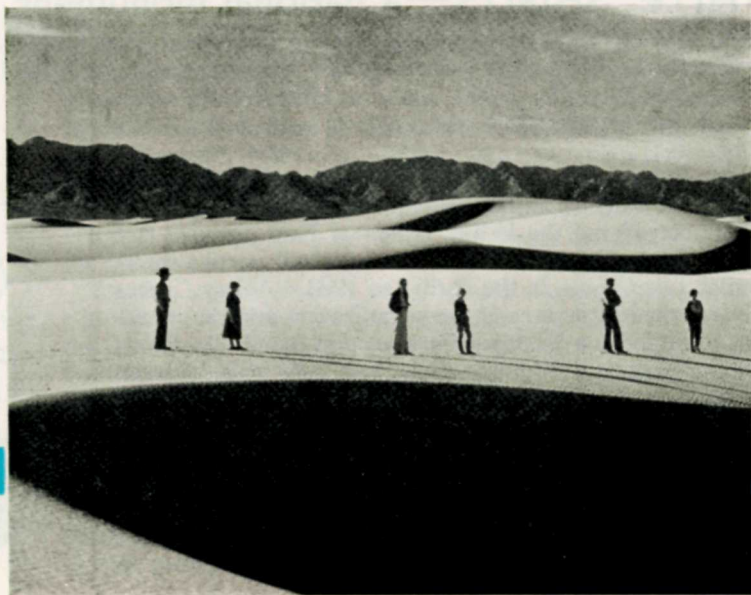
But I like to divide gypsum into two classes, Commercial Gypsum and Recreational or Inspirational Gypsum. The former everybody has. We find it in the chalk hills which are soft and fluffy like flour, or in the long selenite crystals which look like mica, or in the hard gyp rock which looks like lime, but they are all gypsum and of equal value for commercial purposes. But when it comes to recreational gypsum, we have it all. No place else in the world do you find these alabaster sand dunes with the beauty and splendor of the Great White Sands. No place else in the world do you find gypsum which the children cry for and the grown ups love to play and dig and bury themselves in. No place else in the world is

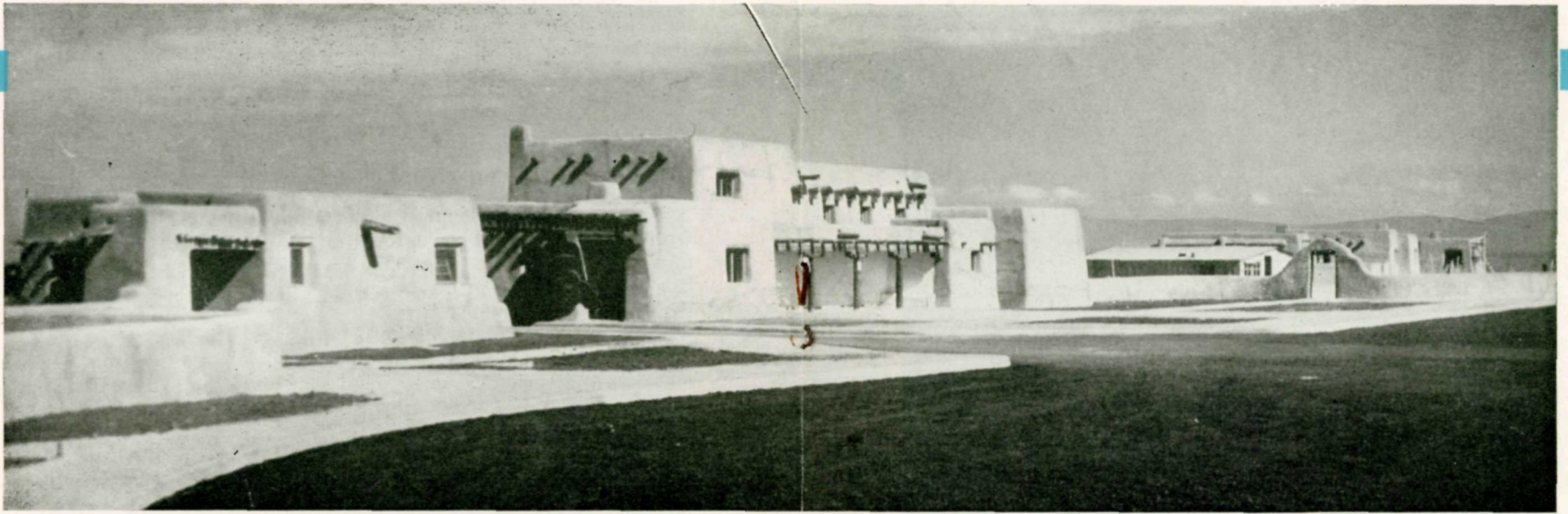
there a body of gypsum in which you may turn 3600 school children loose as we did at the last annual play day, without fear of any injury from sticks or stones or stings or snakes. It is the only gypsum pile in the world that is nationally known as an ideal playground.

And therein is the commercial value of the White Sands.

The New Mexico Tourist Bureau finds that every automobile with a foreign license leaves an average of \$21.50 in the state before the occupants see the attractions which interest them. On that basis and at the regular pit run value of gypsum it takes 430 tons of white sand to equal one tourist.

So far as "making anything out of them", there is only one question to answer; do we want to sell the Great White Sands at five cents per ton or at \$21.50 per inspiration? Do we want to sell them in inspirations to be spread over the pages of the National Geographic and similar publications or do we want to sell them at five cents per ton to be made into plaster and buried in the walls of city skyscrapers





WHITE SANDS—a national monument

The idea of the White Sands becoming a National Park originated with the Alamogordo Chamber of Commerce in about 1922. Whose individual idea it was I do not know but as secretary of the organization, the project soon became my hobby.

A. B. Fall of this county was Secretary of the Department of the Interior and in conversation with him we found that he considered the White Sands of Park Service size and material. So we called a meeting of all parties interested at Las Cruces in the spring of 1923. A Las Cruces man was made secretary of the organization and the movement to establish a National Park around the White Sands went in leaps and bounds. Soon the lava beds between Carrizozo and Tularosa were included, then the Elephant Butte Dam came into the picture, then White Mountain and part of the Ruidoso and the Mescalero Indian Reservation.

Before long the program included A. B. Fall's ranch and a road over the top of White Mountain. The thing had gone wild, had spread over entirely too much territory in

the hands of over-enthusiastic friends. The natural enemies of conservation and the Park Service soon put out the cry of "Wolf-Wolf" and the cause was lost for several years to come.

The White Sands project, however, was still my baby. Year after year I was chairman of the White Sands Committee in the local Chamber of Commerce. Gradually, through correspondence with surrounding towns and with political leaders, the White Sands project was brought to life again, with a generally favorable atmosphere in its behalf and a belief that it should be set aside as a scenic attraction and for recreation.

Finally, at the request of at least a dozen of the surrounding Chambers of Commerce the southern third of the sands was withdrawn by the President for inspection and classification. There was some opposition among commercial interests and from a few promoters and there was an active movement to have the withdrawal rescinded when an incident occurred which probably put the White Sands project over.

It was in the fall of 1932 that U. S. Senator Bronson Cutting visited Alamogordo and addressed a few citizens at the rooms of the Chamber of Commerce. After the





meeting the Senator, Charles Wilhelm, president of the Chamber of Commerce, and I retired to my office to talk over our troubles about the White Sands project. When we separated that evening the Senator said, "I will do everything I can for you but suggest that you be satisfied with a National Monument instead of a National Park, it will be much easier to get."

It was only a few months after that meeting when we received the following telegram:

Washington, D. C.

To Tom Charles, Alamogordo, N. M.

I am sure that you will be interested to know that the President on January 18th, 1933, signed the proclamation establishing the White Sands National Monument, New Mexico. Congratulations.

Signed: BRONSON CUTTING.

This telegram was the first word we had received since the night Senator Cutting left my office near midnight. From our knowledge of his close relationship with President Hoover we naturally assumed that he was instrumental in getting the proclamation.

I was made the first custodian. My recollection is that it was at \$1.00 per year and I furnished my own car, gasoline and stamps.

That \$1.00, my salary, was the only dollar in sight at the White Sands for some time to come. But thanks to the efforts of Dr. H. L. Kent, president of State College at Las Cruces; Ralph Charles of the Department of Land Utilization, Albuquerque; and Dr. Fred Evans, president of the local Chamber of Commerce, the Wild Life Division of the Government became interested in the artesian well which was near the Sands and the area was purchased for a wild life preserve and became a part of the White Sands Monument. This was the nucleus, the starting point, and the answer to the usual question, "Where did you get the money?"

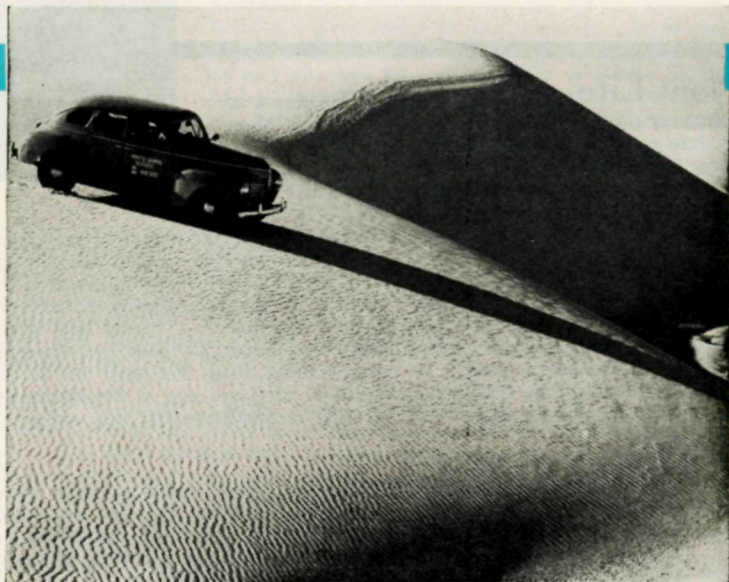
Through the cooperation of the W. P. A. we have completed a \$100,000.00 headquarters area with museum and rangers' residences, utility quarters and parking areas. The Park Service has built over \$60,000.00 worth of paved roads. The State of New Mexico and the Federal Government have completed a 23 mile stretch of black top passing in front of the headquarters door, at a cost of \$173,000.00. Practically \$350,000.00 worth of construction has been done by the several agencies, in the vicinity of White Sands in the past three years. The first year that a road made the heart of the sands available there were 34,000 visitors. the second year 64,000, the third year 91,000, and in 1938, ending October 1st, there were 110,805. August has been the banner month with 22,941.



General Information Publicity

Publicity runs riot. The editor of the National Geographic Magazine visited the Sands in 1935 and gave us a 17 page illustrated story—the New York Times ran a 5 column streamer across the front page of the Sunday edition—the Rock Island Railroad runs a White Sands display in the windows of the various ticket offices in Chicago, Minneapolis, St. Paul and other eastern cities—Carveth Wells in a national broadcast said “You suddenly find yourself in one of the most astonishing regions on earth—White Sands National Monument—a dazzling fairyland 30 miles long and 9 miles wide, a billowy sea of pure white sand that isn’t sand at all, but pure white alabaster, the only wonderland of its kind on earth”—the Bell Telephone System in their annual travel edition, 1938, ran 25 pictures of the leading attractions of 7 mountain states and gave White Sands the full front cover—one of the first prize pictures in the national water color show in Philadelphia in 1937 was one of the White Sands—the first prize picture in Desert Magazine, El Centro, California, for October, 1938, was White Sands—a magazine in Budapest, Hungary, gave us a full page and a half page cut. Stories, poems, pictures run almost everywhere. The plant





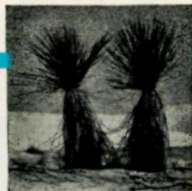
life, the animal life, in fact everything about the Sands is so unusual it makes publicity easy.

Selenite Crystals

In and beyond the old 100,000 acre lake bed west of the Sands there are millions of tons of selenite crystals, evidently left there by evaporation many hundreds of years ago. Some of these crystals are as long as 42 inches and look like mica but they too are pure gypsum. They are of a different crystal formation from the Sands. Many scientists believe that much of the White Sand comes from these selenite crystals; that they are dissolved by the flood waters and carried down into the old lake where the white sand crystals are formed. It is their belief that the reason the white sand crystals are here and no other place in the world is because of rapid evaporation. Darton, one of the most eminent of American authorities says, "The gypsum has been brought to the surface by a seepage of water, probably from the underlying Chupadera beds, and deposited on the surface in crusts, which have crumbled to sand and in the course of many centuries have been piled by the wind into great dunes."

Plant Life

—Dr. Fred Emerson, Professor of Botany at the State Normal, Las Vegas, New Mexico, has probably studied the plant life of the Sands more than any other botanist. Dr. Emerson reports that a total of 62 different species of plants live within the White Sands boundaries. All these plants take root in the open valleys between the sand dunes and only 7 of the 62 are able to grow upward through the encroaching sand dunes and frequently appear as growing on the hills. Several of these plants are found no place in the world except at White Sands. The sand verberna grows profusely through the valleys of the sands and has a beautiful lavender flower. The old lake to the west of the Sands is known to have only two species of plant life, the sand verberna and the burro weed. An unusual thing about the plant life of the Sands is the fact that the sand contains no nitrogen and if the plants get nitrogen at all, no one has shown by what unusual process they extract it from the air.

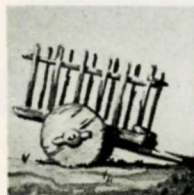


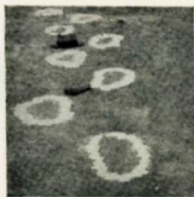
Red Lakes

—Stockmen in the vicinity of White Sands have for many years had knowledge of the fact that their water holes and the rain water lakes sometimes turn red as blood. This usually happens in the fall of the year. Spanish legends recount the anniversaries of bloody battles while the more scientific minds apply various reasons for the strange phenomenon. It was not until the United States Park Service chemists came along a few years ago, that the mysterious stranger who turns these waters red was identified as an alga or microscopic plant life which thrives on sulphur water. The usual appearance in the fall of the year indicates that he waits for the lakes and water holes to evaporate down to the right consistency of sulphur to his liking. There is no fixed time or fixed place for this alga's appearance but he is quite worth while when you find him.

A Spanish Ox Cart

—Most of us would be surprised to be riding along an old trail where we had ridden for over 50 years, and suddenly, for the first time, see an old ox cart lying out at the side of the road. This is what happened to Watson Ritch, son of Ex-Governor W. G. Ritch, who has lived over by the northwest corner of the Sands for 56 years. One morning he saw a dark object out on the Sands where there had been nothing but white sand for over 50 years and when he investigated it, it proved to be the old hand hewn wheels of a Spanish Carreta, with the axle, the tongue of the cart and part of the body. They had been covered by the sands for all that time. No one knows where they came from or when they came. There is an old ox cart road along the west side of the Sands. Some say it was for the use of El Paso citizens who came up to the flats west of Tularosa for salt. Others think it was a short cut to Gran Quivira. At any rate, arrangements have been made with Mr. Ritch to preserve the old ox cart in the museum at headquarters and as you view this interesting exhibit your mind will probably run with ours to the early days and the heroic efforts made by these frontier fighters.





Giant's Tracks —In the fall of 1932 Ellis Wright, a government trapper, reported that he had found human tracks of unbelievable size, imprinted in the gypsum rock on the west side of White Sands. At his suggestion a party was made up to investigate. Mr. Wright served as guide, O. Fred Arthur, Supervisor of the Lincoln National Forest, Edgar Cadwalader and one of his sons from Mountain Park, and the writer made up the party. As Mr. Wright had reported, there were 13 human tracks crossing a narrow

swag, pretty well out between the mountains and the sands. Each track was approximately 22 inches long and from 8 to 10 inches wide. It was the consensus of opinion that the tracks were made by a human being for the print was perfect and even the instep plainly marked. However there was not one in the group who cared to venture a guess as to when the tracks were made or how they became of their tremendous size. It is one of the unsolved mysteries of the Great White Sands.

Mirages—Ralph Twitchell, in his history of New Mexico, describes the area west of the White Sands by quoting Governor M. A. Otero, who in 1903 wrote: "On these gypsum sands is the playground of the mirage, and here it plays its greatest pranks with distance, perspective, and color. Sometimes it raises the white hills high above the surrounding flat country, making them exceptionally conspicuous, and at other times covers them with verdure and nodding shadows, and again hides them behind an opaque wall."

This area is still the playground of the mirage but difficult of access, boggy, dangerous and deceptive. No tourist should attempt to drive to the old lake for it is dangerous for even those who know it best.

Geology—The geology of White Sand is very simple. It is pure gypsum, a hydrous calcium sulphate ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$). Pure gypsum is usually snow white and known as alabaster. Its first use in the United States was land plaster and it is told that Thomas Jefferson sowed gypsum on the hill side so as to form the words "Land Plaster used here—Thomas Jefferson" and when the clover came up it stood out strongly on those words. But today gypsum is indispensable in the building industry. The United States Gypsum Company alone is said to be worth \$60,000,000.00.

White Mice—It was in the summer of 1927 that Dr. Lee Dice of the University of Michigan, with three companions, first discovered the white mice of the White Sands. His party did additional work in 1928 and 1929 and reported on them in 1930. It is understood that he has had some of the white mice in his laboratory and worked with them since that time. In 1933 Dr. Seth Benson of the University of California did extensive work with the white mice of the White Sands and the black mice of the lava beds some 20 miles north of the Sands. Dr. Benson has two books on the White Mice of the White Sands. Since that time nearly every museum of importance in the United States has shown interest in the protective coloration of the mammals of this section, especially in this mouse, the Apache Gypsi, name by Dr. Dice.





An Invitation

To you who have never seen the Sands, I want to invite you to come and I hope that you see them on an evening just as the setting sun breaks through a canopy of clouds above the rugged San Andres, painting the points of the hills in yellow and gold; with here and there a burning ball of fire; that the mountains themselves are purple and the blue and the deep shadows of the Sands stand out against the snow white hills. For it was on such an evening that Dr. Gilbert Grosvenor visited the Sands and said, "This is one of the Natural Wonders of the World. I place it on a par with Carlsbad Caverns and the Grand Canyon."

And as you linger in the twilight I hope that a gust of wind will come up the long slope and sweep up an eddy of swirling sand, and as it reaches the summit it will stand erect, almost in human form, and then stop and bend as if peering into the shadows, and run along the rippled ridge and stop and bend again, then disappear into the darkness. For then you will have seen the Pavlo Blanco, the White Wraith, the ghost of the beautiful woman who, according to Spanish Legend, comes nightly, dressed in the flowing white robes of her wedding gown and looks and hunts and searches for her lover, lost and buried in the Great White Sands. And as you stand peering into the darkness, listening to the silence of the desert, without the whisper of a single leaf, I hope that you turn, half frightened, and face the full red moon as it rises over the Sacramento mountains, scattering its millions of diamonds over every rippled dune, and you will have seen the Great White Sands.

