So. 157 Howard Street
Spokane 4, Washington
May 11, 1962

Memorandum

To: Chief, Division of Field Operations

From: Acting Field Officer, Region X

Subject: Application examination report, OME-6198 (Lead-Silver-Gold)
William B. Crenshaw
Meagon et al. Claims
Jefferson County, Montana

The applicant was interviewed the afternoon of April 27, 1962, regarding the possibility of cleaning out pits or other exposures on the vein he wishes to explore, prior to making an examination. He stated that there were no openings on the vein other than the trench and tunnel shown on the sketch accompanying his application. The possibility of diamond drilling three or four holes prior to winzing was again suggested, and Mr. Crenshaw reiterated his views as expressed in his letter to Mr. Griswold dated December 11, 1961, to the effect that it would take too much of his available funds and if successful would not leave him enough for his share of subsequent winzing and drifting. It was decided to visit the property the next day to try to secure enough data to justify a program approaching the applicant's proposal. Mr. Crenshaw was present during the examination; about two hours was spent on the property.

The Meagon property is about 3/4 of a mile northwesterly of Elkhorn, from which it may be reached by car over an unimproved mine road. Elkhorn is about eight miles airline northeast of Boulder, from which it is accessible by 20 miles of paved and improved dirt road.

The geology of the area is described by M. R. Klepper, R. A. Weeks, and E. T. Ruppel in "Geology of the Southern Elkhorn Mountains, Jefferson and Broadwater Counties, Mont.", U. S. Geol. Survey Prof. Paper 292 (1957). That of the Elkhorn district, including the Meagon property, is described by R. W. Robey, W. C. Acharman, F. B. Fulkerson, and F. A.Crowley in "Mines and Mineral Deposits (Except Fuels), Jefferson County, Montana," State of Montana Bureau of Mines and Geology, Bull. 16 (1960). Quoting from the latter source:

"Separate intrusions of diorite and quartz monzonite into a sedimentary series of limestone, shale, and quartzite have formed a geological complex at this property. ...numerous shallow shafts and near surface adits, have been excavated to explore the contact

zones of these different rocks throughout a horizontal range of about 1,500 feet and a vertical range of about 200 feet." The only workings currently accessible are a trench and a short adit driven along a vein found in the trench.

For most of its length the trench, which is little more than a wide road, is in dark grey to brown shale. As nearly as can be determined from Klepper's map, it is a part of the Wolsey shale, Middle Cambrian in age. Near the northwest end the trench is in a light grey limestone, possibly part of the Meagher limestone, also Middle Cambrian in age. Weathering in the side of the trench and debris on the road obscured the exact location and attitude of the contact. The contrast in the color of the two rocks is great, and on that basis the strike was determined to be about N. 80° E.; the dip could not be definitely determined, but appeared to be steep to the northwest.

About 1,000 feet north the Black Butte stock, comprising gabbro and diorite, crops out, and about 1,500 feet south is a large area of granodiorite porphyry.

The vein exposed by the trench is cut off by a fault a foot or so above the original floor of the cut. In order to drift on the vein, a second narrow trench nearly parallel to the vein was cut across the first trench, and a tunnel was driven about 24 feet, exposing the vein in the northwest wall and floor (fig. 1). The vein strikes N. 48° E. and dips 52° N.W. on the hanging wall and up to 67° N.W. on the footwall. It is 12 to 18 inches wide and consists mostly of galena in a gangue of quartz and iron oxide. The hanging wall of the vein is sheared material 2 to 4 inches wide, containing some gouge. The zone is heavily stained by iron oxides. The footwall is frozen to the wall rock. The upper part of the vein has been cut off by a fault that strikes S. 60° E. and dips 17° N.E. The fault is about two feet below the drift back at the adit portal and is at the floor in the face. Therefore, in the last eight feet of the drift a small underhand stope has been excavated, the better to expose the vein.

Assays of six samples taken by the applicant and one taken by the examiner from locations shown on plate I were:

Sample No.	Width inches	Ounces per ton Au	Ag	Percent Pb	Sampled by
1	18	0.07	6.5	1.8	Applicant
2	18	0.19	8.4	8.6	"
3	18	0.13	14.8	2.4	"
4	18	0.12	10.7	8.8	"
5	10	0.10	31.3	34.4	"
6	10	0.14	7.9	5.0	"
148c	10	0.06	23.8	20.3	Examiner
Average	14.3	0.12	13.3	9.7	

On plate I the ground slopes down from northeast to southwest, the degree of slope flattening toward the southwest. The overburden deepens rapidly in the latter direction from the tunnel. The southwesterly continuation of the vein could not be traced, and the applicant stated that the rapidly deepening overburden would be difficult and costly to trench for that purpose.

About 500 feet southeasterly of the tunnel, an old trench uncovered several boulders composed almost entirely of galena but their source was never found, although a vertical shaft from which drifts were run was put down within about 75 feet of the place where the boulders were uncovered. The shaft is inaccessible, but no sulfides were found on the dump. According to Mr. Crenshaw, no other shafts or adits on the property were opened. He also stated that most of the production from the Meagon property reported by Robey et al. as totalling 620 tons from 1906 through 1930 came from lead- and copper-rich boulders uncovered by bulldozing and other trenching operations.

The applicant states in his December 11, 1961, letter to Mr. Griswold that he belie es the vein at the Union mine some 4,000 feet northeasterly of the Meagon is the same as the one he has exposed. This cannot be the case, as the Union vein strikes N. 60° W. and dips 65° to 70° N.E. (Robey et al., p. 65), while the Meagon vein strikes N. 48° E. and dips 52° to 67° N.W. Genetically the Union vein is probably related to the Black Butte stock, but the Meagon vein could be related to either stock or the granodiorite porphyry.

In summary, a vein averaging 16 inches wide and exposed over a length of only 30 to 35 feet contains good values in gold, silver, and lead, and is in a favorable environment. Preliminary exploration by diamond drilling to determine whether the vein has significant lateral and vertical continuity is not acceptable to the applicant. If the vein continues and the average values remain the same, the applicant's proposed winze to a depth of 100 feet, which he is willing to sink on the vein, and his proposed 100-foot drift would develop only about 1,000 tons of ore. Extending the drift 200 feet would not quite double this because of the flat-dipping fault that cuts off the top of the vein.

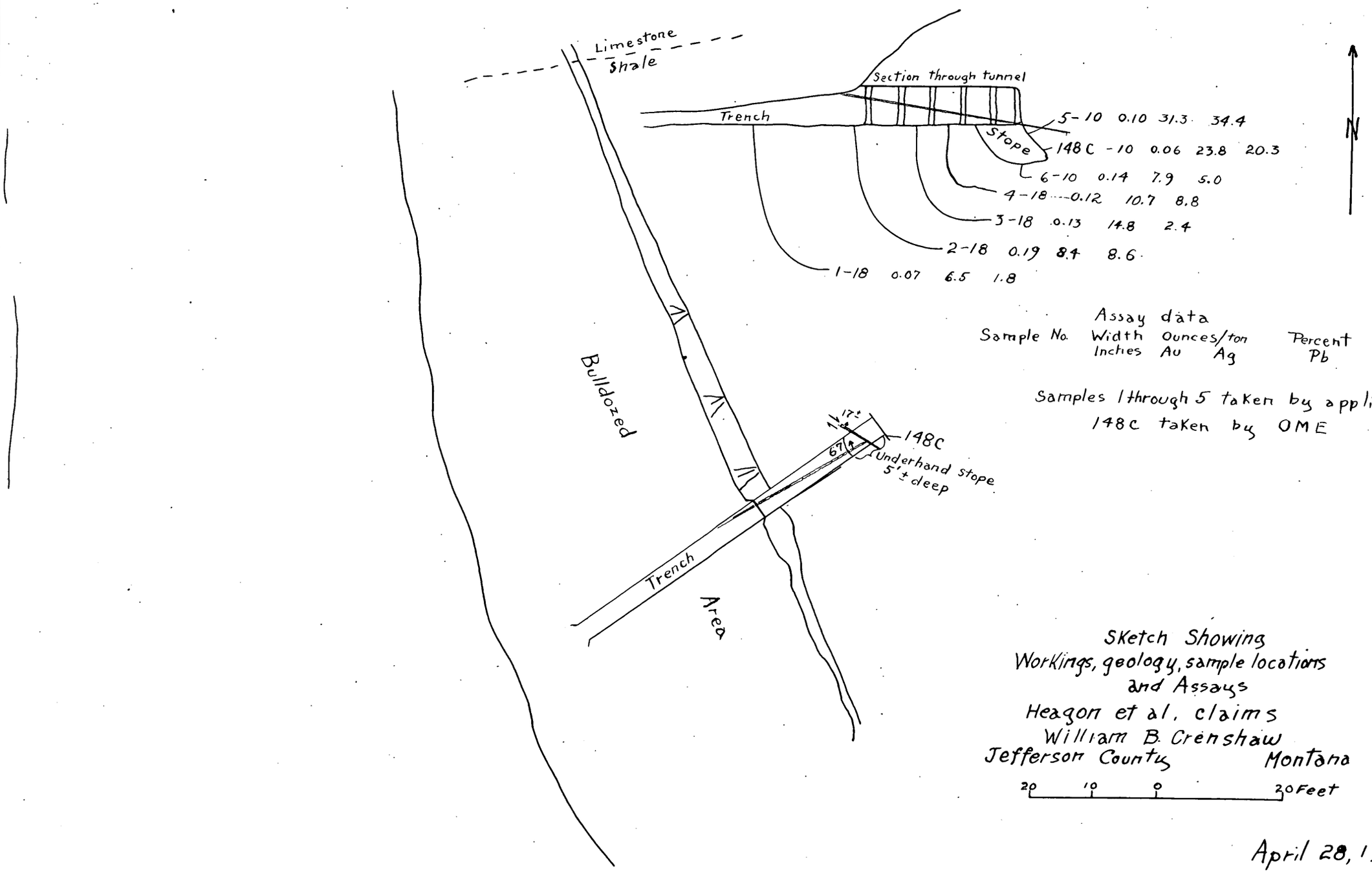
Therefore, it is recommended that the application be denied.

Distribution:
ONE(3)
SMO
Docket
MacLaren

U.S. Department of the Interior

Office of Minerals Exploration
Application Examination

OME-6198



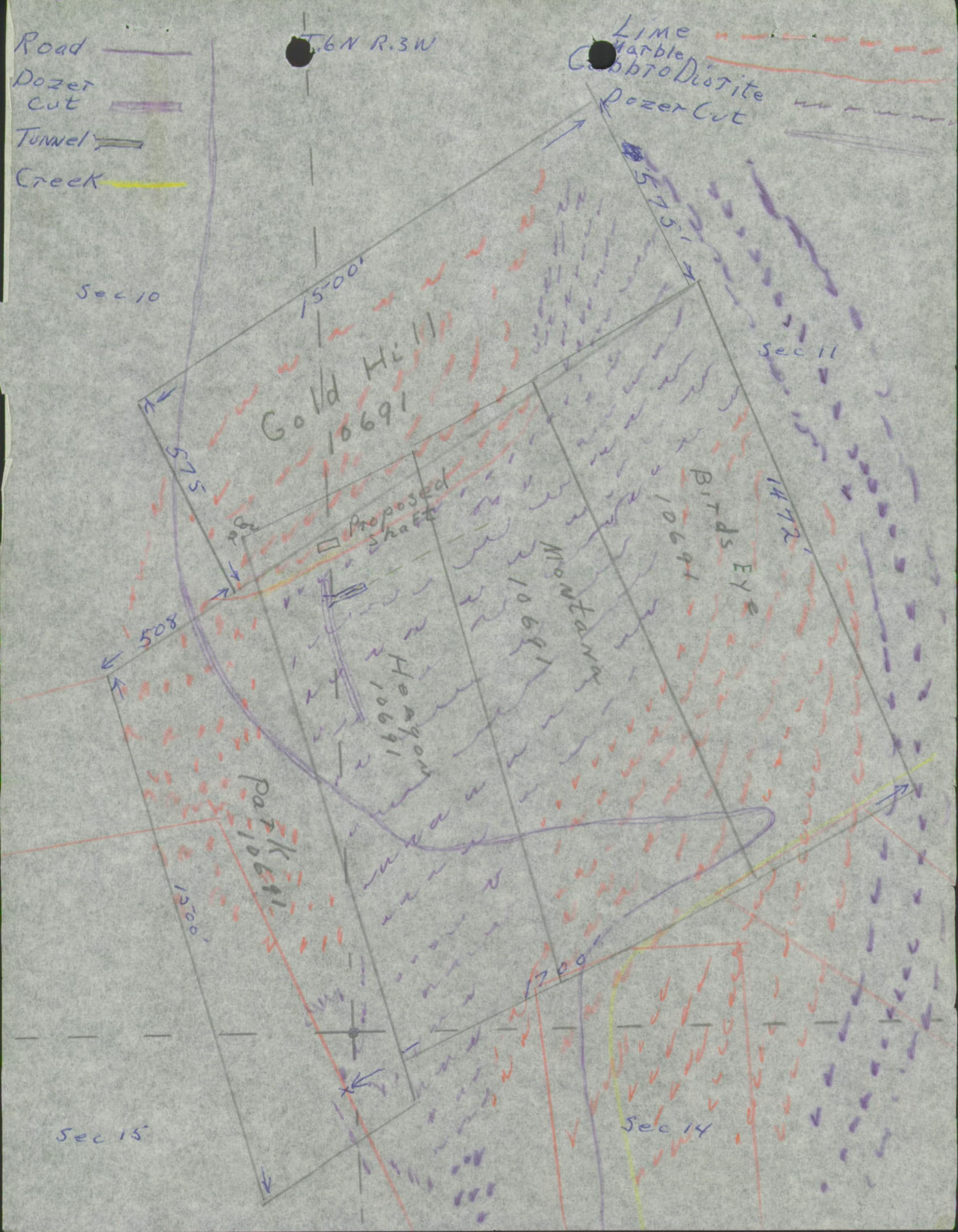
Assay data

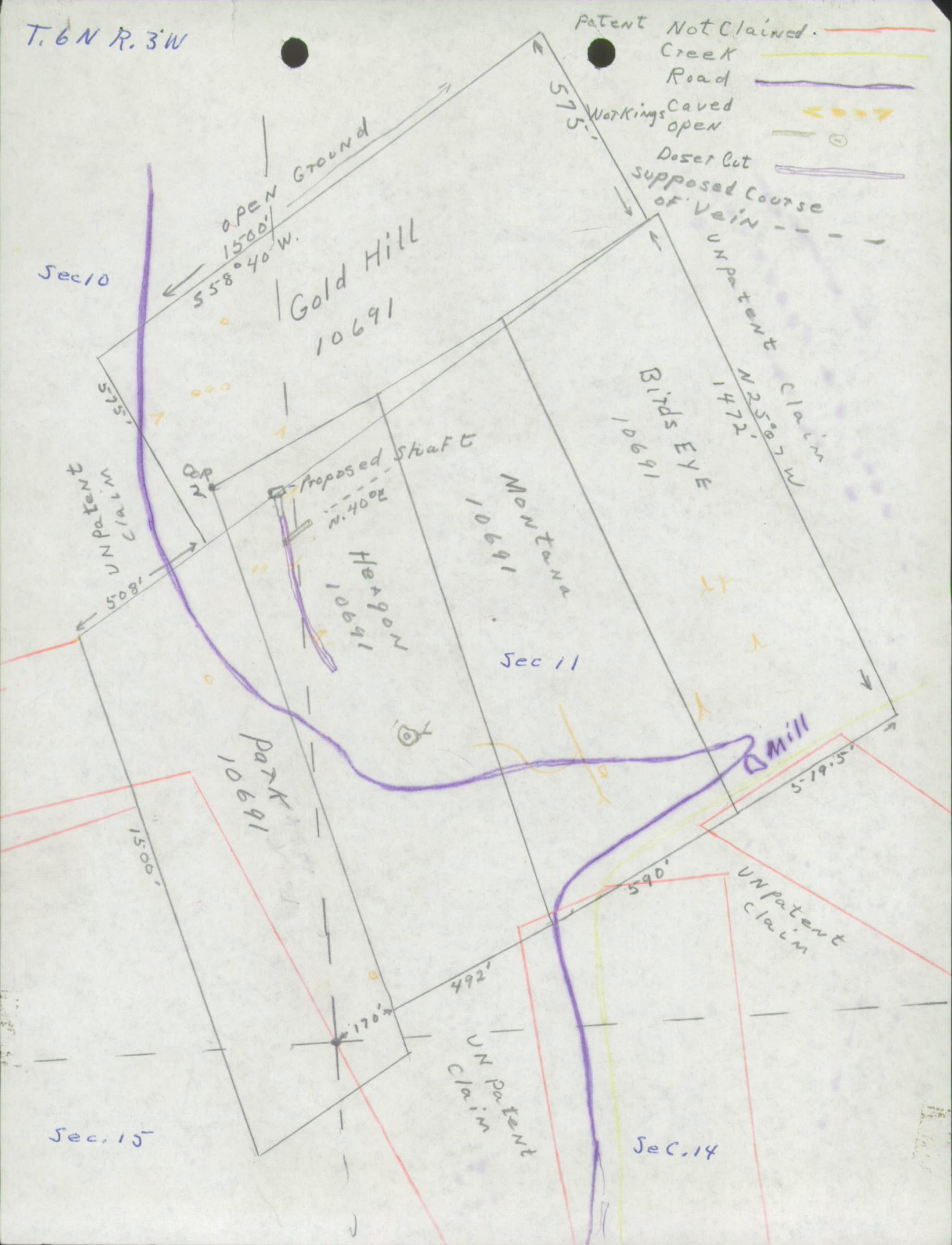
Sample No.	Width Inches	Ounces/ton Au	Ounces/ton Ag	Percent Pb
5-10	0.10	31.3	34.4	
148C -10	0.06	23.8	20.3	
6-10	0.14	7.9	5.0	
4-18	0.12	10.7	8.8	
3-18	0.13	14.8	2.4	
2-18	0.19	8.4	8.6	
1-18	0.07	6.5	1.8	

Samples 1 through 5 taken by applicant
148C taken by OME

Sketch Showing
Workings, geology, sample locations
and Assays
Heagon et al. claims
William B. Crenshaw
Jefferson County Montana

April 28, 1962


Road
Dozer Cut
Tunnel
Creek
T.6N R.3W
Lime
Marble
Gabbro Diorite
Dozer Cut
Sec 10
Sec 11
Sec 15
Sec 14
1500'
1700'
1200'
575'
508'
1472'
Gold Hill
10691
Proposed Shaft
Montana
10691
Birds Eye
10691
Hoosier
10691
Parkell
10691


T. 6 N R. 3 W
Patent Not Claimed.
Creek
Road
Workings Caved open
Dozer Cut
Supposed Course of Vein
Open Ground
1500'
S 58° 40' W.
575'
Gold Hill
10691
Sec 10
UN patent Claim
N 25° 07 W
1472'
Birds Eye
10691
Proposed Shaft
N. 40°E
Montana
10691
Hexagon
10691
Sec 11
Mill
Park
10691
1500'
590'
492'
170'
UN patent Claim
UN patent Claim
Sec. 15
Sec. 14