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ENGINEERING REPORT
on the
LITTLE SPARKLER
MINING CLAIMS Nos. 1, 2, 3, 4

Kern County, California

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EXAMINATIONS OF MINERAL LANDS

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BAKERSFIELD, CALIFORNIA

May 23, 1955

To The Partners

Mr. Allen B. Scouler - Bakersfield, California
Mr. Samuel W. Gardiner - San Rafael, California
Mr. Lloyd Scouler - Rio Vista, California

Dear Sirs:

I transmit herewith an engineering report, made for your account, on the Little Sparkler Nos. 1, 2, 3, 4 mining claims, Kern County, California. This report does not cover any of the other seven claims that you hold in the general area.

The first part of the report covers the current field status and prospects of the claims, and in the second part a program is proposed for systematic exploration of their mineral values.

The legal status of the claims is considered to be beyond the scope of this restricted engineering report, and therefore, is not included in the discussion.

Respectfully submitted,

L. F. Ivanhoe

L. F. Ivanhoe
Engineer of Mines

ABSTRACT

The Little Sparkler mining claims #1 to 4 are located in the Kern River canyon, 35 miles east of Bakersfield, California. The property is unusually well situated with respect to the availability of all the essentials for efficient mining operations. The district has not yet been proven to have large economic reserves of uranium ore, but high grade ore is at least present in some locations near the Little Sparkler claims. A limited amount of surface work has been done but no underground work has yet been started on the Little Sparkler claims and no ore has yet been mined or blocked out. The present high guaranteed base price and initial bonus for uranium ores make this a most favorable time to open up new properties.

The proposed plan of exploration consists essentially of completion of all possible surface work, which will be followed by a subsurface program designed to give the greatest possible amount of information at the lowest cost.

CONCLUSIONS

It is concluded that the Little Sparkler mining claims #1, 2, 3, 4 have reasonable prospects for uranium ore. A minimum of $45,000 should be available before beginning systematic exploration of the claims.

RECOMMENDATIONS

It is recommended that:

1. All necessary steps should be taken to clarify the title, patent the claims, and comply with any pertinent legal requirements.

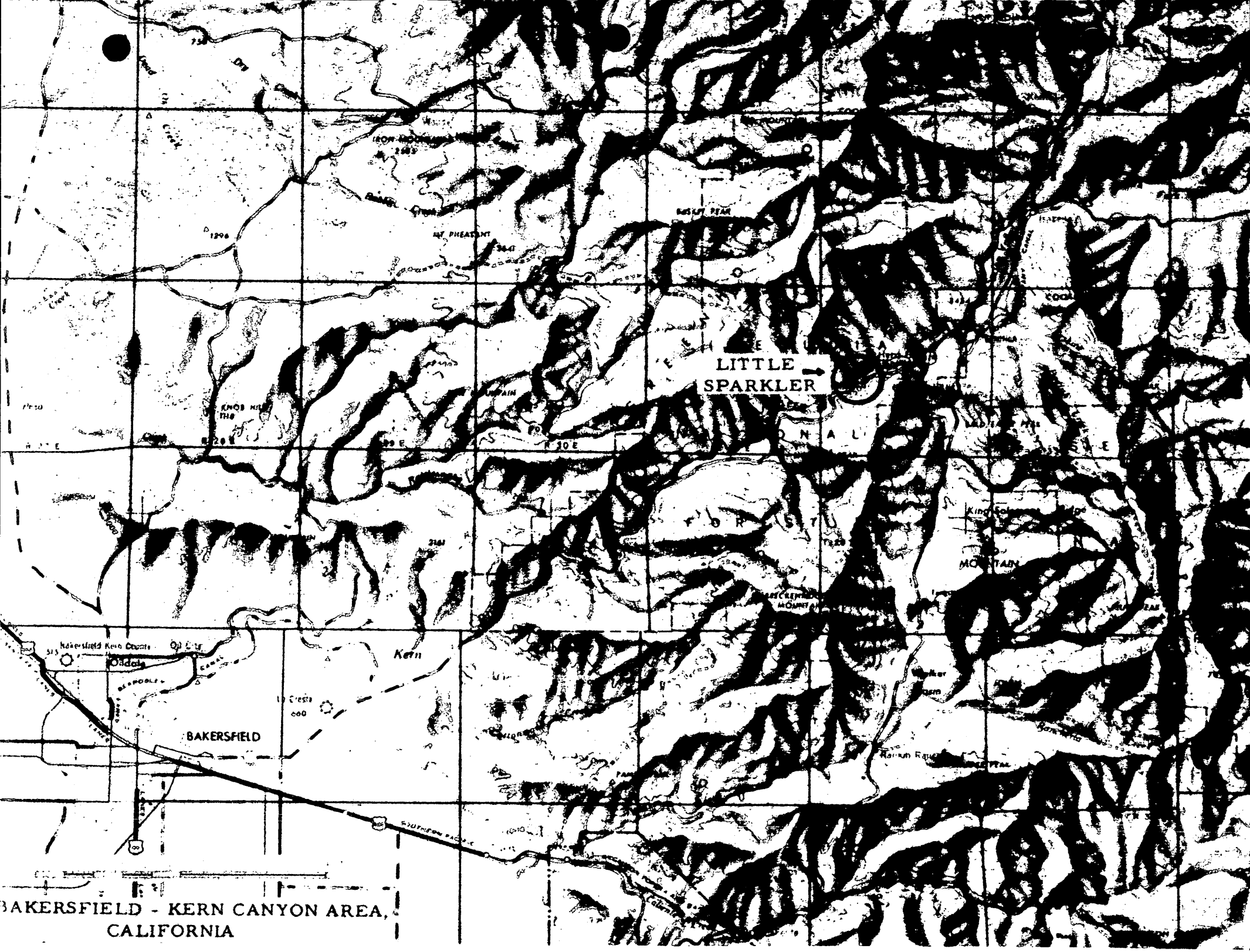
2. The first exploratory efforts should be concentrated in the area with access to the all-weather highway south of the Kern River, and above the water level of the river.

3. Surface exploration should be completed to determine the optimum location for beginning mining operations as soon as possible.

4. Gamma-ray logging and sampling of deep holes should be used to direct and supplement underground workings.

5. All work should be done in a systematic manner to assist future planning and reduce costs.

* * *



BAKERSFIELD - KERN CANYON AREA,
CALIFORNIA

FIELD STATUS AND PROSPECTS

LOCATION

The Little Sparkler mining claims #1, 2, 3, 4 are located in Sections 17 and 20, T. 27 S., R. 32 E., Mount Diablo Meridian, 36 road miles northeast of Bakersfield and six miles southwest of Bodfish, Kern County, California. Their location is indicated on the accompanying maps and a photostat of the recorded description of the claims is included in the appendix of this report. Claims #1 and 2 were filed on March 12, 1954 by Rufus E. Cook and Allen B. Scouler, and claims #3 and 4 on April 2, 1954 by Allen B. Scouler, Lloyd Scouler, and Rufus E. Cook.

The adits to the Miracle and Kergon uranium mines are respectively about 800' east and 1100' south of the borders of the Little Sparkler claims.

LEGAL STATUS

A discussion of the legal status of the Little Sparkler claims is beyond the scope of this restricted engineering report. It is understood that all legal questions will be dealt with in a separate report by a mining law specialist, and therefore are not touched on here.

It is, in any case, recommended that all the necessary steps be taken to maintain the present claims in force and patent them as soon as possible.

All pertinent rules and regulations of the various government agencies that have any jurisdiction over the property should be complied with. It is quite possible that the conflicting rules of the various overlapping authorities will prove to be obstacles to the rapid execution of many plans.

TOPOGRAPHY AND VEGETATION

The district is at the southern end of the Sierra Nevada mountain range. The topographic relief ranges from approximately 2100 to 2700 feet above sea level. Claims #1 and 2 are principally on the south side and claims #3 and 4 on the north side of the Kern River canyon. The terrain is generally very steep with most slopes approaching the angle of repose of loose alluvium. The common outcrops and huge boulders are covered in most places by a few feet of surface soil.

The turbulent Kern River is now controlled by the recently completed Isabella dam ten miles upstream from the claims. The flow is regulated to provide a continual and adequate year-around supply of water to two electric power plants in the canyon and for irrigation in the San Joaquin Valley. The river is used by many fishermen and swimmers of the Bakersfield area. Several government agencies have some jurisdiction over the use of the river.

Sufficient grass and brush is present to hold the soil and prevent rapid erosion and rock slides. Small oaks and pines are the only trees and will be unusable for mine timbers. This area is within the southern boundary of the Sequoia National Forest and mining is therefore subject to the rules and regulations of the U. S. Forest Service. The principal interest of the Forest Service is in fire prevention and control of surface erosion, since no lumbering operations exist in the immediate vicinity. The Forest Service personnel appear willing to cooperate on routine field operations.

The area is shown on the U. S. G. S. topographic map of the Tobias Peak, California quadrangle (scale 1:125,000 - contour interval 100'). The topography of the general vicinity is shown on the enclosed claim and topographic map.

CLIMATE

The climate is very dry with less than ten inches of rainfall per year with practically no precipitation during the summer months. Freezing is common and light snows fall during the winter. Summer temperatures often exceed 100° F, with high fire danger due to the lack of rain.

TRANSPORTATION FACILITIES

California State Highway #178 crosses the Little Sparkler claims #1 and 2 on the south bank and about 250 feet above the Kern River. This is the paved all-weather road between Bakersfield and the Upper Kern River to Death Valley area. This highway is a narrow two-lane winding mountain road with scattered wider turn-offs, and is maintained by the California Department of Highways. The traffic is relatively heavy since it connects the Isabella Lake recreation area with Bakersfield. The railroad at Bakersfield is approximately 35 miles, or a one hour drive from the property.

A short road has already been cut from Highway 178 to provide access to the area between the Kern River and the highway on the Little Sparkler claims #1 and 2.

No road or trail reaches to within several miles of the #3 and 4 claims on the north side of the river. Building of a private road to these claims would be very expensive. It is for this reason that exploration and development of the district has been restricted to those properties on the south side of the Kern River with access to the highway.

DOMESTIC AEC URANIUM PROGRAM AND PRICE SCHEDULE

Uranium is today the only naturally occurring substance that can be used as a basic raw material in the large scale production of atomic energy. For this reason, the U. S. Atomic Energy Commission in April 1948, established a guaranteed minimum price schedule designed to stimulate the discovery and production of uranium in the United States.

When uranium is found in commercial concentrations, it may be mined and sold either to the AEC directly, or to any other person or company within the United States, provided both the buyer and seller are licensed by the Commission.

In general the AEC domestic uranium program provides for the following;

1. A guaranteed minimum price effective until March 31, 1962 of $3.50 per pound of uranium oxide contained in domestic ores or mechanical concentrates, assaying at least 0.10% U_3O_8. The price is f. o. b. designated railroad shipping point less the cost of refining.

2. Bonus payments through February 28, 1957 for initial production from new properties up to the first 10,000 pounds U_3O_8. These bonus payments are on a sliding scale and range from $1.50 for ores assaying 0.10% uranium oxide to $3.50 for ores assaying 0.20% or more.

3. A development allowance of $0.50 per pound U_3O_8 is paid in recognition of the expenditures necessary for maintaining and increasing developed reserves of uranium ores. Sellers accepting this allowance are deemed to agree to spend such funds for the development or exploration of their properties.

4. A haulage allowance of 6¢ per ton mile for transportation of ore from the mine to the specified purchase depot up to a maximum of 100 miles. (Bakersfield railroad depot.)

A schedule of prices for uranium ore is included in the appendix of this report. A study of the price schedule reveals that ores assaying less than 0.2% uranium oxide are of much less value than the richer ores. It seems probable that ores assaying less than 0.20% will not be profitable in this area under the present selling conditions. Economical methods of concentration of the ore would appear to be advantageous under the sliding scale price schedule. No uranium processing plant exists in the Bakersfield area, and ore is currently shipped by rail to the plant at Salt Lake City, Utah.

The initial production bonus is equal to the base price of the ore, but is limited to the first 10,000 pounds of U_3O_8 (2000 tons @ 0.25%) from a new mine. This bonus originally applied to deliveries made between March 1, 1951 and February 28, 1954 and was later extended until February 28, 1957. It is considered to be most significant that this bonus was introduced almost three years after the initial AEC minimum prices were posted, and originally introduced for only three years. It appears that this most significant part of the price of new ore is the least predictable factor and may be much more subject to change in the future than the actual base price of the ore. Any increase in the base price or bonus would naturally improve the value of any uranium mines. On the other hand, any reduction or elimination of the initial bonus would make it uneconomical to open up many new prospects of small size. The extensive atomic energy program indicates that there will be a continuous demand for uranium ore for many more years.

The present depletion allowance on uranium ore is 23% for income tax purposes.

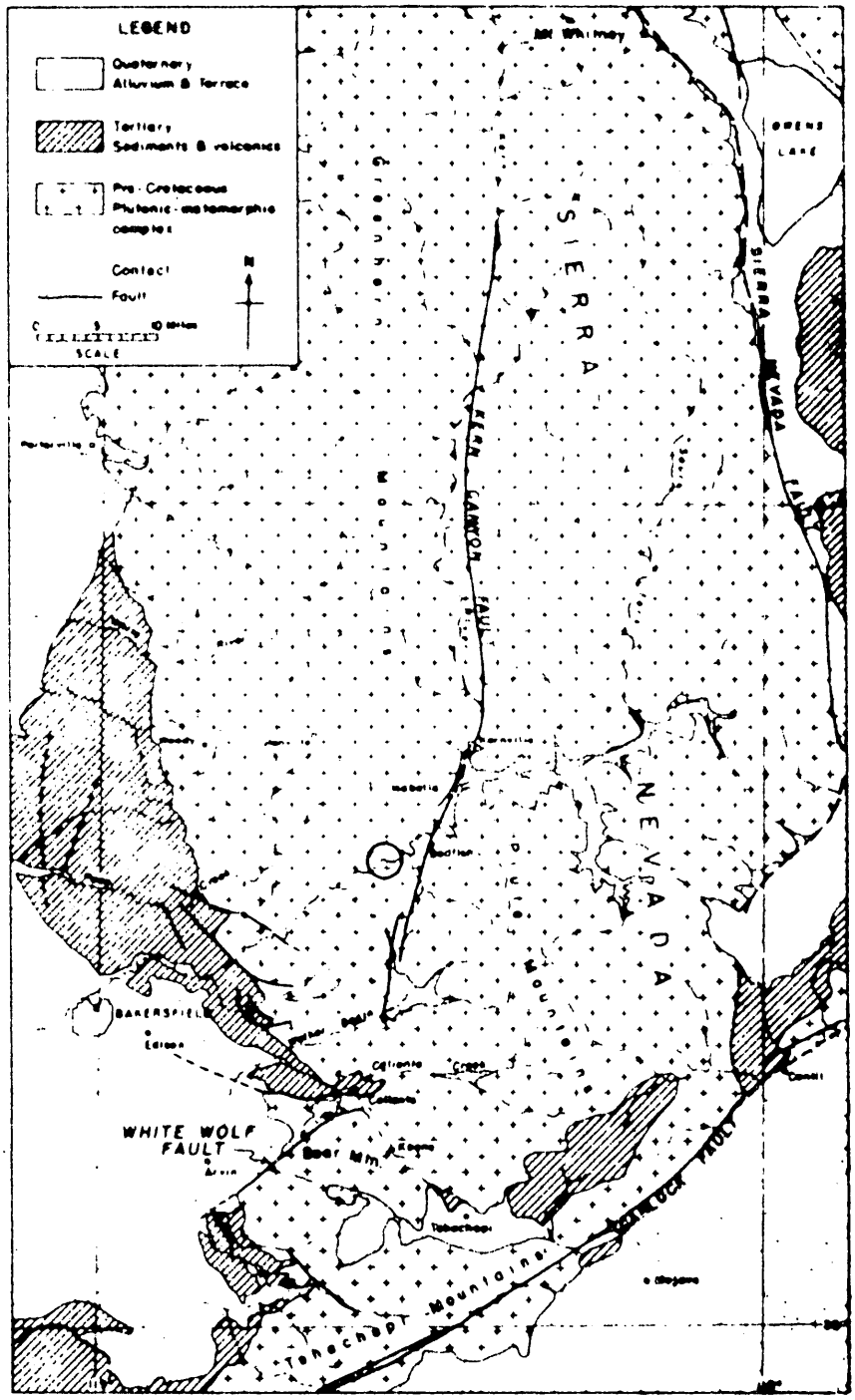
It is concluded that this is a most favorable time to explore new uranium properties, because the relatively small tonnages of ore produced during exploration would be within the bonus tonnage and therefore subject to the premium price. Mining of large tonnages at the lower base price alone would proceed only if justified by the general prospects of the mine. Exploration of small prospects should be pushed while the bonus payments are in effect.

GEOLOGY

Regional Geology

No detailed geological reports have ever been published on the immediate area of the claims. However, geological reports are available on the Breckenridge Quadrangle on the south, and the Kernville Quadrangle on the east of the Tobias Peak Quadrangle. The accompanying geological map of the southern Sierra Nevada shows the location of the Little Sparkler claims.

The claims are regionally located in the Pre-Cretaceous plutonic - metamorphic complex about three miles west of the major Kern Canyon Fault. Many mines for numerous minerals are known along this fault, which may be considered to be one of the major mineralized belts of the Sierra Nevada. It is possible that the Kergon - Little Sparkler - Miracle Mine area may be along a westerly offshoot of this major mineralized zone. Several hot sulphur springs exist in this vicinity (Hobo Hot Springs, etc.) and at least one hot spring exists on the Little Sparkler claims at the south bank of the Kern River. These hot springs suggest the presence of local faulting.



Geologic map of the southern Sierra Nevada showing location of
LITTLE SPARKLER AREA - ○

URANIUM MINERALS

Autunite (calcium uranium phosphate) and torbernite (hydrous copper - uranium phosphate) are two uranium minerals that have been found at several locations in this general area. Both of these minerals are of secondary origin and occur in the oxidized zone of most uranium deposits. They have usually been found in this district in or adjacent to shear zones in areas of granite and metamorphic rocks.

Uraninite (primary uranium oxide) has been reported from the Kergon mine and it seems possible that primary minerals may be encountered at relatively shallow depths below the exposures of the aforementioned secondary minerals.

The presence of the uranium minerals in shear zones may facilitate recognition of ore shoots but may increase the cost of mining operations.

GEOLOGY OF THE MIRACLE MINE DISTRICT

The California State Division of Mines reports that the uranium bearing minerals of the Miracle Mine are principally autunite and torbernite and occur in a northwest - trending fracture zone in biotite - hornblende quartz diorite. A 240 foot drift extends along one of the principal breaks in the fracture zone. Uranium minerals are localized discontinuously along the fracture zone and are in highest concentrations at the intersection of fractures. Commercial ore has actually been shipped from this mine.

The Kergon mine has reportedly also found spotty commercial ore which is presently being stockpiled. These underground workings has followed a northeast trending, iron stained, fracture zone for a short distance. It is possible that this general northeasterly trending zone extends onto the Little Sparkler claims.

Insufficient work has been done in the area to definitely establish the mineralized trends or extent of the ore shoots. The available evidence, however, strongly suggests that reasonably good prospects for economic uranium ore exist in the general area and also on the Little Sparkler claims. No appreciable quantities of any other commercial minerals have been found with the uranium ore in this district.

COMMERCIAL ORE

No ore of any type has ever been taken from the Little Sparkler claims since mining has not yet started. The claims are, however, bordered by the Miracle Mine claims on the east and the Kergon claims on the south. Both of these properties have found commercial ore in their underground workings although large reserves have not yet been blocked out. Both the Miracle Mine and Kergon claims must still be considered to be in the exploratory stage.

MARBLE MINE
LITTLE SPANISH CANYON
Aerial Photo
KERN CANYON AREA
Kern County, California
Feet

Approximately 46 tons of ore averaging 0.62% U_3O_8 were shipped from the Miracle Mine on July 31, 1954, which was the first railroad shipment of uranium ore from California. The U_3O_8 base value (without bonus) of the original wet ore (6% water) was about $53 per ton. (A copy of the ore buying statement is included in the appendix of this report.)

The uranium ore of the Kergon Mine is reported to actually assay considerably higher than is indicated by a routine radiation count. No ore has yet been shipped from the Kergon Mine although specimens assaying 1.00% U_3O_8 have been found there. It is reported that both the Miracle and Kergon Mines are now continuing underground exploration on a small scale and are stockpiling ore pending clarification of the legal status of their claims as required to obtain the bonus payments.

One of the basic problems in mining with a price premium for high grade ore is to find simple methods of mining and concentration (selective blasting, screening, hand picking, counters, etc.) which will decrease the dilution of the ore by waste rock. The specific methods of high-grading that will be most applicable to this type of ore have not yet been worked out but will undoubtedly evolve by experience. The uranium ore shipped by the Miracle Mine was partially hand picked to improve its quality, and there is some reason to believe that the grade of the ore could have been raised even higher if greater effort had been used to eliminate dilution by waste rock. It is doubtful that such high grade could be sustained in routine mining operations without some such method of concentration, even though individual ore shoots may assay appreciably higher than the average grade.

The relationship and proximity of the adjoining Miracle and Kergon Mines to the Little Sparkler claims is considered to be a favorable indication that there are reasonable prospects of also finding commercial uranium ore on the Little Sparkler claims.

PRESENT WORKINGS AND EQUIPMENT

The most important operation yet made on the Little Sparkler claims #1 - 4 is the road that was cut by a bulldozer below Highway #178. This road will give access to the area between the highway and the river and also provides several good exposures of the bedrock. Several ten foot trench-pits were dug on the various claims to check surface showings. No underground workings or bore holes have yet been started.

A cumulative operating expense report and schedule of assets (to March 31, 1955) for all of the various claims held by this group was supplied by Mr. Lloyd Scouler. These data are included in the appendix of this report and are self-explanatory. (Note that this report is restricted to the Little Sparkler claims #1, 2, 3, 4, and does not cover any of the other claims.)

OPERATING NECESSITIES

LABOR

Labor is available both from Bakersfield and the Kernville - Bodfish area. Men with some mining experience live in the Kernville area and can be employed at the claim while commuting daily from their homes. This will eliminate the need for any housing at the mine itself.

No contract diamond drillers or contract job miners are available in Bakersfield, but can be imported from other areas if it is advisable to do so.

WATER

Water can be obtained the year around from the Kern River.

FUEL AND POWER

Electricity and petroleum fuels will probably be the most convenient for these operations. Gasoline, etc. can be brought from the Bakersfield refineries. A high tension power line crosses the land near the southern edge of claim #1. It should be possible to make arrangements to use power from this source, which would eliminate the need for a large power plant.

MINING SUPPLIES

Some specialized mining equipment and supplies are available in Bodfish and the Bakersfield area. Many types of heavy equipment are stocked in Bakersfield for use in the oil fields and agriculture, and most machinery companies have outlets in Los Angeles. Second-hand mining machinery is, however, not plentiful locally but probably can be brought in from other mining areas.

MINE TIMBER

The timber on the property will be of small value for mining. The necessary heavy timber will have to be brought from Bakersfield by truck and will be an expensive part of the operations ($85/1000 board feet). This may be one of the critical factors that will determine the relative profit of the mine.

The property is unusually well situated with respect to the various factors that are essential for efficient mining operations.

* * * * *

PROPOSED PLAN FOR EXPLORATION

OBJECTS AND SCOPE OF EXPLORATION

The main objects of exploration are to reduce mining risk, lessen cost of development, and increase profits of mining by obtaining information upon which intelligent planning of work may be based. The cheapest and quickest methods of obtaining this information are by surface exploration and by boreholes, but in this case underground exploration will be necessary and cannot be neglected.

The surface and underground exploration should be pushed far enough to determine the character and extent of irregularities in thickness and in richness, and to obtain some idea of the location and distribution of workable areas and their relations to areas of barren and unworkable ground. This is to make sure that there is sufficient ore to warrant erection of permanent facilities and to determine all questions affecting profitableness of the enterprise. On the other hand, unnecessary exploration or over-development should be avoided.

Planning of extensive mining operations will follow this exploratory phase, even though some ore will probably be taken from the exploration tunnels. Actual mining is based on large volumes with lower unit costs than is possible in the exploration or development stage of the work. It is necessary to have a certain minimum tonnage of blocked out ore before significant economies can be made by systematic mining. The available tonnage should be fairly well indicated before the "initial production bonus" (first 10,000# U_3O_8) is used up for the property.

SURFACE EXPLORATION

GENERAL CONSIDERATIONS

The value of thorough surface exploration is apt to be underestimated. It furnishes information which may either discourage further effort, or permit intelligent planning of subsequent boring or underground exploration. It prevents overlooking important exposures and secures a large amount of information with a smaller total footage of openings than haphazard work.

The value of results from surface exploration naturally depends on the amount and reliability of the information afforded by the outcrops. Surface exploration may determine the size, shape, irregularities and location and size of ore shoots even where the near surface values have been entirely or partially leached from the upper parts of the ore body.

BASE MAP

The first essential for systematic exploration is a base map showing property lines, topography, roads, pits, underground work, assays, drill hole locations, and all obtainable details. This map should be on a scale of not less than 100 ft. to 1 inch. This base map supplements the claim survey by an authorized mineral land surveyor which is required for patenting of the claims. Numbered stakes may be set on 100 or 200 ft. squares for locating subsequent work. The master base map should show only essential general data with transparent copies thereof being used for the various detail purposes. Such maps show the relationship between the different factors, show where information is needed, and aid in eliminating unfavorable areas and in planning exploration.

The area covered by this base map should extend to include the adjoining properties. It will be very advantageous if all operators in the vicinity can be persuaded to use the same rectangular grid and elevation system to facilitate coordination of their work. The survey grid can be most easily established by tieing into the surveys made for the California State Highway #178 which crosses the various properties, and the existing aerial photos.

SURFACE GEOLOGY MAP

The surface geology of the claims should be mapped in greatest detail and plotted on a reproducible copy of the aforementioned base map. The existing air photos should be used as an aid in this geological mapping. The underground geology of the adjacent mines should also be mapped and integrated with the surface geology to determine the probable extensions of their ore shoots. The geology and geomorphology of the general area should be reviewed to determine its bearing on the local details of these claims.

GEOPHYSICAL SURVEYS

One of the principal characteristics of uranium ores and minerals is that they can be identified by their universal property of radioactivity, which can be detected by means of a Geiger - Mueller or Scintillator counter. This fact greatly facilitates the exploration for uranium minerals because it enables direct detection of nearby ore. The gamma rays from uranium that are detectable with a counter, however, have only slight penetration power and are absorbed by about one foot of rock or a few hundred feet of air. Where the soil is more than one or two feet thick, a surface reading gives the radioactivity of the soil and not of the underlieing rock. High surface readings can consequently be considered to be good evidence of the presence of radioactive minerals near the surface, but low readings do not preclude the possibility of rich uranium ore existing only a few feet deep. A few other elements (notably thorium) are also radioactive and it is not possible to distinguish between the radiations emitted by the minerals of thorium and uranium except in a scientific laboratory. A variable "background count" also exists which must be subtracted from all readings to give the corrected local radioactive value.

A systematic grid survey should be made of the radioactivity of the entire property and the corrected results posted on a copy of the base map. Isorad contours can then be drawn on these values to show the more radioactive trends at the surface. This isorad map can then be studied together with the topographic and surface geology maps and overburden thickness to help determine the optimum areas to proceed with trenching, boring, or underground work. Individual "hot spots" on the isorad map should be tested by counter readings at the bottom of small holes two feet deep to check on the possibility that the high readings are only on the surface soil.

No other geophysical methods of prospecting are recommended at this time. It is possible that future work will show some correlation between ore and the various properties that can be measured by other geophysical methods, but such additional surveys should be deferred until such correlation is definitely established.

SURFACE OPENINGS

Surface openings include all efforts to expose the outcrop for examination, and should follow up favorable prospects discovered by the surface geology and radioactivity mapping. Such surface openings can be done at much less cost and greater speed than underground work, and from this standpoint they should be completed before starting underground because of the high risk of opening underground ore bodies.

The presence of the Kern River and California State Highway #178 serve as two excellent surface openings that cross the property. The additional access road between the highway and river provides another exposure. It is recommended that the feasibility be considered of bulldozing additional roads across the property south of the river, to provide access to the area for future operations as well as provide surface openings. Such roads should be located where they will provide the greatest amount of information at the lowest cost.

It seems possible that these extensive road cuts will eliminate the need for additional large surface openings, except such as may be required to follow up leads developed by the road cuts themselves.

UNDERGROUND EXPLORATION

GENERAL

The preliminary (and most economical) phase of the exploratory program will be finished when the topography, surface geology, and radioactivity are mapped and all required surface openings completed. A considered review of all factors should be made at that time to determine the most advantageous procedure to follow for further underground exploration.

It is impossible to accurately estimate the cost of such exploratory work because the required amount of work cannot be determined in advance. Simple methods should be employed and unnecessary expenditures for equipment should be avoided. Careful consideration should be given to contracting specific phases of the work to avoid purchasing of equipment and reduce expenses of supervision. Such exploration is considerably more expensive than the mining phase that follows it.

As all uranium ores are spotty and irregularly distributed in scattered and relatively small deposits, prospecting is important even after commercial development has begun. The search for ore will require a careful study of the geological and mineralogical conditions. Care in observing local changes in the appearance and association of the minerals in the vein filling may lead to the discovery of new ore bodies or new ore shoots.

BORE HOLES

Drilling of deep test holes is an integral part of underground exploration. Boreholes supplement rather than replace actual underground openings. Boreholes have the advantage that they can be drilled faster and cheaper than tunnels, and waste disposal is not a problem. However, such boreholes have the disadvantage that they cannot be accurately located without special surveys to correct for drift, and they may cut rich veins at barren spots. This latter disadvantage is partially offset by logging the radioactivity of the holes. The use of boreholes may be considered to give qualitative information as compared to actual quantitative information obtained from tunnels. Such qualitative information, however, is most useful to supplement and direct the openings and reduce the number of cross cuts and drifts necessary to prove up a claim and block out ore. The presence of good ore in cores would justify underground workings to check the shows and also indicate the approximate location and depth to which the openings would be needed.

Boreholes may be either from surface or subsurface locations. The rocks in this area are very hard and the terrain too steep to permit the efficient use of conventional churn drills or rotary drills with ordinary bits. Both diamond and percussive drills are capable of drilling holes of an appreciable depth to give significant data to direct underground workings and help block out ore. The diamond drill has the advantage in that an actual core is obtained which can be examined at the surface, and very long holes can be drilled. The core recovery, however, is never 100% and important gaps in the cores are common. Sludge samples can be saved and drilling rates recorded to supplement the cores. The long-hole pneumatic rock drills can drill holes up to 100 feet deep, but only sludge samples can be obtained. Blank diamond bits can also drill long holes without taking cores.

Any type of bore hole is suitable for logging with a special deep hole - radioactive probe to detect ore within one foot of the hole. The use of this probe greatly increases the value of general borehole drilling and decreases the advantage of obtaining actual cores. It is believed that the use of the radioactive - deep hole probe in long rock drill holes will prove to more economical than diamond coring if it can be shown that the radioactive logging is as reliable as the cores themselves in this area.

It is recommended that a limited diamond borehole program from surface locations be started upon completion of the surface mapping. This program can precede and guide the underground openings. Both the cores and core holes should be logged with a radioactive probe to calibrate the value of uncored boreholes. If it is concluded that in this area gamma-ray logging alone is equally satisfactory, then borehole program could be continued with the more economical coreless drill holes. Such holes can be drilled with either a blank diamond bit for very long holes or with pneumatic long hole drills for intermediate depths. The purchase of a special pneumatic long-hole drill and accessories may be well justified at that time to work from underground locations. Some cores may always be desired for special problems.

It may be advantageous to have the first diamond drilling performed by contract drillers to avoid the investment for equipment and reduce the necessary supervision for such specialized work. The actual contract bids on coring or blank bit boring will help determine the relative economic merits of the different subsurface exploration methods.

The final number and locations of the deep drill holes will be determined by the results of the surface and subsurface exploration. Diamond coring, deep hole drilling, and drifting can proceed simultaneously at different locations since they are complimentary methods of exploration. Detailed notes should be kept on all the details and results of the drilling and representative samples saved at convenient intervals.

It is recommended that most diamond drill holes at this time from surface locations be generally limited to depths that will explore only the zone above the water level on the south side of Kern River. Mining problems below that depth will require special hoisting, pumps, etc. and, therefore, will be appreciably more expensive than mining of those ore shoots that can be reached by drifts rather than shafts. Exploration below the river level will be justified only if the shallower results are encouraging, or if the bottom of the oxidized zone is not reached in shallow holes. It therefore seems inadvisable to bore holes to excessive depths at this time. The lack of a suitable access road to the north side of the Kern River makes that area less favorable for the possibility of any immediate return on the investment.

UNDERGROUND WORKINGS

It cannot be too strongly emphasized that all feasible preliminary planning, surface work, and boring should be completed before commencing actual underground operations. This is due to the high cost and risk of underground exploration. The justification of the underground workings and selection of their location should be based on a critical examination of all the existing data, and every effort should be made to insure that the tunnels are started at the best possible locations. High grade surface showings or cores would be the best reasons for making the initial locations.

The underground work at first should be so conducted as to obtain information even at the expense of making some special excavations of no value for final mining purposes. The underground exploration should extend far enough in depth to prove the character of the unaltered deposit below the zone of surface action, or to prove the existence of a sufficiently large body of altered material for mining operations. The number of openings (drifts, etc.) made in the deposit will depend on the local conditions. In these deposits of irregular and uncertain character, the openings should not be so far apart as to permit large areas of barren or unworkable ground to escape detection. Cross cuts or boreholes should be driven at intervals to search for or prove parallel beds or fissures.

Assays should be made from time to time on carefully taken average samples. These samples will be supplemented by gamma-ray logging of boreholes and results of any shipments of ore taken out during the exploratory work. The results should be tabulated on assay maps of about 1" - 20' scale.

It is desirable to plan and locate exploratory openings with reference to possible future development, but this should be subordinate to the primary object of exploration. As a general rules, the workings should be kept in the ore body to help give an immediate return on the investment. The first work should be done on the best showings to see whether or not they are superficial. The cost should be kept as low as possible due to the high risk involved. Veins outcropping in such steep terrain should be explored by drift tunnels and raises rather than by sinking shafts. This is because the workings drain themselves and hoisting is avoided. Drifts should be kept as small as practical and the back arched to reduce the need for expensive timbering.

Waste disposal may soon become a problem in such steep terrain and to avoid contamination of the Kern River. It is recommended that the proper authorities be contacted to ascertain whether the waste can be dumped along the edge of the highway to fill the ravine that crosses the property. This would give additional working area on which to operate along the narrow highway, while also disposing of the waste rock. Mining waste will eventually be used to backfill old workings.

The exhaust from the air drills will probably suffice to provide ventilation during the early stages of exploration, but two separate openings to the underground workings should be made for ventilation and safety as early as is practical. All safety precautions should be observed and safety equipment maintained in good condition.

COORDINATION OF VARIOUS MINING PROBLEMS

It seems possible that the various mining properties in the vicinity can effect appreciable savings by coordination of their operations and purchases where ever practical. This would require only a minor amount of planning, but would prove beneficial to all parties.

Such operations that could be coordinated include: safety measures and equipment, spare parts, timber, water, labor, special tools and services, engineering and mapping, quantity purchases and stockpiling of all types, publicity, government agency contacts, contract drilling, transportation costs, power facilities, etc. Where ever practical, it may be to the mutual advantage to use the same size and types of equipment to reduce loss of time due to breakdowns and lack of spare parts.

Small operations often suffer from a lack of spare minor parts and adequate supervision. Spreading of the cost of these items reduces the general overhead of each operation without losing the autonomy of the individual properties.

Sub-contracting of the various routine operations is an accepted procedure in all mining. This allows more accurate cost estimates and generally reduces overall costs while increasing speed. Most underground work requires a great deal of routine supervision unless the men are employed on a contract basis. Sub-contracting of diamond coring, deep hole drilling, and routine tunneling is highly recommended and should be thoroughly investigated before being rejected, as a normal operating procedure.

COST ESTIMATES

All capital expenditures should be kept at a minimum, and all equipment should be considered for its resale value. Common builders equipment rather than specialized mining machinery should be used whenever practical. Second-hand equipment should be definitely considered for all purposes.

The following cost estimates are only qualitative since a complete estimate is beyond the scope of this report. Some of the most common basic equipment for mining is listed in the appendix. Many unlisted items would undoubtedly be required in the course of the work.

It is estimated that approximately $25,000 of basic equipment and supplies will be needed to start systematic exploration underground. Labor costs will be about $50 per three man shift, or an estimated $5,000 for 300' of tunneling. Total costs for underground tunneling are estimated at $35 per lineal foot, but there are not yet sufficient data available in this district to make accurate cost or progress estimates. Contract diamond coring costs are at $5 per foot. Long hole drilling is estimated at $1.00 per foot.

Examination of the basic equipment needs show that the largest item is for an air compressor and the associated equipment. Mining equipment generally has only a low resale value, and it may be possible to pick up some used items at appreciable savings.

It is believed that a minimum of $20,000 working capital should be available after acquisition of the basic equipment, or a minimum of $40,000 to $50,000 total. Additional capital may be needed for additional exploration if the first results are encouraging.

The planning of actual mining operations is not covered in this report, which is principally concerned with exploration. Additional equipment and investment will be required when mining starts. The type and amount of necessary equipment will depend on the method of mining employed, which will be based on the actual results obtained in the exploration work.

* * * * * * * *

APPENDIX

Claim Descriptions

Cumulative Operating Expense Report

Schedule of Assets

Highway Encroachment Permit

AEC Schedule of Prices for Uranium Ore

Copy of Statement on Sale of Miracle Mine Uranium Ore

Cost Data

BASIC EQUIPMENT FOR MINING EXPLORATION

(With 100' Long Hole Drilling)

Quantity	Item	Unit Cost	Total Cost
1	Air Compressor (I. R. Gyroflo - 315 cfm - gasoline		$ 8,850
2	Jack Hammers (I. R. - J-50)	$400	800
2	Jack Legs for Jack Hammers	265	530
1	Drifter - Heavy with Bar Mountings		1,000
1	Electric Generator - 1700 W - 110V - gasoline		325
1	Hoist - 1000# - air - single drum slusher		700
1	Pump - portable fire fighters		370
1	Water Tank - 1000 gal. galv. - no lid		90
1	Grinder and emery wheels		75
1	Electric Hand Saw - Skil 8"		90
1	Mine Car		100
1	Wheelbarrow - Contractors		30
3	Air hoses - 50' w/couplings - 1/2" (water)	22	66
3	Air hoses - 50' w/couplings - 3/4" (air)	28	84
3	Line air strainers	18	54
3	Line Oilers	25	75
1	Air line water trap		100
6	Drill steel rods - 3'	6	36
6	Drill steel rods - 6'	9	54
2	Drill steel rods - 9'	11	22
25	Drill steel rods - 4' - double thread	10	250
25	Drill steel rod couplings	4	100
10	Carbon Set Rock Bits	15	150
2	Mucking Plates - steel 1/4" x 3' x 3-1/2	20	~~150~~ 40
		Sub Total	$ 14371
	Air Blower Unit (17") w/300' Ventilation pipe, valves, etc.		2,500
	Diamond Core Drill (600' cap.) - Gasoline		4,000
	Rods & Acc. for 600' Diamond Drill		1,500
1	Scintillator Counter		600
1	Scintillator Tube - deep hole probe		100
500'	Scintillator Tube Cable	25¢/ft.	125
		Total	$ 23,196

BASIC EQUIPMENT FOR MINING

Quantity	Item	Unit Cost	Total Cost
1	Hand Hoist - 5 ton		100
10	Shovels	3.00	30
4	Picks	3.50	14
3	Sledge Hammers	3.50	10
2	Axes	4.00	8
2	Chain Wrenches	4.00	8
2	18" Pipe Wrenches	5.00	10
1	Pipe Cutter & Threader Set (Hand)	40.00	40
1	Pipe Vise		10
1	Bench Vise (5")		50
1	Chain Hoist (1 ton)		35
2	Jacks - 20 ton	12.00	24
2	Logging Chains (20')	30.00	60
3	Wrecking Bars	1.00	3
1	Set Hand Tools		100
300'	1" Manila Rope	12.00	36
200'	1/4" Wire Rope	10/100'	20
200'	1/2" Wire Rope	13/100'	26
1	Load Binder	6.00	6
4	Floodlights	7.00	28
500'	Electric Cable	35.00	35
5 gal.	Paint	3.00	15
1	Galv. Tub	3.00	3
4	2" Valves	6.00	24
4	1" Valves	2.50	10
1 keg	Nails - 16d	14.00	14
1 keg	Spikes 12"	14.00	14
2	Cross Cut Saws	4.00	8
4	Carbide Lamps (Hat)	4.00	16
1	10 gal. Water Can	20.00	20
4	Water Bags	2.00	8
1	First Aid Kit		20
			$ 805

SUPPLIES

Quantity	Item	Unit Cost	Total Cost
5000'	Mine Timber	85/1000	425
1 drum	Lube oil	25	25
25#	Grease	5	5
4500#	Dynamite (40% gel)	26/100#	1600
1000	Blasting Caps	4.50/100	45
6000'	Fuse	2/100'	120
400#	Carbide	8	32
2000 gal.	Gasoline	25¢/gal	500
200 sq ft.	Galvanized Corrugated Steel	20/$3.50	35
200	Ties	@ .50	100
700'	Rails (lightest 8# - 2")		250
	Rail Spikes, Bolts & Plates		75
300'	2" Galv. Water pipe	48/100	150
500'	1" Galv. Water pipe	23/100	125
10	Carbon Set Rock Bits	Av. $15	150
			$ 3637

CONTRACT RATES (Average)

Diamond Coring (above 1000')	$5/ft. plus casing
Plug Diamond Drilling	$3/ft.
Diamond Coring Rental	$25 - 30/Day plus labor and supplies
Bulldozer	$13.50/hour

ESTIMATED COST

Drifting (total cost)	$35/ft.
@ 2 shifts of 3 men/5 ft. advance) 2/3 total cost	
15# dynamite/ft. advance)	
Long Hole percussion drilling (125'/day)	$1/ft.
Diamond Bit Costs per foot of core hole	30¢/ft.
Diamond Drill Rates - per rig day	50 - 70 feet

Notice of Location

LODE

(1) The name of this claim is [illegible] Lode Mining Claim, said claim is situated in the [illegible] Mining District, County of Kern, State of California.

(2) The names of the locators of said claim are:

[illegible]

[illegible]

(3) The said locators claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet on each side of the middle of said vein or lode.

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location; [illegible] feet extending in a west ly direction along the course of said vein and 750 feet in a east ly direction. The general course of the vein or lode is east erly and west erly as near as can be determined from present development.

The discovery monument is situated about [illegible] feet [illegible] State Highway in a southerly direction in section 20, T27S, R32E, and [illegible] sections 15, 16, 21, 22, T27S, R32E [illegible] approximately [illegible] (true bearing) [illegible].

(4) The date of this location is the 13th day of [illegible], 19[illegible].

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County. Kern

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED [illegible] 19[illegible]

WITNESSES:

LOCATORS:

[signatures illegible]

Notice of Location

LODE

(1) The name of this claim is [illegible] Lode Mining Claim, said claim is situated in the [illegible] Mining District, County of Kern, State of California.

(2) The names of the locators of said claim are:

[illegible]

[illegible]

(3) The said locators claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet on each side of the middle of said vein or lode.

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location; [illegible] feet extending in a westerly direction along the course of said vein and 280 feet in a East direction. The general course of the vein or lode is Easterly and Westerly as near as can be determined from present development.

The discovery monument is situated about 400 feet [illegible] State Highway [illegible] Section 16, Sec 21, T27S, R32E, 1½ miles west of Section 20, T27S, R32E.

(4) The date of this location is the 13th day of [illegible], 19[illegible].

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County. Kern

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED [illegible] 19[illegible]

WITNESSES:

[signatures illegible]

LOCATORS:

[signatures illegible]

LOCATION NOTICE - Lode, Calif. - Wolcotts Form 1104 - Revised September 1950

2212 PAGE 379

Notice of Location

LODE

(Use Carbon Sets - Calif. Mining, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Little Sparkler No. 3 Lode Mining Claim, said claim is situated in the Hobo Hot Springs Mining District, County of Kern, State of California.

(2) The names of the locators of said claim are:

Allen B. Sceuler

Rufus E. Cook

Lloyd Sceuler

said locators are citizens of the United States of America or have declared their intention to become such.

(3) The said locators do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location; 60 hereby claim 750 feet extending in an east ly direction along the course of said vein and 750 feet in a west ly direction. The general course of the vein or lode is east erly and west erly as near as can be determined from present development.

The discovery monument is situated about 8550 feet from the corner monument common to sections 15, 16, 21 and 22, T27S, R32E which bears approximately S88°E (true bearing), and lies across sections 17 and 20, T27S, R32E.

(4) The date of this location is the 1st day of April, 1959.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED April 2, 1959

WITNESSES:

LOCATORS:

[signatures]

Sections 1, 2, 3, and 6 to be filled in.

LOCATION NOTICE - Lode, Calif. - Wolcotts Form 1104 - Revised September 1950

2212 PAGE 380

Notice of Location

LODE

(Use Carbon Sets - Calif. Mining, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Little Sparkler No. 4 Lode Mining Claim, said claim is situated in the Hobo Hot Springs Mining District, County of Kern, State of California.

(2) The names of the locators of said claim are:

Allen B. Sceuler

Rufus E. Cook

Lloyd Sceuler

said locators are citizens of the United States of America or have declared their intention to become such.

(3) The said locators do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location; 60 hereby claim 750 feet extending in an east ly direction along the course of said vein and 750 feet in a west ly direction. The general course of the vein or lode is east erly and west erly as near as can be determined from present development.

The discovery monument is situated about 8400 feet from the corner monument common to sections 15, 16, 21, and 22, T27S, R32E which bears approximately S85°E (true bearing), and lies in section 17, T27S, R32E.

(4) The date of this location is the 1st day of April, 1959.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED April 2, 1959

WITNESSES:

LOCATORS:

[signatures]

Sections 1, 2, 3, and 6 to be filled in.

LOCATION NOTICE - Lode, Calif. - Wolcotts Form 1104 - Revised September 1950

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator L of the within described Lode Mining Claim, in accordance with the provisions of Chapter 944 of the Statutes of 1941 which amend Section 2324 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been created at the discovery point, at each corner and at the center of each end line of said claim, Discovery Cut, Monument in Recess of Eight Inch Socks in Rock Painted red.

(2) The Locator L has not performed discovery work as required by Section 2324, Public Resources Code as follows: No open cut has been made. It is just below the surface.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: April 2, 1954

LOCATORS:

Allen K. Hamler
Lloyd Hamler
Ryfus E. Cook

DO NOT RECORD

No. _____

NOTICE OF LOCATION
Lode Claim
Statement of the Markings of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim
Mining District
County _____, 19__

FILED _____

Owner No. _____
When recorded, please send the instrument to
Mr. Allen K. Hamler
1002 Rose Street Dr.
Bakersfield, California

16649
FILED AT REQUEST OF
Ryfus E. Cook
APR 2 1954
Fee 4P
Fresno Abstract Co
Deputy Recorder

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator L of the within described Lode Mining Claim, in accordance with the provisions of Chapter 944 of the Statutes of 1941 which amend Section 2324 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been created at the discovery point, at each corner and at the center of each end line of said claim, Discovery Cut, Monument in Recess of Eight Inch Socks in Rock Painted red.

(2) The Locator L has not performed discovery work as required by Section 2324, Public Resources Code as follows: No open cut has been made. It is just below the surface.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: April 2, 1954

LOCATORS:

Allen K. Hamler
Lloyd Hamler
Ryfus E. Cook

DO NOT RECORD

No. _____

NOTICE OF LOCATION
Lode Claim
Statement of the Markings of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim
Mining District
County _____, 19__

FILED _____

Owner No. _____
When recorded, please send the instrument to
Mr. Allen K. Hamler
1002 Rose Street Dr.
Bakersfield, California

16649
FILED AT REQUEST OF
Ryfus E. Cook
APR 2 1954
Fee 4P
Fresno Abstract Co
Deputy Recorder

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator L of the within described Lode Mining Claim, in accordance with the provisions of Chapter 944 of the Statutes of 1941 which amend Section 2324 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been created at the discovery point, at each corner and at the center of each end line of said claim, Rock Monument.

(2) The Locator L has not performed discovery work as required by Section 2324, Public Resources Code as follows: A hole 10' deep from the surface has been dug.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: 7th March, 1954

LOCATORS:

Ryfus E. Cook
Allen K. Hamler

DO NOT RECORD

No. _____

NOTICE OF LOCATION
Lode Claim
Statement of the Markings of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim
Mining District
County _____, 19__

FILED _____

Owner No. _____
When recorded, please send the instrument to

13163
RECORDED AT REQUEST OF
Ryfus E. Cook
MAR 12 1954
Fee 4P
Fresno Abstract Co
Deputy Recorder

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator L of the within described Lode Mining Claim, in accordance with the provisions of Chapter 944 of the Statutes of 1941 which amend Section 2324 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been created at the discovery point, at each corner and at the center of each end line of said claim, Rock Monument.

(2) The Locator L has not performed discovery work as required by Section 2324, Public Resources Code as follows: A hole 10' deep from the surface has been dug.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: 7th March, 1954

LOCATORS:

Allen K. Hamler
Ryfus E. Cook

DO NOT RECORD

No. _____

NOTICE OF LOCATION
Lode Claim
Statement of the Markings of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim
Mining District
County _____, 19__

FILED _____

Owner No. _____
When recorded, please send the instrument to
331 Court St.
Reg

13163
RECORDED AT REQUEST OF
Ryfus E. Cook
MAR 12 1954
Fee 4P
Fresno Abstract Co
Deputy Recorder

45141 Book 2247 Page 571

Notice of Location

LODE: 30-80

(See Sections 2301 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Bald Eagle No. 1 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern State of California.

(2) The name(s) of the locator(s) of said claim are

Rufus E. Cook
Allen B. Scouler
Lloyd Scouler
Samuel W. Gardner

Said locator(s) are citizen(s) of the United States of America or have declared their intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a Monument where this notice is posted, which Monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending in a North westerly direction along the course of said vein and 750 feet in a South east erly direction. The general course of the vein or lode is North west erly and South east erly as near as can be determined from present developments.

The discovery Monument is situated about 9000 feet from the top of Hooper Hill. Hooper Hill bears N78°E from this monument, and Bald Eagle peak bears S70°E from this monument. As nearly as can be determined this monument is located on section 21, T27S, R32E, M.D.B&M. All monuments on this claim are of natural rock, in excess of eighteen inches in height, and are painted red.

(4) The date of this location is the 5th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED June 5, 1954

WITNESSES:

LOCATORS:

Allen B. Scouler
Lloyd Scouler

LOCATION NOTICE - LODE CLAIM - WOLCOTTS FORM 1184 - REVISED SEPTEMBER 1960

Pursuant to 1, 2, 3 and 4 See Reverse Side

45142 Book 2247 Page 573

Notice of Location

LODE: 30-81

(See Sections 2301 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Bald Eagle No. 2 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern State of California.

(2) The name(s) of the locator(s) of said claim are

Allen B. Scouler
Rufus E. Cook
Lloyd Scouler
Samuel W. Gardiner

Said locator(s) are citizen(s) of the United States of America or have declared their intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a Monument where this notice is posted which Monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending in a northwest erly direction along the course of said vein and 750 feet in a Southeast erly direction. The general course of the vein or lode is Northwest erly and South east erly as near as can be determined from present developments.

The discovery Monument is situated about 9600 feet from the top of Hooper Hill. Hooper Hill bears N78°E and Bald Eagle Peak bears S70°E from this monument. As nearly as can be determined this monument is located on section 21, T27S, R32E, M.D.B&M. All monuments on this claim are of natural rock, in excess of eighteen inches in height, and are painted red.

(4) The date of this location is the 5th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED June 5, 1954

WITNESSES:

LOCATORS:

Allen B. Scouler
Lloyd Scouler

LOCATION NOTICE - LODE CLAIM - WOLCOTTS FORM 1184 - REVISED SEPTEMBER 1960

Pursuant to 1, 2, 3 and 4 See Reverse Side

45143 Book 2247 Page 575

Notice of Location

LODE: 30-82

(See Sections 2301 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Bald Eagle No. 3 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern State of California.

(2) The name(s) of the locator(s) of said claim are

Lloyd Scouler
Rufus E. Cook
Samuel W. Gardiner
Allen B. Scouler

Said locator(s) are citizen(s) of the United States of America or have declared their intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a Monument where this notice is posted, which Monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending in a Northwest erly direction along the course of said vein and 750 feet in a Southeast erly direction. The general course of the vein or lode is Northwest erly and Southeast erly as near as can be determined from present developments.

The discovery Monument is situated about 7800 feet from the top of Hooper Hill. Hooper Hill bears N15°E, and the north tower of Sawtelle Mountain bears N32°E from this monument. As nearly as can be determined this monument is located on section 28, T27S, R32E, M.D.B&M. All monuments in this claim are of natural rock, in excess of eighteen inches in height, and are painted red.

(4) The date of this location is the 5th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED June 5, 1954

WITNESSES:

LOCATORS:

Allen B. Scouler
Lloyd Scouler

Book 2247 Page 577

45144

Notice of Location

LODE: 30-83

(See Sections 2301 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that

(1) The name of this claim is Bald Eagle No. 4 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern State of California.

(2) The name(s) of the locator(s) of said claim are

Samuel W. Gardiner
Rufus E. Cook
Lloyd Scouler
Allen B. Scouler

Said locator(s) are citizen(s) of the United States of America or have declared their intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a Monument where this notice is posted, which Monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending in a Northwest erly direction along the course of said vein and 750 feet in a Southeast erly direction. The general course of the vein or lode is Northwest erly and Southeast erly as near as can be determined from present developments.

The discovery Monument is situated about 7600 feet from the top of Hooper Hill. Hooper Hill bears N78°E and Bald Eagle Peak bears S70°E from this monument. As nearly as can be determined this monument is located near the east ridge of section 28, T27S, R32E, M.D.B&M. All monuments on this claim are of natural rock, in excess of eighteen inches in height, and are painted red.

(4) The date of this location is the 5th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED June 5, 1954

WITNESSES:

LOCATORS:

Allen B. Scouler
Lloyd Scouler

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator of the within described Lode Mining Claim, in accordance with the provisions of Chapter 644 of the Statutes of 1941 which amend Section 2320 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point, at each corner and at the center of said claim, [illegible]

(2) The Locator has performed discovery work as required by Section 2324, Public Resources Code, as follows: [illegible]

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: August 3, 1954

LOCATORS:

Allen B. Sowder

DO NOT RECORD

[illegible]

No. 45444

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim

Mining District

County

Filed 19

RECORDED AT REQUEST OF Allen B. Sowder SEP 3 1954

Fee $1.00

Owner No.

When recorded, please mail this Instrument to Mr. G. A. Sowder 1902 Bar Harr Dr. Bakersfield, Calif.

No. 30533

RECORDED AT REQUEST OF A. B. Sowder JUN 17 1954

COMPARED

Fee $1.00

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator of the within described Lode Mining Claim, in accordance with the provisions of Chapter 644 of the Statutes of 1941 which amend Section 2320 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point, at each corner and at the center of said claim, [illegible]

(2) The Locator has performed discovery work as required by Section 2324, Public Resources Code, as follows: [illegible]

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: August 3, 1954

LOCATORS:

Allen B. Sowder

DO NOT RECORD

[illegible]

No. 45442

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim

Mining District

County

Filed 19

RECORDED AT REQUEST OF Allen B. Sowder SEP 3 1954

Fee $1.00

Owner No.

When recorded, please mail this Instrument to Mr. G. A. Sowder 1902 Bar Harr Dr. Bakersfield, Calif.

No. 30531

RECORDED AT REQUEST OF A. B. Sowder JUN 17 1954

COMPARED

Fee $1.00

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator of the within described Lode Mining Claim, in accordance with the provisions of Chapter 644 of the Statutes of 1941 which amend Section 2320 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point, at each corner and at the center of said claim, [illegible]

(2) The Locator has performed discovery work as required by Section 2324, Public Resources Code, as follows: [illegible]

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED: August 3, 1954

LOCATORS:

Allen B. Sowder

DO NOT RECORD

[illegible]

No. 45441

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

Mining Claim

Mining District

County

Filed 19

RECORDED AT REQUEST OF Allen B. Sowder SEP 3 1954

Fee $1.00

Owner No.

When recorded, please mail this Instrument to Mr. G. A. Sowder 1902 Bar Harr Dr. Bakersfield, Calif.

No. 30530

RECORDED AT REQUEST OF A. B. Sowder JUN 17 1954

COMPARED

Fee $1.00

BOOK 2289 PAGE 91

45445 30378 BOOK 2247 PAGE 507

Notice of Location

LODE

(See Sections 2320 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that:

(1) The name of this claim is Hobo No. 1 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern, State of California.

(2) The name(s) of the locator(s) of said claim are:

Rufus E. Cook, Samuel W. Gardner

Allen B. Scouler

Lloyd Scouler

Said locator(s) are citizen(s) of the United States of America or declared (date - place) intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending to a North only direction along the course of said vein and 750 feet to a South only direction. The general course of the vein or lode is North only and South only as near as can be determined from present developments.

The discovery monument is situated about 7800 feet from the highest point on Hooper Hill and is located as nearly as can be determined, in Section 16, T27S, R32E M.D.B.&M. Hooper Hill is located in Section 23, T27S, R32E M.D.B.&M. All monuments on this claim are of natural rock, in excess of eighteen inches in height, and are painted red. Hooper Hill bears S 71°E from this monument.

(4) The date of this location is the 13th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges, or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED: June 13, 1954

WITNESSES:

LOCATORS: Lloyd Scouler, Samuel W. Gardner, Allen B. Scouler, Rufus E. Cook

Pursuant to L. & N. and to the Resources Code

LOCATION NOTICE - LODE, CALIF. - WILLAMPTE FORM 1104 - REVISED SEPTEMBER 1950

BOOK 2247 PAGE 509

45446 30379

Notice of Location

LODE

(See Sections 2320 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that:

(1) The name of this claim is Hobo No. 2 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern, State of California.

(2) The name(s) of the locator(s) of said claim are:

Allen B. Scouler, Samuel W. Gardner

Rufus E. Cook

Lloyd Scouler

Said locator(s) are citizen(s) of the United States of America or declared (date - place) intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows:

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending to a North only direction along the course of said vein and 750 feet to a South only direction. The general course of the vein or lode is North only and South only as near as can be determined from present developments.

The discovery monument is situated about 8400 feet from the highest point on Hooper Hill and is located as nearly as can be determined, in section 16, T27S, R32E M.D.B.&M. All monuments on this claim are of natural rock, in excess of eighteen inches in height, and are painted red. Hooper Hill bears S71½°E from this monument.

(4) The date of this location is the 13th day of June, 1954.

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges, or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED: June 13, 1954

WITNESSES:

LOCATORS: Lloyd Scouler, Samuel W. Gardner, Allen B. Scouler, Rufus E. Cook

Pursuant to L. & N. and to the Resources Code

LOCATION NOTICE - LODE, CALIF. - WILLAMPTE FORM 1104 - REVISED SEPTEMBER 1950

BOOK 2212 PAGE 362

16641

Notice of Location

LODE

(See Sections 2320 - 2324, Inclusive, Public Resources Code)

TO WHOM IT MAY CONCERN: Please take notice that:

(1) The name of this claim is Lloyd Sparkler No. 5 Lode Mining Claim.

Said claim is situated in the Hobo Hot Springs Mining District,

County of Kern, State of California.

(2) The name(s) of the locator(s) of said claim are

Allen B. Scouler

Rufus E. Cook

Lloyd Scouler

Said locator(s) are citizen(s) of the United States of America or declared (date - place) intention to become such.

(3) The said locator(s) do hereby locate and claim 1500 linear feet of this vein or lode, together with surface ground extending 300 feet in width on each side of the middle of said vein or lode and more particularly described as follows.

Commencing at a monument where this notice is posted, which monument is at the point of discovery on said vein or lode and on the center line of this location, we hereby claim 750 feet extending to a East only direction along the course of said vein and 750 feet to a West only direction. The general course of the vein or lode is East only and West only as near as can be determined from present developments.

The discovery monument is situated about 11150 feet from the corner monument common to sections 15, 16, 21 and 22, T27S, R32E which bears approximately N 77°E and lies across section 19 and 20 T27S, R32E (this is a true bearing).

(4) The date of this location is the 1st day of April, 1954

(5) This notice is intended as an original notice of location and is posted on this claim and a true copy thereof is to be recorded with the County Recorder of this County.

(6) All dips, variations, spurs, angles and all veins, ledges or deposits within the lines of this claim, together with all water and timber and any other rights appurtenant, allowed by the laws of this State or of the United States of America are hereby claimed.

DATED: April 2, 1954

WITNESSES:

LOCATORS: Allen B. Scouler, Lloyd Scouler, Rufus E. Cook

Pursuant to L. & N. and to the Resources Code

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator S of the within described Lode Mining Claim, in accordance with the provisions of Chapter 866 of the Statutes of 1941 which amend Section 2310 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point at each corner and at the center of said claim, Natural rock monuments in excess of eighteen inches in height and painted red

(2) The Locator S has performed discovery work as required by Section 2304, Public Resources Code, as follows: Made open cut to at least 10 feet below surface exposure.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED August 3, 1957

LOCATORS

DO NOT RECORD

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

No.

Mining Claim
Mining District
County
Filed . 19

RECORDED AT REQUEST OF
A. B. Sandler
JUN 17 1964
Official Records
Kern County Records
Edward Hammond
Recorder
1:40

A. B. Sandler
1802 Rose Marie Dr.
Bakersfield, Calif.

Book 2247 Page 570

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator S of the within described Lode Mining Claim, in accordance with the provisions of Chapter 866 of the Statutes of 1941 which amend Section 2310 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point at each corner and at the center of said claim, Natural rock monuments in excess of eighteen inches in height and painted red

(2) The Locator S has performed discovery work as required by Section 2304, Public Resources Code, as follows: Made open cut to at least 10 feet below surface exposure.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED August 3, 1957

LOCATORS

DO NOT RECORD

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

No.

Mining Claim
Mining District
County
Filed . 19

45446
RECORDED AT REQUEST OF
SEP 9 1964
Official Records
Kern County Records
Edward Hammond
Recorder

30079
RECORDED AT REQUEST OF
A. B. Sandler
JUN 17 1964
Official Records
Kern County Records
Edward Hammond
Recorder
1:40

A. B. Sandler
1802 Rose Marie Dr.
Bakersfield, Calif.

Book 2247 Page 568

STATEMENT OF THE MARKING OF THE BOUNDARIES
AND OF PERFORMANCE OF DISCOVERY WORK

NOTICE IS HEREBY GIVEN by the undersigned Locator S of the within described Lode Mining Claim, in accordance with the provisions of Chapter 866 of the Statutes of 1941 which amend Section 2310 of the Public Resources Code of the State of California relating to mining claims, as follows:

(1) That there has been erected at the discovery point at each corner and at the center of said claim, Natural rock monuments in excess of eighteen inches in height and painted red

(2) The Locator S has performed discovery work as required by Section 2304, Public Resources Code, as follows: Made open cut to at least 10 feet below surface exposure.

(3) That the discovery work indicated above has been completed within ninety (90) days from the date of location of said claim.

DATED August 3, 1957

LOCATORS

DO NOT RECORD

NOTICE OF LOCATION
Lode Claim
Statement of the Marking of the Boundaries and of Performance of Discovery Work

CLAIMANT

No.

Mining Claim
Mining District
County
Filed . 19

45445
RECORDED AT REQUEST OF
SEP 9 1964
Official Records
Kern County Records
Edward Hammond
Recorder

30078
RECORDED AT REQUEST OF
A. B. Sandler
JUN 17 1964
Official Records
Kern County Records
Edward Hammond
Recorder
1:40

A. B. Sandler
1802 Rose Marie Dr.
Bakersfield, Calif.

Form P-202 Rev.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS

No. 600,733-E

DIVISION OF HIGHWAYS

ENCROACHMENT PERMIT

RECEIVED
SEP 16 1955

To Scouler, Cook, Scouler & Gardiner
P. O. Box 163
Rio Vista, California

Fresno, California

May 2 19 55

In compliance with your request of April 13 *19* 55 *and subject to all the terms, conditions and restrictions written below or printed as general or special provisions on any part of this form*

PERMISSION IS HEREBY GRANTED TO make a permanent access road from temporary access road built under Encroachment Permit No. 600,354-E, on the northerly side of State Highway VI-Ker-57-H at Station 463±.

Road shall be used exclusively for the exploration, development and operation of a proposed underground mining project.

Type of equipment using the road shall be primarily trucks carrying equipment and supplies required in a mining operation, including removal of ore produced; other vehicles on a limited basis.

Permittee shall keep a barricade in place at point of encroachment on the State Highway, except when a vehicle is entering or leaving the access road.

Permittee shall fix reflector units so they may be readily removed and replaced when vehicles enter or leave access road.

Road may be used only by permittee's equipment approaching from the east.

All traffic from acess road must proceed to the east after entering State Highway.

Portion of access road within State highway right of way shall be surfaced with decomposed granite and compacted to prevent tracing of mud on pavement.

All work shall be done to the satisfaction of Superintendent C. F. Johnson.

PERMIT NOT VALID UNTIL SUPERINTENDENT IS NOTIFIED AT LEAST TWENTY-FOUR HOURS PRIOR TO STARTING WORK, NOTIFY:

Mr. C. F. Johnson, Supt., P. O. Box 228, Bakersfield, California; Ph: FA4-9454.

This permit is to be strictly construed and no work other than that specifically mentioned above is authorized hereby.

This permit shall be void unless the work herein contemplated shall have been completed before Good until revoked. 19

CC: GTM, CFJ(2), DO

DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS
G. T. McCOY
State Highway Engineer

By
Dist. Mtce. Mgr.

GENERAL PROVISIONS

1. *Definition.* This permit is issued under Chapter 3 of Division 1 of the Streets and Highways Code. The term encroachment is used in this permit as defined in the said Chapter 3 of said code. Except as otherwise provided for public agencies and franchise holders, this permit is revocable on five days notice.

2. *Acceptance of Provisions.* It is understood and agreed by the Permittee that the doing of any work under this permit shall constitute an acceptance of the provisions.

3. *No Precedent Established.* This permit is granted with the understanding that this action is not to be considered as establishing any precedent on the question of the expediency of permitting any certain kind of encroachments to be erected within right of way of State highways.

4. *Notice Prior to Starting Work.* Before starting work on which an inspector is required, or whenever stated on the face of this permit, the Permittee shall notify the District Engineer or other designated employee of the district in which the work is to be done. Such notice shall be given at least three days in advance of the date work is to begin.

5. *Keep Permit on the Work.* This permit shall be kept at the site of the work and must be shown to any representative of the Division of Highways or any law enforcement officer on demand.

6. *Permits from Other Agencies.* The party or parties to whom this permit is issued shall, whenever the same is required by law, secure the written order or consent to any work hereunder from the Public Utilities Commission of the State of California, or any other public board having jurisdiction, and this permit shall be suspended in operation unless and until such order or consent is obtained.

7. *Protection of Traffic.* Adequate provision shall be made for the protection of the traveling public. Barricades shall be placed with red lights at night, also flagmen employed, all as may be required by the particular work in progress.

8. *Minimum Interference With Traffic.* All work shall be planned and carried out so that there will be the least possible inconvenience to the traveling public except for the specific work permitted.

9. *Storage of Material.* No material shall be stored within eight (8) feet from the edge of pavement or traveled way or within the shoulder line where the shoulders are wider than eight feet.

10. *Clean Up Right of Way.* Upon completion of the work, all brush, timber, scraps and material shall be entirely removed and the right of way left in as presentable condition as before work started.

11. *Standards of Construction.* All work shall conform to recognized standards of construction.

12. *Supervision of Grantor.* All the work shall be done subject to the supervision of, and to the satisfaction of, the grantor.

13. *Future Moving of Installation.* It is understood by the Permittee that whenever construction, reconstruction or maintenance work on the highway may require, the installation provided for herein shall, upon request of the Department of Public Works, Division of Highways, be immediately moved by, and at the sole expense of, the Permittee.

14. *Expense of Inspection.* On work which requires the presence of an employee of the Division of Highways as inspector, the salary, traveling expense and other incidental expense of such inspection during the work shall be paid by the Permittee upon presentation of a bill therefor.

15. *Liability for Damages.* The Permittee is responsible for all liability for personal injury or property damage which may arise out of work herein permitted, or which may arise out of failure on the Permittee's part to perform his obligations under this permit in respect to maintenance. In the event any claim of such liability is made against the State of California, or any department, officer, or employee thereof, Permittee shall defend, indemnify and hold them and each of them harmless from such claim. This permit shall not be effective for any purpose unless and until the above named Permittee files with the Department of Public Works, Division of Highways, a surety bond in the form and amount required by said department, unless specifically exempted on the face hereof. The requirement that a bond be filed does not apply in the event the Permittee is a governmental board which derives its revenue by taxation.

16. *Making Repairs.* If the grantor shall so elect, repairs to paving which has been disturbed shall be made by employees of the grantor and the expenses thereof shall be borne by the Permittee, who shall purchase and deliver on the road the materials necessary for said work as directed by the State Highway Engineer. All payments to laborers, inspectors, etc., employed by said grantor for or on account of the work herein contemplated, shall be made by said Permittee forthwith on receipt of written orders, pay rolls or vouchers approved by grantor. Or the grantor may elect to require a deposit before starting repairs, in an amount sufficient to cover the estimated cost thereof.

The grantor will give reasonable notice of its election to make such repairs. If the grantor does not so elect, the grantee shall make such repairs promptly. In every case the grantee shall be responsible for restoring any portion of the highway which has been excavated or otherwise disturbed to its former condition as nearly as may be possible except where the grantor elects to make repairs to paving as above provided in this paragraph and except where provision to the contrary is made in the typewritten portion of the permit.

17. *Care of Drainage.* If the work herein contemplated shall interfere with the established drainage, ample provision shall be made by the Permittee to provide for it as may be directed by the grantor.

18. *Submit Location Plan.* Upon completion of underground or surface work of consequence, the Permittee shall furnish plan to the District Office showing location and details.

19. *Maintenance.* The grantee agrees by the acceptance of this permit to exercise reasonable care to maintain properly any encroachment placed by it in the highway and to exercise reasonable care in inspecting for and immediately repairing and making good any injury to any portion of the highway which occurs as a result of the maintenance of the encroachment in the highway or as a result of the work done under this permit, including any and all injury to the highway which would not have occurred had such work not been done or such encroachment not placed therein.

PIPES, CONDUITS, GAS PUMPS, ETC.

20. *Crossing Roadway.* Service and other small diameter pipes shall be jacked or otherwise forced underneath pavement without disturbing same. Pavement or roadway shall not be cut unless specifically permitted on the face hereof. Service pipes will not be permitted inside of metal culvert pipes used as drainage structures.

21. *Limit Excavation.* No excavation is to be made closer than eight (8) feet from the edge of the pavement except as may be specified.

22. *Tunneling.* No tunneling will be permitted except on major work as may be specifically set forth on the face hereof.

23. *Depth of Pipes.* There shall be a minimum of ~~[illegible]~~ 30 of cover over all pipes or conduits.

24. *Backfilling.* All backfilling is to be moistened as necessary and thoroughly hand tamped, there being not less than one tamper to each shoveler. Whenever required by the grantor, a trench crossing the roadway shall be backfilled with gravel or crushed rock.

25. *Preserve Surfacing Material.* Whenever a gravel or crushed rock surface is trenched, such material shall be placed as one side and when backfilling is started the rock material shall be replaced to its original position.

26. *Maintain Surface.* The Permittee shall maintain the surface over structures placed hereunder as long as necessary.

27. *Pipes Along Roadway.* Pipes and utilities paralleling the pavement shall be located at the distance from traveled way and at such depth as specifically directed on the face hereof. Cutting of tree roots will not be permitted.

POLES, WIRES, CABLES AND OVERHEAD STRUCTURES

28. *Location Pole Lines, etc.* Pole lines shall be located one foot from the property line unless otherwise specified on the face hereof.

29. *Public Utilities Commission Orders.* All clearances and type of construction shall be in accordance with the applicable orders of the Public Utilities Commission of the State of California.

30. *Permission from Property Owners.* Whenever necessary to secure permission from abutting property owners, such authority must be secured by the Permittee prior to starting work.

31. *Clearance of Trees.* Poles must be of such height as to permit clearance over a tree 40 feet in height, where quick growing trees are in place. At locations where slow growing trees are in place, normal construction standard may be followed at the option of the pole line company, with provision to ultimately clear a 40-foot tree.

32. *Guy Wires.* No guy wires are to be attached to trees except on specific authority and in no event shall they be so attached as to girdle the tree or interfere with its growth. Guy wires shall be kept at a minimum elevation of six feet above the ground whenever so directed.

33. *Clearing Around Poles.* The Permittee shall remove and keep clear all vegetation from within a radius of at least five feet of the poles.

34. *Painting or Visibility Strips.* All poles are to be painted for a distance of six feet above the ground using white lead and oil or aluminum paint or in lieu thereof, when poles have creosoted butts, wood, metal or other approved type of visibility strips may be placed. Wood strips are to be Douglas fir 1" x 3"—5' long placed on 6" centers about the base of pole and painted with white lead and oil or aluminum paint. If metal strips are used such strips may be placed either vertically or horizontally. Paint is to be renewed as often as may be required to maintain a satisfactory covering. If not painted when installed or renewed as the grantor may consider necessary, the right is reserved to have this painting done and the Permittee hereby agrees to bear the cost thereof under the terms of this permit.

Poles that do not present a possible traffic hazard will be given consideration for exemption from these provisions upon written request of Permittee accompanied by pertinent data as to pole location, difference in elevation, etc. The grantor's decision will be final in this regard.

35. *Remove Old Poles, Guys and Stubs.* The entire length of such timbers shall be removed from the ground and the holes backfilled and thoroughly tamped.

PLANTING TREES

36. *Location and Species.* The location and kind of trees to be planted shall be specified on the face of this permit.

37. *Planting and Maintenance Cost.* The Permittee must bear the cost of planting the trees. The arrangement as to maintenance of the trees shall be specifically set forth on the face of the permit. In particular cases arrangements may be made for the Division of Highways to do this work upon deposit of a certain sum for each tree which is to be planted. The Division of Highways reserves the right to assume the maintenance or to decline to do so as conditions justify.

38. *Group Planting.* The cost of group plantings and similar special work which may be agreed upon with the Division of Highways shall be borne by the Permittee. Land for such plantings shall be secured in fee by the Permittee and turned over to the State. Plantings for parking and picnic grounds will not be considered in this connection.

REMOVAL OR TRIMMING OF ROADSIDE TREES

39. *Removal of Trees.* When permit is granted for removal of a tree as an independent operation or as a part of other work, the entire stump shall be taken out for a depth of at least two feet blow the ground surface.

40. *Clearing the Site.* All timber and debris shall be removed from the right of way. The hole left by the stump shall be backfilled and thoroughly tamped and the site left in a presentable condition.

41. *Trimming of Trees.* In general, only light trimming of branches two inches or less in diameter will be permitted and only when specifically so stated on the face hereof. The shapeliness of the tree must be preserved.

42. *Inspection.* If the permit requires inspection by the State during progress of the work the cost of inspection shall be borne by the Permittee. No charge will be made for occasional routine inspection.

Road Approaches, Connecting Pavements and Minor Work

43. *Grades and Specifications.* Grades and types of construction shall be as detailed by plans or stated on the face of this permit.

44. *Borrow and Waste.* Only such borrow and waste will be permitted and within the limits as set forth on the face of this permit.

45. *Minor Work.* Grading down of small banks, small ditches, placing of awnings, and other similar minor work shall be governed by the general provisions and as detailed on the face hereof.

Signs

46. *Clearance of Signs.* The minimum clearance from the sidewalk shall be twelve feet.

Railroad Crossings

47. *Safety and Convenience.* The future safety and convenience of the traveling public shall be given every consideration in the location and type of construction.

48. *Meet Highway Grade.* The grade and superelevation of the track must conform to the grade of the highway at point of crossing.

49. *Width of Paving.* The crossing shall be planked or paved as may be specified on the face of this permit for the full roadway and shoulder width.

SCHEDULE OF PRICES FOR URANIUM ORE

(As Specified in Circ. 5 Revised, and Circ. 6)

Grade of Ore, Percent U_3O_8	Pounds of U_3O_8 per Ton of Ore	Base Price: Pound U_3O_8	Base Price: Ton of Ore	Grade Premium: 75¢ a lb. Over 4-lb.	Grade Premium: 25¢ a lb. Over 10-lb.	Mine Development Allowance .50/lb.	Price per Ton of Ore: Price Before Initial Prod. Bonus & Haulage Allowance	Price per Ton of Ore: Initial Prod. Bonus on 10,000 lbs.	Price per Ton of Ore: Price Before Haulage Allowance
0.10	2.00	$1.50	$ 3.00	$ -	$ -	$ 1.00	$ 4.00	$ 3.00	$ 7.00
0.11	2.20	1.70	3.74	-	-	1.10	4.84	3.74	8.58
0.12	2.40	1.90	4.56	-	-	1.20	5.76	4.56	10.32
0.13	2.60	2.10	5.46	-	-	1.30	6.76	5.46	12.22
0.14	2.80	2.30	6.44	-	-	1.40	7.84	6.44	14.28
0.15	3.00	2.50	7.50	-	-	1.50	9.00	7.50	16.50
0.16	3.20	2.70	8.64	-	-	1.60	10.24	8.64	18.88
0.17	3.40	2.90	9.86	-	-	1.70	11.56	9.86	21.42
0.18	3.60	3.10	11.16	-	-	1.80	12.96	11.16	24.12
0.19	3.80	3.30	12.54	-	-	1.90	14.44	12.54	26.98
0.20	4.00	3.50	14.00	-	-	2.00	16.00	14.00	30.00
0.21	4.20	do	14.70	0.15	-	2.10	16.95	14.70	31.65
0.22	4.40	do	15.40	0.30	-	2.20	17.90	15.40	33.30
0.23	4.60	do	16.10	0.45	-	2.30	18.85	16.10	34.95
0.24	4.80	do	16.80	0.60	-	2.40	19.80	16.80	36.60
0.25	5.00	3.50	17.50	0.75	-	2.50	20.75	17.50	38.25
0.26	5.20	do	18.20	0.90	-	2.60	21.70	18.20	39.90
0.27	5.40	do	18.90	1.05	-	2.70	22.65	18.90	41.55
0.28	5.60	do	19.60	1.20	-	2.80	23.60	19.60	43.20
0.29	5.80	do	20.30	1.35	-	2.90	24.55	20.30	44.85
0.30	6.00	3.50	21.00	1.50	-	3.00	25.50	21.00	46.50
0.31	6.20	do	21.70	1.65	-	3.10	26.45	21.70	48.15
0.32	6.40	do	22.40	1.80	-	3.20	27.40	22.40	49.80
0.33	6.60	do	23.10	1.95	-	3.30	28.35	23.10	51.45
0.34	6.80	do	23.80	2.10	-	3.40	29.30	23.80	53.10
0.35	7.00	3.50	24.50	2.25	-	3.50	30.25	24.50	54.75
0.36	7.20	do	25.20	2.40	-	3.60	31.20	25.20	56.40
0.37	7.40	do	25.90	2.55	-	3.70	32.15	25.90	58.05
0.38	7.60	do	26.60	2.70	-	3.80	33.10	26.60	59.70
0.39	7.80	do	27.30	2.85	-	3.90	34.05	27.30	61.35
0.40	8.00	3.50	28.00	3.00	-	4.00	35.00	28.00	63.00
0.41	8.20	do	28.70	3.15	-	4.10	35.95	28.70	64.65
0.42	8.40	do	29.40	3.30	-	4.20	36.90	29.40	66.30
0.43	8.60	do	30.10	3.45	-	4.30	37.85	30.10	67.95
0.44	8.80	do	30.80	3.60	-	4.40	38.80	30.80	69.60
0.45	9.00	3.50	31.50	3.75	-	4.50	39.75	31.50	71.25
0.46	9.20	do	32.20	3.90	-	4.60	40.70	32.20	72.90
0.47	9.40	do	32.90	4.05	-	4.70	41.65	32.90	74.55
0.48	9.60	do	33.60	4.20	-	4.80	42.60	33.60	76.20
0.49	9.80	do	34.30	4.35	-	4.90	43.55	34.30	77.85
0.50	10.00	3.50	35.00	4.50	-	5.00	44.50	35.00	79.50
0.60	12.00	do	42.00	6.00	0.50	6.00	54.50	42.00	96.50
0.70	14.00	do	49.00	7.50	1.00	7.00	64.50	49.00	113.50
0.80	16.00	do	56.00	9.00	1.50	8.00	74.50	56.00	130.50
0.90	18.00	do	63.00	10.50	2.00	9.00	84.50	63.00	147.50
1.00	20.00	3.50	70.00	12.00	2.50	10.00	94.50	70.00	164.50
2.00	40.00	do	140.00	27.00	7.50	20.00	194.50	140.00	334.50
3.00	60.00	do	210.00	42.00	12.50	30.00	294.50	210.00	504.50
4.00	80.00	do	280.00	57.00	17.50	40.00	394.50	280.00	674.50
5.00	100.00	do	350.00	72.00	22.50	50.00	494.50	350.00	844.50
6.00	120.00	3.50	420.00	87.00	27.50	60.00	594.50	420.00	1,014.50
7.00	140.00	do	490.00	102.00	32.50	70.00	694.50	490.00	1,184.50
8.00	160.00	do	560.00	117.00	37.50	80.00	794.50	560.00	1,354.50
9.00	180.00	do	630.00	132.00	42.50	90.00	894.50	630.00	1,524.50
10.00	200.00	do	700.00	147.00	47.50	100.00	994.50	700.00	1,694.50

Form No. O-4 8-54 25M

COLORADO PLATEAU URANIUM ORE PROJECT

American Smelting and Refining Company, Ore Purchasing Agent For
United States Atomic Energy Commission

Receiving Station Off Plateau Vitro Process — Grand Junction, Colorado August 13, 1954
Liquidation No. 5908 — Lot No. Op #29 — Shippers Lot No.
Bought of Henry B. Mann — A.E.C. License No. P-T
Address 301 Tyler Street, Taft, California
Type of Ore Uranium Bearing Ores — Contract No. 257-F — Date Received 8/5/54
Mining Claim Buckeye Group — Mining District Unorganized — Pile No. OP-VP
County : Kern State: California

Lot No.	Wet Weight Pounds	H_2O	Dry Weight Pounds	SETTLEMENT ASSAYS U_3O_8	V_2O_5	$CaCO_3$		CONTENTS POUNDS U_3O_8	V_2O_5	$CaCO_3$	
OP#29	97320	6.15	91335	.62		.5		566.28		~~456.68~~	

Car No SP 152684

U308	Per Lb.	Per Ton	Short Tons	Total Value
.62% - 12.4# at	3.50	43.80	45.6675	$1,981.96
Development allowance 12.4# at	.50	6.20	"	283.14
Premium in excess of 4# per ton 12.4 # - 4# = 8.4# at	.75	6.30	"	287.71
Premium in excess of 10# per ton 12.4# - 10# = 2.4# at	.25	.60	"	27.40
TOTAL U308 PAYMENT		56.50	45.6675	$2,580.21
Haulage allowance 37 miles @ 6¢ per wet ton mile			48.6600	108.03
TOTAL GROSS PRICE				$2,688.24
Deductions				- - - -
NET PROCEEDS				$2,688.24

Correct CFK — Paid August 13, 1954
Checked DPR — Vo. No. 8/86
Approved HCJ — Check No. 12978

sp

I certify that I am the lawful owner or authorized Representative of the Lawful Owner, of the Ore described in this Settlement Sheet and have legal right to deliver the same to the Commission

I certify that I hold the A. E. C. Source Material License numbered above.

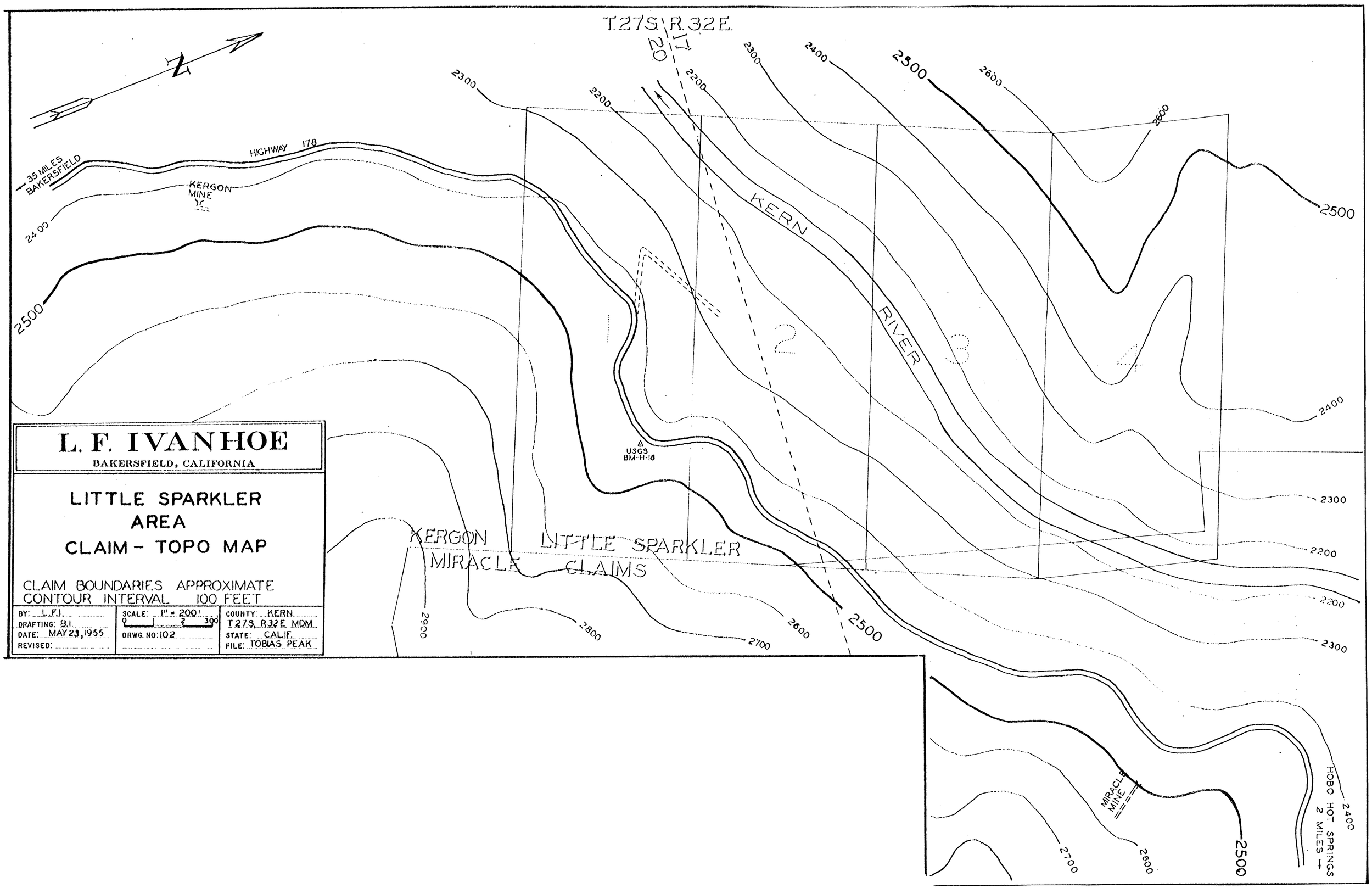
I hereby transfer to the Commission, effective as of the date of delivery of the ore, all my right, title and interest in and to said ore.

I will accept the amount as shown above as "Total Gross Price" in full settlement, except for final quarterly adjustment for average V_2O_5—U_3O_8 ratio, for sums due to me on account of the ore deliveries described herein.

Henry B. Mann
Seller or Agent

Buyers assays govern if Seller fails to submit his assays prior to acceptance of payment.
All rates paid are based on U. S. Atomic Energy Commission Published Schedules.

Photostatic copy of statement showing tonnage, settlement assay, and net proceeds to seller on first carload shipment of commercial grade ore from California. Published by permission of seller.


T.27S. R.32E.
N
35 MILES BAKERSFIELD
HIGHWAY 178
KERGON MINE
2400
2500
2300
2200
2600
2700
2800
2900
KERN RIVER
1
2
3
4
USGS BM-H-18
KERGON MIRACLE
LITTLE SPARKLER CLAIMS
MIRACLE MINE
HOBO HOT SPRINGS 2 MILES
L. F. IVANHOE
BAKERSFIELD, CALIFORNIA
LITTLE SPARKLER AREA CLAIM - TOPO MAP
CLAIM BOUNDARIES APPROXIMATE
CONTOUR INTERVAL 100 FEET
BY: L.F.I.
DRAFTING: B.I.
DATE: MAY 23, 1955
REVISED:
SCALE: 1" = 200'
0 1 2 300
DRWG. NO: 102
COUNTY: KERN
T.27S. R.32E. MDM.
STATE: CALIF.
FILE: TOBIAS PEAK