a. E. C.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

June 18, 1951

Memorandum

To: Landon F. Strobel, Executive Secretary

Through: Director, Supply Division

From: Chairman, Iron Ores Commodity Committee

Subject: DMA-1570X - Application for exploration loan of $321,500 Western Eagle Mountain deposits, Riverside County, Calif., Kaiser Steel Corporation.

The subject application has been reviewed by the Iron Ores Commodity Committee. Of the total amount requested, $121,200 is for an access road.

The applicant states, "The purpose of exploring these properties is to expand the known iron ore reserves of the Kaiser Steel Corporation. Further, it is proposed that the existing blast furnace facilities at the Corporation Fontana plant be expanded which will require additional iron ore."

In 1941 and 1942, the U. S. Bureau of Mines conducted an extensive exploration project of the Eagle Mountain iron ore deposits. The measured reserves resulting from this exploration amounted to 21,600,000 tons, and the additional probable ore in the same area is 15,000,000 tons, or a total of 36,600,000 tons. The corporation has conducted additional exploration, and they now report a reserve of 82,400,000 net tons for which they estimate a life of 61 years. Their 1950 production from Eagle Mountain was 930,400 net tons, and their current production is at the rate of 100,000 net tons per month. Even if their production was stepped up to 1.5 million net tons annually, the present reserves would have a life of over 50 years.

It is, therefore, apparent that it is not necessary to develop additional iron ore reserves to maintain capacity production of pig iron and steel at the Fontana, and denial of the application has been recommended for the above and the following reasons:

1. The exploration program of the Defense Production Act of 1950 was created to relieve shortages of critical and strategic metals and minerals without diverting unnecessarily either materials or manpower otherwise

essential to the defense program.

2. Additional reserves of iron ore in this deposit are not essential in the interests of national defense.

The entire docket, consisting of the following, is transmitted herewith:

Memorandum, dated May 31, 1951, from DMA Field Team Region III, transmitting application.
Three copies of Form MF-103 - Application for exploration loan.
Three copies of Appendix to Form MF-103.
Three copies of map of the Eagle Mountain District, California.

Franklin G. Pardee
Franklin G. Pardee, Chairman
Iron Ores Commodity Committee

Approved:

Tom Lyon
Director, Supply Division

Attachment

FILE COPY
SURNAME:

PESOHEN
Pardee

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

June 18, 1951

Memorandum

To: Landon F. Strobel, Executive Secretary

Through: Director, Supply Division

From: Chairman, Iron Ores Commodity Committee

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In 1941 and 1942, the U. S. Bureau of Mines conducted an extensive exploration project of the Eagle Mountain iron ore deposits. The measured reserves resulting from this exploration amounted to 21,600,000 tons, and the additional probable ore in the same area is 15,000,000 tons, or a total of 36,600,000 tons. The corporation has conducted additional exploration, and they now report a reserve of 82,400,000 net tons for which they estimate a life of 61 years. Their 1950 production from Eagle Mountain was 930,400 net tons, and their current production is at the rate of 100,000 net tons per month. Even if their production was stepped up to 1.5 million net tons annually, the present reserves would have a life of over 50 years.

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856

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The entire docket, consisting of the following, is transmitted herewith:

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Three copies of Form MF-103 - Application for exploration loan.
Three copies of Appendix to Form MF-103
Three copies of map of the Eagle Mountain District, California.

Franklin G. Pardee, Chairman
Iron Ores Commodity Committee

Approved:

Tom Lyon

Director, Supply Division

Attachment

PEPesonen:md

Copy to: Adm. reading file
Mr. Moon
Mr. Strobel
Mr. Lyon
Mr. Pardee
Files

FILE COPY
SURNAME:

PESONEN
Pardee

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

June 18, 1951

Mr. J. L. Ashby
Vice President and General Manager
Kaiser Steel Corporation
1924 Broadway
Oakland 12, California

Subject: DMA-1570X - Application for exploration loan, Eagle Mountain, Riverside County, California.

My dear Mr. Ashby:

Receipt is hereby acknowledged of the subject application for exploration assistance of the western area of the Eagle Mountain iron ore deposits in Riverside County, California.

The application has been reviewed and denied for the following reasons:

1. Present ore reserves at Eagle Mountain have a life of over fifty years even with expansion in production, and additional reserves will not contribute to the present emergency.

2. The proposed project will unnecessarily divert materials and manpower from projects essential to the defense effort and national interest.

Very truly yours,

Tom Lyon

Director, Supply Division

PEPesonen:md

Copy to: Adm. Reading File
Mr. Moon
Mr. Strobel
Mr. Lyon
Mr. Pardee
Files

DMA 1570

FILE COPY
SURNAME:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.

June 18, 1951

Mr. J. L. Ashby
Vice-President
Kaiser Steel Corporation
1924 Broadway
Oakland, California

Subject: DMA-1570X
Re: Exploration loan
Eagle Mountain Iron
Ore Mine

My dear Mr. Ashby:

Receipt is acknowledged of your application and attachments of May 31, 1951 for an exploration loan under the Defense Production Act of 1950.

The application was assigned Docket Number DMA-1570X and was referred to Mr. Franklin Pardee, Chief, Iron Ore Branch on June 8, 1951.

In any future correspondence relating to your application, kindly refer to DMA-1570X.

Sincerely yours,
(JCB)
LANDON F. STROBEL

Landon F. Strobel
Executive Secretary

LFSTROBEL:Jeb
cc: Strobel-2
✓Files
Pardee
Lyon

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
Region III

1415 Appraisers Bldg.
630 Sansome Street
San Francisco 11, Calif.

May 31, 1951

Memorandum

To: Defense Minerals Administration, Washington, D. C.

From: Executive Officer, DMA Field Team, Region III

Subject: Application for Aid for an Exploration Project

The attached application was received in this office on May 31, 1951.

Applicant: Kaiser Steel Corporation
1924 Broadway
Oakland, California

Date of Application: May 31, 1951

Estimated Cost: $643,000.00

Mineral or Metal: Iron Ore

Percentage of Government Participation: 50 %

Location of Mine: Unsurveyed Portions of T3S, R13 & 14E. (Central and Western deposits of Eagle Mountain), Riverside County, California,

H. C. Miller
Executive Officer, DMA Field Team
Region III

Form MF-103
(April 1951)

U. S. DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.
Approval expires 6-30-51.

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

DO NOT FILL IN THIS BLOCK

Docket No. DMA-1570 X

Date received 6/5/51

Participation

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED
MAY 31 1951
SAN FRANCISCO, CALIFORNIA

KAISER STEEL CORPORATION
1924 BROADWAY
OAKLAND, CALIFORNIA

Name and address of applicant

Date May 31, 1951

FILL IN THIS BLOCK

Date of application May 31, 1951

Estimated cost $643,000

Mineral or metal Iron Ore

Percentage of Government participation 50%

Location of mine Unsurveyed Portions of T3S, R13 & 14E. (Central and Western deposits of Eagle Mountain)
Riverside County, California

Date of filing MF-100 Not filed.

DMA Docket Number, if available

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four signed copies of the application to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive officer thereof, with your name and address on each sheet of the application and all accompanying papers. If any question is inapplicable, or if you cannot answer it, so state on the form. Where the space provided for answer is insufficient, answer on a separate sheet, annex it to the application form, and refer to it in space for answer. If the application is approved, you will be presented with an exploration project contract on Form MF-200, for your signature.

THE APPLICANT

*1. Is applicant an individual, partnership, or corporation? Corporation.

*2. If a partnership, state names and addresses of partners. Question is inapplicable.

*3. If a corporation, state names and addresses of officers, directors, and five largest stockholders. See attached Append. #3.

*4. Describe the mining and general business experience of (*a*) the applicant, and (*b*) the person or persons who will manage the project. See attached Appendix. #4.

*5. Are you the owner or the lessee of the property? Owner.

6. If owner, state what claims, liens, or encumbrances, if any, are against the property. See attached Appendix. #6.

7. If lessee, attach a copy of the lease and state if it is in good standing. Question is inapplicable.

NOTE.—It will be necessary to procure and attach to the exploration project contract agreements of claimants, lienors, encumbrances and lessors subordinating their interests in the property to the interest of the Government under the contract.

8. Furnish current financial statement, showing assets and liabilities, and a profit and loss statement. See attached Appendix #8

9. How much money is applicant prepared to invest in proposed project? Is it sufficient to pay your part of the cost of the project as detailed in question 23 of this application form, in accordance with the regulations on Government participation (Section 9 of Mineral Order 5)? $321,500 or 50% of total cost as shown on Question #23.

*If you have already answered these questions on MF-100, you are not required to answer the questions for this application.

16—64067-1

THE PROPERTY

10. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property. See attached Appendix. # 10 (a).

(*b*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted Appendix #10-b.

NOTE.—If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*b*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

*11. State the present and former names of the property, if any. See attached Appendix #11.

*12. State, in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distances and directions and kinds and conditions of roads. See attached Appendix #12.

*13. State source and quantity of water available for operations and its sufficiency at all seasons. State amount of power to be used, rate per hour or other cost, and source. See attached Appendix #13.

*14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work. See attached Appendix #14.

15. State in detail how the ore could be shipped and how and where milled. See attached Appendix # 15.

*16. History: See attached Appendix # 16.

(*a*) Give a statement, as complete as possible, of previous exploration, development, operation, and production of property, with reasons for any past suspensions of operations.

(*b*) State briefly the known history and production of adjoining and neighboring properties.

(*c*) Furnish any available (private) reports that may apply to this application, including results of mine examinations, recommended exploration and development, and metallurgical investigations.

*17. Production:

(*a*) If mine is in production, furnish the following information: Mine is not in production.

	Tons per day	*Grade or analysis*	*Cost per ton*	*Net value per ton*
(1) Mining				
(2) Milling				
(3) Shipped or sold				

*18. Ore or mineral reserves: (If property is or has been operating.) See attached Appendix #18.

(*a*) Describe the ore or mineral deposits briefly.

(*b*) Submit available maps and assay data.

(*c*) Give estimated tonnage and grade of each class of ore reserves.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions. See attached Appendix #19.

THE EXPLORATION

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted? See attached Appendix #20.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it. See attached Append. #21

NOTE.—The Government will not participate in a project that will require more than 2 years to complete.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data. See attached Appendix #22.

THE REQUIREMENTS AND COSTS

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(*a*) Labor, by numbers and classes (miners, muckers, millmen, etc.), with wages of each.

(*b*) Supervisors, by numbers and positions, with salaries of each. See attached Appendix #23.

(*c*) Cost of necessary repairs to existing facilities, structures, and buildings.

(*d*) Cost of necessary installation or construction of additional facilities, structures, and buildings.

(*e*) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.

(*f*) Cost of rental for equipment which the operator proposes to rent.

(*g*) Rental value of items of equipment which the operator now owns and which will be devoted to the work.

(*h*) Cost of materials and supplies, including items of equipment costing less than $50 each.

(*i*) Cost of power, water, utilities, and any other items not provided for above.

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent. See attached Appendix #24.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this form and accompanying papers is correct and complete to the best of their knowledge and belief.

Kaiser Steel Corporation
(Name of company)

By [signature]
(Signature of authorized official)

May 31, 1951
(Date)

Vice President
(Title)

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

*Same as footnote on page 1.

16—64067-1 U. S. GOVERNMENT PRINTING OFFICE

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

APPENDIX TO APPLICATION FOR AID FOR
AN EXPLORATION PROJECT PURSUANT TO M.O. 5

3. If a corporation, state names and addresses of officers, directors, and five largest stockholders.

Name	Address	Office
Henry J. Kaiser	1924 Broadway, Oakland 12, California	President and Director
George W. Burpee	120 Wall Street, New York 5, N.Y.	Director
Sam H. Husbands	4 Columbus Ave., San Francisco 11, California	Director
Edgar F. Kaiser	Willow Run, Michigan	Director
Paul S. Marrin	111 Sutter Street, San Francisco 4, California	Director
George D. Woods	100 Broadway, New York 5, N.Y.	Director
E. E. Trefethen, Jr.	1924 Broadway, Oakland 12, California	Executive Vice President and Director
J. L. Ashby	1924 Broadway, Oakland 12, California	Vice President and General Manager, Director
G. G. Sherwood	1924 Broadway, Oakland 12, California	Vice President, Secretary and Director
A. B. Ordway	1924 Broadway, Oakland 12, California	Vice President and Director
Henry J. Kaiser, Jr.	1924 Broadway, Oakland 12, California	Vice President and Director
Atwood Austin	1924 Broadway, Oakland 12, California	Vice President and Treasurer
Chad F. Calhoun	1200 18th Street, N.W., Washington 6,D.C.	Vice President
C. F. Borden	1924 Broadway, Oakland 12, California	Vice President in Charge of Sales
J. R. Walker	1924 Broadway, Oakland 12, California	Controller
C. B. Wood	1924 Broadway, Oakland 12, California	Asst. Treasurer and Asst. Secretary
William Marks	1924 Broadway, Oakland 12, California	Assistant Secretary
Oscar Cox	1200 18th St., N.W., Washington 6, D.C.	Assistant Secretary
A. F. Scarr	Kaiser Steel Corporation, Fontana, Calif.	Asst. Secretary

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

Name	Address	Office
R. E. Hoagland	Utah Fuel Division of Kaiser Steel Corp., Salt Lake City, Utah	Vice President
Norman Chandler	Publisher, Los Angeles Times, Los Angeles, California	Director

Largest stockholder is Henry J. Kaiser Company of 1924 Broadway, Oakland 12, California, which owns 75% of the outstanding common stock; the remaining 25% is held by some 15,000 stockholders in small lots, from all over the country.

4. (a) Describe the mining and general business experience of the applicant.

The Kaiser Steel Corporation has successfully operated the Fontana Steel mill since 1942. The mill has grown from a capacity of 450,000 tons of ingots per year to the present rate of 1,380,000 tons per year. Kaiser Steel Corporation has successfully operated iron ore mining properties adjacent to the iron ore properties covered by this application for three years and now operates coal mining properties in the State of Utah.

4. (b) Describe the mining and general business experience of the person or persons who will manage the project.

Supt. of Raw Materials	- Mining Engineer 20 Years Experience
Mine Supt.	- Mining Engineer 12 Years Experience
Asst. Mine Supt.	- Mining Engineer 10 Years Experience
Mine Engineer	- Mining Engineer 30 Years Experience

6. If owner, state what claims, liens, or encumbrances, if any, are against the property.

The property is subject to an indenture of mortgage and deed of trust in favor of the Bank of America Trust and Savings Company and W. C. Koenig as trustees, dated as of November 1, 1950, to secure $60,000,000 of first mortgage bonds due in 1970.

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland 12, California

8. Furnish current financial statement showing assets and liabilities, and a profit and loss statement.

KAISER STEEL CORPORATION

Quarterly Financial Report

March 31, 1951

Assets

Cash on hand and in banks	$ 9,342,476
Other trade notes and accounts receivable (net)	6,950,231
Inventories	19,732,214
Other current assets	1,350,237
Property, plant and equipment (net)	124,713,230
Other assets	1,836,386
Total Assets	$163,924,774

Liabilities

Other trade notes and accounts payable	$ 4,371,253
Federal income taxes accrued	6,508,625
Other current liabilities	3,142,176
Long term debt	60,000,000
Reserves not shown elsewhere	137,660
Capital stock, capital surplus and minority interest	43,200,000
Earned surplus and surplus reserves	46,565,060
Total Liabilities	$163,924,774

Income Account Items (for 3 months only)

Net sales	$ 25,266,177
Net operating income	4,885,202
Net income before Federal income tax	2,772,844
Provision for Federal income tax	905,917
Net income after taxes	1,866,927
Add - earned surplus and surplus reserves end of preceding quarter	42,828,108
Less - cash dividends charged to surplus during the quarter	584,000
Other direct charges & credits to earned surplus & sur. res. (net)	2,454,025
Earned surplus and surplus reserves end of quarter	$ 46,565,060

Depreciation and depletion included in costs ..... $ 1,438,125

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

10. (a) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating properly.

Kaiser Steel Corporation's Eagle Mountain ore deposit consists of a number of separate and isolated ore bodies through a mineralized zone 1/4 to 1-1/4 miles wide and approximately six miles in length. At the present time, one of thirty ore bodies at the extreme east end of the deposit is being mined to produce iron ore for the Corporation's Fontana Plant. The other two ore bodies at the extreme east end are currently being readied for production, should start January 1, 1952.

Ore bodies in the central and western end of the deposit located approximately 3-1/2 miles and 7 miles respectively from the existing site of operations would be involved in the exploration project for which aid is sought.

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

10 (b). Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

It is contemplated that the exploration project will be carried out on the following list of patented claims:

Claim No.	Patented Survey No.
Iron #3	3902
" #5	3902
" #7	3902
" #8	3902
" #10	3902
" #13	3902
" #14	3902
" #17	3902
" #20	3902
" #22	3902
" #23	3902
" #25	3902
" #26	3902
" #27	4852 A
" #30	3903
Syndicate #5	No Record
" #7	5144
" #8	5144
" #9	4107
" #12	5140
" #13	5140
" #23	5149
" #24	4852 A
" #25	4852 A
" #26	4852 A
" #27	4852 A
" #28	4852 A
Black Diamond #1	4892 A
" " " #4	4892 A
" " #5	4892 A
" " #8	4892 A
" " #20	5173
" " #21	5143
" " #42	4892 A
" " #43	4892 A
" " #44	4892 A

These patented survey claims lie in un-surveyed sections 28, 29, 30 and 33, T3S, R14E, and in un-surveyed sections 24, 25, T3S, R13E.

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

11. State the present and former mines of the property, if any.

The property is known as the Eagle Mountain Iron Ore Mine.

12. State in detail, the location of the property with reference to towns, railroads, roads, shipping points, including distance and directions and kind and conditions of roads.

The property is located in the Eagle Mountain Mining District. Eagle Mountain Mine is located in unsurveyed - Township 3 South, Ranges 13 and 14 East, San Bernardino base and meridian, in Riverside County, California.

Desert Center is an unincorporated town located 12 miles by highway from the mine. Blythe is the nearest incorporated town 45 miles East. Eagle Mountain Mine operates 51miles of Standard gauge railroad as a spur for direct ore shipping. This spur connects with the Southern Pacific mainline railroad at a point called Ferrum. Ferrum is 28 miles Southeast of Indio, California.

The Company owns 33 houses at the mine and is presently building 26 more. Bunk house facilities are available to accommodate 160 men.

The railroad is maintained in first-class operating condition.

13. (a) State source and quantity of water available for operations and its sufficiency at all seasons.

A deep well is located 9 miles from the property, owned by the Metropolitan Utility District and leased to the Corporation for 25 years. Adequate supply of water is available throughout the year. Electric pumping and automatic control system is installed and in use.

13. (b) State amount of power to be used, rate per hour or other cost, and source.

It is contemplated that a 20 H.P. electric motor will be used for pumping water for this drilling program. Public Utility Power can be purchased from CaliforniaElectric Power Company. The rate is a sliding scale based on consumption with an average of 1.09 cents (approx.) per K.W.H.

14. Describe any existing useable facilities, equipment, buildings, or structure now on the property that will be devoted to the exploration work.

No equipment or facilities exist on the property on which aid is requested. However, equipment and facilities currently being used for production of iron ore and now located at the existing iron ore workings may or may not be utilized for the new exploration project in addition to other equipment and facilities that may be purchased, rented or subcontracted.

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

15. State in detail how the ore could be shipped and how and where milled.

The Kaiser Steel Corporation in 1947 and 1948 constructed 51 miles of standard gauge railroad connecting its Eagle Mountain Mining Operation with the Southern Pacific Railroad at Ferrum, California. The Kaiser Steel Corporation operates this railroad as a spur track and is currently shipping its iron ore production over this railroad. Ore from claims to be prospected will be shipped over this railroad. The ore will be smelted in the Corporation's Fontana Plant Blast Furnaces.

16. History:

(a) Give a statement, as complete as possible, of previous exploration, development, operation and production of property, with reasons for any past suspensions of operations.

That portion of the Eagle Mountain Mine on which operations are currently being conducted was explored by U. S. Bureau of Mines 1941 and 1942 under the Strategic Minerals Program. Results are contained in U. S. Bureau of Mines War Minerals Report No. 97. On the same portion the only production of iron ore prior to 1948 was approximately 75,000 tons for ship ballast and the cement industry during the period 1943 to 1946. On the portion now under application no ore has been removed.

(b) State briefly the known history and production of adjoining and neighboring properties.

Adjoining ore bodies have been worked by the Kaiser Steel Corporation since 1948. In 1950 it produced 930,400 net tons of iron ore. It presently produces at the rate of 100,000 net tons of ore per month.

(c) Furnish any available (private) reports that may apply to this application including results of mine examinations, recommended exploration and development, and metallurgical investigations.

See 16 (a)

18. (a, b & c)
Ore or Mineral reserves: (If property is or has been operating.)

This property is not or has not been operating.

19. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

The purpose of exploring these properties is to expand the known iron ore reserves of the Kaiser Steel Corporation. Further, it is proposed that the existing blast furnace facilities at the Corporation Fontana plant be expanded which will require additional iron ore.

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

20. For what mineral or minerals and for what types of deposits and ores will the exploration be conducted?

The exploration program will be conducted to determine quantities and grades of iron ore.

21. Describe briefly, but concisely, the proposed work and the estimated time required to complete it.

The exploration program involves the construction of 7 miles of access road to the ore bodies from the site of the Corporation's existing mining operation. Survey controls will be extended from the Corporation's existing triangulation system at its present mining operation site. Magnetometer survey will be conducted covering areas adjacent to and across outcrops of iron ore. A program of diamond core drilling will be conducted to determine the depth of the ore in the Central and West End Ore Bodies. It is estimated that the entire program will take approximately 21 months. The drilling portion thereof will take approximately 15 months.

22. Furnish statement of the geological basis of the project with particular emphasis on factors leading the operator to expect the finding of commercial ore bodies. This statement should be accompanied by supporting maps such as geological maps, maps of the proposed openings and assay maps, sample lists, and other pertinent data.

U. S. Geological Survey of the Department of the Interior, Bulletin #503, by Edmund Harder, published 1912, consisting of (80) pages, plus maps, furnishes the geological basis for the project and provides supporting data thereof.

Form MF 103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

23. Tabulate in the form of an itemized statement with a sum for each item the estimated requirements and costs of the project so that the total will give the estimated cost of the project in which the Government will participate, as follows:

(a) Labor, by numbers and classes (miners, muckers, millmen, etc.) with wages of each.
(b) Supervisors, by numbers and positions, with salaries of each.
(c) Cost of necessary repairs to existing facilities, structures, and buildings.
(d) Cost of necessary installation or construction of additional facilities, structures, and buildings.
(e) Cost of items of equipment, not now owned by the applicant which must be purchased for operations at a cost of $50 or more each.
(f) Cost of rental for equipment which the operator proposes to rent.
(g) Rental value of items of equipment which the operator now owns and which will be devoted to the work.
(h) Cost of materials and supplies, including items of equipment costing less than $50 each.
(i) Cost of power, water, utilities, and any other items not provided for above.

SUMMARY OF ESTIMATED AGGREGATE COSTS

1.	Access Road	$ 121,200
2.	Extend Triangulation Net	7,057
3.	Magnetometer Survey	15,328
4.	Geologic Mapping	30,559
5.	Extend Water Supply	66,075
6.	Preliminary Exploration Drilling	377,781
7.	Engineering Consultation	25,000
		$ 643,000

Time and Cost Details

1. Access Road

A. Field Location of Road

Time, 1 month (20 days)	
3-man field party, 15 days	
10 days @ $100 per day	$ 1,000
5 days office work, 3 men 5 days @ $20/day	300
Quarters, 15 days @ $7.50	115
Meals, 15 days @ $15.00 per day	225
Travel, to and from Eagle Mountain	100
Travel, to Eagle Mountain from Desert Center	60
Field Supplies	25
	$ 1,825
Contingencies, 20%	365
	$ 2,190

Amount Brought Forward	$ 2,190	
Overhead and Profit - 25%	548	
Estimated Cost of Road Location	$ 2,738	$ 2,738

B. Road Construction

Sub-Contract - Time, 5.5 months (122 days)
31,500' of 12' road requiring drilling and blasting.
4,500' of road requiring dozing and grading.

Labor, 12 Men		Cost Per Day 250' Road	
6 Drillers	8 x $2.10 x 6	$100.80	
1 Powderman	8 x $2.10	16.80	
1 Mechanic	8 x $2.05	16.40	
1 Dozer Operator	8 x $2.30	18.40	
1 Laborer	8 x $1.75	14.00	
1 Truck Driver	8 x $2.10	16.80	
1 Foreman	8 x $2.475	19.80	
		$203.00	
Insurance, Payroll Benefits, 11%		22.33	
Subsistence - 12 men @ $7.50		90.00	
Labor, per day		$315.33	$ 315.33

Supplies and Equipment		
Caps, electric blasting 55@14¢ plus tax	8.00	
Powder 10#/hole @ 20¢ per pound = $2.00 $2.00 x 50 plus tax	103.50	
Drill Steel 8¢/ft. of hole, 400 x 8¢ + tax	33.10	
Compressor fuel 16 gals. hr. @ 7 hrs. = 112 gals. 112 x 11¢/gal. = 12.32	12.30	
Lub. oil, compressors, 2 gals/day @ 85¢	1.70	
Misc. compressor repairs 2 comp. @ $5 per day	10.00	
Compressor overhaul charge 7/12 of $2,400, 2 yr. overhaul = $4.55 $4.55 @ 2 compressors	9.10	
Amortize compressors $13,500 @ 5 yrs. = $10.25/day 2 x $10.25	20.50	
	$198.20	$ 198.20

Supplies and Equipment (Cont'd)

Truck, 3 ton flat bed		
10 gal. gas @ 30¢/gal.	3.00	
1/2 gal. oil @ 85¢/gal.	.45	
Repairs, $5.00/day	5.00	
Amort. $3,500 @ 5 yrs.	2.65	
Overhaul, $500 for 528 days	1.00	
	$ 12.10	$ 12.10
Pick-up Truck		
10 gal. gas @ 30¢/gal.	3.00	
1/4 gal. oil @ 85¢/gal.	.21	
Repairs $2.50/day	2.50	
Amort. $1,700 @ 2 yrs.	3.40	
	$ 9.11	$ 9.11
Bulldozer, D-8 Caterpillar		
8 hours @ $7.40/hr.	59.20	59.20
Drills, 8 @ $325 each		
Repairs, 60¢/day each	4.80	
Lub. oil, per day	.50	
Amortize drills, 1 year	9.85	
Air hose, 50¢/ft., 400'		
Amortize for job, 116 days	1.80	
	$ 16.95	$ 16.95
Dump Truck, 5 yard		
Gas, oil, rep. & amort.		
5 gals. gas @ 30¢	1.50	
1/4 gal. oil @ 85¢	.21	
Repairs, $2.50 per day	2.50	
Amort. $10,000 @ 5 yrs.	7.60	
	$ 11.81	$ 11.81
Loader		
Gas, oil, rep. & amort.		
5 gals. fuel @ 11¢ per gal.	.55	
1/4 gal. oil @ 85¢	.21	
Repairs, $1.50 per day	1.50	
Amort. $10,000 @ 5 yrs.	7.60	
	$ 9.86	$ 9.86

Supplies and Equipment (Cont'd)

Rooter	$	
Repairs & Maintenance	2.00	
Amort. $2,500 @ 10 yrs.	1.00	
	$ 3.00	$ 3.00
Grader		
5 gals. gas @ 30¢ gal.	$ 1.50	
1/4 gal. oil @ 85¢ gal.	.20	
Repairs $2.50 per day	2.50	
Amort., $13,500 @ 10 yrs.	5.10	
	$ 9.30	$ 9.30
		$ 644.86
	$644.86	
Contingencies, 20%	128.97	
	$773.83	
Overhead and Profit, 25%	193.47	
Cost per day of 260' of road	$967.30	
Work period 122 days 122.5 x 967 = 118,458		$ 118,458
Estimated cost of road		$ 121,200

2. Extend Survey Controls

Time - 3.00 months of 13 weeks.

Set 30 primary triangulation points, turn angles, and calculate co-ordinate positions of each point.

Labor		
1 - 4 man field and office party		
1 - engineer @ $550 per mo. + 11%	1,832	
1 - Asst. engineer @ $400 per mo. + 11%	1,332	
2 - Jr. engineers @ $2.75 per mo. + 11%	1,832	
Field travel 65 days @ 10/day	650	
Field supplies @ $12.33/station	370	
	6,016	
Contingencies, 20%	1,041	
Estimated cost of primary triangulation	$ 7,057	$ 7,057

3. Magnetometer Survey

Sub-contract. Time, 2 months, (9 - 5 day weeks)

Technical Labor

1 magnetometer operator, 45 days @ $100	4,500	
2 field helpers, 45 days @ $25/day/man	2,250	
Office calculation and maps:		
1 magnetometer operator 15 days @ $50/day	750	
1 draftsman, 15 days @ $25	375	
Photostats and prints	200	
Expenses, 63 days @ $22.50	1,418	
Field Travel, 45 days @ $5.	225	
Travel at beginning and end of job	500	
	$10,218	
Contingencies, 20%	2,044	
	$12,262	
Overhead and Profit - 25%	3,066	
	$15,328	$ 15,328

4. Map Geology

Time - 4 months (85 days)

Central Area - 8 Weeks

1 Geologist 40 days @ $100/day plus $10/day exp.	$ 4,000
2 Field assistants 40 days @ $25/day plus $10/day exp.	2,800
2 Samplers 30 days @ $20/day + 11%	1,332
Plus 42 days' exp. @ $10/day ea.	840
Dozer 8 days @ $80/day + 11 days' exp. @ $7.50/day	723
Analyses, 275 @ $7.00 plus sampling supplies	1,925

Western Areas - 5 weeks

1 Geologist 25 days @ $100/day plus $10/day exp.	2,750
2 Field assistants 25 days @ $25/day plus $10/day exp.	1,750
2 Samplers 30 days @ $20/day plus 11%	1,332
Plus 42 days' exp. @ $10/day ea.	840
Dozer, 7 days @ $80 plus 10 days expense @ $7.50	635

Western Area (Cont'd)

Analyses, 275 @ $7.00 plus sampling supplies	1,925	
Office mapping, 20 days @ $100/day plus $10/day exp.	2,200	
1 Draftsman 4 months @ $400/mo. plus 11%	1,776	
Plus expenses @ $7.50/day	638	
	$ 25,466	
Contingencies, 20%	5,093	
	$ 30,559	
Estimated Cost of Geologic Mapping		$ 30,559

5. Extend Water Supply

Sub-contract. Time - 3.5 months (72 days)

Water Tank

20,000 gal. bolted, steel, plus tax	$ 1,760	
Freight to Eagle Mountain	75	
Transport to site, level ground, fix base, erect.		
1 truck/day @ $60, 1 cat/day @ $80		
Labor 3 men, 4 days @ $16.80 plus 11% P.R.B.	369	
Expenses 14 @ $7.50/day	105	
	$ 2,309	$ 2,309

Pipe 3", threaded and coupled

15,500 ft. @ $70.41/100 ft. plus tax	11,296	
Freight to Indio - 59 tons	295	
Freight to Eagle Mountain	385	
Transport and off load at road		
1 truck 10 days @ $60, 4 men 10 days @ $16.80 + 11%	1,368	
Expenses, 5 men 10 days @ $7.50 per man	375	
Haul pipe off road on each end		
1 cat 4 days @ $80, 4 men 4 days @ $16.80 + 11%	629	
Expenses, 5 men 4 days @ $7.50 per man	150	
Lay 15,500' of 3" pipe on surface 2 fitters 20 days @ $21, 4 helpers 20 days @ $16.80 + 11%	2,404	
Expenses, 6 men 20 days @ $7.50 per man	900	
3 expansion bends	150	
	$ 17,952	$ 17,952

Pipe, 2", threaded and coupled		
15,800' @ $34.27/100' + tax	5,605	
Freight to Indio, 29 tons @ $5 per ton	145	
Freight to Eagle Mountain @ $6.50/ton	189	
Haul to site		
1 truck 6 days @ $60, 4 men 6 days @ $16.80 + 11%	821	
Expenses, 5 men 6 days @ $7.50/day	225	
Haul pipe off road		
1 cat 2 days @ $80, 4 men 2 days @ $16.80 + 11%	314	
Expenses 5 men 2 days @ $7.50/day	75	
Lay 15,800' of 2" pipe on ground surface 2 fitters 10 days @ $21, 4 helpers 10 days @ $16.80 + 11%	1,212	
Expenses, 6 men 10 days @ $7.50 per day	450	
3 expansion bends	75	
	$ 9,111	$ 9,111
Pipe, 1-1/2", threaded and coupled		
6,000' @ $25.64/100' + tax	1,592	
Freight to Indio, 8 tons @ $5/ton	40	
Freight to Eagle Mountain @ $6.50/ton	52	
Haul to sites		
1 truck 1-1/2 days @ $60, 4 men 1-1/2 days @ $16.80 + 11%	206	
Expenses 5 men 2 days @ $7.50/day	75	
	$ 1,965	$ 1,965
Pipe Fittings		
80, 3" flange unions @ $5	400	
60, 2" threaded unions @ $1.65	99	
50, 3" ties @ $2.20	110	
50, 3" x 1-1/2" bushings @ $1.10	55	
60, 1-1/2" valves @ $9.50	570	
60, 2" ties @ $1.60	96	
60, 2" x 1-1/2" bushings @ 80¢	48	
2, 3", 500# valves @ $239	478	
1, 3", 500# check valve	158	
Tax	71	
	$ 2,085	$ 2,085

Pump and Motor

1, Fairbanks Morse, 765 psi, piston pump, 20 HP motor and drive, plus tax	$ 1,725		
Freight to Eagle Mountain	30		
Haul to site			
1 cat ½ day @ $80/day, 2 men ½ days @ $16.80	60		
Construct foundation and install			
1 cat ½ day @ $80/day, 2 men	116		
2 days @ $16.80	25		
Materials for base			
1 fitter ½ day @ $21, helper ½ day @ $16.80	22		
Switches installed and connected	250		
Expenses, 10 days @ $7.50	75		
	$ 2,303	$ 2,303	

Float Switch and Motor Control Line

Float switch installed	$ 75		
Motor control line, laid	5,000		
	$ 5,075	$ 5,075	

Power Line to Pump Motor

7 poles, 2,100', 3 wire, 440 V, 25 KVA	$ 3,000		
Transformer, 2,300 V to 440, 25 KVA	250		
	$ 3,250	$ 3,250	
		$44,050	
Contingencies, 20%		8,810	
		$52,860	
Overhead and Profit, 25%		13,215	
Estimated cost water supply facilities		$66,075	$66,075

6. Diamond Drilling

Subcontract. Time, 14.8 months (63.5 - 6 day weeks)

Central Area, Time 6.6 months (28.50 weeks)

12,095' of planned hole @ $7.50/ft.	$90,713		
1,210' of provisional hole @ $7.50/ft.	9,075		
13,305' of hole @ $7.50/ft.	$99,788	$99,788	
1 geologist, 6.6 mo. @ $600/mo. + 11% P.R.B.	4,396		
Expenses 172 days @ $7.50/day	1,290		

Central Area (Cont'd)

1 engineer, 6.6 mo. @ $550/mo. + 11% P.R.B.	$ 4,030	
Expenses 172 days @ $7.50/day	1,290	
1 Assistant Engineer, 6.6 mo. @ $400/mo. + 11% P.R.B.	2,931	
Expenses 172 days @ $7.50/day	1,290	
4 samplers, 6.6 mo. @ $260/mo. + 11% P.R.B.	7,620	
Expenses 172 days @ $30/day	5,160	
2 core and sample men, 6.6 mo. @ $260/mo. + 11% P.R.B.	3,810	
Expenses 172 days @ $15/day	2,580	
Core boxes, sample sacks, etc.	400	
900 sample analyses @ $7.00/sample	6,300	
Travel 172 days @ $10/day	1,720	
	$42,817	
Contingencies, 20%	8,563	
	$51,380	
Overhead and Profit, 25%	12,845	
	$64,225	$ 64,225

Southwestern Area. Time 4.2 months (18-6 day weeks)

8,010' of planned hole @ $7.50/ft.	$60,075	
800' of provisional hole @ $7.50/ft.	6,000	
8,810' of hole @ $7.50/ft.	$66,075	$ 66,075
1 geologist, 4.2 mo. @ $600/mo. + 11% P.R.B.	$ 2,797	
Expenses, 126 days @ $7.50/day	945	
1 engineer, 4.2 mo. @ $550/mo. + 11% P.R.B.	2,564	
Expenses, 126 days @ $7.50/day	945	
1 assistant engineer, 4.2 mo. @ $400/mo. + 11% P.R.B.	1,865	
Expenses 126 days @ $7.50/day	945	
4 samplers, 4.2 mo. @ $260/mo. + 11% P.R.B.	4,848	
Expenses 126 days @ $30/day	3,780	
2 core and sample men, 4.2 mo. @ $260/mo. + 11% P.R.B.	2,424	
Expenses, 126 days @ $15/day	1,880	
Core Boxes and sample sacks, etc.	150	
410 sample analyses @ $7.00	2,870	
Travel 126 days @ $10/day	1,260	
	$27,273	
Contingencies, 20%	5,455	
	$32,728	
Overhead and Profit, 25%	8,182	
	$40,910	$40,910

Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

Northwestern Area. Time (Drilling), 4 Months (17 - 6 day weeks)
Engineering time, 5.5 Months (24 weeks)

7,185' of Planned hole @ $7.50/ft.	$53,888	
720' of Provisional hole @ $7.50/ft.	5,400	
7,905' of hole @ $7.50/ft.	$59,288	$ 59,288
1 geologist, 5.5 months @ $600/Mo.		
11% P.R.B.	$ 3,663	
Expenses, 168 days @ $7.50/day	1,260	
1 Engineer, 5.5 months @ $550/Mo.		
11% P.R.B.	3,358	
Expenses, 168 days @ $7.50/day	1,260	
1 Ass't. Engr. 5.5 months @ $400/Mo.		
11% P.R.B.	2,442	
Expenses, 168 days @ $7.50/day	1,260	
4 Samplers, 4 Months @ $260/Mo.		
11% P.R.B.	4,620	
Expenses, 119 days @ $30/day	3,570	
2 Core and Sample Men, 4 Mo. @ $260/Mo.		
11% P.R.B.	2,310	
Expenses 119 days @ $15/day	1,785	
Sample boxes	250	
635 Samples analyses @ $7.00	4,445	
Travel 144 days @ $10/day	1,440	
	$31,663	
Contingencies, 20%	6,333	
	$37,996	
Overhead and Profit	9,499	
	$47,495	$ 47,495
		$377,781

Estimated cost of diamond drilling and attendant engineering	$377,781
7. Engineering Consultation Fees & Expenses	25,000
Total Estimated Cost of Entire Exploration Program	$643,000

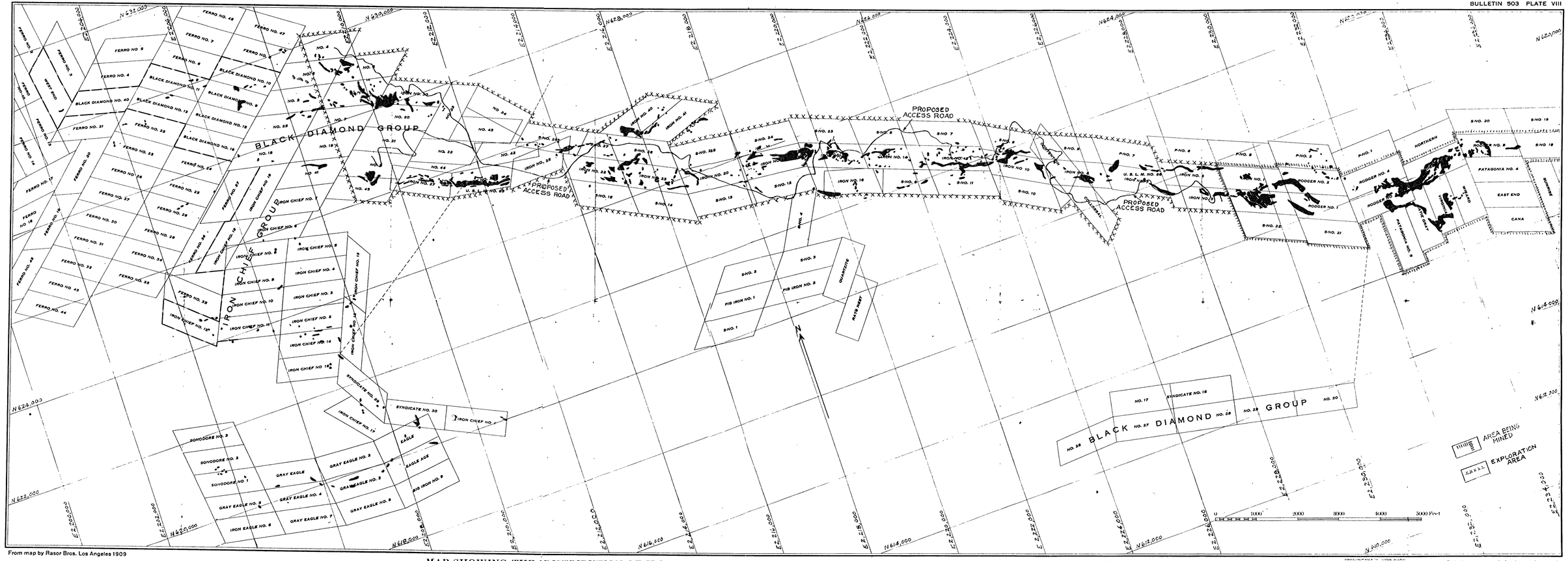
Form MF-103
Kaiser Steel Corporation
1924 Broadway
Oakland, California

24. Furnish a time schedule of the project, stated in terms of months after project is approved, showing progress expected to be accomplished and the money expected to be spent.

Months	Project
1-2	Field location for Access Road
2-7	Construction of Access Road
3-5	Extend Survey Controls
4-5	Magnetometer Survey
4-7	Geological Mapping
5-7	Extend Water Supply
6-20	Diamond Drilling
6-21	Diamond Drilling Engineering Services

The following is a forecast of expenditures to be made, based on making payments 30 days after the work is performed.

Months after Notice to Proceed	Payment	Cumulative
1	$ 0	$ 0
2	1,900	1,900
3	26,600	28,500
4	22,000	50,500
5	39,300	89,800
6	64,100	153,900
7	78,500	232,400
8	79,800	312,200
9	25,400	337,600
10	25,400	363,000
11	25,400	388,400
12	25,400	413,800
13	25,400	439,200
14	25,400	464,600
15	25,400	490,000
16	25,400	515,400
17	25,400	540,800
18	25,400	566,200
19	25,400	591,600
20	25,400	617,000
21	22,900	639,900
22	3,100	643,000
	$643,000	



From map by Rasor Bros. Los Angeles 1909

MAP SHOWING THE DISTRIBUTION OF IRON-ORE DEPOSITS ON MINING CLAIMS OF THE EAGLE MOUNTAIN DISTRICT, CALIFORNIA

By E. C. Harder and J. L. Rich

1912

Slight discrepancies may be found in exact locations of ore bodies, due to the stretching or shrinking of paper before and after plotting.