DMEA Form 18
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

ANALYSIS OF SEMIANNUAL REPORT OF CERTIFIED PROJECT

Prepare in duplicate. File original in Official Docket. Send copy

To: Statistics Branch (Code 210)

Report Period 1/1/58 – 7/1/58

From: Division of Rare & Misc. Metals

DMEA No.	Operator	Contract No.
2576	Marine Minerals Division of Heavy Mineral Company, Assignee of Callahan Zinc-Lead Company	Idm-E392

ORE ESTIMATES

	~~Tons~~ Cubic Yards	Analysis
DMEA	18,330,000	See attached sheet for breakdown of mineral content.
Operator to date		
Total		
Production to date	2,246,300	
Ore in ground	16,083,700	

INVESTMENT

Type	Size		Feet	Cost
Shafts				
Winzes				
Drifts and Crosscuts				
Raises				
Drilling	Type			
Rehabilitation	Description			

FACILITIES

Mine Plant	6 cu. ft. bucket-line dredge	$800,000
Mill	dry Concentrator mill	$400,000
Roads		

REMARKS All Governments share of costs repaid.

Dredge an mill not working, because there is no present market for the minerals

Alex B. Perry of Perry Minerals Co, Inc. are continuing to sell sand and gravel from the property

Prepared by J M Murphy Date 7/30/58

31398

(Minerals in Tons)

	(Tons) Original Estimate	(Tons) Sold prior to July 1, 1958	% of Reserves	Value of sales to date
Rutile	23,834	2,923.17	12.26	$ 393,466.15
Zircon	40,518	3,737.34	9.23	162,056.50
Ilmenite	60,777	3,155.33	5.19	60,371.62
Monazite	14,300	2,396.44	16.76	661,218.50
Staurolite	—	2,241.20		18,671.48
Sand	1,282,463	124,793.46		234,653.37
Gravel		112,740.17		
	1,421,892 *	251,989.13		$ 1,730,437.62

* Based on a recoverable factor of 80%

RECEIVED JUL 28		
DATE	INITIALS	CODE
7/28	J.G.	225
28	Owl	100
"	JY	110
29	CJT	800
"	MM	700

DMEA EXPLORATION PROJECT

SEMI-ANNUAL REPORT OF CERTIFIED PROJECT

Reporting Period: January 1, 1958 to July 1, 1958

DMEA-2576, Idm-E392 (Monazite, Columbium-Rutile)

Operator: Marine Minerals Division of Heavy Minerals Co., Assignee of Callahan Zinc-Lead Company.

Mine Name: Horse Creek Placer, Aiken County, South Carolina

The Government's participation in this contract was paid in full in the amount of $40,667.15 on May 1, 1957.

The writer visited the subject project July 14, 1958 and conferred with H. C. Laird, General Manager of the Mining Division of Heavy Minerals. All operations in the mill and dredge have ceased. They had a stockpile of coarse staurolite which contained 4000 to 5000 tons. This material was being loaded into cars for shipment to Florida where it is used in the manufacture of cement. why?

The sales for the period were obtained from Mr. Laird and the sales of sand and gravel were obtained from Alex B. Perry of Perry Minerals Company, Inc., who are continuing to operate on the property.

Below are the statistics on the project:

Original Estimate of Reserves (from final engr-geol report)

18,330,000 cu.yds of dredgeable material having a heavy mineral content as follows:

Monazite--------	1.56 lbs per cu. yd	=	14,300 tons
Rutile --------	2.60 " " " "	=	23,834 "
Zircon --------	4.42 " " " "	=	40,518 "
Ilmenite--------	6.63 " " " "	=	60,777 " 139,429 Tons
Saleable Gravel-(#4 mesh)	139.90 lbs "	=	1,282,463 "

Sales DMEA Ore (this period):

Type	tons	Value
Rutile	133.00	$17,137.50
Zircon	81.00	3,774.75
Monazite	409.85	103,895.10
Staurolite	1,357.50	8,583.45
Sand	65,111.37	94,684.83
Gravel	38,313.85	
Total	105,406.57	$ 228,075.63

Sales DMEA Ore (Previous) :	Type	Tons	Value
	Rutile	2,790.19	$576,328.65
	Zircon	3,658.34	158,281.75
	Ilmenite	3,155.33	60,371.62
	Monazite	1,986.59	557,323.40
	Staurolite	883.70	10,088.03
	Sand	59,682.09)	
	Gravel	74,426.32)	139,968.54
	Total..	146,582.56	$1,502,361.99
Sales DMEA Ore (to date)	Rutile	2,923.19	593,466.15
	Zircon	3,739.34	162,056.50
	Ilmenite	3,155.33	60,371.62
	Monazite	2,396.44	661,218.50
	Staurolite	2,241.20	18,671.48
	Sand	124,793.46	
	Gravel	112,740.17	234,653.37
	Total	251,989.13	$1,730,437.62

$4.867 Tons

Percent of Reserves sold--

Rutile----------12.26%
Zircon---------- 9.23%
Ilmenite--------- 5.19%
Monazite---------16.76%

W A Beck

Wm. A. Beck, Mining Engineer
Bureau of Mines (DMEA)

July 23, 1958

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DMEA Form 18
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

ANALYSIS OF SEMIANNUAL REPORT OF CERTIFIED PROJECT

Prepare in duplicate. File original in Official Docket. Send copy

To: Statistics Branch (Code 210)

Report Period 7/1/57-12/31/57

From: Division of Rare and Misc. Metals

DMEA No.	Operator	Contract No.
2576	Marine Minerals Division of Heavy Mineral Company, Assignee of Callahan Zinc-Lead Company	Idm-E392

ORE ESTIMATES

	~~Tons~~ Cubic Yards	Analysis
DMEA	18,330,000	see attached sheet for breakdown of mineral content.
Operator to date	—	
Total	—	
Production to date	1,888,000	
Ore in ground	16,442,000	

INVESTMENT

Type	Size		Feet	Cost
Shafts				
Winzes				
Drifts and Crosscuts				
Raises				
Drilling	Type			
Rehabilitation	Description			

FACILITIES

Mine Plant	6 cu.ft. bucket-line dredge	$800,000
Mill	dry concentrator mill	$400,000
Roads		

REMARKS All Government's share of costs repaid.

Dredge repaired January 24. To March 11, work was then resumed but had to be curtailed because the product had no market. Mill is still running on stock-piled dredge concentrates.

Prepared by [signature] Date 5/7/58

31398

DMEA EXPLORATION PROJECT

MAY 1 1958

5/1	C	220
12	Com	100
"	FEJ	110
5/15	EEP	800
		700

Semi-Annual Report of Certified project

Reporting Period: July 1, 1957 to January 1, 1958.

DMEA-2576, Idm-E392(monazite, columbium - rutile)

Operator: Marine Minerals Division of Heavy Mineral Company, Assignee of Callahan Zin-Lead Company.

Mine Name: Horse Creek Placer, Aiken County, South Carolina

The writer visited the subject project April 23 and 24, 1958 and conferred with H. C. Laird, General Manager, Mining Division, Heavy Minerals Company, and Paul M. Tyler, Consultant for Crane Company.

Many changes have occurred in the organization since the last semi-annual report. Mr. Laird has taken over the duties of Robert Griffith who was on a consulting job in South America for Vitro Corporation of America. Mr. Tyler said he heard that Bob will be working for the U. S. Bureau of Mines, after May 1 in the office of Mr. Merrill in Washington. A large reduction in the operating force was made last fall in order to cut expenses as the operation was not paying for itself and now the only operation that is going on is the mill where they are running some material that was on the stock pile. The dredge has not operated since March 29, and is now in moth balls. Mr. Laird said that by the last of May the entire operation will be stopped and I will see no one but a watchman at the gate when I make my next visit.

In order to cut operating costs the dredge was shut down on January 24 and new 6 cubic yard buckets were installed replacing the old 5 yard ones. Operation was resumed March 11, but had to be curtailed because they had no sale for their product.

Cramet Incorporated ceased operating their titanium sponge plant at Chattanooga and turned their $26,000,000 plant back to G.S.A. who have it up for sale. They did, however, fulfil their contract of delivering 6,000 tons of titanium sponge to the Government. Cramet received the total rutile production of Marine Minerals. Since they have closed down there is no market for this product.

Union Carbide and Carbon Company of Niagara Falls, New York who bought the ilmenite have ceased purchasing this product and Norton Company have a large stockpile of zircon on hand at their

Norton Alabama plant so they have no sale for this.

Mr. Laird said they would not know until the latter part of May whether they wanted the contract on Docket No. DMEA-4799. He asked whether they could use this contract and explore in another area further up the river. He was told that in order to do this, a new application would be required. The reason for his asking was that when they applied, they had a large low grade area in their application and now they would like to explore a known higher grade area which they have leased.

When in the region the writer called at the office and laboratory of Strategic Minerals Corporation (DMEA-4811) in Aiken, South Carolina. The place was locked and upon inquiry of a lady who lived across the street it was found no one had been there for two weeks. She stated she understood they had to give up the project because there was no sale for their product.

Mr. Laird was hesitant about giving the writer the production figures for this period, but upon being told they would be held in confidence he gave them. The production of sand and gravel will continue by Perry Minerals Company, Inc., after Heavy Minerals Company ceases operation.

The Government's participation in the contract was paid up in full in the amount of $40, 677 on May 1, 1957.

Below are the statistics on the project:

Original Estimate of Reserves (from Final Engr.-Geol. Report)

18,330,000 cu. yds. of dredgeable material having a heavy mineral content as follows:

Monazite	- 1.56	lbs.	cubic	yards	=	14,300 tons
Rutile	- 2.60	"	"	"	=	23,834 "
Zircon	- 4.42	"	"	"	=	40,518 "
Ilmenite	- 6.63	"	"	"	=	60,777 "

Saleable Gravel (+4-mesh) 139.90 lbs. per cu. yd = 1,282,463

	Type	Tons	Value
Sales DMEA Ore (this period)	Rutile	636.07	$120,817.20
	Zircon	1,135.33	51,336.10
	Ilmenite	486.95	9,248.25
	Monazite	802.63	224,737.40
	Staurolite	637.10	4,666.03
	Sand	27,461.40)	
	Gravel	32,439.70)	61,803.05
	Total	63,599.18	$472,608.03
Sales DMEA Ore(Previous)	Rutile	2,154.12	$455,511.45
	Zircon	2,523.01	106,945.65
	Ilmenite	2,668.38	51,123.37
	Monazite	1,183.96	332,586.00
	Staurolite	246.60	5,422.00
	Sand	32,220.69)	
	Gravel	41,986.62)	78,165.49
	Total	82,983.38	$1,029,753.96
Sales DMEA Ore (to date)	Rutile	2,790.19	576,328.65
	Zircon	3,658.34	158,281.75
	Ilmenite	3,155.33	60,371.62
	Monazite	1,986.59	557,323.40
	Staurolite	883.70	10,088.03
	Sand	59,682.09)	
	Gravel	74,426.32)	139,968.54
	Total	146,582.56	$1,502,361.99

Percent of Reserves sold:

Rutile-------11.71%
Zircon------- 9.03%
Ilmenite------- 5.19%
Monazite------ 13.89%

April 29, 1958

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines (DMEA)

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DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~Rare & Misc. Metals~~ Division Date August 26, 1957

Semi-Annual Report - Certified Project Date ~~1-1/7-1-57~~

DMEA No. 2576 Operator ~~Div. of Heavy Minerals~~ Marine Minerals Co. Contract No. Idm-E 392

Ore Reserves	Tons original *	Tons Mined to date	% mined to date
Rutile	23,834	2154	9.04
Zircon	40,518	2523	6.23
Ilmenite	60,777	2668	4.39
Monazite	14,300	1183	8.28
Staurolite		246	
Sand		32,220	
Gravel	1,282,463	41,986	3.78
Total	1,421,893*	82,980	5.8%

Ore Estimates	Analysis
Original (DMEA)	18,330,000 cu. yds
Increase (Operator)	
Total	18,330,000 cu. yds
Decrease (Production)	1,063,140 " "
Net Available	17,266,860 " " 1,338,912* Tons.

Investment

Shafts			Winzes			Drifts & Crosscuts		
Size	Feet	Cost	Size	Feet	Cost	Size	Feet	Cost

Raises			Drilling			Rehabilitation	
Size	Feet	Cost	Type & Size	Feet	Cost	Description	Cost

Facilities

Mine Plant		Mill		Roads	
Description	Cost	Description	Cost	Description	Cost
Dredge	$800,000.00	Dry	$400,000.00		

Remarks

* Based on a recoverable factor of 80%

On May 15, 1957, the Administrator advised the Operator that the Government retains no claim or lien against the property, since the Government's share of the exploration costs had been repaid.

[illegible]

100338

ACTION ON INTERIM
OR FINAL FIELD TEAM REPORT

Date 8/26

Referred to:

1. ~~Mr. Wittenbach~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. Docket Control Mails and Files
5. _____ Division
6. Docket Control Mails and Files

Note comments in report regarding:

1. Good production

2.

3.

4.

and take appropriate action.

- - - - - - - -

Action taken by Division:

Robert L. Adams

DMEA EXPLORATION PROJECTS
SEMI-ANNUAL REPORT OF CERTIFIED PROJECT

Reporting Period: 1-1-57 to 7-1-57. Date of Examination: 8-7-57

Operator: Marine Minerals Division of Heavy Minerals Co., Assignee
(Callahan Zinc Lead Co., Inc. Original Operator)

Mine Name: Horse Creek Placer. County: Aiken. State: South Carolina

DMEA-2576. Contract: Idm-E392. Commodity: Monazite-Columbium-Rutile

Date of Contract: August 27, 1952. Date of Certification: Sept. 30, 1953

Expiration Date of Royalty Payments: August 27, 1962.

Total Amount of Contract: $57,593.00. Total Expenditures under Contract: $48,996.57

Amount of Gov't Participation at: 83% - $40,667.15

Royalty Payments this Period: $13,165.54. Previous Payments: $27,501.61

Total Royalty Paid to Date: $40,667.15. Percent Gov't Participation Repaid: 100%

Royalty Due: None

Royalty Remarks: Operator paid the Government's participation in full with last payment on May 1, 1957.

Original Estimate of Reserves (from final Engr. & Geol. Report):

18,330,000 cu.yds. of dredgeable material having a heavy mineral content as follows:

Monazite	1.56	lbs.	per	cubic	yard	-	14,300 tons
Rutile	2.60	"	"	"	"		23,834 "
Zircon	4.42	"	"	"	"		40,518 "
Ilmenite	6.63	"	"	"	"		60,777 "
Sale gravel (+4 mesh)	139.90	"	"	"	"		1,282,463 "

Production DMEA Ore (T his period)

Type	Tons	≠	Value
Rutile	780.63	190.20	$148,474.70
Zircon	975.11	48.05	46,851.20
Ilmenite	1,566.33	19.16	30,010.27
Monazite	644.00	281.55	181,320.00
Staurolite	245.60	22.00	5,397.00
Sand	17,950.30		
Gravel 40 936	22,985.82	1.03	43,237.55
	45,147.79		$455,290.72

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RECEIVED AUG 26 1957

DATE	INITIALS	CODE
8/26	CBM	100

Production DMEA Ore (Previous)

Type	Tons	Value
Rutile	1,373.49	$307,036.75
Zircon	1,547.90	60,094.45
Ilmenite	1,102.05	21,113.10
Monazite	539.96	151,266.00
Staurolite	1.00	25.00
Sand	14,270.39	34,927.94
Gravel	19,000.80	--------
	37,835.59	$574,463.24

Production DMEA Ore (todate)

Rutile	2,154.12	$455,511.45
Zircon	2,523.01	106,945.65
Ilmenite	2,668.38	51,123.37
Monazite	1,183.96	332,586.00
Staurolite	246.60	5,422.00
Sand	32,220.69	78,165.49
Gravel	41,986.62	
	82,983.38	$1,029,753.96

Percent of Reserves Mined:

Rutile -----9.04 %
Zircon -----6.23 %
Ilmenite----4.39 %
Monazite----8.28 %

REMARKS: T he writer visited the subject project August 7, 1957 and conferred with H. C. Laird, General Manager, Mining Div. Heavy Mineral Co., Robert Griffith, Mgr. Marine Minerals Div. of Heavy Minerals Co, and L.W. Taylor, Jr. Office Mgr. Marine Minerals Division.

Mr. Laird told the writer they are not going to begin operations on their deposit near Panama City, Florida at the present time. T hey are, however, looking forward to receiving a DMEA contract on their application for aid on properties in Aiken and Orangeburg Counties, South Carolina. He stated that they were then in the process of getting the additional information requested by the DMEA Washington office.

Production on the Horse Creek property is continueing. As of July 1, 1957 more than a million dollars worth of minerals have been produced from this deposit. Mr. Taylor was given permission by Mr. Griffith to supply the writer with monthly summaries of production. He requested that this information be held in confidence and that it not be publicized.

W A Beck

Wm. A. Beck, Mining Engineer
Bureau of Mines

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Rare and Miscellaneous Metals Division — Date March 12, 1957

Semi-Annual Report - Certified Project — Date 7/1/56 to 1/1/57

DMEA No. 2576 — Operator Marine Minerals Div. (Assignee Callahan Zinc-Lead Co.) — Contract No. Idm-E 392

Ore Estimates	Ore Reserves Tons	Analysis	Original Tons	Mined to date	%
Original (DMEA)	18,330,000 Cy yds	Monazite	14300	539.95	3.78
Increase (Operator)		Rutile	23834	1373.47	5.76
Total		Zircon	40518	1547.80	3.82
Decrease (Production)		Ilmenite	60777	1102.95	1.81
Net Available		Gravel	1,282463	37,965.15	29.6

Investment

Shafts			Winzes			Drifts & Crosscuts		
Size	Feet	Cost	Size	Feet	Cost	Size	Feet	Cost

Raises			Drilling			Rehabilitation	
Size	Feet	Cost	Type & Size	Feet	Cost	Description	Cost

Facilities

Mine Plant		Mill		Roads	
Description	Cost	Description	Cost	Description	Cost
Dredge	$800,000	Dry	$400,000		

Remarks

Value of production to date $574,463.24
Operator Expects to complete payment of Government's royalty within two months.

100338

ACTION ON INTERIM
OR FINAL FIELD EXAMINER'S REPORT
Date 3/12

Referred to:

1. ~~Mr. Brombacher~~
2. ~~Mr. Johnson~~
3. ~~Mr. Sherbers~~
4. ~~Docket Control Mails and Files~~
5. ~~Chief of Staff on Division:~~
6. Docket Control Mails and Files

Note comments in report regarding:

1. Going along OK.!
2. Negative proof required by Div.
3.
4.

and take appropriate action.

- - - - - - - -

Action taken by Division

Reserve summary completed. EWE

Robert E. Adams

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 11 1957

DATE	INITIALS	CODE
3/12	C	220
		100

DMEA EXPLORATION PROJECT

SEMI-ANNUAL REPORT OF CERTIFIED PROJECT

DMEA-2576, Idm-E392-

Reporting Period: 7/1/56 to 1/1/57 Date of Exam. 3/1/57

Operator: Marine Minerals Division of Heavy Minerals Co., Assignee of Callahan Zinc Lead Co., Inc.

County: Aiken State: South Carolina

Docket No. DMEA-2576 Contract: Idm-E392 Commodity: Monozite-Columbium Rutile

Date of Contract: August 27, 1952. Date of Certification: Sept. 30, 53

Expiration Date of Royalty Payments: August 27, 1962

Total Amount of Contract: $57,593.00

Total Expenditures under Contract: $48,996.57

Amount of Government Participation; at 83% $40,667.15

Royalty Payments this Period: $23,012.21

Previous Royalty Payments: $4,489.40 ; Royalty Paid to Date: $27,501.61

Percent Govern. Participation Repaid: 67.63

Royalty Due on Production to Date: None

Royalty Remarks: Royalty payments are made monthly. Above figures include royalty payments on all sales made up to January 1, 1957.

Original Estimates of Reserves (from Engr. & Geol. final Report)

18,330,000 cu. yds. of dredgeable material having a heavy mineral content as follows:

Monazite	17d	1.56 lbs./cu.yd	=	14,300 tons	10%
Rutile	6d	2.60 " " "	=	23,834 "	17%
Zircon	2d	4.42 " " "	=	40,518 "	29%
Ilmenite	1d	6.63 " " "	=	60,777 "	44%
Saleable gravel (+4 mesh)		139.90 " " "	=	1,282,463 "	

139.429

Total DMEA Production to Date:

Type	Tons		Value		
Rutile	1,373.47	30%	$307,036.75	1	$223/ton
Zircon	1,547.90	34	60,094.45	3	$39
Ilmenite	1,102.05	24	21,113.10		$19
Monazite	539.95	12	151,186.00	2	$280
Mineral Sand	.01	4564/21925	80.00	539.429	
Staurolite	1.00		25.00		
Sand and gravel	-----		34,927.94		
			$574,463.24		

539.429

Percent of Reserves Mined:

6 months 10% year

Rutile-------5.76%
Zircon------ 3.82%
Ilmenitee-- 1.81%
Monazite---- 3.78%

This project was visited by the writer March 1,1957. Mr. H. C. Laird, General Manager, Mining Division, Heavy Minerals Company and Robert F. Griffith of Marine Minerals Division of Heavy Minerals Company were interviewed. Mr Griffith has recently been made manager of the Horse Creek operations vice Owen H. Perry the former manager and Mr. Laird manages the entire mining division of the company. They have another deposit near Panama City, Florida which will be in production soon. Their heavies from this deposit will be shipped to the Horse Creek plant for separation.

Staurolite is also being recovered from the South Carolina sands. They believe that Continental Mineral Processing Company of Cincinnati, Ohio will purchase some of it for use as an abrasive in sand blasting, while some will be sold for use in the manufacture of cement.

Production has been such that they expect to complete payment of the Government's royalty in about two months.

Wm. A. Beck

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines (DMEA)

Visited: March 1, 1957

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Rare & Misc. Metals Division Date 8-20-56

Semi-Annual Report - Certified Project Date Jan. 1 to July 1, 1956

DMEA No. 2576 Operator Callahan Zinc-Lead Co. Inc. Contract No. Idm-E 392

Ore Reserves Includes 1,282,463 Tons saleable gravel

Ore Estimates	Cubic yards	Tons	Analysis		T for Tons
			Monazite	1.56	14,500
			Rutile	2.60	23,834
Original (DMEA)		18,333,000	Zircon	4.42	40,578
Increase (Operator) None			Ilmenite	6.63	60,777
Total					
Decrease (Production)					
Net Available					

Investment

Shafts			Winzes			Drifts & Crosscuts		
Size	Feet	Cost	Size	Feet	Cost	Size	Feet	Cost

Raises			Drilling			Rehabilitation	
Size	Feet	Cost	Type & Size	Feet	Cost	Description	Cost

Facilities

Mine Plant		Mill		Roads	
Description	Cost	Description	Cost	Description	Cost
Dredge	$800,000.00	Dry	$100,000.00		

Remarks

Washing plant for sand and gravel at cost of $150,000 to $200,000.00 completed. First sand and gravel will be shipped July. Royalty payments on all production are being paid regularly.

Tom Wrapp

100338

ACTION ON INFORM
OR FINAL FIELD TEAM REPORT

2576

Date 8-20

Referred to:

1. ~~Mr. Hildebrant~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. ~~Docket Control Mails and Files~~
5. ~~Asst. Supt. Water Division~~
6. Docket Control Mails and Files

~~Jones~~

Note comments in report regarding:

1. Contains interesting data.
2. More investment data for gravel plant
3.
4.

and take appropriate action.

- - - - - - - - - - - -

Action taken by Division:

Ore reserve statement prepared

Robert E. Adams

SEMI-ANNUAL REPORT OF
CERTIFIED PROJECT

Reporting Period: 1-1-56 to 7-1-56 Date of Examination: 8-8-56

Operator: Callahan Zinc-Lead Co., Inc., Marine Minerals, Inc. Assignee

Mine Name: Horse Creek Placer

County & State: Aiken County, South Carolina

Docket No. & Commodity: DMEA-2576, Monazite-Columbium-Rutile

Contract No. Idm-E392

Date of Contract: August 27, 1952

Date of Certification: September 30, 1953

Expiration Date of Royalty Payments: August 27, 1962

Total Amount of Contract: $57,593.00

Total Expenditures under Contract: $48,996.57

Amount of Gov. Participation:- at 83% = $40,667.15

Royalty Payments this Period: $4,489.40

Previous Royalty Payments: None

Total Royalty Payments to Date: $4,489.40

Percent Gov. participation Repaid: 11.04%

Royalty Due on Production to Date: $2,552.10

Royalty Remarks: Operator is paying royalties monthly. Payment on sales made in June is not included in the above.

able
18,333 cu.yds of dredge/material
having a heavy mineral content as follows:

Original Estimate of Reserves (from final Engr-Geol. Report:):	Monazite------	1.56	lbs/cu.yd.		14,300 T
	Rutile-------	2.60	" " "		23,834 T
	Zircon-------	4.42	" " "		40,518 T
	Ilmenite	6.63	" " "		60,777 T
	Salable gravel (#4 mesh)----	139.9	" " "		1,282,463 T

Increase (or Decrease) of Reserves by work performed subsequent to original and last Field Team Esti,: None

Revised Estimates of Reserves: same as above

Total DMEA Production to Date: July 1, 1956--Rutile - 585 tons
Zircon 540 "
Ilmenite 750 "
Monazite 445 "

Percent of Revised Reserves Mined: Rutile--2.45%
Zircon--1.33%
Ilmenite 1.23%
Monazite 3.11%

Mr. Griffith stated ~~that~~ all except 242 tons of the above ilmenite will have to be reprocessed. Approximately 5000 tons of heavy mineral is on hand ready to go through the separation plant.

Other Remarks: This project was visited by the writer and Mr. C. E. Fisher, DMEA Auditor, August 1, 1956. Robert F. Griffith, Supt., and Lewis W. Taylor, Jr. Office Mgr. were interviewed. A. B. Perry, Supt. at the Perry Minerals Co., who are recovering the gravel was also contacted.

A washing plant for washing and sizing the sand and gravel is in operation and the first shipments have been made this month (July). Mr. Perry estimated the cost of the gravel plant would be between $150,000 to $200,000. Sand and three sizes of gravel are being produced the largest being 3/4 inch. The Government's royalty on production will be paid by Marine Minerals Inc., monthly when they make payments on their other sales. The first payment will be in June as only a small quantity was sold in July. The sand and gravel will be sold for $1.40 to $2.00 per ton depending on the quality.

Mr. Griffith stated that when they first started operation, they were worried about finding a market for their zircon. They now have sales for all they can produce.

American Cyanamid at Piney River, Virginia was going to purchase the ilmenite but after trying two cars, they found they could not use it, because it gave them trouble in their sulphuric acid digest.

It is expected that Union Carbide of Niagara Falls, N.Y. will be able to use the ilmenite. Two cars have been shipped to them for testing purposes. They will convert it to a slag.

Cramet at Chattanooga is taking all the rutile produced.

Heavy Minerals Company will purchase all the monazite. It is expected that 3 cars (150-160 tons) will be shipped to them in August. The stock in this Company is owned 40% by Crane, 40% by Vitro and 20% by S.T.R. a French concern, who own the patents on the separation process

August 17, 1956

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Rare & Miscellaneous Metals Division Date June 6, 1956

Semi-Annual Report - Certified Project Estimate to Date Jan. 1, 1956

DMEA No. 2576 Operator Callahan Lead-Zinc Co. Contract No. Idm-E

New " Marine Minerals, Inc.

Ore Reserves - Includes (1,282,463 tons of saleable gravel

Ore Estimates	cubic yards ~~tons~~	Analysis - lbs./cu.yd.	
Original (DMEA)	18,333,000	(Monazite	1.56
Increase (Operator)		(Rutile	2.60
Total		(Zircon	4.42
		(Ilmenite	6.63
Decrease (Production) Estimate	2,304,000		
Net Available estimate	16,029,000 cu.yds. as of Jan. 1, 1956		

Investment

Shafts

Size	Feet	Cost

Winzes

Size	Feet	Cost

Drifts & Crosscuts

Size	Feet	Cost

Raises

Size	Feet	Cost

Drilling

Type & Size	Feet	Cost

Rehabilitation

Description	Cost

Facilities

Mine Plant

Description	Cost
Dredge	$800,000.00

Mill

Description	Cost
Dry	$400,000.00

Roads

Description	Cost

Remarks

The mill contains a kiln, Wilfley tables, Dryer, high tension and magnetic separators.

The dredge is digging from 4,700 to 6000 cubic yards of material daily. Concentrates were stockpiled pending completion of Mill. Royalty payments on production are expected to start about June 1956.

2576

ACTION ON INTER[illegible]

[illegible]

Date 3-9

Referred to:

1. ~~Mr. Mitchell~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chambers~~
4. ~~Docket Control Mails and Files~~
5. ~~[illegible]~~
6. Docket Control Mails and Files

Abandoned

Note comments in report regarding:

1. Investment data
   Ore Reserve "
2.
3.
4.

and take appropriate action.

- - - - - -

Action taken by Division:

ROBERT E. ADAMS

Initials

SEMI-ANNUAL REPORT OF CERTIFIED PROJECT

Reporting Period: July 1, 1955 - January 31, 1955. Date of Exam: 2/11/56

Operator: Callahan Zinc-Lead Company, Inc., Marine Minerals, Inc. Assignee.

Mine Name: Horse Creek Placer

County and Stage: Aiken County, South Carolina

Docket No. and Commodity: DMEA-2576, Monazite-Columbium-Rutile

Contract Number: Idm-E392

Date of Contract: August 27, 1952

Date of Certification: September 30, 1953

Expiration Date of Royalty Payments: August 27, 1962

Total Amount of Contract: $57,593.00

Total Expenditures under Contract: $48,996.57

Amount of Government Participation @ 83% $40,667.15

Royalty Payment this Period: None

Previous Royalty Payments: None

Total Royalty Payments to date: None

Percent Government Participation Repaid: 0.00%

Royalty Due on Production to Date: Not determined

Royalty Remarks: One car of 54 tons of rutile has been shipped to Carmet at Chattanooga, Tennessee. No returns have been received on this shipment to date. The analysis of the rutile in this shipment was about 95% TiO_2.

Mr. Owen Perry stated that he contemplated asking the Crane Company to pay the Government its royalty in full. He stated that this would eliminate a lot of bookkeeping for all concerned.

Original Estimate of Reserves (from final Engr-Geol. Report):

18,333,000 cubic yards of dredgeable material having a heavy mineral content as follows:

Monazite	1.56	lbs per	cubic	yard	=	14,300 tons
Rutile	2.60	"	"	"	=	23,834 tons
Zircon	4.42	"	"	"	=	40,518 tons
Illmenite	6.63	"	"	"	=	60,777 tons
Saleable Gravel (+ 4 mesh)	139.9	"	"	"	=	1282,463 tons

There has been no increase or decrease of Reserves since last Field Team estimates. The recovery of heavy mineral has been surprisingly close to the estimates made from the original exploration.

Production this Period: Since the start of operation about June 1, 1955, 768,000 cubic yards of sand has been dug, from which 7,133 tons of heavy mineral have been recovered. Final separation of the various minerals has not been made in all of this material.

Percent of Reserves Mined: 4.19%

Production Remarks: The dredge is dredging from 4,700 to 6,000 cubic yards to material daily. The heavy minerals are separated on the dredge and pumped to stockpile near the Dry Mill. After the minerals are separated in the Dry Mill the monazite and zircon will be bagged for shipment, while the rutile and illmenite will be placed in bins for bulk shipment.

Other Remarks:

The bucket dredge with all its equipment (jigs, etc.) for making the heavy mineral separation is estimated to cost approximately $800,000.

The Dry Mill in which the various minerals are separated from the mineral concentrates contains a kiln, Wilfley Tables, Dryer, high tension separators and magnetic separators. This mill cost approximately $400,000 to construct.

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines

2876

ACTION ON INTERIM OR FINAL FIELD TEAM REPORT

don't detail

Date 12-23

Referred to:

1. ~~Mr. Mitchell~~
2. ~~Mr. Johnson~~
3. ~~Mr. Chandler~~
4. ~~Docket Control Mails and Files~~
5. ~~Mr. Mitchell~~ ~~Division~~
6. Docket Control Mails and Files

Note comments in report regarding:

1. This inspection made before I talked with Laurence (Dec 12) I sent him copy of form developed by Reg III. We discussed this case specifically.

2. Do you consider report adequate?

and take appropriate action.

Action taken by Division:

1) No, not adequate - will withhold action pending next report which should tell us the story more fully.

ROBERT E. ADAMS

Initials

RECEIVED
DEC 23 1955

Mrs Ault

REPORT OF INSPECTION OF CERTIFIED PROJECT

DMEA-2576, Idm-E392, HORSE CREEK DEPOSIT
(Monazite, columbium, rutile)
Aiken County, South Carolina

Now owned and operated by Marine Minerals, Inc., a subsidiary of Crane Company. P.O. Box 928, Aiken, S. C.
Telephone: Bath S. C. - 2593

The above operation was visited December 6, 1955. The writer met Mr. Owen Perry, Vice President & General Manager, Mr. Robert F. Griffith, Superintendent and John Munsinrider, Chief Engineer.

After many delays the bugs are about to be ironed out of this operation, and the entire operation should be in full swing within a short time. In fact it was stated that it would be only a matter of days until the dryer and separators would be in full operation.

The million dollar bucket dredge has been in operation for some time and the heavy minerals were stockpiled while the dryer and separator were being constructed and regulated.

The dredge has not been up to its 6,000 cu. yd. per day capacity as yet but it has been dredging and concentrating as much as 5,000 cu. yds. per day.

Mr. Griffith stated their recovery of heavy mineral has been surprising close to the estimates made ffom the exploration. They have a sale for their illmenite to the American Cyaninid Company, at Piney River, Virginia, quantities' their rutile to Cramet at Chattanooga, Tennessee while they are not sure where they will sell their monazite and zircon.

They are aware of their royalty obligation to the Government.

Wm. A. Beck, Mining Engineer
Bureau of Mines

REPORT OF INSPECTION OF CERTIFIED PROJECT

DMEA-2576, Idm-E392
(Monazite-Columbium-Rutile)

HORSE CREEK DEPOSIT, Aiken County, S. C.

Contractor: Callahan Zinc-Lead Co. Inc., 100 Park Ave., New York 17, N.Y.

Now owned and operated by Marine Minerals, Inc., a subsidiary of Crane Company. Address- P.O. Box 928, Aiken, South Carolina. Telephone: Bath, South Carolina - 2593.

The writer called at the subject property on April 26 and contacted Mr. Robert F. Griffith, Supt. The million dollar bucket dredge operated off and on during the past month, but is presently down for alterations. It should be operating again in about a week. In digging in the deposit a layer of clay was found and upon being discarded from the dredge it was found that the stacker, which was only 20 feet long, was too short. This caused the material to pile up behind the dredge and prevented it from making a full swing. A stacker 100 feet long will be installed. This should eliminate their trouble.

A dryer and separating building is now being built and should be in operation by July. In the mean time the concentrates will be stockpiled.

The Company will make the separation of all the minerals except ilmenite and rutile and ship them to the Crane Company at Chattanooga, Tennessee. Shipments are expected to start in August.

The operation and sale of the gravel is owned by Mr. Owen Perry, Manager of Marine Minerals, Inc., Mr. Perry was out of town at the time of this visit.

Please note that the site of the dredge was given in the December 6, 1954 interim report as Sweetwater, South Carolina instead of Clearwater, S. C.

Visited: April 26, 1955.

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines

z

RECEIVED

REPORT OF INSPECTION OF CERTFIED PROJECT

DMEA-2576, Idn-E 392(Monazite-columbium-rutile)

HORSE CREEK DEPOSIT, Akin County, S. C.

Operator: Callahan Zinc-Lead Co.Inc., (An Arizona Corp) 100 Park Avenue, New York 17, N. Y.

The writer called at the subject property on December 6. Marine Minerals, Inc., a subsidiary of Crane Co., are proceding with their plans to recover the heavy minerals from this deposit. Mr. Owen Perry, Manager of the operation stated that he believed they would be in production by the middle of January. A huge gold dredge which was shipped from Montana is being assembled. A good size office and laboratory building has been constructed, also a building for a shop. These are near ~~Sweetwater~~ Clear, South Carolina where the dredging operation will start.

December 6, 1954.

W. A. Beck

Wm. A. Beck, Supervising Mining Engineer
U. S. Bureau of Mines

z

REPORT OF INSPECTION OF CERTIFIED PROJECT

DMEA-2576, Idm-E 392
(Monazite-Columbium -Rutile)

Callahan Zinc-Lead Company, Inc. (An Arizona Corporation)
100 Park Avenue, New York 17, N.Y.

HORSE CREEK DEPOSIT, Aiken County, South Carolina

The writer called at the subject property on June 23, 1954. The Operator has assigned their leases to Marine Minerals, Inc. a subsidiary of Crane Company. The Company is preparing to start operations on the property. Owen Perry, one of the participants in the DMEA contract will be manager of the operations; Robert F. Griffith, a Commodity-Industry Analyst in the Rare and Precious Metals Branch of the Bureau of Mines, in Washington, will be Superintendent, and John Munzenrider, Mining Engineer with the Operator during the e xploration will act in the same capacity with Marine Minerals, Inc.

No equipment other than that used during exploration is on the property as yet. Mr. Munzinrider told the writer that they will start disassembling the dredge at Helena, Montana the week of June 27th. This will take about six weeks and will necessitate the use of forty or fifty railroad cars to bring it to the project. Dredging will start on the Charles M. Hammond property which is located on the extreme western end of the project area. Operations will move eastward on the northern side of the railroad which runs through the project. The dredge will then be disassembled and moved to the Southern side of the railroad. Operations should start by fall.

The Company has opened temporary offices in the Ram Building in Aiken, South Carolina. Later on a permanent office and laboratory building will be erected on the project site.

June 23, 1954.

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines, Region VII

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
KNOXVILLE, TENNESSEE
~~WASHINGTON 25, D. C.~~

SEMI-ANNUAL REPORT OF CERTIFIED PROJECT

Period: July 1, 1953 to December 31, 1953

Docket No.: DMEA-2576 Contract No. Idm-E392

Commodity: Monazite-Columbium-Rutile

Operators Name: Callahan Zinc-Lead Company

Address: 100 Park Ave., New York, N.Y.

Name of Mine: Horse Creek Prospect

County: Aiken State: South Carolina

Date Certified: September 30, 1953

Contract Amount: $57,593.00 Amount Spent: $48,396.57

Government's Participation: 83% or $40,169.15 (or August 27, 1962)

Remarks: No production has been made from this deposit to date.

Report Prepared by: Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines

February 1, 1954.

zm

REPORT OF INSPECTION OF CERTIFIED PROJECT

DMEA-2576, Idm-E 392 (Monazite-
Columbium-Rutile).
Callahan Zinc-Lead Company, Inc. (An Arizona Corporation)
100 Park Avenue, New York 17, N. Y.

HORSE CREEK DEPOSIT, Aiken County, South Carolina

The writer called at the subject property on January 12, 1954. No work has been started on the property to date.

Upon calling at the Henderson Hotel where Mr. Owen Perry stays when he is in Aiken, the clerk stated that they are holding some mail for him so he may be down there shortly.

January 12, 1954.

Wm. A. Beck, Mining Engineer
U. S. Bureau of Mines, Region VII

z

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO. 14-23-070-100

For credit of 1428 Br. Trsy. [redacted]gional Office, Oak Ridge, Tenn [redacted]5/7/57
(Name, title, and disbursing [redacted]er identification symbol of accountable officer) (Date sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 3,535.78

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals (Royalty Payment)	3,535.78

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Dept. of Interior, Bureau of Mines
Helen R. Miller, Adm.Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.

May 20, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 22 1957

DATE	INITIALS	CODE
5/23	JWS	220
"	[illegible]	700

Memorandum

To: Finance Officer, Region V - (DMEA)

From: Acting Executive Officer, DMEA - Region V

Subject: DMEA-2576, Idm-E392 (Monazite-Columbium-Rutile)
Horse Creek Placer, Project - Aiken , S, C,
Marine Minerals, Assignee

Attached please find invoices covering the sales of minerals for the month of April 1957. A check for these sales were mailed your office May 6.

V. J. Lynch

zm.
cc
Mittendorf
Lynch
Files

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
151

SOLD TO: CONTENINTAL MINERALS PROCESSING CORP.
P. O. Box 8
Cincinnati (Sharonville) Ohio

SHIP TO: Contenintal Minerals Processing Corp.
Mosteller Rd. & Penn R.R.
Cincinnati (Sharonville) Ohio

DATE April 3, 1957

YOUR P. O. No.

SHIP VIA: SOU - PENN R R DEL.
Car # 18075
TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
XXXX 50 tons	Staurolite	$25/ton 125	$1,250.00
	I certify that this is a true copy of this invoice.	2000 | 25,000 20 00 5000 1¼ ¢/lb	

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

152

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Ashtabula, Ohio

DATE April 4, 1957

YOUR P. O. No.

SHIP VIA:
car # 60849

TERMS

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
70.66 tons	Ilmenite Concentrates	$19/ton	$1,342.54

I certify that this is a true copy of this invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

153

SOLD TO: Continental Minerals Proc. Corp.
P. O. Box 8
Cincinnati (Sharonville) Ohio

SHIP TO:
Elberton, Ga.

DATE April 8, 1957

YOUR P. O. No. Letter

SHIP VIA: Pilot Freight Carriers

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
2.6 tons	Staurolite	$25/ton	$65.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

155

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Ashtabula, Ohio

DATE April 11, 1957

YOUR P. O. No.

SHIP VIA: SOU-B&O-NYC

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
68.15 tons	Ilmenite concentrate	$19/ton	$1,294.85
	I certify that this is a true copy of this invoice.		

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

156

SOLD TO: Berkshire Chemicals Inc.
420 Lexington Avenue
New York 17, N. Y.

SHIP TO: Specialty Mfg. Co.
Charles St. Team Track
Minnesota Transfer, Minn.

DATE April 19, 1957

YOUR P. O. No. B7276

SHIP VIA SOU/St. Louis - CB&Q-
Minnesota Transfer RR Del

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon Sand	$50/ton	$2,500.00
	I certify that this is a ture copy of this invoice.		

Lewis W Taylor Jr

2½¢/lb

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
157

SOLD TO: Heavy Mineral Co.
4000 North Hawthrone St.
Chattanooga, Tenn.

SHIP TO:
Heavy Mineral Co.
Boyce, Tenn.

DATE April 23, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CONTP

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite	$280/ton	$14,000.00
	I certify that this is a ture copy of this invoice.		

2000) 280.00 14¢/lb
2000
8000

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

158

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Ashtabula, Ohio

DATE April 23, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU - B&O - NYC

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
68.9 tons	Ilmenite Concentrate	$19/ton	$1,309.10
	I certify that this is a true copy of this invoice.		

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

159

SOLD TO: CRAMET INC+
3800 North Hathorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

Shipment 29

DATE April 26, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR # Sou 319051

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
72.55 tons	Rutile	$190/ton	$13,784.50
	I certify that this is a ture copy of this invoice.		

Lewis W. Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

160

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton - Alabama

DATE April 27, 1957

YOUR P. O. No.

SHIP VIA: SOU - ATALNTA - NC&STL
CAR # 94896

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
72.25 tons	Zircon	$45/ton	$3,251.25
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

161

SOLD TO: Heavy Minerals Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE April 30, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR # 37092

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite	$280/ton	$14,000.00
	I certify that this is a true copy of this invoice.		

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

162

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Ashtabula, Ohio

DATE April 30, 1957

YOUR P. O. No.

SHIP VIA: SOU RR-B&O-NYC

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
64.75 tons	Ilmenite	$19/ton	$1,230.25

I certify that this is a true copy of this invoice.

Lewis W. Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE

163

SOLD TO: Cramet Inc.
3000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

DATE April 30, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA - CNOTP
CAR # 416010

TERMS NEt

Shipment 30

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
64.23 tons	Rutile	$190/ton	$12,203.70
	I certify that this is a true copy of this invoice.		

10.95
2000 | 190.00
18000
1000.0

Lewis W. Taylor

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM POST OFFICE BLDG.
KNOXVILLE 2, TENN.

May 6, 1957

RECEIVED MAY 8 1957 D.M.E.A.

Memorandum

To: Finance Officer, Region V (DMEA)

From: Executive Officer, DMEA - Region V- Knoxville, Tenn.

Subject: Royalty Payment - Idm-E392, DMEA-2576, Final Payment
Marine Minerals Company, Assignee
Aiken County, South Carolina

Transmitted is a check in the amount of $3535.78, final payment on the subject contract. Invoices for the ore sold did not accompany the check, but as per attached letter they have been requested.

Robert A. Laurence

zm.

cc
Mittenderf
Lynch
Files

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
ROOM POST OFFICE BLDG.
KNOXVILLE 2, TENN.

May 6, 1957

RECEIVED MAY 8 1957 DMEA

Marine Minerals
Division of Heavy Minerals Co.

P.O. Box 206
Clearwater, South Carolina

Re: DMEA-2576, Idm-E392
(Monazite-Columbium-rutile)
Horse Creek Placer
Aiken, S. C,

Attention: Mr. L. W. Taylor, Jr.

Thank you for your check in the amount of $3,535.78 covering the balance due on the subject contract.

Will you please send this office copies of the invoices of the shipments of ore covering the amount of the check as you have done heretofore?

Very truly yours,

Robert A. Laurence, Executive Officer
DMEA Field Team, Region V.

z
Mittendorf
Lynch
Files
Finance Office

Millendorf

MARINE MINERALS

DIVISION OF HEAVY MINERALS CO.

POST OFFICE BOX 206, CLEARWATER, SOUTH CAROLINA

RARE EARTH CHEMICALS · THORIUM · HEAVY MINERALS

Phone Bath, S. C. 2593

May 3, 1957

RECEIVED MAY 3 1957 D.M.E.A.

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V.
U. S. Department of the Interior
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DMEA-2576, idn E3-2
(monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No. 4163 dated May 1, 1957 for the amount of $3,535.78. According to our records this is the final payment for repayment of Government Participation by Production Royalty. If this is correct we would appreciate your confirming with a release from our D.M.E.A. contract.

Very truly yours,

MARINE MINERALS
DIV. OF HEAVY MINERALS CO.

L. W. Taylor, Jr.

L. W. Taylor, Jr.

LWT:lw
Enc.

RECEIVED
MAY 6 - 1957
U S
Geologic Division
Knoxville, Tenn.

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO.
14-23-070-90

For credit of 1428 Br. Trsy Regional Office, Oak Ridge, Tem 4/10-57
(Name, title, and disbursing or identification symbol of accountable officer) (Date sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 3,592.65

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E814 Thomas & Grindstaff (Royalty Payment)	33.98
	Idm-E392 Marine Minerals, Inc. (Royalty Payment)	3,558.67

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

APR 11 1957
(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—596S6b-1 GP

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

April 8, 1957

RECEIVED
APR 10 1957
D.M.E.A.

Memorandum

To: Finance Officer, Region V - DMEA

From: Executive Officer, DMEA - Region V

Subject: Royalty Payment, Idm-E392, DMEA-2576 (monazite, columbium-rutile), Marine Minerals, Inc., Horse Creek Placer, Aiken County, South Carolina.

Transmitted are invoices of sales from the subject DMEA project, and their check No. 4044, dated April 3, 1957, in the amount of $3,558.67 to be credited to the subject contract.

Robert A. Laurence

as
cc
Mittendorf
Lynch
Files

Mittindorf

MARINE MINERALS INC.

P. O. BOX 206
CLEARWATER, SOUTH CAROLINA
TELEPHONE BATH 2593

April 5, 1957

RECEIVED APR 10 1957 D.M.E.A.

Mr. Robert M. Laurence, Executive Officer
DMEA Field Team, Region V
U. S. Department of the Tinerior
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DMEA-2576, idn E392
(monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No. 4044 dated April 3, 1957 for the amount of $3,558.67 for repayment of Government Participation by Production royalty. This represents five percent on Marine Minerals invoices totaling $67,075.80 for March 1957, also, one and one-half percent payment on Perry Minerals Co., sales of sand and gravel for February totaling $7,053.12 and for March totaling $6,606.23.

Certified copies of invoices for March 1957 are enclosed.

Contract Price			$40,667.15
Payment thru February	$33,572.70		
March Payment	3,558.67		
Total Payments thru March		$37,131.37	
Balance Due			$3,535.78

Very truly yours,

MARINE MINERALS
DIV. OF HEAVY MINERALS CO.

L. W. Taylor, Jr.

L. W. Taylor, Jr.

RECEIVED
APR 8 - 1957
Knoxville, Tenn.

Mittendorf

PERRY MINERALS COMPANY, INC., P.O. Box 216, Clearwater, S. C.

April 3, 1957

RECEIVED APR 10 1957 D.M.E.A.

Marine Minerals
Box 206
Clearwater, South Carolina

Re: Sand & Gravel Sales
1st quarter, 1957

Gentlemen:

Sand and gravel sales for the first quarter of 1957 were as follows:

January:	Sand	1,184.55 tons	
	Gravel	2,367.75 tons	$ 4,041.24
February:	Sand	2,104.00 tons	
	Gravel	4,269.80 tons	$ 7,053.12
March:	Sand	1,958.75 tons	
	Gravel	3,680.30 tons	6,606.23
TOTAL - 1st Quarter			$ 17,700.59
Less average on 4th quarter report			15.75
Balance			$ 17,684.84

The above totals were deducted from our invoices and to the best of our knowledge are complete and correct.

Sincerely,

Alex. B. Perry

Perry Minerals Company, Inc.
Alex B. Perry

ABP:jsd

RECEIVED
APR 8 - 1957

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

138

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

RECEIVED APR 10 1957 D.M.E.A.

DATE March 7, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
67.3 tons	Rutile	~~$XXXXX~~ $190/ton	$12,787.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

139

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, New York

DATE March 5, 1957

YOUR P. O. No. Contract

SHIP VIA: Sou to Potomac Yd.
B&O - RRG - NYC

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
75.25 tons	Ilmenite Ore	019/ton	$1,429.75
	I certify that this is a true copy of this invoice.		
	Lewis W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

140

RECEIVED MAR 13 1957 D.M.E.A.

SOLD TO: Heavy Minerlas Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE March 11, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR # Soo Line 47596

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite	$280/ton	$14,000.00

I certify that this is a true copy of this invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
141

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE March 11, 1957

YOUR P. O. No. 295

SHIP VIA: SOU - ATLANTA - NC&ST

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
70.3 tons	Zircon	$45/ton	$3,163.50

I certify that this is a true copy of this invoice.

Lewis Taylor Jr.

TELEPHONE: BATH 2593-4

INVOICE

142

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

SOLD TO: Contenintal Minerals Processing Corpl
P. O. Box 8
Cincinnati (Sharonville) Ohio

SHIP TO: Contenintal Minerals Processing Corp.
Mosteller Rd. & Penn R. R.
Cincinnati, Ohio

RECEIVED APR 1957 D.M.E.A.

DATE March 11, 1957

YOUR P. O. No. Contract

SHIP VIA: Sou for PENN R.R. Del.

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
XX 50 tons	Staurolite	$25./ton	$1,250.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

143

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, N. Y.

DATE March 13, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU TO POTOMAC YD.
B&O - RDG - NYC

Car # 61092

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
66.4 tons	Ilmenite Ore	$19/ton	$1,261.60
	I certify that this is a true copy of this invoice.		

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

144

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

RECEIVED APR 6 1957 D.M.E.A.

DATE March 19, 1957

YOUR P. O. No. 295

SHIP VIA: SOU - ATLANTA - NC&STL
CAR #319051

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
65.7 tons	Zircon	$45/ton	$2,956.50

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

145

SOLD TO: Union Carbide & Carbon Co.
292 Madison Avenue
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, N. Y.

DATE March 19, 1957

YOUR P. O. No. Contract

SHIP VIA: Car # 60878
SOU - to POTOMAC YD.
B&O - RDG - NYC

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
70.45 tons	Ilmenite ore	$19/ton	$1,338.55
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

146

SOLD TO: Union Carbide & Carbon Co.
292 Madison Avenue
New York, New York

SHIP TO: Union Carbide & Carbon Co.
Ashtabula, Ohio

DATE March 28, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU RR - B&O - RDG - NYC
Car # ~~XXXXX~~ 60418

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
69.25 tons	Ilmenite concentrates	$19/ton	$1,315.75
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

147

SOLD TO: Crane Co.
4100 So. Kedzie Ave.
Chicago 32, Illinois

SHIP TO:
Same

DATE March 27, 1957

YOUR P. O. No. ED 06590

SHIP VIA: Hennis Freight Lines

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1,000 lbs.	Zircon	$0.10/lb.	$100.00

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

148

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO:
Cramet Inc.
Boyce, Tenn.

DATE March 29, 1957

YOUR P. O. No. SOU CHATTA CMOTP
car # 94055

SHIP VIA: NET

TERMS

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
63.7 tons	rutile	$190/ton	$ 12,103.00

I certify that this is a true copy of this invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

149

SOLD TO: Norton Company
Huntsville, Alabama

DATE March 30, 1957

YOUR P. O. No.

SHIP TO: Norton Company
Norton, Ala.

SHIP VIA: SOU ATLANTA - NC&STL
CAR #416010

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
67.79 tons	Zircon	$45/ton	$3,050.55

I certify that this is a ture copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

150

SOLD TO: Heavy Minerals Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO:

Heavy Minerals Co.
Boyce, Tenn.

DATE March 30, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR # N&STL 4780

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
44 tons	Monazite	$280/ton	$12,320.00
	I certify that this is a ture copy of this invoice.		

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO. 14-23-070-83

$ 4,006.25

For credit of 1428 Dr. Troy, [redacted]ional Office, Oak Ridge, Tenn. [redacted]18/57
(Name, title, and disbursing or other identification symbol of accountable officer) (Date sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depository)

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals, Inc. (Royalty Payment)	1,945.06
	Idm-E1005 John Phillips (Royalty Payment)	3.19
	" " " " " "	30.76
	Idm-E1008 John Phillips (Royalty Payment)	25.94

cont. page 2

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Bureau of Mines, Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

MAR 18 1957
(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO.
14-23-070-83

For credit of 1428 Br. Tray. [redacted]gional Office, Oak Ridge, Tenn[redacted]3/18/57
(Name, title, and disbursing or other identification symbol of accountable officer) (Date sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401 cont.	Idm-E194 Hitchcock Corporation (Royalty Payment)	1,545.56
	Idm-E863 Harris Mine (Royalty Payment)	455.74

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Morris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

MAR 18 1957
(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1, POST OFFICE BLDG.
KNOXVILLE 2, TENNESSEE

RECEIVED MAR 13 1957 D.M.E.A.

March 11, 1957

Memorandum

To: Finance Officer, Region V - (DMEA)

From: Acting Executive Officer, DMEA - Region V

Subject: Royalty Payment - Idm-E392, DMEA-2576, Marine Minerals Inc. Horse Creek Placer, Sou. Carolina

Transmitted are statements of shipments of ores from the subject certified project--and their check for royalty on the ores in the amount of $1,945.06.

V. J. Lynch

Z
Mittendorf
Lynch
Files

March 8, 1957

Mr. Robert A. Laurence, Executive Officer
DMMA Field Team, Region V
U. S. Department of the Interior
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DMMA-2576, idn X392
(monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No. 3881 dated March 6, 1957 for the amount of $1,945.06 for repayment of Government Participation by Production royalty. This represents five percent payment on Marine Minerals, Inc., invoices totaling $38,901.20 for February 1957.

Certified copies of invoices for February 1957 are enclosed.

Contract Price			$40,667.15
Payment thru January	$31,627.64		
February Payment	1,945.06		
Total Payments thru February		$33,572.70	
Balance Due			$ 7,094.45

Very truly yours,

MARINE MINERALS
DIV. OF HEAVY MINERALS CO.

L. H. Taylor, Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
127

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton - Alabama

DATE February 7, 1957

YOUR P. O. No. Contract

SHIP VIA: SP&S 11347

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon	$50/ton	$2,500.00

I certify that this is a ture copy of the above invice.

Lewis W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

128

SOLD TO: UNION CARBIDE & CARBON CO.
292 Madison Ave.
New York, N. Y.

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, New York

RECEIVED MAR 3 1957 D.M.E.A.

DATE February 11, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU TO POTOMAC YD
B&O REDDING RR TO NYC

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
67.35 tons	Ilmenite Ore	$19/ton	$1,279.65

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE 129

SOLD TO: NORTON COMPANY
HUNTSVILLE, ALABAMA

SHIP TO: NORTON COMPANY
NORTON, ALABAMA

DATE February 11, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU CHATTA NC&STL

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
68.2 tons	Zircon	$45/ton	$3,069.00

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

130

SOLD TO: CRAMET INC.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

RECEIVED MAR 1957 D.M.E.A.

DATE February 13, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CHOTP

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
64.15	Rutile	$190/ton	$12,188.50
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

131

SOLD TO: Georgia Iron Works Co.
605 - 12th St.
Augusta, Ga.

SHIP TO: Same

DATE February 15, 1957

YOUR P. O. No. 1104

SHIP VIA: Your Truck

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
2 tons	Zircon	$50/ton	$ 100.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

132

SOLD TO: UNION CARBIDE & CARBON CO.
292 Madison Ave.
New York, New York

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, New York

DATE February 15, 1957

YOUR P. O. No. Contract

SHIP VIA: SOU TO POTOMAC YD
B&O RDG NYC

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
65.3 tons	Ilmenite Ore	$19/ton	$1,240.70

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

133

SOLD TO: Mr. R. D. Mollison
Texas Gulf Sulphur Company
75 East 45th St.
New York 17, N. Y.

SHIP TO: Dr. James E. West
Mellon Institute of Industrial Research
Pittsburgh 13, Pa.

DATE February 23, 1957

YOUR P. O. No. ltr

SHIP VIA: Mclean Truck Lines

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1,000 lbs.	Zircon Sand	$.10/lb.	$100.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

134

SOLD TO: Mr. R. D. Hollisen
Texas Gulf Sulphur Company
75 East 45th St.
New York 17, N. Y.

SHIP TO: Dr. James R. West
Mellon Institute of Industrial Research
University of Pittsburgh
Pittsburgh 13, Pa.

DATE February 23, 1957

YOUR P. O. No. ltr

SHIP VIA: Melcon Truck Lines

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1,000 lbs.	Rutile	$.25 /lb.	$250.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

136

SOLD TO: Norton Company
Huntsville, Alabama

DATE February 23, 1957

YOUR P. O. No. Contract

SHIP TO: Norton Company
Norton, Alabama

SHIP VIA: SOU ATLANTA- NC&STL
CAR # SOU 94055

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
63.65 tons	Zircon	$45/ton	$2,864.25
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
135

SOLD TO: Heavy Minerals Co.
4000 North Hawthorne St.
Chattanoga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE February 23, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
Car # S aboard 25878

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 car	Monazite (50.35 tons)	$280/ton	$14,000.00
	I certify that this is a true copy of this invoice.		
	Lewis W. Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
137

SOLD TO: Union Carbide & Carbon Co.
292 Madison Ave.
New York, N. Y.

DATE February 23, 1957

YOUR P. O. No. Contract

SHIP TO: Union Carbide & Carbon Co.
Niagara Falls, N. Y.

SHIP VIA SOU TO POTOMAC YD
Car # Sou ~~XXXXB&O~~-RDG-NYC
61156

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
68.9 tons	Ilmenite Ore	$19/ton	$1,309.10

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

THIS DEPOSIT IS NOT SUBJECT TO CHECK

Oak Ridge, Tennessee

DEPOSIT NO. 14-23-070-74

For credit of 1428 Br. Trsy. [redacted]rional Office, Oak Ridge, Tenn. [redacted]2/12/57
(Name, title, and disbursing or [redacted] identification symbol of accountable officer) [redacted]ate sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 4,281.16

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals, Inc. (Royalty Payment)	4,126.03
	Idm-E900 Sam G. Smith (Royalty Payment)	139.13
	Idm- E516 Caroline Mining (Royalty Payment)	16.00

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm., Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

FEB 12 1957
(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM WASHINGTON POST OFFICE BLDG.
KNOXVILLE 2, TENN.

February 11, 1957

RECEIVED
D.M.E.A.

Memorandum

To: Finance Officer, Region V - (DMEA)

From: Acting Executive Officer, Region V - Knoxville

Subject: Royalty Payment - Idm-E392, DMEA-2576,
Marine Minerals, Inc. Horse Creek Placer,
Aiken County, S. C. (monazite-columbium-rutile)

Transmitted are invoices for the month of January 1957 totaling $81,306,38 and a check in the amount of $4,126.03 for royalty on the sales. Also included in this royalty check is one and one-half percent royalty on the sales of sand and gravel by the Perry Minerals Company in the amount of $4047.33 for which no invoices were included.

V. J. Lynch

ZM.
cc
Lynch
Mittendorf
Files

C O P Y

C
)O
P
Y

MARINE MINERALS INC.
P.O. Box 206
Clearwater, South Carolina

February 7, 1957

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
U. S. Department of the Interior
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: DMEA-2576, Idm-E392
(Monazite-columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No.3755 dated February 6, 1957 for the amount of $4,126.03 for repayment of Government Participation by production royalty. This represents five percent payment on Marine Minerals, Inc., invoices totaling $81,306.38 for January 1957, also one and one-half percent payment on Perry Minerals Co., sales of sand and gravel totaling $4,047.33 thru January 1957.

Certified copies of invoices for January 1957 are enclosed.

Contract Price		$40,667.15	
Payment thru Dec. 1956	$27,501.61		
January Payment	4,126.03		(Sic)
Total payments thru January		$31,627.64	
Balance Due		9,039.51	

Very truly yours,

MARINE MINERALS
DIV. OF HEAVY MINERALS CO.

S/ L. W. Raylor, Jr.

Copied by ZM
cc.
Lynch
Finance
Mittendorf

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

126

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison AVe.
New York, New York

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE January 31, 1957

YOUR P. O. No. Contract

SHIP VIA: Southern Car No. 280518

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
72.4 tons	Ilmenite Sand	$19/ton	$1,375.60
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

125

SOLD TO: Union Carbon & C rbide Ore Co.
292 Madison Ave.
New York, New York

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE January 31, 1957

YOUR P. O. No. Contract

SHIP VIA: Southern car No. 71688

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
68.75 tons	Ilmenite Sand	$19/ton	$1,306.25
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

124

SOLD TO: UNION CARBIDE & CARBIDE ORE CO.
292 Madison Ave.
New York, New York

SHIP TO:
Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE January 31, 1957

YOUR P. O. No. Contract

SHIP VIA: Southern Car # 70407

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
65.2 tons	Ilmenite Sand	$19/ton	$1,238.80

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

123

SOLD TO: CRAMET INC.
CHATTANOOGA, TENN.

SHIP TO: CRAMET INC.
BOYCE, TENN.

DATE January 31, 1957

YOUR P. O. No. Contract

SHIP VIA: Sou Chatta CHATP

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
71.05 tons	Rutile	$190/ton	$13,499.50

I certify that this is a true copy of this invoice.

Lewis W. Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

122

SOLD TO: Heavy Minerals Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE January 31, 1957

YOUR P. O. No.

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite	$300/ton	$15,000.00

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

121

SOLD TO: Continental Minerals Processing Corp.
Mosteller Rd. & Penn R.R.
P. O. Box 8
Cincinnati 41, Ohio

SHIP TO: Sand

DATE January 31, 1957

YOUR P. O. No. 6D134

SHIP VIA: Hommis Freight Lines

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
11 tons	Scourolite Sand	$25/ton	$275.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

120

SOLD TO: Berkshire Chemicals Inc.
420 Lexington Avenue
New York 17, N. Y.

DATE January 30, 1957

YOUR P. O. No. 56226

SHIP TO: Specialty Manufacturing Co.
Charles St. Team Track
Minnesota Transfer, Minnesota

SHIP VIA: SOU/St. Louis-CB&Q
Minnesota Transfer RR Delvy

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon Sand	$50/ton	$2,500.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

119

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison Ave.
New York, New York

DATE January 30, 1957

YOUR P. O. No. Contact

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
67.22 tons	Ilmenite Sand	$19/ton	$1,277.18
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

118

SOLD TO: Union Carbon & CArbide Ore Co.
292 Madison Ave.
New York, N. Y.

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE January 22, 1957

YOUR P. O. No. Contract

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
61.15 tons	Ilmenite Sand	$19/ton	$1,161.85
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

117

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Comapny
Norton, Alabama

DATE January 21, 1957

YOUR P. O. No.

SHIP VIA: SOUTHERN ATLANTA - NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
57.9 tons	Zircon	$45/ton	$2,605.50
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

116

SOLD TO: Continental Minerals Processing Corp.
P. O. Box 8
Cincinnati 41, (Sharonville) Ohio

SHIP TO: Same

DATE January 21, 1957

YOUR P. O. No. 6D134

SHIP VIA: Hennis Freight Lines

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 ton	Staurolite Sand		$25.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

115

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

DATE January 23, 1957

YOUR P. O. No.

SHIP TO: Cramet Inc.
Boyce, Tenn.

SHIP VIA: SOU CHATTA CNOTP

CAR # 416010

TERMS Net 30 days

Shipment No. 24

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
59.84 tons	Rutile	$190/ton	$11,369.60
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

114

SOLD TO: Georgia Iron Works Co.
605 - 12th Street
Augusta, Georgia

DATE January 11, 1957

YOUR P. O. No. 1074

SHIP TO: Same

SHIP VIA: Your Truck

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 ton	Zircon Sand		$50.00

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
113

SOLD TO: Heavy Minerals Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO:
Heavy Minerals Co.
Boyce, Tenn.

DATE January 5, 1957

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR # SOU 30825 & 23130

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite car #23130 shipped 1/4/57 Lots No. 113 and 121 45 bags of monazite (cross belt)	$280/ton	$14,000.00
50 tons	Monazite car #308025 shipped 1/5/57 Lots No. 111 and 110	$280/ton	$14,000.00
			$28,000.00
49	Pallets @ $2.02		98.98
	I certify that this is a true copy of this invoice.		$28,098.98

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

112

SOLD TO: Continental Mineral Processing Corp.
Mosteller Rd & Penn RR
Cincinnati (Sharonville) Ohio

DATE January 5, 1957

YOUR P. O. No. 6D134

SHIP TO:

Same

SHIP VIA: Hennis Freight Lines

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
11 tons	Staurolite	$25.00/ton	$275.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

111

SOLD TO: Union Carbon & Carbide Ore Co.
202 Madison Avenue
New York, N. Y.

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE January 4, 1957

YOUR P. O. No. Contract

SHIP VIA: SOUTHERN
CAR # 319051

TERMS Net 30 days

QUANTITY	DESCRIPTION		UNIT PRICE	AMOUNT
1 car	Ilmenite car # 319051 Certificate of weight 147,00 lbs. less 3.5 moisture content	70.9	$19/ton	$1,347.10

I certify that this is a true copy of this invoice.

Leslie W. Taylor

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO. 14-23-070-64

For credit of 1428 Br. Tray. Re[illegible]nal Office, Oak Ridge, Tenn. [illegible]5/57
(Name, title, and disbursing or [illegible] identification symbol of accountable officer) [illegible]te sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 4,111.51

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E516 Good Mica Mining Co. (Royalty Payment)	49.13
	Idm-E863 Harris Mining Co. (Royalty Payment)	549.70
	Idm-E1008 John Phillips (Royalty Payment)	113.38
	Idm-E392 Marine Minerals (Royalty Payment	3,382.68
	Idm-E665 Sparks & Parsley (Royalty Payment)	16.62

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

1-16-57

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1, POST OFFICE BLDG.
KNOXVILLE 2, TENNESSEE
WASHINGTON 25, D. C.

January 14, 1957

Memorandum

To: Finance Officer, Region V

From: Executive Officer, DMEA - Region V- Knoxville, Tennessee

Subject: Royalty Payment - Idm-E392, DMEA-2576(monazite-columbium-rutile) Horse Creek Placer, Aiken County, South Carolina

Transmitted are invoices of sales from the subject DMEA project, and their check No.3588, dated January 8, 1957 in the amount of $3,382.68 to be credited to the subject contract.

Robert A. Laurence

ZM.
co
Mittendorf
Lynch
Files

TELEPHONE: BATH 2593-4

INVOICE

110

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE December 7, 1956

YOUR P. O. No. 195

SHIP VIA: Huchabee Transport Corp

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
15 tons	Bags Zircon Sand	$45/ton	$675.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

100

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison Avenue
New York, New York

DATE December 8, 1956

YOUR P. O. No.

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec Canada

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
78.85 tons	Ilmenit sand	$19/ton	1,498.15

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
101

SOLD TO: Cramet Inc.
3800 North Hawthorne Street
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

DATE December 10, 1956

YOUR P. O. No.

SHIP VIA: GOU CHATTA CNOTP

TERMS net 30 days

Shipment 22

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
70.25 tons	Rutile	$215/ton	$15,103.75
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

102

SOLD TO: Orefraction Incorporated
7425 Thomas Street.
Pittsburgh, Pa.

SHIP TO: Orefraction Incorporated
Wilkinsburg, Pa.

DATE December 12, 1956

YOUR P. O. No. 6687

SHIP VIA: SOU-PT-YD.-PRR
car #SP125025

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon Sand	$41/ton	$2,050.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
103

SOLD TO: Heavy Minerals Company
4000 North Hawthorne Street
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE December 14, 1956

YOUR P. O. No. HM 5056

SHIP VIA: SOU CHATTA CNOTP
CAR # PRR 25069

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite Sand	$280/ton	$14,000.00
24	Pallets @ $2.02		48.48
			$14,048.48

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

104

SOLD TO: NORTON COMPANY
HUNTSVILLE, ALABAMA

SHIP TO: NORTON COMPANY
NORTON, ALABAMA

DATE December 15, 1956

YOUR P. O. No. 195

SHIP VIA: Sou Car No. L&N 6930

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
945 bags	Zircon Sand (94,040 lbs.)	$40/ton	$1,880.80
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

105

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison Avenue
New York, New York

DATE December 17, 1956

YOUR P. O. No. Contract

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

SHIP VIA: Southern
car # Sou 70824

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
.45 tons	Ilmenite Sand	$19/ton	$1,281.55
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

165

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

DATE December 18, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
car # Sou 319051

TERMS Net 30 days

Shipment #23

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
60.3 tons	Rutile	$215/ton	$12,964.50

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

107

SOLD TO: Heavy Minerals, Co.
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

RECEIVED JAN 16 1957 D.M.E.A.

DATE December 19, 1956

YOUR P. O. No. 9056

SHIP VIA: SOU CHATTA CNOTP
car # NYC 172165

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite	$280/ton	$14,000.00
25	Pallets @ $2.02		50.50
			$14,050.50

I certify that this is a true copy of this invoice.

Lewis W. Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

108

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison Avenue
New York, N. Y.

SHIP TO: Electro Metallurgical Co.
Beauharnois, Quebec, Canada

DATE December 22, 1956

YOUR P. O. No. Contract

SHIP VIA: SCU 72890

TERMS NET

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
73.66 tons	KMX Ilmenite Sand	$19/ton	$1,399.54

I certify that this a true copy of this invoice.

Lewis W. Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

109

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton Alabama

DATE December 22, 1956

YOUR P. O. No. 195

SHIP VIA: Sou 280505

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50.3 tons	Zircon Sand	$40/ton	$2,012.00
	I certify that this is a true copy of this invoice.		
	Lewis W. Taylor.		

PERRY MINERALS COMPANY, INC. / P.O. Box 206, Clearwater, S. C.

January 7, 1957

Marine Minerals Inc.
Box 206
Clearwater, S. C.

Re: D.M.E.A. Sales Report

Gentlemen:

Sand & Gravel sales for the month of December, 1956, were as follows:

Sand	1633.65	Tons
Gravel	1224.35	"
	2,858.00	Tons

$2,628.10

The above totals are complete and correct to the best of our knowledge.

Sincerely,

Perry Minerals Company, Inc.
Alex. B. Perry

TRIPLICATE

STANDARD FORM 261 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

THIS DEPOSIT IS NOT SUBJECT TO CHECK

Oak Ridge, Tennessee

DEPOSIT NO.
14-23-070-56

For credit of 1428 Pr. Trey. [redacted]onal Office, Oak Ridge, Tenn. [redacted]/13/56
(Name, title, and disbursing or o[redacted]dentification symbol of accountable officer) [redacted]e sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 6,198.78

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X1401	Idm-E913 Black Jack Mining Co. (Royalty Payment)	120.15
	Idm-E886 Sam L. Phillips (Royalty Payment)	3.31
	Idm-E392 Marine Minerals (Royalty Payment)	6,075.32

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
P. O. Box 217
Helen R. Miller, Adm. Asst.
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

12-14-56

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1025 ICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED DEC 14 1956 D.M.E.A.

December 13, 1956

Memorandum

To: Finance Officer, DMEA - Region V

From: Executive Officer, DMEA - Region V - Knoxville

Subject: Royalty Payment - Idm-K392, DMEA-2576, Marine Minerals, Assignee
Horse Creek Placer, Aiken County, S. C.

Transmited are ~~xxxxx~~ invoices of the production from the subject project. Their check No.3437 in the amount of $6,075.32 is attached as the Government royalty on the sales.

Robert A. Laurence

sm

Mittendorf
Lynch
Files

C O P Y

MARINE MINERALS INC.
P.O. Box 206
Clearwater, South Carolina

RECEIVED
DEC 14 1956
DMEA

December 10, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
Room 13, Post Office Building
U. S. Department of the Interior
Knoxville 2, Tennessee

Re: DMEA-2576, Idm-E392
(monazite-columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No.3437 dated December 6, 1956 for the amount of $6,075.32 for repayment of Government Participation by Production royalty. This represents five percent payment on Marine Minerals, Inc; invoices totaling $120,007.46 for November 1956, also one and one-half percent payment on Perry Minerals Co., sales of sand and gravel totaling $4,996.81 for November 1956.

Certified copies of invoices for November 1956 are enclosed.

Contract Price		$40,667.15	
Payment thru October 1956	$18,043.61		
November Payment	6,075.32		
Total Payment thru November, 1956		$24,118.93	
Balance Due			$16,548.22

Very truly yours,

MARINE MINERALS, INC.

S/ L. W. Taylor, Jr.

cc;
Lynch
~~Files~~
Finance office
Wittendorf

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

No 86

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

DATE November 1, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
CAR NO. 280023

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
57.1 tons	Rutile (114,200 lbs+)	$225/ton	$12,847.50
	I certify that this is a true copy of this invoice.		

Lewis W. Taylor Jr.

RECEIVED DEC 14 1956 D.M.E.A.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

87

SOLD TO: Continental Mineral Processing Corp.
P. O. Box 6
Cincinnati 41, Ohio

SHIP TO: Continental Mineral Processing Corp.
Mosteller Rd. north of Kemper Rd.
Cincinnati (Sharonville,) Ohio

DATE November 5, 1956

YOUR P. O. No. 610118

SHIP VIA: Bonnie Freight Lines

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 ton	Coarse Staurolite packed in 75 lb bags.	$25/ton	$25.00
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

88

SOLD TO: Union Carbon & Carbide Co.
292 Madison Avenue
New York, New York

DATE November 8, 1956

YOUR P. O. No. Contract

SHIP TO: Electrometallurgical
Beauharnois, Quebec, Canada

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
69.52 tons	Ilmenite - Sou Car # 71782 - 139,040 lbs.		
55.50 tons	Ilmenite - Sou Car # 94055 - 111,000 lbs.		
71.68 tons	Ilmenite - Sou Car # 72172 - 143,360 lbs.		
71.04 tons	Ilmenite - Sou Car # 71776 - 142,080 lbs.		
	267.74 Tons	$19/ton	$5,087.06
	I certify that this is a true copy of the Invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
89

SOLD TO: Union Carbon & Carbide Co.
292 Madison Avenue
New York, New York

DATE November 13, 1956

YOUR P. O. No. Contract

SHIP TO: Electrometallurgical Co.
Beauharnois, Quebec, Canada

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
61.80 tons	Ilmenite Sou Car # 70913 - 123,600 lbs.		
75.80 tons	Ilmenite Sou Car # 70349 - 153,500 lbs.		
77.05 tons	Ilmenite Sou Car # 715 8 @ 146,400 lbs.		
73.35 tons	Ilmenite Sour Car # 71769 - 146,400 lbs.		
	287.80 tons	$19/ton	$ 5,468.20

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

90

SOLD TO: Carborundum Metals Co.
P. O. Box 32
Akron, New York

DATE November 15, 1956

YOUR P. O. No. 7035

SHIP TO: Canadian Carborundum Co.
Niagara Falls, Ontario

SHIP VIA: Southern
Car # ATSF 273792

TERMS
Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon Sand	$50/ton	$2,500.00

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

91

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE November 15, 1956

YOUR P. O. No. 195

SHIP VIA: Southern Chattanooga, NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
69.65 tons	Zircon	$40/ton	$2,786.00

I certify that this is a true copy of this invoice.

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

92

SOLD TO: Cramet, Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

DATE November 15, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP

Shipment No. 20

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
61.9 tons	Rutile	$225/ton	$ 13,927.50
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

93

SOLD TO: Mechanite Metal Corp.
355 Huguenot Street
New Rochelle, N. Y.

SHIP TO:
Same

DATE November 23, 1956

YOUR P. O. No.

SHIP VIA: McLean Trucking Co.

TERMS

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 bag	Zircon Sand		No Charge
	I certify that this is a true copy of this invoice.		
	Lewis W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

94

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce Tenn.

DATE November 24, 1956

YOUR P. O. No:

SHIP VIA: SOU CHATTA CNOTP
CAR # SOU 319051

Shipment No. 21

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
66.15 tons	Rutile	$225/ton	$14,883.75
	I certify that this is a true copy of this invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

95

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE November 20, 1956

YOUR P. O. No. Telephone Conversation.

SHIP VIA: Southern Chattanooga NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon	$45/ton	$2,250.00

I certify that this is a true copy of this invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

96

SOLD TO: Heavy Minerals Company
4000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Heavy Minerals Co.
Boyce, Tenn.

DATE November 26, 1956

YOUR P. O. No.

SHIP VIA:

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Monazite - Car No. P&LE 5672		
50 tons	Monazite - Car No. AT&W 35930		
50 tons	Monazite - Car No. SOU 26366		
50 tons	Monazite - Car No. SPS 12273		
200 tons		$280/ton	$ 56,000.00
96 pallets	(24 in each car)	$2.02 /pallet	193.92
			$ 56,193.92

I certify that this is a true copy of this invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

97

SOLD TO: Union Carbon & Carbide Ore Co.
292 Madison Avenue
New York, New York

SHIP TO: Electrometallurgical Co.
Beauharnois, Quebec, Canada

DATE November 20, 1956

YOUR P. O. No. Conctract

SHIP VIA: Southern Car. 9
17913

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
76.55 tons	Ilmenite (153,100 lbs.)	$19/ton	$1,454.45
	I certify that this is a true copy of this invoice,		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
98

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE November 30, 1956

YOUR P. O. No. 195

SHIP VIA: Southern Chattanooga NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
69.49 tons	Zircon	$40/ton	$2,779.00

I certify that this is a true copy of this invoice.

Lewis W. Taylor, Jr.

PERRY MINERALS COMPANY, INC., P.O. Box 216, Clearwater, S. C.

December 4, 1956

Marine Minerals, Inc.
Box 206
Clearwater, S.C.

Re: DMEA Sales Report

Gentlemen:

Sand and gravel sales for the month of November, 1956, were as follows:

Sand	2,288.95 tons	
Gravel	2,862.35 tons	
	5,151.30 tons	$4,996.81

The above totals were deducted from our invoices and to the best of our knowledge are complete and correct.

Sincerely,

Perry Minerals Company, Inc.
Alex. B. Perry

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

For credit of 1428 Br. Trsy. Re[illegible]nal Office, Oak Ridge, Tenn. 1[illegible]4/56
(Name, title, and disbursing or [illegible] identification symbol of accountable officer) [illegible]te sent)

DEPOSIT NO. 14-23-070-48

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 2,670.20

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals, Inc.	2,670.20

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Dept. of Interior, Bureau of Mines
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

[illegible]
(Authorized signature)

NOV 14 1956
(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

11-15-56

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
KNOXVILLE 2, TENN.

November 26, 1956

RECEIVED
DEC 1956

Memorandum

To: Finance Officer, DMEA - Region V

From: Executive Officer, DMEA - Region V - Knoxville, Tenn

Subject: Royalty Payment - Idm-E392, DMEA-2576-Monazite, columbium-rutile. Marine Minerals Inc. Horse Creek Placer, Aiken County, South Carolina

Transmitted are invoices totaling $51,007.70 for October; also sales of sand and gravel totaling $7,987.13 at 1 1/2% royalty; total royalty $2,670.20 to be credited to the subject certified contract.

Robert A. Laurence

ZM.
cc
Mittendorf
Lynch
Files

November 5, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
U. S. Department of the Interior
Room 18, Post Office Building
Knoxville 2, Tennessee

Re: DMEA-2576, Adm 2392
(monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No. 3263 dated November 5, 1956 for the amount of $2,670.20 for repayment of Government Participation by Production royalty. This represents five percent payment on Marine Minerals, Inc., invoices totaling $51,007.70 for October, 1956, also, one and one-half percent payment on Perry Minerals Co., sales of sand and gravel totaling $7,987.13 for October, 1956.

Certified copies of invoices for October 1956 are enclosed.

Contract Price		$40,667.15
Payment thru September 1956	$15,373.41	
October Payment	2,670.20	
Total Payments thru October		$18,043.61
Balance Due		$22,623.54

Very truly yours,

MARINE MINERALS, INC.

L. W. Taylor, Jr.

PERRY MINERALS COMPANY, INC., P.O. Box 216, Clearwater, S. C.

November 2, 1956

Marine Minerals, Inc.
Box 206
Clearwater, S.C.

Re: DNEA Sales Report

Gentlemen:

Sand and gravel sales for the month of October, 1956, were as follows:

Sand	2,479.22 tons	
Gravel	[redacted]	
	4,488.67 tons	
		$7,987.15

The above totals were deducted from our invoices and to the best of our knowledge are complete and correct.

Yours very truly,

Perry Minerals Company, Inc.
Alex. B. Perry

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
78

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cermet, Inc.
Boyce, Tenn.

DATE October 4, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
car # 416010

TERMS Net 30 days

Shipment No. 16

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
61.95 Tons	Rutile (123,900 lbs.)	$225.00 per ton	$13,938.75

I certify that this is a true copy of the orignial invoice.

Lewis W. Taylor

RECEIVED
NOV 15 1956
L. E. A.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

79

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

Shipment No. 17

DATE October 15, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CONEP

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 car	Rutile (112,900 lbs.)	$225/ton	$12,701.25

I certify that this is a true copy of the original invoice.

Lewis W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
80

SOLD TO: Norton Company
P. O. Box 87
Niagara Falls, Ontario

SHIP TO:
Norton Company
Chippewa, Ontario

DATE October 15, 1956

YOUR P. O. No. 607

SHIP VIA: Southern Cincinnati
NYC-MC

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1,000 bags	Zircon (50tons)	$45/ton	$ 2,250.00

I certify that this is a true copy of the original invoice.

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

81

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE October 22, 1956

YOUR P. O. No. 195

SHIP VIA: Southern Chattanooga
NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
69.67 Tons	Zircon Sand	$40/ton	$ 2,786.80

I certify that this is a ture copy of the original invoice.

Lewis W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

82

SOLD TO: Norton Company
P. O. Box 87
Niagara Falls, Ontario

SHIP TO:
Norton Company
Chippawa, Ontario

DATE October 25, 1956

YOUR P. O. No. 607

SHIP VIA: Southern Cincinnati
NYC-MC

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1,000 bags	Zirconium Sand (50 tons)	$45/ton	$ 2,250.00

I certify that this is a true copy of the original invoice.

Lewis W. Taylor Jr.

RECEIVED
NOV 15 1956
L. A.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

83

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet Inc.
Boyce, Tenn.

Shipment 18

DATE October 25, 1956

YOUR P. O. No.

SHIP VIA CHATTA CLUTP
car N. 416010

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
63.78 tons	Rutile (127,560 lbs.)	$225/ton	$14,350.50

I certify that this is a true copy of the original invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

84

SOLD TO: Georgia Iron Works Co.
605 - 12th Street
Augusta, Ga.

SHIP TO:
Same

DATE October 30, 1956

YOUR P. O. No. 969

SHIP VIA: Your Truck

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 ton	Zircon Sand	$50/ton	$50.00

I certify that this is a true copy of the original invoice.

Lewis W. Taylor, Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

85

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE October 31, 1956

YOUR P. O. No. 195

SHIP VIA Southern ~~SHM~~ Chattanooga
NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
67.01 tons	Zircon	$40/ton	$ 2,680.60

I certify that this is a true copy of the original invoice.

Lewis W. Taylor, Jr.

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

THIS DEPOSIT IS NOT SUBJECT TO CHECK

Oak Ridge, Tennessee

DEPOSIT NO. 14-23-070-40

For credit of 1428 Br. Trsy. Regional Office, Oak Ridge, Tenn. [redacted]0/9/56
(Name, title, and disbursing or o[redacted]dentification symbol of accountable officer) [redacted]e sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 2,432.10

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E687 Glenn C. Rathburn (Royalty Payment)	7.35
	Idm-E392 Marine Minerals (Royalty Payment)	2,352.64
	Idm-E613 Blalock Mining Co. (Royalty Payment)	72.11

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

OCT 2 [illegible]

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM POSTOFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
OCT 10 1956

October 8, 1956

Memorandum

To: Finance Office - Region V - DMEA

From: Executive Officer, DMEA - Region V - Knoxville

Subject: Royalty Payment - Idm-E392, DMEA-2576
(Monazite, columbium-rutile) Horse Creek Placer
Aiken County, S. C.

Attached are bills-of-sale in the amount of $45,530.75, for the month of September 1956; and a check No.3111 for royalty due on the sales in the amount of $2,352.64.

Robert A. Laurence

xx
cc:
Mittendorf
Lyon
Files

C
O
P
Y

MARINE MINERALS INC.
P.O. Box 928
AIKEN, S. C.

October 8, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
U. S. Department of the Interior
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DMEA-2576, Idm-E392
(Monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No.3111 dated October 5, 1956 for the amount of $2,352.64 for repayment of Government Participation by Production royalty. This represents five percent payment on Marine Minerals, Inc., invoices totaling $45,530.75 for September, 1956, also, one abd one-half percent payment on Perry Minerals Co., sales of sand and gravel totaling $5,073.67
thru September 1956.

Certified copies of invoices for September 1956 are enclosed.

Contract Price		$40,667.15
Payment thru August 1956,	$13,020.77	
September Payment	2,352.64	
Total Payments thru September		$15,373.41
Balance Due		$25,293.75

Very truly yours,

MARINE MINERALS, INC.

s/ L. W. Taylor

PERRY MINERALS COMPANY, INC., P.O.Box 216, Clearwater, S. C.

October 4, 1956

Marine Minerals, Inc.
Box 206
Clearwater, S.C.

Re: DMPA Sales Report

Gentlemen:

Sand & gravel sales for the month of September, 1956, were as follows:

Total Sales	$5,086.06
Less correction July-August Report	12.39
Balance	$5,073.67

The above totals were deducted from our invoices and to the best of our knowledge are complete and correct.

Yours very truly,

Perry Minerals Company, Inc.
Alex. B. Perry

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
65

RECEIVED
OCT 10 1956

SOLD TO: Metallurg, Inc.
99 Park Ave.
New York 16, New York

SHIP TO: Metallurg, Inc.
Newfield, New Jersey

DATE September 6, 1956

YOUR P. O. No. P-2378

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
110 bags	Zircon Sand (less than 2.0% lights)	$41.00 per ton	$ 2,255.00

I certify that this is a true copy of the original invoice.

Lewis W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

66

SOLD TO: Norton Company
P. O. Box 87
Niagara Falls, Ontario

SHIP TO: Norton Company
Chippewa, Ontario

DATE September 6, 1956

YOUR P. O. No.

SHIP VIA: Southern Cincinnati-
NYC - MC

TERMS Net 15 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon sand	$45.00 per ton	$ 2,250.00

I certify that this a true copy of the original invoice.

Lewis W Taylor, Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
70

RECEIVED
OCT 10 1956

SOLD TO: Heavy Minerals Co.
P. O. Box 688
Chattanooga, Tenn.

SHIP TO:
Same

DATE September 17, 1956

YOUR P. O. No.

SHIP VIA:

TERMS Net 15 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
33.1 tons	Monazite (From the 33.1 tons we have on hand: 29.1 tons of cleaned monazite 3 tons of tails 1 tons of mineral sand shipped 9/14/56) I certify that this a true copy of the original invoice. Lewis W Taylor Jr	$200.00 per ton	$ 9,268.00

593-4

INVOICE

71

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

SOLD TO: Cramet, Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

Shipment 14

DATE September 10, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
Car No. Sou. 280023

TERMS Net 15 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
63 tons	Rutile (126,000 lbs.)	$225.00 per ton	$ 14,175.00

I certify that this a true copy of the original inv oice.

Lewis W. Taylor, Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

74

SOLD TO: Georgia Iron Works Co.
605 - 12th Street
Augusta, Ga.

SHIP TO: SAME

DATE September 19, 1956

YOUR P. O. No. S-846

SHIP VIA: Our Truck

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1 ton	Zircon Sand	$	$ 50.00

I certify that this a true copy of the original invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

75

RECEIVED

OCT 10 1956

SOLD TO: Orefraction Incorporated
7425 Thomas Street
Pittsburgh, 8, Penn.

SHIP TO: Orefraction Incorporated
Wilkinsburg, Pa.

DATE September 19, 1956

YOUR P. O. No. 6630

SHIP VIA: SPU-POT-YD.-PRR

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
55 tons	Zricon Sand	$41.00 per ton	$ 2,255.00
	I certify that this a true copy of the original invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
76

SOLD TO: Cramet, Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

DATE September 21, 1956

YOUR P. O. No.

SHIP VIA: SOU CHATTA CNOTP
car # SOU 319051

TERMS Net 30 days

Shipment No. 15

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
57.35 tons	Rutile	$225.00 per ton	$ 12,903.75

I certify that this a true copy of the orignial invoice.

James W. Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

77

SOLD TO: Norton Company
Huntsville, Alabama

SHIP TO: Norton Company
Norton, Alabama

DATE September 28, 1956

YOUR P. O. No. 195

SHIP VIA: Southern Chattanooga - NC&STL

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
59.35 tons	Zircon Sand	$40.00 per ton	$ 2,374.00

I certify that this is a true copy of the original invoice.

Lewis W. Taylor Jr

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO. 14-23-070-32

For credit of 428 Br. Trsy. Reg[illegible]nal Office, Oak Ridge, Tenn. 9[illegible]7-56
(Name, title, and disbursing or ot[illegible] identification symbol of accountable officer) [illegible]e sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 3,916.49

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals (Royalty Payment)	$ 3,916.49

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

SEP 17 1956

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
ROOM 1 ASH POST OFFICE BLDG.
KNOXVILLE 2, TENN.

RECEIVED
SEP 17 1956

September 14, 1956

Memorandum

To: Finance Office - Region Va

From: Executive Officer, DMEA -Region V - Knoxville, Tenn

Subject: Royalty Payment - Idm-E392, DMEA-2576, Marine Minerals--Horse Creek Placer, Aiken County, South Carolina

Transmitted are sales invoices in the amount of $74,057.25 ; and $14,242.23 and a royalty check for $3,916.49, to be credited to the subject contract.

Robert A. Laurence

ZM.

Lynch

Mittendorf

Files

MARINE MINERALS INC., P. O. Box 206, Clearwater, S.C.

RECEIVED
SEP 17 1956

September 12, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
U. S. Department of the Interior
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: DMEA-2576, idm E392
(monazite, columbium-rutile)
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No. 2986 dated September 10, 1956 for the amount of $3,916.49 for repayment of Government Participation by Production royalty. This represents five percent payment on Marine Minerals, Inc., invoices totaling $74,057.25 for August 1956, also, one and one-half percent payment on Perry Minerals Co., sales of sand and gravel totaling $14,242.23 thru August 1956.

Certified copies of invoices for August 1956 totaling $74,057.25 are enclosed.

Contract Price	$40,667.15
Payment thru August 1956	13,020.77
Balance Due	$27,646.38

Very truly yours,

MARINE MINERALS, INC.

L. W. Taylor, Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
64

RECEIVED
SEP 17 1956

SOLD TO: Heavy Minerals Company
836 So. Michigan Ave.
Chicago 5, Illinois

SHIP TO: Heavy Minerals Company
c/o Cramet, Inc.
Boyce, Tenn.

DATE August 29, 1956

YOUR P. O. No. Phone call from Paul Kruesi

SHIP VIA: SOU CHATTA CNOTP

TERMS Net 10 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1100 Bags	Monazite, car No. MKT 91116, 55 tons		
1100 Bags	Monazite, car No. PENN 602857, 55 tons		
1090 Bags	Monazite, car No. CNV 20973, 54.5 tons		
164.5 tons		$280.00 per ton	$ 46,060.00
	72 Pallets @ $2.02		145.44
	I certify that this is a ture copy of the orignial invoice.		$ 46,205.44

Lewis W Taylor

TELEPHONE: BATH, 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

62

RECEIVED

SEP 17 1956

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

DATE August 9, 1956

YOUR P. O. No.

SHIP TO: Cramet Inc.
Boyce, Tenn.

SHIP VIA: Sou-Chatta-CNOTP
car #280023

SHIPMENT # 12

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
60.09 Tons	Rutile (Shipment No. 12) (120,180 lbs.) TiO_2 95.1%	$225.00 per ton	$13,520.25

I certify that this is a true copy of the original invoice.

Lewis W Taylor

TELEPHONE: BATH-2593-4

INVOICE

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

RECEIVED
SEP 17 1956

63

SOLD TO: Cramet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

DATE August 24, 1956

YOUR P. O. No.

SHIP TO: Cramet, Inc.
Boyce, Tenn.

SHIP VIA: Southern SOU CHATTA
CNOTD car # 319051

SHIPMENT 13

TERMS Net 10 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
56.65 tons	Rutile (113,300lbs.) Shipment 13	$225.00 per ton	$12,746.25

I certify that this is a true copy of the orignial invoice.

Lewis W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE
61

RECEIVED
SEP 17 1956

SOLD TO: Orefraction Incorporated
7425 Thomas Street
Pittsburgh, 8, Pa.

SHIP TO: Orefraction Incorporated
Wilkinsburg, Pa.

DATE August 3, 1956

YOUR P. O. No.

SHIP VIA: SOU-POT-YD.-PRR

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
49.45 tons	Zircon Sand	$35.00 per ton	$1,730.75

I certify that this is a true copy of the original invoice.

Lenna W. Taylor

PERRY MINERALS COMPANY, INC., P.O.Box 216, Clearwater, S. C.

RECEIVED
SEP 17 1956

August 5, 1956

Marine Minerals, Inc.
Box 206
Clearwater, S. C.

Re: DMEA Sales Report

Gentlemen:

As you requested, our total sales of sand and gravel through August 31, 1956 are listed below.

July - Sand	$285.64 + 7.50		
- Gravel	$2,229.87		
		$2,515.51 + 7.50	
		= 2,523.01	
August Sand	$506.50		
Gravel	$11,212.72		
		$11,719.22	
		$14,234.73 + 7.50	
		$14,242.23	

The above totals were deducted from our invoices and to the best of our knowledge are complete and correct.

Yours very truly,

Alex. E. Perry

Oak Ridge, Tennessee

THIS DEPOSIT IS NOT SUBJECT TO CHECK

DEPOSIT NO. 14-23-070-20

For credit of 128 Br. Troy. R[illegible]onal Office, Oak Ridge, Tenn. [illegible]/14/56
(Name, title, and disbursing or [illegible] identification symbol of accountable officer) [illegible]te sent)

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 2,064.55

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E392 Marine Minerals, Inc. (Royalty Payment)	2,062.78
	Idm-E931 B. M. Holland (Royalty Payment)	1.78

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
Helen R. Miller, Adm. Asst.
P. O. Box 217, Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

8/15/56

August 13, 1956

Memorandum

To: Helen Miller, Ass't Administrative Officer

From : Executive Officer, DMEA - Region V

Subject: Royalty Payment- Idm-E392, DMEA-2576.
Marine Minerals Inc., Assignee

Transmitted is a check in the amount of $2,062.78, and invoices for the sales from the subject certified contract for the month of July 1956. Attached is a copy of their transmittal letter and my reply.

Robert A. Laurence

ZM

cc
Mittendorf
Lynch
Files

beck

C
O
P
Y

RECEIVED
AUG 15 1956

MARINE MINERALS INC.

P.O. BOX 028
Aiken, S.C.

August 7, 1956

Mr. Robert A. Laurence, Executive Officer,
DMEA Field Team, Region V
U. S. Dept of the Interior
Room 13, P.I. Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-2576
Monazite-Columbium-Rutile
Contract Idm-E392
Horse Creek Placer
Aiken County, S. C.

Dear Mr. Laurence:

We are enclosing our check No.2820 dated Aug. 7, 1956 for the amount of $2,062.78 for repayment of Government participation by production royalty. This represents payments of five percent of total shown on invoices amounting to $41,255.65 for July 1956.

Certified copies of original invoices on all shipments made from July 1, 1956 through July 31, 1956, totaling $41,255.65 are enclosed.

Following payments have been made thru July 31, 1956:

Contract Price		$40,677.15
Payment June 13, 1956 (Ck. No.2543)	$4,489.40	
Payment July 10, 1956 (Ck. No. 2687)	2,552.10	
Payment Aug.7, 1956 (Ck No.2820)	2,062.78	
		$9,104.28
Balance Due:		$31,372.87

Very truly yours,

L.W. Taylor, Jr. MARINE MINERALS, INC.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE

RECEIVED
AUG 15 1956

SOLD TO: Heavy Minerals Company
836 So. Michigan Ave.
Chicago 5, Illinois

DATE July 27, 1956

YOUR P. O. No.

SHIP TO:

Same

SHIP VIA: Hennis Freight Lines

TERMS Net 15 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
21.35 tons	Monazite (From the 21.35 tons we have on hand: 18.1 tons cleaned monazite 2.25 tons Tails 1 tons of mineral sand shipped 7/23/56) I certify that this is a true copy of invoice. Lewis W Taylor Jr	$280.00 per ton	$ 5,978.00

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

53

SOLD TO: Heavy Minerals Company
836 So. Michigan Ave.
Chicago 5, Illinois

SHIP TO:

Same

DATE July 26, 1956

YOUR P. O. No.

SHIP VIA: Railway Express

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
20 lbs.	Mineral Sand (shipped to via Railway Express 7/26/56) I certify that this is a true copy of invoice.	$4.00 per lb.	$ 80.00

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

52

SOLD TO: Norton Company
P. O. Box 87
Niagara Falls, Ontario

SHIP TO: Norton Company
Chippawa, Ontario

DATE July 26, 1956

YOUR P. O. No. 9865

SHIP VIA: Southern Cincinnati-
NYC - MC

TERMS Net 30 days

CORRECTED INVOICE

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
44 tons	Zircon Sand	$41.00 per ton	$ 1,804.00
	CORRECTED INVOICE		
	I certify that this is a true copy of invoice.		
	Lewis W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

51

SOLD TO: Cromet Inc.
3800 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cromet, Inc.
Royco, Tenn.

DATE July 20, 1956

YOUR P. O. No.

SHIP VIA: Southern car #280023 5/4/56

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
60.75 tons	Rutile (121,500 lbs.) TiO_2 90.6%	$225.00 per ton	$ 13,668.75

I certify that this is a true copy of invoice.

Lenna W Taylor

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

50

SOLD TO: Frank Samuel & Co., Inc.
Philadelphia National Bank Bldg.
Philadelphia 7, Pa.

SHIP TO: Frank Samuel & Co.
Conshohocken, Pa.

DATE July 17, 1956

YOUR P. O. No. Your Letter June 15, 1956

SHIP VIA: Southern c/o Reading RR

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon	$37.50 per ton	$ 1,875.00
	I certify that this is a true copy of invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

49

SOLD TO: Cromet Inc.
3600 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cromet Inc.
Boyce, Tenn.

DATE July 17, 1956

YOUR P. O. No.

SHIP VIA: Southern Car #319051

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
58.65 Tons	Rutile (117,300) lbs.	$225.00 ported	$13,196.25
	I certify that this is a true copy of invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

48

SOLD TO: Cromat Inc.
3000 North Hawthorne St.
Chattanooga, Tenn.

SHIP TO: Cromat Inc.
Soyce, Tenn.

DATE July 19, 1956

YOUR P. O. No. Re: Letter July 17, 1956

SHIP VIA:

TERMS Net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
3,000 lbs.	Rutile (to correct error on Shipment No. 6)		$337.50
	I certify that this is a true copy of invoice.		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

44

SOLD TO: Union Carbide & Carbon Corporation
Electro-Met-Division
Niagara Falls, New York

DATE July 12, 1956

YOUR P. O. No.

SHIP TO:

Same

SHIP VIA: Southern

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
58 tons.	Ilmenite Ore Car # 280023, wt. 116,000 lbs.	$19.00 per ton	$1,102.00
67.85 tons	Ilmenite Ore Car # 416010, wt. 135,700 lbs.	$19.00 per ton	1,289.15
			$2,391.15

I certify that this is a true copy of invoice.

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

42

RECEIVED

AUG 15 1956

SOLD TO: Orefraction Incorporated
7425 Thomas Street
Pittsburgh 8, Pa.

DATE July 3, 1956

YOUR P. O. No. 6593

SHIP TO: Orefraction Incorporated
Wilkinsburg, Pa.

SHIP VIA: Southern car No. D&H 18224

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
55 tons	Zircon Ore	$35.00 per ton	$1,925.00
	I certify that this is a true copy of invoice.		
	Lewis W. Taylor Jr		

TRIPLICATE

STANDARD FORM 201 (Formerly Cert. of Deposit, Form 1)
Promulgated Oct. 1949 by Treasury Dept., Fiscal Service

THIS DEPOSIT IS NOT SUBJECT TO CHECK

For credit of 428 Br. Tray[illegible] Regional Office, Oak Ridge, Tenn[illegible] 7/13/56
(Name, title, and disbursing [illegible]er identification symbol of accountable officer) [illegible] (Date sent)

DEPOSIT NO. 14-23-070-6

deposited with Hamilton National Bank, Knoxville, Tennessee
(Name and location of depositary)

$ 2,808.99

for accounts listed below. SCHEDULE NOS.

ACCOUNT SYMBOL	TITLE OF ACCOUNT TO BE CREDITED	AMOUNT
14X4401	Idm-E-392 Marine Minerals (Royalty Payment)	2,552.10
	Idm-E-920 A. T. Garland (Royalty Payment)	7.27
	Idm-E-863 Harris Mining Co. (Royalty Payment)	249.62

(Depositor will insert below his name, title, Department or Agency concerned, and his address)

Defense Minerals Exploration Administration
Bureau of Mines, Dept. of Interior
Helen R. Miller, Adm. Asst.
P. O. Box 217
Norris, Tennessee

SPACE BELOW TO BE USED BY DEPOSITARY ONLY

I certify that the above amount has been received for credit in the account of the Treasurer of the United States on the date shown, subject to adjustment for uncollectible items included therein.

(Authorized signature)

(Date of credit in Treasurer's account)

DEPOSITARY WILL DATE, SIGN, AND RETURN THIS TO DEPOSITOR FOR HIS RETAINED COPY

16—59686b-1 GPO

7-16-56

RECEIVED
JUL 16 1956

July 12, 1956

Memorandum

To: Helen Miller, Ass't Administrative Officer-Region V-Norris, Tenn

From: Executive Officer, DMEA - Region V - Knoxville, Tenn.

Subject: Royalty Payment - Idm-E392, DMEA-2576 (Monazite-Columbium-Rutile) Marine Minerals, Inc., Assignee. Aiken South Carolina

Transmitted are bills-of-sale for June 1956 in the amount of $50, 128.75; and a royalty check in the amount of $2,552.10. This check includes the $45.66 royalty due on Invoice No.5, dated March 31, 1956, which was not included when the royalty was paid for March.

Robert A. Laurence

?M.
cc:
Mittendorf
Lynch
Files

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RECEIVED
JUL 1 0 1956

MARINE MINERALS INC.
P.O. Box 928
Aiken, South Carolina

July 10, 1956

Mr. Robert A. Laurence, Executive Officer
DMEA Field Team, Region V
United States Department of the Interior
Room 13, Post Office Bldg.
Knoxville 2, Tennessee

Re: Docket No. DMEA-2576
(Monazite-Columbium-Rutile)
Contract Idm-E392
Horse Creek Placer
Aiken County, South Carolina

Dear Mr. Laurence:

We are enclosing our check No.2687 dated July 10, 1956 for the amount of $2,552.10 for repayment of Government participation by production royalty.

This represents payment of five percent of total shown on invoices amounting to $50,128.75 - $2,506.44 for June, also includes payment for the $913.20 - $45.66 which was the Marine Minerals, Inc., portion of Invoice No.5.

Certified copies of original invoices on all shipments made from June 1, 1956 through June 30, 1956 totaling $50,128.75 are enclosed.

Very truly yours,

MARINE MINERALS, INC.

/s L. W. Taylor, Jr.

Copied by ZM.
cc:
Lynch
Mittendorf

IDME - 392
Horse Creek Placer

1,875.00
12,138.75
1,765.00
13,590.00
5,880.00
1,875.00
13,005.00

50,128.75

June invoices

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928
AIKEN, SOUTH CAROLINA

INVOICE

22

RECEIVED
JUL 16 1956

SOLD TO: Frank Samuel & Co.
Philco Bldg National Bank Bldg.
Philadelphia 7, Pa.

SHIP TO: Frank Samuels & Co.
Conshohocken, Pa.

DATE June 11, 1956

YOUR P. O. No.

SHIP VIA: Southern c/o Reading R R

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Ilmen Ore	$37.50 per ton	$1,875.00
	I certify that this is a true copy of the invoice		
	Lewis W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
33

SOLD TO: Cramet, Inc.
3000 North Hawthorne St.
Chattanooga, Tenn.

DATE June 12, 1956

YOUR P. O. No.

SHIP TO: Cramet, Inc.
Doyes, Tenn.

SHIP VIA: Southern Car
No. 116020

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
59.95tons	Rutile Ore in Bulk Weight 107,900 lbs.	$225.00 per ton	$12,130.75
	Shipment 6		
	CRAMET, INC. TiO_2 93.53 Southern Analytical TiO_2 93.63 Crane Co. TiO_2 93.63		
	I certify that this is a true copy of the invoice Lewis W. Taylor		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

34

SOLD TO: Crefraction Inc.
7429 Thomas St.
Pittsburgh 8, Pa.

SHIP TO: Crefraction Inc.
Williamsburg, Pa.

DATE June 15, 1956

YOUR P. O. No. 6582

SHIP VIA: Best-Pat.Yd.-TR

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
35 tons	Zircon Averaging less than 25 lights	@35.00 per ton	$1,225.00
18 tons	Zircon Averaging less than 25 lights (an off color)	@30.00 per ton	540.00
	I certify that this is a true copy of invoice		$1,765.00

Lewis W Taylor Jr

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE
36

RECEIVED
JUL 16 1956

SOLD TO: Cromet, Inc.
3030 North Southern Street
Chattanooga, Tenn.

DATE 6/21/56

YOUR P. O. No.

SHIP TO: Cromet, Inc.
Boyce, Tenn.

SHIP VIA: Southern Car # 416010

TERMS Net 30 days

SHIPMENT NO. 9
Car No. 416010

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
60.4 tons	Rutile Ore in Bulk Weight 120,800	$225.00 per ton	$13,590.00
	Cromet, Inc. TiO_2 94.9 Southern Analytical TiO_2 95.8		
	I certify that this is a true copy of the invoice. Lewis W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

38

SOLD TO: Heavy Minerals Company
836 So. Michigan Ave.
Chicago 5, Ill.

SHIP TO: Same

DATE June 25, 1956

YOUR P. O. No.

SHIP VIA:

TERMS Net 15 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
	21 Tons Monazite @ $250 per ton	$250. per ton	$5,880.00
	(From the 21 tons, we have on hand: 18 tons cleaned monazite ~~xxxxxxxxxxxxxxxxxxxxxxxxxx~~ 400 lbs. of middling product)		
	I certify that this is a true copy of the invoice.		

Lewis W. Taylor Jr.

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

39

RECEIVED

JUL 16 1956

SOLD TO: Frank Samuel & Company Inc.
Philadelphia National Bank Building
Philadelphia 7, Pa.

DATE June 26, 1956

YOUR P. O. No. Letter 6/14/56

SHIP TO: Frank Samuel & Co.
Conshohocken, Pa.

SHIP VIA: Atlantic Coast Line #
Reading RR
Car # 53319

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
50 tons	Zircon Ore	$37.50 per ton	$ 1,875.00
	I certify that this is true copy of the invoice.		
	Leon W Taylor Jr		

TELEPHONE: BATH 2593-4

MARINE MINERALS, INC.

P. O. BOX 928

AIKEN, SOUTH CAROLINA

INVOICE

49

SOLD TO: Granot, Inc.
2200 North Hawthorne St.
Chattanooga, Tenn.

DATE June 20, 1956

YOUR P. O. No.

SHIP TO: Granot, Inc.
Loyce, Tenn.

SHIP VIA: Southern Car
219051

TERMS Net 30 days

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
57.6 tons	Rutile Ore in Bulk (115,400 lbs.) Granot TiO_2 95.1 Southern Analytical TiO_2 96.6	$228.00 per ton	$13,099.00

I certify that this is a true copy of the invoice.

Lewis W. Taylor, Jr.

E-392

For Certificate of Deposit No. 113, dated June 19, 1956, giving royalty repayment of $4,489.40, see E-98.

STANDARD FORM NO. 64

6/27/56

Office Memorandum • UNITED STATES GOVERNMENT

TO : Mr. C. O. Mittendorf, DMEA

DATE: 6-25-56

FROM : Knoxville DMEA Office

RECEIVED
JUN 27 1956

SUBJECT: DMEA-2576, Idm-E392, Marine Minerals Inc. Aiken S. C.

Attached is a copyof invoice in answer to our letter to Mr. L. W. Taylor, Jr. of Marine Minerals Inc., of June 18, 1956, copy of which was attached to their invoices mailed your office 6-18-56.

Mittendorf

TELEPHONE: BATH 2593-4

CORRECTED COPY

MARINE MINERALS, INC.
P. O. BOX 928
AIKEN, SOUTH CAROLINA

RECEIVED
JUN 27 1956

INVOICE
5
CORRECTED COPY

SOLD TO: Cramont, Inc.
3300 North Hawthorne St.
Chattanooga, Tenn.

DATE March 31, 1956

YOUR P. O. No. 6478

SHIP TO: U. S. Department of the Interior
Bureau of Mines
Albany, Oregon

SHIP VIA: Southern

TERMS 30 days net

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
2 cars	Car No. 177211 Weight 118,000 3/30/56 Car No. 60758 Weight 110,000 3/20/56 228,300 - 114.15 tons	$20.00 per ton	$ 2,283.00
	REMITTE As per Dr. Sakariants letter of October 26, 1956 2/5 of this amount to be paid by Marine Minerals,		-$ 913.80
	3/5 of this amount to be paid by Cramet, Inc,	Balance Due	$ 1,369.20
	I certify this is a true copy of the original invoice. Lewis W Taylor		

Standard Form No. 1044—Revised
Form approved by Comptroller General U. S.
June 25, 1936

SCHEDULE OF COLLECTIONS

Schedule No. K-43

Sheet No.

Defense Mineral Exploration Administration (Department or Establishment)

14-23070 (Bureau or Office)

Received by B. A. Hudson, Regional Disbursing Officer (Name) (Title) at Oak Ridge, Tenn. (Station)

Period April 1954 (Month or quarter ended)

D. O. Symbol No. 1428

Date Received	Receipt Number	Name of Remitter	Detail Description of Purpose for Which Collections Were Received	Amount	Fund to be Credited (Symbol and title in full)
Check No. T-5534 dated 4/20/54		Callahan Mine-lead Co., Inc. (The New York Trust Co.)	Repayment of over-payment on contract Idm-E-392 JCA 2576	628.20	14X4401 Revolving Fund, Defense Production Act, Interior.
			Total,	628.20	

Received ....., subject to collection.

Forwarded April 23, 1954

(Disbursing clerk or accountable officer)

By .....

By .....

Lillian B. Blair (Name)

Title Authorized Certifying Officer

Certificate of Deposit No. ..... dated .....

Form MF-104 (Rev.)
(April 1952)

FINAL REPORT

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval Expires 6-30-53.

Defense Minerals Administration
RECEIVED
OCT 21 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May 1953 Docket No. DMEA 2576 Contract No. Idm-E392
Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite
Address 100 Park Avenue, New York 17, New York Columbium, Rutile
Contract Amount, $ 57,593.00 Government Participation: 83 % Amount, $ 47,802.19

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor see schedule att.	468.50	22,143.70	22,612.20			
Supervision	300.00	4,800.00	5,100.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
~~Timber~~ shaft timber		367.30	367.30			
~~Explosives~~ pump fuel	(30.00)	170.59	140.59			
~~Pipe~~ pump power	59.03	254.72	313.75			
Track						
tools and supplies		921.54	921.54			
gas,oil,tires,etc.		1,113.94	1,113.94			
(4) Operating Equipment:						
Rental		972.32	972.32			
Purchase		7,106.14	7,106.14			
Depreciation		916.65	916.65			
(5) Initial Rehabilitation and Repairs		1,108.22	1,108.22			
(6) New Bldgs., Improvements, etc.		1,378.12	1,378.12			
(7) Miscellaneous:						
Repairs to Equipment	89.68	395.37	485.05			
Sampling and Analysis	1,336.00	2,137.85	3,473.85			
Payroll Taxes	498.68	480.40	979.08			
Liability Insurance		930.20	930.20			
see schedule attch'd	153.15	9,005.43	9,158.58			
(8) Contingencies (specify):						
expenses re Tuscaloosa		313.87	313.87			
extra technical labor for shaft		118.00	118.00			
TOTALS	2,875.04	54,634.36	57,509.40			

I certify that the above bill is correct and just and that payment therefor has not been received.

Date July 1, 1953 *Payee Callahan Zinc-Lead Company, Inc.

Per [signature] Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 0

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. ..... in accordance with the terms of the contract.

Signature ..... Title ..... Date .....

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature ..... Title ..... Date .....

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

FINAL REPORT
FORM NF 104 (Rev.)

Operator's Monthly Report and Voucher
May 1953

Distribution of Perry's Mining Company Payroll
to IDM-E392 for May 1953

Total payroll per payroll sheets attached	$ 937.00
$ not chargeable under contract	468.50
Payroll charged to IDM-E392	$ 468.50

Distribution of Per Diem Payments
to IDM-E392 for May 1953

Total per diem per payroll sheets attached	$ 248.00
$ not chargeable under contract	124.00
Per diem payments chargeable to IDM-E392	$ 124.00

FINAL REPORT
FORM MF 104 (Rev.)

Operator's Monthly Report and Voucher
May 1953

Payroll Taxes Charged to Project

Total payroll 1st quarter 1953	$ 10,103.52	
Less: Payroll not chargeable to IDM-E392 Contract	663.38	
Payroll chargeable under IDM-E392	$ 9,440.14	
S.S. Charged to IDM-E392, 1st quarter 1953 1.5% x $9,440.14 =	$ 141.66	
Unemployment insurance chargeable to IDM-E392 $9,440.14 x 3%	283.20	
Total payroll tax 1st quarter		$424.86
Total payroll April & May 1953	$ 2,217.00	
Less: Payroll not chargeable under IDM-E392 contract	576.50	
Payroll chargeable to IDM-E392 for April, May 1953	$ 1,640.50	
S.S. Taxes chargeable to IDM-E392 for April & May 1953 $1,640.50 x 1.5 =	24.61	
Unemployment insurance charged to IDM-E392 for April, May 1953 $1,640.50 x 3%	49.21	
Total payroll taxes charged to IDM-E392 for April, May 1953		73.82
Total payroll taxes charged to IDM-E392 for May 1953 Report		$ 498.68

FINAL REPORT
FORM MF 104

Schedule supporting Item (7) on Form MF 104 (Rev.)
Operator's Monthly Report and Voucher
May 1953

	This Month	Total Previously Reported	Total to Date
Accounting	$	87.50	87.50
Compensation insurance		362.80	362.80
Office expense	29.15	1,058.15	1,087.30
Moving equipment and crew		1,803.99	1,803.99
Per diem (see schedule attached)	124.00	5,496.00	5,620.00
Freight on sand shipped to U. S. Bureau of Mines at Tuscaloosa, Alabama		196.99	196.99
	$ 153.15	9,005.43	9,158.58

Form MF-104A
(April 1952)

FINAL REPORT

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 21 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1953 Docket No. DMEA 2576 Contract No. Idm-E392
Operator's Name Callahan Zinc-Lead Company Minerals Monazite
Address 100 Park Avenue, New York 17, New York Columbium, Rutile

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn				23,606.68				
Auger								
Stripping								
Trenching								
Test Pits: Shafts		2875.04		20,157.09				
Roads and Trails								
				2,349.16				
TOTAL DISTRIBUTED COSTS				46,112.93				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased				7,106.14				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.				1,378.12				
moving equip. & Crew				1,803.99				
TOTAL COSTS		2875.04		57,509.40				

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

Date July 1, 1953 Operator Callahan Zinc-Lead Company

Per E. A. Sales Title Treasurer

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
SOUTHEASTERN REGION
REGION VII
HAMILTON BANK BUILDING

OFFICE OF
REGIONAL DIRECTOR

POST OFFICE BOX 1909
KNOXVILLE, TENNESSEE

OCT 2 - 1953

October 16, 1953

Memorandum

To: J. L. Chambers, Defense Mineral Exploration Administration, Interior Building, Washington 25, D. C.

From: Administrative Officer, Region VII, Knoxville, Tennessee

Subject: Monthly report and voucher

We are enclosing two copies of the following monthly report and voucher:

Idm-L-392 Callahan Zinc-Lead Company, Inc.
DMEA Docket No. 2576
Report for May
Amount of Payment - 0 -

Helen R. Miller

Enclosures 2

/hbm
Copies to R. A. Lawrence
W. A. Beck
Region Files
Day Files

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of [illegible] 195[illegible] Docket No. DMEA [illegible] Contract No. [illegible]
Operator's Name [illegible]
Minerals [illegible]
Address [illegible]
Contract Amount, $[illegible] Government Participation: [illegible] % Amount, $[illegible]

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:	[illegible]	[illegible]	[illegible]			
Labor	[illegible]	[illegible]	[illegible]			
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	[illegible]	[illegible]	[illegible]			
Explosives		[illegible]	[illegible]			
Pipe	[illegible]		[illegible]			
Track						
[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]			
(4) Operating Equipment:						
Rental	[illegible]	[illegible]	[illegible]			
Purchase	[illegible]	[illegible]	[illegible]			
Depreciation		[illegible]	[illegible]			
(5) Initial Rehabilitation and Repairs		[illegible]	[illegible]			
(6) New Bldgs., Improvements, etc.	[illegible]	[illegible]	[illegible]			
(7) Miscellaneous:						
Repairs to Equipment	[illegible]	[illegible]	[illegible]			
Sampling and Analysis	[illegible]	[illegible]	[illegible]			
Payroll Taxes		[illegible]	[illegible]			
Liability Insurance		[illegible]	[illegible]			
[illegible] attached	[illegible]	[illegible]	[illegible]			
(8) Contingencies (specify): [illegible]		[illegible]	[illegible]			
[illegible]						
[illegible]		[illegible]	[illegible]			
Totals	[illegible]	[illegible]	[illegible]			

I certify that the above bill is correct and just and that payment therefor has not been received.

Date [illegible], 1953 *Payee [illegible]

Per [illegible] Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ **NOTE.—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.**

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ [illegible]

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. ..... in accordance with the terms of the contract.

Signature ..... Title ..... Date .....

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature ..... Title ..... Date .....

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

IDM-E392

Form MF-104 (Rev.) Operation Monthly Report and Voucher

Schedule of Perry Mining Company payroll chargeable to IDM-E392

April, 1953

Total payroll per April payroll summary attached		$ 1280.00
Less: Drilling on property outside of the IDM-E392 contract:		
Cey Yonce - April 2, 3, and 6th = 24 hours @ 1.50	$ 36.00	
Thomas Beaman - April 2, 3, and 6th = 24 hours @ 1.50	36.00	
Shelby Corlisle - April 2, 3, and 6th = 24 hours @ 1.50	36.00	108.00
Total payroll chargeable to IDM-E392 for April 1953		1172.00

Form MF104

Schedule supporting Item (7) on Form MF104(Rev)

Operator's Monthly Report and Voucher

April, 1953

	This Month	Totals previously reported	Total to Date
Accounting	37.50	50.00	87.50
Compensation Insurance		362.80	362.80
Office Expense	366.36	691.79	1058.15
Moving equipment and crew	136.25	1667.74	1803.99
Per diem	400.00	5096.00	5496.00
Freight on sand shipped to US Bureau of Mines at Tuscaloosa, Alabama		196.99	196.99
	940.11	8065.32	9005.43

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
[illegible]

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 195[illegible]3 Docket No. DMEA [illegible] Contract No. [illegible]
Operator's Name [illegible]llaian Inc-[illegible]al [illegible]rpany Minerals [illegible]arts
Address 100 [illegible]ark Avenue, [illegible]w York [illegible], [illegible] [illegible]olorado, [illegible]

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core				23,[illegible]				
Churn								
Auger								
Stripping								
Trenching								
Test Pits [illegible]arts		[illegible]12.17		17,232.05				
Roads and Trails								
[illegible]eparator [illegible]osts				2,3[illegible].1[illegible]				
TOTAL DISTRIBUTED COSTS		[illegible]12.17		[illegible]3,237.[illegible]				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		11.53		7,1[illegible].1[illegible]				
Initial Rehabilitation and Repairs				1,1[illegible].22				
New Buildings, Improvements, etc.		0.00		1,37[illegible].12				
[illegible]ovin[illegible] [illegible]ment [illegible] crew		135.25		1,[illegible]3.99				
TOTAL COSTS		[illegible]39.97		5[illegible],[illegible]1.30				

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

Date [illegible] Operator [illegible]llaian [illegible]al [illegible]pany

Per [illegible] Title [illegible]rer

[illegible]

→ NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

Form DIF-101 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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APR 27 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of [illegible]arch, 195[illegible] Docket No. DMEA [illegible] Contract No. [illegible]

Operator's Name [illegible] Minerals [illegible]

Address [illegible] York 17, New York

Contract Amount, $ [illegible] Government Participation: [illegible]% [illegible]ion Amount, $ [illegible]

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	3,02[illegible].12	17,943.[illegible]	20,971.70			
Supervision	[illegible]2.00	3,000.00	1,200.00			
Technical Services						
(3) Operating Mat'ls and Supplies:						
[illegible] Timber	21.1[illegible]	336.73	3[illegible].97			
Explosives [illegible]	17[illegible].59		17[illegible].59			
Pipe						
Track						
[illegible]	[illegible].1[illegible]	[illegible]5.1[illegible]	[illegible]			
[illegible], lt, tran, etc.	132.[illegible]	[illegible]0.29	213.27			
(4) Operating Equipment:						
Rental	19.[illegible]	7[illegible].30	7[illegible].73			
Purchase	3[illegible].05	[illegible],73[illegible]	1,0[illegible]4.59			
Depreciation		91[illegible].[illegible]	91[illegible].[illegible]			
(5) Initial Rehabilitation and Repairs		1,10[illegible].22	1,10[illegible].22			
(6) New Bldgs., Improvements, etc.	29.[illegible]	[illegible].91	1,29[illegible].12			
(7) Miscellaneous:						
Repairs to Equipment	5[illegible].11	250.7[illegible]	3[illegible]9.1[illegible]			
Sampling and Analysis	19.10	1,03[illegible].07	1,055.77			
Payroll Taxes		1[illegible]0.10	1[illegible]0.10			
Liability Insurance		530.20	530.20			
[illegible]	97.90	7,9[illegible].12	[illegible],015.32			
(8) Contingencies (specify):						
[illegible] extra technical labor		313.[illegible]	313.[illegible]			
for staff		11[illegible].00	11[illegible].00			
TOTALS	[illegible],0[illegible]4.20	43,930.19	49,9[illegible]4.39	6,064.26	43,930.19	49,994.39

I certify that the above bill is correct and just and that payment therefor has not been received. [illegible] 1[illegible], 1953 [illegible]

Date _____ *Payee _____

Per [illegible] Title [illegible]

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 5,033.29

Signature Cora A. Piper
(Authorized Certifying Officer)

Date APR 22 1953 Vou. No. 153
(See other side)

1030.91

7 cl

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IAm E292 in accordance with the terms of the contract.

Signature Henry S. Johnson, Jr. Title Geologist USGS Date APR 20 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA REGION VII Date APR 20 1953

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF 104

Schedule Supporting Item (7) on Form MF104 (Rev.)

Operator's Monthly Report and Voucher
March 1952

	This Month	Total previously reported	Totals to Date
Accounting		50.00	50.00
Compensation insurance		362.80	362.80
Office Expense	91.62	600.17	691.79
Moving Equipment & Crew	183.28	1,484.46	1,667.74
Per Diem	702.00	4,394.00	5,096.00
Freight on Sand shipped to U. S. Bureau of Mines at Tuscaloosa, Alabama		196.99	196.99
	976.90	7,088.42	8,065.32

MF 104 (Rev.)

Operator's Monthly Report and Voucher
March 1952

Distribution of Parry's Mining Company Payroll to
Idm-E392 for March 1952

Total payroll per payroll sheets attached					3,316.12
Less: Payroll applicable to drilling property not included under Contract No. Idm-E392:					
	Lesher Robertson	6 days @	$ 16.00	96.00	
	Ernest Winham	6 days @	12.00	72.00	
	Shelby Carlisle	6 days @	12.00	72.00	
	Fred L. Davis	3 days @	16.00	48.00	288.00
Payroll charged to Idm-E392					$3,028.12

MF 104 (Rev.)

Operator's Monthly Report and Voucher
March 1, 1953

Distribution of Perry's Mining Company Per Diem
Payments to Idm-E392 for March, 1952.

Total per diem payments per payroll sheet attached			$ 756.00
Less: per diem payments applicable to work performed on property not included under Contract No. Idm-E392:			
Lester Robertson	6 days @ $ 6.00	$ 36.00	
Fred L. Davis	3 days @ 6.00	18.00	54.00
Per diem payments charged to Idm-E392			$ 702.00

REPORT FOR MARCH 1953

The shaft work, begun on February 16, was carried through as outlined in the February report. The three shafts were put down, the last one being completed on March 25. The final cleaning of this shaft concentrate was completed in the laboratory and it was shipped to the Carpco Engineering Company laboratory at Jacksonville on March 31.

There was some delay in finishing this last shaft due to rainy weather. During the wet weather several drill holes were put down on property not included in this contract and the cost of this work has been deducted from the payroll for the month.

The radiometric determination of Monzaite contained in the last two shafts checked closely with drill holes as did the first shaft reported in February. As to the other point that had to be settled by this shaft work, the weight of a cubic yard of material in place (so as to convert our data from pounds per ton to pounds per cubic yard), the shafts indicate that a safe figure to use will be 2600 lbs per cu.yd. and our figures will be based on this.

Considering the rather indefinite results from the jig work done in November at the Tuscaloosa laboratory, and since our test jig set up was now all in perfect order, and since we had on hand the men broken in to operate it without delay or preparitory expense, it was decided that it would be wise to put through several test runs of material to determine a probable percent recovery figure on jigs that were taking a practical operating volume of feed.

It will be remembered that this could not be done on the Tuscaloosa equipment and that the shaft material was fed to the jigs with the idea of making a complete recovery so as to evaluate the drilling, not to test the feasibility. of recovery of the material on a commercial scale.

Material for these runs was available alongside the washing plant from the excavation made to set up the jigs, and so this involved no expense of digging or hauling. Only two men were retained on the payroll for this work in addition to Mr. Larry Davis, one of the two engineers who will be kept on the job.

The jigs were fed at the rate of a ton of material per hour per sq. ft. of jig bed, which is a practical rate of feed that we would expect to use. The laboratory work on these tests is not yet complete, but they indicate that a recovery of Monazite by the rougher jigs of around 95% can be expected.

Mr. Davis and Mr. Munzenrider will be occupied for some time, enterpreting and summarizing the data obtained. Other than this, only one man is left on the payroll gathering up the equipment and putting it in order.

The final technical report of results will be forwarded shortly.

Yours

O. H. Perry

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

Month of March 1953 Docket No. DMEA 2575 Contract No. [illegible]
Operator's Name Callahan Mineral Company Minerals Chromite
Address 100 Park Avenue, New York 17, N. Y. Columbia, Cattle

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn				23,[illegible]				
Auger								
Stripping								
Trenching								
Test Pits [illegible]		1,395.26		12,[illegible]				
Roads and Trails								
Preparatory Costs				2,312.16				
TOTAL DISTRIBUTED COSTS		4,[illegible].26		38,325.72				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		356.05		7,[illegible]				
Initial Rehabilitation and Repairs				1,[illegible].22				
New Buildings, Improvements, etc.		29.1		1,[illegible].12				
Other Expense Over		153.2[illegible]		1,[illegible]				
TOTAL COSTS		5,[illegible].2[illegible]		49,[illegible].39				

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

Date April 15, 1953 Operator Callahan Mineral Company

Per E. A. Sato Title Treasurer

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
SOUTHEASTERN REGION
REGION VII
HAMILTON BANK BUILDING

OFFICE OF
REGIONAL DIRECTOR

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 9 1953

POST OFFICE BOX 1909
KNOXVILLE, TENNESSEE

April 7, 1953

Memorandum

To: J. L. Chambers, Defense Minerals Exploration Administration, Interior Building, Washington, D. C.

From: Administrative Officer, Region VII, Knoxville, Tennessee

Subject: Monthly reports and vouchers

We are enclosing two copies each of the following monthly reports and vouchers:

Idm-E-314 Fred Arrowood
DMEA Docket No. 1875X
9th and Final payment - month of March
Amount $472.50

Idm-E-392 Callahan Zinc-Lead Company
DMEA Docket No. 2576
6th payment - month of February
Amount $6517.48

Idm-E-407 Fred Wilson
DMEA Docket No. 2533
5th payment - month of March
Amount $630.00

Idm-E-476 Andrew J. Reid
DMEA Docket No. 2327
1st and final payment - months of February-March
Amount $1628.10
Starting Date: February 23, 1953
Completion Date: March 27, 1953

Helen M. Miller

CC: R. A. Lawrence
R. A. Deck

DMEA-104 (Rev. April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R103.8.
Approval expires 6-30-53.

RECEIVED 138
APR 9 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February 3 2576
Operator's Name Callahan Zinc-Lead Company No. DMEA
Address 100 Park Avenue, New York 17, N. Y.
Contract Amount, $ 57,593.00 Government Participation: ____ %

Contract No. DM-E 392
Minerals Hematite, Manganese, Rutile
Amount, $ 47,802.19

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:	3,218.00	14,725.58	17,943.58	3,218.00	14,725.58	17,943.58
Labor	600.00	3,000.00	3,600.00	600.00	3,000.00	3,600.00
Supervision						
Technical Services						
(3) Operating Materials:	336.93		336.93	336.93		336.93
Timber						
Explosives						
Pipe						
Small tools, supplies	55.16	760.30	815.46	55.16	760.30	815.46
Gas, Oil, Tires	123.59	656.70	780.29	123.59	656.70	780.29
(4) Operating Equipment:	764.30		764.30	764.30		764.30
Rental	33.58	6,704.96	6,738.54	33.58	6,704.96	6,738.54
Purchase		916.65	916.65		916.65	916.65
Depreciation		1,108.22	1,108.22		1,108.22	1,108.22
(5) Initial Rehabilitation and Repairs	178.69	489.82	668.51	178.69	489.82	668.51
(6) New Bldgs., Improvements, etc.		290.75	290.75		290.75	290.75
(7) Miscellaneous:						
Repairs to Equipment	799.88	236.19	1,036.07	799.88	236.19	1,036.07
Sampling and Analysis	480.40		480.40	480.40		480.40
Payroll Taxes		930.20	930.20		930.20	930.20
See payroll schedule attached	1,143.85	5,944.57	7,088.42	1,143.85	5,944.57	7,088.42
(8) Contract Engineers, Tuscaloosa		313.87	313.87		313.87	313.87
Extra technical labor for shaft	118.00		118.00	118.00		118.00
	7,852.38	36,077.81	43,930.19	7,852.38	36,077.81	43,930.19
TOTALS						

I certify that the above bill is correct and just and that payment therefor has not been received.
Date 3/17/53 *Payee Callahan Zinc-Lead Company
Per [signature] Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$6,517.48

Signature [signature] (Authorized Certifying Officer)
Date APR 6 1953 Vou. No. 135
(See other side)

6

1,334.90

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm-E392 in accordance with the terms of the contract.

Signature Henry S. Johnson, Jr. Title Geologist Date March 30, 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title EXECUTIVE OFFICER DMEA REGION VII Date MAR 31 1953

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF 104

Schedule Supporting Item (7) on Form MF 104 (Rev.)
Operation Monthly Report and Voucher
February, 1953

	This Month	Totals Previously Reported	Totals to Date
Accounting	$	$ 50.00	$ 50.00
Compensation Insurance		362.80	362.80
Office Expenses	121.90	478.27	600.17
Moving Equipment & Crew	261.95	1,222.51	1,484.46
Per Diem	760.00	3,634.00	4,394.00
Freight on Sand Shipped to U.S. Bureau of Mines at Tuscaloosa, Alabama		196.99	196.99
	$ 1,143.85	$ 5,944.57	$ 7,088.42

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 9 1953

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 3 1953 Docket No. DMEA 2576 Contract No. IDM-E 392
Operator's Name Callahan Zinc-Lead Company Minerals Monazite,
Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core				23,606.68				
Churn								
Auger								
Stripping								
Trenching & Shafts		7,378.16		7,974.62				
Test Pits								
Roads and Trails								
Preparatory Costs				2,349.16				
Total Distributed Costs		7,378.16		33,930.46				Total Costs Authorized by Contract
Operating Equipment Purchased		33.58		6,738.54				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.		178.69		668.51				
Moving Equip. & Crew		261.95		1,484.46				
Total Costs		7,852.38		43,930.19				

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

Date 7/17/53 Operator Callahan Zinc-Lead Company

Per E. G. Sachs Title Treasurer

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

4/7/53 gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13, POST OFFICE BLDG.
KNOXVILLE 2, TENN.

April 1, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 6 1953

Memorandum

To: Operating Committee, D M E A- Washington

From: Executive Officer, DMEA - Region 7

Subject: DMEA-2576, Idm-E392, Callahan Zinc-Lead Co. (Monazite, rutile, columbium)

Transmitted herewith are the February narrative, assay returns and computations as of March 10, 1953, Revised list of Drill Data and a copy of a letter from Foote Mineral Company on the subject contract.

There are also enclosed copies of laboratory reports from Carpco Engineering and Manufacturing.

Robert A. Laurence

Robert A. Laurence

DEPARTMENT OF THE INTERIOR
Bureau of Mines Library
APR 6 1956

REPORT FOR FEBRUARY - 1953

The work of putting down test shafts to check the results of drilling has gone very slowly and is therefore costing much more than was expected. This has been due partly to the almost continuous rainy weather that we have had since the 16th of February that has saturated the ground. It is also due to the inherent limitations of well point equipment.

Preparations for the shaft work were begun about February 16. The washing and concentrating plant was set up and some time was spent making test runs of material to adjust the equipment. The purpose in view, of course, was to get an accurate check of the drill results rather than to make any further tests of recovery methods at this time. Provision was made to take a continuous samples of heads and of tailings. These cuts and the concentrates were cleaned on the laboratory Wilfley table to determine over-all recovery.

After several runs, it was determined that a recovery approaching 100% could be made by using the jigs alone, meantime getting a sufficiently high grade of concentrate to be suitable for a final cleaning directly on the laboratory table, without using the Humphrey Spiral for reconcentration, as was done at Tuscaloosa. This was an advantage, as the use of the spiral would double the work of sampling heads and tailings and also double the possibility of error in the results. Therefore, after considering these results as against the work done at Tuscaloosa, it was decided that we should not use the spirals on the shaft material, but would concentrate on the jigs and re-clean on the Wilfley Table.

The well point equipment for dewatering the shaft areas did not arrive on the job until Monday, February 16. We had the Griffin Well Point Company, from whom we rented the equipment, send along an expert foreman to make and operate the first installation. This was advisable since we were not familiar with the operation. The equipment was set up and actual shafting was begun on Wednesday, February 18.

The first shaft undertaken was put down over drill hole F-1-N. This was a 4" hole in low wet ground. It was chosen because so many of our holes are of this kind, and this is the only one of these that it seemed possible to shaft. Further, we wanted to try the most difficult-looking job of dewatering while the well point expert was with us. The drill log will show that we had called the dredging depth of this hole 15 feet. However, the bottom 2-1/2 feet carries small values, the bulk of the values being in the stratum between 2-1/2 and 12-1/2 feet.

The jetting down of the well points developed the fact that the trace of clay shown on the drill log from 7-1/2 feet down is actually thin layers of clay in the bed of sand. These clay layers acted as false water tables and prevented the well points from draining the upper layers of sand. By pulling the points out and re-jetting them down again several times, the well point foreman was finally able to lower the normal water level of a few inches below the surface to a depth of ten feet only.

The examination of several drill logs will show that the major part of the values in the hole come from a stratum of clean sand that ends several feet above the sand-clay "bed rock" that we have designated as the limit of dredging. This intervening stratum of several feet carried deminishing values since it is actually a mixture of the clean pay sand with the material of the clay-sand bottom. It is of more or less dredgable grade, but is not of great importance to the total value of the hole.

We find that there is just enough clay mixed in the layer to make it more or less impermeable to water, and that this layer acts as the water table rather than the sand-clay bed rock below. We discovered that when the well points were driven into this layer, the trace of clay tends to blind or seal the well point screens so that they lose capacity as the pumping continues. As a result, we found it impossible to drain this lowest layer. The clean pay sand above carries a flood of water.

Various devices were tried by the well point foreman, but we were able to get this shaft down dry to only ten feet, so a sample was taken to this depth, divided into five foot lifts so as to correspond to the drill sample. It was impossible to prevent a great run in of sand and water below this level, and the shaft was finally discontinued at this depth.

These samples were concentrated on the jigs and the concentrates cleaned on the laboratory table and a radiometric determination made of Monozite to compare the recovery made from this ten feet of shaft with the same ten feet of the drill hole. The comparison is as follows: —

Shaft F-1-N,	0'	to	10'	equals	1.07	lbs Monozite	per ton
Drill Hole F-1-N,	"	"	"		1.12	" "	" "

This is, of course, a phenominally closer check than can ordinarily be expected and is still subject to revision by Carpco's assay.

It is our opinion that while it is a disappointment not to have been able to put this shaft down to the full depth at which we had intended to cut the drill log, nevertheless, the purpose for which the work was done has been accomplished. We have obtained an accurate comparison between drill and shaft recovery at a common cut-off point of 10'. However, it is important to note that within that 10' depth the bulk of the values that make up the hole have occurred. If, by any chance, there should be any discrepancy between the drill and the shaft in the lesser values below this level it could not materially affect the overall value of the hole.

We confess that we would not have this opinion if we were sampling a gold placer, where bed rock concentrations are usual and where over-all values can be seriously changed by a few small particles scattered erratically through gravel. But in this type of material, where the values are of comparatively light-weight and large bulk, and the gangue material is all sand rather than gravel, a shaft put down accurately through the sand stratum that accounts for most of the values recovered by the drill is much more desirable than one forced down through water to the barren bed rock, and also should be an accurate check of drill results for the entire hole. It was our opinion that to fight this shaft down deeper

would be a waste of time and money.

After considering all of this, we have come to the conclusion that, since the same physical conditions exist throughout the deposit, no attempt should be made to drive these shafts beyond the water table that lies several feet above the dredging bed horizon to which we have computed the logs; first, because no accurate result could be got from work below water line, and second, because we are afraid that the cost of going even that far may exceed our original estimate.

We had intended to put down four shafts, two over 4" drill holes and two over 6" drill holes. It is our idea now, that if the next two shafts which will be over the 6" holes, give a reasonable check with the drilling, as the results so far lead us to expect, we should then give up the fourth shaft as unnecessary so that we may stay within the estimate made for the work.

Mr. Johnson, of the Knoxville office of the U.S.G.S. visited the project March 9th and this solution to our problem was talked over. He is apparently in agreement with our idea after realizing the difficulty of this work, and we, therefore, hope it will fulfill the requirements under our contract.

The second shaft (drill hole K-5-N) meantime was begun March 1, and carried down as far as possible without digging below water - K-5-N is a six inch drill hole. We have cut the drill log at 20 feet. The top five feet carries clay and is of low value. The bulk of the values lie in the stratum of clean sand from 5 feet to 15 feet. The bottom five feet again show small values and an admixture of clay. The well points were put on this shaft and the water lowered, but again we could not drain the surface of this bottom layer of clay bearing sand which carry dredgeable but diminishing values. We, therefore, got this shaft down to 15 feet and called it complete. The concentrating of this shaft has not yet been completed.

The third shaft, which was begun on March 12th, is located on hole Q-10-N. This is a 6" hole showing a dredgeable depth of 20 feet. The drill logs indicate that this shaft will be cut at 15 feet.

The compositing of drill samples has been completed and all composites are in the hands of the Carpco Laboratory for separation and assay.

It was decided that from two complete lines an individual assay should be made for each hole. For the remaining lines a composite sample representative of the entire line was made up and forwarded to Carpco. These assays are checking with a reasonable accuracy the radiometric determinations of Monozite shown on the laboratory logs of drilling. Attached are the Carpco assay reports received to date and our computation sheets showing the method of arriving at an average value for the cross section from the individual hole assays, and also the method of making up a composite sample for the cross section to accomplish the same result physically as is done mathematically.

All drill logs have been reviewed considering the project as a unit and some revisions and corrections were made. We are, therefore, enclosing a final revised list of drill log data. Please disregard the previous tentative lists that have been submitted. We are also enclosing the shaft and laboratory logs of shaft No. F-1-N.

O. H. Perry

H O R S E C R E E K

ASSAY RETURNS AND COMPUTATIONS

AS OF

MARCH 10th - 1953

COMPUTATION OF MINERAL CONTENT FROM ASSAY OF INDIVIDUAL HOLES

"G" LINE

Hole No.	Total Core Rec. Dry St.lb.	Total Conc. Recov. Grams	Depth of Hole	Grams Conc. Rec.per lb Core	Product Grams Conc.X Depth of hole	MONOZITE Carpco Assay % Monozite	MONOZITE Product	RUTILE Carpco Assay % Rutile	RUTILE Product	ZIRCON Carpco Assay % Zircon	ZIRCON Product	ILMENITE Carpco Assay % Ilmin.	ILMENITE Product
G 1N	105.5	834.5	12.5	7.9	98.75	5.1	503.6	8.7	859.1	24.4	2409.5	13.4	1323.3
G 1N	476.3	2283.3	15.0	4.8	72.00	3.9	280.8	10.5	756.0	3.9	280.8	20.5	1476.0
G 2N	532	1427.3	25.0	2.7	67.50	3.7	249.8	7.6	513.0	13.1	884.3	22.9	1545.7
G 3N	383.1	1352.9	17.5	3.5	61.25	7.7	471.6	15.6	955.5	24.3	1488.4	23.5	1439.4
G 4N	434.3	2368.0	17.5	5.5	96.25	3.1	298.4	6.8	654.6	16.6	1597.8	16.8	1617.0
G 5N	376.0	2040.0	15.0	5.4	81.00	5.9	477.9	10.8	874.8	14.3	1158.3	20.3	1644.3
G 6N	354.7	625.8	15.0	2.3	34.50	7.4	255.3	6.8	234.6	13.4	462.3	30.5	1052.3
TOTALS	2661.9	11131.8	117.5		511.25		2537.4		4847.6		8281.4		10098.0

$$\frac{2537.4}{511.25} = \qquad \frac{4847.6}{511.25} \qquad \frac{8281.4}{511.25} \qquad \frac{10098.0}{511.25}$$

$$\frac{511.25}{117.5} \times \frac{2000}{453.6} \text{ equals } 19.2 \text{ lb Conc/ton}$$

Averages

4.96% Monozite 9.48% Rutile 16.2% Zircon 19.75% Ilmenite

4.96x19.2 equals 0.95 lb Mon./ton

9.48x19.2 equals 1.81 lb Rutile/ton

16.2x19.2 equals 3.1 lb.Zircon/ton

19.75x19.2 equals 3.8 lb.Ilmen./ton

COMPUTATION OF HEAVY MINERAL CONTENT
from Assay of Individual Holes

"O" LINE

Hole No.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb.Core	Depth Hole Feet	Unit lb. Core per foot	lb.Core Allowed for Hole	Grams Conc. Recovered per lb.Core	Grams Conc. Allowed for Hole
O 5	94.3	298.0	3.16	15	6	90	3.16	284.4
O 6	179.9	783.4	4.35	17	6	102	4.35	443.7
O 7	193.1	456.0	2.36	15	6	90	2.36	212.4
O 8	85.3	133.1	1.56	10	6	60	1.56	93.6
O 9	194.7	954.8	4.90	10	6	60	4.90	294.0
O 10	322.5	1320.7	4.10	20	6	120	4.10	492.0
TOTALS				87		522	20.43	1820.1

$$\frac{1820.1}{522} \times \frac{2000}{453.6} \text{ equals } 15.4 \text{ lb Conc./ton}$$

NOTE: - To determine the grams per lb. (or lbs per ton) of various minerals in the entire line; from the individual assays of each hole in the line, it is not necessary to introduce a constant of unit of core as above. A direct computation from Grams Cons. per lb of core X Assay % X Depth of Hole is in order, to determine true weighted value.

The computation of a unit of core per ft., shown above is necessary only when making up a composite sample of cons for the line to get the same weighted result by a single assay.

"O" LINE

Hole No.	Grams Conc. Allowed for Hole	MONOZITE Carpco Assay %	MONOZITE Product	RUTILE Carpco Assay %	RUTILE Product	ZIRCON Carpco Assay %	ZIRCON Product	ILMENITE Carpco Assay %	ILMENITE Product
O 5	284.4	9.5	2702	13.5	3839	24.7	7025	28.7	8162
O 6	443.7	8.6	3816	11.1	4925	32.3	14332	20.2	8963
O 7	212.4	5.8	1232	11.5	2443	18.0	3823	39.8	8453
O 8	93.6	7.6	711	10.7	1002	18.3	1713	44.6	4175
O 9	294.0	7.3	2146	13.4	3940	22.7	6674	28.4	8350
O 10	492.0	8.6	4231	9.9	4871	23.7	11660	29.9	14711
TOTALS	1820.1		14838		21020		45227		52814
			14838		21020		45227		52814
			18201		18201		18201		18201
Averages		8.15% Monozite		11.55% Rutile		24.85% Zircon		29.02% Ilmenite	
lb/ton	Concentrate 15.4	1.26 "		1.78 "		3.83 "		4.47 "	

[illegible] OF MIN[illegible] ASSAY

Hole No.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb.Core	Depth Hole Feet	Unit lb Core per Foot	lb.Core Allowed per Hole	Grams Conc. Recovered per lb.Core	Grams Conc. Allowed for Hole
H 1S	203.8	624.8	3.07	15	7	105	3.07	322.4
H 2S	210.4	1015.9	4.83	15	7	105	4.83	507.2
H 3S	94.1	511.6	5.44	12.5	7	87.5	5.44	476.0
H 4S	163.4	322.3	1.97	12.5	7	87.5	1.97	172.4
H 1N	158.2	535.4	3.38	11.25	7	78.75	3.38	266.2
H 2N	239.8	949.8	3.96	16	7	112	3.96	443.5
H 3N	89.2	306.5	3.44	12.5	7	87.5	3.44	301.0
H 4N	157.3	695.0	4.42	15	7	105	4.42	464.1
H 5N	115.7	256.7	2.22	15	7	105	2.22	233.1
				124.75		873.25		3185.9

$$\frac{3185.9}{873.25} \times \frac{2000}{453.6} \text{ equals } 16.1 \text{ lb Conc/ton}$$

2/24/53 Sent to Carpco 2,985.9 g. [illegible] 7.4% Monazite

Retained for Reference 200 g. " " "

CARPCO ASSAY

Ilmenite	31.0%	x	16.1	equals	5.0	lbs/ton
Monozite	4.7%	x	16.1	"	0.76	"
Rutile	9.9%	x	16.1	"	1.6	"
Zircon	16.7%	x	16.1	"	2.7	"

DATA FOR COMPOSITING

"Q" LINE

HOLE NO.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb Core	Depth Hole Feet	Unit lb Core per foot	Lb.Core Allowed for Hole		Grams Conc. Recovered per lb.Core		Grams Conc. Allowed for Hole
Q 4N	389.5	1160.05	2.98	17.5	18	315	x	2.98	equals	938.7
Q 5N	419.1	1359.5	3.24	15	18	270	x	3.24	"	874.8
Q 6N	194.1	366,9	1.89	10	18	180	x	1.89	"	340.2
Q 7N	467.1	2912.2	6.23	25	18	450	x	6.23	"	2803.5
Q 8N	511.5	2181.9	4.27	27	18	486	x	4.27	"	2075.2
TOTALS	1981.3	7981.0		94.5		1701				7032.4

Average for Line $\frac{7032.4}{1701} \times \frac{2000}{453.6}$ equals 18.2 lb. Conc./ton

CARPCO ASSAY

Ilmenite	29.8% x 18.2	equals	5.4 lb/ton
Monozite	3.8% x 18.2	"	0.7 lb/ton
Rutile	8.1% x 18.2	"	1.5 lb/ton
Zircon	12.9% x 18.2	"	2.3 lb/ton

DATA FOR COMPOSITING

"S" LINE

Hole No.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb.Core	Depth Hole Feet	Unit lb Core per foot	lb Core Allowed for Hole		Grams Conc. Recovered per lb.Core		Grams Conc. Allowed for Hole		
S 3	79.8	294.4	3.69	12.5	6	75	x	3.69	equals	276.8	5.1	1412
S 4	120.1	335.5	2.79	17.5	6	105	x	2.79	"	293.0	10.6	3106
S 5	108.9	503.0	4.62	12.5	6	75	x	4.62	"	346.5	7.5	2599
S 6	145.5	318.6	2.19	20.0	6	120	x	2.19	"	262.8	8.2	2155
S 7	114.1	263.4	2.31	15.0	6	90	x	2.31	"	207.9	11.0	2287
TOTALS	568.4	1714.9		77.5		465				1387.0		11559

Average for Line $\frac{1387}{465} \times \frac{2000}{453.6}$ equals 13.2 lb Conc/ton

CARPCO ASSAY

Ilmenite	34.2%	x	13.2	equals	4.5	lb/ton
Monozite	8.2%	x	13.2	"	1.1	"
Rutile	12.1%	x	13.2	"	1.6	"
Zircon	16.8%	x	13.2	"	2.2	"

DATA FOR COMPOSITING

"V" LINE

Hole No.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb.Core	Depth Hole Feet	Unit lb. Core per foot	lb. Core Allowed for Hole		Grams Conc. Recovered per lb.Core		Grams Conc. Allowed for Hole
V 2	100.6	499.9	4.97	12.5	6	75	x	4.97	equals	372.8
V 3	90.7	147.1	1.62	15	6	90	x	1.62	"	145.8
V 4	92.8	224.0	2.41	15	6	90	x	2.41	"	216.9
TOTALS	284.1	871.0		42.50		255.0				735.5

Average for Line $\frac{735.5}{255} \times \frac{2000}{453.6}$ equals 12.7 lb Conc/ton

CARPCO ASSAY

Ilmenite	37.0%	x	12.7	equals	4.7	lb/ton
Monozite	9.1	x	12.7	"	1.2	"
Rutile	10.5	x	12.7	"	1.3	"
Zircon	17.9	x	12.7	"	2.3	"

DATA FOR COMPOSITING

"X" LINE

Hole No.	Total Core Recovered Dry Weight lb.	Total Conc. Recovered Grams	Grams Conc. Recovered per lb.Core	Depth Hole Feet	Unit lb. Core per foot	lb.Core Allowed for Hole		Grams Conc. Recovered per lb.Core		Grams Conc. Allowed for Hole		
X 4	582.7	1921.6	3.30	25	10	250	x	3.30	equals	825.0	5.3	4373
X 5	504.4	1415.8	2.81	17.5	10	175	x	2.81	"	491.8	6.2	3049
X 6	530.5	2189.0	4.13	22.5	10	225	X	4.13	"	929.3	5.8	5390
X 7	125.4	472.3	3.77	12.5	10	125	x	3.77	"	471.3	14.4	6787
X 8	277.2	1000.2	3.61	16.5	10	165	x	3.61	"	595.7	4.8	2859
TOTALS	2020.2	6998.9		94.5		940				3313.1		22458

Average for Line $\frac{3313.1}{940} \times \frac{2000}{453.6}$ equals 15.5 lb. Conc/ton

CARPCO ASSAY

Ilmenite	32.7%	x 15.5	equals	5.1	lb/ton
Monozite	7.9%	x 15.5	"	1.2	"
Rutile	7.6%	x 15.5	"	1.2	"
Zircon	13.3%	x 15.5	"	2.1	"

LABORATORY LOG

SHAFT FIN

0-5 ft.

Recovered 7139.2 lb dry material
from 48" x 48" x 5.0' equals 2.963 Cu.yds.
pounds material per Cu. yd. equals 2,409

Recovered 14.64 lb concentrate
from 7,139.2 lb of material

$\frac{14.64}{7139.2}$ x 2000 equals 4.1 lb Conc/ton Material

R.M.D. equals 9.3% Monozite (Est)

0.093 x 4.1 equals 0.4 lb Monozite/ton

5 - 10 ft. Recovered 10,513.5 lb dry material
from Est 55" x 55' x 5.0 equals 3.89 Cu. Yds.
pounds material per Cu. yd. equals 2,702

Recovered 146 lb concentrate
from 10,513.5 lb of Material

$\frac{146}{10,513.5}$ x 2000 equals 27.8 lb Conc./ton Material

R.M.D. equals 5.6% Monozite (Est.)
0.056 x 27.8 equals 1.6 lb Monozite/ton

Totals and Averages

(7,139.2 plus 10,513.5) equals 17,652.7 lb Material Recovered from Shaft

(14.64 plus 146) " 160.64 lb Concentrate

$\frac{160.64}{17,652.7}$ X 2000 equals 18.2 lb Conc./ton

R.M.D. equals 5.9% Monozite (Average)
0.059 x 18.2 equals 1.1 lb

Average lb per Cu. yd.

$\frac{(7,139.2 \text{ plus } 10,513.5)}{(2.963 \text{ plus } 3.89)}$ equals 2576 lb/ Cu. yd.

Shaft #1

DRILL LOG

DRILL LOG TRACT _____ SH. NO. _____

LOCATION Drill Hole F 1N

DATE

START 2 PM Feb 18

LINE NO. F HOLE NO. 1N

FINISH 12 Noon Feb

SAMPLE NUMBER	DEPTH FEET Inches	CORE BEFORE PUMP	CORE AFTER PUMP	Shaft VOLUME Size	EST. CONS.	COLOR SLIMES	REMARKS
	7"			48"x48"		Black	Soil
	11"			"		Brown	Sand - Clay - roots
	16"			"		light	Clay no Sand
#1	26"			"		white	Coarse Sand + some Pea Gravel
	12"	Sand		54"x54"		"	" " " "
	28"	Pouling		" "		yellow	" " " "
	12"	water		" "		+ Red	" " " "
	4"	+ Running		55"x56"		Gray	Clay + white Sand
#2	4"	Sand		" "		"	" "

Total Depth 10 ft. Bedrock _____ ft. Water Level -2 in. ft.

Panner

Lester Robertson

In Charge

Sample bucket No. 1 tub 17¼" dia.

REVISED LIST DRILL DATA

March 1, 1953

Hole No.	Thickness of Dredging Stratum	Dredging Depth	Lbs Conc. per ton	R.M.D. Lbs. Monozite per Ton	
B 1 N	20	20	14.9	0.6	
B 2 S	20	20	25.0	2.1	
B 1 S	12	12	26.4	1.8	
B 3 S	12-1/2	22-1/2	5.3	0.2	
C 2 N	20	20	22.5	1.4	
C 1 N	25	25	26.8	0.9	
C 1 S	25	25	25.0	2.5	
C 2 S	17-1/2	17-1/2	12.0	0.9	
C 3 S	10	20	25.7	1.6	
C 4 S	18-1/2	23-1/2	16.3	0.8	
C 5 S	15	25	35.8	1.5	
C 7 S	13-3/4	21-1/4	19.0	1.4	
C 8 S	17-1/2	22-1/2	10.3	0.5	
C 9 S	11-1/4	16-3/4	19.5	1.5	
C 10 S	12-1/2	20	6.7	0.4	Outside Dredging Limits
P 5	17-1/2	17-1/2	15.6	0.8	
P 7	17-1/2	17-1/2	12.4	0.3	
P 3	15	15	15.0	1.1	
P 1	15	15	34.5	1.1	
P 6	15	21-1/2	9.0	0.8	
P 2	20	25	16.4	0.6	
P 8	17-1/2	25	13.9	1.0	
P 4	20	20	12.4	0.8	
F 7 N	15	15	17.0	0.6	Outside Dredging Limits
F 6 N	21	21	28.7	2.4	
F 5 N	20	20	39.8	1.5	
F 4 N	20	20	23.7	1.1	
F 3 N	20	20	35.9	1.7	
F 2 N	15	15	15.1	0.8	
F 1 N	15	15	44.2	1.1	
F 1 S	15	15	23.3	1.3	
F 2 S	15	15	29.0	1.9	
G 6 N	15	15	10.3	1.1	
G 5 N	15	20	23.9	1.6	
G 4 N	17-1/2	17-1/2	19.8	1.2	
G 3 N	17-1/2	17-1/2	15.6	1.2	
G 2 N	25	25	10.3	0.9	
G 1 N	15	25	21.1	0.6	
G 1A N	12-1/2	17-1/2	35.4	1.8	

REVISED LIST DRILL DATA

March 1, 1953

Hole No.	Thickness of Dredging Stratum	Dredging Depth	Lbs Conc. per Ton	lbs. Monozite per Ton	
H 5 N	15	15	9.8	0.4	
H 4 N	15	15	19.5	1.0	
H 3 N	12-1/2	12-1/2	15.1	0.9	
H 2 N	16	21	17.4	0.9	
H 1 N	11-1/4	21-1/4	14.9	0.9	
H 1 S	15	22-1/2	13.5	0.55	
H 2 S	15	25	21.3	1.0	
H 3 S	12-1/2	22-1/2	23.9	2.5	
H 4 S	12-1/2	17-1/2	8.7	1.0	
K 6 N	15	15	12.4	0.7	
K 5 N	20	20	16.8	1.2	
K 4 N	10	15	13.6	0.7	
K 3 N	12-1/2	17-1/2	29.8	1.5	
K 2 N	17	22	35.4	2.8	
M 11 N	7	15	11.0	0.4	Outside Dredging Limits
M 10 N	15	15	10.9	0.6	
M 9 N	25	25	12.6	0.5	
M 8 N	15	15	12.0	1.2	
M 7 N	11	21	26.4	1.5	
M 6 N	12-1/2	22-1/2	23.4	1.1	
M 5 N	17-1/2	22-1/2	12.9	1.6	
O 11 N	20	20	8.2	0.4	Outside Dredging Limits
O 10 N	20	20	17.8	2.3	
O 9 N	10	15	21.6	2.1	
O 8 N	10	20	6.9	0.6	
O 7 N	15	22-1/2	10.4	0.8	
O 6 N	17	22	19.2	2.1	
O 5 N	15	20	14.0	1.5	
Q 9 N	30	30	13.0	0.7	Outside Dredging Limits
Q 8 N	27	27	18.8	0.9	
Q 7 N	25	25	27.4	0.9	
Q 6 N	10	20	38.3	0.4	
Q 5 N	15	25	14.3	1.3	
Q 4 N	17-1/2	22-1/2	13.1	0.7	
Q 3 N	10	10	6.2	0.2	Outside Dredging Limits

REVISED LIST DRILL DATA

March 1, 1953

Hole No.	Thickness of Dredging Stratum	Dredging Depth	lbs.Conc. Per Ton	R.M.D. lbs.Monozite per Ton	
S 7 N	15	25	10.3	1.1	
S 6	20	25	9.7	0.8	
S 5	12-1/2	22-1/2	20.4	1.5	
S 4	17-1/2	22-1/2	12.3	1.3	
S 3	12-1/2	20	16.3	0.8	
S 2	12-1/2	12-1/2	12.1	0.8	Outside Dredging Limits
V 5	9	9	8.9	0.7	
V 4	15	20	10.6	0.9	
V 3	15	15	7.1	0.4	
V 2	12-1/2	12-1/2	22.6	1.7	
X 8	16-1/2	16-1/2	15.9	0.8	
X 7	12-1/2	22-1/2	16.6	2.4	
X 6	22-1/2	22-1/2	18.2	1.1	
X 5	17-1/2	22-1/2	12.4	0.8	
X 4	25	25	14.6	0.8	

CORE RECOVERY PER FT. OF HOLE (Dredging Section only)

Hole No.	Dia. Hole	Dredging Depth	Total Weight Core (Dry)	Weight per foot Dry
B 1S	6"	12'	192	16.0
B 2S	6"	20	463.7	23.185
B 3S	4"	13.75	143.7	10.45
B 1N	6"	20	362.8	18.14
		65		
C 1S	6"	25	623.1	24.9
C 2S	6"	17.5	311.5	17.8
C 3S	4	10.0	96.7	9.67
C 4S	4	18.5	179.9	9.72
C 5S	4	15	123.7	8.25
C 7S	4	13.75	222.5	16.18
C 8S	4	17.5	256.3	14.65
C 9S	4	11.25	133.9	11.9
C 1N	4	25	179.4	7.18
C 2N	6	20	340.0	17.0
		171		
F 1S	6"	15	371.8	24.79
F 2S	6"	15	278.3	18.55
F 1N	4"	15	157.8	10.52
F 2N	6"	15	470.9	31.39
F 3N	6"	20	519.1	25.96
F 4N	4"	20	182.0	9.1
F 5N	4"	20	242	12.1
F 6N	4"	21.25	128.3	6.04
F 7N				
		141		
G 1A	4"	12.5	105.5	8.44
G 1	6"	15	476.3	31.75
G 2	6"	25	532.0	21.28
G 3	6"	17½	383.1	21.9
G 4	6"	17½	434.3	24.82
G 5	6"	15	376.0	25.07
G 6N	6"	15	354.7	23.65
		117		

CORE RECOVERY PER FT. OF HOLE (Dredging Section only)

Hole No.	Dia. Hole	Dredging Depth	Total Weight Gravel Dry	Weight per foot Dry
H 1S	4"	15	203.8	13.59
H 2S	4"	15	210.4	14.03
H 3S	4"	12.5	94.1	7.53
H 4S	4"	12.5	163.4	13.07
H 1N	4"	11.25	158.2	14.06
H 2N	4"	16	239.8	14.99
H 3N	4"	12.5	89.2	7.14
H 4N	4"	15	157.3	10.49
H 5N	4"	15	115.7	7.71
		128		
K 2	4"	17	343.9	20.22
K 3	4	12½	240.7	19.26
K 4	6	10	22.75	22.75
K 5	6	20	411.7	20.585
K 6	6	15	289.1	19.27
		94		
M 5	4"	17.5	184.5	10.54
M 6	4	12.5	168.0	13.44
M 7	4	11	145.6	13.24
M 8	6	15	237.9	15.86
M 9	6	25	630.5	25.22
M 10	6	15	234.6	15.64
		96		
O 5	4"	15	94.3	6.29
O 6	4	17	179.9	10.58
O 7	4	15	193.1	12.87
O 8	4	10	85.3	8,53
O 9	6	10	194.7	19.47
O 10	6	20	322.5	16.13
		97		
Q 4N	6"	17.5	389.5	22.26
Q 5N	6	15	419.1	27.94
Q 6N	6	10	194.1	19.41
Q 7N	6	25	467.1	18.68
Q 8N	6	26.8	511.1	19.07
		94		

CORE RECOVERY PER FT. OF HOLE (Dredging Section only)

Hole No.	Dia. Hole	Dredging Depth	Total Weight Gravel Dry	Weight per foot Dry
S 3	4"	12.5	79.8	6.38
S 4	4	17.5	120.1	6.86
S 5	4	12½	108.9	8.71
S 6	4	20	145.5	7.28
S 7	4	15	114.1	7.61
		77		
V 2	4"	12.5	100.6	8.05
V 3	4	15	90.7	6.05
V 4	4	15	92.8	6.19
		43		
X 4	6	25	582.7	23.31
X 5	6	17.5	504.4	28.82
X 6	6	22.5	530.5	23.58
X 7	4"	12.5	125.4	10.03
X 8	6	16.5	277.2	16.80
		94		

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FOOTE MINERAL COMPANY
18 West Chelten Avenue
Philadelphia 44, Pa.

February 16, 1953

Mr. O. H. Perry
Hotel Henderson
Aiken, South Carolina

Dear Mr. Perry:

Your letter of the 11th has just reached us, also samples of Zircon and Monazite. We are asking our Mineralogist and Microscopist to examine these and should have a report in due dourse.

We are a little confused by the second paragraph of your letter. It was our understanding that the Callahan Zinc-Lead Company was sponsoring all of the development work at Aiken, but it would now appear from what you tell us that work is being done by three companies on a joint basis. In the event that the group is successful and will ultimately be producers of substantial tonnages of Rutile, Zircon and Monazite, our interest would dictate a long term contract and it is not quite clear with whom this would be made. Maybe you would care to enlighten us on this.

In regard to the sample of Rutile concentrates submitted by Carpco Engineering Company, our laboratory reports as follows:

A heavy liquid and microscopic examination indicates that the concentrates contain about 99% Rutile-Ilmenite and very minor amounts of Quartz, Pyrite, and Leucoxene. A thin section of a sample of the granular concentrate was made and shows that the Ilmenite occurs as an intergrowth in the Rutile. There is also some indication of an alteration of Ilmenite to Leucoxene. It was concluded, therefore, that an efficient separation of the Ilmenite from the Rutile could not be made. Magnetic, radioactive and specific gravity tests were also run. No radioactivity was observed. The specific gravity of the concentrate was approximately 4.5, which suggests the absence of Tantalum or Columbium.

Regardless of the rather unfavorable nature of the report, we are still interested in purchasing substantial tonnages of a Rutile concentrate comparable in character to the one submitted by Carpco and running say from 85 to 90% TiO_2.

I believe we gave you in our letter of February 5th a rough indication of the value of a 95/96% concentrate and indicated that material with a lower TiO_2 content would command a lesser price. Just what this price would be cannot be accurately determined at the moment. We are of the opinion, however, that it could not be on a prorata basis. Rather, we are inclined to feel that a bonus and penalty basis would be the proper approach to the question of price.

You will hear from us further on the Rutile and Zircon.

Yours very truly,

FOOTE MINERAL COMPANY
(signed) H. C. Meyer, Chairman of the Board

COPY

To: Mr. O. H. Perry
Henderson Hotel
Aiken, South Carolina

Sheet No. # 1
Date: March 6, 1953
Projects 419,420,421, 422

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite in Drill Hole Composite Samples for Lines Q, S, V and X.

Summary:

The laboratory investigation of these samples indicates that ilmenite, rutile, zircon and monazite minerals are present in each composite sample in the ratio as shown under the following tabulations.

Products	Wt.%	Assay	Std.	Products % of Sample
Line Q Composite				
419-2 magnetite	0.2			
419-3 Ilmenite	53.0	34.31 TiO_2	61.02 TiO_2	29.8
- - Monazite	--	4.64 ReO	64.12 ReO	3.8
419-4 Rutile	46.8	16.73 TiO_2	97.00 TiO_2	8.1
- - Zircon	- -	17.13 ZrO_2	62.01 ZrO_2	12.9
	100.0			54.6
Line S Composite				
420-2 Magnetite	0.5			
420-3 Illemite	54.4	38.37 TiO_2	61.02 TiO_2	34.2
- - Monazite	--	9.61 ReO	64.12 ReO	8.2
420-4 Rutile	45.1	25.94 TiO_2	97.00 TiO_2	12.1
- - Zircon	--	23.13 ZrO_2	62.01 ZrO_2	16.8
	100.0			71.3
Line V Composite				
421-2 Magnetite	0.3			
421-3 Ilmenite	52.6	42.86 TiO_2	61.02 TiO_2	37.0
-- Monazite	--	11.03 ReO	64.12 ReO	9.1

C O P Y

To: Mr. O. H. Perry
Henderson Hotel
Aiken, South Carolina

Sheet No. #2
Date: March 6, 1953
Projects 419, 420, 421, 422

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite in Drill Hole Composite Samples for Lines Q, S, V, and X.

Summary con't

	Product	Wt. %	Assay	Std.	Products % of Sample
421-4	Rutile	47.1	21.62 TiO_2	97.00 TiO_2	10.5
---	Zircon	- -	23.62 ZrO_2	62.01 ZrO_2	17.9
		100 .0			74.5

Line X Composite

422-2	Magnetite	0.2			
422-3	Ilmenite	54.4	36.74 TiO_2	61.02 TiO_2	32.7
- -	Monazite	- -	9.35 ReO	64.12 ReO	7.9
422-4	Rutile	45.4	16.21 TiO_2	97.00 TiO_2	7.6
- -	Zircon	- -	18.22 ZrO_2	62.01 ZrO_2	13.3
		100.0			61.5

Very truly yours,

s/Robert V Spencer

CARPCO ENGINEERING AND MANUFACTURING

C O P Y

COPY

To: Mr. O. H. Perry
Henderson Hotel
Aiken, South Carolina

Sheet No. #1
Date: March 4, 1953
Project No. 417, 418

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Line H Composite Sample and Line B Composite Sample.

Summary:

The laboratory investigation of these samples indicates that ilmenite, rutile, zircon and monazite minerals are present in each composite sample in the ratio as shown under the following tabulations.

Line H Composite

Products		Wt. %	Assay		Std.		Products % of Sample
417-2	Magnetite	0.1					
417-3	Ilmenite	53.1	35.66	TiO_2	61.02	TiO_2	31.0
- -	Monazite	- -	5.64	ReO	64.12	ReO	4.7
417-4	Rutile	46.8	20.53	TiO_2	97.00	TiO_2	9.9
--	Zircon	- -	22.12	ZrO_2	62.01	ZrO_2	16.7
		100.0					62.3

Line B Composite

418-2	Magnetite	0.2					
418-3	Ilmenite	50.1	30.53	TiO_2	61.02	TiO_2	25.0
- -	Monazite	- -	9.96	ReO	64.12	ReO	7.8
418-4	Rutile	49.7	21.07	TiO_2	97.00	TiO_2	10.8
- -	Zircon	--	22.44	ZrO_2	62.01	ZrO_2	18.0
		100.0					61.6

Very truly yours,

s/ Robert V. Spencer
CARPCO ENGINEERING AND MANUFACTURING

COPY

C O P Y

To: Mr. O. H. Perry
Henderson Hotel
Aiken, South Carolina

Sheet No. # 1
Date: February 20, 1953
Project: No. 401

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Six Drill Hole Composite Samples, 0-5 to -0-10, Inclusive.

Summary:
The laboratory investigation of these samples indicates that ilmenite, rutile, zircon and monazite minerals are present in each composite sample in ratio as shown under the following tabulations.

Sample 0-5 Composite

Products		Wt %	Assay	Std.	Products % of Sample
401-1	Magnetite	0.4			
401-2	Ilmenite	48.6	36.05 TiO_2	61.02 TiO_2	28.7
- -	Monazite	- -	12.55 ReO	64.12 ReO	9.5
401-3	Rutile	51.0	25.65 TiO_2	97.00 TiO_2	13.5
- -	Zircon	- -	30.07 ZrO_2	62.01 ZrO_2	24.7
		100.0			76.4

Sample 0-6 Composite

401-4	Magnetite	0.2			
401-5	Ilmenite	43.9	28.10 TiO_2	61.02 TiO_2	20.2
--	Monazite	--	12.59 ReO	64.12 ReO	8.6
401-6	Rutile	55.9	19.32 TiO_2	97.00 TiO_2	11.1
- -	Zircon	--	35.91 ZrO_2	62.01 ZrO_2	32.3
		100.0			72.2

Sample 0-7 Composite

401-7	Magnetite	0.3			
401-8	Ilmenite	58.9	41.34 TiO_2	61.02 TiO_2	39.8
- -	Monazite	- -	6.35 ReO	64.12 ReO	5.8
401-9	Rutile	40.8	27.28 TiO_2	97.00 TiO_2	11.5
- -	Zircon	- -	27.43 ZrO_2	62.01 ZrO_2	18.0
		100.0			75.1

Sample 0-8 Composite

401-10	Magnetite	0.4			
401-11	Ilmenite	60.7	44.96 TiO_2	61.02 TiO_2	44.6
- -	Monazite	- -	8.07 ReO	64.12 ReO	7.6
401-12	Rutile	38.9	26.75 TiO_2	97.00 TiO_2	10.7
- -	Zircon	- -	29.16 ZrO_2	62.01 ZrO_2	18.3
		100.0			81.2

Sample 0-9 Composite

Products		Wt. %	Assay		Std		Products % of Sample
401-13	Magnetite	0.1					
401-14	Ilmenite	51.4	33.77	TiO_2	61.02	TiO_2	28.4
- -	Monazite	- -	9.10	ReO	64.12	ReO	7.3
401-15	Rutile	48.5	26.75	TiO_2	97.00	TiO_2	13.4
- -	Zircon	- -	29.12	ZrO_2	62.01	ZrO_2	22.7
		100.0					71.8

Sample 0-10 Composite

401-16	Magnetite	0.2					
401-17	Ilmenite	56.8	32.15	TiO_2	61.02	TiO_2	29.9
- -	Monazite	- -	9.73	ReO	64.12	ReO	8.6
401-18	Rutile	43.0	22.42	TiO_2	97.00	TiO_2	9.9
- -	Zircon	- -	34.19	ZrO_2	62.01	ZrO_2	23.7
		100.0					72.1

Very truly yours,

s/ Robert V. Spencer

CARPCO ENGINEERING AND MANUFACTURING

COPY

2/25/53

COMPUTATION OF CARPCO ASSAYS ON LINE 0

Hole No.	Carpco Product %		Lbs. Per Ton	Radiometric
0-5, 13.8 # Conc. per ton				
Ilmenite	28.7	=	3.96	
Monazite	9.5	=	1.31	1.5
Rutile	13.5	=	1.86	
Zircon	24.7	=	3.41	
0-6, 19.2 # conc. per ton				
Ilmenite	20.2	=	3.88	
Monazite	8.6	=	1.65	2.1
Rutile	11.1	=	2.13	
Zircon	32.3	=	6.20	
0-7, 10.1 # conc. per ton.				
Ilmenite	39.8	=	4.02	
Monazite	5.8	=	.59	0.7
Rutile	11.5	=	1.16	
Zircon	18.0	=	1.82	
0-8, 6.9# Conc. per ton				
Ilmenite	44.6	=	3.08	
Monazite	7.6	=	.52	0.6
Rutile	10.7	=	.74	
Zircon	18.3	=	1.26	
0-9, 20.1 # conc. per ton.				
Illmenite	28.4	=	5.71	
Monazite	7.3	=	1.47	1.9
Rutile	13.4	=	2.69	
Zircon	22.7	=	4.56	
0-10, 17.8 # conc. per ton.				
Illmenite	29.9	=	5.32	
Monazite	8.6	=	1.53	2.3
Rutile	9.9	=	1.76	
Zircon	23.7	=	4.22	

Form M-1-1 (Rev.)
(April 1952)

939.26

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

PAID ON VOUCHER AND SCHEDULE OF PAYMENTS NOR = 46

116

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of January, 1953 Docket No. DMEA 2576 Contract No. DMC-2392
Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Hemimite,
Address 100 Park Avenue, New York 17, N. Y. Columbium, Pebble
Contract Amount, $ 37,960.00 Government Participation: 83 % Amount, $ 31,506.80

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor See Schedule Attd.	3,194.02	11,531.56	14,725.58	3,194.02	11,531.56	14,725.58
Supervision	600.00	2,400.00	3,000.00	600.00	2,400.00	3,000.00
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
Small tools & Supplies	16.98	743.32	760.30	16.98	743.32	760.30
Gas, Oil, Fires, Etc.	174.75	481.95	656.70	174.75	481.95	656.70
(4) Operating Equipment:						
Rental						
Purchase	1,131.65	5,573.31	6,704.96	1,131.65	5,573.31	6,704.96
Depreciation	183.33	733.32	916.65	183.33	733.32	916.65
(5) Initial Rehabilitation and Repairs		1,108.22	1,108.22		1,108.22	1,108.22
(6) New Bldgs., Improvements, etc.	40.00	449.82	489.82	40.00	449.82	489.82
(7) Miscellaneous:						
Repairs to Equipment	3.22	287.53	290.75	3.22	287.53	290.75
Sampling and Analysis	148.44	87.75	236.19	148.44	87.75	236.19
Payroll Taxes						
Liability Insurance	180.20	750.00	930.20	180.20	750.00	930.20
See Schedule Attd.	1,221.44	4,723.13	5,944.57	1,221.44	4,723.13	5,944.57
(8) Contingencies (specify):						
Expenses to-at-from Tuscaloosa Bureau of Mines Laboratory		313.87	313.87		313.87	313.87
TOTALS	6,894.03	29,183.78	36,077.81	6,894.03	29,183.78	36,077.81

I certify that the above bill is correct and just and that payment therefor has not been received.

Date February 20, 1953 CALLAHAN ZINC-LEAD COMPANY, INC.

Per E. G. Sale E. G. Sale Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 5,722.04

Signature Cora A. Piper
(Authorized Certifying Officer)

Date MAR 3 1953 Vou. No. 116
(See other side)

1,171.89

5

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IDM-E392 in accordance with the terms of the contract.

Signature Henry S. Johnson, Jr. Title Geologist Date FEB 25 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Laurence Title EXECUTIVE OFFICER DMEA REGION VII Date FEB 25 1953

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

FORM MF-104
SCHEDULE RECONCILING PER DIEM CHARGES
PER OPERATOR'S MONTHLY REPORT AND VOUCHER
WITH TOTAL PER DIEM PAID AT THE AIKEN, S.C.
PROJECT FOR THE MONTH OF JANUARY, 1953

Total Per Diem Paid			$ 1,048.00
Less: Extra Day Paid to Victor Cote		$ 7.00	
" " " " Fred Davis		6.00	
" " " " Lester A. Robinson		6.00	19.00
			$ 1,029.00
Less: Per Diem Not Reimbursable Under the Contract for the Period of January 22, 23, 24, 26, 27 & 28, 1953:			
Victor Cote - 6 days @ $8.00 per day		48.00	
Lester A. Robinson - 6 days @ $6.00 per day		36.00	84.00
Total Charged per Form MF-104			$ 945.00

FORM MF-104
SCHEDULE SUPPORTING ITEM (7) ON FORM MF-104 (REV)
OPERATOR'S MONTHLY REPORT
& VOUCHER
JANUARY, 1953

	This Month	Totals Previously Reported	Totals To Date
Accounting		50.00	50.00
Compensation Insurance		362.80	362.80
Office Expense	64.20	414.07	478.27
Moving Equipment & Crew	210.09	1,012.42	1,222.51
Per Diem (See Schedule Attached)	945.00	2,689.00	3,634.00
Freight on Sand Shipped to U.S. Bureau of Mines at Tuscaloosa, Alabama	2.15	194.84	196.99
	$ 1,221.44	$ 4,723.13	$ 5,944.57

FORM MF-104
SCHEDULE RECONCILING PAYROLL CHARGED PER
OPERATOR'S MONTHLY REPORT AND VOUCHER WITH
TOTAL PAYROLL PAID AT THE AIKEN, S.C. PROJECT
FOR THE MONTH OF JANUARY, 1953

Total Payroll at Aiken, S.C.			$ 3,569.40
Less: Payroll not Reimbursable under Contract:			
January 22, 23 and 24, 1953:			
Victor Cote	3 days @ $19.23	$57.69	
Lester Robinson	3 days @ 16.00	48.00	
E. Wisham	3 days @ 12.00	36.00	
S. Carlisle	3 days @ 12.00	36.00	
Overtime for January 24, 1953:			
Lester Robinson	8 hrs. @ 1.00	8.00	
E. Wisham	8 hrs. @ .75	6.00	
S. Carlisle	8 hrs. @ .75	6.00	
January 26, 27, and 28, 1953:			
Victor Cote	3 days @ 19.23	57.69	
Lester Robinson	3 days @ 16.00	48.00	
E. Wisham	3 days @ 12.00	36.00	
S. Carlisle	3 days @ 12.00	36.00	375.38
Total Charged per Form MF-104			$ 3,194.02

C
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CALLAHAN ZINC-LEAD COMPANY, INC.
100 Park Avenue
New York, N.Y.

C
O
P
Y

February 20, 1953

Mr. R. A. Laurence
Defense Minerals Exploration Administration
Room 13, Post Office Building
Knoxville 2, Tennessee

Re: D. M. E.A.-2576, Idm-E392

Dear Mr. Laurence:

In accordance with Mr. William A. Beck's letter of December 10, 1952 we are enclosing the five copies of Form MF-104, "Operator's Monthly Report and Voucher," and five copies of Form MF-104A, "Operator's Unit Cost and Progress Report," for the month of January.

A certified copy of the January payroll is enclosed as well as an invoice from The Humphreys Investment Company for $1,131.65.

Two copies of the drill logs and laboratory logs are also enclosed.

As our Progress Report for December was dated January 26th and included summary of the January work, we are not enclosing a report for January. We are not enclosing any maps for January as the December maps included all of the January holes drilled except the last three. We will, however, upon receipt of all assays, prepare a map giving complete information.

Very truly yours,

CALLAHAN ZINC-LEAD COMPANY, INC.

s/E. A. Salo
Treasurer

copied by zm.
Opr. Com. 3
Beck
Laurence

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 27 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 1953 Docket No. DMEA 2576 Contract No. IDM-2392
Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Manganese,
Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core		5,512.29		23,606.68				
Churn								
Auger								
Stripping								
Trenching				596.46				
Test Pits								
Roads and Trails								
Preparatory Costs				2,349.16				
Total Distributed Costs		5,512.29		26,552.30				Total Costs Authorized by Contract
Operating Equipment Purchased		1,131.65		6,704.96				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.		40.00		409.82				
Moving Equipment & Crew		210.09		1,222.51				
Total Costs		6,894.03		36,077.81				

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

Date February 20, 1953 Operator Callahan Zinc-Lead Company, Inc.

Per E. A. Hale Title Treasurer

Remarks:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13, POST OFFICE BLDG.
KNOXVILLE 2, TENN.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 27 1953

February 25, 1953

Memorandum

To: Operating Committee, D M E A - Washington

From: Acting Executive Officer, DMEA - Region 7

Subject: DMEA-2576, Idm-E392, Callahan Zinc-Lead Co. (Monazite, Columbium & Rutile)

Enclosed herewith are the laboratory and drill logs of work performed on the subject contract during the month of January 1953.

Wm. A. Beck

Wm. A. Beck

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 2000' S of RR

DATE

START 8:30 A.M. Jan 16, 53

LINE NO. C+500' HOLE NO. 10 S

FINISH 1:40 P.M. Jan 16, 53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A + 1B	5	10	0	–	Poor	Brn	Mud, S. + Grav.	loose
2A	7½	13	0	1½	"	Wht.	Clay + S.	"
2B	10	34	0	2	"	"	" " "	"
3A	12½	40	0	2	"	Brn.	Brn S	Tight
~~3A~~ 3B	15	53	0	3	"	"	Brn. S. - some Grav.	"
~~4B~~ 4A	17½	49	0	2½	"	Wht.	Wht. Fine S.	
4B	20	34	0	2	"	"	Wht. S, hit clay at 18'	"
				bottom of hole at 20'				
				4" casing			4 3/4" Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

H Victor Cole

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 2000' S of RR. DATE START 8:30 A.M. 1/16/53

LINE NO. C+500 HOLE NO. 10S FINISH 1:40 P.M. 1/16/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B													
2A	7½	23	6	17	23.8	12.9	-	8.9	4	11.7	6.0	4.0	0.24
2B	10	33	6	27	19.1	21.8		19.8	2	19.0	7.5	3.8	0.28
3A	12½	36	6	30	18.1	24.6		19.6	5	25.6	7.0	4.6	0.32
3B	15	59	6	53	17.9	43.5		38.5	5	59.2	6.1	6.0	0.36
4A	17½	40	6	34	18.2	27.8		23.8	4	36.3	6.7	5.7	0.38
4B	20	29	6	23	13.7	19.8		12.8	7	67.6	4.0	15.0	0.60
	20	Averages									5.8	6.4	0.37
Totals	20					150.4	0	123.4	27	319.4			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1800' S of RR DATE START 2:30 P.M. 1/16/53

LINE NO. C+500' HOLE NO. 9 S FINISH 10:30 A.M. 1/17/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	24	0	1	Poor	Brn.	S. + Brn. Clay loose
2A	7½	31	"	2	"	Blk.	Mud + Wood "
2B	10	35	"	2½	excel.	Wht.	St Gravel tight
3A	12½	34	"	2½	"	Brn.	" " " "
3B	15	33	"	3½	"	"	" " " "
4A	17½	35	"	2	Good	Brn. + Wht.	" " " some clay "
4B	18'9"	18	"	1	Poor	Wht.	S + Clay "
				4" casing		4¾"	Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1800' S of RR

LINE NO. C+500 HOLE NO. 95

DATE

START 2:30 pm 1-16-53

FINISH 10:30 am 1-17-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	20	6	14	26.1	10.3		6.3	4	11.8	Tr	5.0	—
2A	7½	13	6	7	26.3	5.1		4.1	1	14.7	Tr	12.7	
2B	10	46	6	40	14.8	34.1	6	13.1	15	116.5	9.8	15.1	1.48
3A	12½	42	6	36	14.0	30.9	5	14.9	11	117.2	11.1	16.7	1.85
3B	15	53	6	47	15.9	39.5	8	20.5	11	232.4	7.3	26.0	1.90
4A	17½	29	6	23	14.4	19.7	4	11.7	4	88.6	4.8	19.8	0.95
4B	18'9"	18	6	12	18.6	9.7		7.7	2	37.5	Tr	17.0	—
	7½ to 18 3/4	Averages									7.7	19.5	1.50
Total						149.3		78.3	48	618.7			
						15.4		10.4	-5	-26.5			
Totals	7½ to 18 3/4					1339	23	67.9	43	592.2			

4" Casing 4 3/4" Drive Shoe

DRILL LOG COPY

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION

DATE

START 12:30 pm 1/17/53

LINE NO. C+500' HOLE NO. 8-5

FINISH 1½ with drill 1/20/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A & 1-B	5	28	0	1	Poor	Blf.	Mud & S. loose
2A	7½	29	22	2½	"	Blf & Brn.	" & S. "
2B	10	41	12	4	"	wht	Fine S. "
3A	12½	31	2	3	Good	"	Coarse S. tight
3B	15	37	6	3½	"	wht & Brn	" S. "
4A	17½	43	2	3	Good	wht	" S. & Grav. "
4B	20	43	0	4	Good	"	" S. & " "
5A	22½	37	0	1½	poor	"	S. to clay bottom at 22½' "
			off mons tees. with drill				
			(4" Casing)			4 3/4" drive shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1600' S of RR DATE START 12:30 P.M. 1/17/53

LINE NO. C+ 500' HOLE NO. 85 FINISH 12 NOON 1/20/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B	5	16	6	10	30.4	6.9		4.9	2	2.2	—	1.4	—
2A	7½	35	6	29	20.8	22.9		21.9	1	37.0	TR.	7.1	—
2B	10	74	6	68	20.4	54.2		49.2	5	85.1	7.1	6.9	0.49
3A	12½	46	6	40	19.7	32.2		27.2	5	36.2	7.5	4.9	0.36
3B	15	70	6	64	19.9	51.2		41.2	10	81.1	9.3	7.0	0.65
4A	17½	41	6	35	16.5	29.3	3	18.3	8	110.1	5.5	16.6	0.91
4B	20	65	6	59	15.9	49.7	3	37.7	9	150.3	3.2	13.3	0.42
5A	22½	21	1	20	16.1	16.8	1	12.8	3	101.2	2.4	26.5	0.63
	5' to 22½' Averages										4.9	10.3	0.50
Total						263.2		213.2	43	603.2			
						-6.9		4.9	-2	2.2			
Totals	5' to 22½'					256.3	7	208.3	41	601.0			

4" casing - 4 3/4" Drive Shoe

DMEA

DRILL LOG COPY

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION

DATE

START 7:30 am 1/21/53

LINE NO. C+500 HOLE NO. 7 S

FINISH 12:00 Noon 1/21/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A-1B+2A	7'1/2	57	15	2'1/2	Poor	Blk	Muck & wood S & 7' slime
2B	10	39	13	3'1/2	Good	Blk & Brn.	Muck & S loose
3A	12'1/2	29	5	4	Excel.	wht.	S. some Grav. tight
3B	15	40	0	4'1/2	"	"	S. " " "
4A	17'1/2	33	0	3"	"	wht & Brn.	S & " " "
4B	20	23	0	1	Good	Brn.	S & " " "
5A	21'3"	14	0	1	"	wht.	S & " " clay bottom "
				4" Casing		4 3/4" Drive shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

DAIEA

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1400' S of RR

LINE NO. C+500 HOLE NO. 75

DATE

START 7:30 A.M. 1/21/53

FINISH 12:00 11:00 A 1/21/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B } 2A }	7½	29	6	23	35.7	14.8		4.8	Trash Clay 10	20.4	3.6	6.0	0.21
2B	10	52	6	46	17.3	38.1		30.1	8	100.8	4.3	11.6	0.50
3A	12½	73	6	67	17.5	55.2	1	47.2	7	160.0	9.0	12.8	1.15
3B	15	75	6	69	17.7	56.8	3	25.8	28	174.9	6.5	13.6	0.87
4A	17½	61	6	55	15.8	46.3	8	23.3	15	302.7	10.1	28.8	2.91
4B	20	26	6	20	16.2	16.8	3	6.8	7	125.8	5.6	33.0	1.84
5A	21'3"	17	6	11	14.9	9.3	1	6.3	2	93.5	4.2	44.3	1.85
	7½ to 21¼		Averages								7.5	19.0	1.4
Total						237.3		144.3	77	978.1			
						-14.8		-4.8	-10	-20.4			
Totals	7½ to 21¼					222.5	16	139.5	67	957.7			

4" casing 4 3/4" Drive Shoe.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 650 S of R.R. DATE START 10:45 A.M. 1/1/53

LINE NO. C+500' HOLE NO. 4 S FINISH 9:30 A.M. 1/2/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	34"	0	1 1/2	Poor	Blk+Wht.	mud, bit s. at 4' loose
2A	7 1/2	36	0	2	Good	Brn.	S+Gravel tight
2B	10	36	0	2	Poor	"	S+some clay "
3A	12 1/2	49	0	3	"	"	" " " "
3B	15	41	0	3	"	"	" " " "
4A	17 1/2	40	0	2 1/2	Good	"	" " " "
4B	20	41	0	3	Excel.	"	S. + Grav. "
5A	22 1/2	34	0	2	"	Brn+Wht.	S. + " some clay "
5B	23 1/2	19	0	1	Poor	Wht	Wht. S. + clay bottom "
				4" casing		4 3/4"	Drive shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

COPY

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 650' S of RR

LINE NO. C+500 HOLE NO. 45

DATE

START 10:45 am 1/1/53

FINISH 9:30 am 1/2/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B	5	31	12	19	39.0	11.6		9.1	2.5	22.8	tr	2.58	—
2A	7½	28	6	22	17.9	18.1		10.1	8	34.2	1.1	8.42	.09
2B	10	36	6	30	18.1	24.6		20.6	4	46.0	tr	9.74	—
3A	12½	51	6	45	21.2	35.9		29.9	6	50.0	tr	6.14	—
3B	15	40	6	34	33.2	22.7		18.7	4	22.6	tr	4.39	—
4A	17½	39	6	33	37.2	20.7		14.7	6	59.9	2.6	12.7	0.33
4B	20	43	6	37	20.7	29.3	2	23.3	4	301.8	7.3	44.4	3.32
5A	22½	29	6	23	19.7	17.7	4	9.7	4	128.8	6.0	32.1	1.92
5B	23½	19	6	13	19.0	10.5		7.5	3	25.4	3.0	14.8	0.44
	5 ~~15~~ 6 23½	Averages								~~11.9~~ ~~16~~	4.9 3	16.3	0.80
Totals	15 6 5-23½					191.5	6	143.6	41.5	685.5			
						-11.6		-9.1	-2.5	-22.8			
						179.5	6	134.5	39	662.7			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 950' N. of RR

DATE

START 1:15 P.M. 1/2/53

LINE NO. H+500' HOLE NO. 5 N.

FINISH 10:15 A.M. 1/3/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	21	0	1½	Poor	Blk.	Mud + wood slime
1B	5	21	0	1½	Good	Wht.	S + Gravel tight
2A	7½	38	0	2	Poor	"	Wht. Fine S. some clay "
2B	10	39	0	2	"	"	" " " " " "
3A	12½	42	0	2	"	"	" Coarse " " " "
3B	15	43	0	2½	"	"	" " S. clay bottom "
				4" CASING		4 3/4	Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 950' N of RR

LINE NO. H +500 HOLE NO. 5N

DATE

START 1:15 pm 1-2-53

FINISH 10:15 am 1-3-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A	2½	15	6	9	39.1	5.5		3.5	Trace 2	14.6	7.4	11.7	0.86
1B	5	25	6	19	16.2	15.9	3½	8.4	4	82.7	6.7	22.9	1.53
2A	7½	30	6	24	17.5	19.8	1	16.3	2½	47.3	2.0	10.5	0.21
2B	10	38	6	32	17.4	26.4		21.4	5	32.9	2.4	5.5	0.13
3A	12½	38	6	32	18.7	26.0		24.0	2	28.9	2.5	4.9	0.12
3B	15	33	6	27	18.0	22.1		15.1	7	50.3	2.9	10.0	0.29
	15		Averages								4.1	9.8	0.40
Totals	15					115.7	4.5	88.7	22.5	256.7			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1100' N. of R.R. DATE START 11:00 A.M. 1/3/53

LINE NO. F. HOLE NO. 6 N. FINISH 8:30 A.M. 1/5/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	18	0	1	none	Blk.	Fill - City dump loose
1B	5	19	0	½	Good	Brn.	S + Grav. tight
2A	7½	33	0	2	"	"	S + Grav. "
2B	10	31	0	2	Excel.	"	" " "
3A	12½	31	0	2	Good	"	S. soft sandy clay "
3B	15	28	0	1½	"	"	S. soft sandy clay "
4A	17½	40	0	2½	"	Wht.	S + Fine Grav. "
4B	20	37	0	2	"	"	" " " some clay "
5A	21'3"	23	0	1	Poor	"	S. + Wht. clay "
				clay bottom at 21'3"			
				4" Casing - 4¾" Drive Shoe			

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

PY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1100' N of RR

DATE

START 11:00 am 1/3/53

LINE NO. F HOLE NO. 6 N

FINISH 8:30 am 1/5/53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A	2 1/2	13	6	7	28.9	4.9		2.9	2	21.1	Tr	19.0	—
1B	5	20	6	14	23.4	10.7	1	6.7	3	42.2	7.4	17.4	1.28
2A	7 1/2	29	6	23	21.5	18.0	2	11.0	5	151.3	12.4	37.1	4.61
2B	10	28	6	22	20.6	17.6	1	13.5	3	147.7	11.1	31.8	3.53
3A	12 1/2	31	6	25	19.6	20.1		17.6	2.5	136.0	8.9	29.8	2.65
3B	15	23.5	6	17.5	20.5	13.8		12.8	1	169.8	6.8	54.2	3.68
4A	17 1/2	29	6	23	27.8	16.6	1	9.6	6	78.3	6.8	20.8	1.41
4B	20	29	6	23	14.1	19.7	1	13.7	5	62.2	3.6	13.9	0.50
5A	21'3"	15	6	9	21.7	7.0		7.0		27.2	1.3	17.1	0.22
	21 1/4	Averages									8.3	28.7	2.38
Totals	21 1/4					128.3	6	94.8	27.5	835.8			
				4" Casing			4 3/4" Drive Shoe						

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1300' N. of R.R. DATE START 9:15 A.M. 1/5/53

LINE NO. 7. HOLE NO. 7N. FINISH 1:30 P.M. 1/5/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	19	0	1½	Good	Blk + Brn.	Top soil S. + grav. loose
1B	5	42	0	2	Poor	Brn.	S. + Clay tight
2A	7½	40	0	"	"	"	" " " "
2B	10	34	0	"	Good	"	S. + fine grav. "
3A	12½	33	0	"	"	"	" " " " "
3B	15	30	0	"	Poor	Brn. + Wht.	S. + Wht. Clay "
				clay	bottom	at	15'
				4"	Casing		4¾" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1300' N of AA

LINE NO. F HOLE NO. 7N

DATE

START 9:15 am 1/6/53

FINISH 1:30 pm 1/5/53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A	2½	20	6	14	52.0	6.8		3.8	3	19.0	4.8	12.3	0.59
1B	5	27	6	21	23.8	16.0		9.0	MUD 7	28.0	3.9	7.7	0.30
2A	7½	28	6	22	25.6	16.4		13.4	3	45.0	3.0	12.1	0.36
2B	10	31	6	25	16.8	20.8		18.8	2	61.3	3.7	13.0	0.48
3A	12½	32	6	26	16.8	21.6	½	18.1	3	105.8	3.8	21.6	0.82
3B	15	27	6	21	16.6	17.5		14.0	3½	124.3	3.5	31.2	1.09
	15	Averages									3.6	17.0	0.6
Totals	15					99.1	0.5	77.1	21.5	383.4			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 550 N. of R.R. DATE START 8:00 A.M. 1/6/53

LINE NO. H+500' HOLE NO. 3N. FINISH 11:20 A.M. 1/6/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	37	0	2½	Poor	Brn.	Fine Brn. S. some mud - loose
2A	7½	32	0	2½	Good	"	Brn. S. Wood tight
2B	10	31	0	2	"	"	Brn. S. " , Fine brown "
3A	12½	50	0	2½	"	Wht.	hit clay at 10'6" "
				bottom at		12½'	drilled 1½ of clay
				4" casing		4¾"	Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 550 N of R.R

LINE NO. H & 500 HOLE NO. 3N

DATE

START 8:00 am 1-6-53

FINISH 11:20 am 1-6-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	31	6	25	30.2	17.4		14.4	3	53.1	5.6	13.4	0.75
2A	7½	28	6	22	25.4	16.4		14.4	2	54.3	4.6	14.6	0.67
2B	10	36	6	30	13.7	25.9		20.9	5	77.7	7.7	13.2	1.01
3A	12½	42	6	36	18.0	29.5		21.5	8	121.4	5.8	18.1	1.05
	12½	Averages									6.0	15.1	0.9
Totals	12½					89.2		71.2	18	306.5			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 750' N. of R.R. DATE START 1:30 P.M. 1/6/53

LINE NO. H+500' HOLE NO. 4H. FINISH 10:45 A.M. 1/7/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A+1B	5	39	0	1½	Poor	Blk. + Brn.	mud-S. at 4'	loose
2A	7½	34	0	3	Good	Brn.	S. + fine grav-wood	Tight
2B	10	36	5	4	Excel.	Wht.	S. + coarse Grav.	"
3A	12½	51	5	4	"	"	" " "	"
3B	15	42	0	2½	Poor	"	S. clay at 14'	"
				11' run in on 2B				
				bottom of hole 15'				
				4" casing		4 3/4"	Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 750' N of RR

LINE NO. 14 + 500' HOLE NO. 14N

DATE

START 1:30 pm 1-6-53

FINISH 10:45 am 1-7-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	23	6	17	24.3	12.7		9.7	3	22.7	7.2	7.9	0.56
2A	7½	48	6	42	21.1	33.1	5	18.1	10	116.3	8.8	15.4	1.35
2B	10	62	6	56	13.6	45.6	8	21.6	16	394.2	4.5	38.1	1.71
3A	12½	48	6	42	14.7	35.8	6	16.8	13	106.4	5.3	13.1	0.69
3B	15	41	6	35	13.9	30.1	½	23.6	6	55.4	3.7	8.1	0.30
	15	Averages									5.3	19.5	1.04
Totals	15					157.3	19.5	89.8	48	695.0			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 450' S of RR DATE START 1:30 P.M. 1/7/53

LINE NO. B HOLE NO. 35 FINISH 11:00 A.M. 1/8/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A, 1B 2A	7½	0	0	0	0	Blk.	No core	Slime
2B	10	12	0	1	Poor	Brn.	S + wood	loose
3A	12½	20	0	2	"	"	S. wood + clay	"
3B	15	35	20	2½	"	Brn. + Bk.	" " "	"
4A	17½	110"	6	4	"	Brn & wht.	"	"
4B	20	40	0	3½	Good	Brn	Coarse S. + grav.	Tight
5A	22½	42	0	2½	"	Wht.	Wht. Coarse S-some Gravel	"
5B	23'9"	26	0	1½	Poor	"	Wht. Fine S. & clay	"
		Run in on 4A - pumped off 42'						
				4" casing		4¾" Drive Shoe		

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

H Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 450' S of RR

LINE NO. B HOLE NO. 3 S

DATE

START 11:30 pm 1/7/53

FINISH 11:10 am 1/8/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A + B 2A	7½		No		Core								
2B	10	14	6	8	36.0	5.1		4.1	1	27.5	3.5	23.8	0.8
3A	12½	22	6	16	26.0	11.8		8.8	3	42.6	4.2	15.9	0.7
3B	15	24	6	18	51.0	8.8		5.8	Tr 3	12.0	Tr	6.0	0
4A	17½	56	6	50	16.3	41.9	1	27.9	13	25.9	Tr	2.7	0
4B	20	47	6	41	15.3	34.8	5	17.8	12	55.0	6.5	7.0	0.5
5A	22½	34	6	28	17.6	23	3	14	6	18.8	6.8	3.6	0.2
5B	23'9"	33	6	27	13.4	23.4		16.4	7	19.9	Tr	3.7	0
						Average		10 to 23		'9"	3.8	5.3	0.2
	Totals	to	23'9"				~~148.8~~	~~9~~	~~94.8~~	~~45~~			
						148.8	9	94.8	45	201.7			
						-5.1				27.5			
						143.3				174.2			

4" casing 4 3/4" Drive Shoe

DRILL LOG

Copy

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 750' S of R.R. DATE START 2:30 P.M. 1/2/53

LINE NO. H + 600' HOLE NO. 45 FINISH 10:15 A.M. 1/9/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A + 1-B	5	17	0	3/4	Poor	Blk.	Mud - S. + Wood Loose
2-A	7½	36	0	2	Good	Wht.	Sand + Wood Tight
2-B	10	37	0	2	"	"	Wht. S. some Clay "
3-A	12½	49	0	3	"	"	Wht. S. Gray. Clay "
3-B	15	57	0	4	"	Brn.	Brn. S. some Gray "
4-A	17½	72	0	4½	Poor	Wht.	Wht. coarse S. + Clay "
				Clay Bottom at 17½'			
				4" Casing		4¾" Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 750' S of RR

LINE NO. H+600 HOLE NO. 45

DATE

START 2:30 pm 1/8/53

FINISH 10:15 am 1/9/53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	13	6	7	40.0	4.2		3.2	1	6.5	Tr	4.1	—
2A	7½	31	6	25	22.5	19.4		16.4	3	20.4	6.8	4.6	0.31
2B	10	27	6	21	26.0	15.5		12.5	3	40.3	10.7	11.5	1.23
3A	12½	45	6	39	19.2	31.7	1	25.7	5	91.6	13.0	12.7	1.65
3B	15	65	6	59	22.1	45.9	2	35.9	8	94.0	14.6	9.0	1.31
4A	17½	66	6	60	15.2	50.9		39.9	11	76.0	5.6	6.5	0.36
	17½	Averages									10.8	8.6	0.93
Totals	17½					167.6	3	133.6	31	328.8			

4" Casing 4 3/4" Drive Shoe

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 550 So. of RR

DATE

START 7:30 A.M. 1/10/53

LINE NO. H+600' HOLE NO. 3 S

FINISH 12:00 Noon 1/10/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5						No core, wood plug slime
2A	7½						" " " " "
2B	10						" " " " "
3A	12½	32	0	1½	Poor	Brn	Brn. S. wood, some clay loose
3B	15	37	0	2	"	"	" " " " " tight
4A	17½	35	0	2½	Good	"	" " " " " "
4B	20	35	4	2½	Excel.	"	Brn. S. + coarse Grav. "
5A	22½	35	0	2	Good.	"	" " " " + clay "
				hit clay at 21' 10"			
				hole down 22½"			
				4" casing		4 3/4"	Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 550' S of RR

LINE NO. H + 600 HOLE NO. 3 S

DATE

START 7:30 am 1/10/53

FINISH 12:00 Noon 1/10/53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B 2A+2B	No Core												
3A	12½	23	6	17	21.9	13.3		9.3	4	16.0	3.8	5.3	0.20
3B	15	24	6	18	21.4	14.1		9.1	5	23.3	3.1	7.3	0.22
4A	17½	29.5	6	23.5	16.1	19.7	1	15.7	3	36.1	8.2	8.1	0.66
4B	20	44	6	38	17.8	31.2	8	15.2	8	308.6	11.3	43.5	4.92
5A	22½	26	6	20	21.0	15.8	4	7.8	4	127.6	10.6	35.6	3.77
	10 to	22½		Averages							10.3	23.9	2.46
Totals	12½					94.1	13	57.1	24	511.6			

4" Casing 4 3/4" Diam Shoe

DRILL LOG

Copy

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 350' S. of R.R. DATE START 2:00 P.M. 1/10/53

LINE NO. 4+600' HOLE NO. 25 FINISH 10:45 A.M. 1/12/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1-A + 1-B	5						No Core	Slime
2-A + 2-B	10						" "	"
3-A	12½	31	3	3½	Poor	Brn.	Brn. Clay + Fine S.	Loose
3-B	15	47	8	4½	Good	Wht.	Wht. Fine S.	"
4-A	17½	34	2	3	"	Brn.	Brn. S.	Tight
4-B	20	39	0	3	"	Brn. + Wht.	S.	"
5-A	22½	37	0	2	"	Brn.	S. + Gray.	"
5-B	25	45	0	2	Poor	Brn. + Wht.	S. + Gray. + Clay at 23½'	"
				Bottom of Hole at 25'				
				4" Casing			4¾" Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 350's of R.R

LINE NO. 4 + 600' HOLE NO. 2s

DATE

START 2:00 pm 1-10-53

FINISH 10-45 a.m 1-12-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A + 1B		No Core											
2A + 2B													
3A	12½	48	6	42	25.5	31.3		28.3	3	99.4	7.3	14.0	1.02
3B	15	82	6	76	18.1	62.2		51.2	11	156.9	10.4	11.1	1.15
4A	17½	51	6	45	15.3	38.2		21.2	17	145.4	5.4	16.8	0.90
4B	20	53	6	47	15.3	39.8		12.8	27	221.8	1.3	24.7	0.32
5A	22½	31	6	25	14.2	21.4	6	8.4	8	230.8	3.9	47.5	1.85
5B	25	30	6	24	26.9	17.5	2	11.5	4	161.6	3.2	40.7	1.30
	15	Average									4.7	21.3	1.00
Totals	15					210.4	7	133.4	70	1015.9			

4" Casing 4 3/4" Drive Shoe

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 150' S. of RR DATE START 1:30 P.M. 1/12/53

LINE NO. H+600' HOLE NO. 15 FINISH 12:00 NOON 1/13/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5						no core wood plug slime
2A	7½						" " " " "
2B	10	37	0	2	good	BRN	Fine S. some wood loose
3A	12½	54	0	54	"	Wht.	" " "
3B	15	43	10	4	"	"	" " "
4A	17½	45	0	2	"	BRN.	S+ Gravel Tight
4B	20	29	0	2½	"	"	" " " "
5A	22½	32	0	2	"	"	" " " "
5B	25	49	0	2	"	BRN + WHT	S + Grav. & clay at 23½' "
					bottom of hole at 25'		
					4" casing 4 3/4" Drive Shoe.		

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 150's of R.R. DATE

START 1:30 pm 1-12-53

LINE NO. H + 600' HOLE NO. 18 FINISH 12 noon 1-13-53

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A + 1B } 2A }	7½	No CORE											
2B	10	39	6	33	20.6	26.2		26.2	wood	93.0	6.1	15.6	0.95
3A	12½	63	6	57	19.2	46.0		45.5	½	134.9	6.8	12.9	0.87
3B	15	84	6	78	19.8	62.5		62.0	½	122.1	2.5	8.6	0.21
4A	17½	44	6	38	18.6	30.9		24.9	6	48.1	1.5	6.8	0.10
4B	20	30	6	24	15.4	20.3	1	13.3	6	119.6	3.9	26.0	1.01
5A	22½	27	6	21	14.5	17.9	4	9.9	4	107.1	2.0	26.3	0.52
5B	25	44	6	38	16.7	31.7	4	20.7	7	51.3	TR	7.1	—
	7½ to 22½		Average								4.07	13.5	0.55
Totals	7½ to 22½					203.8	5	181.8	17	624.8			

4" Casing 4 3/4" Drive Shoe

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 50' N. of R.R. DATE START 2:00 P.M. 1/13/53

LINE NO. H + 600' HOLE NO. 1 - N. FINISH 11:40 1/14/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A+1B	5	16	0		none	Blk.	mud	slime
2A	7½	28	0	3½	"	"	" + wood	"
2B	10	31	0	3	"	"	blue clay	"
3A	12½	30	2	3	Poor	Blk. + Brn.	some clay + fine S.	loose
3B	15	37	4	5½	"	Brn.	" " " "	tight
4A	17½	43	2	4	Good	Wht.	S. + Grav.	"
4B	20	33	0	2	"	"	" "	"
5A	21'3"	19	0	1	Poor	"	" + Clay	"
				bottom at		21'3"		
				4" casing		4 3/4"	Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 50' N of BR

DATE

START 3 pm 1/13/53

LINE NO. H +600 HOLE NO. 1 N

FINISH 11:40 am 1/14/63

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B													
2A	7 1/2	35	6	29	59.1	11.8		1.8	10	16.7	Tr	6.2	—
2B	10	22	6	16	35.3	10.3		1.3	clay 9	17.3	Tr	7.4	—
3A	12 1/2	25	6	19	21.0	15.0		11.0	4	35.1	2.1	10.3	0.21
3B	15	86	6	80	20.0	64.0		62.0	2	199.0	8.3	13.7	1.14
4A	17 1/2	61	6	55	17.3	45.4	3	34.4	8	149.9	7.9	14.5	1.14
4B	20	34	6	28	17.3	22.1	5	11.1	7	111.8	4.0	21.3	0.85
5A	21'3"	19	6	13	17.6	10.7		8.7	2	39.6	2.0	16.3	0.32
	10 to 21 1/4	Averages									6.4	14.9	0.95
Totals	12 1/2 to 21 1/4					1582	8	1272	23	535.4			
				4" Casing			4 3/4" Drive Shoe						

copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 250' N. of R.R. DATE START 2:40 P.M. 1/14/53

LINE NO. H+600' HOLE NO. 27 FINISH 12:00 Noon 1/15/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5'	44	0	2½	none	Blk	mud s + wood loose
2A	7½	36	0	3	Good	Brn.	Brn S. "
2B	10	48	0	4	"	"	" " Tight
3A	12½	47	12	4	"	"	" S + Grav. "
3B	15	34	0	2	Excel.	"	" S. + " "
4A	17½	34	0	3	"	"	" S. + " "
4B	21'	45	12" below	3	Poor	Wht.	" S. + Clay at 19' "
				Pumped 12" below casing - 21' to bottom			
				41' Casing 4 3/4 Drive Shoe			

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 250N of RR

LINE NO. 4 + 6'00' HOLE NO. 2N

DATE

START 2:40pm 1-14-53

FINISH 12 noon 1-15-53

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	29	6	23	41.8	13.4		9.4	4	23.6	4.9	9.7	0.37
2A	7½	41	6	35	18.4	28.5		27.5	1	77.6	4.6	12.0	0.55
2B	10	87	6	81	20.1	64.7		52.7	12	185.4	4.5	12.6	0.56
3A	12½	84	6	78	17.6	64.2	3	53.2	8	163.8	7.1	11.2	0.79
3B	15	35	6	29	18.0	23.8	3	15.8	5	192.7	5.6	35.7	1.99
4A	17½	43	6	37	13.9	32.2	14	10.2	8	291.5	3.8	39.9	1.51
4B	21	37	6	31	14.6	26.4	2	21.4	3	38.8	3.1	6.4	0.20
	5 to 21		AVERAGE								4.9	17.4	0.85
Totals	5 to 21					239.8	22	180.8	37	949.8			

4" Casing 4 3/4 Drive Shoe

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
SOUTHEASTERN REGION
REGION VII

OFFICE OF
REGIONAL DIRECTOR

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 5 1953

P. O. BOX 217
NORRIS, TENNESSEE

February 3, 1953

Memorandum

To: Jay L. Chambers, Defense Minerals Exploration Administration, Interior Building, Washington 25, D. C.

From: Administrative Officer, Region VII, Norris, Tennessee

Subject: Monthly Reports and Vouchers

We are enclosing the following monthly reports and vouchers:

Idm-E-392 Callahan Zinc-Lead Company, Inc.
Docket No. DMEA-2576
4th payment - month of December
Amount $6051.70

Idm-E-435 Grigg and West
Docket No. DMEA-2677
1st payment - month of December
Amount $486.00

Helen Miller
Helen R. Miller

Enclosures

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 1-31-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 5 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1952 Docket No. DMEA 2576 Contract No. IDM E 392

Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite, Columbium, Rutile

Address 100 Park Avenue, New York 17, New York

Contract Amount, $37,960.00 Government Participation: 83 % Amount, $31,506.80

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	4,028.57	7,502.99	11,531.56	4,028.57	7,502.99	11,531.56
Supervision	600.00	1,800.00	2,400.00	600.00	1,800.00	2,400.00
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
Small tools & supplies	104.37	638.95	743.32	104.37	638.95	743.32
gas, oil, tires	151.23	330.72	481.95	151.23	330.72	481.95
(4) Operating Equipment:						
Rental						
Purchase	568.00	5,005.31	5,573.31	568.00	5,005.31	5,573.31
Depreciation	183.33	549.99	733.32	183.33	549.99	733.32
(5) Initial Rehabilitation and Repairs		1,108.22	1,108.22		1,108.22	1,108.22
(6) New Bldgs., Improvements, etc.	55.76	394.06	449.82	55.76	394.06	449.82
(7) Miscellaneous:						
Repairs to Equipment	137.15	150.38	287.53	137.15	150.38	287.53
Sampling and Analysis		87.75	87.75		87.75	87.75
Payroll Taxes						
Liability Insurance		750.00	750.00		750.00	750.00
see schedule attached	1,148.93	3,574.20	4,723.13	1,148.93	3,574.20	4,723.13
(8) Contingencies (specify):						
Expenses to-at-from Tuscaloosa Bureau of Mines laboratory	313.87		313.87	313.87		313.87
TOTALS	7,291.21	21,892.57	29,183.78	7,291.21	21,892.57	29,183.78

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 1/27/53 *Payee Callahan Zinc-Lead Company Inc.

Per E. G. Sales Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$6,051.70

Signature Cora A. Piper
(Authorized Certifying Officer)

Date FEB 3 1953 Vou. No. 98
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm E392 in accordance with the terms of the contract.

Signature Benjamin Gildersleve Title Geologist, U.S.G.S. Date JAN 30 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

ACTING EXECUTIVE OFFICER

Signature W. A. Beck Title DMEA REGION VII Date JAN 30 1953

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site", audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

FORM MF 104
SCHEDULE SUPPORTING ITEM (7) ON FORM MF 104 (REV.)
OPERATOR'S MONTHLY REPORT AND VOUCHER
DECEMBER 1952

	This Month	Totals Previously Reported	Total to date
Accounting	50.00		50.00
Compensation insurance		362.80	362.80
Office expense	95.25	318.82	414.07
Moving equipment and crew	168.88	843.54	1,012.42
Per diem	794.00	1,895.00	2,689.00
Freight on sand shipped to U. S. Bureau of Mines at Tuscaloosa, Alabama	40.80	154.04	194.84
	1,148.93	3,574.20	4,723.13

January 26, 1953

PROGRESS REPORT FOR DECEMBER 1952
CONTRACT NO. [illegible]

Enclosed herewith are the logs for the month of December. Also enclosed are cross sections of lines B, C, (incomplete) F, S, and V, and a map showing all holes up to the writing, for some of which the logs are not included since they have not been checked.

All work on the north side of the railroad which bisects the property is completed and the remaining drilling on the south side is well along and will be completed before the end of January. All the drilling is still showing good commercial values within the expected dredging limits.

As to line B the depth of the water flooding the swamp has made it impractical to force the line all the way across the creek. Instead it was decided that a complete cross section on line C would be sufficient and by means of considerable leg cribbing, line C will be complete from rim to rim.

As to line F two or three holes might at some time be put in on the south side of the creek. The contract with the owner, A. Burdo, has been delayed and may not be signed until late January. We do not consider these two or three holes absolutely necessary.

As to line H there is greater width here than expected. It was found that some of the ground on this line belonged to D. E. Blackman so a contract was signed covering the ground, the required copies of which are submitted this week.

Lines V and X show a decrease in pounds of all heavy minerals as the creek narrows over the last half mile at the top of the project, but the pounds of monazite and therefore perhaps of the heavier minerals is still apparently in dredgable amount.

The work on Phase II of the project at the Tuscaloosa laboratory of the U.S.B.M. was completed and a full report covering these tests is attached. The results we feel are very favorable. Another bulk sample (600 lbs.) was sent to Denver to the laboratory of the Humphreys Investment Co. for spiral tests. The results of this work are included in the report on Phase II.

The concentrates from the bulk sample at Tuscaloosa were given a final cleaning and were sent to Carpco to separate into the various minerals so that these minerals could be submitted to several purchasers to determine whether they are of acceptable type and grade. This is not necessary in the case of ordinary metals, but with these "non-metalic" minerals, especially rutile and ilmenite, there are other conditions than chemical assay that must be met to prove commercial value.

These separations by Carpco are not yet completed, but all results of Carpco's work should be available within a week or ten days. A columbium determination will be made on this material.

Because we are dealing with unusual minerals, and methods and procedures of testing have not been standardized on other like projects, we have been cautious about taking any steps with the drill sample concentrates that could not be undone or would commit us too hastily to any one method of making final assays and determinations. We decided, therefore, that an individual separation and assay should first be made on each hole of one cross section by Carpco Engineering Co. before any other compositing of drill concentrates is undertaken. Therefore, a composite was made for each of the seven holes of the G line from the several samples that make up each hole. These seven composites were sent to Carpco in late December.

The results of these seven separations and assays were received on January 24th. A copy of Carpco's assay report is attached and also a computation therefrom of the pounds per ton of the four minerals, ilmenite, monazite, rutile and zircon. The average assays per ton of the G line (weighted for depths of hole) were computed and when converted into cu. yds. of 2700 lbs. they compare with our original estimate of ore reserves (see application) as follows: -

G LINE	CARPCO ASSAY - G LINE		ORIGINAL ESTIMATE
	lbs./ton	lbs/cu. yd.	lbs./cu.yd. 2700 lbs.
Ilmenite	3.83	5.2	5.96
Monazite	0.975	1.31	1.27
Rutile	1.87	2.52	2.26
Zircon	2.90	3.9	2.94

The original estimate in the application was based on the average of values shown in original drilling near the upper and lower end of the project, (old lines "P & V" now "original P" and new drilling designated line Q) which were checked by the U.S.B.M. by petrographic determination at Raleigh and assayed by Carpco.

The results are surprisingly close and seem to point out again the uniformity of the deposit as to average value per cross section as well as the soundness of the original estimates. However, there is notrush complete uniformity between each hole in the line or of the distribution of various minerals in the holes, but as pointed out before the distribution is such as to make a dredgable deposit from hill, with no separate pay channels. These facts might still leave the question of whether it is advisable to composite entire cross sections or whether our assay should be made for each hole. The individual hole assays are costing about $30 per hole or about $2000 more than by the compositing of entire lines. The individual assays are certainly safer and give more definite information. Further consideration of Carpco's report will be necessary in deciding this point.

No columbium assays have been completed by Carpco except one on the material from hole G1A without reconcentration of the ilmenite fraction. This was in error as the expected columbium content is too low to be detected here except by spectrograph. A reconcentration of a composite of all ilmenite fractions from this line is being made and a columbium determination will be made on this.

It will be noted that in computing the values of drill logs in most holes in the swamp we have not included the top swamp muck in our computations but have used only the firm material below. This is in accordance with good placer practice when dealing with a distinct top layer of material containing practically no values and a very low percentage of solids, such as the tundra "muck" in Alaska or, this semifluid swamp. Because the costs of handling this stripping material is different than dredging costs, and no recovery's expected from it, it must be computed separately and added to the overall dredging costs.

There is one other all important point that has been raised in the discussion of the computing of the values shown by the drilling. In gold placer sampling it is an invariable rule that a "drill factor" (that is how many actual cubic feet or yards of material in place is represented by the values recovered from a drill hole) is established by putting down a number of carefully measured shafts to bed rock over completed drill holes, and a comparison made of the two results.

There is often a wide variation in the "drill factor", used on dredge projects in different types of ground. In the wet sandy ground on this project it will be difficult to put down shafts to bed rock and we had hoped to avoid this expense, but we now realize that this ground is so different from any other placer deposit that now that we seem to have good values it becomes more imperative than ever that some carefully measured shaft work be undertaken before the drill results can be said to give reasonable safe figures.

To sum up, the drilling is complete unless three more holes are put on the Bardo ground.

With the exception of line G and the Tuscaloosa concentrates, which are in the hands of Carpco Engineering, all drill samples are being held intact on the project, after concentrating and radiometric determination, as shown on the laboratory logs.

The Phase II work from open pits is complete except for the returns from Carpco as to assays.

The costs of this work have been higher than expected due mostly to the difficulty of drilling in the swamp which makes up a large part of the project. It required the building of a plank runway, some places on log cribbing to get even light jeep mounted equipment in to place for the drilling. It was also found necessary to bring another engineer onto the job as one man could not keep up with the laboratory as well as the surveying and mapping and also the work at Tuscaloosa.

It is evident that funds for the project will be exhausted early in February and that the final work to give meaning to the whole project which actually extends beyond the work originally contemplated, can not be completed by that time and that additional funds will be required.

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REPORT OF PHASE II BULK SAMPLE WORK WITH JIGS AND SPIRALS DONE AT TUSCALOOSA AND DENVER

Late in November, a railroad carload of sands considered representative in character of the Horse Creek deposit was dug from four sites along the project and shipped to Tuscaloosa Station of the U.S.B.M. in Alabama, for test concentration over jigs and Humphrey spirals. The prime purpose of this phase of the work was to determine the degree to which the valuable minerals contained are recoverable by practical commercial methods as compared to the table concentration method used on all drill samples at the Horse Creek Laboratory. It is necessary to establish such a recovery factor to interpret drill results into actual commercial recoveries.

In addition to this, a 600 pound sample was sent to the laboratory of the Humphrey's Investment Co. in Denver for spiral concentration to further check these points.

Mr. L. E. Davis, engineer, and Mr. Fred L. Davis, concentrate foreman, were sent from the project to Tuscaloosa to carry on the test work along with the U.S.B.M. men. While he was in the West for Christmas Mr. Munzenrider was sent to Denver for three days to be present at the Humphrey's Laboratory during the test run on the smaller sample.

Attached hereto is, (1) a letter from Mr. Clemons with the report of the Results of Petrographic Evaluation of the Tuscaloosa work; (2) Mr. L. E. Davis' report on these tests including the final work carried on at the Horse Creek Laboratory written before the petrographic results were available; (3) A letter from Mr. J. S. Hubbard of the Humphrey's Investment Co. and a result of their work in Denver.

In considering these reports it must be born in mind that (other than Davis' Tabulation 8) they deal with <u>all</u> heavy minerals as assayed by sink-float in a heavy liquid of a S.G. of 2.9%. No effort was made to save such lighter sink products as epidote, staurolite, garnet, tourmaline, kyanite etc that have a S.G. of 3.25-3.75 which are not of economic value. The figures that are of interest, therefore, are the recoveries of monazite, rutile and zircon, (that have a S.G. of 4.25-7.) as shown in Mr. Clemons report especially in test #9 which approximates the operating conditions we plan.

This shows % recovery after jigging and first and second stage spiraling as follows:

Monazite	- 97.6%
Rutile	- 93.6%
Zircon	- 94.2%

Mr. Davis' Tabulation #8 where the recovery of monazite in the Tuscaloosa concentrates, (when cleaned at the Horse Creek laboratory) is compared with a sample of original heads so tabled at Horse Creek. By radiometric determination this shows a recovery of 87% (using the tabled head sample as 100%). There may be some discrepancy in these results due to a variation in the head sample or the difference in methods, but we believe that actual recoveries will be some where above the 87%. Although, we can hardly expect to get 97.6% in actual production.

This work is all of a preliminary nature and no attempt was made to have the sample used representative of the deposit as to grade, but only as to character. More complete figures will be available, of course, from the shaft work carried on in February and March.

It has been decided that this work must be on the basis of accurately cut shafts put down to bed rock over drill holes previously drilled if it is to be an accurate evaluation of the drilling. The material from these shafts must be carefully jigged and spiraled and the results as to recovery from both processes determined at that time.

To sum up, while the feed and ratio attained at Tuscaloosa are within practical operating limits, yet the volume of feed to the jigs will no doubt be increased and ratio of concentration improved very considerably with proper jigging conditions, and it is expected that a ratio of concentration on the jigs approaching 10 to one, and rate of feed up to one ton per hour per square foot of bed may be reached without too low a recovery.

We owe many thanks to the U. S. Bureau of Mines for their help.

By Owen H. Perry

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UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

University, Alabama

January 13, 1953

Air Mail

Mr. Owen Perry
Mr. Larry Davis
Henderson Hotel
Aiken, South Carolina

Dear Mr. Perry:

Attached are the data on the two especially pertinent jig tests made on your monazite sands, as requested during our telephone conversation of January 12.

Feld is in process of calculating other data. However, in order to furnish you with the present material, we are sending it on. You will shortly receive a full report.

With best personal regards,

Sincerely yours,

(Signed) B. H. Clemmons
Metallurgical Branch
Minerals Technology Division

UNITED STATES

DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

University, Alabama

January 13, 1953

Air Mail

Mr. Owen Perry
Mr. Harry Davis
Robertson Hotel
Aiken, South Carolina

Dear Mr. Perry:

Attached are the data on the two especially pertinent pig tests made on your manganese sands, as requested during our telephone conversation of January 12.

Field is in process of calculating other data. However, in order to furnish you with the present material, we are sending it on. You will shortly receive a full report.

With best personal regards,

Sincerely yours,

(Signed) B. M. Ghersons
Metallurgical Branch
Minerals Technology Division

From: U.S.B.M. Tuscaloosa

Results of Petrographic Evaluation of Test Products

Product	Wt., lb.	Wt., %	Sink, 2.94	Assay, percent* M	R	Z	Op	Ot	Sink, 2.94	Distribution, percent* M	R	Z	Op	Ot
1411-Jig Test #9 Minus-10-mesh feed:														
Spiral conc.	356	7.0	17.75	1.06	1.11	2.46	5.93	7.19	78.9	97.6	93.6	94.2	86.4	67.0
Spiral tail	892	17.7	0.43	.01	.03	.06	.24	.08	4.8	2.4	6.4	5.8	8.9	1.9
Spiral feed	1.248	24.7	5.34	.31	.34	.74	1.85	2.10	83.7	100.0	100.0	100.0	95.3	68.9
Jig tail	3,809	75.3	0.34	-	. 00	-	.03	.31	16.3	-	-	-	4.7	31.1
Jig feed	5,057	100.0	1.58	.08	.09	.18	.48	.75	100.0	100.0	100.0	100.0	100.0	100.0
1411-Jig Test #10 minus-1/4-inch feed:														
Spiral conc.	293	4.8	21.68	1.29	1.34	2.49	6.79	9.77	78.3	98.3	83.4	94.9	81.8	70.5
Spiral tail	647	10.7	0.41	0.01	0.04	0.06	0.28	0.02	3.3	1.7	5.6	5.1	7.6	.3
Spiral feed	940	15.5	7.00	.41	.44	.81	2.30	3.04	81.6	100.0	89.0	100.0	89.4	70.8
Jig tail	5,136	84.5	0.29	0.00	0.01	.00	.05	.23	18.4	-	11.0	-	10.6	29.2
Jig feed	6,076	100.0	1.33	0.06	0.08	.13	.40	.66	100.0	100.00	100.0	100.0	100.0	100.0

*M - Monazite
R - Rutile
Z - Zircon
Op- Opaque (mainly ilmenite)
Ot- Others (kyanite, garnet, epidote, staurolite, etc.)

From: U.S.B.M. Tuscaloosa

Results of Heavy-Liquid Evaluation of Test Products

Product	Lb.	%	Sink, %	Assay, percent*					Sink, %	Distribution, percent*				
				M	I	S	Op	Ot		M	I	S	Op	Ot
Mill-Jig Test #9														
Minus-10-mesh feed:														
Spiral conc.	356	7.0	17.75	1.06	1.11	2.45	5.29	7.19	76.9	92.6	93.6	94.2	86.4	67.0
Spiral tail	892	17.7	0.43	.02	.02	.06	.24	.06	4.8	2.4	6.4	5.8	8.9	4.9
Spiral feed	1,240	24.7	5.34	.21	.24	.74	1.85	2.10	83.7	100.0	100.0	100.0	95.3	69.9
Jig tail	3,809	75.3	0.34	-	.00	-	.03	.21	16.3	-	-	-	4.7	31.0
Jig feed	5,057	100.0	1.36	.08	.09	.18	.48	.75	100.0	100.0	100.0	100.0	100.0	100.0
Mill-Jig Test #10														
Minus-1/4-inch feed:														
Spiral conc.	293	4.8	21.68	1.29	1.34	2.45	6.79	9.77	76.3	90.2	83.4	94.9	81.8	70.3
Spiral tail	617	10.1	0.44	0.01	0.04	0.06	0.26	0.02	3.2	1.7	5.6	5.1	7.6	.2
Spiral feed	910	15.5	7.00	.44	.44	.81	2.30	3.44	81.6	100.0	89.0	100.0	89.4	70.5
Jig tail	5,126	84.5	0.29	0.03	0.04	.00	.05	.23	18.4	-	11.0	-	10.6	29.2
Jig feed	6,076	100.0	1.23	0.06	0.06	.12	.40	.66	100.0	100.0	100.0	100.0	100.0	100.0

M - Monazite
I - Ilmenite
Z - Zircon
Op - Opaque (mainly ilmenite)
Ot - Other (lyxenite, garnet, epidote, staurolite, etc.)

To: O. H. Perry

From: L. E. Davis

January 10, 1953

TUSCALOOSA REPORT

The following is a report on the results of a series of tests performed on Horse Creek Sands and conducted at the Bureau of Mines Laboratory on the University of Alabama Campus at Tuscaloosa, Alabama. Subsequently, the concentrates from these tests, and a head Sample, were re-concentrated by tabling at the laboratory on the Horse Creek Property.

The sands tested consisted of approximately 20 tons (wet weight) taken in equal parts from the property locations designated as Line P Hole 1, Line G Hole 4, Line K Hole 5, and Line M Hole 10. The sand was dug with a "Back-hoe" shovel and to a depth of about 7-1/2', definitely not the full depth of the heavy mineral deposit. The sand was mixed when loaded in the freight car for shipment. The sand was mixed twice in Tuscaloosa, at the time it was unloaded from the car and again when it was hauled to the Bureau Laboratory.

No facilities for wet screening were available and the sand had to be dried before screening. The sand was manhandled for drying and screening. All the sand was screened on 1/4" and approximately half the total was re-screened on 10 mesh.

The feed cone to the jig held about one ton. Test runs involving more than 2000 lbs required man power to feed the cone. Feed to the jig was regulated by an ordinary 2" valve arrangement, thus a constant and uniform rate of feed was almost impossible. The jig tests were made on a Bendelari Jig (fixed sieve) with an effective screen area of 4 sq. ft. Only one jig screen was available, a punched plate sieve with openings of 3/32" x 9/16". Variations in stroke length and speed were easily adjusted. Pumping facilities were adequate, either for return of all jig products to the feed cone or, for sending the jig hutch product direct to the Humphrey Spirals. Bedding material consisted of various sizes of shot and punchings, Limonite from Cartersville, Georga (too low S.G.) and, a black Mexican Iron Ore with a S.G. of 4.0 plus and containing considerable pyrite. This Mexican ore was used as best bedding available but was not satisfactory in that it crushed, in preparation, to elongated and flat, thin particles producing a tendency to blind the jig screen and to give a tight bed. This tendency could not be overcome through adjustment of other variables.

The spiral section consisted of one 5 turn rougher spiral and one 3 turn cleaner spiral. Additional cleaning of the concentrate required irregular manual feeding, therefore no attempt was made to further concentrate by re-cleaning.

The purpose in conducting these tests was twofold;

1. To arrive at a recovery figure for jig and spiral concentration that would give a factor for comparison with the present table concentrates from drill hole samples.

2. To approximate a maximum jig feed rate in tons per sq. ft. of jig screen area per hour, giving an optimum Monazite recovery and a concentration ratio that would, for all practical purposes, simulate actual dredging operations.

Tests 1 through 7 were preliminary tests conducted in an attempt to determine proper jig settings, type and amount of bedding material and, the rate of feed to the jig in order to produce the desired results. These tests were performed in closed circuit, all products being returned to the feed cone, except for samples taken from time to time for sink-float analysis. The tests were started with 724 lbs. of -1/4" sand in the circuit. On two occasions during the course of the tests an additional 362 lbs, of -1/4" sand was added to the circuit in an attempt to maintain particle size that was constantly being reduced through the grinding action of the pumps returning the products to the feed cone.

When test #7 had been completed, all material remaining in the circuit was concentrated by jigging and, the jig hutch product was further concentrated on the spirals. 100.1 lbs. (dry) of spiral concentrate was collected and this concentrate tabled at the Horse Creek Laboratory. 10.2 lbs. of table concentrate resulted, containing 4.2% Monazite by Radiometric determination.

The lower content of heavy mineral in test #10 shows that the -1/4 +10 mesh contains practically no valuable heavy minerals.

Dry screening of the original sands produced an analysis as shown below. In wet screening the clay will ball-up and appear in the coarse size. In dry screening the clay breaks up and appears in the fines.

Screen Analysis (Tuscaloosa)
Dry Screening

Size	Weight (lbs.)	Weight %
+ 1/4"	133	11.8
-1/4" + 10 mesh	190	16.8
- 10 mesh	806	71.4
	1,129	100.0

The results of the jig and spiral concentrating tests are surprisingly good in view of the limiting conditions controlling these tests. Concentrating ratios and heavy mineral recoveries were above expectations and Monazite recovery exceptional as compared to very carefully controlled laboratory table concentration. The major portion of losses, based on close observation, is believed to be in the Staurolite, Sillimanite, Kyanite and Muscovite fractions.*

As of this writing no grain counts are available on the products produced in the Tuscaloosa Tests. All heavy mineral percentages are by sink-float using Acetylene Tetrabromide (S.G. 2.94) as the heavy media. All Monazite percentages are Radiometric Determinations by Geiger Counter using test samples of the same weight as the Monazite standard. Recovery and concentration ratio figures were computed from heavy mineral content by sink-float analysis.

TABULATION #1

Jig Operating Conditions

Test Number	Stroke Length	Strokes per min.	Bedding Depth 3/16" Shot	Bedding Depth -1/2" +1/8" Iron Ore	Bedding Depth Sand	Feed Rate Tons/sq'/hr
8	11/16"	175	1-1/4"	1-3/4"	1"	0.68
9	11/16"	175	1-1/4"	1-1/8"	1-5/8"	0.38
10	1-3/16"	127	1-1/4"	1-1/8"	2-7/8"	0.45

Bedding "sand" is a live load.

TABULATION #2

Jig Feed

Test Number	lbs Original Sand	lbs Material Jigged	Size Material Jigged	% Heavy Mineral	lbs H.M. Computed
8	2538	1812	-10 mesh	1.61	29.17
9	7083	5057	-10 mesh	1.61	81.42
10	6867	6056	-1/4"	1.46	88.42

H.M. - Heavy Mineral
% Heavy Mineral by Sink-float using Acetylene Tetrabromide (S.G. 2.94)

* See note under Conclusions.

TABULATION #3

Jig Results

Test Number	lbs J.Conc.	% H.M. J.Conc.	Computed lbs. H.M. J. Conc.	% Rec.	Conc. Ratio
8	497	4.85	24.10	82.62	3.64
9	1252	5.34	66.86	82.12	4.04
10	951.7	7.00	66.62	75.34	6.36

Concentration Ratios computed from Heavy Mineral content of Heads and Products.

TABULATION #4

Spiral Results

Test Number	lbs S.Conc.	% H.M. S.Conc.	Computed lbs.H.M. S. Conc.	% Rec.	Conc. Ratio
8	187.3	12.50	23.41	97.14	2.65
9	356.1	17.75	63.21	94.54	3.52
10	293.3	21.70	63.65	95.54	3.24

TABULATION #5

Overall (Jig -Spiral) Results

Test Number	lbs. H.M. Head	lbs H.M. S. Conc.	% Rec.	Conc. Ratio
8	29.17	23.41	80.25	9.67
9	81.42	63.21	77.63	14.2
10	88.42	63.65	71.99	20.6

TABULATION #6

Tuscaloosa Material to Horse Creek Lab.

Material	lbs Original Sand	Material Tabled	lbs Material Tabled
Head Sample	1129	-10 mesh	806
TT-8	2538	S.Conc.	187.3
TT-9	7083	S.Conc.	356.1
TT-10	6867	S.Conc.	293.3

TT - Tuscaloosa Test

TABULATION #7

Results of Horse Creek Tabling

Tuscaloosa S-F Determination			Horse Creek Table Results	
Material	% Heavy Mineral	lbs Contained Heavy Minerial	lbs Table Conc. Recovered	% Monazite by RMD
Head Sample	1.52	12.25	12.40	5.0
TT-8	12.50	23.41	24.60	5.0
TT-9	17.75	63.21	66.90	5.0
TT-10	21.70	63.65	66.30	5.0

RMD - Radiometric Determination
% Monazite by Geiger Counter using a 200 gram sample compared to a 200 gram Monazite standard.

TABULATION #8

Monazite Recovery by Horse Creek Table concentration from Tuscaloosa Jig and Spiral Tests.

Material	lbs * Monazite	Recovery lbs. M/ton	% Recovery
Head Sample	0.620	1.098	100.0
TT-8	1.230	0.969	88.23
TT-9	3.445	0.946	86.13
TT-10	3.315	0.965	87.86

*Computed from columns 4 and 5 of Tabulation #7

Conclusions

The test results were good in spite of the limited facilities. It is believed that recoveries of the desired heavy minerals can be maintained above 80% under proper conditions. These include:

1. Proper bedding material for the jigs.
2. Positive control of the jig feed rate.
3. Screening or trommeling the jig feed to -1/4" or less.

In conclusion, I would like to state that the whole hearted cooperation of all members of the Bureau staff at Tuscaloosa made possible the success of this work.

Signed - L. E. Davis

* The petrographic report by the Bureau of Mines shows that if the losses in the group containing kyanite, garnet, epidote, staurolite, etc. were added back that the overall recoveries on table 5 would be over 90%.

THE HUMPHREYS INVESTMENT COMPANY
First National Bank Bldg
Denver 2, Colorado

January 7, 1953

Mr. O. H. Perry
Perry & Schroeder Mining Co.
Hotel Henderson
Aiken, South Carolina

Re: HICO Lot 970 - Monazite
Placer Sands

Dear Mr. Perry:

The following is the report of our metallurgical engineer, Mr. James V. Thompson. This report covers the tests conducted in a Humphreys spiral concentrator closed circuit test unit on a sample of your monazite placer sands.

The tests were conducted on January 5 and 6, 1953 during the visit of your engineer, Mr. John M. Munzenrider, to our laboratory in Denver. Reference is made to your letter of December 16, 1953, and your telephone conversation with our Mr. Whitman E. Brown on December 18, 1952.

Mr. Munzenrider gave us the following data and objectives regarding the tests:

1) To determine probable rougher recovery and the assay value of the rougher tailing;

2) To determine ratio of concentration obtainable in the various spiral stages;

3) To determine assay value in terms of heavy mineral of the third stage concentrate;

4) Expected plant capacity will be plus or minue 450 tons per hour; and

5) It is hoped that the present Pan American jigs on board the dredge can rough out some coarse gangue material.

Table No. 1 enclosed summarizes the rougher spiral test results. You will note that 85.6% of the heavy mineral has been recovered in the first stage concentrate. The tailing assay is .12% heavy mineral. Higher ratio of concentration is possible but it would have resulted in producing insufficient feed for second and third stage tests.

Our test work has been evaluated by sink-float assays conducted in the heavy liquid tetrabromoethane. We employ this method for ore dressing studies when testing our beach sands in Florida.

The sample as received was screened on 10 mesh and approximately 10% rejected as oversize. The head assay of the -10 mesh was .5% heavy mineral and the total weight was about 540 lbs. Due to the low grade heads and the limited quantity of material to work with it is impossible to produce any appreciable quantity of finished third-stage concentrate. Tests on this type of low grade placer material in the Humphreys spiral concentrator closed circuit test unit where only a limited quantity of feed is available, can reveal accurate information on the rougher stage, only.

Only continuous pilot plant operation wherein second and third stage tailings are recirculated can give reliable results on overall three stage recovery. Alternatives to this method are extended rougher tests with the closed circuit test unit wherein a large quantity of first stage concentrate is accumulated. This concentrate then provides the feed for extended second and third stage tests. This method does, however, have a shortcoming in that it does not permit continuous recirculating of the second and third stage tailing.

Table No. 1 enclosed gives the results of the rougher tests. The ratio of concentration was low but in plant practice you could expect over 10 to 1 and perhaps over 15 to 1 ratio of concentration. Tables No. 2 and No. 3 give the results of second and third stage tests. Please note that the recovery given is for the test reported only and not overall recovery at that stage. Second and third stages are operated with the aim in view of up-grading the concentrate without regard for recovery inasmuch as second and third stage tailings are returned to the rougher feed. We would expect that the final spiral concentrate would be plus or minus 75% heavy mineral but due to insufficient material resulting in underloading of the third stage test, we did not obtain this value.

During the visit of Mr. Munzenrider, we were pleased to process an order for a complete closed circuit test unit to your account on authorization from Mr. Munzenrider. When this equipment has been set up on your property, we can supply the services of one of our engineers to assist you if this should be necessary. Our fee for this service would be $40 per day plus traveling and living expenses.

Thanking you for your interest, we are

Very truly yours,

(signed) Judson S. Hubbard

P.S. Last November 1 our laboratory went on a fee basis of $5.00 per hour plus out-of-pocket expenses, with the amount of the fee to be applied against purchase of spirals to the extent of 5%. However, since this matter was so thoroughly discussed with you during last summer, we are making no charge for this particular test.

Table No. 1

HUMPHREYS SPIRAL CONCENTRATOR TEST

Lot No. 970 Test No. A Stage: First Date 1/5/53

Test made for : PERRY & SCHROEDER MINING CO.

Feed to Spiral: -10 mesh placer sand

Rate of dry feed: 1.5 short tons

Percent solids in feed pulp: plus or minue 30 G.P.M. of feed pulp: plus or minus 23

Middling load circulated: Circulated but not assayed

Sample No.	Products	Weight Distribution %	Heavy Mineral Assay % HM	Heavy Mineral Distribution %
A-2	1st stage concentrate	18.3	3.2	85.6
A-4	1st stage tailing	81.7	.12	14.4
	Calculated Head	100.0	.68	100.0
A-1	Assay Head		.50	

Test Engineer: J. W. THOMPSON

Table No. 2

HUMPHREYS SPIRAL CONCENTRATOR TEST

Lot No. 970 Test No. B Stage: Second Date: 1/5/53

Test Made for: PERRY & SCHROEDER MINING CO.

Feed to Spiral: First stage concentrate (Product A-2, Table 1)

Rate of dry feed: 1.25 Short tons per hour

Percent solids in feed pulp: plus or minus 27 G.P.M. of feed pulp: Plus or minus 25

Middling load circulated : Circulated but not assayed

Sample No.	Products	Weight Distribution %	Heavy mineral Assay % HM	Heavy mineral Distribution %
B-2	2nd stage concentrate	12.3	15.8	78.8*
B-4	2nd stage Tailing	87.7	.6	21.2
	Calculated Head	100.0	2.5	100.0
A-2	Assay Head		3.2	

Remarks: * Recovery made in this stage only, not overall recovery

Test Engineer: J. V. THOMPSON

Table #3

HUMPHREYS SPIRAL CONCENTRATOR TEST

Lot No.: 970 Test No.: C Stage: Third Date: 1/6/53

Test made for: PERRY & SCHROEDER MINING CO.

Feed to Spiral: Product B-2, Table 2

Rate of dry feed: Spiral underloaded

Percent solids in feed pulp: plus or minus 15 G.P.M. of feed pulp: plus or minus 27

Middling Load circulated: None

SAMPLE NO.	PRODUCTS	WEIGHT Distribution %	HEAVY MINERAL Assay %HM	HEAVY MINERAL Distribution %
C-2	3rd stage concentrate	24.3	47.4	41.0*
C-3	Middling	27.1	19.6	18.9
C-4	Tailing	48.6	2.7	40.1
		100.0		100.0

Remarks: * Recovery made in this stage only, not overall recovery.

Test Engineer: J. V. THOMPSON

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 5 1953

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1952 Docket No. DMEA 2576 Contract No. IDM E 392

Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite,

Address 100 Park Avenue, New York 17, New York Columbium, Rutile

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn		6,153.27		18,094.39	1700	14.2633		Ewt
Auger				24,247.66				
Stripping								
Trenching								
Test Pits		354.67		596.46				
Roads and Trails								
Prepatory costs				2,349.16				
TOTAL DISTRIBUTED COSTS		6,507.94		21,040.01				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		568.00		5,573.31				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.		55.76		449.82				
Moving, equipment & crew		159.51		1,012.42				
TOTAL COSTS		7,291.21		29,183.78				

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

Date 1/22/53 Operator Callahan Zinc-Lead Co., Inc.

Per E. A. Sato Title Treasurer

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

U. S. GOVERNMENT PRINTING OFFICE 205676

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
ROOM 13, POST OFFICE BLDG.
KNOXVILLE 2, TENN.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 2 1953

January 30, 1953

Memorandum

To: Operating Committee- D M E A Washington

From: Acting Executive Officer, D M E A- Region 7

Subject: DMEA-2576, Idm-E392, Callahan Zinc-Lead Co. Inc. (Columbium-Monazite-Rutile)

Enclosed herewith are the following data on work performed on the subject contract and which was submitted with their December report which was received today.

1. Laboratory report from Carpco Engineering & Manufacturing Co.
2. Report of Phase II Bulk Sample work with jigs and spirals done at Tuscaloosa and Denver.
3. Map showing holes drilled to January 24, 1953
4. Cross Sections of B, C, F. S and V lines
5. Drill Logs
6. Laboratory Logs.

Wm. A. Beck

Wm. A. Beck

Attention: Mr. O. H. Perry

Sheet No. # 1
Date: January 21, 1953
Projects: 370-376, Inclusive

To: Henderson Hotel
Aiken, South Carolina

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Seven Composite Drill Hole Samples.

Summary

The results of this laboratory investigation indicate that the ilmenite, rutile, zircon and monazite minerals are present in each composite sample in the ratio as shown under the following tabulations.

Sample GIA Composite

	Products	WT %	Assay	Std.	Products % of Sample
	Oversize (1)	Nil			
	Magnetite	o.30			
370-3	Ilmenite (2)	35.80	22.97 TiO_2	61.02 TiO_2	13.4
370-3	Monazite (3)	- -	9.23 ReO	64.12 ReO	5.1
370-4	Rutile (4)	63.90	13.23 TiO_2	97.00 TiO_2	8.7
370-4	Zircon (5)	- -	23.75 ZrO_2	62.01 ZrO_2	24.4
	Totals	100.00			51.6 (6)

(1) Plus 20 mesh material. This appears to be essentially garnet.
(2) Calculations based on previously determined ilmenite standard of 61.02% TiO_2.
(3) Calculations based on 97.0% TiO_2 rutile. Actual analyses 88.2. This percentage to be revised when contaminating factor can be determined.
(4) Calculations based on previously determined zircon standard of 62.01% ZrO_2.
(5) Calculations based on previously determined monazite standard of 64.12% ReO.
(6) The differences between these totals and 100% would consist of uneconomic heavy minerals and some fine quartz.

Attention: Mr. O. H. Perry

Sheet No. # 2
Date: January 21, 1953
Projects: 370-376, Inclusive

To: Henderson Hotel
Aiken, South Carolina

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Seven Composite Drill Hole Samples.

Summary continued

Sample GI Composite

	Products	WT %	Assay	Std.	Products % in Sample
	Oversize	5.9			
	Magnetite	0.1			
371-4	Ilmenite	44.2	28.37 TiO_2	61.02 TiO_2	20.5
371-4	Monazite	- -	5.62 ReO^2	64.12 ReO^2	3.9
371-5	Rutile	49.8	20.40 TiO_2	97.0 TiO_2	10.5
371-5	Zircon	- -	18.68 ZrO_2	62.01 ZrO_2	15.0
	Totals	100.0			49.9

Sample G2 Composite

	Oversize	5.3			
	Magnetite	0.2			
372-4	Ilmenite	55.2	25.39 TiO_2	61.02 TiO_2	22.9
372-4	Monazite	- -	4.32 ReO	64.12 ReO^2	3.7
372-5	Rutile	39.3	18.78 TiO_2	97.0 TiO_2	7.6
372-5	Zircon	- -	20.73 ZrO_2	62.01 ZrO_2	13.1
	Totals	100.0			47.3

Sample G3N Composite

	Oversize	1.2			
	Magnetite	0.1			
373-4	Ilmenite	48.3	29.72 TiO_2	61.02 TiO_2	23.5
373-4	Monazite	- -	10.2 ReO	64.12 ReO^2	7.7
373-5	Rutile	50.4	30.19 TiO_2	97.0 TiO_2	15.6
373-5	Zircon	- -	29.85 ZrO_2	62.01 ZrO_2	24.3
	Totals	100.0			71.1

Attention: Mr. O. H. Perry

Sheet No. # 3
Date: January 21, 1953
Projects: 370-376, Inclusive

To: Henderson Hotel
Aiken, South Carolina

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Seven Composite Drill Hole Samples.

Summary continued

Sample G4N Composite

	Products	WT %	Assay	Std.	Products % in Sample
	Oversize	7.3			
	Magnetite	0.1			
374-4	Ilmenite	44.6	22.97 TiO_2	61.02 TiO_2	16.8
374-4	Monazite	---	4.51 ReO^2	64.12 ReO^2	3.1
374-5	Rutile	48.0	13.78 TiO_2	97.0 TiO_2	6.8
374-5	Zircon	---	21.47 ZrO_2	62.01 ZrO_2	16.6
	Totals	100.0			43.3

Sample G5N Composite

	Oversize	4.5			
	Magnetite	0.1			
375-4	Ilmenite	53.7	23.07 TiO_2	61.02 TiO_2	20.3
375-4	Monazite	---	7.01 ReO^2	64.12 ReO^2	5.9
375-5	Rutile	41.7	25.26 TiO_2	97.0 TiO_2	10.8
375-5	Zircon	---	21.29 ZrO_2	62.01 ZrO_2	14.3
	Totals	100.0			51.3

Sample G6N Composite

	Oversize	1.9			
	Magnetite	0.1			
376-4	Ilmenite	61.8	30.2 TiO_2	61.02 TiO_2	30.5
376-4	Monazite	---	7.65 ReO^2	64.12 ReO^2	7.4
376-5	Rutile	36.2	18.23 TiO_2	97.0 TiO_2	6.8
376-5	Zircon	---	22.95 ZrO_2	62.01 ZrO_2	13.4
	Totals	100.0			58.1

Attention: Mr. O. H. Perry

Sheet No. # 4
Date: January 21, 1953
Projects: 370-376, Inclusive

To: Henderson Hotel
Aiken, South Carolina

Subject: Laboratory Separation and Determination of Ilmenite, Rutile, Zircon and Monazite for Seven Composite Drill Hole Samples.

Remarks:

Carpco Projects No. 370-376 inclusive, were the laboratory separations of a series of heavy mineral concentrate samples from drill hole composites and the determination of the percentages of ilmenite, rutile, zircon and monazite in each sample.

One sample, Composite GIA, was analyzed for columbium. There was none present that could be determined chemically.

Very truly yours,

CARPCO ENGINEERING AND MANUFACTURING

COMPUTATION OF CARPCO ASSAYS OF LINE G

Hole No.	Carpco Assay Product %	Carpco Assay Lbs. per ton
G1A - 35.6 lbs. cons. per ton		
Ilmenite	13.4	4.77
Monazite	5.1	1.82
Rutile	8.7	3.10
Zircon	24.4	8.69
G1 - 20.4 lbs. cons. per ton		
Ilmenite	20.5	4.18
Monazite	3.9	0.796
Rutile	10.5	2.14
Zircon	15.0	3.06
G2 - 13.6 lbs. mids. and cons. per ton		
Ilmenite	22.9	3.11
Monazite	3.7	0.50
Rutile	7.6	1.03
Zircon	13.1	1.78
G3 - 15.6 lbs. cons. per ton		
Ilmenite	23.5	3.67
Monazite	7.7	1.20
Rutile	15.6	2.43
Zircon	24.3	3.79
G4 - 24.2 lbs. mids. and cons. per ton		
Ilmenite	16.8	4.07
Monazite	3.1	0.75
Rutile	6.8	1.65
Zircon	16.6	4.02
G5 - 20.2 lbs. cons per ton		
Ilmenite	20.3	4.10
Monazite	5.9	1.19
Rutile	10.8	2.18
Zircon	14.3	2.89
G6 - 10.3 lbs. cons. per ton		
Ilmenite	30.5	3.14
Monazite	7.4	0.762
Rutile	6.8	0.70
Zircon	13.4	1.38

Doc MF-104

copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 1200' N. of RR

DATE

START 11:00 A.M. Dec. 1, 1952

LINE NO. 0 HOLE NO. 7N

FINISH 10:00 A.M. Dec. 2, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A + B	5	26	0	1 1/2	Poor	Blk.	Mud + Roots Slime
2A	7 1/2	29	0	1	"	Brn.	Fine S. + Wood Tight
2B	10	42	6	2 1/2	Good	"	" " " " Some Grav. "
3A	12 1/2	48	4	3	"	"	Brn. + Wht. S " " "
3B	15	39	0	3	Excel.	Brn. & Wht.	" " " " " " "
4A	17 1/2	37	0	3	"	Brn. & Wht.	" " " " " " "
4B	20	31	0	2 1/2	"	Brn. & Wht.	" " " " Coarse " "
5A	22 1/2	43	6	2	Poor	Wht.	S. Gravel + Clay "
				Hit clay at 21'3"			
				bottom of Hole at 22'			
				4" Casing, 4 3/4" Drive Shoe.			

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION On North Bank of Horse Creek Approx. 1100' N. of R.R.

DATE START 10:15 Dec. 3, 1952

LINE NO. 0 HOLE NO. 5 FINISH 8:15 A.M. Dec 4, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+B	5	19	0	2	Poor	Blk.	Mud - Wood Slime
2A	7½	29	"	2	"	"	" " + S. loose
2B	10	38	"	2½	"	"	" " " " "
3A	12½	41	"	2	Good	Blk. Brn.	" " " " Tight
3B	15	28	"	2	Excel.	Brn.	S. & gravel "
4A	17½	35	"	2	"	Brn Wht.	" " " "
4B	20	33	"	2	Poor	Wht.	" " " "
				Hit sand at 11'			
				Hard bottom at 20'			
				4" casing ~~at 20'~~			
				4 3/4" Drive Shoe			

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION App. 1250' N. of R.R. DATE START 9:30 A.M. Dec 4, 1952

LINE NO. 0 HOLE NO. 6 FINISH 3:30 P.M. Dec 4, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	35	0	1 1/2	Poor	Blk.	Mud + Wood. Some S. Slime
2A	7 1/2	24	0	1 1/2	"	"	" " " " " "
2B	10	25	10	1 1/2	"	"	Mud + Wood. Some S Hit S. at 9' "
3A	12 1/2	43	4	2	Good	Brn.	S. + Wood, Fine grav. Tight
3B	15	35	4	2 1/2	"	Brn Wht.	S. + Grav. "
4A	17 1/2	56	6	3 1/2	Excel.	Brn. & Wht.	" " " "
4B	20	39	4	2	"	Brn & Wht	" " " "
5A	22	31	0	1 1/2	"	Brn & Wht.	S + Grav - Bottom at 21'6" Tight
				Hit clay at 21'6"			
				(4" Casing)			4 3/4" Drive Shoe

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 600' N of RR

LINE NO. 5 HOLE NO. 4 N

DATE

START 3:15 P.M. Dec. 5, 1952

FINISH 1:30 P.M. Dec. 6, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A + 1B	5	10	0	1/2	None	BLK.	mud + ROOTS	Slime
2A	7 1/2	25	2	1	Poor	BRN.	Fine sand. hit S. at 6'	Tight
2B	10	29	0	1	"	BRN. + WHT.	" "	"
3A	12 1/2	29	0	1 1/2	Good	" + "	Coarse S.	"
3B	15	28	0	1 1/2	Excel.	" + "	Coarse S + Gravel	"
4A	17 1/2	50	6	1 1/2	"	" + "	" " + "	"
4B	20	31	0	1 1/2	"	" + "	" " + "	"
5A	22 1/2	38	0	2	Poor	" + "	Coarse S., gravel + clay	"
Run in on	4A,	pumped	off	18"				
Bottom of	hole	at	22'					
				(4" Casing)	4 3/4"	Drive Shoe		

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 800' N. of R.R. DATE START 2:15 P.M. Dec. 6, 1952

LINE NO. S HOLE NO. 5 FINISH 11:25 A.M. Dec. 8, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A & 1B	5	None		0	0	0	no core slime
2A+2B	10	58	0	1 1/2	None	Blk.	wood + mud "
3A	12 1/2	35	0		"	"	" " " "
3B	15	60	0	2 1/2	Poor	"	wood + mud, hit S. at 14'6" "
4A	17 1/2	49	5	3	Excel.	Brn.	S. + fine Gravel + wood Tight
4B	20	49	6	3	"	"	S. & Gravel "
5A	22 1/2	37	4	3	"	"	" " " "
5B	25	35	0	3	Poor	Brn. & wht.	S. & clay "
				Bottom of hole at 25'			
				(4" Casing) 4 3/4" Drive Shoe			

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1000' N. of RR

DATE

START 1:00 P.M. Dec. 8-52

LINE NO. 5 HOLE NO. 6

FINISH 11:00 A.M. Dec. 9-52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1-A + 1-B	5	19	0	2	Poor	Blk.	Mud + Grass Roots	Slime
2-A	7½	29	2	1	"	Blk. + Brn.	Mud + Fine S. at 6'	Tight
2-B	10	54	8	2½	Good	Brn.	Coarse Brn. S.	"
3-A	12½	35	8	2	"	"	Fine S.	"
3-B	15	29	4	1½	"	"	" "	"
4-A	17½	39	4	2	Poor	Brn. + Wht.	Fine + Coarse S.	"
4-B	20	36	0	2	Good	" + "	Coarse S. + Fine Grav.	"
5-A	22½	31	0	1½	Excel.	" + "	Coarse S. + Grav.	"
5-B	25	38	0	1½	Poor	" + "	Coarse S. + Some Grav. + Clay	"
				Hard Bottom at 25'				
				(4" Casing) 4¾" Drive Shoe				

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

DRILL LOG

Copy

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1200' N. of R.R. DATE START 11:30 A.M. 12/9/52

LINE NO. 5 HOLE NO. 7 FINISH 10:00 A.M. 12/10/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1-A + 1-B	5	25	0	2 1/2	Poor	Blk.	Mud + Roots	Slime
2-A + 2-B	10	26	0	1 1/2	"	"	Wood - Mud + S. at 10'	"
(3-A)	12 1/2	27	0	1 1/2	"	Brn.	Wood + Fine S.	Tight
(3-B)	15	29	0	1 1/2	"	"	" + " "	"
4-A	17 1/2	31	0	1 1/2	Good	"	Coarse S. + Fine Grav.	"
4-B	20	25	0	1 1/2	"	"	" " + " "	"
5-A	22 1/2	38	0	2	"	"	Coarse S. + Grav.	"
5-B	25	38	0	2 1/2	"	Brn. + Wht.	Coarse S. + Grav. + Clay	"
				Clay Bottom at 25'				
				(4" Casing) 4 3/4" Drive Shoe				

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Substitute for Pink Copy

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 700' N. of R.R. DATE START 1:10 P.M. 12/10/52

LINE NO. V HOLE NO. 4 FINISH 9:40 A.M. 12/11/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	21	0	2	Good	Brn.	S. + mud, loose
1B	5	15	0	1½	"	"	S. + mud, wood "
2A	7½	26	0	1½	Poor	"	" " " " Tight
2B	10	36	0	2	"	Brn & Wht.	Fine S. & mud "
3A	12½	24	0	1	"	Wht.	Fine S. & wood "
3B	15	35	0	1½	"	"	" " " " "
4A	17½	32	0	2	Excel.	Brn.	S. & Gravel "
4B	20	41	0	2	Good	Brn. & Wht.	S. & Gravel, clay at 19' "

Bottom at 19'

(4" Casing) 4 3/4" Drive Shoe

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Vinton Cate
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

Substitute for Pink Copy

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 850' N. of R.R. DATE START 10:45 A.M. 12/11/52

LINE NO. V HOLE NO. 5 FINISH 1:35 P.M. 12/11/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	18	0	2	Poor	Blk.	Mud, roots loose
1B	5	22	0	2	Good	Brn.	S. & Gravel. some clay tight
2A	7½	29	0	1½	"	Brn. & wht.	S. & " " " "
2B	8'9"	2	0	1	Poor	Brn & wht.	S. & " clay bottom "

Clay bottom at 8'
(4" Casing) 4¾" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 500' N of RR. DATE START 2:30 P.M. 12/11/62

LINE NO. 1 HOLE NO. 3 FINISH 9:30 A.M. 12/12/62

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	18	0	1	Poor	BRN. & BLK.	S. & Mud loose
1B	5	19	"	1	"	BRN.	Fine S. Tight
2A	7 1/2	26	"	1 1/2	"	"	" " "
2B	10	30	"	1 1/2	Good	"	Coarse S "
3A	12 1/2	36	"	2	"	"	" " "
3B	15	32	"	2	"	"	" " some gravel "
4A	16' 3"	25	"	1	"	BRN. & WHT.	" " " " clay "
				clay bottom at 15 1/2'			
				(4" Casing) 4 3/4" Drive Shoe.			

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 300' N. of R.R. DATE START 10:15 A.M. Dec. 12, 1952

LINE NO. Y HOLE NO. 2 FINISH 2:45 P.M. Dec. 12, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A + 1B	5	26	0	1 1/2	Poor	Wht. & Brn.	S. & Fine Gravel loose
2A	7 1/2	32	0	2 1/2	Good	Wht. & Brn.	S. & Gravel tight
2B	10	36	0	2 1/2	"	Wht. & Brn.	" " " "
3A	12 1/2	35	0	2	"	Wht. & Brn.	S & " + some clay "

Hard clay bottom at 12 1/2'
(4" casing) 4 3/4" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 400' N. of RR

DATE

START 8:15 A.M. Dec. 13-52

LINE NO. 5 HOLE NO. 3

FINISH 1:00 P.M. Dec. 13-52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A + 1-B	5	20	0	1	Poor	Blk.	Mud some S. Loose
2-A	7½	20	0	½	"	"	" " " "
2-B	10	29	0	½	Good	Blk. + Brn.	Mud + S. Wood - Grav. Tight
3-A	12½	36	0	2	"	" + "	S. fine Grav. some Mud "
3-B	15	33	0	1½	"	Brn.	S. + Grav. - Wood "
4-A	17½	43	0	2½	"	"	S. + Grav. - some Clay "
4-B	20	19	0	1	Poor	"	S. + fine Grav. - wht. Clay "
				Clay Bottom 18'9"			
				(4" Casing) 4¾" Drive Shoe			

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

H Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 200' N of RR

DATE
START 2:30 P.M. Dec. 13-58
FINISH 9:15 A.M. Dec. 15-58

LINE NO. 5 HOLE NO. 2

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A+1-B	5	44	0	1 1/2	Poor	Blk+Brn	Mostly S. some mud loose
2-A	7 1/2	37	0	1 1/2	"	Brn.	S. some gray light
2-B	10	39	0	1 1/2	"	"	Fine S. "
3-A	12 1/4	41	6	2	"	Brn.+Wht	Fine Wht. S. "
			Clay Bottom at 12'				
			(4" Casing) 4 3/4" Drive Shoe				

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 400' S of R.R. START 1:45 P.M. Dec. 15, 1952

LINE NO. C+500' HOLE NO. 3S FINISH 9:45 A.M. Dec. 16, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A+1B		20	0		Poor	Blk.	Mud + roots	slime
2A+2B	10	33	6	3	"	Blk. & Brn.	hit S. at 9½'	loose
3A	12½	35	2	2½	"	Brn.	S + wood	Tight
3B	15	44	3	3½	Good	Brn & yel	S. + Gravel, wood	"
4A	17½	34	0	2½	Excel.	yel	S. + Gravel	"
4B	20	30	0	1½	"	"	S. + " wht. clay	"
				wht. Clay	bottom	at 20'		
				(4" Casing)	4 3/4"	Drive Shoe		

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote.
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 150' N of RR

LINE NO. B HOLE NO. 1-N.

DATE
START 1:45 P.M. 12/16/52
FINISH 12:45 PM 12/17/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A	2 1/2	18	0	4 1/2	Poor	Blk & Brn	Top soil & Brn S. Loose
1-B	5	27	0	3 1/2	"	Brn	Clay & S. tight
2-A	7 1/2	32	0	4	Good	Brn	" & S. Some Grav. "
2-B	10	27	0	4	"	"	" & S. " fine " "
3-A	12 1/2	25	0	2	Poor	wht	hit wht. clay at 10'6" "
3-B	15	45	0	5 1/2	"	"	end of clay at 15' "
4-A	17 1/2	36	6	5	Excellent	Brn.	Gravel & S. "
4-B	20	35	0	5	Good	wht.	coarse wht. S "
5-A	22 1/2	40	0	4	Poor	"	" " " & clay "
				(6 casing)			7 1/2" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

No. 1-tub diam. 17 1/4"

In Charge

Sample bucket No. 1 tub 17¼" dia.

copy.

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 350' N of RR

DATE

START 1:45 pm 12/17/52

LINE NO. C+ 500' HOLE NO. 2-N.

FINISH 1:00 pm 12/18/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A	2 1/2	20	0	4 1/2	Good	Brn.	Fine S. tight
1-B	5	11	0	3 1/2	"	"	coarse S. some clay "
2-A	7 1/2	40	0	3 1/2	Poor	Yel.	clay at 6' "
2-B	10	37	0	2 1/2	"	"	clay "
3-A	12 1/2	41	0	4	Good	Brn.	" lit grav. at 11'8" "
3-B	15	25	0	3	Excellent	"	S. & Grav. "
4-A	17 1/2	34	0	4 1/2	"	Brn & wht.	S & " some clay "
4-B	20	33	0	4	Poor	wht	wht. coarse S & clay "
5-A	22 1/2	42	0	5	"	"	" " " & " "
				6" Casing			7 1/2" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 300' S of RR

LINE NO. F HOLE NO. 2-S

DATE START 2.20 P.M. 12/18/52

FINISH 10:00 AM 12/19/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	20	0	3 1/2	Poor	Blk wtd.	Topsoil & S. Fine Grav. tight
1B	5	20	0	2 1/2	"	Brn	" clay & S.
2A	7 1/2	37	0	4 1/2	Excellent	Wht	Fine S. & Grav. 6" of Sand stone "
2B	10	34	0	4	"	"	Coarse S & Grav. "
3A	12 1/2	37	0	3 1/2	Poor	"	Wht. S. coarse " some clay "
3B	15	41	0	4 1/2	"	"	" Fine S. & clay "
				6" casing			7 1/2" Drive shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 100' S of RR

LINE NO. F HOLE NO. 1-S

DATE

START 11:00 am 12/19/52

FINISH 2:00 pm 12/19/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	24	0	4½	Good	Blk-gel	Top soil - S & clay tight
1B	5	22	0	2½	Excellent	wht	S & fine Grav. "
2A	7½	39	0	7	"	"	S + " " . "
2B	10	35	5	4½	"	"	S & Grav. "
3A	12½	29	0	4	"	"	S + " "
3B	15	41	0	4½	Poor	"	S. fine Grav. & clay "
				6" casing		7½" Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 300' N of RR

LINE NO. F HOLE NO. 2-N

DATE

START 7:30am 12/20/52

FINISH 11:10am 12/20/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	29	0	4	Good	Blk. Brn.	top soil clay & S. tight
1B	5	20	0	3 1/2	"	wht.	wht. fine S. "
2A	7 1/0	36	0	6 1/2	"	"	" S. & Pea Grav. some clay "
2B	10	36	0	7	Excellent	Brn.	Brn. S. & Grav. "
3A	12 1/2	44	0	7	"	Brn wht.	" S & " "
3B	15	39	0	5	Good	wht.	wht. fine S. & clay "
				6" Casing			7 1/2" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 150' N of RR

LINE NO. C+500' HOLE NO. 1-N.

DATE

START 2:10 P.M. 12/22/52

FINISH 10:10 AM. 12/24/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1-A	2½	15	0	1	Poor	Brn	Brn. Fine S. loose
1-B	5	34	0	1½	"		Fine S. lit clay at 4' tight
2-A	7½	33	0	2	"	Wht.	S & clay "
2-B	10	39	0	2½	"	"	S & " "
3-A	12½	38	0	2½	"	"	S & " "
3-B	15	32	0	2	Good	Wht & Brn	S & " end of clay at 12½ ft. "
4-A	17½	37	0	2	Excellent	Wht	Fine S. & Grav. "
4-B	20	33	0	2	"	Wht & Brn	S. to Grav. "
5-A	22½	36	0	2	"	Brn	S & " "
5-B	25	29	0	1½	Poor	Brn & Wht.	Wht. coarse S. clay bottom ".
					clay bottom at 25'		
					4" casing 4 3/4" Drive Shoe		

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

No - 1-tub Diam. 17¼"

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 500' N of RR

LINE NO. F HOLE NO. 3-N

DATE

START 11:45 am 12/20/52

FINISH 10:45 am 12/22/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A	2 1/2	26	0	3	Poor	Blk.	top soil some S.	tight
1B	5	39	0		"	wht S.	S & wht. clay	"
2A	7 1/2	37	0	5	Good	"	S & Grav.	"
2B	10	37	0	4	Excellent	Brn.	S & "	"
3A	12 1/2	50	0	5	"	wht.	S & "	"
3B	15	38	0	4	"	Brn.	S & "	"
4A	17 1/2	39	8	3	"	"	S & "	"
4B	20	41	0	4	Poor	wht.	S & white clay	"

6" casing 7 1/2" Drive Shoe

Total Depth 19' 8" ft. Bedrock _____ ft. Water Level _____ ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 100' N of RR

LINE NO. F HOLE NO. 1-N.

DATE

START 10:45 am 12/24/52

FINISH 3:40 pm 12/24/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	22	0	1 1/2	Poor	Brn. wtd.	Brn. S & wht. clay, top soil tight
1B	5	33	0	2	Good	wht.	end of clay at 3'9" "
2A	7 1/2	33	0	3	Excellent	Brn.	S & Grav. some clay "
2B	10	35	0	2 1/2	"	Brn.	S & " " " "
3A	12 1/2	38	0	2 1/2	Good	wtd.	S & " " " "
3B	15	35	0	2	Poor	wht.	S & fine Grav. " "
				4" casing		4 3/4 Drive Shoe	

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 700' N of RR

LINE NO. F HOLE NO. 4-N

DATE
START 7:30 am 12/26/52
FINISH 2:30 pm 12/26/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	10	0	1	Poor	Blk & wht,	top soil & hit S at 2" loose
1B	5	35	0	3 1/2	Good	wht.	wht. S. tight
2A	7 1/2	35	0	2	"	"	" S. Some small Grav. "
2B	10	32	0	3 1/2	"	"	" S. " " " "
3A	12 1/2	34	0	2	"	wht & Brn.	" S. & Grav. Some clay "
3B	15	50	0	4	Gallant	wht.	" Fine S 12" run in "
4A	17 1/2	48	0	2	Good	"	" " S. some clay "
4B	20	33	0	1 1/2	Poor	"	" S & clay "
		4"		casing		4 3/4"	Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 900' N of AR

LINE NO. F HOLE NO. 5-N

DATE START 3:30 pm 12/26/52 FINISH 11:am 12/30/52

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	19	0	1	Poor	Dk Brn,	Top soil, Some S. loose
1B	5	34	0	2	Good	wht.	wht. fine S. & some clay tight
2A	7 1/2	45	0	3	Excellent	wht & Brn.	S & Gravel. "
2B	10	36	05	2 1/2	"	Brn.	S & " some red clay "
3A	12 1/2	39	80	3	"	Brn & wht.	S & " "
3B	15	37	5	3 1/2	"	" & "	S & " "
4A	17 1/2	40	4	3	Good	wht.	S & " "
4B	20	32	4		"	"	S & " clay "

Hard clay bottom at 19'8"

4" casing 4 3/4 Drive Shoe

Did not drill 12/25-27-28-29.

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 850' S of RR

LINE NO. ℄ + 500' HOLE NO. 5-S

DATE

START 9:15am 12/30/52

FINISH 8:30am 1/1/53

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A, 1B	5	38	0	1	Poor	Blk	topsoil, clay + wood slime
2-A	7½	34	0	1	"	"	gravel, " + " lime
2-B	10	34	0	1	"	"	" + " + " "
3-A	12½	33	0	1	"	"	" + " + " "
3-B	15	39	0	1	"	"	hole sa at 12½ to 13½ clay tip
4-A	17½	43	0	2	Good	Brn.	S. + Grav. at 16'3" "
4-B	20	38	0	2½	Excellent	"	S + " "
5-A	22½	40	0	2	Good	Wht.	S + Grav. + clay "
5-B	25	40	0	2	Poor	Wht.	S + " + " "
				4"	Casing		4 3/4" Drive Shoe

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

Panner

No. 1 tub Diam. 17¼"

In Charge

Sample bucket No. 1 tub 17¼" dia.

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November, 1952 Docket No. DMEA 2576 Contract No. Idm-E392
Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Hematite
Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile
Contract Amount, $ 37,960.00 Government Participation: 83 % Amount, $ 31,506.80

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	2,986.99	4,516.00	7,502.99	2,986.99	4,516.00	7,502.99
Supervision	600.00	1,200.00	1,800.00	600.00	1,200.00	1,800.00
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
Small tools & supplies	30.08	608.87	638.95	30.08	608.87	638.95
Gas, oil & tires		330.72	330.72		330.72	330.72
(4) Operating Equipment:						
Rental						
Purchase	86.80	4,918.51	5,005.31	86.80	4,918.51	5,005.31
Depreciation	183.33	366.66	549.99	183.33	366.66	549.99
(5) Initial Rehabilitation and Repairs		1,108.22	1,108.22		1,108.22	1,108.22
(6) New Bldgs., Improvements, etc.		394.06	394.06		394.06	394.06
(7) Miscellaneous:						
Repairs to Equipment	52.20	98.18	150.38	52.20	98.18	150.38
Sampling and Analysis	87.75		87.75	87.75		87.75
Payroll Taxes						
Liability Insurance	750.00		750.00	750.00		750.00
See Schedule attached	1,395.34	2,178.86	3,574.20	1,395.34	2,178.86	3,574.20
(8) Contingencies (specify):						
TOTALS	6,172.49	15,720.08	21,892.57	6,172.49	15,720.08	21,892.57

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 12/19/52 *Payee Callahan Zinc-Lead Company, Inc.

Per E. G. Sabo Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 5,123.17

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

1049.3

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Idm F 392 in accordance with the terms of the contract.

Signature W. A. Beck Title Mining Engr. U.S.B.M. Date 12-30-52

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lamm Title Executive Officer Region IV Date 12-30-52

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

U. S. GOVERNMENT PRINTING OFFICE 205675

FORM MF-104

SCHEDULE SUPPORTING ITEM (7) ON FORM MF-104 (REV.)
OPERATOR'S MONTHLY REPORT AND WORKER
NOVEMBER 1952

	THIS MONTH	TOTAL PREVIOUSLY REPORTED	TOTAL TO DATE
Compensation insurance	$ 362.80		$ 362.80
Office Expense	68.50	$ 250.32	318.82
Moving Equipment and Crew		843.54	843.54
Per Diem	810.00	1,085.00	1,895.00
Freight on Sand shipped to U. S. Bureau of Mines at Tuscaloosa, Alabama	154.04		154.04
	$1,395.34	$2,178.86	$3,574.20

PROGRESS REPORT

CONTRACT NO. IBM-E392 December 15, 1952

Enclosed herewith are the logs for the month of November. A map of the work done to date and also cross-sections for the "Original P" line and for the G., K., M., O., Q and X lines are also enclosed.

All work to date has been on the north side of the main line of the Southern Railway which bisects the project. It seems likely that in the mining the crossing of the railroad line will be an undertaking that will divide the project into two periods, with the North side being dug first. The enclosed cross-sections can therefore be considered complete as to drilling for this first period of operation. Lines K and G will extend on the south side of the railroad and this extension will be considered as part of the second period of operation.

Most of the drilling during the month was done with the jeep mounted drill using a 4" pipe with a 4 3/4" cutting shoe. A few holes were put down with the 6" drill where ever possible and when the work in the swamp was interrupted. An interruption of about a week occurred when the cotton mill people broke the mechanism on one of the sluice gates at the Langley pond just above us and flooded us out of the swamp. There has also been some interruption due to rain. 42 holes have been drilled to date.

The figures given on the logs and on the map will show that the values are still running somewhat above those of the original drilling last Spring. They also show a surprising uniformity in every cross-section. All lines were carried out to the apparent dredging limit, either some barrier such as the railroad or to the limit of economic values.

No compositing of samples has been undertaken yet and no separations or assays made as most of these cross-sections were only recently completed with the jeep mounted drill.

A beginning was made on the Phase II work. Mr. Clemmons of the U.S.B.M. laboratory at Tuscaloosa visited the project to discuss what could best be done there. It turned out that the equipment available there was not of the variety nor of the capacity we thought it to be. It was decided that we send a small box car load of sample because of the want of working space and unloading facilities. Accordingly, about 18 tons were loaded out and shipped on November 13th.

This bulk sample was dug with a power shovel from four different locations as follows: Holes G_4N, K_5N, $M_{10}N$, and "Original" P_1. An equal amount was taken from each location. Because of the run-in of water and material from the sides of the pits, it was possible to get down to only about 7½ ft. in each location. The sites were picked to give fairly representative material of about average grade and value.

Mr. Lawrence E. Davis, Mining Engineer, arrived on the job November 17th and proceeded to Tuscaloosa taking Fred L. Davis, jig foreman, with him. No final results of the work there are yet available. However, it is evident that additional time and work with jigs and spirals will have to be done preferable at the project, to determine the equipment and the methods to be used and the percentage factor of recovery that can be made in actual production.

Mr. Beck of the U.S.B.M. visited the project and spent the better part of a day going over the ground. He was concerned as to whether holes M_9N, $M_{10}N$, $M_{11}N$ and $O_{11}N$ were on the leased land. I am enclosing a letter from Mr. David Levy of The Sunbeam Mills giving assurance that this land is included under the lease as submitted. Mr. Johnson of the U.S.G.S. was with Mr. Beck.

The drilling in the swamp area is going more slowly than was anticipated due to the difficulty of moving equipment in and out. A few photos are attached to illustrate this point. A layer of fluid mud underlays the top mat of roots and sod in many areas up to 10 ft. deep. The chopping out of brush and timber and the laying of the plankway for the jeep are unavoidable slow work. We do not expect that the holes left to be drilled will go any faster.

Results to date show that we do not have a narrow, varying pay channel, but that the deposit covers the entire bottom land of the Horse Creek Valley and feathers out only as it comes to the hillsides. It also appears that the values are distributed with surprising uniformity throughout the area. As the additional cross-sections are completed, and if we find the same uniformity persists, it is probable that the interval of 2000 ft. between cross-sections can be accepted as sufficiently close sampling. All cross-sections will be brought to this interval approximately and this point considered before any intermediate cross-sections are undertaken.

mat

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1952 Docket No. DMEA 2576 Contract No. Idm-E392

Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite

Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn		5803.90		11,941.12				
Auger								
Stripping								
Trenching								
Test Pits		241.79		241.79				
Roads and Trails								
Preparatory Costs				2,349.16				
TOTAL DISTRIBUTED COSTS		6045.69		14,532.07				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		86.80		5,005.31				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.		40.00		394.06				
Moving Equip. & Crew				852.91				
TOTAL COSTS		6172.49		21,892.57				

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

REMARKS:

Date December 19, 1952 Operator Callahan Zinc-Lead Company, Inc.

Per E. G. Sales Title Treasurer

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

U. S. GOVERNMENT PRINTING OFFICE 205676

2576

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 2 ~~1952~~ 1953

Room 13, Post Office Building
Knoxville 2, Tennessee

December 31, 1952

Memorandum

To: Operating Committee, D M E A - Washington

From: Executive Officer - Field Team, DMEA-Region 7

Subject: DMEA-2576, Idm-E392, Callahan Zinc-Lead Co., Inc. (monazite, columbium & rutile)

Enclosed herewith are the following data on work performed on the subject contract during November:

1. Drill and Laboratory logs

2. Map showing holes drilled to December 1, 1952

3. Cross sections of holes drilled to December 1, 1952

The letter from Mr. David Levy of Seminole Mills, and the photos mentioned in the report were not included in the material sent to us, and we have written the Operator asking about them.

It is also noted that the thickness of the pay zone for holes O-8 and X-7, as indicated on the map do not agree with the data on the drill logs and laboratory sheets for these holes. The map indicates pay zone thickness of 22.5 feet in X-7, but the logs show only 17.5 feet. Other similar, minor discrepancies have been noted.

Mr. Henry S. Johnson, Jr., of this office, will visit the project on January 5, and will submit an interim report when he returns.

Robert A. Laurence

Robert A. Laurence

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION Between 61 & R.R. Track

DATE

START 3:20 P.M. Nov. 6, 1952

LINE NO. 27 HOLE NO. 1 A North

FINISH 2:15 P.M. Nov. 7, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A, 1B	5	39	0	1	Poor	Blk.	Mud, some S.	loose
2A	7½	31	0	1½	"	Wht.	Wht. Fine S.	tight
2B	10	28	0	1½	Good	Wht.	S + Gravel	"
3A	12½	18	0	2	Excel.	Wht & Brn.	" " "	"
3B	15	39	4" blow	2	"	Wht.	Wht. Fine S + Grav.	"
4A	17½	30½	0	2	Poor	Wht.	S + Wht. Clay	"

4" Casing

4 3/4" Drive Shoe

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

b/ Victor Cote
Panner

J M.M.
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Between 61 & RR track DATE START 3:20 P.M Nov. 6, 1952

LINE NO. 6 HOLE NO. 1A North FINISH 2:15 P.M Nov. 7, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B	5	28	6	22	39.1	13.2		10	3	45.1	2.9	15.1	0.4
2A	7½	31	6	25	27.7	18.1							
2B	10	34	6	28	19.7	22.5	2	28	10	293.9	4.1	31.9	1.3
						40.6							
3A	12½	26	6	20	16.4	16.7	3	8.7	5	139.5	8.5	36.8	3.1
3B	15	39	6	33	29.8	23.1	5	10.1	8	327.4	5.7	62.4	3.5
4A	17½	36	6	30	16.2	25.1		18.1	7	87.3	1.8	15.3	0.3
			AVERAGE 17½ ft.								5.1	33.2	1.7
	Samples from 4" Casing with 4 3/4" Drive Shoe												
	Discard 1A + 1B				Average 17½'						5.2	35.6	1.9
		Totals				118.7	10			893.2			
		Less 1A & 1B				13.2				45.1			
		Totals 17½'				105.5				848.1			

/s/ S.M.M. +4M = 8.4%

670

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 200' N of R.R. DATE START 11:00 A.M. Nov. 11, 1952

LINE NO. K HOLE NO. 2 FINISH 1:00 P.M. Nov. 12, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A + 1B	5	26	0	2	Poor	Blk + Wht.	S + Mud	loose
2A	7½	24	0	2	"	Wht.	Fine Wht. S.	loose ~~tight~~
2B	10	26	0	2½	Good	"	Roots, Fine S. + Some Gravel	Tight
3A	12½	45	0	2½	"	"	Wood, Mud + Fine S.	"
3B	15	52	0	4	"	"	Fine Wht. S.	"
4A	17½	67	13	6	Excel.	"	S + Gravel	"
4B	20	61	5	5	"	"	" " "	"
5A	22	20	0	2	Poor	"	S + Clay	"
	Valve on Sand Pump broke 1:30 P.M. November 11th							
	4" Casing							
	4 3/4" Drive Shoe							

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Côte
Panner

/s/ L. M. M.
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 200' N. of R.R. DATE START 11 AM Nov 11, 1952

LINE NO. K HOLE NO. 2 FINISH 1 PM Nov. 12, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+B	5	28	6	22	25.0	16.5		14.5	Trash 2	54.0	3.8	14.4	0.5
2A	7 1/2	40	6	34	20.2	27.2		26.2	1	58.3	2.6	9.4	0.2
2B	10	59	6	53	17.6	43.6		35.6	8	193.2	6.4	19.5	1.2
						70.8							
3A	12 1/2	50	6	44	17.6	36.2		30.2	6	147.6	3.2	17.3	0.5
3B	15	78	6	72	17.7	59.2		57.2	2	326.6	5.5	24.3	1.3
						95.4							
4A	17 1/2	116	6	110	19.5	88.6	4	56.6	28	1101.8	11.0	54.8	6.0
4B	20	81	6	75	14.7	64	7	23	34	711.9	6.2	49	3.0
						152.6							
5A	22	36	6	30	16.4	25.1	4	11.1	10	221.3	5.4	39	2.1
						Average					7.7	34.3	2.6
						Sample from 4" Casing - 4 3/4" Drive Shoe							
/s/ J.M.M.													
				Totals		3604	15	255	90	2809.7			
						+ 4M = 4.2%							

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 400' N. of R.R. DATE START 10:30 A.M. Nov 8, 1952

LINE NO. K HOLE NO. 3 FINISH 9:30 A.M. Nov 11, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A + 1B	5	15	0	1½	Poor	Brn.	Mud, & Sand, Wood - loose
2A	7½	40	0	4	Excel.	"	Sand + Gravel "
2B	10	49	22	Run in 4	"	Wht.	Sand & Gravel "
3A	12½	66	17	4	"	"	" " " Tight
3B	15	40½	18	4	"	"	" " " "
4A	17½	66	4	4	Poor	"	Sand + Wht. Clay "
Power take off on drill broke 12 noon on November 10, 1952, Repairs completed 8 A.M. Nov. 11, 1952							
				4 3/4" ~~Drill~~ Drive Shoe			
				4" Casing			

Total Depth 17½ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cate
Panner

J. M. M.
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 400' N. of R.R. DATE START 10:30 AM Nov. 8, 1952

LINE NO. K HOLE NO. 3 FINISH 9:30 AM Nov 11, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A+1B	5	22	6	16	28.1	11.5		10.5	1	36.8	2.5	14.1	0.35
2A	7½	71	6	65	20.4	51.8		43.8	8	114.1	8.3	9.7	0.8
2B	10	68	6	62	25.9	46		23	23	280.0	7.1	26.8	1.9
3A	12½	57	6	51	17.6	42		28	14	271.9	4.6	28.5	1.3
3B	15	63	6	57	18.2	46.6		31.6	15	352.0	4.6	33.3	1.5
4A	17½	70	6	64	15.2	54.3	9	39.3	16	606.7	4.5	49.3	2.2
						Average					5.2	29.1	1.5
Samples from 4" Casing with 4 3/4" Drive Shoe													
		Totals				252.2	9	166.2	77	1661.5			

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1100' No. of R.R. DATE START 9:45 A.M. Nov. 13, 1952

LINE NO. M HOLE NO. 7 FINISH 4:00 P.M. Nov. 13, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A + 1B 2A + 2B	10	Mud & Clay				Black	Mud + Clay + Wood	loose
3A	12½	54½	0	3	Good	Brn + Wht.	S + fine gravel	Tight
3B	15	41	10	2½	"	Red + Wht.	S + gravel	"
4A	17½	42	0	2½	Excel.	Red + Wht.	S + gravel	"
4B	20	34	6	3	"	Red + Wht.	white clay + S + some gravel	"
5A	21½	16	0	1	Poor	Wht.	Hard sand stone	"
				Hard Sand Stone at 21'				
				4¾" Drive Shoe				
				4" Casing				

Total Depth 21½ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1100 ' N. of R.R.

DATE

START 9:45 A.M. Nov. 13, 1952

LINE NO. M HOLE NO. 7N

FINISH 4:00 P.M. Nov. 13, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CON-CENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A & B 2A & B	10	48	6	42	81.8	7.6		4.6	Tr. 3	25.0	Tr.	14.5	-
3A	12½	51	6	45	37.9	27.9		23.9	4	158.2	4.8	25.0	1.2
3B	15	45	6	39	20.3	31.1	1	25.1	5	182.1	5.6	25.8	1.4
4A	17½	40	6	34	18.4	27.8		21.8	6	183.9	5.6	29.1	1.6
4B	20	66	6	60	17.6	49.4		35.4	14	300.0	7.1	26.8	1.9
5A	21	18	6	12	22.0	9.4		7.4	2	47.5	3.2	28.3	0/7
Samples 1A & B, 2A & B fluid Bog NOT included - AVERAGE 11 Ft. =											5.8	26.4	1.5
J.M.M.													
	4" Casing 4 3/4" Drive Shoe												
		Totals				153.2	1	118.2	34	896.7			
		Totals for 11Ft.				- 7.6				-25.0			
						145.6				871.7			

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1200' N. of R.R. DATE START 2 P.M. Nov. 3, 1952

LINE NO. 9 HOLE NO. 8 FINISH 2 P.M. Nov. 4 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A	2½	6	0	2	None	Blk.	Mud, wood, grass; S.	loose
1B	5	27	0	2	Poor	"	Mud some clay & S.	"
2A	7½	28	0	3	"	Wht.	Roots & S	"
2B	10	40	0	4	None	"	Clay	tight
3A	12½	34	0	3	"	"	"	"
3B	15	37	0	3	Poor	Blk.	Clay, Mud, roots	"
4A	17½	45	7	7	Good	Wht.	Sand, some clay	"
4B	20	49	14	5	Excel	Wht.	Sand, some gravel	"
5A	22½	41½	12	6	"	Brn.	" " "	
5B	25	38	6	5½	"	"	Sand and gravel	"
6A	26'9"	28	0	5½	Poor	Wht.	Sand, gravel, some clay	"
				Hard Bottom at 26'9" - Concrete sand				

Total Depth 26'9" ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

J. M. M.
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1200' Ft. N. of R.R. DATE START 2 P.M. Nov. 3, 1952

LINE NO. 0+400 HOLE NO. 8N FINISH 2 P.M. Nov. 4, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A	2½	35	6	29	30	20.3							
1B	5	27	6	21	24.7	15.8			13	75.7	2.4	9.6	0.2
						36.1							
2A	7½	47	6	41	19.4	33							
2B	10	61	6	55	28.6	39.3			39	62.2	Tr.	3.8	-
						72.3							
3A	12½	46	6	40	19.6	32.1			8				
3B	15	38	6	32	46.8	17.0			18	127.4	2.0	11.4	0.2
						49.1							
4A	17½	120	6	114	27.1	83.1							
4B	20	98	6	92	19.8	73.8			24	502.8	4.8	14.1	0.7
						156.9							
5A	22½	106	6	100	18.5	81.5			18	566.1	5.2	30.6	1.6
5B	25	70	6	64	16.3	53.6	6		16	690.5	5.8	56.8	3.3
6A	26.8	82	6	7	18.4	62	2		13	154.2	6.2	11.0	0.7
						Average - 26.8'					4.9	18.8	0.9
			Totals			511.5	8			2181.9			
					+ 4M	1.6%							
s/ J.M.M.													

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 1400' N of R.R. DATE START 8 A.M. Nov 5, 1952

LINE NO. 0+400 HOLE NO. 9 FINISH 3 P.M. Nov 5, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	8	0	2½	Some	Yel + Blk	S + Mud + Roots loose
1B	5	10	0	1	Poor	Brn.	S. Tight
2A	7½	28	0	3	"	Wht.	S + clay, some gravel roots - "
2B	10	29	0	4	"	"	S + gravel, Roots "
3A	12½	30	3	4	Poor	"	S + " + balls of clay "
3B	15	35	8	4½	"	"	" " " " " " " "
4A	17½	51	5	6	"	"	Blue clay - Roots + S "
4B	20	31	0	2	"	"	Some core driven out S + Wood - Some clay "
5A	22½	39	2	4	Good	Brn.	Fine Brn. S + Wood "
5B	25	32	0	5½	Excel.	"	Brn. S + Gravel, Wood "
6A	27½	43	4	6	"	"	Brn S + Gravel "
6B	30	34	20	5½	Poor	Wht.	S. "
		Hard Sand Stone Bottom 30' 7"					

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

/s/ S. M. M.
In Charge

Sample bucket No. 1 tub 17¼" dia.

Copy

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1400 ft. N. of R.R. DATE START 8AM Nov. 5, 1952

LINE NO. 9 + 400 HOLE NO. 9N FINISH 3PM Nov. 5, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A	2 1/2	44	6	38	32.4	25.7							
1B	5	19	6	13	18.5	10.6		24.3	12	139.6	6.4	17.0	1.1
						36.3							
2A	7 1/2	55	6	49	18.7	39.9							
2B	10	98	6	92	19.2	74.2	2	93.1	19	243.4	2.6	9.4	0.2
						114.1							
3A	12 1/2	79	6	73	19.9	58.5							
3B	15	98	6	92	18.8	74.7	4	101.2	28	326.0	2.0	10.8	0.2
						133.2							
4A	17 1/2	94	6	88	26.0	65.0							
4B	20	30	6	24	31.1	16.5		39.5	42	71.8	2.5	3.9	0.1
						81.5							
5A	22 1/2	78	6	72	23.8	54.8							
5B	25	109	6	103	20.2	82.3	6	102.1	29	660.1	7.9	21.2	1.7
						137.1							
6A	27 1/2	102	6	96	12.7	83.6	5	49.6	29	335.2	5.1	17.7	0.9
6B	30	119	6	113	21.0	89.4		75.4	14	210.6	4.0	10.4	0.4
						173.0							
B/J.M.M								Average		30'	5.1	13.0	0.7
		Totals				615.2	17			1986.7			
				+4M	2.5%								

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION Approx. 450' N. of R.R. DATE START 2:00 P.M. Nov 19, 1952

LINE NO. X + 500' HOLE NO. 4 FINISH 12:00 Noon Nov 20, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	14	3	6	Poor	Blk.	Top soil, some S. + red clay loose
1B	5	23	3				
2A	7½	37	0	3	Excel.	Brn.	S. + gravel Tight
2B	10	27	11	3	"	"	" " " "
3A	12½	44	18	6½	Good	Brn. + Wht.	Red S. + Gray + Wht. S. + Clay "
3B	15	38	17	6	"	Wht.	Wht. S. "
4A	17½	60	10	3	"	"	" " "
4B	20	47	0	4½	Poor	"	" " + some clay "
5A	22½	47	10	5	"	"	" " " " " "
5B	25	47	0	6	"	"	" " " " " "
6A	27½	21	10	1½	"	"	S. Gravel, hard bottom "

Run in on 4 A, pumped off 20"

6" Casing

Total Depth 27½ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Approx. 450' N of P.R.R. DATE START 2:00 P.M. May 14, 1952

LINE NO. X 1 600 HOLE NO. 4 FINISH 12:00 Noon May 20, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A+1B	5	77	6	71	19.4	58.3		17.2	Tr. 23	126.6	3.8	11.0	0.4
2A	7½	71	6	65	15.3	55.1							
2B	10	45	6	39	15.8	32.8 / 87.9	6	10.9	21	136.7	4.2	38.0	1.6
3A	12½	134	6	128	15.7	108							
3B	15	114	6	108	13.7	93.2 / 201.2	11	15.2	27	404.2	1.6	3.9	0.5
4A	17½	54	6	48	20.6	38.2							
4B	20	93	6	87	14.5	70 / 108.2	3	17.2	38	152.2	4.8	6.2	0.3
5A	22½	96	6	90	18.2	73.5							
5B	25	110	6	104	40.7	61.7 / 135.2	10	98.2	37	482.5	7.0	15.7	1.1
6A	27½	29	6	23	14.2	19.7	1	9.7	9	30.5	Tr.	6.8	—
				Average			25	ft.			5.3	14.2	0.8
6" Casing													
		77.1	6	71		102.4 − 14.7 / 87.7	31	126.4	145	113.1	1.1	1.2	

/s/ J. M. M.

COPY

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 850 N. of R.R. DATE START 9:30 A.M. Nov. 18, 1952

LINE NO. X + 500' HOLE NO. 6 FINISH 2:00 P.M. Nov. 18, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	6	0	3	Good	Brn.	Coarse Brn S. loose
1B	5	24	0	3	"	"	Wood + Brn. S. "
2A	7 1/2	25	0	2	"	"	" " " " Tight
2B	10	38	0	3 1/2	Excel.	"	Mud, Wood, S. + Gravel "
3A	12 1/2	35	2	6	"	Brn. + Wht.	S + pea Gravel - clay "
3B	15	38	0	5 1/2	"	Brn + Wht.	" " " " "
4A	17 1/2	41	4	6	"	Wht.	S + Gravel, some clay "
4B	20	44	8	6	"	"	Wht. coarse S., some gravel "
5A	22 1/2	60	0	4	"	"	S. coarse gravel + clay "
							Last 10" wht. clay "
	Run in on 5A - Pumped off 24"						
				6" casing			

Total Depth 22 1/2 ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 850' N of RR

LINE NO. X 7510 HOLE NO. 6

DATE

START 9:30 AM Nov 18, 1952

FINISH 2:10 PM Nov 18, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A	2½	49	6	43	20.8	34.4							
1B	5	55	6	49	22.0	38.2		59.6	13	34.6	5.0	19.1	1.0
						72.6							
2A	7½	44	6	38	22.0	29.6							
2B	10	63	6	57	23.1	43.8		48.4	25	503.6	6.4	30.2	1.9
						73.4							
3A	12½	114	6	108	20.3	86							
3B	15	109	6	103	15.5	87	5	111	57	517.5	2.6	13.2	0.3
						173							
4A	17½	102	6	96	15.6	81							
4B	20	105	6	99	20.1	79	6	135	19	653.8	6.9	18.0	1.2
						160							
5A	22½	69	6	63	18.2	51.5		35.5	16	194.5	10.7	17.1	1.8
					Average		22½'				~~5.3~~ 5.0	18.2	~~1.9~~ 1.7
	6" Casing			7½	Drive								
			Totals			530.5	11	387.5	130	2187.0			

1-1 J. M. M.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 1200 N.of R.R. DATE START 9:45 A.M. Nov. 17, 1952

LINE NO. X + 300' HOLE NO. 8 FINISH 3:45 P.M. Nov 17, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS	
1A	2½	17	0	1½	Poor	Blk & Wht.	Mud, wood, & white sand	loose
1B	5	18	2	2	"	Wht.	Wht. Fine sand	Tight
2A	7½	26	0	3	Good	"	S. & Some gravel	"
2B	10	39	4	3	"	"	" " " clay	"
3A	12½	38	0	3	"	"	" " " "	"
3B	15	39	4	3	"	"	Coarse sand, clay + gravel	"
4A	16½	26	0	3½	Poor	"	Sand + clay	"
				Sand stone at 16' 6"				
					6" Casing			

Total Depth 16½ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1200 Ft. N. of R. R. DATE START 9:45 A.M. Nov. 17, 1952

LINE NO. X + 500 HOLE NO. 8 FINISH 3:45 P.M. Nov. 17, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A	2½	33	6	27	30.5	18.8							
1B	5	31	6	25	20.4	19.9 38.7		29.7	9	96.7	3.6	11.0	0.4
2A	7½	65	6	59	18.8	42							
2B	10	47	6	41	20.0	32.8 74.8	2	41.8	31	290.7	7.8	17.1	1.3
3A	12½	64	6	58	17.9	47.7							
3B	15	66	6	60	19.8	49.1 96.8		79.8	17	383.4	4.0	17.5	0.7
4A	16½	86	6	80	16.4	66.9	4	44.9	18	229.4	3.0	15.1	0.4
						AVERAGE		16½ ft.			4.0	15.9	0.8
6" Casing, 7½" Drive Shoe													
						277.2	6	196.2	75	1000.2			

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DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION

DATE

START 2:30 PM Nov 25, 1952

LINE NO. C + 500' HOLE NO. 1 S

FINISH 2:00 PM Nov 26, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	6	0	3½	Good	Brn	Bro. S + Fine Sand Tight
1B	5	10	0	2	"	"	" " " " "
2A	7½	32	4	3	Good	"	" " + Gravel "
2B	10	38	0	2½	Poor	Wht.	Clay at 8' some S. "
3A	12½	33	0	3	"	Wht + Brn	End of clay at 12', coarse S "
3B	15	33	0	3½	Good	Brn	S + Gravel "
4A	17½	39	0	4	"	"	S + Coarse Gravel "
4B	20	35	0	4	"	"	" " " " "
5A	22½	50	13	X 6½	Good	Brn + Wht	S bevel, balls of clay
5B	25	43	0	5½	Poor	Wht.	S + clay
				Hard clay bottom at 24'			
					(6" casing)		

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Along Sile R. R.

LINE NO. 6 + 500' HOLE NO. 1 B.

DATE

START Nov. 25, 1952 2:30 P.M.

FINISH Nov. 26, 1952 2:00 P.M.

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOIST-URE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A	2½	75	6	69	15.9	58		47	11	102.0	6.6	7.0	0.5
1 B	5	40	6	34	16.7	28.3		22.3	6	42.2	6.0	6.6	0.4
2A	7½	61	6	55	15.3	46.6		22.6	24	71.8	6.6	6.8	0.4
2B	10	50	6	44	20.8	34.8		11.8	23	15.19	Tr.	1.9	-
3A	12½	50	6	52	16.9	43.3		29.3	14	40.0	2	4.1	~~0.8~~ 0.8
3B	15	70	6	64	15.5	54.1	4	35.1	15	544.5	19.7	44.2	8.7
4A	17½	96	6	90	15.0	76.5	22	34.5	20	1020.0	11.0	58.0	6.5
4B	20	90	6	84	12.4	73.5	17	29.5	27	951.4 mdd 856.3	6.6 Tr.	57.2	3.8
5A	22½	138	6	132	13.9	114	7½	56½	50	660.8	7.4	25.8	1.9
5B	25	117	6	111	15.3	94	-		51	80.1	4.5	4.0	.2
						Average 25.0 ft.					9.9	85.0	2.5 ~~2.4~~
				6" Casing 7½' Drive Shoe									
						623.1	50.5	331.6	241	3533.9			

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION _____ DATE START 230 P.M. Nov 26, 1952

LINE NO. C+500' HOLE NO. 2 S. FINISH 10:00 A.M. Nov. 29, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2 1/2	3	0	2	Poor	Blk & Brn.	Topsoil + Brn. S. loose
1B	5	10	0	1 1/2	"	Brn.	Fine S Tight
2A	7 1/2	33	7	3	"	"	S + Clay "
2B	10	32	0	5 1/2	Good	"	Fine S. "
3A	12 1/2	31	0	4	"	"	Some Grav. & clay & S. "
3B	15	25	5	1 1/2	Poor	Wht.	Wht. S. & Grav. "
4A	17 1/2	52	14	2 1/2	"	"	Wht. Fine S. clay balls "
4B	20	62	6	5 1/2	"	"	" " " " " "
5A	22 1/2	69	0	4	Good	"	" " " " " "
5B	25	52	8	4 1/2	"	"	Wht. Coarse " " " "
6A	27 1/2	35	0	4	"	"	" " " " " "
6B	30	35	0	4	Poor	"	" " " " " "
7A	32 1/2	48	0	4	"	"	" " " " " "
7B	35	79	44	3 1/2	"	"	" " " " " "
8A	37 1/2	84	0	4	"	"	" " " " " "
8B	59	23	0	3 1/2	"	"	" " " " " "

Run in on 7B, pumped off 39" Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

" " " 8A, " " 40"

/s/ Victor Cole

Panner

_____

In Charge

(6" Casing)

Sample bucket No. 1 tub 17¼" dia.

Log 4

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 900' S. of RR DATE START 2:30 PM Nov 26, 1952

LINE NO. C+500 HOLE NO. 25 FINISH 10 AM Nov 27, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A	2½	37	6	31	22.5	24							
1B	5	25	6	19	16.4	15.9			14 6	57.1	5.6	6.2	0.4
						39.9							
2A	7½	56	6	50	15.9	42.1	–		12 13	93.2	6.0	8.8	0.6
2B	10	137	6	131	17.3	108.5	–		9	585.2	5.3	15.6	0.8
3A	12½	58	6	52	16.5	43.4							
3B	15	37	6	31	13.2	26.9	13		12	262.8	12.9	16.5	2.1
						70.3							
4A	17½	70	6	64	20.7	50.7							
4B	20	122	6	116	14.0	94.	–		20	137.9	5.9	4.2	0.2
						144.7							
5A	22½	79	6	73	19	59.1	–		10	74.0	7.6	5.5	0.4
5B	25	112	6	106	19.2	85.5	–		16	96.2	6.0	5.8	0.3
6A	27½	66	6	60	17.8	49.4							
6B	30	52	6	46	17.7	37.8	–		16	115.5	5.0	7.4	0.4
						87.2							
7A	32½	11	6	85	18.5	69.3							
7B	35	85	6	79	17.5	65.2	–		19	135.9	6.1	7.0	0.3
	6" Casing					134.5							
1.15 mm	7½" Dr. Shoe				Average	20 FT					7.6	9.9	0.8

Samples 80 - 88 not Run

T.T. 1s to 20 115.5 156.2

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DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1400' N. of R.R. DATE START 11:45 A.M. Nov. 29, 1952

LINE NO. 0 HOLE NO. 8N FINISH 9:45 A.M. Dec. 1, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	18	0	1½	Poor	Blk.	Mud + Roots Slime
2A+2B	10	19	0	1½	"	"	" " " "
3A	12½	46	4	1½	"	Brn.	Mud + Roots (hits at 11½') Loose
3B	15	33	0	1½	Good	"	Wood + Roots + Fine S. Tight
4A	17½	43	0	1½	"	Wht.	Fine S. Some grav. "
4B	20	35	0	1½	"	"	Grav. + S. hit clay at 18'9" "
				4" Casing		4¾"	Drive Shoe
Started new hole at 10', couldn't get through root							
				Bottom at 20'			

Total Depth_____ft. Bedrock_____ft. Water Level_____ft.

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1400' N. of R. R. DATE START 11:45 A. M. Nov. 29, 1952

LINE NO. 0 HOLE NO. 8W FINISH 9:45 A. M. Dec. 1, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	WEIGHT OF SAMPLE LBS. MINUS 14 MESH	WEIGHT OF SAMPLE LBS. PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A & B	5	17	6	11	79.2	2.3	-	0.3	Trash 2	-	-	-	-
2A & B	10	30	6	24 34	52.2	11.5	-	5.5	Tr. 6	12.0	Tr.	4.6	-
3A	12½	29	6	23	20.6	18.3	-		Tr. 2				
3B	15	42	6	36	18.8	29.2	-	43.5	2	40.2	8.4	3.7	0.3
4B	17½	34	6	28	19.0	22.6	-	21.6	1	59.6	8.3	11.6	1.0
4B	20	25	6	19	19.7	25.2	-	7.2	Cl. 8	33.2	8.7	9.6	0.8
					Average	(10	Depth to 20 ft.)		10 ft.		8.5	6.9	0.6

Samples - 1A & 1B, 2A & 2B not included fluid bog.

4" Casing 4 3/4" Drive Shoe

/s/ J.M.M.

/ Totals				99.1	-	78.1	2.1	145.0
Less (1A - 2B inc.)				13.8				12.0
Totals for 10' to 20'				85.3				133.0

copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION _____ DATE START 3:30 PM Nov 22 1952

LINE NO. + 500' HOLE NO. 7 FINISH 2:10 PM Nov 24 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A + 1B	5	8	0	1½	Poor	Blk	Wood, mud & S. casing dropped 4' loose
(2A)	7½	24	0	½	"	WHT.	Clay, Wood + S "
(2B)	10	24	0	1	"	WHT.	" " " + Mud "
(3A)	12½	32	0	1½	Good	"	Wood, Mud & WHT. S Tight
(3B)	15	28	0	2	"	Brn	Wood, Brn. S., some clay "
4A	17½	41	0	3	Excel.	Brn-WHT	S. & Gravel "
4B	20	27	2	1½	"	" "	" " " "
5A	22½	40	6	2½	Poor	WHT.	S. Gravel & hard clay "
Drill Pulley broke when pulling casing.							
				Hard clay bottom at 22'			
				(4" casing)			

Total Depth _____ ft. Bedrock _____ ft. Water Level _____ ft.

131 Victor Cote
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1000' N. of R.R.

LINE NO. X & 500 HOLE NO. 7

DATE

START Nov.22,1952 3:30 P.M.

FINISH Nov.24,1952 2:00 P.M.

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A & B	5	25	6	19	32.5	12.8		8.8	4	7.6	Tr.	2.6	-
2A & B	10	18	6	12	28.4	8.6		4.6	4	29.6	10.0	15.2	1.5
3A & B	15	55	6	49	19.2	39.8	-39.6	30.6	9	67.7	19.0	7.5	1.4
4A	17½	49	6	43	13.0	37.4	4½	16.9	16	229.3	13.5	27.9	3.6
4B	20	28	6	22	14.7	18.8	5	6.8	7	77.0	8.6	18.1	1.6
5A	22½	41	6	35	15.5	29.6	2	19.6	8	98.3	18.0	14.6	2.6
(Discard 1A & 1B)													
						AVERAGE 17½					14.0	15.3	2.1
				4" Casing 4 3/4" Drive Shoe									
/s/ J. M. H.													
Totals						146.8	11½	87.3	48	509.5			
Less 1 A. & 1B						12.8				7.6			
Totals for 17½'						134.0				501.9			

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Approx. 650' N. of R.R. DATE START 2:15 P.M. Nov 21, 1952

LINE NO. M HOLE NO. 5 FINISH 11:00 A.M. Nov 22, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A+1B	5	27	0	1½	Poor	Blk.	Mud, wood & sand Loose
2A	7½	27	0	1½	"	Brn.	Sand & Mud Tight
2B	10	24	0	1½	"	"	" "
3A	12½	31	0	2	Good	Brn. & Wht.	" "
3B	15	34	0	3	"	Brn. & Wht.	" "
4A	17½	37	0	2½	Excel.	Wht.	Sand, some small Gravel "
4B	20	32	0	2	"	"	Sand & Gravel "
5A	22½	37	6	3½	Poor	"	" " Clay "

Total Depth 22½ ft. Bedrock _____ ft. Water Level _____ ft.

4" Casing

/s/ Victor Cote
Panner

In Charge

Sample bucket No. 1 tub 17¼" dia.

CD 84

LABORATORY LOG

DRILL LOG TRACT Hogan Creek SH. NO. _____

LOCATION Approx. 650' N of R.R. DATE START 2:15 PM Nov. 21 1952

LINE NO. M HOLE NO. 5 FINISH 11:00 AM Nov. 22 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A + B	5	23	6	17	5.9	7.9		5.9	2	10.5	Tr.	5.9	–
2A	7½	35	6	29	21.8	22.6		19.6	3				
2B	10	28	6	22	19.1	17.5		11.8	5	36.3	Tr.	4.0	–
						40.4							
3A	12½	39	6	33	16.9	27.4		19.4	8	46.2	1.5	7.4	0.5
3B	15	52	6	46	15.7	39.8		16.8	22	220	14.0	27.8	3.2
4A	17½	34	6	28	11.4	23.4							
4B	20	22	6	16	15.4	13.5		16.9	20	224.2	14.8	24.8	4.0
						36.9							
5A	22½	56	6	50	18.0	41.0		33	8	33.5	9.4	3.6	0.3
				Average		17½ ft.					12.5	~~12.8~~	~~1.6~~
Samples 1A + 1B Fluid not in Total													
			4" Casing with 4 3/4" Drive Shoe										
Totals (all inc 1A+B)							192.4 + 7.9			550.7 - 10.5			
							184.5			540.2			

B/S. III III

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION Approx. 600' N. of P.R.R. DATE START 9 AM Nov. 14, 1952

LINE NO. M. HOLE NO. 6 FINISH 1:45 P.M. Nov. 21, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A + 1B 2A + 2B	10	59	0	3 1/2	Poor	Blk.	Mud, some S., wood loose
3A	12 1/2	52	0	2 1/2	Good	Brn. + wht.	S. some gravel, wood "
3B	15	42	5		Good		
4A	17 1/2	42	8	3 1/2	"	Brn + wht.	S + gravel, wood tight
4B	20	38	4	2	"	Brn + wht.	S + coarse gravel, wood "
5A	22 1/2	38	0	1/2	Good	Wht.	S + Clay, wood "
Shut drill down 12 noon, November 14, 1952. Too much water in swamp started Nov. 21, 1952 at 7:30 A.M.							

5A - core driven ahead of casing

Total Depth 22 1/2 ft. Bedrock _____ ft. Water Level _____ ft.

4" Casing

B/ Victor Cole
Panner

_____
In Charge

Sample bucket No. 1 tub 17 1/4" dia.

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Approx 900' N of RR

DATE

START 9 A.M. Nov 14, 1952

LINE NO. M HOLE NO. 6

FINISH 1:45 P.M. Nov 21, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT GROSS	NET WEIGHT TARE	NET WEIGHT NET	MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS. PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH	WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
1A + B 2A + B	10	36	6	30	14.5	10.7		4.7	Tr 6	35.4	Tr	14.6	—
3A	12½	42	6	36	20.6	28.6		23.6	5	114.6	Tr	17.6	—
3B	15	52	6	46	11.1	38.2		28.2	6	144.3	4.7	23.6	1.1
4A	17½	72	6	66	15.6	55.6	4	35.6	16				
4B	20	31	6	25	19.5	20.2	4	9.2	7	501.5	5.9	24.2	1.7
						75.8							
5A	22½	37	6	31	17.9	25.4		15.4	7	78.4	5.6	13.6	0.7
Samples 1A + B, 2A + B fluid Bog net incl													
							Avg 12½ ft		=		4.9	21.2	1.4
	4" Casing			4 3/4" Drive Shoe									
Totals						179.7	8	133.3	47	918.6			
	T.D. 124'					-10.7				-35.4			
						168.0				813.2			

/s/ J. M. M.

Copy

DRILL LOG

DRILL LOG TRACT Horse Creek SH. NO. _____

LOCATION 650' N. of R.R. DATE START 3:10 P.M. Nov. 18, 1952

LINE NO. X+500' HOLE NO. 5 FINISH 12:45 P.M. Nov. 19, 1952

SAMPLE NUMBER	DEPTH FEET	CORE BEFORE PUMP	CORE AFTER PUMP	VOLUME	EST. CONS.	COLOR SLIMES	REMARKS
1A	2½	6	0 → 4		Poor	Blk.	Mud, some S loose
1B	5	6	0				
2A	7½	28	0	2½	Poor	Wht.	Mud, S. loose
2B	10	34	0	5½	"	"	Wht. coarse S. + Wood "
3A	12½	44	24	7	Good	"	" " " " X "
3B	15	48	0	4½	"	"	Wht. coarse S. + clay Tight
4A	17½	57	10	9	"	"	S + Gravel "
4B	20	44	10	4	"	"	S + " "
5A	21½	44	10	4	Poor	"	Wht. Clay + S. "
				Run in on 3A			
				Dumped 18" on 3B			
				(6" Casing)			

Total Depth 22½ ft. Bedrock _____ ft. Water Level _____ ft.

/s/ Victor Cate
Panner

_____
In Charge

Sample bucket No. 1 tub 17¼" dia.

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 650' N. of R. R.

DATE

START 3:10 P.M. Nov. 18, 1952

LINE NO. X + 500 HOLE NO. 5

FINISH 12:45 P.M. Nov. 19, 1952

SAMPLE NUMBER	DEPTH	NET WEIGHT			MOISTURE %	DRY WEIGHT	WEIGHT OF SAMPLE LBS.			WEIGHT OF BULK CONCENTRATE GRAMS	EST. % MONAZITE	LBS. PER TON CONS.	EST. LBS. PER TON MONAZITE
		GROSS	TARE	NET			PLUS 4 MESH	MINUS 14 MESH	PLUS 14 MESH				
1A & 1B	5	50	6	44	50.0	22		2	Trash 20	9.3	Tr.	1.9	-
2A	7½	41	6	35	25.2	26.2							
2B	10	111	6	105	20.2	83.8 / 110.0	2	74	34	162.6	6.6	6.5	0.4
3A	12½	122	6	116	17.8	95.5							
3B	15	76	6	70	20.0	56.0 / 151.5	1½	92	58	232.0	2.7	6.7	0.2
4A	17½	74	6	68	12.6	59.4							
4B	20	170	6	164	18.7	133.2 / 192.6	35	81.6	76	864.0	7.0	29.8	2.4
5A	22½	66	6	60	16.2	50.3	2	24.3	24	157.2	6.1	13.8	0.8
				AVERAGE 22½							6.1	11.9	0.7
Discard 1A & 1B					Average	17½'					6.2	12.4	0.8
				6" Casing, 7½" Drive Shoe									
		Totals				526.4	40½	273.9	21.2	1425.1			
		Less 1A + 1B				22.0				9.3			
		Totals for 17½'				504.4				1415.8			

2576

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
SOUTHEASTERN REGION
REGION VII

OFFICE OF
REGIONAL DIRECTOR

P. O. BOX 217
NORRIS, TENNESSEE

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
1952

November 28, 1952

Memorandum

To: Jay L. Chambers, Defense Minerals Exploration Administration, Washington 25, D. C.

From: Administrative Officer, Region VII, Norris, Tennessee

Subject: Monthly report and voucher

We are enclosing two copies of the following monthly report and voucher:

Idm-E-392 Callahan Zinc-Lead Company, Inc.
2nd Payment
Month of October
Amount $9227.84

Helen R. Miller
Helen R. Miller

Enclosures
CC: R. A. Laurenne
W. A. Beck

Form [illegible] (Rev.)

UNITED STATES
DEPARTMENT OF THE INTERI[illegible]
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.
Defense Minerals Administration

OPERATOR'S MONTHLY REPORT AND VOUCHER

1952

Month of October 1952 Docket No. DMEA 2676 Contract No. IDM-E392

Operator's Name CALLAHAN ZINC-LEAD COMPANY, INC. Minerals Manganite, Columbium, Rutile

Address 100 Park Avenue, New York 17, N. Y.

Contract Amount, $37,960.00 Government Participation: 83 % Amount, $31,506.80

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	3,172.00	1,344.00	4,516.00	3,172.00	1,344.00	4,516.00
Supervision	600.00	600.00	1,200.00	600.00	600.00	1,200.00
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
Small tools & supplies	543.54	65.33	608.87	543.54	65.33	608.87
Gas, oil, tires	330.72		330.72	330.72		330.72
(4) Operating Equipment:						
Rental						
Purchase	4,575.88	429.43	5,005.31	4,489.08	429.43	4,918.51
Depreciation	183.33	183.33	366.66	183.33	183.33	366.66
(5) Initial Rehabilitation and Repairs		1,108.22	1,108.22		1,108.22	1,108.22
(6) New Bldgs., Improvements, etc.	325.87	68.19	394.06	325.87	68.19	394.06
(7) Miscellaneous:						
Repairs to Equipment	98.18		98.18	98.18		98.18
Sampling and Analysis						
Payroll Taxes						
Liability Insurance						
See schedule attached	1,375.16	803.70	2,178.86	1375.16	803.70	2,178.86
(8) Contingencies (specify):						
TOTALS	11,204.68	4,602.20	15,806.88	11,117.88	4,602.20	15,720.08

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 11/17/52 *Payee CALLAHAN ZINC-LEAD COMPANY, INC.

Per E.G. Salo Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

→ NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 9,227.84

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IDM-E392 in accordance with the terms of the contract.

Signature Robert F. Griffith Title Mining Engineer Date 11/19/52

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W. A. Beck Title Acting Exec. Officer Region VII Date 11/21/52

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

U. S. GOVERNMENT PRINTING OFFICE 205675

FORM MF-104

SCHEDULE SUPPORTING ITEM (7) ON FORM MF-104 (REV.)

OPERATOR'S MONTHLY REPORT & VOUCHER

OCTOBER, 1952

		TOTALS	
	THIS MONTH	PREVIOUSLY REPORTED	TO DATE
Office Expense	$ 245.82	$ 4.50	$ 250.32
Mining Equipment & Crew	196.34	647.20	843.54
Per Diem	933.00	152.00	1,085.00
	$ 1,375.16	$ 803.70	$2,178.86

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 1952 Docket No. DMEA 2576 Contract No. IDM-2392
Operator's Name CALLAHAN ZINC-LEAD COMPANY, INC. Minerals Hemmite,
Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn		6,732.96		6,732.96				
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Preparatory Costs				2,349.16				
TOTAL DISTRIBUTED COSTS		6,732.96		9,082.12				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		3,980.14		4,409.57				
Initial Rehabilitation and Repairs				1,108.22				
New Buildings, Improvements, etc.		285.87		354.06				
Moving Equip. & Crew		205.71		852.91				
TOTAL COSTS		11,204.68		15,806.88				

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

Date 11/17/52 Operator CALLAHAN ZINC-LEAD COMPANY

Per E. G. Sabo Title Treasurer

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

CALLAHAN ZINC-LEAD COMPANY, INC.

PROGRESS REPORT

CONTRACT NO. IDM-8358 NOVEMBER 17, 1952

Enclosed herewith is a copy of the map showing the location of the drill holes for the month of October along with the drill logs and laboratory logs for these holes.

No topographical maps of the area have been completed, but when completed will be submitted. The attached map does not show, therefore, that the drilling done to date is mostly on the bench land at an elevation of from 5 to 10 feet above the creek, nor does the map show that the land lying between these drill holes and creek is practically at creek level.

Drilling was begun on Saturday afternoon, October 4th. During the first week the progress was slow due to the necessity of breaking in a new crew, but since the middle of the month the progress has been very satisfactory. On each line we attempted to get the drill as far into the swamp as possible with the help of some planking. The first hole in each line is close to, or on the top of the slope leading to the bench ground. As explained later, it was not possible to get beyond that into the swamp land with the heavy equipment. The lines were run out to the property limit or to a cutoff point as to values.

A total of 23 holes were drilled during the month of October, making a total footage of 485 feet. A considerable amount of brush cutting was needed to swamp out roads for this work.

The logs will show the values to be running about as expected as to their monazite content and total weight of heavy concentrates.

Please note that we had decided not to use cubic yards as a unit for calculation and instead are using tons. Because all our work is being done and all our measurements taken on a weight basis, rather than on a volume basis, we feel that this is a more accurate method than using cubic yards. As explained before, our plan has been to estimate the monazite content of the concentrates radiometrically, using the method devised by The Bureau of Mines, which their experience has proven to be well within a 15% range of accuracy as compared with the final assay figure. We are using the monazite as an indicator of the grade of our concentrate since this is the only ready method of making determinations to control the drilling and concentrating work.

Magnetic and static separations of composite samples of concentrates will be made later, and the separate fractions assayed to determine the exact amount of the various products in the concentrates. For this reason all results will be expressed in pounds of monazite per ton until such time as actual separations are made. Our original drilling showed a monazite content of 1.2 lbs. per cu. yd. of 2700 lbs. or approximately 0.9 lbs. per ton. You will note that the drilling for the past month is above this original figure.

As mentioned in our last month report, our first attempt on October 3rd to get the truck mounted drill into the swamp land on line "B" was not successful. We have found over the full extent of the swamp area that although the ground may be dry and may seem firm underfoot, that it will not bear the weight of the truck and heavy drill. There is some two to five feet of a very wet mixed humus and sand covering the swampy area. We have found it necessary to devise lighter equipment to drill these holes in this wet area.

We brought from Montana, fortunately, a four-inch Empire drill which normally is operated by hand with a crew of five men driving the pipe with a weighted dolly and pumping the core by hand. It was thought that this equipment could be used to get the few very wet holes close to the creek which we had estimated at not more than one hole per line. We find, however, that it will be necessary to use this equipment on practically all of the swamp land drilling. Because of the difficulty of finding labor to do this kind of work in this area, we have come to the conclusion that we must apply mechanical power to this drill. We have purchased a red jeep with a power take-off and have equipped it with tripod and tools to permit the drilling of the low ground, as this is the cheapest and only practical way of getting this work done. The jeep rigged drill went into service on November 7th and operates satisfactorily. It should drill at approximately the same rate as the larger drill.

It was hoped by this time to have completed drilling some cross-sections so that the composites might be taken to the Carpenter Laboratory in Jacksonville for final separation. Some of the cross-sections are completed across the swamp land to date as explained above, but all the drilling in the immediate future will be done in the swamp land to complete these cross-sections and also to get this wet work done while the dry weather lasts.

We feel that part of phase II of the project should be undertaken at this time as outlined in my letter to Mr. Ellis of October 20th and the attached copy of a letter of the same date to the U.S. Bureau of Mines station at Tuscaloosa, Alabama. Because the Tuscaloosa laboratory finds it convenient to do this work now, we are making arrangements to ship them a car load of material this week, (Nov. 12th), which they plan to unload and prepare for testing a week from now.

The material will be dug from four sites that have been drilled, ie. F1, G4, K5, MLO. It will be possible to get the pits down about 10 feet only with a power shovel and we feel that five tons from each site will be sufficient for this work.

Mr. Lawrence E. Davis, Mining Engineer and Metallurgist of very considerable experience who is an employee of Callahan Zinc-Lead Company and who has recently spent two weeks with us in the laboratory here, will go to Tuscaloosa to undertake the test work. He will take with him Mr. Fred L. Davis, jig and concentration foreman with the Perry Company for many years. Mr. Fred Davis has been doing the concentrating at the laboratory here, and is experienced in handling concentrating equipment.

The results of this work should be available soon after the next report is due and a special report of the results will be sent in as soon as possible.

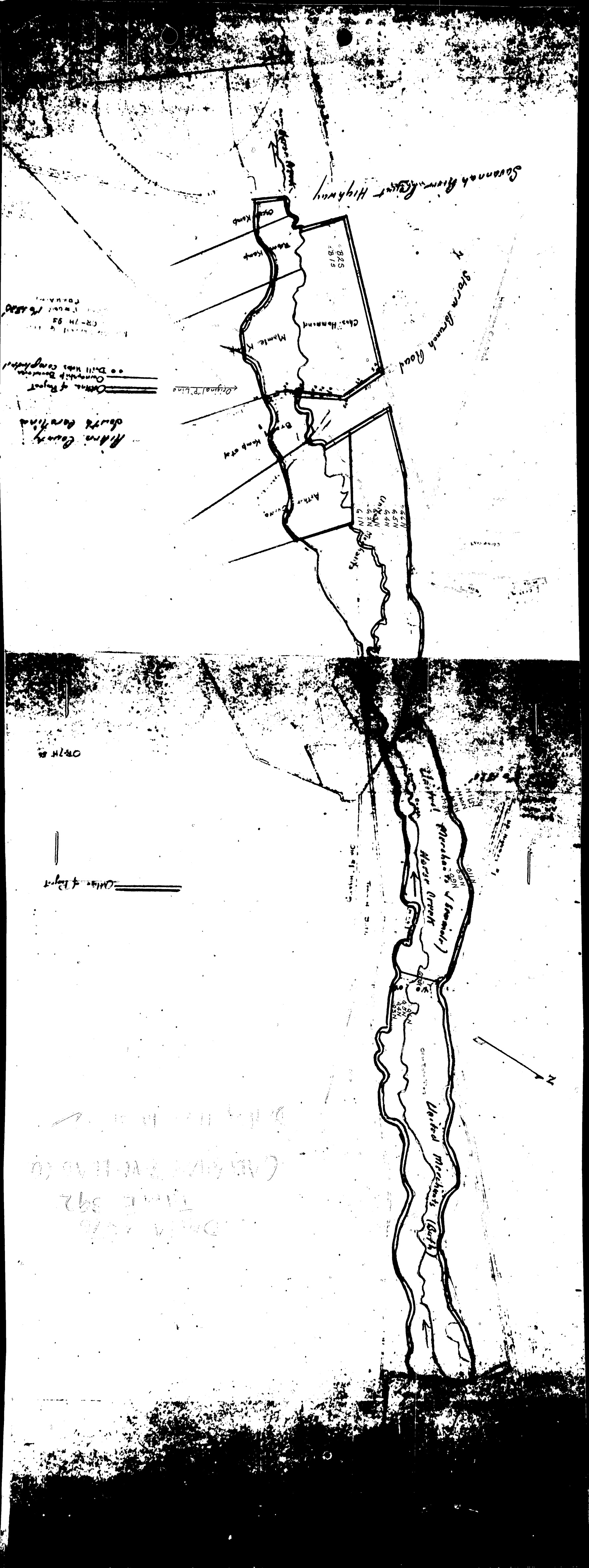
CALLAHAN ZINC-LEAD COMPANY, INC.
RE: DMEA-2576, Idm-E 392
SUMMARY DRILL RESULTS THRU OCTOBER 31, 1952

Line No.	Drill Hole No.	Total Depth	Est. Pay Depth	Est. O/OM pay Depth	# Conc. Per. ton Pay Depth	Est. #M Per ton Pay Depth
B	1S	12	12	6.1	26.4	1.6
B	2S	20	20	6.4	25.0	1.6
G	1N	20	20	3.2	20.4	0.6
	2N	25	25	9.0	10.3	0.9
	3N	25	17.5	7.4	15.6	1.15
	4N	35	17.5	6.1	19.8	1.2
	5N	22.5	20.0	6.1	20.2	1.2
	6N	15	15	9.8	10.3	1.0
K/ 600	4N	15	15	5.0	14.4	0.7
	5N	20	20	6.8	16.8	1.16
	6N	17.5	15	5.5	12.4	0.7
M/ 500	8N	20	15	8.4	12.0	1.0
	9N	25	25	3.7	12.6	0.47
	10N	22.5	10	6.7	13.4	0.89
	11N	15	15	3.6	11.0	0.39
O	9N	15	15	9.6	20.1	1.93
	10N	20	20	12.1	17.8	2.25
	11N	25	20	5.0	8.2	0.41
Q/ 400	3N	12.5	10	3.0	6.2	0.19
	4N	25	17½	5.5	12.8	0.7
	5N	25	15	8.8	14.6	1.3
	6N	23.8	10	5.2	8.3	0.4
	7N	28.9	25.0	3.4	27.4	0.9

CALHOUN ZINC-LEAD COMPANY, INC.
RE: [illegible]A-2576, Idn-E 392
COMPANY DRILL FINDINGS THRU OCTOBER 31, 1952

Line No.	Drill Hole No.	Total Depth	Est. Pay Depth	Est. C/CM pay Depth	% Conc. Per. ton Pay Depth	Est. /M Per ton Pay Depth
B	1S	12	12	6.1	26.4	1.6
B	2S	20	20	6.4	25.0	1.6
C	1N	20	20	3.2	20.4	0.6
	2N	25	25	2.0	10.3	0.9
	3N	25	17.5	7.4	15.6	1.15
	4N	35	17.5	6.1	19.8	1.2
	5N	22.5	20.0	6.1	20.2	1.2
	6N	15	15	9.8	10.3	1.0
K/ 600	4N	15	15	5.0	14.4	0.7
	5N	20	20	6.8	16.8	1.16
	6N	17.5	15	5.5	12.4	0.7
M/ 500	8N	20	15	8.4	12.0	1.0
	9N	25	25	3.7	12.6	0.47
	10N	22.5	10	6.7	13.4	0.89
	11N	15	15	3.6	11.0	0.39
O	9N	15	15	9.6	20.1	1.93
	10N	20	20	12.1	17.8	2.25
	11N	25	20	5.0	8.2	0.41
Q/ 400	3N	12.5	10	3.0	6.2	0.19
	4N	25	17½	5.5	12.8	0.7
	5N	25	15	3.8	14.6	1.3
	6N	23.8	10	5.2	8.3	0.4
	7N	28.9	25.0	3.4	27.4	0.9

% M = % Monazite
#Conc. = pounds heavy mineral concentrate
M = pounds Monazite.


Allen County
Courthouse Building
Line of Report
Township Boundaries
Drill Hole Coordinates
Original "P" Line
Storm Drainage Flood
Chas. Hammond
Mamie Kemp
Kemp Creek
Arthur Curran
Kemp Creek
Saint
Marchant's Greenhouse
Horse Creek
Lighted
United Merchants (Rolls)
Line of Report
OR-7H 88
N

COPY

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 250' S of R. R. DATE START 10/4/52 2:30 p.m.

LINE NO. B HOLE NO. 1 S FINISH 10/6/52 11:00p.m.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/UM	#Conc. / ton	#M/ ton
1A	2½	13	6	7	42.6	4.0		0	neg.				
1B	5	36	6	29	17.5	23.9		27.9	neg.	94.7	5.0	15.0	0.8
						27.9							
2A	7½	70	6	64	15.0	54.4							
2B	10	66	6	60	10.5	53.6	Trace	68	40	Midd 283.7 1005.06	0 7.0	41.0	2.8
						108.0							
3	12	72	6	66	14.9	56.1		48.6	7.5	61.1	5.0	4.8	0.2
							Average 12' depth				6.1	26.4	1.6
								10' depth			6.6	35.6	2.4

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION Next to R. R. Track DATE START October 6, 1952 1 p.m.

LINE NO. B HOLE NO. 2 S FINISH October 7, 1952 1:30 p.m.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	54	6	48	14.7	41							
1B	5	39	"	33	11.6	29.2		55	Trash 15	244.7	3.8	15.5	0.6
						70.2							
2A	7½	64	"	58	16.0	48.8				62.7	1.8	5.67	0.1
2B	10	115	"	109	16.6	90.8		71.8	19	466.8	7.5	21.75	1.6
3A	12½	76.5	"	70.5	13.3	61.1	33			493.7	12.8	35.6	4.5
3B	15	65	"	59	9.3	53.5				665.3	11.5	54.8	6.3
4A	17½	92.5	"	86.5	13.8	74.5	9	42.5	23	589.3	4.7	34.8	1.6
4B	20	83	"	75	15.9	64.8			-	123.1	2.9	8.4	0.2
									Average Hole		6.4	25.0	1.6

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 200 ft. to R. R. DATE START October 8, 1952 9:30 a.m.

LINE NO. G HOLE NO. 1 North FINISH 4:00 p.m.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14		Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	38	6	32	32.7	21.5	Trash		Trash				
1B	5	36	6	30	22.1	23.4	"		"	132.5	2.3	13	0.3
						44.9							
2A	7½	81	6	75	22.0	58.5	"	50.5	8.0				
2B	10	96	6	90	17.4	74.4	"	58.4	16	583.3	1.8	19.4	0.3
						132.9							
3A	12½	96	6	90	16.5	75.2	5.8	40.9	28.5				
3B	15	92	6	86	13.6	74.2	23	32.2	19	962.2	4.3	28.4	1.2
						149.4							
4A	17½	110	6	104	18.4	84.9	3.8	64.1	17	237.3	2.2	12.3	0.3
4B	18½	94	6	88	17.7	72.3	3.8	51.5	17	369.7	5.3	22.5	1.2
						157.2							
5A	20	48	6	42	12.5	36.8	Mostly clay lumps	20.8	16	132.5	3.0	15.9	0.5
						For 20'			AVERAGE		3.2	20.4	0.6

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 400' N of R R START 11:30 a.m. DATE October 9, 1952

LINE NO. G +/ 480 HOLE NO. 2 N FINISH 2:00 p.m. October 10, 1952

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	41	6	35	22.9	27		24	Trash 3				
1B	5	38	6	32	31.9	21.8		18	clay 3.5	178.4	6	16.2	.98
						48.8							
2A	7½	43	6	37	28.4	26.5	3.5		16				
2B	10	136	6	130	16.6	108.3		94	20	269.1	10.3	8.8	.90
						134.8							
3A	12½	70.5	6	64.5	16.7	53.6							
3B	15	49	6	43	19.3	34.8	8	59	21	444.5	6.3	22.2	1.4
						88.4							
4A	17½	81	6	75	20.4	59.7	tr	54	6				
4B	20	71	6	65	16.5	54.3	5	23	26	188.5	5.6	7.3	0.4
						114.0							
5A	22½	109	6	103	16.8	85.6				Midd 183.2	0	5.2	
5B	25	79	6	73	17.3	60.4	3	106	37	165.2	13	5.0	0.7
						146.0							
							AVERAGE		25ft.		9.0	10.3	0.9

12/17/52 gla

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Knoxville WASHINGTON 25, D.C. Tennessee
Room 1, Post Office Building
December 11, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 15 1952

Memorandum

To: G.C. Selfridge, Chief, Iron and Ferro-Alloy Div.

Thur: Operating Committee, DMEA

From: Acting Executive Officer, DMEA-Region 7

Subject: Callahan Zinc-Lead Co. (An Arizona Corp.) DMEA-2576, Idm-E392. Monazite, Columbium-Rutile.

Enclosed are copies of the Drill and Laboratory logs on the holes drilled by the subject company during October 1952.

Wm. A. Beck

Wm. A. Beck

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No. October 4, 1952 DATE

LOCATION 250 ft from RR South START Oct. 4 2:30 p.m

LINE NO. B2 HOLE NO. 1S FINISH Oct. 6 11:00 A.M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1	2½	6½	0	2	good	b+s	mud + S. loose
1	5	18	0	2½	Excell.	yellow	Some mud + wood loose
2	7½	45	11	4	"	"	S + gravel loose
2	10	43	8	3	Good	"	S + g - sm. Cl.
3	12	41	4	4	poor	white	white C. + Cl. tight

Total Depth 12 Ft. Bedrock 0 ft. Water Level 0 ft.

Victor Cato
Panner

Jmm
In Charge

Sample bucket is #1 Inb. Dia. 17½"

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No. Oct. 6, 1952 DATE

LOCATION Next to RR Track South START Oct. 6 1:00 P.M.

LINE NO. B HOLE NO. 25 FINISH Oct. 7 1:30 P.M.

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1	2½	6	0	3		B + yellow.	mud + S. loose
1	5	15	0	2	good	yel.	S and some Cl.
2	7½	35	0	4	Excel.	"	" " " "
2	10	19½	0	5	"	"	S + some Cl.
3	12½	32	7	4	"	Wh. & yel.	S + some gravel tight
3	15	41	11½	3½	"	" + "	" " " "
4	17½	50	4	4	good	white	" " " "
4	20	47	0	4	poor	white	" " " "

Total Depth 20 Ft. Bedrock ~~XX~~ ft. Water Level -10 ft

Victor Cato
Panner

J M M
In Charge

Sample bucket is #1 Jab 17½" dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No. October 8, 1952 DATE

LOCATION 200 ft. to RR START Oct. 8. 9:30 A.M

LINE NO. G HOLE NO. 1 N FINISH 4:00 P.M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2 1/2	11	0	2		Blk	Mud, S + some wood-loose
1 B	5	9	0	2 1/2		"	" " " " "
2 A	27 1/2	27	0	4 1/2	good	white	" " " " "
2 B	10	46 3/4	31	4 1/2	Excel.	"	" " " " "
3 A	12 1/2	54	15	4	"	"	S. some gravel-Tight
3 B	15	49	5	4 1/2	"	"	" " " "
4 A	17 1/2	51	7	5 1/2	good	"	" " " "
4 B	18 1/2	51	20	4 1/2	"	"	" " " "
5 A	20	39	21	3	Poor	"	Sand Clay

Total Depth 20 Ft. Bedrock - ● ft. Water Level -1 ft

Victor Cato
Panner

Jmm
In Charge

Sample bucket is #1 Jub 17 1/4" Dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 400 ft. N. of PR. on H line START Oct. 9 (DATE) 11:30 A M

LINE NO. G+480 ft. HOLE NO. 2 N FINISH Oct. 10, 2:00 P. M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	5	0	3	good	Blk.	S and mud - loose
1B	5	30	4	2	poor	Yellow	S and clay sticky - tight
2A	7½	33	0	1½	"	White	Clay - sticky - tight
2B	10	23	0	6	Excel.	"	S - tight
3A	12½	35	4	4	"	"	S + gravel - tight
3B	15	35½	11	3	"	"	" " "
4A	17½	49	6	4	"	"	" " "
4B	20	41	2	4	"	"	S + some clay - tight
5A	22½	63	7	5	good	"	S - tight
5B	25	52	4	4	"	"	S and clay bottom - tight

Total Depth 25 Ft. Bedrock ft. Water Level - 6 ft.

Victor Cato
Panner

[illegible]
In Charge

Sample bucket is #1 Jub. 17¼" Dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 600 ft. N. of RR on G line START 8:30 A.M DATE Oct. 13, 1952

LINE NO. G + 480 ft HOLE NO. 3 N FINISH 8:00 A.M Oct. 15, 1952

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2 1/2	11	6	3 1/2	good	Blk.	S. mud, grass roots + clay-tight
1 B	5	18	0	1	poor	White	S. + sticky clay-tight
2 A	7 1/2	30 1/2	0	3	Excel.	"	S. - tight
2 B	10	39	0	5	"	"	S. + gravel - loose
3 A	12 1/2	33	2	3 1/2	"	Wh. + Br.	S. + gravel - tight
3 B	15	41	4	4 1/2	"	"	S. + some sticky clay - tight
4 A	17 1/2	47	6	4 1/2	"	"	S. - tight
4 B	20	94 1/2	2	4 1/2	Good	"	S - tight
5 A	22 1/2	43	0	4	Poor	"	S. + some white clay - tight
5 B	25	30	0	3	Poor	"	S. and some clay - tight

Total Depth 25 Ft. Bedrock - ● ft. Water Level - 6 ft.

Victor Cato
Panner

J M M
In Charge

Sample bucket is #1 Jab 17 1/4" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 800 ft. N. of RR on G line DATE START 10:00 AM. Oct. 15, 1952

LINE NO. G+488 ft. HOLE NO. 4 N FINISH 12 noon Oct. 16

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	6	3	2	Poor	Blk.	Topsoil-roots-loose
1B	5	8	below	4	Excel.	Wht.	S + some gravel-loose
2A	7½	34	6	4½	"	Br.	S + gravel - tight
2B	10	44	8	4	"	Br. & White	S and gravel - tight
3A	12½	48¼	5	5	"	Wht	S, clay + some gravel - tight
3B	15	43	3½	4	"	"	" " " " "
4A	17½	51½	3	4	Poor	"	" " " " "
4B	20	31	4	2½	good	"	S and Clay - tight
5A	22½	43½	4	4	"	"	" " " "
5B	25	42	0	4	"	"	" " " "
6A	27½	54½	0	5	"	"	S - tight
6B	30	37	5	6	good	white	~~S + some clay - tight~~
7A	32½	60	8.	6½	good	white	S. some clay + gravel - tight
7B	35½	53½	8	4	good	white	S. some clay + gravel "

Total Depth Ft. Bedrock ft. Water Level

Panner

JMM

In Charge

Sample bucket is #1 Jub 17½" Dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1000 ft. N of R.R. on G line START 3:30 p.m. DATE Oct. 16, 1952

LINE NO. G + 480 ft HOLE NO. 5N FINISH 1:00 P.M Oct. 17.

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	8	0	3	poor	Blk.	Mud + S. - loose
1B	5	20	0	4½	Good	Br	Brown fine S - loose
2A	7½	36	0	4½	Excel.	Br.	S. + some gravel - tight
2B	10	36	10	6	"	Br.	S + " " + clay - tight
3A	12½	43½	3	4½	"	"	S. + some gravel - tight
3B	15	39½	6	3	Good	Wht.	S - 3" of clay - tight
4A	17½	47	5	3½	Poor	"	S. + Clay - tight
4B	20	44	4	4½	"	"	S + Clay - "
5A	22½	52	0	4	"	"	S + Clay - tight

Total Depth 22½ Ft. Bedrock ● ft. Water Level 3 ft.

Victor Cato
Panner

J M M
In Charge

Sample bucket is #1 Jab. 17¼" Dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1150 ft. N. of RR. of G line DATE START Oct. 17, 1952. 2:00 p.m.

LINE NO. G + 480 ft HOLE NO. 6 N FINISH

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	8	0	3	poor	Bek	Roots - Topsoil + S. loose
1B	5	16	3	3	good	Wh + Bl	S + mud - loose
2A	7½	38½	0	4	excel.	Brn	S, gravel + Wood - loose
2B	10	21½	0	4½	good	Wht.	S - tight
3A	12½	35½	3	4	poor	"	S + clay - tight
3B	15	30	0	7	"	"	S + clay.

Total Depth 15 Ft. Bedrock ft. Water Level -7 ft

Victor Cotto
Panner

JMM
In Charge

Sample bucket is #1 Jub 17¼" Dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 600 ft. N. of RR

DATE

START 11:00 A.M. Oct. 18, 1952

LINE NO. K+ 820 HOLE NO. 4 N

FINISH 8:30 p.m Oct. 20.

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	10	0	2	Poor	Blk	mud + S wood - loose
1B	5	13	3	2	"	"	" " " " "
2A	7½	21	0	3	good	Wht.	S - loose
2B	10	25½	0	4	"	Brn	S. small clay balls - tight
3A	12½	47	10	5	Excel	Brn.	S. small clay ball + gravel "
3B	15	42½	0	3	poor	Wht.	S - mica or clay - tight

Total Depth 15 Ft. Bedrock ft. Water Level

Victor Cotto
Panner

[illegible]
In Charge

Sample bucket is #1 tub 17¼" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 800 ft. N of RR

DATE

START 9:30 A.M Oct. 20, 1952

LINE NO. K-820 ft HOLE NO. 5 N

FINISH 2:30 p.m. Oct 20

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	6	0	4	good	lgt.	S. + some clay - tight
1B	5	20	0	3½	"	"	S. + clay - tight
2A	7½	23	0	4	Excel.	"	S + gravel - tight
2B	10	23½	0	2	"	"	" " "
3A	12½	26	0	4½	"	lgt & white	yellow sand - tight
3B	15	23	0	3½	"	" "	S. + gravel - tight
4A	17½	33	0	4½	"	" "	" "
4B	20	41	9	2½	"	white	S. + clay - tight

Total Depth 20 Ft. Bedrock ft. Water Level -12 ft

Victor Cats
Panner

JMM
In Charge

Sample bucket is #1 Lab. 17½" Dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1000 ft. N. of RR

LINE NO. K+820 HOLE NO. 6 N

DATE

START 7:30 A.M.

FINISH 1:30 P.M. Oct. 21, 1952

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2½	12	0	4	Poor	yel	Clay & S. - tight
1 B	5	21	0	2½	"	"	" " "
2 A	7½	29	0	4	Excel.	Brn	S. & Gravel - tight
2 B	10	39	0	4	"	Br & Wh	S. & " some clay - tight
3 A	12½	37	0	4	"	wht	S. and gravel - tight
3 B	15	39	0	4	good	"	" " " "
4 A	17½	45	0	4	poor	"	" " " "

Total Depth 17½ Ft. Bedrock ft. Water Level -12 ft

Victor Cato
Panner

In Charge

Sample bucket is #1 Jub - 17½ dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1300 ft. N of RR

DATE

START 7:30 A.M. Oct. 22, 1952

LINE NO. M + 500 HOLE NO. 8 N

FINISH 2:30 P.M. Oct. 22

SAMPLE NUMBER	Depth Feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2½	22	0	2	Good	Bl & White	Mud + S. - loose
1 B	5	18	0	2	Poor	wht	S, some clay-wood - loose
2 A	7½	24	0	3	"	Wh. + Br.	" " gravel - loose
2 B	10	23	0	3½	"	Wht.	" and mica - "
3 A	12½	37	0	4	"	"	" " gravel, "
3 B	15	42	0	4	"	"	" " " "
4 A	17½	56	12	4	good	"	S, " Clay, Tight
4 B	20	44	0		Poor	"	" " " "

Total Depth 20 Ft. Bedrock ft. Water Level

Victor Cato
Panner

JMM
In Charge

Sample bucket is #1 tub 17¼" dia

LABORATORY LOG

DRILL LOG TRACT *Horse Creek* SH. NO. _____

DATE

LOCATION _____ START _____

LINE NO. *D* HOLE NO. *3N* FINISH _____

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	+6 Mesh	+16	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	61	6	55	27.8	39.7							
1B	5	28	6	22	18.5	17.9	Trash	36	21	62.7	4.5	4.8	0.2
						57.6							
2A	7½	68	6	62	18.3	50.6							
2B	10	101	6	95	14.6	81.1	6	105	20	389.7	11.3	13.1	1.5
						131.7							
3A	12½	90	6	84	13.2	73.8							
3B	15	77	6	71	17	59.	35	60	38	823.2	7.0	27.4	1.9
						132.8							
4A	17½	81	6	75	18.5	61.	Trash	48	13	77.9	2.6	5.6	0.15
4B	20	107	6	101	20.3	80.5	"		13	35.5	4	1.9	0.08
5A	22½	75	6	69	17.6	59.8	Trash	30	29				
5B	25	55	6	49	19.3	39.6	"	28.6	11	40.6	Dr	1.8	Dr
						99.4							
					Average		17.5 ft				7.4	15.6	1.15

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LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 800 ft. N of RR on G line START 10/15/52 (DATE) 10 AM

LINE NO. G HOLE NO. 4 N FINISH 10/16 12 NOON

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	30	6	24	34.8	15.6							
1B	5	95	6	89	16.9	74			2	436.0	6.6	21.4	1.4
						89.6							
2A	7½	101	6	95	14.5	81.3							
2B	10	82	6	76	19.8	61.	8½		54	815.3	5.1	25.3	1.3
						142.3							
3A	12½	96	6	90	16.1	75.5				middl (415.1	0	13.6	—
3B	15	76	6	70	16.3	58.6			46	550.6	7.9	23.2	1.9
						134.1							
4A	17½	87	6	81	15.6	68.3	5		31	149.8	3.7	9.7	0.4
4B	20	65	6	59	16.3	49.4	Dr		19	240.3	1.1	21.4	0.2
5A	22½	78	6	72	12.5	63	5.5		25	253.1	Dr	17.6	—
5B	25	96	6	90	15.	76.5	1		14	107.2	1.5	6.2	0.09
6A	27½	110	6	104	16.2	87	Dr		14				
6B	30	88	6	82	17.4	67.6			13		2.3	3.3	0.07
						154.6							
7A	32½	not run											
7B	35	not run											
					Average to 17½ ft.						6.1	19.8	1.2

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1000' N of RR – on H line START Oct. 16, 1952 3:30 PM (DATE)

LINE NO. H HOLE NO. 5 N FINISH Oct. 17, 1952 11:00 PM

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	−14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	52	6	46	32.6	31.0							
1B	5	91	6	85	19.2	68.6		82.6	Trash 17	298.0	8.1	13.2	1.1
						99.6							
2A	7½	78	6	72	17.2	59.6							
2B	10	128	6	122	15.2	103.5	10	115	38	969.0	6.4	26.2	1.7
						163.1							
3A	12½	87	6		14.6		11	29	29				
3B	15	60	6		16.3		3	31	10				
4A	17½	73	6	67									
4B	20	73	6	67				88		210.9	3.6		
5A	22½	97	6	91									
				Average 20 ft.							6.1	20.2	1.2

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1150' N of RR START 2 PM DATE 10-17-52

LINE NO. 2 HOLE NO. 6 N FINISH 1 PM 10-18-52

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-16	+16	Wt. blk. Conc. grams	O/CM	#Conc. / ton	#M/ ton
1A	2½	59	6	53	36.5	33.6							
1B	5	75	6	69	17.0	57.3	Dr	66	35	252.0	13.9	12.2	1.7
						90.9							
2A	7½	85	6	79	20.4	63							
2B	10	83	6	77	18.8	62.5	3	90	32	323.2	11.6	11.4	1.3
						125.5							
3A	12½	55	6	49	15	41.6	½	29	12				
3B	15	125	6	119	18.7	96.7				250.4	5.4	8.0	0.4
						138.3							
					Average				15 gt		9.8	10.3	1.0

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 600' N of RR START 11 AM DATE Oct 18, 1952

LINE NO. K + 600 HOLE NO. 4N FINISH 8:30 AM Oct. 20, 1952

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	24	6	18	27.4	13							
1B	5	29	6	23	26.4	16.9	Tr	24	6	135.3	4.6	20.0	0.9
						29.9							
2A	7½	37	6	31	19.3	25	2	7	16				
2B	10	80	6	74	18.7	60	Tr	44	16	285.2	3.4	14.8	0.5
						85							
3A	12½	100	6	94	15.7	79.2	3	57	19				
3B	15	87	6	81	21.8	63.3		46	17	417.7	6.1	12.9	0.8
						142.5							
					Average 15 ft						5.0	14.4	0.7

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 800' N of RR START DATE 10/20/52 9:30 AM

LINE NO. K HOLE NO. 5 N FINISH 10/20 2:30 P.M

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	83	6	77	21.4	60.5	Trash		6				
1 B	5	57	6	51	23.1	39.2	Trash		14	281.12	3.9	12.45	0.48
						99.7							
2 A	7½	73	6	67	16.0	56.3							
2 B	10	55	6	49	16.7	40.8	7		27½	501.6	8.6	22.8	1.96
						97.1							
3 A	12½	115	6	109	18.8	88.5							
3 B	15	61	6	55	17.0	45.6	8		22	687.2	6.8	22.8	1.57
						134.1							
4 A	17½	69	6	63	18.1	51							
4 B	20	43	6	37	18.5	29.8			29	103.4	5.8	5.67	0.33
						80.8							
					Average 20 ft.						6.8	16.8	1.16

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1000' N. of RR DATE START Oct. 21, 1952 7:30 AM

LINE NO. K+820 HOLE NO. 6N FINISH Oct. 21 1:30 pm

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	81	6	75	19.6	60.3							
1 B	5	45	6	39	19.0	31.6	2 rock		30	119.3	6.2	5.72	0.35
						91.9							
2 A	7½	66	6	60	16.1	50.3							
2 B	10	54	6	48	11.5	42.4	9		30	442.5	6.7	21.1	1.43
						92.7							
3 A	12½	71	6	65	16.4	54.3							
3 B	15	68	6	62	19.1	50.2	8		43	250.8	3.8	10.6	0.4
						104.5							
4 A	17½	99	6	93	17.0	77.2	6		17	138.7	4.5	7.8	0.35
					Average 15 ft.						5.5	12.4	0.7

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1300 ft. N of RR DATE START 10-22-52 7:30 AM

LINE NO. M + 500 HOLE NO. 8 N FINISH 2:30 P.M.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14		Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	35	6	29	23.6	22.2	2		12				
1 B	5	42	6	36	16.0	30.2				287.2	8.2	24.0	1.96
						52.4							
2 A	7½	59	6	53	16.3	44.4							
2 B	10	47	6	41	18.6	33.4	3		13	196.7	8.3	11.1	.91
						77.8							
3 A	12½	72	6	66	17.3	54.6	½		20				
3 B	15	69	6	63	15.7	53.1	½		18½	160.0	8.5	6.5	.55
						107.7							
4 A	17½	83	6	77	18.0	63.2							
4 B	20	51	6	45	17.0	37.3	1		62	72.2	5.2	3.1	.16
						100.5							
						Average 15 ft.					8.4	12.0	1.0

LABORATORY LOG

DRILL LOG TRACT *Horse Creek* SH. NO.

LOCATION *1,500 ft. N of RR* START *10/22/52* DATE *3:00 P.M.*

LINE NO. *M + 500* HOLE NO. *9 N* FINISH *10/23* *1:30 P.M.*

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	55	6	49	36.4	31.2							
1 B	5	67	6	61	13.4	52.5	4		18	261.1	3.3	13.7	0.45
						83.7							
2 A	7½	58	6	52	16.0	43.7							
2 B	10	77	6	71	18.2	58.0	4½		20	301.3	3.3	13.1	0.43
						101.7							
3 A	12½	75	6	69	17.0	57.2							
3 B	15	71	6	65	13.2	56.4	7		32	194.8	3.3	7.6	0.25
						113.6							
4 A	17½	105	6	99	21.3	77.8	3		17				
4 B	20	107	6	101	19.5	81.2	2½		15	555.5	3.3	15.4	0.51
						159.0							
5 A	22½	162	6	156	25.0	117.0							
5 B	25	78	6	72	22.9	55.5	8		39	495.2	4.8	12.7	0.61
						172.5							
					Average 25 feet						3.7	12.6	0.47

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1700 ft. N of RR START 10-23-52 (DATE) 3:00 pm

LINE NO. M + 500 HOLE NO. 10 N FINISH 10-24-52 2:00 pm

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	57	6	51	29.4	36.0							
1 B	5	39	6	33	15.0	28.0			19	300.00	8.5	20.6	1.65
						64.0							
2 A	7½	52	6	46	18.7	37.4							
2 B	10	54	6	48	19.2	38.8			14	127.1	2.3	7.35	0.17
						76.2							
3 A	12	57	6	51	17.8	41.8							
3 B	15	71	6	65	19.2	52.6			27	152.8	2.5	7.2	0.18
						94.4							
4 A	17½	95	6	89	19.0	72							
4 B	20	141	6	135	20.6	107.5½			41	157.6	2.4	3.9	0.09
						179.5							
5 A	22½	121	6	115	25.8	85.2			28	97.3	2r		
					Average	10 ft.					6.7	13.4	0.89

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1900 ft N. of RR START 10/24/52 (DATE) 3:15 PM

LINE NO. M+500 HOLE NO. 11 N FINISH 10/25/52 9:30 AM

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	43	6	37	23.2	28.4			10				
1B	5	49	6	43	22.8	33.2				154.3	4.3	3.1	0.13
						61.6							
2A	7½	44	6	38	15.8	31.9	5½		15	273.3	4.9	15.5	0.76
2B	10	61	6	55	17.4	45.4							
						77.3							
3A	12½	80	6	74	21.0	58.5			40	227.5	1.5	8.1	0.12
3B	15	86	6	80	17.5	66.0							
						124.5							
						Average			15 ft		3.6	11.0	0.39

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1600 ft. N of RR START DATE 10-25-52 11:30 A.M.

LINE NO. 0 HOLE NO. 9 N FINISH 10-25-52 3:30 P.M.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A+ 1B	5					test 19.0	–		–	21.1	2.1	5.0	0.10
2A	7½	56	6	50	16.2	41.9							
2B	10	61	6	55	14.8	46.8	20		21	712.1	10.0	35.4	3.54
						88.7							
3A	12½	67	6	61	15.3	51.7							
3B	15	70	6	64	15.1	54.3	5		33	242.0	9.0	10.0	0.9
						106.0							
					Average 15 ft.						9.6	20.1	1.93

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 1800 ft. N. of RR DATE START 10/27/52 7:30 A.M

LINE NO. 0 HOLE NO. 10 N FINISH 10-27-52 11:30 A.M

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	64	6	58	18.7	47.2							
1B	5	34	6	28	19.1	22.7			19	102.4	1.7	6.8	0.11
						69.9							
2A	7½	62	6	56	16.5	46.7							
2B	10	66	6	60	22.9	46.2			28	239.2	11.0	11.3	1.24
						92.9							
3A	12½	58	6	52	17.3	43.0							
3B	15	74	6	68	17.6	56.0	2		12	774.3	16.0	34.5	5.52
						99.0							
4A	17½	65	6	59	18.3	48.2							
4B	20	22	6	16	22.0	12.5			18	200.0	4.1	14.5	0.59
						60.7							
					Average 20 ft						12.1	17.8	2.25

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 2,000 ft. N of RR START 10-27-52 DATE 1:30 pm

LINE NO. 0 HOLE NO. 11 N FINISH 10-28-52 10:30 A.M

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	78	6	68	20.3	54.1							
1 B	5	47	6	41	22.2	31.9			24	281.5	1.9	14.4	0.27
						86.0							
2 A	7½	41	6	35	15.3	29.6							
2 B	10	52	6	46	18.9	37.3			29	62.9	3.7	4.14	0.15
						66.9							
3 A	12½	32	6	26	42.7	14.9							
3 B	15	53	6	47	15.3	39.8			–	138.5	11.3	11.1	1.26
						54.7							
4 A	17½	59	6	53	19.1	42.8				71.5			
4 B	20	65	6	59	17.9	48.4			14		6.6	3.4	0.23
						91.2							
5 A	22½	106	6	100	19.4	80.6	½		12	69.9	3.0	3.7	0.11
5 B	25	82	6	76	19.1	61.5			18	78.4	5.0	2.4	0.13
						142.1							
					Average	20 ft.					5.0	8.2	0.41

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 400 ft. N of RR START 10/31/52 10:30 AM

LINE NO. G + 400 HOLE NO. 3 N FINISH 10/31/52 1:30 P.M.

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	57	6	51	14.1	43.7							
1B	5	99	6	93	19.0	75.3	3	88	28	164.3	2.9	6.1	0.18
						119.0							
2A	7½	71	6	65	19.3	52.5							
2B	10	51	6	45	17.6	37.1	½	50.1	39	129.6	3.2	6.3	0.2
						89.6							
3A	12½	22	6	16	24.3	12.1			5	trace			
					Average				10 ft		3.0	6.2	0.19

LABORATORY LOG

DIST. TYC TRACT Horse Creek SH. NO.

LOCATION 600 ft N. of RR START 10/28/52 (DATE) 2:00 p.m.

LINE NO. 9 + 400 HOLE NO. 4 N FINISH 10/29 10:30 AM

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1A	2½	83	6	77	19.5	62							
1B	5	36	6	30	38.8	19.9			28	295.2	8.0	15.8	1.26
						81.9							
2A	7½	42	6	36	56.7	15.6							
2B	10	60	6	54	19.0	43.7			24	154.5	4.6	11.5	0.53
						59.3							
3A	12½	61	6	55	16.0	46.2			9				
3B	15	53	6	47	17.5	38.8			9	272.0	5.8	14.1	0.82
						85.0							
4A	17½	97	6	91	19.2	73.5							
4B	20	154	6	148	16.8	123.5			48	599.6	5.5	13.4	0.74
						197.0							
5A	22½	66	6	60	19.5	48.2			4	134.4	6.4	12.3	0.78
5B	25	101	6	95	19.1	76.8			13	147.2	5.8	8.4	0.49
					Average 17½ ft.						5.55	12.8	0.71

Note: 1A and 1B not included in Average (5 ft. in fill)

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 800 ft. N. of RR START DATE 10/29/52 11:00 AM

LINE NO. 9 + 400 HOLE NO. 5N FINISH 10/30 10:30 AM

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
3A	12½	77	6	71	19.0	57.4							
3B	15	116	6	110	17.7	90.6	½		39	456.3	10.4	13.5	1.41
						148.0							
4A(1)	17½	86	6	80	18.5	65.2							
4A(2)		86	6	80	18.0	65.6	8		30	451.1	11.0	15.1	1.66
						130.8							
4B	20	87	6	81	18.0	66.3	2		13	280.1	5.0	18.6	0.93
5A	22½	79	6	73	18.7	59.3	½		10	148.1	4.7	11.0	0.52
5B	25	24	6	18	18.0	14.7			3	23.9	7.3	7.1	0.52
							Average			15 ft.	8.8	14.6	1.28

Note: Samples 1A thru 2B in fill.
1st 1.0 ft not included

LABORATORY LOG

DRILL LOG TRACT Horse Creek SH. NO.

LOCATION 950 N of RR START 10-30-52 DATE 11:30 AM

LINE NO. G + 600 HOLE NO. 6 N FINISH 10-31-52 8:30 AM

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-4 +14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
3A	12½	58	6	52	22.6	40.2							
3B	15	84	6	78	24.4	58.9			25	130.3	4.8	5.8	0.27
						99.1							
4A	17½	68	6	62	19.2	50.0			27				
4B	20	61	6	55	18.5	45.0	3½			236.6	5.6	11.0	0.62
						95.0							
5A	22½	82	6	76	16.8	63.2							
5B	23'10"	34	6	28	19.4	22.6	2		18	84.1	9.1	4.3	0.39
						85.8							
					Average 10 ft.						5.2	8.3	0.43

note: Samples 1A thru 2B in fill
1st 10 ft. not included

LABORATORY LOG

DRILL LOC TRACT *Horse Creek* SH. NO.

LOCATION START *10-31-52* DATE *2:15 PM*

LINE NO. *G + 400* HOLE NO. *7N* FINISH *11-3-52* *1:30 p.m.*

No.	Depth	Net Weight Gross	Tare	Net	Moist. %	Dry wt.	Wt. samp. lb. Mesh +4	-14	+14	Wt. blk. Conc. grams	O/OM	#Conc. / ton	#M/ ton
1 A	2½	46	6	40	20.4	31.8							
1 B	5	28	6	22	18.3	18.0			6	176.8	3.3	15.6	0.5
						49.8							
2 A	7½	47	6	41	20.0	32.8							
2 B	10	45	6	39	20.8	38.8			19	105.6	1.5	6.5	0.09
						71.6							
3 A	12½	62	6	56	20.6	44.5							
3 B	15	118	6	112	18.4	91.5			27	776.7	3.3	25.2	0.8
						136.0							
4 B	20	127	6	121									
4 A	17½				17.2	100	7			921.5	5.0	40.4	2.0
5 A	22½	74	6	68	12.9	59.2	14		27	771.4	4.1	57.4	2.3
5 B	25	67	6	61	17.2	50.5	2		15	160.2	2.8	14	0.3
6 A	27½	86	6	80	15.2	67.8	2		20	136.9	3.8	8.9	0.3
6 B	28'11"	not Sampling - Hard clay											
						Average 25.0 ft.					3.4	27.4	0.9
	Totals			25 ft.		467.7	23			2912.2			
						+ 4M = 4.8%							

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 2000 ft. N of RR. DATE START Oct. 27, 1952 1:30 PM

LINE NO. 0 HOLE NO. 11 N FINISH Oct. 28 10:30 P.M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2 1/2	23	6	3	poor	yellow	Sand and clay - tight
1B	5	26	3	3	"	Red	" " " "
2A	7 1/2	31	9	2 1/2	"	"	" " " "
2B	10	43	5	3	"	"	" " " "
3A	12 1/2	27	3	3	"	"	" " " "
3B	15	31	0	3 1/2	Good	Red + wht	Wht sand + red clay - tight
4A	17 1/2	33	5	3	poor	wht.	" " + some white clay
4B	20	38	5	3	"	"	wht. + yellow sand - tight
5A	22 1/2	43 3/4	0	4	"	"	white sand - tight
5B	25	40			"	"	white sand + white clay - tight

Total Depth 25 Ft. Bedrock ft. Water Level

Victor Cola
Panner

Jonson
In Charge

Sample bucket is #1 tub - 17 1/4" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 400 ft. N of RR

DATE START Oct. 31, 1952 10:30 A.M.

LINE NO. Qf 400 ft HOLE NO. 3 N

FINISH Oct. 31 1:30 P.M.

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2 1/2	16	6	3 1/2	poor	Blk	S. & some Clay - loose
1 B	5	18	0	4 1/2	"	Wht	S. - loose
2 A	7 1/2	38	5	4	good	"	S. & some clay - loose
2 B	10	37	12	3 1/2	good	"	S. & some clay - tight
3 A	12 1/2	22	0	2	none	Wht	Ace white Clay - "

Total Depth Ft. Bedrock ft. Water Level

Victor Cato
Panner

GMM
In Charge

Sample bucket is #1 Jub 17 1/4" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 600 ft. N. of RR

DATE

START Oct. 28, 1952 2:00 P.M

LINE NO. G. + 400 ft HOLE NO. 4N

FINISH Oct 29. 10:30 A.M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	6	0	3½	Excel.	Brn + wht	White sand + some clay - loose
1B	5	6	0	3	None	mud	S, mud + some clay + wood "
2A	7½	35	0	3	"	"	mud - loose
2B	10	35	0	3	poor	"	mud + sand - loose
3A	12½	27	4	3	good	wht.	White sand, some gravel, tight
3B	15	32	0	3	"	"	" " balls of clay - "
4A	17½	38	0	4½	"	Brn	Brn. sand + some gravel "
4B	20	30	5	7	"	Brn. + wht	" " + some clay - "
5A	22½	34	24	4½	"	" "	Brn - sand - tight
5B	25	72	0	5	poor	white	White sand - pumped 22 24"

Total Depth 25 Ft. Bedrock ft. Water Level

V. C.
Panner

[illegible]
In Charge

Sample bucket is #1 tube 17¼" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 800 ft. N. of RR

DATE

START Oct. 29 11:00 AM

LINE NO. 9 f 400 ft HOLE NO. 5N

FINISH " 30 10:30 AM

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	19	0	3½	good	Wht.	Sand - loose
1B	5	18	2	2½	"	"	S. wood + parts of brick - loose
2A	7½	17	8	2	"	"	" " " " "
2B	10	22	0	2	wood	Wood	" " " " "
3A	12½	25	0	4	good	Wht. + Brn	S. gravel + wood, tight
3B	15	48	24	6	"	Wht	S. run-in - loose
4A	17½	62	12	4+4	"	"	Sand, gravel - Sent full sample
4B	20	53	9	5	"	"	" " Somewhat clay - tight
5A	22½	51	9	4	Fair	"	" " " " " "
5B	25	51	36	1½	poor	"	Some S. + wht Clay bottom
		First 10 ft. was fill (dumped aside)					

Total Depth 25 Ft. Bedrock ft. Water Level

Victor Colo
Panner

In Charge

Sample bucket is #1 Tub 17¼" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 950 ft. N of RR

DATE

START Oct. 30, 1952 · 11:30 A M

LINE NO. E/ 600 ft HOLE NO. 6 N

FINISH " 31 8:30 A M

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	9	0	3	poor	Blk	mud + S - loose
1B	5	18	0	4	"	yel	S - loose
2A	7½	28	0	4	"	"	" "
2B	10	39½	5	4	"	"	S., wood - old fill - loose
3A	12½	35	6	3½	"	Blk & Wht	mud + S. tight
3B	15	42½	14	4	"	Blk	" + S. wood - tight
4A	17½	68	5	4	"	Wht	wht. S (dumped 2 ft) clay - tight
4B	20	39½	8	4	good	"	S. some gravel + white clay "
5A	22½	53	8	4	"	"	" " " " "
5B	23'10"	22	10	1	poor	"	S. + clay tight

Total Depth Ft. Bedrock ft. Water Level

V. C
Panner

J. M.
In Charge

Sample bucket is #1 tub 17¼" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION

DATE

START 2:15 p.M. Oct. 31, 1952

LINE NO. 8 HOLE NO. 7

FINISH 1:30 P.M. Nov. 3, 1952

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	10	0	2½	Poor	Brn.	S. + small gravel - light
1B	5	10	0	1½	"	"	S + mud + tree roots "
2A	7½	25	0	2	"	Blk	S. + Blk mud "
2B	10	29	6	3	"	"	" " "
3A	12½	33	4	4	"	White	white sand " "
3B	15	25	5	5	Excel.	Wht + Brn	S "
4A	17½	45	5	7	"	Brown	Coarse S "
4B	20	32½	5	5	"	"	Coarse S + some gravel "
5A	22½	37	5	3½	"	Brn + White	" " " " "
5B	25	42	8	3½	good	" "	" " some clay
6A	27½	54	10	—	poor	White	" " " "
6B	28	Hard Clay bottom					

Total Depth Ft. Bedrock ft. Water Level

V.C
Panner

Jones
In Charge

Sample bucket is #1 Lub 17¼" dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1500 ft. N. of RR

LINE NO. M + 500 ft HOLE NO. 9 N

DATE

START 3:00 p.M. Oct. 22, 1952

FINISH 1:30 pM Oct. 23

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	17½	10	2	Poor	Blk + Yel	mud + clay - loose
1B	5	33	0	3½			Sand
2A	7½	28	0	4	Fair	wht	"
2B	10	38	4	4	Good	Yellow	"
3A	12½	41½	3	3½	Fair	"	Sand + gravel
3B	15	36	4	4	"	Lt. Yel	Sand + Gravel - Coarse
4A	17½	61	3½	5	"	Wht.	Sand
4B	20	56	4	5½	good	"	Sand + gravel
5A	22½	68½	0	7	Poor	"	" "
5B	25	47	6	2½	Fair	"	" "

Total Depth 25 Ft. Bedrock ft. Water Level - 5 ft.

JMM
Panner

JMM
In Charge

Sample bucket is #1 tub 17¼" dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1700 ft N. of RR

DATE START 3:00 p.m. Oct. 23, 1952

LINE NO. Mf 500 ft HOLE NO. 10 N

FINISH 2 p.m. Oct. 24

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1 A	2½	9	2	4	poor	Bl. + yel	Mud + clay - loose
1 B	5	14	0	3	good	wht	S. + little clay - "
2 A	7½	25	0	3	"	"	" " "
2 B	10	37	5	3	"	"	" + " gravel - tight
3 A	12	31	4	3½	"	"	" + " " "
3 B	15	41	4	4	"	"	S, gravel + clay "
4 A	17½	62	9	4	poor	"	" " " "
4 B	20	50½	24	6½	"	"	S - tight
5 A	22½	84	0	6	"	"	S - pumped @ 24' - clay - tight

Total Depth Ft. Bedrock ft. Water Level

Coto
Panner

JMM
In Charge

Sample bucket is #1 tub 17¼" dia

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1900 ft. N of RR

DATE START 3:15 p.m. Oct. 24, 1952

LINE NO. M + 500 ft HOLE NO. 11 N

FINISH 9:30 A.M Oct. 25, 1952

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cond.	Color Slimes	Remarks
1A	2 1/2	10	4	2 1/2	Poor	Bl. + Wh	S, roots, Grass + Clay - loose
1B	5	28	0	2	"	Wht	S and Clay - loose
2A	7 1/2	35	0	3	good	Brn	Brn - S. Wht. Clay - loose
2B	10	26	0	3 1/2	poor	Wht	S + clay - loose
3A	12 1/2	46	4	4	"	"	" " "
3B	15	44	7		"	"	" " "

Total Depth 15 Ft. Bedrock ft. Water Level

Cole
Panner

Jmm
In Charge

Sample bucket is #1 tub. 17 1/4" dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1600 ft. N of RR

DATE START Oct. 25, 1952. 11:30 A.M

LINE NO. 0 HOLE NO. 9 N

FINISH Oct. 25 3:30 p.m

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A+1B	5	6	0	1	none	mud	no core in 1st 5 ft. loose
2A	7½	37½	7	3	excel.	wht + brn	S. + coarse gravel - tight
2B	10	38	19	3½	"	red + wht	" " " "
3A	12½	37¼	5	3½	"	" "	" " " "
3B	15	42½	0	3	poor	wht.	S. + white clay tight

Total Depth 15 Ft. Bedrock ft. Water Level

Victor Coto
Panner

JMM
In Charge

Sample bucket is #1 tub - 17½" dia.

D R I L L L O G

DRILL LOG TRACT Horse Creek SH. No.

LOCATION 1800 ft. N of RR

DATE

START Oct. 27, 1952 7:30 AM

LINE NO. 0 HOLE NO. 10 N

FINISH Oct. 27, 11:30 AM

SAMPLE NUMBER	Depth feet	CORE Before pump	CORE After pump	Volume	Est. Cons.	Color Slimes	Remarks
1A	2½	10	4	3	poor	wht. + Brn	S. + some clay - tight
1B	5	26	3	1½	"	red	" + red " "
2A	9½	43	4	3	"	red	" + " " "
2B	10	31	2	2½	good	red + wht	white sand, some clay - "
3A	12½	31	3	3	Excel.	" + "	" " " " "
3B	15	31	3	3	"	" + "	" " + gravel "
4A	17½	40½	4	3	poor	" "	S. + red - white clay - "
4B	20	36½	18	2	"	wht	white clay - tight

Total Depth 20 Ft. Bedrock ft. Water Level

Coto
Panner

JMM
In Charge

Sample bucket is #1 tub - 17¼" dia

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
SOUTHEASTERN REGION
REGION VII

OFFICE OF
REGIONAL DIRECTOR

P. O. BOX 217
NORRIS, TENNESSEE

October 21, 1952

Memorandum

To: Jay L. Chambers, Defense Minerals Exploration Administration, Washington, D. C.

From: Administrative Officer, Region VII, Norris, Tennessee

Subject: Monthly Report and Voucher

We are enclosing two copies of the monthly report and voucher covering the following contract:

Idm-E-392 Callahan-Zinc Lead Company, Inc.
Docket No. DMEA-2576
1st payment - month of September
Amount $3819.83
Actual Starting Date: September 2, 1952

Helen R. Miller

CC: W. A. Beck
R. A. Laurence

DEPARTMENT OF THE INTERIOR
Bureau of Mines Administration
Center
OCT 23 1952

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of September, 1952 Docket No. DMEA 2576 Contract No. DM-E392
Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite,
Address 100 Park Avenue, New York 17, N. Y. Columbium, Rutile
Contract Amount, $37,960.00 Government Participation: 83 % Amount, $31,506.80

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	1344.00			1344.00		1344.00
Supervision	600.00			600.00		600.00
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
Small tools and Supplies	65.33			65.33		65.33
(4) Operating Equipment:						
Rental	~~183.33~~			~~429.43~~ WOB		~~429.43~~ WOB
Purchase	429.43			429.43		429.43
Depreciation	183.33			183.33		183.33
(5) Initial Rehabilitation and Repairs	1108.22			1108.22		1108.22
(6) New Bldgs., Improvements, etc.	68.19			68.19		68.19
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes						
~~Liability Insurance~~ Steno	4.50			4.50		4.50
Moving Equip.& Crew	647.20			647.20		647.20
Per Diem	152.00			152.00		152.00
(8) Contingencies (specify):						
TOTALS	$4602.20			4602.20		4602.20

I certify that the above bill is correct and just and that payment therefor has not been received.

Date Oct.15,1952 *Payee Callahan Zinc-Lead Company, Inc.

Per E. G. Sale Title Treasurer

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 23 1952

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$3819.83

Signature
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. IDM-E392 in accordance with the terms of the contract.

Signature Robert F. Griffith Title Mining Engineer Date October 17, 1952

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Robert A. Lawrence Title Executive Officer Date 10-20-52

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

U. S. GOVERNMENT PRINTING OFFICE 205675

CALLAHAN ZINC-LEAD COMPANY, INC.

PROGRESS REPORT

October 15, 1952

CONTRACT NO. IDM-5392

The work of assembling and preparing the equipment in Montana for movement to South Carolina was begun on September 2nd. It was found that both used trucks, the one mounting the drill and the pickup required a considerable amount of repair. The drill with its pipe and tools also required some working over. This was completed and the trucks loaded and ready to roll on September 12th. The new four wheel drive Dodge truck had been purchased and also carried a load.

Three experienced men who have worked both at sampling and dredging for some years, for both O. M. Perry and for other dredging companies were hired. Victor Cote who has been Perry's dredge master and has 15 years experience in gold dredging for several different companies will act as driller and foreman. Lester Robertson, who has ten years experience as driller and dredgeman and worked for Perry three years as a winchman, will work with Cote on the drill. Fred Davis who worked as panner, clean up man and jig operator for Perry for five years and spent five years as jig foreman for a dredge in Montana recovering scheelite with jigs, will handle the concentration of samples in the laboratory.

This crew drove the trucks down to South Carolina, arriving September 22nd, after eleven days on the road. The speed was held down because of the new truck and the heavy loads.

A suitable building which is within ½ mile of the project was rented for $40.00 per month. Considerable work had to be done on the water supply and the electric service to get the necessary steady supply. Suitable work benches, etc. also were built. This work was done by the three man crew and required about ten days.

Due to a very dry summer the condition of the swamp land offer an unusual opportunity to get drill equipment into it now. On October 3rd the truck mounted drill was moved into the area midway between "P" line and the highway at the west or lower end of the job. We found that it will not be practical to get a truck mounted or "cat" mounted drill into the wetest ground. It seems likely that this will have to be drilled with an Empire or Banca type drill. We brought a 4 inch Empire from Montana with us, but will not undertake this immediately.

Saturday, October 4th, the drilling began. Three local men were hired as helpers and truck drivers. It will require a few days to break in these men before the job is running smoothly and normal speed is reached.

John M. Munsenrider, a mining engineer from Montana with considerable gold dredging experience as well as other metallurgical experience was brought from Montana and arrived on the job October 1st. He will oversee the laboratory work and will also do the necessary surveying and mapping.

Mr. Beck of the Knoxville office and Mr. Griffith of the Raleigh office of the U. S. Bureau of Mines visited the job Monday and Tuesday September 29th and 30th.

FILE COPY
SURNAME:

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 27 1952

Room 1, Post Office Building
Knoxville, Tennessee

October 23, 1952

Memorandum

To: Sam J. Wardell, Finance Officer, Morris, Tennessee

From: Wm. A. Beck, Knoxville Field Office

Subject: September Monthly Report & Voucher, Callahan Zinc-Lead Co.
Idn-E 392, DMEA-2576

Reference is made to your memorandum of October 22 on the subject report. On September 30, Mr. Laurence wrote the Applicant waiving documentation. Through an oversight you were not furnished with a copy of this waiver. We have made an additional copy and are enclosing it with this memo.

Your attention is called to DMEA Circular 19, Article 3. This Article states: "In any case where the requirement for supporting documents has been waived before payment of the final invoice is effected, it will be necessary for an auditor from the Contract Administration and Audit Division of the Administration to audit the books of the Operator, render an audit report and issue an audit certificate, which will be made a part of the final invoice (Form MF-104 rev.). This procedure will relieve the certifying officer of all responsibility if payment is made in accordance herewith." Any discrepancies in any of the vouchers can be adjusted in the final voucher when audited by the Washington auditors.

Your attention is also called to the next to the last paragraph on the back of form MF-104 "Operator's Monthly Report and Voucher."

The wages for "Labor, Supervision and Consultants" are not maximums other than for a laboratory technician and Superintendent. The foreman that the operator had listed is his driller.

We are returning the vouchers herewith for processing.

Wm. A. Beck

w/B/mm
cc:
Lynch
Beck

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 195 2 Docket No. DMEA 2576 Contract No. IDM-E392

Operator's Name Callahan Zinc-Lead Company, Inc. Minerals Monazite, Columbium, Rutile

Address 100 Park Avenue, New York 17, N. Y.

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Prepartory Costs		2349.16						
TOTAL DISTRIBUTED COSTS		2349.16						TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		429.43						5040.00
Initial Rehabilitation and Repairs		1108.22						900.00
New Buildings, Improvements, etc.		68.19						590.00
Moving Equip. & Crew		647.20						950.00
TOTAL COSTS		$4602.20						$7480.00

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

Date Oct. 15, 1952 Operator Callahan Zinc-Lead Company, Inc.

Per E. G. Sales Title Treasurer

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

U. S. GOVERNMENT PRINTING OFFICE 205676

C O P Y

C A L L A H A N Z I N C-L E A D CO.
100 Park Avenue
New York, N. Y.

October 15, 1952

Mr. Robert F. Griffith
U. S. Bureau of Mines
Box 5185
Raleigh, North Carolina

Re: DMEA-2576, Idm-D392

Dear Mr. Griffith:

Enclosed are five copies of Form MF-104 "Operator's Monthly Report and Voucher," and five copies of Form MF-104A, "Operator's Unit Cost and Progress Report," and the Progress Report for the Aiken Project. Also enclosed is a certified copy of the September payroll, certified by E. A. Burkhalter, Public Accountant of Aiken, South Carolina.

In his letter of September 30th to us, Mr. Robert A. Laurence, stated that the requirement of Documentation of monthly vouchers for our contract is waived except for invoices or purchase order for equipment cost $50.00 or over, and for certified copies of payrolls. We are, therefore, enclosing original invoices covering equipment costing more than $50.00. These invoices are as follows, (1) Augusta Mill Supply Co. for a pump, (2) El-Tronics, Inc. for a Survey Meter, (3) Detecto Scales, Inc. for a dial scale.

After the enclosed reports have been processed will you please send the check to Callahan Zinc-Lead Company, Inc. marked for the attention of the writer.

If you have any questions in connection with the enclosed report, please write me at the above address.

Yours very truly,

CALLAHAN ZINC-LEAD COMPANY, INC.

S/s E. A. Salo
Treasurer

EAS:mat
encl.

Copied by zm.
Norris-3
Griffith-1
Beck - 1