CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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K+E 10 X 10 TO THE INCH 46 0782
7 X 10 INCHES MADE IN U.S.A.
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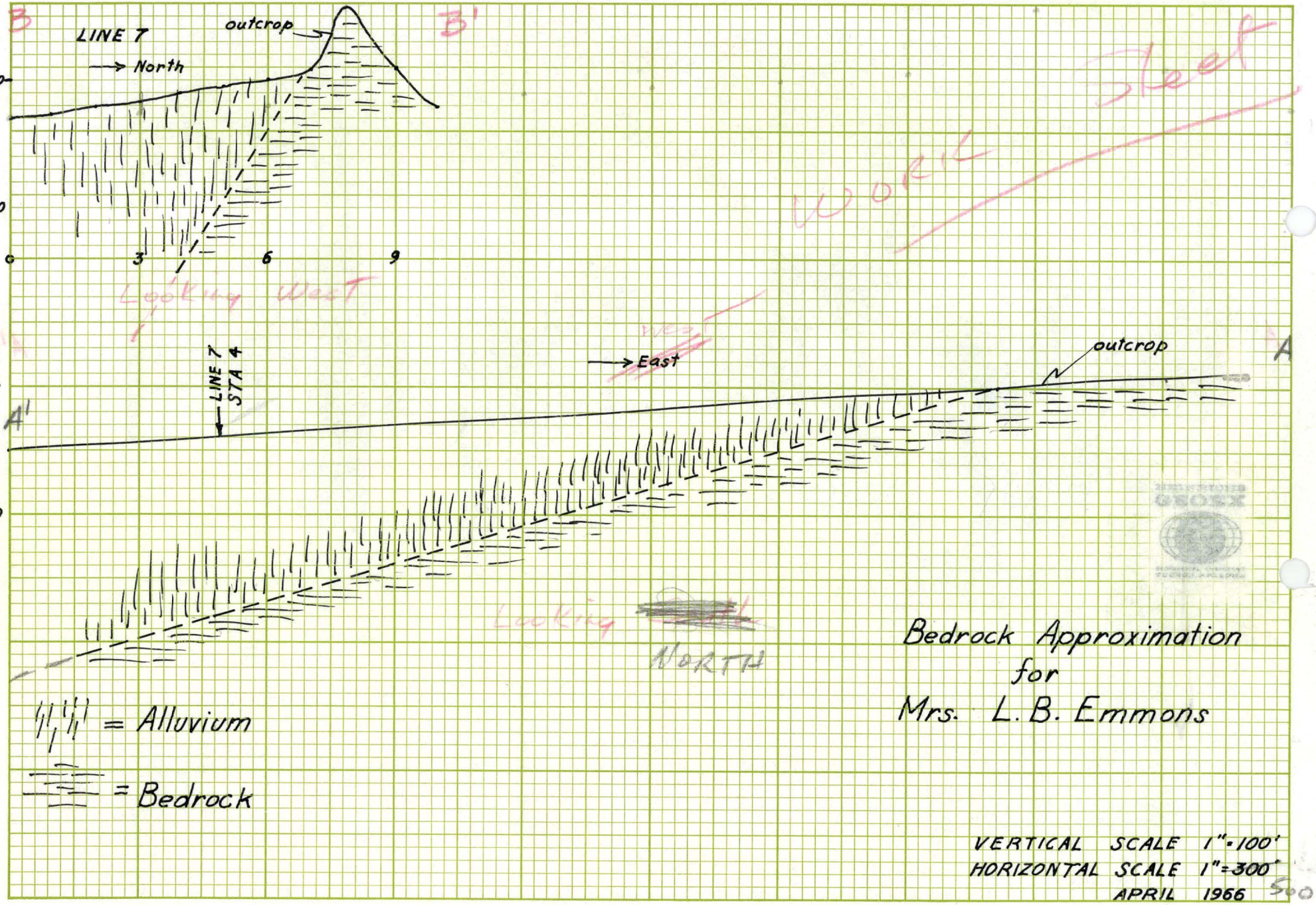
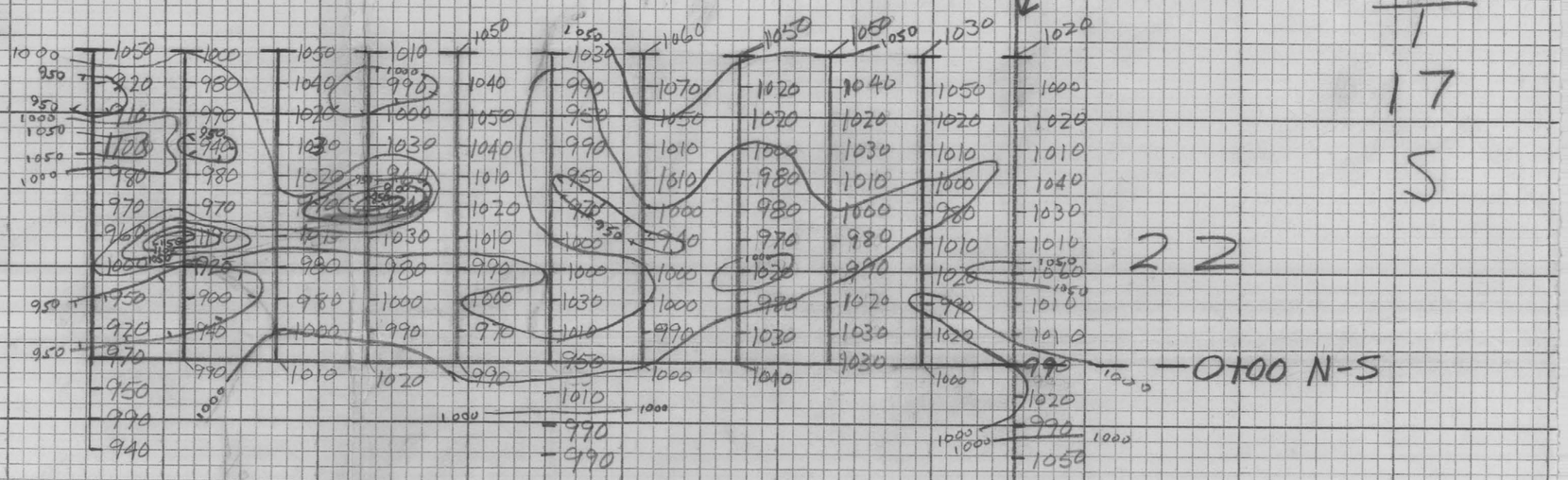


Bedrock Approximation
for
Mrs. L. B. Emmons

VERTICAL SCALE 1" = 100'
HORIZONTAL SCALE 1" = 300'
APRIL 1966

17 16 15

LINE NUMBER - - 1 2 3 4 5 6 7 8 9 10 11



T 17 S

20

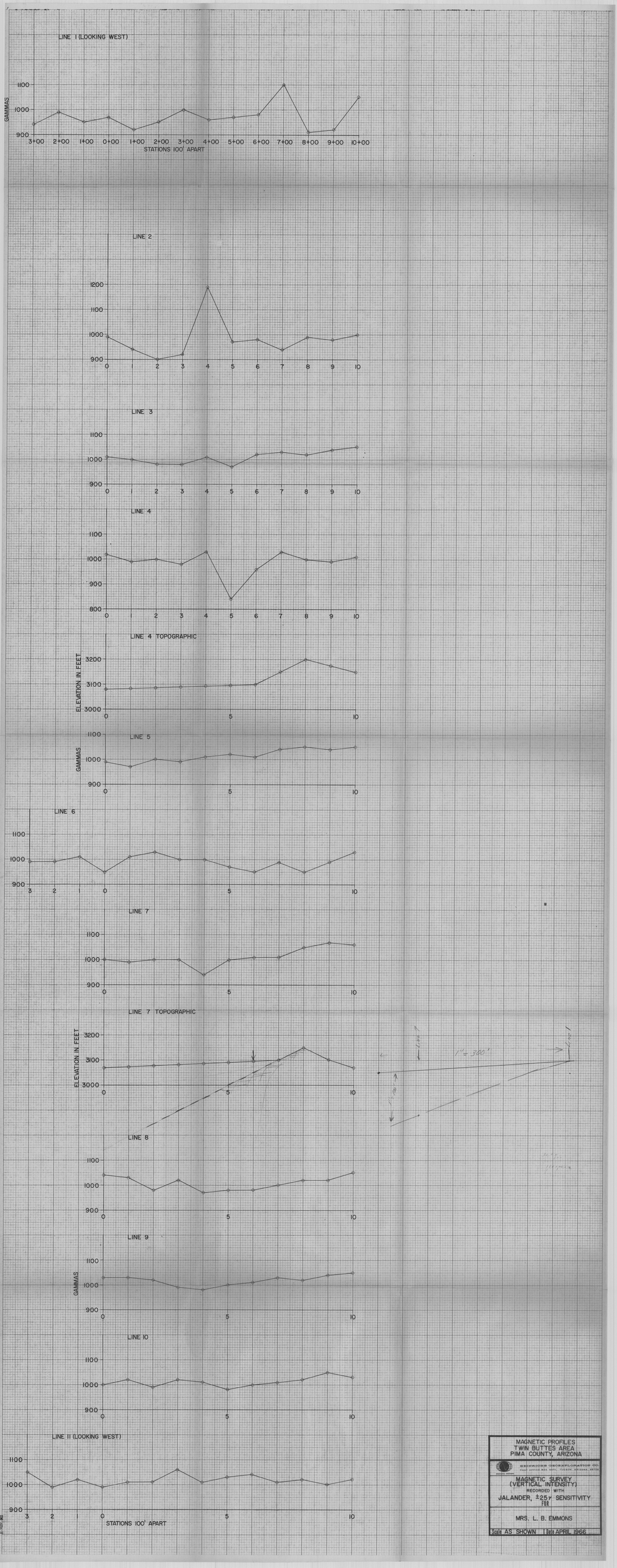
22

R 13 E

C.I = 50 Gammas

EMMONS: Vertical Intensity Magnetics

1" = 500'


LINE 1 (LOOKING WEST)
GAMMAS
STATIONS 100' APART
LINE 2
LINE 3
LINE 4
LINE 4 TOPOGRAPHIC
ELEVATION IN FEET
LINE 5
GAMMAS
LINE 6
LINE 7
LINE 7 TOPOGRAPHIC
ELEVATION IN FEET
LINE 8
LINE 9
GAMMAS
LINE 10
LINE 11 (LOOKING WEST)
STATIONS 100' APART
1" = 300'
MAGNETIC PROFILES
TWIN BUTTES AREA
PIMA COUNTY, ARIZONA
HEINRICHS GEOEXPLORATION CO.
MAGNETIC SURVEY
(VERTICAL INTENSITY)
RECORDED WITH
JALANDER, ±25γ SENSITIVITY
FOR
MRS. L. B. EMMONS
Scale AS SHOWN
Date APRIL 1966

MAGNETIC SURVEY

TWIN BUTTES AREA

PIMA COUNTY, ARIZONA

for

MRS. L. B. EMMONS

by

HEINRICHS GEOEXPLORATION COMPANY
P. O. BOX 5671 TUCSON, ARIZONA

TABLE OF CONTENTS

Page No.

INTRODUCTION

CONCLUSIONS AND RECOMMENDATIONS

PROCEDURE

IDEALIZED SECTION - A-A' B-B'

IN MAP POCKET: (2 maps)

MAGNETIC SURVEY VERTICAL INTENSITY COMPOSITE

MAGNETIC SURVEY VERTICAL INTENSITY MAGNETIC PROFILES

INTRODUCTION

In March 1966, Mrs. L. B. Emmons requested that the depth of bedrock be determined, geophysically, under the N 1/2 of the N 1/2 of the SE 1/4 and the NE 1/4 of the NE 1/4 of the SW 1/4 of Section 21, T 17 S, R 13 E, G. & S. R. B. & M., Pima County, Arizona. The area explored was to be approximately 40 acres. Field work was done by Dan Anderson, Geophysical Technician and report compiled by Chris S. Ludwig, Senior Geophysicist, and Paul Head, Geophysicist.

CONCLUSIONS AND RECOMMENDATIONS

The magnetic survey revealed an anomalous zone, identified as Zona A, in this area which can be interpreted as a magnetic body under the alluvium and has a shallow depth to bedrock likely less than 50'. Extrapolation of surface geology and this anomaly provided maximum and minimum alluvial cover approximation of 100' to 200' in the vicinity of Station 4, Line 7, and from 0' on the west end of the described property to 180' on the east end. Generally, there is very little magnetic contrast to the south and east of the limestone outcrops, suggesting an increasing thickness of alluvial cover to the south and east.

PROCEDURE

Eleven vertical intensity magnetic profiles, 300 feet apart, were made over the above described ground. These are presented in profile and contoured plan form, with idealized sections A-A' and B-B' showing the bedrock approximations.

Reference used to compile this report was U.S.G.S. Bulletin 1112-C by John R. Cooper.

Respectfully submitted,

HEINRICHS GEOEXPLORATION COMPANY

Paul A. Head

Paul A. Head, Geophysicist

APPROVED:

Registered Professional Engineer
CERTIFICATE EXPIRES
WALTER E. HEINRICHS, JR.
DEC. 31, 1966
ARIZONA, U.S.A.

W. E. Heinrichs, Jr.

April 6, 1966

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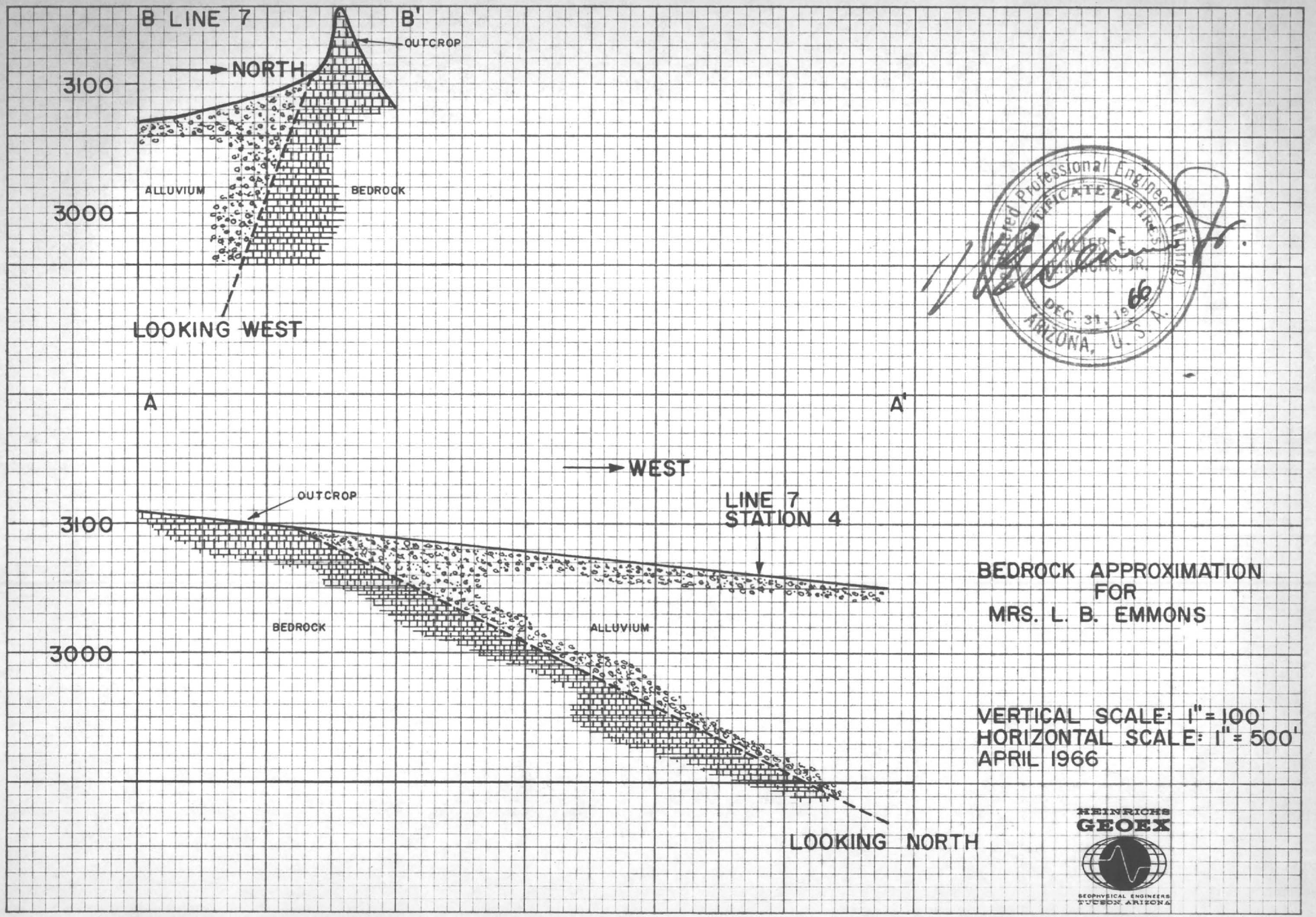
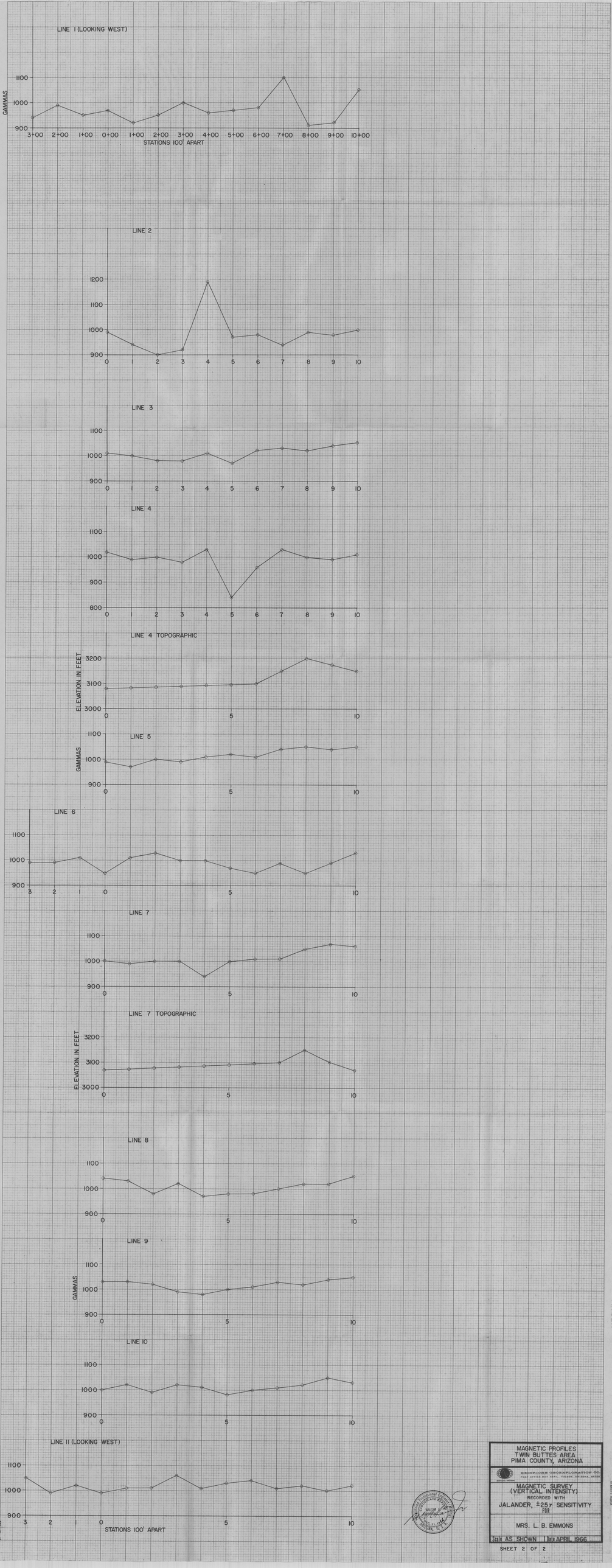


Registered Professional Engineer (Arizona)
CERTIFICATE EXPIRES
DEC. 31, 19 66
ARIZONA, U.S.A.



MAGNETIC PROFILES
TWIN BUTTES AREA
PIMA COUNTY, ARIZONA

HEINRICHS GEOEXPLORATION CO.
PORT OFFICE BOX 5871, TUCSON, ARIZONA, 85703

MAGNETIC SURVEY
(VERTICAL INTENSITY)
RECORDED WITH
JALANDER, ±25γ SENSITIVITY
FOR

MRS. L. B. EMMONS

Scale AS SHOWN | Date APRIL 1966

SHEET 2 OF 2

17 | 16 | 15

SECTION 21

I.P. LINE 2

I.P. LINE 1

LINE NUMBER → 1 2 3 4 5 6 7 8 9 10 11

SAN XAVIER THRUST

20

22

T 17 S

Pz

A

SECTION AA

SECTION BB

D U

1000 950 900 1050 1100

DIRECTION OF INCREASING THICKNESS OF ALLUVIUM

0+00 N-S

N

CONTOUR INTERVAL 50 GAMMAS
RECORDED WITH JALANDER ±25γ SENSITIVITY

(Pz) PALEOZOIC SEDIMENTARY ROCKS OUTCROP

SHALLOW DEPTH TO BEDROCK LIKELY LESS THAN 50' ZONE A

R 13 E

Registered Professional Engineer (Mining) CERTIFICATE EXPIRES DEC. 31, 1966 WALTER E. [illegible] ARIZONA, U.S.A.

HEINRICHS GEOEXPLORATION CO.
GEOPHYSICAL ENGINEERS
POST OFFICE BOX 5671 TUCSON ARIZONA 85703

COMPOSITE
MAGNETIC SURVEY VERTICAL INTENSITY
TWIN BUTTES AREA
PIMA COUNTY, ARIZONA
FOR

MRS. L.B. EMMONS

Scale 1" = 500' | Date MARCH, 1966

SHEET 1 OF 2

Mrs Emmons
Sec # 21 R13E T17S

3-28-66
(1)

TR.MK. REG. U.S. PAT. OFF.

STA	Rng	Read		
Base	+1	116		
0+00	+1	99	0	Heading North
1+00		94		
2+00		90		
3+00		92		
4+00		119		N Edge Rd.
5+00		97		
6+00		98		
7+00		94		
8+00		98	+1	
9+00		97		
10+00		99		
LINE #3		Heading South		
10+00	+1	104	+1	
9+00		103		
8+00		101		
7+00		102		W Edge of Hill
6+00		100	+2 5	" "
5+00		95	N	" Road
4+00		99		
3+00		96		
2+00		96		
1+00		98		
0+00		99		
Base		~~109~~	114	

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LINE #1

Base	113		+3	
3+00S	+1	91		
2 S		96		
1 S		92		
0+00	+1	94		
1 N		89		
2 N		92		
3		96	+4	IN ROAD
4		91		
5		93		
6		94		
7		106		WASH
8		97		
9		98		SECOR 14
10		101		NE " 15
Base		112		

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Emmons

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STA	RNG	READ	+2
0+00	+1	100	LINE #4 HEAD NORTH
1+00		97	
2+00		98	
3+00		96	
4+00		101	
5+00		82	So. Edge Rd
6+00		94	" " Hill
7+00		101	Side of Hill
8+00		98	Top " "
9+00		97	N. Side Hill
10+00		99	" " "
			+3
10+00	+1	102	LINE #5 HEAD So.
9+00		101	N. Side Hill
8+00		102	Top
7+00		101	S. Side
6+00		98	S Edge of Hill
5+00		99	S " Rd
4+00		98	
3+00		96	
2+00		97	
1+00		94	
0+00		96	
Base	+1	113	

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Emmons

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STA	RNG	READ +3	L
0+00	+1	92	LINE #6 HEAD No.
1+00		98	
2+00		100	
3+00		97	
4+00		97	
5+00		94	So. Edge Rd
6+00		92	" " QUARY DUMP
7+00		96	Top of QUARY
8+00		92	BASE of Q CUT
9+00		96	~~TOP~~ of H:11
10+00		100	N. Side " "
			LINE #7 HEAD So.
		+4	
10+00		102	No. Side of H:11
9+00		103	Top of H:11
8+00		101	S. Side "
7+00		97	" "
6+00		97	E Edge Q Dump
5+00		96	SE cor Q Dump
4+00		90	
3+00		96	
2+00		96	
1+00		95	
0+00		96	
Base		112	+4

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Emmons

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STA	RNG	READ		
0+00	+1	97	LINE 8 HEAD N	+4
1+00		99		
2+00		94		
3+00		98		
4+00		93		
5+00		94	N. Edge Rd	
6+00		94		
7+00		96	S Side of Hill	
8+00		98	" " "	
9+00		98	Top of Hill	
10+00		101	N Side "	
		LINE 9	HEAD South	
10+00	+1	100	N Side hill	+5
9		99	T H	
8		97	SS H	
7		98	"	
6		97		
5		96		
4		93		
3		94		
2		97		
1		98		
0+00		98		
~~1+00~~			South	
~~2+00~~				
~~3+00~~				
BASE		111		

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Line 6 South

1+00	+1 98	+3
2+00	96	
3+00	96	

Line #1 South

1
2
3

EMMONS

TR. MK. REG. U.S. PAT. OFF.

ORIGINAL COPR. 1910 BY J. C. PARKER

STA	ENG	READ (+4)	
D+00	+7	96	LINE #10 NORTH ↓
1+00		98	
2+00		95	
3+00		98	
4+00		97	
5+00		94	
6+00		96	
7+00		97	S side
8+00		98	"
9+00		101	Top
10+00		99	↓ N Side

LINE #11 HEAD South

10+00	+	99	+3
9+00		98	
8+00		99	
7+00		98	
6+00		101	WASH
5+00		100	"
4+00		98	N Edge R4
3+00		103	
2+00		98	
1+00		98	
0+00		96	
1+00		99	↓
2+00		96	
3+00		102	WASH
BASE		113	

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