

Death Valley

Historic Resource Study A History of Mining



SECTION III:

INVENTORY OF HISTORICAL RESOURCES THE WEST SIDE

A. Southern Panamints and West Side Road (continued)

7. Warm Spring Canyon Talc Mines

a) Growth of Talc Mining in the Region

Most modern large-scale mining activity in the Death Valley region has centered around borate and talc, the latter operations being conducted mainly in the southeastern Panamint Range where large deposits of commercial-grade ore have been found. The first major talc bodies to be opened in the region were developed in the Mojave Desert area in the early 1900s; these became the Talc City Mine near Darwin, the Western Mine in southern Inyo County, and the Silver Lake Mine in northern San Bernardino County. Serving as the principal talc sources in California from about 1916 through the mid-1930s, their product was extensively used for paint extenders, cosmetics, and insulators.

From 1933 to 1943 talc became important in the making of wall tile: A higher-grade talc, steatite, also became a major ingredient in the manufacture of the high-frequency electrical insulators used in some types of electronic equipment, and because of threatened shortages, became a critically-needed material for several months during World War II, with rigid restrictions placed on its use for non-strategic purposes. Wartime uses and the expansion of industry and population on the Pacific Coast were spurs to the greater production of talc, which was mainly acquired now from mines in the southern Death Valley-Kingston Range belt. After the war the Talc City, Western, and Silver Lake mines continued as primary domestic sources of talc, while other mines concurrently underwent further development, including the Death Valley, Grantham, Monarch, and Superior mines in the Death Valley region. The postwar building construction boom and resultant higher demands for paint and wall tile imposed a great strain on the talc reserves in California. As some became depleted or as it became too costly to operate small underground mines, fewer companies stayed in production, and more dependence was put on the Death Valley mines for the talc that was now being used in a variety of products: cosmetics, insecticides, roofing, rubber, asphalt filler, paper, and textiles. Preliminary data for California talc production in 1975 indicates that over 90% of the total statewide production that year came from Galena and Warm Spring canyons. [249]

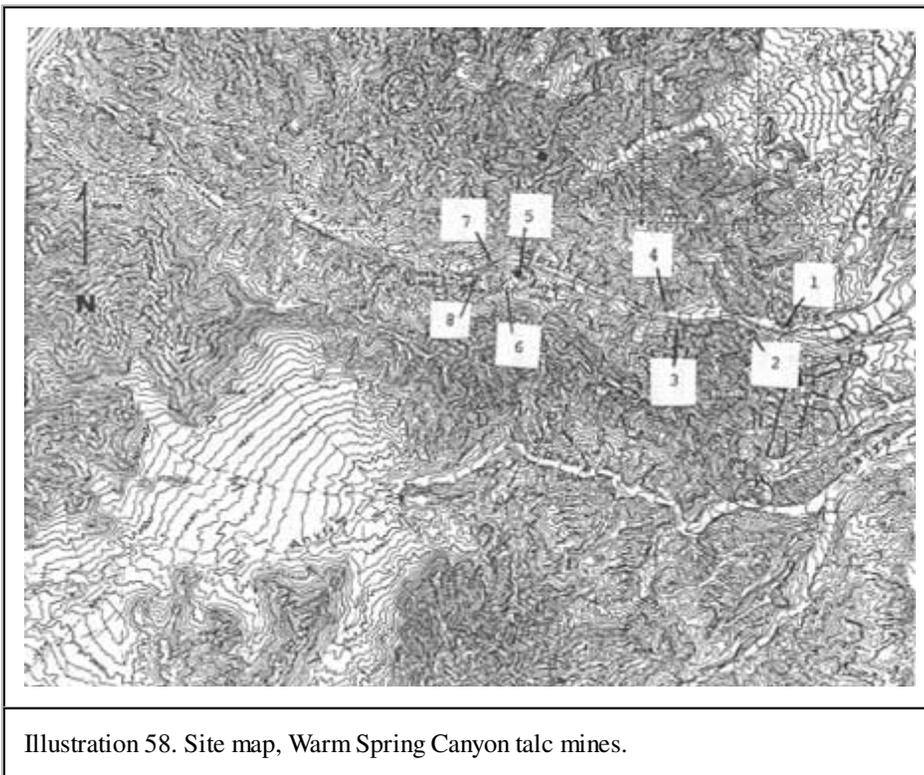


Illustration 58. Site map, Warm Spring Canyon talc mines.

b) Growth of Talc Mining in Death Valley

The talc deposits in Warm Spring Canyon, together with those located in Galena Canyon to the north, are the most westerly group of talc claims within Death Valley National Monument. These deposits are located on the east slope of the southernmost part of the Panamint Range along the steep sides of mountain ranges trending northwest-southeast. Warm Spring Canyon connects with Butte Valley on the west and the Death Valley basin to the east. The mines here are reached via a well-graded gravel access road that is constantly traveled by large ore-bearing trucks heading from the mines to mills at Dunn Siding, Los Angeles, and Victorville, California. The Warm Spring road leads west off of the West Side Road about five miles north of the latter's junction with the Badwater Road just north of the Ashford Mill site.

These Warm Spring Canyon talc deposits are located on the west end of a belt that stretches for approximately seventy to seventy-five miles from the southeast slope of the Panamints across southern Death Valley eastward into the Ibex Spring and Kingston Range region. The part of the belt included in Inyo County contains four talc properties yielding more than a few hundred tons (Warm Spring Group in Warm Spring Canyon; Ibex-Monarch Group in the Ibex Hills; Western Mine in the Alexander Hills; Excelsior Mine in the eastern Kingston Range) but only one of these (Warm Spring) has been worked continuously since the 1940s. [250]

c) Sites

(1) Grantham, Warm Springs, Warm Springs West, Warm Springs Nos. 2 and 3, and White Point Mines

(a) History

The original eleven claims filed on the most obvious ore exposures that now are covered by the main mine workings in Warm Spring Canyon were located from 1931 to 1935 by Louise Grantham and Ernest Huhn. Seven of these claims (Big Talc, Warm Spring No. 5, High Grade,

Warm Spring, and Warm Spring Nos. 2 to 4) extend from east to west for about two miles along the south wall of Warm Spring Canyon; across the road on the north canyon wall are found the Warm Spring Nos. 6 to 9. The Warm Springs Talc property now consists of fourteen unpatented lode claims: Warm Springs Talc, High Grade Talc, Warm Springs Talc #7-8; G.M. #2, 24-30, 43; and G.M. Fraction No. 2, all located during the period from 1932 to 1955. The Warm Springs Talc Claim was located on 22 April 1932, prior to establishment of Death Valley National Monument, whereas the others in the claim group were located after the proclamation, giving the federal government the right to regulate surface disturbance.

Three of the early properties--the Big Talc, Warm Spring Talc No. 5, and Gold Hill Mill Site, located on 9 June 1932, 24 August 1932, and 5 (or 11) February 1933, respectively--were located prior to establishment of the national monument but during a period when the area was closed to mineral entry by temporary withdrawal. These claims were amended on 28 June, 29 June, and 3 July 1974, respectively. In 1938 the Warm Springs Canyon Talc Deposit was said to consist of five claims on the south side of the canyon owned by Miss Louise Grantham of Los Angeles. Development work was reported as slight, consisting only of two tunnels and several open cuts. The deposits seemed large and of good quality, but activity was only sporadic. The first development of the Warm Springs Talc underground deposit possibly began in the late 1930s, the workings consisting of a forty-foot shaft and an eighty-foot drift. In the 1950s work stopped when Louise Grantham acquired all the Warm Spring Canyon claims. From 1942 on, the Big Talc Mine was worked, yielding about 310,000 tons of commercial talc through 1959, producing more of the substance than any other mine in the western United States. [251]

The product of the Warm Spring mines became increasingly important during World War II, as evidenced by a letter in the monument files from Kennedy Minerals Co., Inc., to then Regional Director O.A. Tomlinson requesting him to investigate conditions of the road leading west from the state highway in the south end of Death Valley into Warm Springs Canyon. The road was so rutted that it was difficult to drive trucks over it, making it almost impossible to operate his mine. Kennedy states in this communication that the talc from his Warm Spring property on the south side of the canyon had been approved by the Maritime Commission for use in paint; as a result the War Production Board had asked the company to increase their production. [252]

Another letter, this time from the vice-president of Sierra Talc Company, repeated this complaint on the road, and stated that his company held a Navy contract to supply all the talc used by the Navy paint factory at Mare Island in the manufacture of paint for all naval vessels built and reconditioned in that yard. It also indirectly supplied the Maritime Commission through major paint manufacturers on the Pacific Coast. The material it supplied blended the products of three of its mines, including the one in Warm Spring Canyon, in order to meet rigid Navy specifications. A monthly production rate of 600 tons was needed from the Warm Spring mine, and they could not approach this unless the roads were in better condition for hauling. [253]

Another question in regard to roads arose in 1968 when a newspaper article announced that Grantham Mines and United Sierra Division of Cyprus Mining Corporation in Warm Spring Canyon were desirous of changing the current truck route they used for shipping their product to market by obtaining Park Service permission to improve and use the existing road through Butte Valley and Goler Wash into and across Panamint Valley via Manly Pass to Trona. This would result in shortening their trip to the railway from the current 142 miles (to the Union Pacific RR at Dunn, Ca.) to a much shorter 37 miles west (to the Trona RR). Considering not only the amount of industrial traffic this would have brought into another area of the monument, but also the encouragement it would provide to residents of Trona, China Lake, and

Ridgecrest to use this new access to cut their mileage to Shoshone, Death Valley's superintendent, John Stratton, must have shuddered at the idea. Wisely refraining from giving any encouragement to the request, he reiterated the Park Service policy of preserving the monument grounds in as primitive a state as possible. [254]

Johns-Manville Corporation acquired all of Miss Grantham's Warm Spring Canyon claims in 1973 and undertook heading and pillar operations in the Big Talc and No. 5 and in the nearby Warm Springs Mine properties. Development work in the Big Talc was unable to keep ahead of the extraction rate, and only a few headings were made in commercial-grade talc. These were considered uneconomical to process because of the long hauling distances involved in reaching market, the stiff ventilation requirements that were being enforced, and an uncertain ore zone. Operations in the Big Talc were continued until July 1973 when the California Division of Industrial Safety shut down the lower Big Talc for lack of an adequate ventilation system. In December 1973 underground mining was completely stopped, after which time ventilation surveys were conducted.

In order to keep the company's mills going after the shutdown of the lower Big Talc, a program was started to open pit No. 3, but this proved unsatisfactory when the talc became stained and contaminated by dozer scraping. More satisfactory in September 1973 was open-pit mining of the Warm Springs Talc Deposit, although customers soon objected to the poorer quality of open-pit talc compared to that of underground material. Open pit mining continued for twenty-one months, or until June 1975, to a depth of eighty feet and stopped there because of the steepness of the deposit and the low quality of the talc. The Warm Springs stockpile supplied Johns-Manville's market until July 1976 when the Big Talc Mine was reentered to rob pillars for high-quality talc to blend with the stockpiled talc in order to maintain an acceptable product. Poor methods employed in this contract underground mining job, however, resulted in a lower quality material.

Another blow was dealt when Johns-Manville's environmental control group decreed that since the talc in this deposit contained tremolite it had to be packed in sacks marked as hazardous, which definitely influenced customer attitudes and buying habits. Business was further jeopardized when the company's Canadian asbestos dust control team surveyed the mills and shut the operation down because it felt the plants could not economically comply with new proposed asbestos (tremolite) standards. When a new president took over Johns-Manville, the mills and mine were shut down in August 1976. Prior to the shutdown, mine production had reached 60,000 tons per year. [255] At this point, the company decided to sell its talc properties in Warm Spring Canyon.

In August 1976 the company offered all its properties in the monument for sale, plus its grinding plant in Dunn, California. Johns-Manville considered donating its talc claims to the National Park Service in the summer of 1976, but on 1 September 1977, Desert Minerals, Inc., a Kentucky-based company, purchased them. Before operations began, in May 1978, the claims and the company plants in Dunn and Los Angeles were acquired by Continental Minerals Corporation of Las Vegas, Nevada, by lease and option sales agreements. The new owners expressed their intention to resume production at the Big Talc, and hoped to supply talc competitively by late 1978. Mining beyond the near future depends on implementing major exploration and development. In addition to supplying the developing Japanese market for Second Layer talc, which is used as a paper filler, Continental is also attempting to reassert its mines' former position in the domestic market. [256]

The Warm Spring Canyon mine complex now consists of about eight-seven contiguous unpatented mining claims (eighty-four lode and three millsites) controlled by Continental

Minerals Corporation and located between about 1,800 and 2,400 feet in elevation along the south canyon walls in Warm Spring Canyon. The Big Talc property consists of fifteen of the lode claims and two of the millsites (located at Warm Springs Camp) of the Continental Minerals claim group: The Big Talc, Warm Springs Talc No. 5, G.M. Nos. 20 to 23, G.M. Nos. 200 to 201, L.G. Nos. 302 to 308, Gold Hill Mill Site, and Gold Hill Mill Site #2. The Big Talc and Warm Springs Talc No. 5 are interconnecting works and the most easterly of the mines within the larger claim group. Warm Spring, on the west end of the chain of claims, is also owned by Grantham Mines and, besides providing water, serves as a camp and equipment storage area for the nearby mines. [257] It will be discussed later in a separate section.

The Grantham Mine (Big Talc-No. 5) workings are the most easterly in the canyon and the most extensive, consisting of a complex system of drifts, winzes, stopes, and levels driven off the main haulageways. Most work has been concentrated in the lower of three talc layers where the zone is of uniform thickness and composition. "Room-and-pillar" mining methods in a checkerboard pattern have been used because the caving characteristics of the talc zone here make ground support a major problem. Although initially this makes for less talc recovery, in the end the pillars can be removed and reduced also, and the percentage of recovery thus increased. Originally mucking machines loaded the ore into mine cars, which were then hoisted up the winzes and trammed to the surface. Fifteen-ton-capacity, rubber-tired diesel haulers and diesel, rubber-tired, four-ton-bucket-capacity front-end loaders maneuver on inclined haulageways, and have been used since the mid-1950s. The full extent of the deposits here are unknown, but reserves are known to be high. Total production up to June 1978 has been 830,000 tons. [258]

Before 1974 all mining in Warm Spring Canyon was done underground, principally in the Big Talc-No. 5 workings. The Warm Springs Mine, about 4,000 feet west, also supported some underground activity, as previously stated, but since January 1974 surface mining has been carried on in an open pit on the site, about 80 feet deep, 400 feet wide, and 800 feet long. The total area disturbed by the pit, waste dump, equipment storage area, and flood control dike is twenty-four acres on the Warm Springs Talc and High Grade Talc claims. Production here was discontinued because of excessive overburden and contamination of the talc beds. Continental Minerals proposes to remove the existing 13,000-ton stockpile, accumulated between 1973 and 1975, to points outside the monument within eighteen months after their Plan of Operations is approved. The Warm Spring West deposit, located between the Warm Spring and the 442 deposit, has not been fully explored, but there appear to be resources underground. It will be developed by the room-and-pillar method. The Warm Spring Nos. 2 and 3 workings west of the Big Talc-No 5 are small bodies that have been exposed through recent dozing exploration and will be developed by open pits, at least initially. Measureable reserves are present. The westernmost talc exposures in this canyon, found in the No. 4 or White Point area, about 9,200 feet west of the main workings, have evidently had no production but have been explored and show rich deposits of commercial value. [259]

The Plan of Operations for the Big Talc-No. 5 workings, submitted in February 1978 and supplemented in December to include Second Layer talc mining, involves three separate phases:

1. Removing 3,000 tons of ore stockpiled underground
2. Developing new areas beyond the present mine faces, adding possibly another 379,000 tons to reserves
3. Mining pillars by drilling and blasting. (These measured reserves are estimated, at 1.3

million tons.) This involves development in both the First and Second talc layers.

According to the plans, ore would be crushed at the surface in a 20" x 36" jaw crusher capable of a 50- to 90-ton per hour capacity. Crushed ore would then be sent by conveyor belt to a steel 250-ton ore bin for loading onto 25-ton-capacity gondola trucks that would haul six loads a day seven days a week to plants at Dunn Siding or Los Angeles. Production of 36,000 tons a year was anticipated by the middle or latter part of 1978. Attaining the previous production level of 60,000 tons per year depended on recapturing lost markets. Mine life is estimated at ten to fifteen years, but additional reserves will probably be found. Reclamation will follow closing of the mine, consisting of removing manmade structures and debris, masking of dumps with dark gravel, and blocking portals with waste rock. [260]

(b) Present Status

Much of Warm Spring Canyon's primitive character has been obscured due to the impact of environmental disruptions resulting from the last fifty years or so of mining activity. Currently there are two open pits, a huge underground complex at the Big Talc, and camp development at Warm Spring, with threats of increased usage hanging over the latter area. The reclamation encompassed in the various Plans of Operation can be only cosmetic at best.

On first entering Warm Spring Canyon, an old adit is visible about one mile east of the Big Talc Mine and on the north side of the road. The adit is timbered, but the framing has fallen over partially on its side and now resembles an A-frame. About one-half mile further west, on the south side of the road, is another old timbered adit whose entrance timbers have been shored up with loosely-piled rocks.

The history of these particular exploratory efforts is unknown.



Illustration 59. Timbered adit (#1 on site map) north of Warm Spring Canyon Road. Photo by Linda W. Greene, 1978.

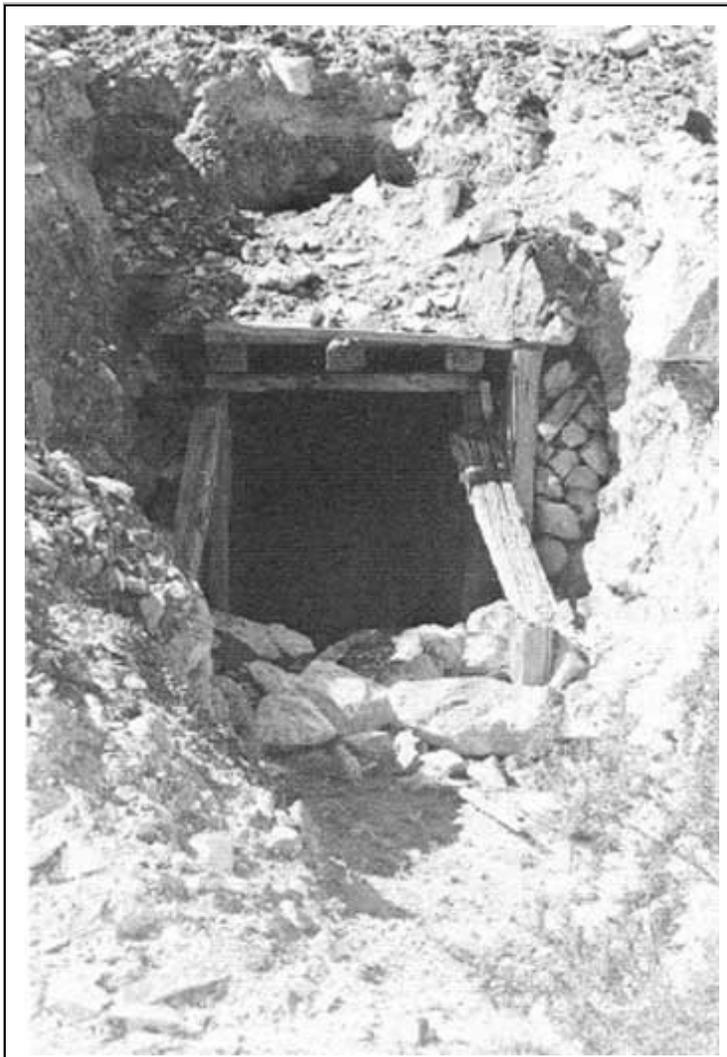


Illustration 60. Timbered adit (#2 on site map) south of Warm Spring Canyon Road. Photo by Linda W. Greene, 1978.

Approximately three-quarters of a mile further west, on the south side of the road, is a large metal ore bin and conveyor-belt system marking the site of the Grantham (Big Talc-No. 5) Mine. An extensive system of access, turnaround, and loading roads has been added. The entire complex consists of two 500-gallon diesel tanks, three 750-gallon and one 3,000-gallon diesel tanks, two diesel electric plants, two diesel air compressors, a jaw crusher, two ore bins and conveyors, a 500-gallon water tank, and a sump and drainage system. [261] Terraced cuts and levels have completely scarred the areas along the hillside in the vicinity of the main portals; no historical structures are visible.

Across the road from this operation is the site of the Warm Springs No. 6 Mine--older works consisting of a wooden one-chute ore bin serving two timbered adits, one of which has caved in. Remains of a tramway are still visible entering the second tunnel.

Approximately one and one-half miles further west on the main road, and alongside it on the south, is a timbered adit closed off with a framework X, located at the foot of a huge waste dump. This is the site of the Warm Spring Mine. On top of this great mound of earth is the large open pit that was begun in 1974.

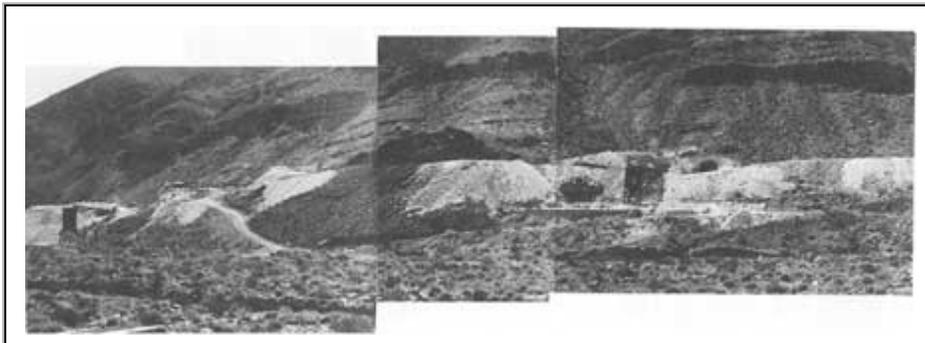


Illustration 61. Grantham Mine (Big Talc-No. 5) south of Warm Spring Canyon Road. Big Talc Portal to left, Riley Portal in center, and #5 Portal to right.



Illustration 62. Warm Spring No. 6 Mine (#4 on site map) across road from Grantham Mine. Photo by Linda W. Greene, 1978.



Illustration 63. Warm Spring Mine (#5 on site map), view from west. Photo by Linda W. Greene, 1978.

Proceeding west again, much terracing and scraping is visible south of the road a distance off along the hillside. This activity surrounds the operations of the Warm Spring West and No. 2

and No. 3 mines.

At the curve about one mile east of the Warm Spring camp, and south of the road, is a mine operation with two entrances and associated dumps. The area is posted NO TRESPASSING, and both tunnels are closed off. This is the site of the No. 4 and White Point workings.

Between this site and the Warm Spring community is another mine on the hillside, south of the road. Its workings consist of an adit with a generator at its mouth, some tram rails descending into the tunnel, and an old car frame used as a winch. Some chute remains are also present. This may be the site of either the Old Quartz Millsite Claim or the Old Mill Stream Mining Claim. [262]

(c) Evaluation and Recommendations

The hillsides in Warm Spring Canyon have been so completely scarred and defaced by the formation of large open pits and by dozing and scraping and waste dump operations that, although there might have been some earlier gold and silver prospecting activity here contemporaneous with mining in the Butte Valley-Gold Hill areas, any evidence of it has probably been completely obliterated. No documentary data on any early gold or silver discoveries in this area has been found.



Illustration 64. Activity around Warm Spring West and No. 2 and No. 3 Mines (#6 on site map) south of Warm Spring Canyon Road. Photo by Linda W. Greene, 1978.



Illustration 65. Site of No. 4 and White Point workings (#7 on site map) along curve of road just east of Warm Spring (Indian Ranch). Photo by Linda W. Greene, 1978.



Illustration 66. Claim immediately east of Warm Spring Camp in Warm Spring Canyon (#8 on site map). Possibly Old Quartz Millsite Claim or Old Mill Stream Claim? Photo by Linda W. Greene, 1978.



Illustration 67. View east down Warm Spring Canyon of talc-mining activity. Photo by Linda W. Greene, 1978.

The Grantham Mine (Big Talc-No. 5) in Warm Spring Canyon is considered eligible for inclusion on the National Register as being of regional significance. Since the location of its first claims in the early 1930s, it has developed into probably the most extensive underground talc-mining operation in the state and from 1942 to 1959 produced more commercial talc than any other mine in the western United States. It is considered of exceptional importance in modern Death Valley mining history.

NOTE: Since approval of the Plan of operations for the Big Talc, mineral examinations of the fifteen mining claims and two millsites of the property have found only two of the claims, the Big Talc and No. 5, and one millsite, the Gold Hill, to be valid. The rest are being contested. Of the fourteen Warm Springs Talc Group claims, only the Warm Springs Talc Deposit has been determined valid. [263]

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