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ANALYSIS OF GEOPHYSICAL DATA

ROADSIDE MINE AREA

PIMA COUNTY, ARIZONA

January 1960

for

INSPIRATION CONSOLIDATED COPPER COMPANY

Inspiration, Arizona

by

HEINRICHS GEOEXPLORATION COMPANY

P. O. Box 5671 Tucson, Arizona

INTRODUCTION

In response to a letter request from Mr. E. F. Reed dated 11 December 1959, maps and data of geophysical results from the property were borrowed from Mr. Edwin A. Stone on 12 December 1959. At this time Mr. Stone also discussed his knowledge and ideas about the area and the work that had been done.

On 28 December 1959, after pencil recontouring and profiling part of the magnetic data and rendering to a common scale for overlay purposes, a study was made of the information and a further short discussion held with Mr. Stone. The following day, Bill Marlatt of GEOEX, briefly inspected part of the property while enroute returning from other work in the vicinity.

CONCLUSIONS AND RECOMMENDATIONS

One area of magnetic anomalies indicates a zone, or several stringers, of magnetite concentration, tops of which are less than 300' deep as a group, or very near surface in individual cases, and dipping southerly on a fault zone. This is near and along the only known limestone exposures on the property and probably on the lime hanging wall. Occurrence of lime and metamorphic rocks suggest possibility of a contact metamorphic origin for the magnetite. A few random surface grab specimens of epidote-andesitic-basaltic rocks containing native, oxide and sulfide copper are occasionally more magnetic than other surface rocks in this zone. However, time did not permit obtaining a representative complete or comprehensive suite of samples from the area, which might provide more definite and positive interpretation and correlation, of magnetics versus copper mineralization.

Essentially the magnetic results are encouraging and alone, if the geological aspects are considered sufficiently favorable, they would warrant additional evaluation. Phelps Dodge resistivity and metal factor (induced potential or I. P.) results are, for the most part, negative, especially when interpreted in an absolute sense (probably partly why P. D. was not further interested). However, experience shows that absolute geophysical interpretations are usually risky and seldom possible. On a relative basis, both the resistivity and I. P. indicate a slightly decreasing over all resistance and increasing sulfide content with depth. In any mineralized area this is the normal expectation, but with some geological and magnetic correlation with the weak electrical anomalies indicated, the resistivity and I. P. results may justifiably bear more consideration. Although the electrical maps refer to "apparent depths" of 1000', 1500' and 2000' it is doubtful that effective penetration depths exceed 500' - 750' or 1000'. This interpretation is further substantiated by the deep oxidation reported in drilling results which would tend to cause poorer indications at shallower depths, especially in I. P. work.

The rather persistent occurrence of copper in the considerable amount of epidote rocks reported, is interesting and raises the question whether its source might represent an economic target. The geophysical data neither confirms or denies the existence of a disseminated intrusive in the mapped area, except that the I. P. work and the drilling infer smaller chance above 1000'. Geophysically, the relative throw on the magnetic fault zone could be either normal or reversed. Depending on the best geological

consensus, a logical procedure for further exploration, would be to explore this relatively shallower zone first, to try and develop a better lead which might then provide greater incentive for deeper work.

Before any substantial drilling expendature is made, additional geophysical work is recommended. This should consist of a few days momag and/or hand mag checking and fill in, and a few reconnaissance profiles of self potential work across the more favorable geologic-magnetic trends. Cost for such work could range from $1,000.00 to $2,500.00 and should be based in part on the sponsors favorability opinion and desired over all expendature. With further study, geochemical and electromagnetic recon tests might also be worthwhile.

If any further interest is contemplated, it is first strongly recommended that a joint geological-geophysical discussion be held to review all available ideas and data and eventually with Mr. Stone included. This would provide the best practical over all economical evaluation of objectives, problems, possible solutions, costs and potential.

APPARENT GEOPHYSICAL-SURFACE GEOLOGICAL CORRELATIONS

LIME BELT AREA:

The northwest-southeast trending limestone belt from Sections 2 to 12 across the northeast corner of Section 11, appears to coincide roughly with the two main Western Geophysical Co.'s magnetic lows and very well with an average - 850 gamma low shown on the P. D. magnetic data. Immediately southwest is an adjoining

parallel and related high, averaging about 1300 gammas from the P. D. data, which shows up roughly similar on both the Western and P. D. magnetic plots. Exact geographical correlation is only approximate because of apparent mapping inaccuracies, discrepancies and lack of map overlay ties. To be certain, field check work would be necessary.

Customarily, magnetic highs are often considered with prefered value over lows, however, lows can be equally or more economically significant, as can also the boundary-intercept-zone between highs and lows. Similarly the significant geologic zone may be in the limestone, along either contact or in the adjoining formation near either limestone contact.

Almost invariably, andesitic volcanics will give a much higher and more erratic magnetic level than limestones. Since most of the magnetic observations are over andesite and are not quite as anomalous as in this area, a concentration of magnetite in or near the andesite-limestone contact is indicated. The reported and mapped concentrations of metamorphic minerals and copper oxide, which in part, are rudely parallel to this zone on the southwest, could be indicative of a contact metamorphic origin for the magnetite concentration, but it could also be due to contact segregation solely in the andesite.

The P. D. resistivity data show a broad-general correlation between 100 and 120-unit resistivity highs (?) and this general area. Usually resistivity lows are preferred correlation to metallic mineralization, but diametric exceptions are possible

for example, in highly dry and silicated zones. There is room for some doubt in reviewing the available data that signs could have been erroneously reversed, in which case the highs would be lows.

The I. P. results show very little metal factor relief, particularly in this part of the area. On the 1000' and 1500' apparent depth plots, there is a very slight vague correlation in this area with weak plateaus or highs in the range of metal factor values between 1 to 10, which theoretically, commonly relate to unmineralized basic rocks. On the 2000' apparent depth plot, this area shows a metal factor low in a slightly higher range of values theoretically approaching rocks containing finely disseminated sulfides.

METAMORPHIC ZONE APPROXIMATELY 1500' NORTH OF COMMON CORNER SECTIONS 2, 3, 10 & 11:

This zone correlates with a P. D. magnetic high, but was not quite covered by the Western Geophysical Co. data. P. D. resistivity results show very little anomalism in this area, as do the P. D. 1000' and 1500' apparent-depth I. P. plots. However, on the 2000' I. P. plot, this zone represents the highest metal factor-theoretical-sulfide values shown on the P. D. I.P. data. This lineation also coincides with the NE trending wash immediately west of the old Roadside Mine site.

Together, the geology, the wash and the I. P. anomaly, imply some structural correlation, most likely a fault, or at least a water course. Although the magnetic trends are generally normal to

this, there is some suggestion of magnetic offset along this trace, with additional anomalism, both the highs and lows, along it to the southwest. This would include the respective high and low at stations 28 and 37 on the Western Geophysical Co. map.

MISCELLANEOUS:

The single station #50 high on the Western Geo. magnetic map, without additional readings, can only be assumed to be caused by the Bell Mt. basalt and of no other significance. Mr. Stone's statement that this is why Western took no more readings here is reasonable, but their contouring of this area without more data, is subject to question. P. D. results show no coverage obtained in this area.

Other readings presented are too meagre to justify further interpretation without additional data.

ADDED COMMENTS:

P. D. geology was fairly broad and general and did not provide too much correlation. Ed Stone's geology was more detailed and specific and seemed to be less academic and more accurate and reliable, especially regarding structure and, to a certain extent, alteration. Detailed stratigraphy admittedly would be quite difficult in this area without further study and information.

With the extremely wide spacing used, the Western mag data barely confirmed the groad-general features, but it could easily have been misleading without further detail. Station #50 value should be 10730 rather than 10231 and #49 should be 10221 rather than 10881,

but the contouring as shown was more or less satisfactory.

P. D. mag contouring is strictly interpretative of only the broad-deeper features and not their actual results. This was probably done on purpose because of a tendency of being interested solely in direct detection of large deposition. Unfortunately this is extremely difficult and a better approach is probably to hope to be able to expand the large from one of a group of smaller successful leads. In this case, as in most, the data can be contoured consistent with the detail obtained. This provides maximum interpretation value of all features simultaneously, without excluding any of possible importance. Because of the rougher gradients observed on line 350S, between G & K it would be helpful to extend line H north to about 200 South, and lines J & L from 200 South to 500 South.

No I. P. data nor resistivity results for the 1500' and 2000' apparent depth plots were included on the P. D. (John Sumner, chief geophysicist) affidavit of labor.

Respectfully submitted,
HEINRICHS GEOEXPLORATION COMPANY

by: Walter E. Heinrichs, Jr.
Walter E. Heinrichs, Jr.
President & General Manager

8 January 1960
P. O. Box 5671
Tucson, Arizona

Registered Professional Engineer (Mining)
CERTIFICATE EXPIRES
WALTER E.
HEINRICHS, JR.
DEC. 31, 1960
ARIZONA, U. S. A.

DATA REVIEWED

TITLE	SCALE	BY
1 Colored Surface Geology Map	1" = 2640' ±	Ed Stone ?
1 Surface Geology Map	1" = 500'	P. D.
3 Apparent Metal Factor (Induced Potential) contour maps apparent depths 1000', 1500' and 2000'	1" = 500'	P. D.
3 Apparent resistivity Contour maps. Apparent depths 1000', 1500' and 2000'	1" = 500'	P. D.
1 Vertical Intensity magnetic contour map	1" = 500'	P. D.
1 Vertical Intensity magnetic map (contour) (superimposed on geologic structure	1' = 1000'	Western Geophysical Company
24 Aerial Photos	1' = 1000'	-----
1 Affidavit of Labor 1959 Incl. 8 pages of tabulated mag. & resistivity data.		P. D. (John Sumner)
Southern Arizona Guidebook II		Arizona Geol. Society 1959
Drill hole log	?	Ed Stone ?

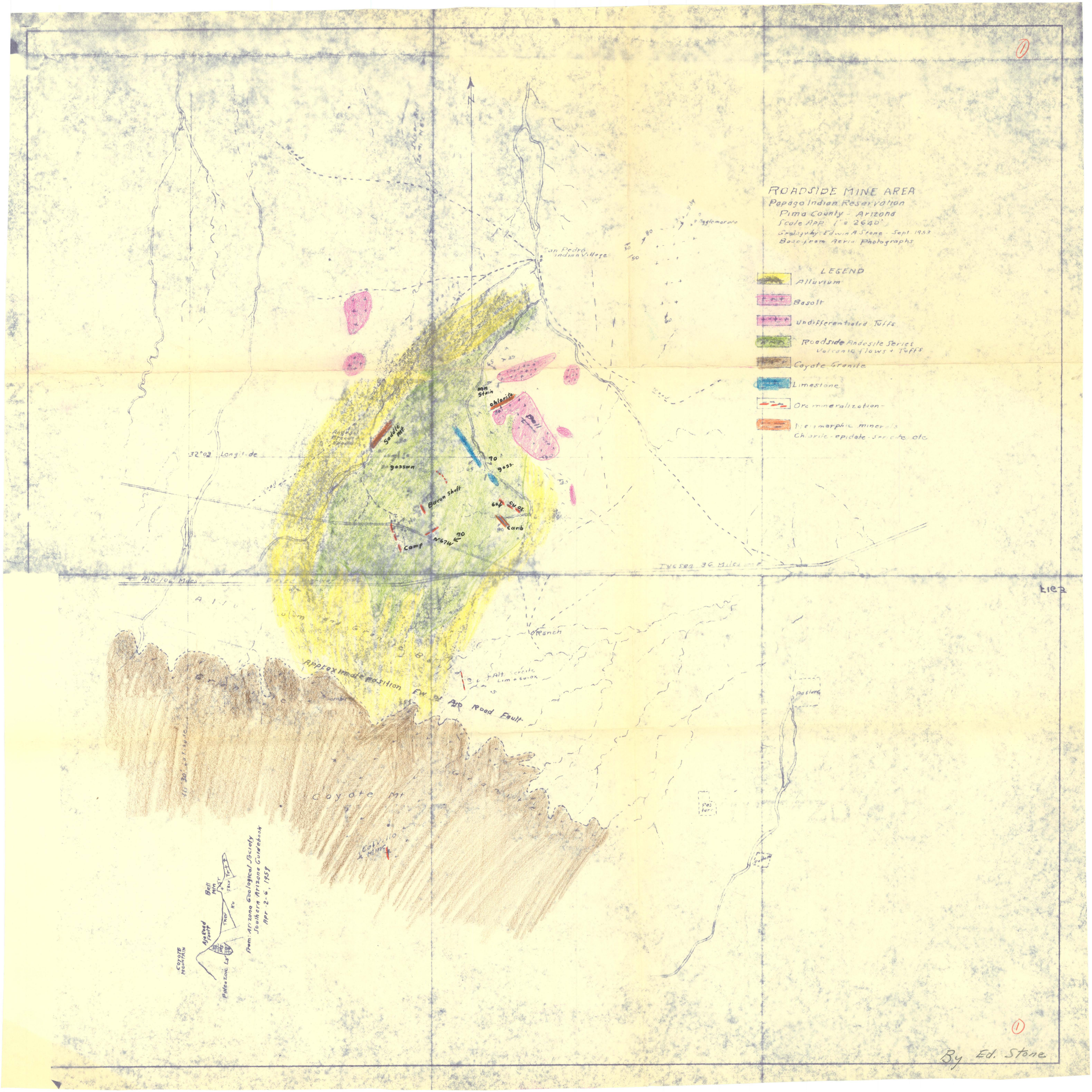
HEINRICHS GEOEXPLORATION COMPANY
MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS
GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS
TUCSON, ARIZONA

WALTER E. HEINRICHS, JR.
NORMAN EASTMOORE, JR.
E. GROVER HEINRICHS

PHONE: MAIN 2-4202
806-808 WEST GRANT ROAD
MAIL: P. O. BOX 5671

ROADSIDE MINE

1. Geology by Ed Stone
2. Geology by P.D.
3. Metal Factor, 1000' apparent depth
4. " " 1500' " "
5. " " 2000' " "
6. Apparent Resistivity, 1000' apparent depth
7. " " 1500' " "
8. " " 2000' " "
9. Affidavit of labor
10. Magnetic contour by P.D.
11. " " " Geoex from values on affidavit
12. " " " " " " " "
13. " " " Western Geophysical
14. " " " Geoex from Western Geophysical values
15. " " " " " " " "
16. Rough pantograph of magnetic map from Western Geophysical values
17. Magnetic profiles


ROADSIDE MINE AREA
Papago Indian Reservation
Pima County - Arizona
Scale App. 1" = 2640'
Geology by: Edwin A Stone - Sept. 1953
Base from Aerial Photographs
LEGEND
Alluvium
Basalt
Undifferentiated Tuffs
Roadside Andesite Series
Volcanic flows + Tuffs
Coyote Granite
Limestone
Ore mineralization
Metamorphic minerals
Chlorite - epidote - sericite etc
San Pedro Indian Village
Agglomerate
Mn Stain
chlorite
Bell
Saddle Mt
gossan
Bacon Shaft
Camp
N67W
Cu ox
carb
32°03' Longitude
Tucson 36 Miles
Ajo-106 Miles
Ranch
Alt. sericite
Lim + Cu-ox
Approximate position FW of Ajo Road Fault
Coyote Mt
Pasture
Pasture
Coyote Mountain
Ajo Road Fault
Bell Mtn
Paleozoic Ls
From: Arizona Geological Society
Southern Arizona Guidebook
Apr. 2-6, 1959
By Ed. Stone

Older Andesite

Bell Mountain Series

Tank fault

Roadside Mine

3 2
10 11

2 1
11 12

10 11
15 14

11 12
14 13

N

ROADSIDE MINE PROJECT

PRELIMINARY GEOLOGIC MAP

SCALE 1"=500' SEPT. 1950

epidote with little or no copper oxide

epidote with copper oxide

faults

generalized strike and dip of foliation

Axis of fold

Data from Photo-triangulation also included

(2)

By P.D. Corp

ROADSIDE MINE PROJECT

APPARENT METAL FACTOR CONTOURS

1000' APPARENT DEPTH

LEGEND

—— Unpatented Claim Boundary, Mount Lenjuno

—— Unpatented Claim Boundary

—— Grid Line

By P. D. Corp.

(3)

LEGEND

Patented Claim Boundary, Patent Pending

Unpatented Claim Boundary

Grid Line

Drift

ROADSIDE MINE PROJECT

APPARENT METAL FACTOR CONTOURS

1500' APPARENT DEPTH

Scale 1" = 200' SEPT 1, 1959

By P. D. Corp.

A C E G I K M O

N

1 2 3 4 5 6 7 8 9 10 11

H L

LEGEND

—Patented Claim Boundary

—Unpatented Claim Boundary

Grid Line

Shaft

ROADSIDE MINE PROJECT

APPARENT METAL FACTOR CONTOURS

2000' APPARENT DEPTH

ALP 1" = 500' SEPT 1, 1959

(5)

By P.D. Corp.

LEGEND

—— (Patented Claim Boundary) Patent Pending

- - - - Unpatented Claim Boundary

—— Grid Line

Grid

ROADSIDE MINE PROJECT

APPARENT RESISTIVITY CONTOURS ($\frac{\epsilon}{2\pi}$ ohm-ft)

1000' APPARENT DEPTH

SCALE 1"=500' SEPT. 1, 1959

By P.D. Corp.

(6)

A C E G I K M O

1 2 3 4 5 6 7 8 9 10 11

99 75 86 86 55

64 84 89 107 114 96

68 76 98 92 117 78

60 70 53 138 122 86 82 48

55 59 62 77 84 84 80 76

69 62 65 68 76 52 60 51

86 62 40 37 44 57 61 53 62

77 57 45 42 37 34 54 59 67

80 60 100 120 80 60 60 40 50 60

LEGEND

—Patented Claim Boundary

--Unpatented Claim Boundary

Grid Line

shaft

ROADSIDE MINE PROJECT

APPARENT RESISTIVITY CONTOURS

IN $\frac{f}{2\pi}$ OHM-FT

1500' APPARENT DEPTH

SCALE 1"=500' SEPT. 1959

By P.D. Corp.

LEGEND

— Patented Claim Boundary (Patent Pending)

— Unpatented Claim Boundary

+ Grid Line

Shaft

ROADSIDE MINE PROJECT

APPARENT RESISTIVITY CONTOURS

IN $\frac{\rho}{2\pi}$ OHM-FT

2000' APPARENT DEPTH

CALF [illegible] 1954

By P. D. Corp.

(8)

AFFIDAVIT OF LABOR PERFORMED AND
IMPROVEMENTS MADE

Road Side Ed Stone
Insp P.D.
Was Filed

State of Arizona,)
)ss.
County of Cochise.)

JOHN S. SUMNER, being first duly sworn, deposes and says that he is a citizen of the United States and more than twenty-one years of age, and resides in Douglas, Arizona, in the County of Cochise, State of Arizona, and is personally acquainted with the twenty-five (25) unpatented lode mining claims situate in the Coyote Mining District, Pima County, Arizona, the names and the dockets or books of mines and pages of the record in the office of the County Recorder of Pima County, Arizona, of the notices of location whereof are as follows:

Name of Claims	Docket Number	Page
Coyote Nos. 1 to 10	661	264-273
Coyote No. 11	669	182
Coyote Nos. 14 to 17	669	185-188
Coyote No. 22	669	193
Bell Nos. 6 to 8	846	133-135

Name of Claims	Book of Mines	Page
Arizona	JJJ	500
Guadalupe	JJJ	503
Hidalgo	JJJ	504
El Sol	JJJ	505
La Estrella	JJJ	507
San Pedro	JJJ	508

That between the 1st day of August, 1959, and the 1st day of September, 1959, at least Twenty-five Hundred Dollars ($2,500.00) worth of work and improvements were done and performed upon said claims, not including the location work of said claims.

9

Such work and improvements were done and made by and at the expense of Phelps Dodge Corporation, the lessee of said claims, for the purpose of complying with the laws of the United States pertaining to assessment of annual work, and Phelps Dodge Corporation employees were the men employed by said lessee, and who labored on said claims, and did said work and improvements, the same being as follows, to-wit:

Geophysical exploration $2,500.00

REPORT OF GEOPHYSICAL SURVEYS

The report of the geophysical surveys consists of the following:

(a) The location of the work performed in relation to the points of discovery and boundaries of the claims is shown on the accompanying map, annexed hereto and made a part hereof, containing the names and numbers of the claims, their boundaries with relation to each other and to section corners, the points of discovery, and the numbered East-West traverses and the lettered North-South lines showing the locations of the field stations, the intervals of which are shown on the accompanying report and tabulations.

(b) The nature and extent of the surveys, and the costs expended on the above-described claims, are shown in the report, annexed hereto and made a part hereof.

(c) The basic findings from said surveys are shown on the tabulations, annexed hereto and made a part hereof.

(d) Affiant conducted said geophysical surveys. His name and address are: Dr. John S. Sumner, 2401 9th Street, Douglas, Arizona. His professional background is as follows:

He is chief geophysicist of Phelps Dodge Corporation, and has practiced his profession for twelve years. He has a B.S. degree majoring in geology, a B.Phy. degree majoring in engineering physics, and a Ph.D. degree majoring in geophysics and minoring in physics.

_____

Subscribed and sworn to before me this ____ day of November, 1959.

My Commission expires:

_____

Notary Public

REPORT OF GEOPHYSICAL SURVEYS ON THE ROADSIDE MINE

Electrical Resistivity Surveying

The electrode configuration used for electrical resistivity surveying is known as an "Altran" array. Current was passed between two stake electrodes 1000' apart. The voltage due to this current was measured between two non-polarizing electrodes 1000' apart, such that the four electrodes were all in line and spaced at 1000' intervals.

One ampere of current, at alternating current frequencies below 10 cycles per second, was put into the ground. The voltages were read on a high impedance vacuum tube voltmeter, after suitable electronic filtering to assure that powerline and radio frequency voltages were eliminated. The resulting ratio of voltage to current, according to Ohm's law, is a measure of the average resistance of the earth between the pairs of current and voltage electrodes. In order to get the voltage-to-current ratio into units of apparent resistivity, it was necessary to multiply it by a geometric factor of 3,000. This gives a figure in terms of apparent resistivity, in ohm-feet divided by two pi (2π), which would be the actual true earth resistance if there were no local variations in the earth's electrical properties.

Traverses were run approximately north and south, parallel to the long axis of the claims. The geophysical survey lines were 1200' apart and up to 11,000' long.

Data are tabulated and accompany this report, together with a map showing the traverse locations and coordinates.

The total cost of resistivity surveying was in excess of $1,500.

Magnetometer Surveying

The instrument used for magnetometer surveying on this property was a torsion fiber instrument, Model Gfz, made by Askania Werke of East Berlin, Germany. It measures vertical magnetic intensity to accuracy of 2 gammas, according to the manufacturer. The sensitivity of the instrument was 226.6 gammas per degree.

A diurnal correction was made from records made by the Tucson Magnetic Observatory. A base station was reoccupied at one to two hour intervals. No magnetic storms were observed during the time of the survey.

Traverses were run along brushed claim lines and on lines 1,200' apart and up to 11,000' long. Stations were read at 100' intervals.

Tables of magnetometer data, together with a claim map, are included with this report.

The total cost of magnetometer surveying was in excess of $1,000.

John S. Sumner
Geophysicist

October 15, 1959

TABULATION OF ELECTRICAL RESISTIVITY AND MAGNETOMETER SURVEYS

A Line			A Line			A Line		
Sta.	Mag.	Resist.	Sta.	Mag.	Resist.	Sta.	Mag.	Resist.
A-0	963		A-5	1091		A-10	835	
100	1076		100	1061		100	857	
200	996		200	1339		200	841	
300	962		300	1191		300	861	
400	953		400	1105		400	829	
500	992		500	1025	60	500	845	
600	985		600	1009		600	835	
700	957		700	923		700	799	
800	998		800	979		800	821	
900	984		900	1026		900	866	
A-1	981		A-6	999		A-11	798	
100	970		100	980				
200	1015		200	969			C Line	
300	1061		300	828				
400	964		400	814		C-0	920	
500	951		500	836	81	100	937	
600	999		600	870		200	937	
700	1024		700	903		300	921	
800	952		800	890		400	952	
900	903		900	841		500	952	
A-2	858		A-7	870		600	1169	
100	946		100	893		700	1010	
200	1006		200	897		800	892	
300	1071		300	919		900	918	
400	1022		400	889		C-1	655	
500	1091	88	500	934	113/103	100	1298	
600	1094		600	927		200	872	
700	1064		700	888		300	1654	
800	1096		800	897		400	1513	
900	1108		900	926		500	1449	
A-3	1183		A-8	865		600	1189	
100	1206		100	937		700	2697	
200	1200		200	869		800	1353	
300	1103		300	873		900	126	
400	1114		400	875		C-2	1082	
500	1087	86	500	870	93	100	1068	
600	1040		600	908		200	1002	
700	1014		700	872		300	1015	
800	948		800	924		400	1008	
900	914		900	885		500	990	90
A-4	925		A-9	869		600	1001	
100	934		100	889		700	974	
200	909		200	918		800	1049	
300	886		300	900		900	933	
400	875		400	884		C-3	1117	
500	825	56	500	861	60	100	1078	
600	842		600	888		200	1065	
700	808		700	890		300	1122	
800	772		800	876		400	1077	
900	955		900	842		500	1052	68

C Line			C Line			E Line		
Sta.	Mag.	Resist.	Sta.	Mag.	Resist.	Sta.	Mag.	Resist.
600	986		300	922		600	948	
700	986		400	918		700	948	
800	966		500	945	50	800	841	
900	997		600	932		900	997	
C-4	1027		700	1059		E-4	1013	
100	1065		800	949		100	1054	
200	1086		900	840		200	1167	
300	1147		C-10	877		300	1079	
400	1137		100	836		400	1034	
500	1109	53/53	200	825		500	1059	70
600	1050		300	801		600	1034	
700	979		400	928		700	1059	
800	1004		500	978		800	1122	
900	998		600	888		900	1140	
C-5	939		700	885		E-5	1000	
100	911		800	859		100	984	
200	834		900	837		200	977	
300	879		C-11	837		300	1013	
400	903					400	923	
500	918	59		E Line		500	936	62
600	1008					600	893	
700	842		E-0	1034		700	909	
800	898		100	1015		800	907	
900	786		200	962		900	884	
C-6	972		300	912		E-6	898	
100	849		400	880		100	882	
300	1026		500	2213		200	877	
300	981		600	848		300	884	
400	761		700	1113		400	902	
500	1112	62	800	1139		500	861	61
600	865		900	916		600	873	
700	884		E-1	1072		700	882	
800	912		100	1108		800	854	
900	944		200	1092		900	968	
C-7	980		300	1103		E-7	884	
100	1120		400	1246		100	872	
200	1617		500	1350		200	861	
300	1067		600	1128		300	904	
400	942		700	1077		400	870	
500	911	82	800	1234		500	867	47
600	1020		900	1091		600	876	
700	913		E-2	1264		700	885	
800	877		100	949		800	876	
900	909		200	926		900	915	
C-8	904		300	935		E-8	899	
100	918		400	837		100	837	
200	893		500	1070	83	200	816	
300	882		600	968		300	871	
400	875		700	1090		400	884	
500	862	68	800	1043		500	866	40
600	858		900	1140		600	915	
700	946		E-3	861		700	893	
800	939		100	993		800	893	
900	878		200	981		900	877	
C-9	878		300	975		E-9	876	
100	940		400	952		100	872	
200	924		500	979	86	200	940	

H Line

Sta.	Mag.	Resist.
300	842	
400	No reading	
500	785	61
600	863	
700	847	
800	872	
900	843	
H-10	872	
100	824	
200	842	
300	885	
400	917	
500	715	
600	789	
700	866	
800	941	
900	941	
H-11	866	

G Line

Sta.	Mag.	Resist.
G-0	1004	
100	985	
200	969	
300	945	
400	952	
500	923	
600	978	
700	997	
800	1031	
900	1032	
G-1	984	
100	971	
200	904	
300	1011	
400	995	
500	958	
600	951	
700	983	
800	952	
900	889	
G-2	894	
100	927	
200	986	
300	905	
400	901	
500	890	116
600	929	
700	920	
800	866	
900	884	
G-3	959	
100	935	
200	1066	

G Line

Sta.	Mag.	Resist.
300	1185	
400	1031	
500	979	106
600	3028	
700	1092	
800	1060	
900	988	
G-4	1111	
100	1267	
200	1161	
300	1053	
400	754	
500	1154	109
600	1821	
700	1091	
800	1069	
900	1058	
G-5	1115	
100	1047	
200	1011	
300	998	
400	1089	
500	1143	118
600	996	
700	1033	
800	952	
900	1006	
G-6	1009	
100	1046	
200	969	
300	1001	
400	1046	
500	1049	63
600	474	
700	986	
800	995	
900	997	
G-7	932	
100	911	
200	922	
300	909	
400	932	
500	966	68
600	916	
700	877	
800	909	
900	888	
G-8	911	
100	897	
200	931	
300	925	
400	907	
500	1117	41
600	927	
700	900	

G Line

Sta.	Mag.	Resist.
800	911	
900	897	
G-9	875	
100	875	
200	870	
300	886	
400	870	
500	875	43
600	863	
700	904	
800	902	
900	886	
G-10	890	
100	904	
200	927	
300	893	
400	906	
500	890	
600	875	
700	886	
800	906	
900	918	
G-11	922	

H Line

Sta.	Mag.
H-5	1143
100	1052
200	1007
300	1010
400	1015
500	985
600	945
700	977
800	1075
900	1025
H-6	1000
100	1032
200	1071
300	1056
400	1029
500	1004
600	1013
700	1009
800	1000
900	963
H-7	957
100	945
200	963
300	1052
400	1086
500	945
600	957
700	939
800	952

H Line

Sta.	Mag.	Resist.
900	934	
H-8	1017	
100	911	
200	936	
300	939	
400	1115	
500	1086	
600	984	
700	932	
800	895	
900	877	
H-9	889	
100	1059	
200	923	
300	900	
400	868	
500	925	
600	907	
700	855	
800	846	
900	880	
H-10	905	
100	927	
200	907	
300	914	
400	892	
500	911	
600	911	
700	914	
800	907	
900	900	
H-11	923	

I Line

Sta.	Mag.	Resist.
I-0	1052.0	
100	1041.1	
200	1039.5	
300	1037.7	
400	1042.8	
500	1059.2	
600	1059.7	
700	1051.2	
800	1117.4	
900	991.1	
I-1	1005.2	
100	978.6	
200	950.4	
300	950.7	
400	986.1	
500	992.1	33
600	987.9	
700	995.0	
800	977.1	
900	943.5	

I Line

Sta.	Mag.	Resist.
I-2	750.6	
100	1000.7	
200	985.1	
300	958.2	
400	961.1	
500	904.5	99
600	886.6	
700	877.9	
800	869.1	
900	842.2	
I-3	865.2	
100	1001.4	
200	897.5	
300	818.5	
400	887.7	
500	644.1	97
600	2295.3	
700	1491.2	
800	1564.3	
900	1233.7	
I-4	1118.5	
100	1148.6	
200	969.9	
300	967.9	
400	1002.2	
500	1088.6	128
600	905.7	
700	1175.7	
800	1189.6	
900	1144.5	
I-5	1022.5	
100	1101.1	
200	1077.5	
300	1043.8	
400	1062.7	
500	1060.2	98
600	999.1	
700	936.2	
800	1037.5	
900	1106.7	
I-6	1084.0	
100	1028.0	
200	1060.1	
300	1031.2	
400	985.8	
500	1007.6	83
600	980.0	
700	968.5	
800	954.6	
900	958.8	
I-7	980.8	
100	974.0	
200	988.3	
300	982.6	
400	937.0	

I Line

Sta.	Mag.	Resist.
500	948.0	66
600	922.8	
700	922.7	
800	920.4	
900	931.6	
I-8	859.0	
100	929.2	
200	892.9	
300	883.8	
400	917.7	
500	883.4	38
600	965.2	
700	921.5	
800	892.5	
900	942.2	
I-9	1012.4	
100	935.3	
200	883.2	
300	912.4	
400	844.5	
500	864.7	28
600	891.9	
700	862.4	
800	896.0	
900	875.8	
I-10	841.8	
100	780.5	
200	660.2	
300	843.7	
400	889.0	
500	877.0	
600	882.0	
700	850.2	
800	900.0	
900	892.7	
I-11	883.9	

K Line

Sta.	Mag.	Resist.
K-0	1160.3	
100	1177.8	
200	1135.8	
300	1138.3	
400	1149.2	
500	1117.2	
600	1174.9	
700	1166.3	
800	1116.0	
900	1140.6	
K-1	1249.0	
100	1099.0	
200	1082.8	
300	1270.5	
400	1073.1	
500	993.4	56

K Line

Sta.	Mag.	Resist.
600	828.3	
700	1291.9	
800	1087.5	
900	1035.0	
K-2	987.5	
100	949.4	
200	911.3	
300	907.2	
400	914.5	
500	No reading	
600	1022.8	
700	979.2	
800	923.1	
900	1064.4	
K-3	1020.9	
100	861.8	
200	811.6	
300	813.3	
400	991.9	
500	1043.5	88
600	1092.4	
700	872.2	
800	948.3	
900	750.7	
K-4	1084.6	
100	1319.8	
200	1294.5	
300	1305.2	
400	1146.2	
500	1061.8	75
600	1022.9	
700	1004.2	
800	1003.9	
900	978.5	
K-5	1019.2	
100	1010.2	
200	960.4	
300	1126.0	
400	1076.2	
500	1012.9	66
600	989.8	
700	974.5	
800	965.6	
900	970.1	
K-6	977.0	
100	997.5	
200	1023.1	
300	970.0	
400	953.8	
500	842.2	88
600	939.0	
700	984.5	
800	991.4	
900	948.3	
K-7	941.6	

K Line

Sta.	Mag.	Resist.
100	939.5	
200	950.9	
300	957.8	
400	916.2	
500	914.3	54
600	946.8	
700	907.0	
800	937.8	
900	833.4	
K-8	942.4	
100	913.2	
200	901.8	
300	929.1	
400	902.0	
500	954.3	60
600	918.1	
700	988.2	
800	930.1	
900	863.9	
K-9	916.6	
100	900.4	
200	947.1	
300	918.7	
400	871.2	
500	838.8	
600	862.0	
700	871.4	
800	887.4	
900	896.5	
K-10	910.2	
100	892.2	
200	883.1	
300	899.0	
400	927.5	
500	897.0	
600	892.6	
700	951.8	
800	934.5	
900	940.5	
K-11	913.3	

M Line

Sta.	Mag.	Resist.
M-3	920	
100	829	
200	932	
300	891	
400	1117	
500	999	
600	929	
700	845	
800	1488	
900	951	
M-4	1028	
100	633	

M Line

Sta.	Mag.	Resist.
200	944	
300	1011	
400	898	
500	1066	65
600	1029	
700	1148	
800	1292	
900	1167	
M-5	1110	
100	1011	
200	No reading	
300	1020	
400	1017	
500	1056	76
600	1049	
700	1056	
800	1056	
900	1044	
M-6	1026	
100	990	
200	999	
300	1014	
400	977	
500	1023	97
600	1181	
700	1020	
800	1027	
900	916	
M-7	982	
100	1018	
200	984	
300	988	
400	991	
500	997	75
600	1109	
700	1022	
800	982	
900	1011	
M-8	1038	
100	1083	
200	1111	
300	1059	
400	1065	
500	1029	54
600	1000	
700	979	
800	970	
900	947	
M-9	941	
100	941	
200	956	
300	934	
400	911	
500	947	
600	940	

M Line

Sta.	Mag.	Resist.
700	879	
800	1088	
900	1008	
M-10	990	
100	970	
200	954	
300	938	
400	963	
500	947	
600	963	
700	933	
800	940	
900	904	
M-11	927	

O Line

Sta.	Mag.	Resist.
O-3	1045	
100	1042	
200	1077	
300	1050	
400	1049	
500	1039	
600	1107	
700	1032	
800	1008	
900	992	
O-4	978	
100	955	
200	934	
300	870	
400	962	
500	943	32
600	991	
700	930	
800	1034	
900	1027	
O-5	819	
100	994	
200	1005	
300	1050	
400	972	
500	949	74
600	931	
700	981	
800	1055	
900	1057	
O-6	1269	
100	1339	
200	1198	
300	1107	
400	1059	
500	1007	65
600	984	
700		

O Line

Sta.	Mag.	Resist.
800	993	
900	998	
O-7	1002	
100	1016	
200	1022	
300	1008	
400	983	
500	983	74
600	967	
700	990	
800	999	
900	1098	
O-8	1125	
100	1101	
200	1044	
300	1065	
400	1058	
500	1044	58
600	1044	
700	1073	
800	1026	
900	969	
O-9	987	
100	1195	
200	924	
300	967	
400	1028	
500	1035	
600	1044	
700	1058	
800	1024	
900	983	
O-10	960	
100	967	
200	1058	
300	1044	
400	1001	
500	974	
600	976	
700	931	
800	976	
900	942	
O-11	956	

1+500 Line

Sta.	Mag.	Resist.
A	1087	86
100	1083	
200	1063	
300	1065	
400	1103	
500	1496	
600	1066	
700	935	
800	970	

1+500 Line

Sta.	Mag.	Resist.
900	1034	
1000	1046	
1100	1044	
C	1052	68
100	1011	
200	1018	
300	991	
400	1012	
500	969	
600	958	
700	967	
800	1022	
900	993	
1000	1004	
1100	957	
E	979	86
100	932	
200	955	
300	892	
400	949	
500	967	
600	903	
700	1026	
800	896	
900	955	
1000	885	
1100	952	
G	974	106
100	1039	
200	1050	
300	1100	
400	977	
500	930	
600	1143	
700	1059	
800	959	
900	705	
1000	576	
1100	644	
I	644	97
100	938	
200	863	
300	1142	
400	1189	
500	1436	
600	1217	
700	978	
800	1248	
900	1227	
1000	1250	
1100	1066	
K	1044	88

4+700S Line

Sta.	Mag.	Resist.
K	1004	
100	991	
200	1049	
300	1157	
400	1234	
500	1124	
600	1112	
700	1232	
800	1176	
900	1337	
1000	1214	
1100	1436	
M	1140	
100	1035	
200	1313	
300	1210	

5 Line

Sta.	Mag.	Resist.
C	939	
100	961	
200	958	
300	990	
400	985	
500	992	
600	985	
700	1000	
800	989	
900	1000	
1000	986	
1100	968	
E	1000	
100	1001	
200	1081	
300	978	
400	1007	
500	1089	
600	1009	
700	1014	
800	1027	
900	975	
1000	1054	
1100	1008	
G	1115	
100	1083	
200	1028	
300	1048	
400	1045	
500	1150	
600	1143	
700	1093	
800	1101	
900	1090	
1000	1071	
1100	1042	

5 Line

Sta.	Mag.	Resist.
I	1023	
100	1049	
200	1074	
300	1190	
400	1158	
500	1256	
600	1097	
700	1146	
800	1121	
900	1089	
1000	1047	
1100	1026	
K	1019	

6+200S Line

Sta.	Mag.	Resist.
K	1023	
100	955	
200	941	
300	941	
400	957	
500	973	
600	953	
700	951	
800	962	
900	986	
1000	992	
1100	1001	
M	999	
100	1002	
200	988	
300	988	
400	961	
500	954	
600	949	
700	951	
800	969	
900	1040	
1000	1123	
1100	1189	
O	1198	

6+500S Line

Sta.	Mag.	Resist.
E	861	61
100	858	
200	898	
300	900	
400	892	
500	912	
600	952	
700	956	
800	972	
900	961	
1000	963	

6+500S Line

Sta.	Mag.	Resist.
1100	944	
G	1049	63
100	1070	
200	1026	
300	1059	
400	1006	
500	1030	
600	1004	
700	1009	
800	1042	
900	1021	
1000	1032	
1100	947	
I	1008	83
100	996	
200	975	
300	992	
400	1012	
500	974	
600	974	
700	968	
800	980	
900	984	
1000	971	
1100	971	
K	942	88

8 Line

Sta.	Mag.	Resist.
D	939	
100	914	
200	874	
300	862	
400	858	
500	867	
E	899	
100	865	
200	858	
300	860	
400	864	
500	890	
600	897	
700	890	
800	1016	
900	961	
1000	1031	
1100	854	
G	911	
100	993	
200	948	
300	983	
400	931	
500	944	
600	1017	
700	930	

E Line

Sta.	Mag.	Resist.
800	930	
900	971	
1000	815	
1100	893	
I	859	

245003 Line

D	757	
100	882	
200	884	
300	857	
400	882	
500	869	
E	785	61
100	919	
200	840	
300	884	
400	875	
500	867	
600	876	
700	854	
800	873	
900	884	
1000	880	
1100	879	
G	875	43
100	888	
200	1290	
300	1322	
400	1049	
500	915	
H	946	

11 Line

D	878	
100	892	
200	876	
300	840	
400	788	
500	844	
E	866	
100	869	
200	836	
300	971	
400	966	
500	1000	
600	898	
700	1102	
800	877	
900	904	
1000	895	
1100	995	

11 Line

Sta.	Mag.	Resist.
G	922	
100	916	
200	123	
300	957	
400	891	
500	900	
H	923	

LEGEND

—— Boundary of Claims Surveyed for Patent

—— Unpatented Claim Boundary

Grid Line

Shaft

ROADSIDE MINE PROJECT
MAGNETIC CONTOURS

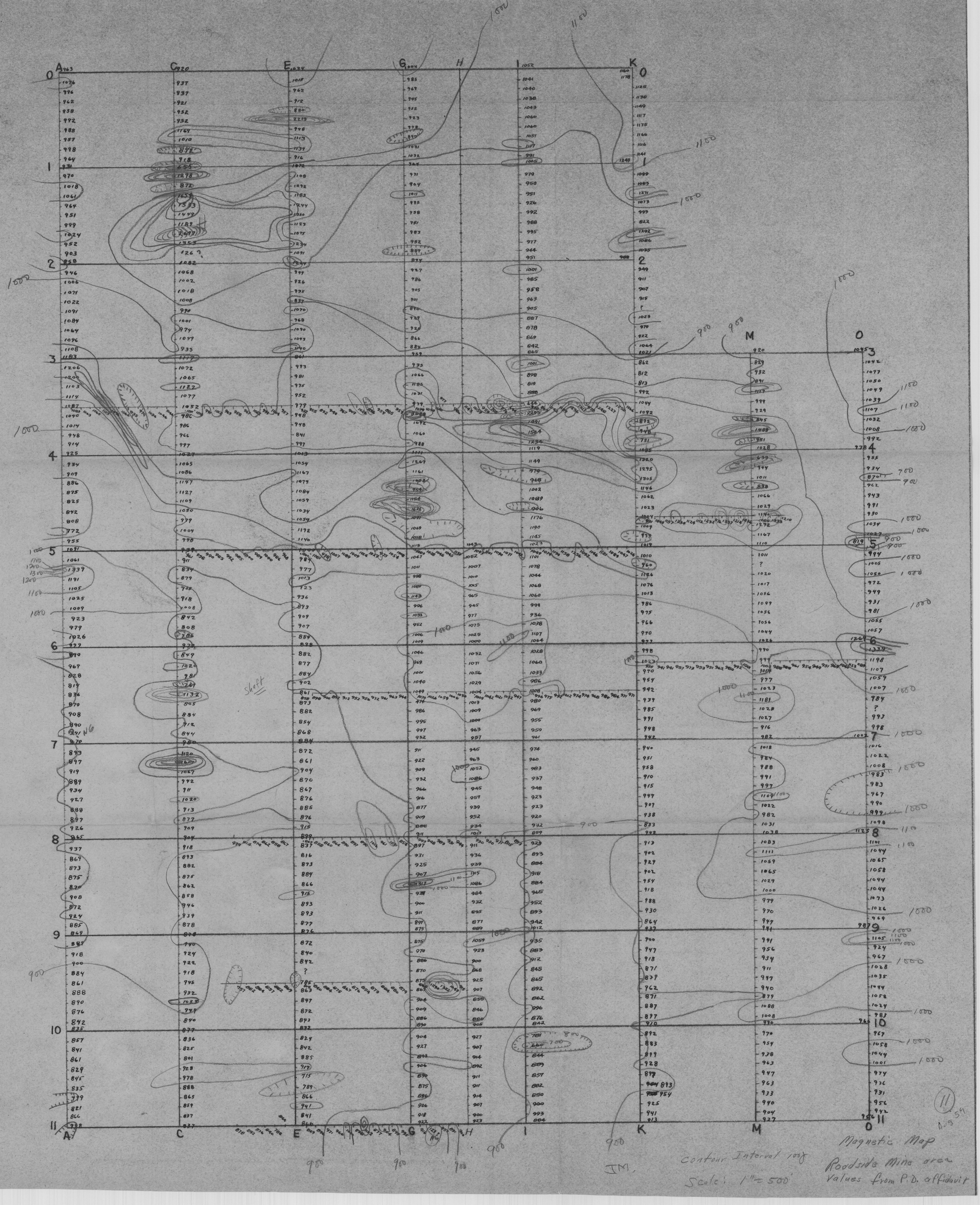
CONTOUR INTERVAL 100 γ

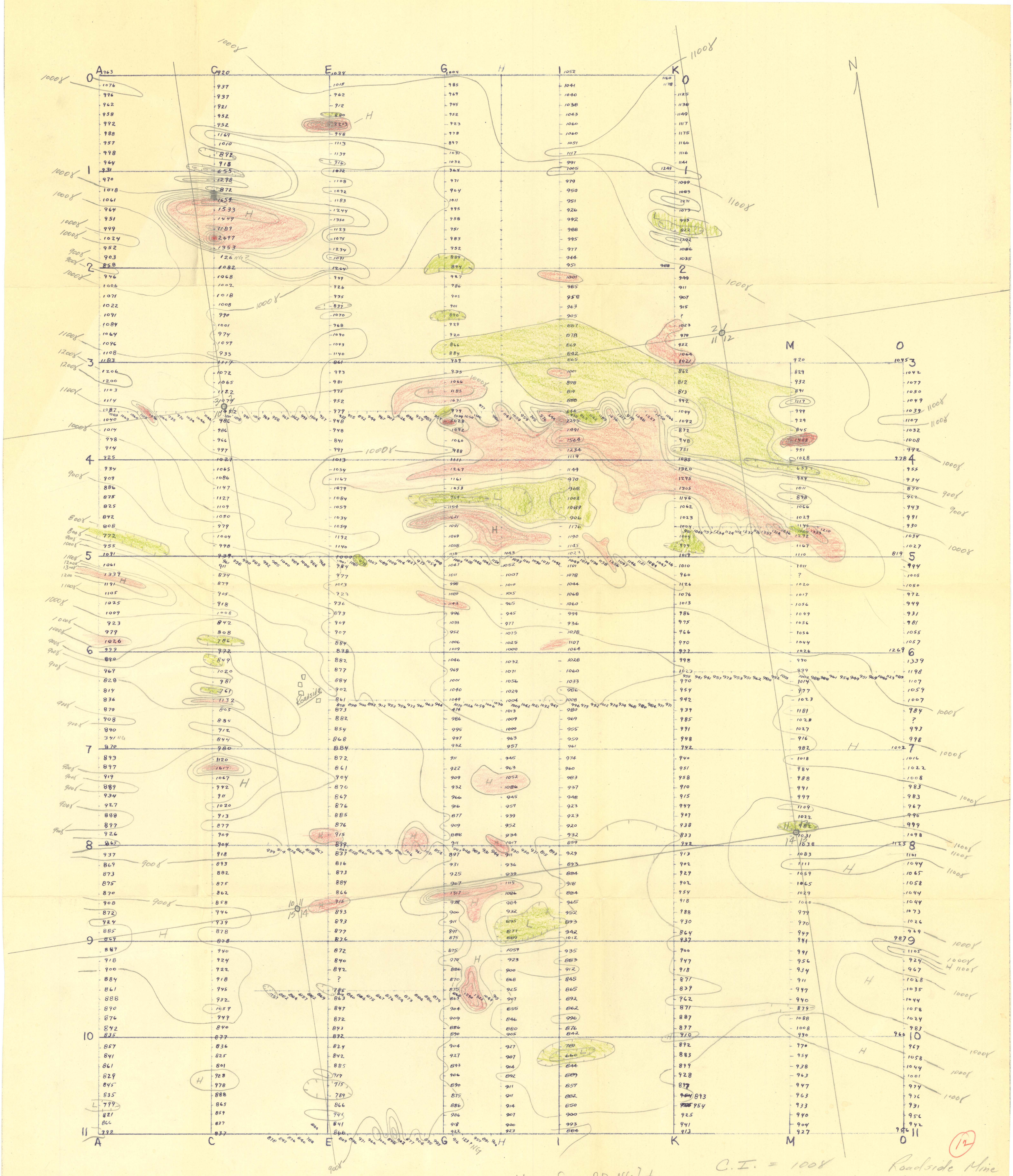
Scale 1" = 500

September 1, 1959

By P. D. Corp.

(10)


A
C
E
G
H
I
K
M
O
0
1
2
3
4
5
6
7
8
9
10
11
Shaft
Magnetic Map
Roadside Mine area
Values from P.D. affidavit
Contour Interval 100
Scale: 1" = 500'
JM.


A
C
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G
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I
K
M
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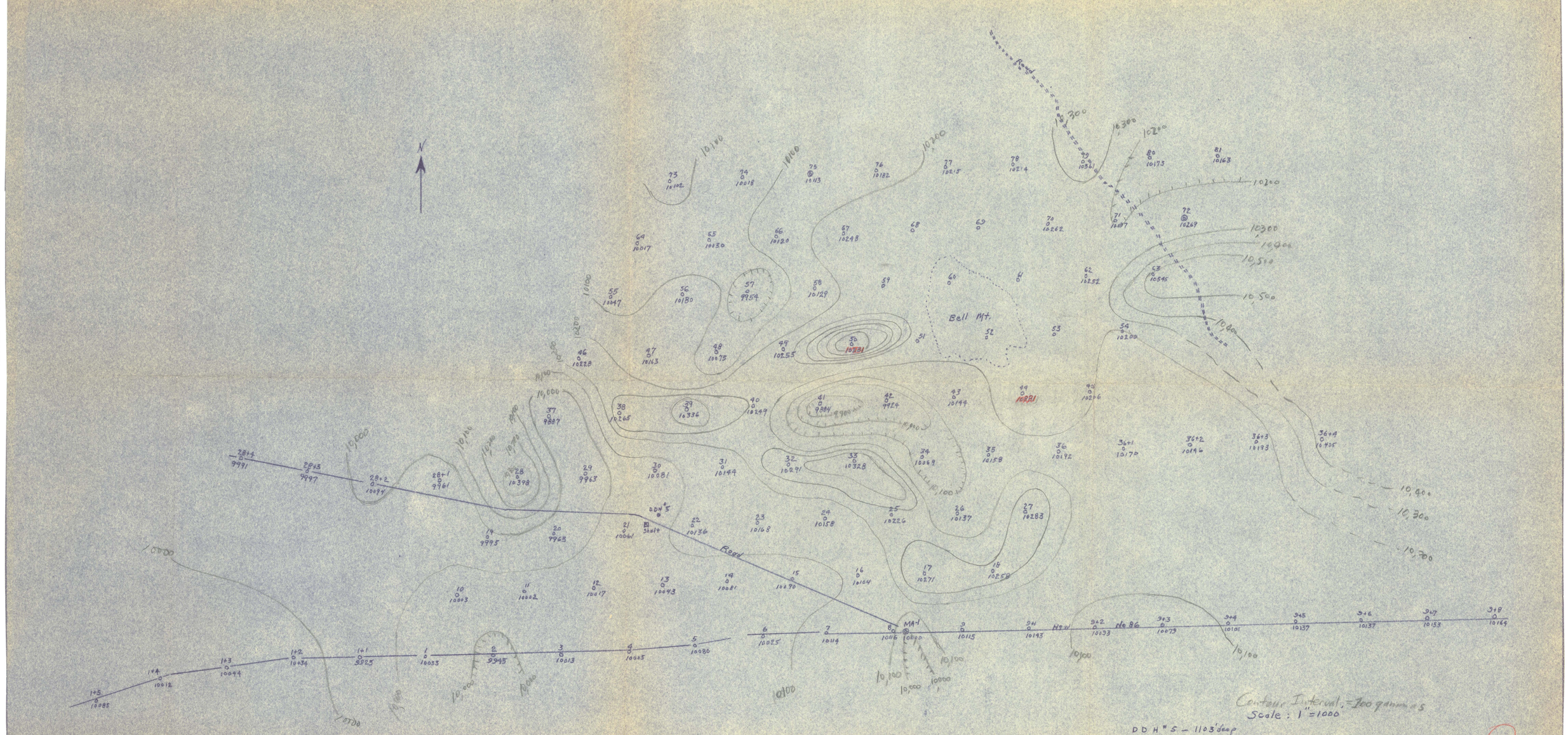
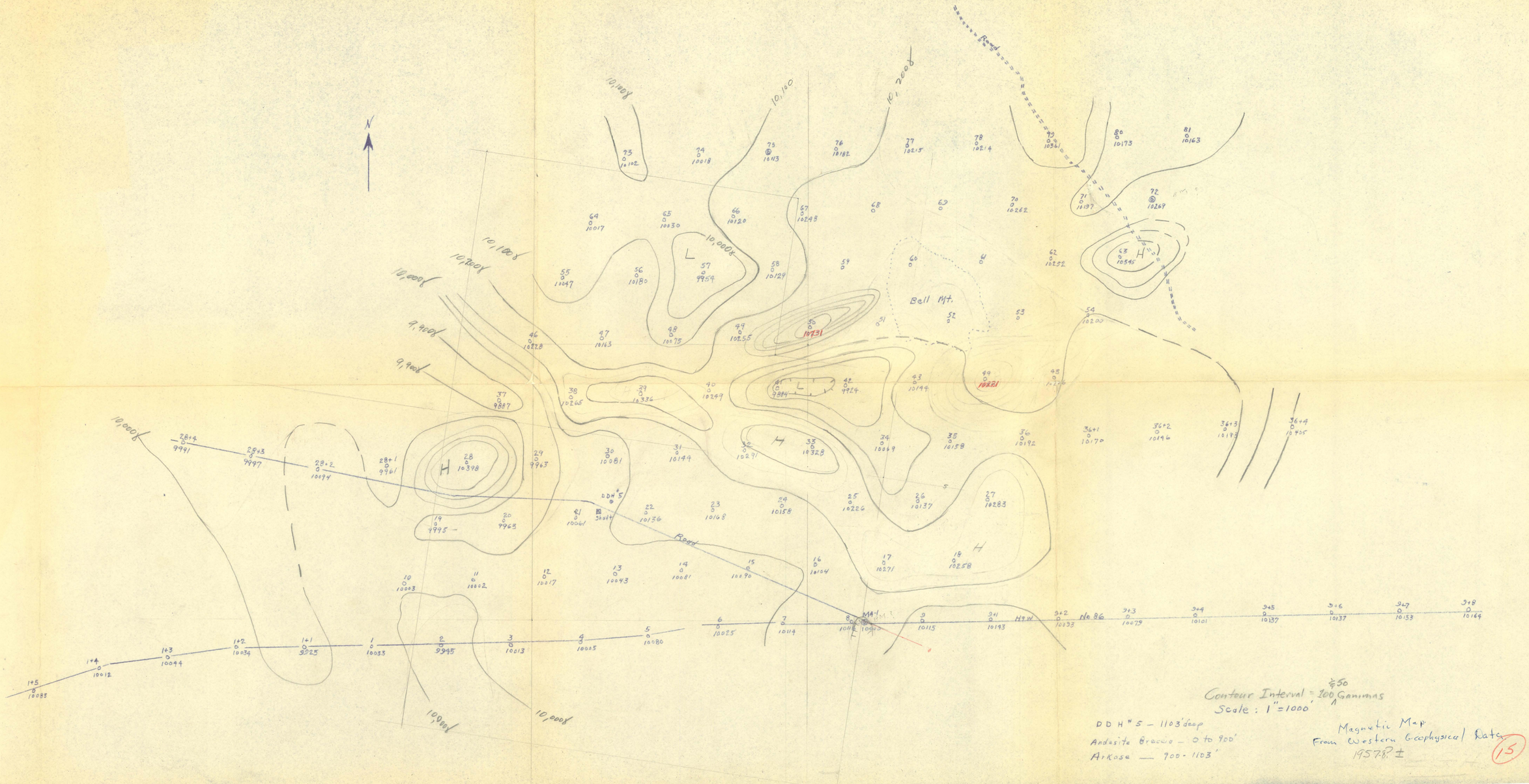
0
1
2
3
4
5
6
7
8
9
10
11
N
10008
11008
12008
9008
8008
H
L
Roadside
Values from P.D. Affadavit.
G.H.
C.I. = 100ft
Scale 1" = 500'
Inst. Aug-Sept 1959
Roadside Mine
Pima County, Ariz.
values from P.D. data
12

Contour Interval = 50 Feet
Scale: 1" = 1000'


N
Bell Mt.
Road
Shaft
DDH #5
MA-1
H+W
No 86
Contour Interval = 100 gammas
Scale : 1" = 1000
DDH #5 – 1103' deep
Andesite Breccia – 0 to 900'
Arkose – 900 - 1103'
14

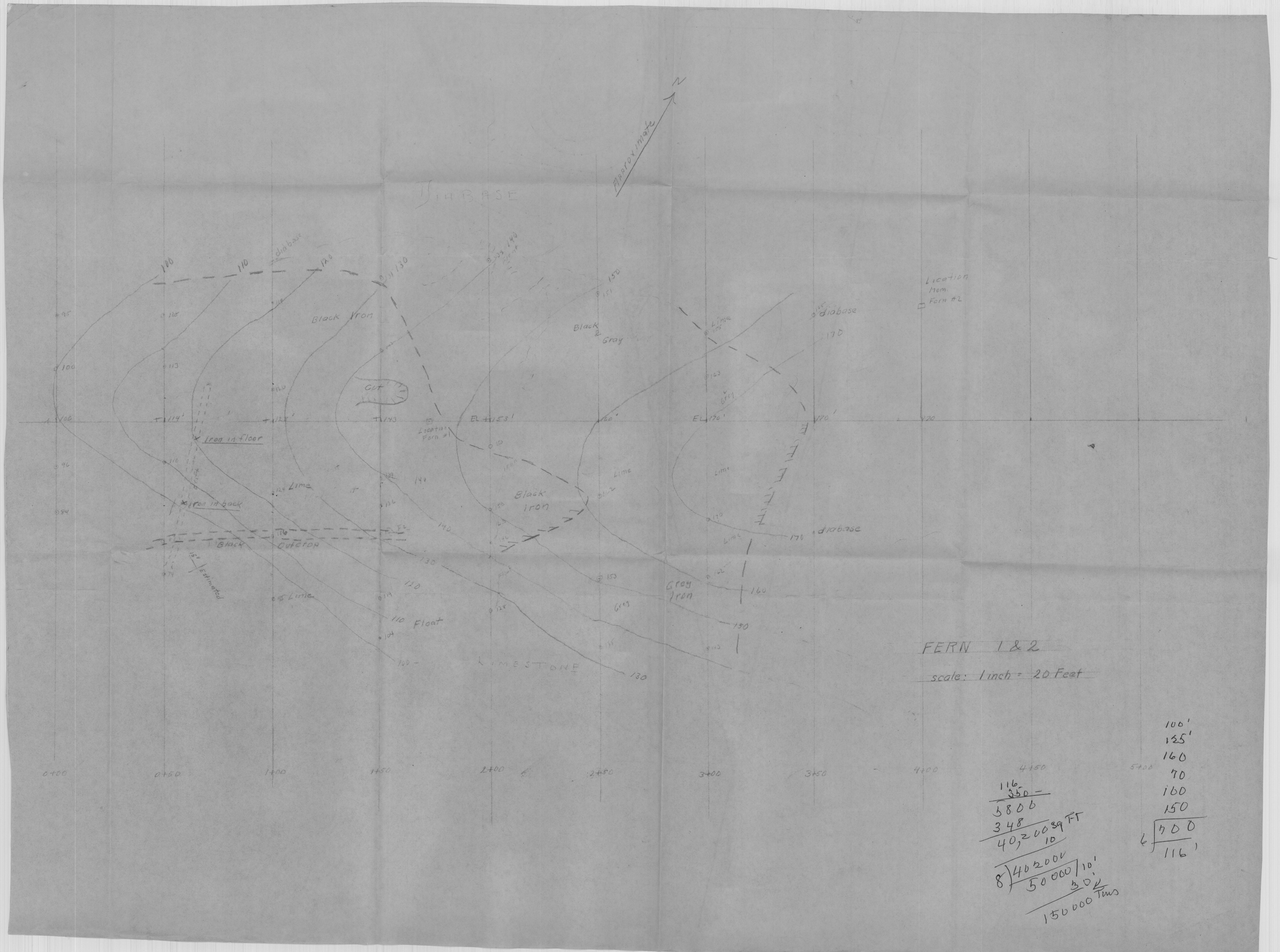


Contour Interval = 200 γ 50 Gammas
Scale: 1" = 1000'

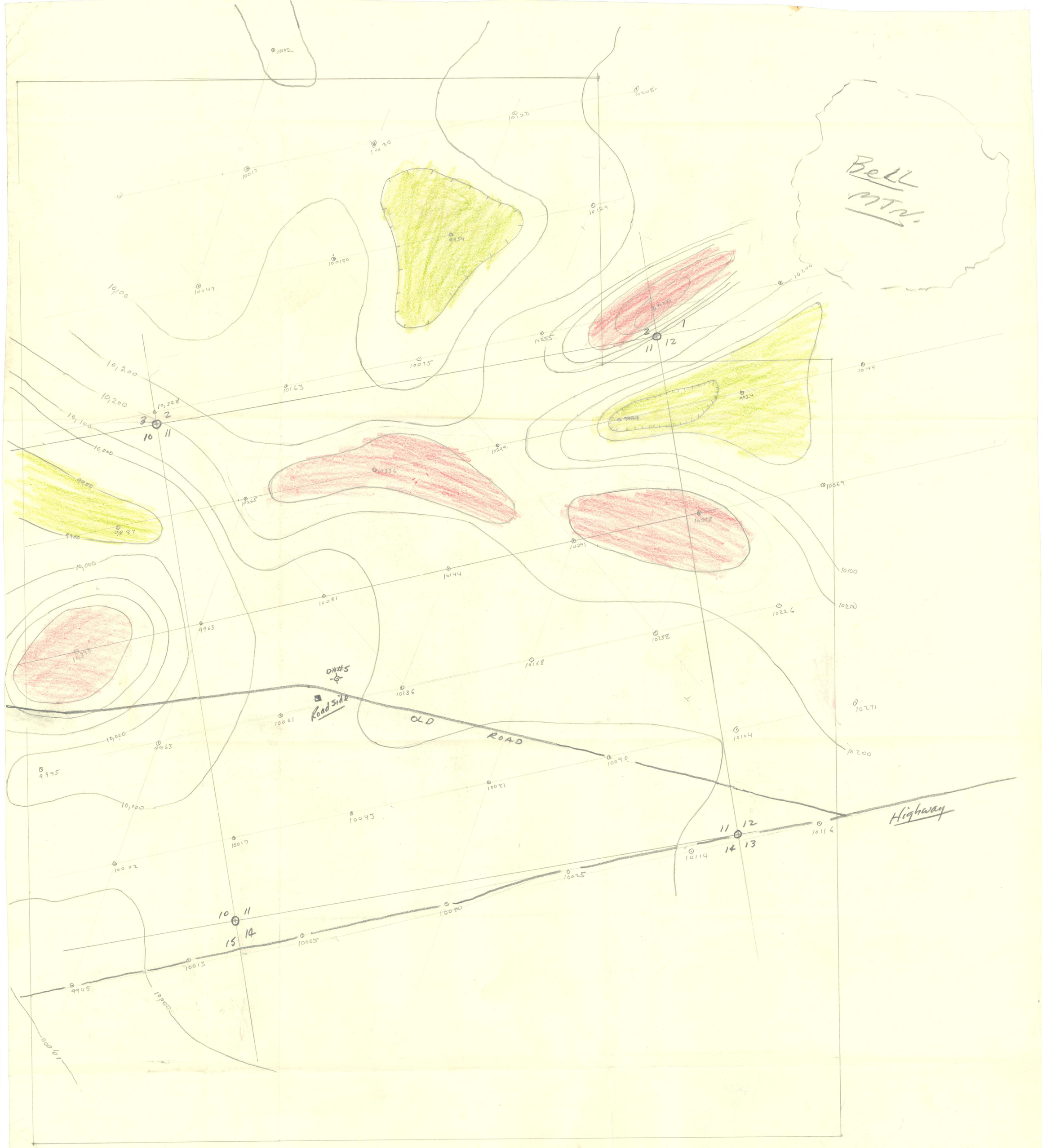
DDH #5 – 1103' deep
Andesite Breccia – 0 to 900'
Arkose — 900 - 1103'

Magnetic Map
From Western Geophysical Data
1957? ±

15



N
Approximate
DIABASE
diabase
Black Iron
Cut
Iron in floor
Iron in back
Black Outcrop
Estimated
Lime
Float
Location Fern #1
Black & Gray
Lime
diabase
Location Mom. Fern #2
Black Iron
Grey Iron
Grey
LIMESTONE
0+00
0+50
1+00
1+50
2+00
2+50
3+00
3+50
4+00
4+50
5+00
FERN 1 & 2
scale: 1 inch = 20 Feet
116
350
5800
348
40,200 sq FT
10
8) 402000
50000 | 10'
30'
150000 Tons
100'
125'
160
70
100
150
6) 700
116'



Rough Pantograph sketch
of Magnetic map
made from western Geophysical Data. ± 1957-8?
Cont ~~Int~~ 100 γ
Scale 1" = 500'

Roadside Mine
11/6/60

Roadside Mine P.D. Mag data 1/7/60

5000S 4000S 3000S

Looking West

Horiz Scale: ~~1" = 1000'~~ 1" = 500'

(17)