

# THE INCREDIBLE SALINE TO SWANSEA SALT TRAM

by Paul Fretheim

**E**arly in the 20th Century White's Smith's Incredible Salt Tram, one of the two or three greatest engineering achievements in the history of the Death Valley country, was constructed over backbone of the Inyo Mountains to bring table salt from the salt pan of the Saline Valley to the rail terminal at Swansea, on Owens Lake. Eerily haunting ruins from this amazing structure still stand today. Hikes, mountain bike rides, and 4-WD treks to view them are among the most fascinating and exciting adventures in Death Valley National Park.

## **Hiking the Old Burro Trail**

In the spring of 1998 I hiked up to Control Station One of the Saline Valley Salt Tram. This is a seldom made hike along an old abandoned burro trail that begins from one of the most remote locations that can be reached by road in the contiguous 48 states. While I had plenty of water in my station wagon, I foolishly decided to try and make this hike with only one liter of water in my backpack. My cameras and tripods felt quite heavy enough that morning, and water seemed like too dense a cargo to add to the load. Later, I would pay for this ill advised decision.



THE LONG ABANDONED LINE OF SALINE VALLEY TO SWANSEA SALT TRAM TOWERS MARCH INTO THE DISTANCE  
ACROSS THE SALINE VALLEY SALT FLAT TOWARD THE RUGGED INYO MOUNTAINS.

*PHOTO © PAUL FRETHEIM.*

The Inyo's huge, precipitous eastern escarpment is among the world's most rugged mountain ranges. I found out for myself one sunny afternoon in May of 1998 just how deceptive distances are in this world of giants.

"I've been hiking for four and 1/2 hours and have finally reached control station one. It had looked like a 2 hour hike from below.

"Now I'm nearly out of water, and the temperature in the sun is well over 80 degrees, even way up here on the mountain. I want to go up a bit further to inspect what was left of the electrical control station which was located just above the trestle of control station one, but I'm already getting dizzy from dehydration. I have at least a two and 1/2 hour strenuous back to the only source of water back at my car. I know I must to turn back, so, I turn down slope and head for the car.

"On the way down, as I approach the first of the many places where you have to swing out over the cliff to step over the big steel cable that lies along the old tram route, I catch myself up short to avoid tripping. My feet slide a bit in the gravel as I jerk to a stop. Suddenly, from the bank above the trail on my left, comes an unmistakable hiss, swish, and rattle. Glancing to my left I see the brown blur of a Panamint Rattler, only inches away, flashing out toward the fleshy part of my upper left arm! I am hours from my car... No one knows where I am... I am out of water. . ."

After the experiences of the '49ers in the Sutters Mill country and the glittering millions of the Comstock Lode, all it took was a little "color" to get yet another rush under way. The most far flung areas were being prospected by the 1870's and 1880's, and even the remote Saline Valley had its day. Gold was discovered there in early 1880's. The excitement was short-lived, but at its peak 2,000 people were calling the wild Saline home.

It was about this time that a mineral that had been overlooked for a generation over on the salt pan of Death Valley was exciting interest all over the west. Prospectors had discovered the “white gold” - borax. Borax was found in the Saline Valley in 1874. It has been largely ignored in the excitement over gold, but two men from Candileria, Nevada, by the names of Conn and Trudo, quietly started a borax operation in the sink of the Saline Valley. They built a small reduction plant 1-1/2 miles north of the spring out in the salt marsh. Evidence of this plant can still be seen along the road opposite Hunter Canyon. Refined borax was hauled by wagon out through the now nearly abandoned Wacoba Canyon road.

One of the men who worked as a teamster hauling borax from the Saline sink to the Big Pine was a young farmer named White Smith from the Owens Valley. During one of his many trips to the Saline, White took note of the vast fields of pure white table salt glistening in the sun, there for the taking, not far from the deposits of borax salt. During this early era of exploitation of the salt fields of the Saline Valley, Smith hauled salt out by wagon for a period of years over the Inyo Mountains via Wacoba Canyon. It was a two day trip between Big Pine and the Saline Valley. Because of the difficulties in transporting the salt out of the remote Saline Valley, Smith sold the salt for a very expensive \$20 per ton. Although he never lacked customers because of the excellent quality of the salt, Smith eventually abandoned the project because of the difficulty and cost of hauling.

In 1902, the presence of the mineral in the Saline Valley was “rediscovered.” Eventually, between, by then Bishop attorney, White Smith, and 71 others, claims were filed on 1480 acres of salt deposits in the Saline sink. For the next 25 years, Smith’s determination to develop and profit from those salt deposits never wavered. One of the locators who filed on the salt deposits was another of the prominent figures in the early history of the Owens Valley, W. W. Watterson. The stage was set for development of the



SALT, PILED BY WORKERS USING RAKES AND SHOVELS, READY FOR PICKUP BY WINCH-DRAWN WAGON FOR LOADING ON THE TRAM.

*PHOTO COURTESY INYO COUNTY, EASTERN CALIFORNIA MUSEUM.*

table salt deposits of the Saline sink.

The Saline Valley Salt company was incorporated in Arizona, with L. Bourland as its president in 1903. After operating the salt works on a small scale during 1903 and 1904, the activities of the company were halted temporarily in 1905, when Bourland died, but two years later the company, under the leadership of White Smith, began an in-depth study of what would be necessary to bring the product to market.

The biggest problem was transportation. The salt tested 98 percent pure, as it was found, with very little work needed beyond drying and bagging it to have a commercial product ready for market. But the Saline is one of the world's most remote locations, even today, and in the early 20th century, it was a long way by wagon to the railhead near Big Pine over a mountain pass nearing 8,000 feet in elevation with one of the longest and steepest grades anywhere on both sides of the pass.

But White Smith and his two brothers Fred and Eugene, who had taken over the Saline Valley Salt Company after Bourland's death, were determined to solve whatever problems came up and to make the salt works a success.

The Smith brothers had interested G. D. Ferrell from Humbolt, Tennessee in the venture. After visiting the Saline sink he in turn had obtained further financial backing from other Tennessee investors.

Various ideas for solving the transportation problem were batted around. Bringing in a railroad from the south was considered, but study showed that the costs of building a railroad over the South Pass would be too high and the idea was abandoned. A. W. Leffingwell of Bishop suggested piping the salt in a brine over the Inyo Mountains to the Owens Valley. At first that seemed like a good plan, but was later discarded as it could not solve the problem of shipping supplies into the largely inaccessible area of the Saline.

The idea of the pipeline, however, got people thinking about the advantages of transporting salt and supplies directly over the Inyo Mountains. Eventually, in 1908, White Smith and his group of investors proposed building a tramway over the mountains and surveys were begun.



Map by Nelson Allen / Desert Magazine, Aug. 1919

It was estimated that the tramway, which would be the steepest in the United States, would reduce transportation costs of the salt from \$20 per ton to \$4 per ton.

A final survey was conducted in April, 1911 by W. H. Leffingwell, from Bishop, who was a civil engineer for the Mono Power Company.

The Saline Valley Salt Company then contracted with the Trenton Iron Company of Trenton, New Jersey, one of the leading manufacturers of tramways of the day, to construct the tramway over 13-1/2 miles of the most rugged country in the world from the salt flat at the bottom of the Saline sink over the Inyo Mountains to the railhead of the Southern Pacific railroad at Swansea on



BUCKET ABOVE CONTROL STATION 1. THE CARS RODE ON PULLEY WHEELS ALONG THE STATIONARY UPPER CABLE AND WERE PULLED BY THE MOVING LOWER CABLE.

*[PHOTO COURTESY INYO COUNTY, EASTERN CALIFORNIA MUSEUM]*

Owens Lake. The Trenton Iron Company was to use the Bleichert System, developed in Germany, to which it held patent rights in the United States.

This type of tramway operated with a heavy, fixed cable that the cars rode upon, much like a track, and a set of lighter cables which were attached to the carriers. The lighter cables were used to pull the carriers and their attached buckets along the tramway, with



LOOKING EAST FROM THE SUMMIT STATION OF THE SALINE VALLEY TO SWANSEA SALT TRAM IN THE SUMMER OF 2005. THE SIX ROOM SUMMIT HOUSE, WHERE THE TRAMWAY SUMMIT MASTER LIVED WAS RESTORED IN 2000 BY VOLUNTEER LABOR DONATED BY A RIDGECREST OFF-ROADERS CLUB.

*PHOTO © PAUL FRETHEIM*

the carriers riding upon the heavy track cable with the weight supported by a rolling wheel something like a pulley wheel. The “wheel” rolled along the heavy track cable much like the wheel of a monorail on a suspended track.

The two men in charge of supervising the construction, which was to begin September of 1911, were C. H Wickham, field engineer for the Trenton Iron Works, and W. H. Leffingwell, project engineer for the Saline Valley Salt Company.

The tramway route stretched 13-1/2 miles from an elevation of 1,058' at the Saline salt pan up the east escarpment of the Inyo Mountains through Daisy Canyon over 8,720'



LOOKING WEST FROM THE SUMMIT STATION OF THE SALT TRAM. THIS LOCATION CAN BE REACHED BY VERY CHALLENGING, RUGGED JEEP TRAILS WHICH LEAVE FROM EITHER CERRO GORDO OR SWANSEA.

*PHOTO © PAUL FRETHEIM*

Daisy Pass and then down the less steep west side of the Inyo Mountains to end at the Swansea terminal at an elevation of 3,620.

Swansea was the terminal of the Southern Pacific railroad that made its way around the east shore of the then deep blue Owens Lake. The hundreds of tons materials, including over 1,300,000 board feet of lumber and 60 miles of steel cable, were delivered by rail car to Swansea.

The tramway was built up the west side of the mountains from Swansea first. The rugged terrain and steep ascent of the Inyo Mountains made construction of the tramway difficult. An “old charcoal road,” which no doubt was left over from the mining activity at



TOWERS ALONG THE RUINS OF THE WEST SIDE OF THE SALT TRAM NEAR THE SUPPLY CAMP AS SEEN IN 2005.

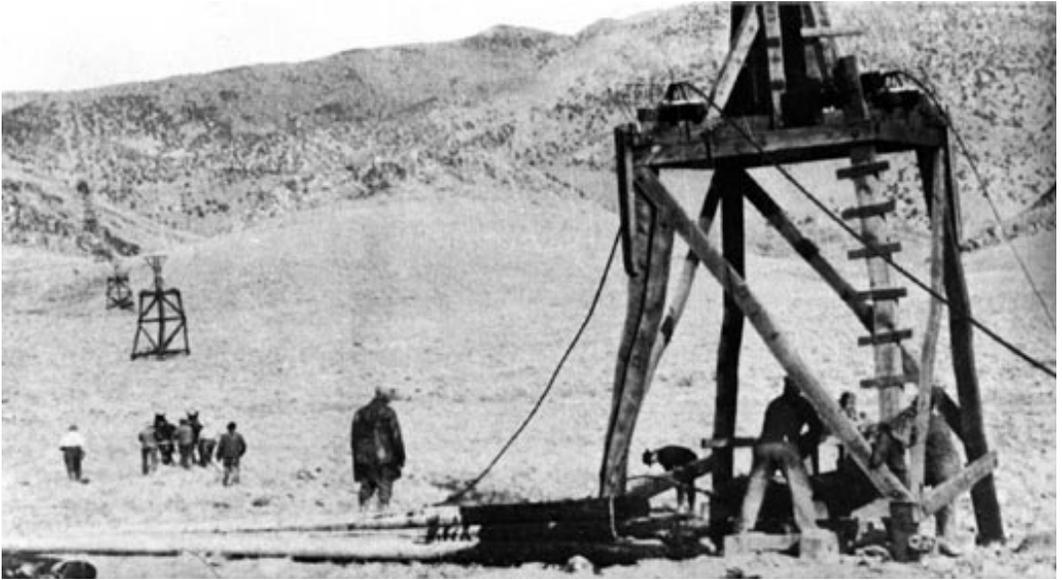
*PHOTO © PAUL FRETHEIM*

Cerro Gordo some 40 years before, was reconstructed on the west slope of the range and was combined with new road construction to facilitate movement of machinery and equipment, but, because one section of the road had a 25 percent grade, it took 8 horses to move 5,000 pounds of equipment and 10 or 12 to haul heavier loads.

The jeep trail up the west side of the Salt Tram from Swansea to the summit house still follows this route, and the 25% grade section of the road goes over very rough exposed bedrock with very narrow and tilted sections with big drop-offs. Here and there visibility is limited because the rock is so steep that the hood of your vehicle blocks your view completely. In these sections I held my breath, gritted my teeth, closed my eyes and hoped for the best. I drive an '89 Toyota 4Runner with standard transmission and lockable hubs with a transfer case and oversized tires, and if that section was much worse I would not have been able to get up it. Your stock late model SUV with "full-time" 4WD (i.e. wheels have to spin to engage 4WD), soft suspension, and lots of weight would probably be over its head on that run.

A work and supply camp was established along the road about 3-1/2 miles west of the summit. Teams could make one trip per day from the railhead to the camp. Then, other teams, quartered at the camp, would haul the loads the rest of the way to the summit of Daisy Pass at 8,720 feet. The upper teams could haul three loads to the summit every two days. The total weight of "overhead" material hauled from the railroad to the supply camp was estimated to be 1.1 tons of grain, 5.4 tons of hay, and 23.2 tons of water for each 70.3 tons of construction material delivered. It is important to keep in mind that the Inyos are a very dry desert range, with few supplies of surface water. Almost all the water for men and draft animals had to be hauled up from Swansea by horse or mule drawn wagon.

Building the tramway up Daisy Canyon was the biggest obstacle to completion of the project. No tram construction could be undertaken on the precipitous east side of the Inyos until a trail could be built for access up and down Daisy Canyon. The cliffs were so challenging that work would sometimes be halted for days at a time before a way through could be found to build trail for the surveyors and their burros. Eventually the route was



CHINESE WORKERS STRINGING CABLE IN 1912.  
*PHOTO COURTESY INYO COUNTY, EASTERN CALIFORNIA MUSEUM*

surveyed and burro trails were cleared along the route.

Because heavy machinery could not be moved up the nearly sheer cliffs by pack animals, it was necessary to construct temporary, double-cable, reversible tramways for moving materials and equipment over the rock precipices. Also put into service were devices known as “go devils.” A go-devil was a device consisting of a timber frame supported on an axle 8 feet long which passed through two heavy wheels to transport materials from the summit down to construction sites spread out along the route of the



CAMP NEAR CONTROL STATION 1, PROBABLY 1912. THE COLOR QUICKTIME MOVIE FROM NEAR THE CONTROL STATION THAT APPEARS BELOW WAS TAKEN IN 1998 FROM NEARLY THE SAME SPOT.

*PHOTO COURTESY INYO COUNTY, EASTERN CALIFORNIA MUSEUM*

tramway down the eastern side of the Inyo Mountains.

In 1912, a trail was constructed that followed the route of the tram from the Saline Valley floor up Daisy Canyon to the crest of the Inyos at an elevation of 8,720 feet. Hoyt S. Gale, a geologist with the U. S. Geological Survey, observed that the trail, popularly known as the “Zig Zag Trail,” was “a remarkable rock-cut trail, picturesque in the extreme



THIS PHOTO WAS TAKEN DURING THE SPRING OF 1998'S  
ONCE-IN-A-LIFETIME WILDFLOWER DISPLAY.  
*QUICKTIME MOVIE © PAUL FRETHEIM. CLICK IN IMAGE TO PAN OR ZOOM.*

from its ruggedness and the precipitous gorges and rocky slopes it discloses.”

After the trail was complete some 375 tons of material were hauled from Big Pine via the Wacoba Canyon road into the Saline Valley. A temporary tram, operated by a gasoline powered “donkey engine,” was built in the lower half of Daisy Canyon to haul materials to the levels above. Above the terminus of the temporary tram everything had to be hauled by mules on the newly constructed trail or let down by ropes from the summit above. When the trail was in good condition, the trip from the Saline Valley floor to the summit, a vertical climb of 7,662 feet in just 6 miles, with most of the climb in just the last 4 miles, was many times made in “one strenuous day.”

Each tower was of a unique design fitted to its specific location. All the towers were built of heavy wooden timbers which had to be hauled to their eventual site by mule. The towers were set in concrete, and all the concrete and the water to mix it had to be hauled up the unbelievably steep face of the Inyo range on mules. Many of these impressive structures can still be seen, standing in bold relief against the barren ridges, like silent monuments to a past civilization, marching up the parapets of the Inyo Mountains to the summit at Daisy Pass.

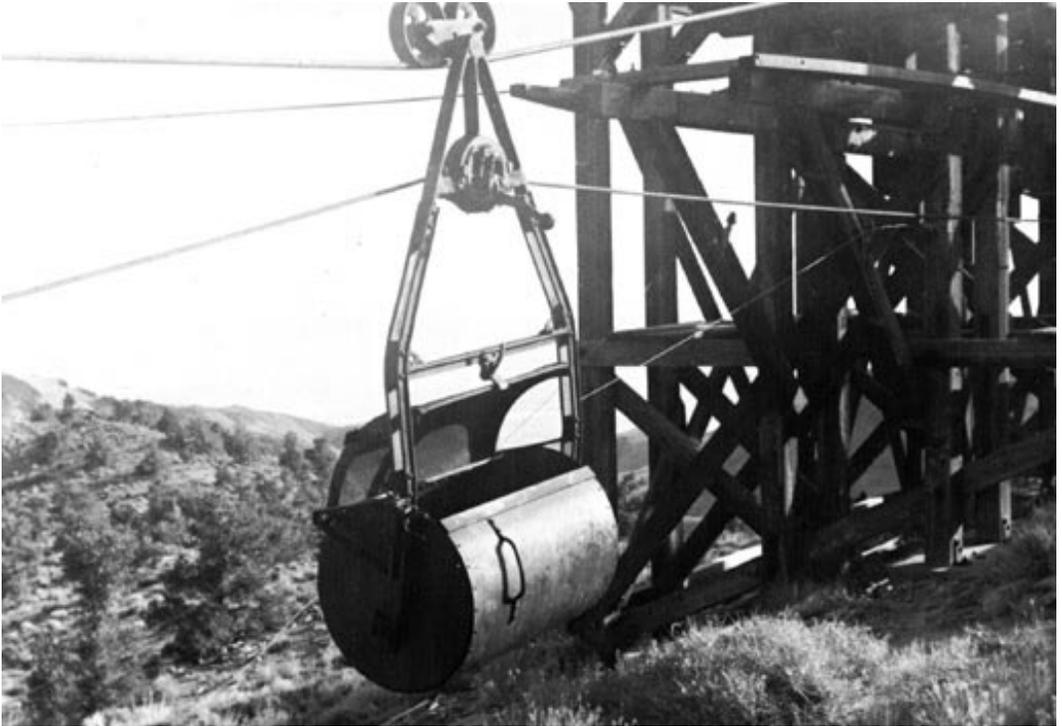
While there were a great many difficulties and delays in constructing the tramway, there is no record of any life being lost in the course of construction. Snow was a problem, and construction along the cliffs on the eastern side had to be suspended during the winter of 1911-1912. At last, late in 1912, the construction up the difficult east side through Daisy Canyon was completed, some 6 months behind schedule. All of the towers and control stations were finished by late November of that year. All that remained to be completed was the installation of machinery at the loading and discharge terminals.



THE FIRST SUCCESSFUL DELIVERY BY THE TRAMWAY WAS A CAUSE FOR GREAT CELEBRATION IN THE LOCAL COMMUNITY.

Final installation was finished in the spring of 1913 and a preliminary test was scheduled for June 10, 1913, but electrical connections from the then new Cottonwood Canyon power station on the Los Angeles Department of Power and Water aqueduct were not completed in time for the test run to take place as scheduled. Finally the first salt was delivered over the formerly impassable Inyo Mountains on July 2, 1913. The first successful delivery by the tramway was a cause for great celebration in the local community.

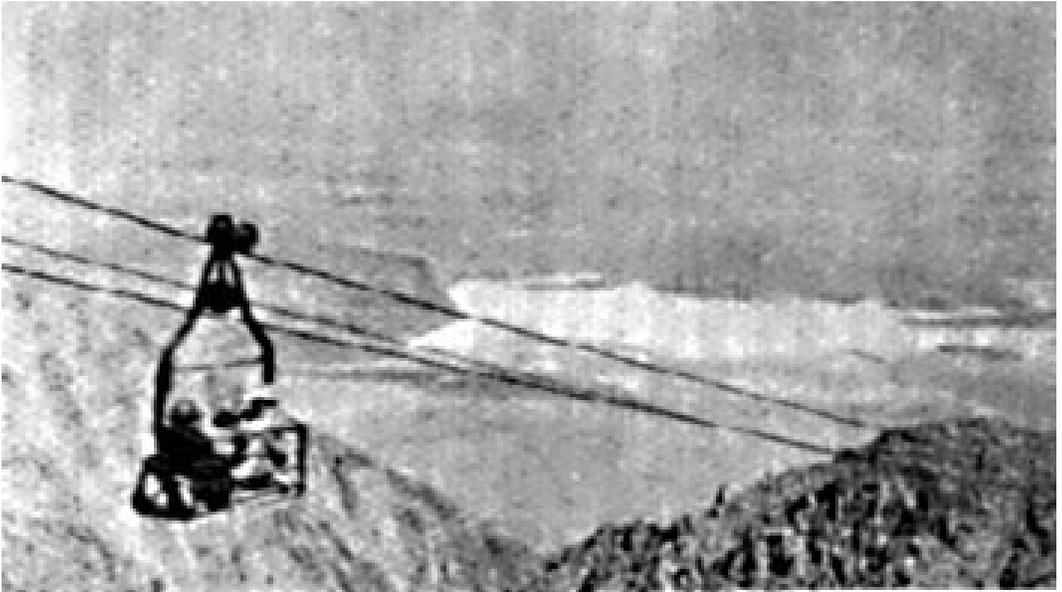
The complete tramway system transported its cargo 13.4 miles over 5 separate sections. Each section was in effect a separate tramway. At the end of each section was a control station and both the carrier wires - the heavy, fixed cables - and the traction cables terminated at each control station. The buckets



BUCKET APPROACHING THE SUMMIT CONTROL STATION. NEAR HERE, AT THE PASS OVER THE INYO RANGE AT AN ELEVATION OVER 8,600 FT. (2,620 METERS) A COMFORTABLE 6 ROOM HOUSE WAS BUILT FOR THE SUMMIT CONTROL STATION OPERATOR AND HIS WIFE.

*PHOTO COURTESY INYO COUNTY, EASTERN CALIFORNIA MUSEUM*

were then passed along to the next section. There were three sections on the Daisy Canyon side, with one major direction change of about 30 degrees at the first control station, also known as the “Turning Tower.”



WORKERS WHO RODE TO AND FROM THE SALINE IN A BUCKET REPORTED THAT IT WAS AN EXPERIENCE YOU COULD “NEVER FORGET.”

After leaving the salt flats of the Saline Valley at an elevation of 1058 feet, the buckets began their dizzying climb up the precipitous Daisy Canyon. Workers who rode to and from the Saline in a bucket reported that it was an experience you could “never forget.” The buckets at times climbed at a 40 degree angle!

The tramway crossed the ridge of the Inyo Mountains at the summit of 8,720 foot Daisy Pass between 10,668 foot New York Butte and 9,705 foot Pleasant Mountain. The remaining two sections of the tramway carried the salt from the summit down the west

side of the Inyos across a series of brushy canyons and striated cliffs to the floor of the Owens Valley the Swansea terminal at an elevation of 3620 feet.

Power was supplied to the traction cables by 75 horsepower Westinghouse electric motors. There were motors at each of the 6 control stations. Energy was transferred from the motors to the moving traction cables through grip sheaves that were 8 feet in diameter. The motors operated on 2,200 volts of electricity. The power was transmitted through 33,000 volt high tension AC electrical transmission lines from the Cottonwood Canyon power plant on the west side of Owens Lake and local transformer stations stepped the voltage down to the 2,200 utilized by the Westinghouse drive motors.

The normal capacity of the tramway was 20 tons per hour. There were 286 buckets strung out along the 27 mile length of the tramway's cables. When the tramway first began operation the grips that held the buckets to the traction cables had to be redesigned before the tramway was able to operate at full capacity.

The engineers at Trenton Iron Works designed the tramway with the misinformation that the salt was to be transported dry. Actually, the drying was to take place at the discharge end of the tramway, in Swansea. The salt was quite wet, almost a brine when it was loaded in the Saline Valley. Fully loaded with the wet salt, the buckets were much too heavy, and, sometimes, they would slip backwards and serious accidents would result. Buckets were falling off into Daisy Canyon, and they were very difficult to retrieve.

Some workers rode the buckets to work, while others, more cautious, expressed concern about the slipping cable grips and preferred to arrive in the Saline Valley by other means.



IN PLACES THE CARS WERE SUSPENDED  
HUNDREDS OF FEET IN THE AIR.

Different designs were tried for two years, and finally, in 1915, the Trenton Iron Works came up with a grip capable of holding the heaviest bucket, plus one man.

During 1913 more than 5,000 tons of salt was shipped over the tramway, and by February 1914, the Saline Valley Salt Company was sending to market an average of 9 to 15 narrow gauge railroad cars of processed salt per week. Despite the success of the tramway operation, however, construction costs for the tramway proved to be excessive.

Due to the debt incurred Saline Valley Salt Company was forced to lease its operations to the Owens Valley Salt Company in 1915. Under the terms of the lease agreement, one-half of all the revenue from the salt operations was to go to the Saline Valley Salt Company, while the name of the product was changed to “White Mountain Salt.”

After operating for three years, beset by financial difficulties related to price drops after the end of the Great War, internal dissension within the company, and legal pressure from creditors, the Owens Valley Salt Company abandoned its interests in the salt works, and in 1918, the tramway ceased operation for an indefinite period.

George W. Russell, of Pasadena, revived activity in 1920 when he directed the Taylor Milling Company, which leased the Saline Salt deposits. Russell's initial efforts were short lived, but in 1925 he established a new company, the Sierra Salt Company, with offices in Las Vegas, Nevada. Sierra Salt hired White Smith as assistant manager and technical advisor.

White Smith and the new company, Sierra Salt, proceeded to enter into an agreement with Inyo County to build a road into the Saline via Lee Flat and San Lucas Canyon for trucking salt to market. The San Lucas Canyon road was soon nicknamed "The Pearly Gates" by people who had traveled that perilous route. It was said to be a wonder anyone had "the courage to drive a truck down that winding road as it circumnavigated cliffs and ledges alongside 100 foot dry waterfalls and drop-offs!" Six cylinder, 10 ton trucks began hauling salt out via this route to the railhead at Keeler. The first shipment of the salt, which was sold under the "Sun Brand Salt" label, was delivered to the City Market in Bishop on June 16, 1926. However, the "Pearly Gates" road was subject to flash flooding and catastrophic washouts, and was only used for brief period.

The Saline Salt development lost its greatest champion when White Smith passed away in 1927. He did not live to see it happen, but the Saline Valley Salt Tram that will forever be associated with his name, was to rise again not long after his death.

In 1929 George Russell purchased the tramway from U.S. Steel. After overhauling the long idled tram Russell resumed its operation in December of 1929, and it began transporting some 60 to 100 tons of salt per day. The Sierra Salt Company modified the operation of the salt fields by installing crystallizing ponds near the tramway terminal in the salt marsh at the bottom of the Saline sink. The outlines of these crystallizing ponds can still be seen near the south edge of the salt marsh.

You can identify that area by the pink coloration of the surface of the salt pan in that area due to a type of algae that lives in the salty environment.

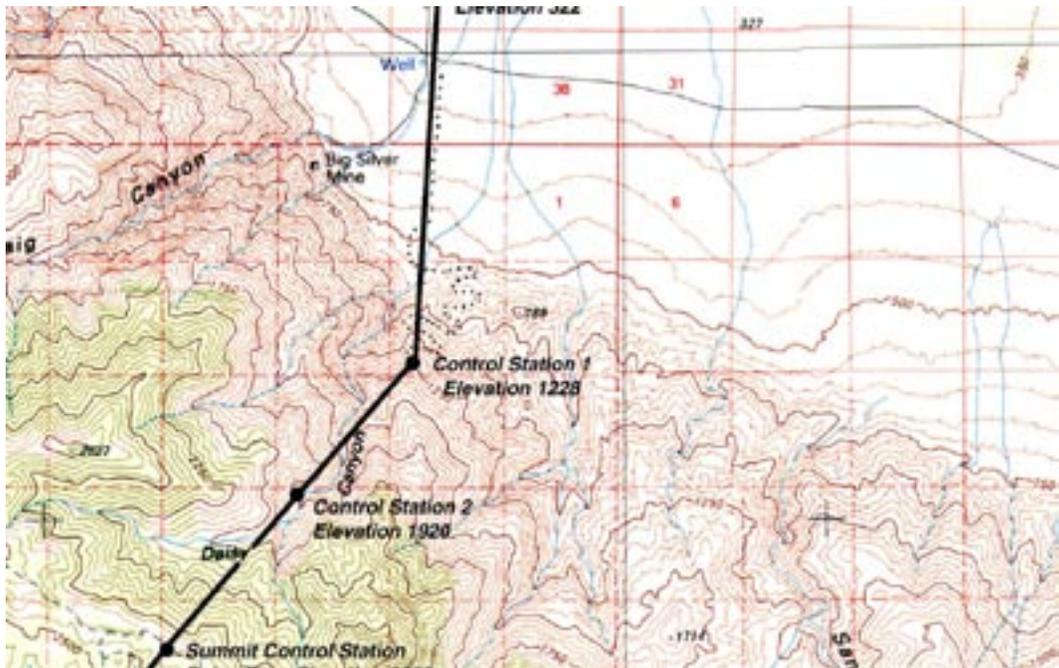
Financial problems began to plague the salt operation again in 1930. These financial setbacks were compounded after 1933, and finally, in 1935 Sierra Salt and the Saline Valley Salt Tram it then owned went into receivership and the salt tram was shut down for the last time.

Over the life of all operations from 1874 to 1954 it is estimated that 30,000 tons of salt was produced from the salt pan of the Saline Valley.

## **The Salt Tram Ruins 2005**

Ruins of the tramway at its Swansea terminal can be seen today along California State Highway 136 about 3 miles west of Keeler, CA, on the north side of the road (away from the dry lake). The foundations for the tramway cable anchor and a drying shed are still standing, as is the westernmost of the wooden trestles upon which the cables rode. An old grizzled sentinel can be seen on the near ridge still keeping watch overlooking the now dry lake bed of the once deep blue Owens Lake.

On a hot summer day in 1994 during my first ever trip through the Saline Valley I had camped on the fan below the mouth of Daisy Canyon. I looked up at the rugged eastern face of the Inyo Mountains in awe. It never occurred to me to look for the lonely towers that can be seen marching into the distance. How could there ever have been a motorized system of transit over those craggy precipices? But, if you take a pair of



MAP OF TRAMWAY FROM SALINE SALT FLATS TO SUMMIT CONTROL STATION. DOTTED LINE INDICATES HIKING ROUTE TO CONTROL STATION 1.

[FROM USGS 1:100000 SERIES TOPO MAPS. CONTOUR INTERVAL 80 METERS.]

binoculars and look, you will be rewarded with an amazing sight. Those old towers, and the rusty cable between them, are still there!

White Smith's Incredible Salt Tram makes a fascinating destination for one of Death Valley's most challenging and interesting back country hikes. Bring plenty of water, and



MAP OF TRAMWAY FROM SWANSEA TO SUMMIT CONTROL STATION. FROM USGS 1:100000 SERIES TOPO MAPS.  
CONTOUR INTERVAL 80 METERS.

watch out for rattlesnakes!

To get to the Saline Valley side of the salt tram, drive to the bottom of the Saline Valley.

There are two routes that are the standard ways to enter the Saline Valley.

From the west and north drive in from the Big Pine - Scotty's Castle road via the Wacoba mountain - Saline Valley road over the North Pass. To reach the Scotty's Castle road from Big Pine turn east California State Highway 168 at the northern edge of Big Pine. Then drive 4 miles east on 168. Then turn right onto the Scotty's Castle road. This road is sometimes also called the Death Valley Road. Drive up that seldom travelled blacktop lane 20.3 miles to the Wacoba - Saline Valley Road turnoff. Turn right, or south and then proceed 37 very rough miles on a sometimes graded sometimes very washboard road to the bottom of the Saline Valley.

The other usual approach is from route 190 12.7 miles west of Panamint Springs, turning north at the intersection with the Saline Valley Road. The intersection is well marked by a familiar looking green and white highway sign indicating the turnoff for the Saline Valley. Follow the Saline Valley Road north over the South Pass into the Saline Valley via Cottonwood Canyon. At 8.2 miles from 190 you will come to a "V" in the road. The left fork goes to Lee Flat out through a huge forest of Joshua trees. You want to bear right at this intersection. Then continue on up to the summit of the South Pass. Here you will come to another "V" in the road, 5.9 miles past the Lee Flat turnoff. At this intersection, bear left. The right fork goes over Hunter Mountain to Hidden Valley. Continue another 21.2 miles on the often very rough South Pass - Cottonwood Canyon road into the bottom of the Saline Valley.

Be sure to take a map and plenty of water. I always bring 17 gallons of water during hot weather and 10 gallons of extra diesel fuel and a set of tools. Make sure there is air in your spare tire. I talked to a guy in Big Pine one summer who had two flat tires in the bottom of the Saline. He only had one spare. I asked him if he had a cellular phone with

him. He said he did, but he “had to walk 16 miles up out of the sink before it would work!”

When you get near the spot to park for the hike to the Salt Tram you will see a few forlorn towers out in the open space to the east of the road. For many people, just visiting these towers and the scattered ruins out on the Saline Valley’s version of the Devil’s Golf Course will be plenty adventurous enough. For those of you who really want to “go for it,” take the little lane to the west, toward the huge escarpment of the east face of the Inyo Mountains. Drive a little way and when the road starts to fade, park. It is prohibited to drive off road in the National Park, and this road is not considered a road more than a couple of hundred feet off the main road, if that.

You can see the ruins of the salt tram stretching away into the distance up the ridge to the west. Follow the cables and the line of collapsed towers up the fan. The old burro trail along the tramway follows the secondary ridge to your left, to the south of the main ridge the towers are on. Switchback up that secondary ridge. Eventually you will come out on top of that ridge and the burro trail will cross over to the main ridge at the first of the large standing trestles. If you are really in shape and have lots of water with you, you could try and make it to the summit cabin. It is 5 miles and 7,000 feet above you, as the crow flies, when you are at the bottom of the first ridge. A more realistic goal is the first control station, the huge trestle structure on the first big ridge high above you. It is just a mile or so and 2,000 vertical feet above you, but I found it to be a very exhausting hike.

Watch out for snakes! On the way down I was approaching the place where the trail crosses the cable just below the turning tower. I caught myself up short to avoid tripping on the cable, and as my feet scraped and slid for a moment in the loose gravel on the trail I suddenly heard a hissing from the bank just above the trail on the upper embankment to my immediate left, about at elbow height, and just ahead of me. I looked down in time

to see the well camouflaged triangular tan head of a Panamint rattlesnake snapping back away from my arm, returning to coiled position in a blur to be ready for the next strike— He had missed me, but not by much.

If you were to get bit up there it would be a very long way down, so be careful and keep your eyes open for snakes. The one I saw was sunning himself alongside the old cable, which nearly matches him in coloration and general form . I fancied that he was prostrating himself alongside the great cable in some sort of strange serpentine rite of obeisance to the 3 mile long support cable of the 5th section of the Saline Valley Salt Tram which may have appeared to him as the granddaddy of all snakes.

The rattler then proceeded to hide in the brush that over grows the trail at that point. I had to scramble on the rocks above the trail to get past safely. There, of course, has been no maintenance of this trail for over 65 years, so it is overgrown here and there along most of its length.

I was not alert enough to see them, but when I hiked this trail in the spring of 1998, I heard some large, hooved animals go scrambling over the rocky cliffs at one point as I rounded a bend in the old burro trail. They did not sound big enough to be burros. I saw zero human tracks that day, other than my own, and also few burro tracks, but the trail seemed to be used frequently by desert bighorn sheep, judging by the many tracks that were the most common animal sign on the trail. I think I just missed seeing a few of these very rare desert mammals as they scrambled away down the steep cliffs of Daisy Canyon, so keep your eyes peeled for Desert Bighorn along this trail.

Remember, all historic artifacts are protected by Federal Law. Leave everything right where you find it so that the next visitor can enjoy this remarkable hike too.

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