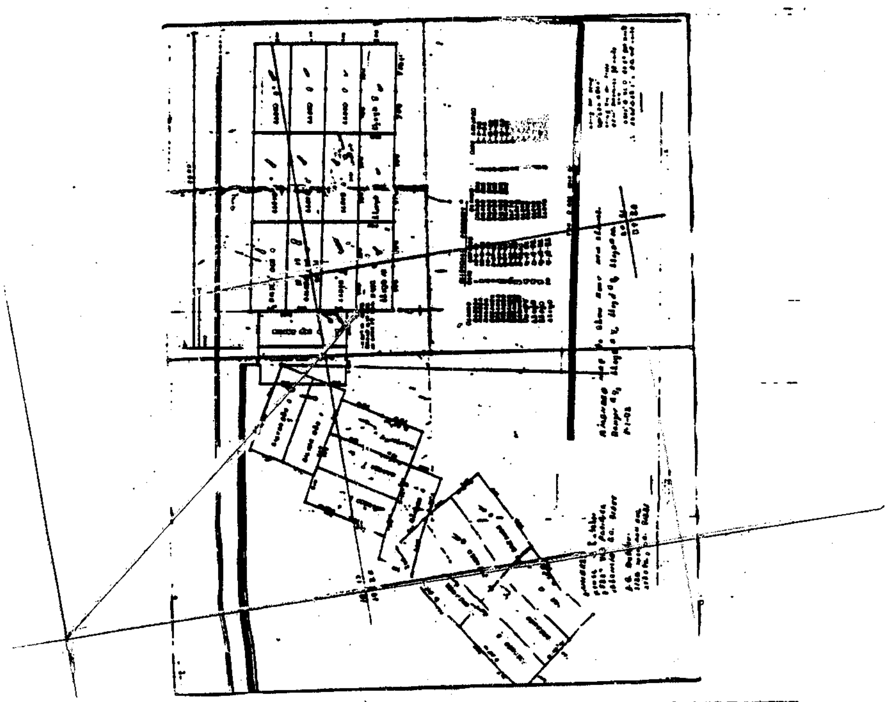


elaio, olive oil, oil.] a sub-
various parts of the epider-
be an intermediate stage in
keratin.
gathered by hand; hence, of
said of fruit; as, *eleme* figs.
elementum, a first principle.

substances—earth, air, fire,
believed to constitute all

: four substances thought of
vironment of a class of living

or fitting environment for a

it, feature, or principle of
: part.
/, any substance that cannot
o different substances except
tegration: all matter is com-
bstances.
ad and wine used in the Eu-

y, (a) either of a pair of me-
that act together in an elec-
ice electricity; (b) a positive
trode; (c) the working part of
pliance; as, the heating *ele-*

natics, (a) an infinitesimal
gnitude; differential; (b) the
that generates a line, surface,

aviation, the basic unit of an
sting of one or more aircraft:
on of a flight.
nt; in a situation, surround-
to one.
a) the first or basic principles;
wind, rain, etc.; forces of the

compound of elements or first
.]
1. of any or all of the four
, air, fire, and water) believed
hilosophers.
atural forces; characteristic of
universe.
powerful; primal; as, hunger
mental drives.
rinciples; elementary; basic;
imple.
ssential part or parts.
ry, of an element; not a com-

n, *n.* worship of the elements

y, *n.* composition of princi-
ents.
, *adv.* according to elements; in
ense. [Obs.]
. elementary. [Obs.]
y, *adv.* in an elementary manner.
ness, *n.* the state or quality of
ary.
ty, *n.* elementariness. [Obs.]
a [L. *elementarius*, pertaining
; *elementum*, element.]

rinciples; of the rudiments or
of something; introductory.
; of one chemical element; not

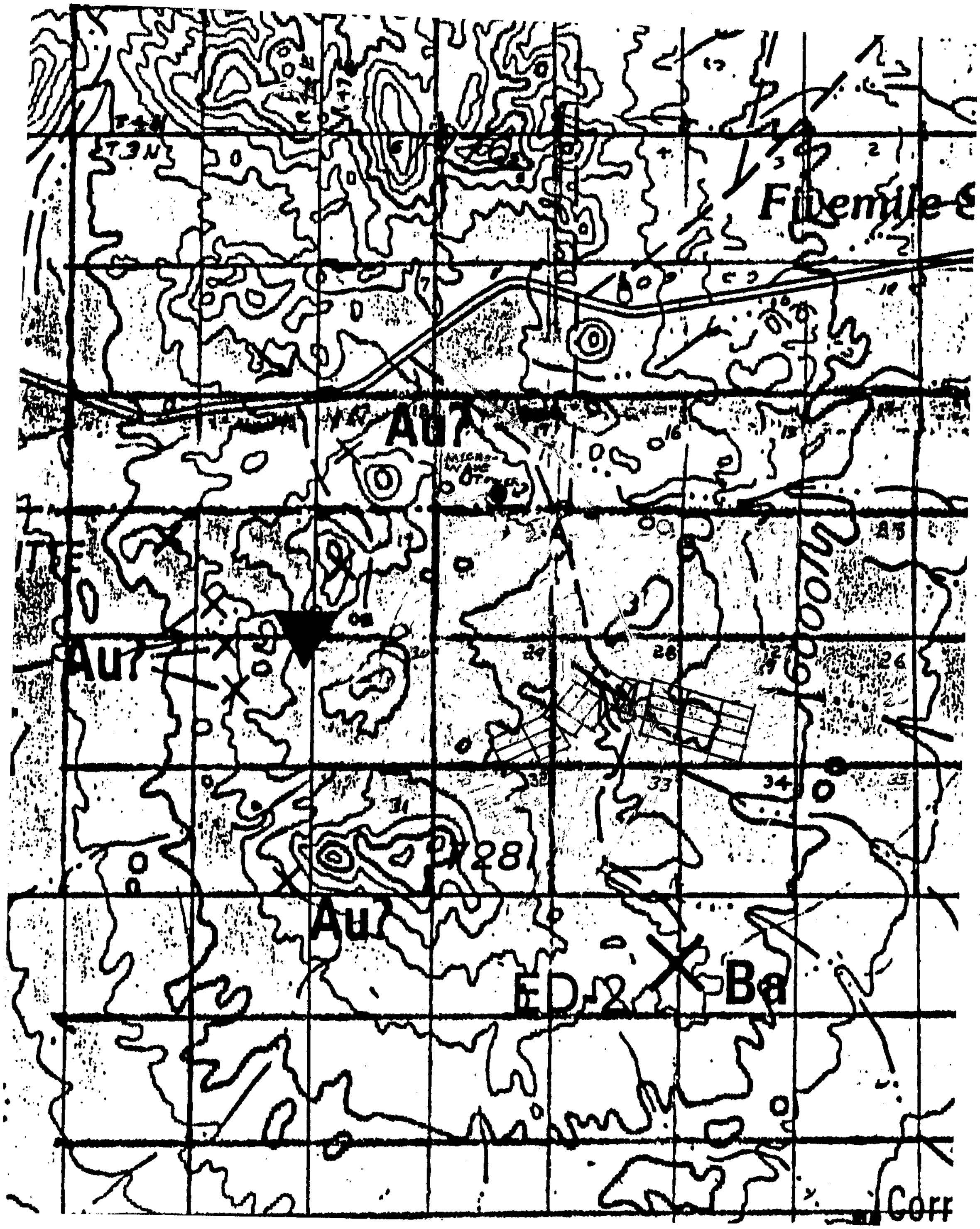
ical element or elements.
cal, material, natural, primary,
simple, inchoate, component,
ltimate.
pär′ti·cle, a particle smaller
n, which is not a composite of
s but is capable of independent
a neutron, proton, electron, etc.
school, 1. in educational sys-
to junior high school, a school of
where basic subjects are taught.
tional systems having a junior
similar school of six grades.
grade school, grammar school.
on, *n.* instruction in primary
bs.]
a. like an element; having the
mple elementary substance.
b. of Ar. origin.] a resin used in
ure of varnishes, plasters, and
tments, and obtained from the
anarium and *Amyris*, genera re-
nyrrh family: also *gum elemi*.
lemi and *-in*.] either of two de-
various elemis, one crystalline,

L. *elenchus*; Gr. *elenchos*, from
cross-examine, for the purpose

TABLE OF CHEMICAL ELEMENTS

Elements	Symbol	Atomic No.	Atomic Weight*
actinium	Ac	89	227(?)
aluminum	Al	13	26.9815
americium	Am	95	243.13
antimony	Sb	51	121.75
argon	Ar	18	39.948
arsenic	As	33	74.9216
astatine	At	85	210(?)
barium	Ba	56	137.34
berkelium	Bk	97	248(?)
beryllium	Be	4	9.0122
bismuth	Bi	83	208.980
boron	B	5	10.811
oromine	Br	35	79.909
cadmium	Cd	48	112.40
calcium	Ca	20	40.08
californium	Cf	98	251(?)
carbon	C	6	12.01115
cerium	Ce	58	140.12
cesium	Cs	55	132.905
chlorine	Cl	17	35.453
chromium	Cr	24	51.996
cobalt	Co	27	58.9332
copper	Cu	29	63.546
curium	Cm	96	247(?)
dysprosium	Dy	66	162.50
einsteinium	Es	99	252(?)
erbium	Er	68	167.28
europium	Eu	63	151.96
fermium	Fm	100	257(?)
fluorine	F	9	18.9984
francium	Fr	87	223(?)
gadolinium	Gd	64	157.25
gallium	Ga	31	69.72
germanium	Ge	32	72.59
gold	Au	79	196.967
hafnium	Hf	72	178.49
helium	He	2	4.0026
holmium	Ho	67	164.930
hydrogen	H	1	1.00797
indium	In	49	114.82
iodine	I	53	126.9044
iridium	Ir	77	192.2
iron	Fe	26	55.847
krypton	Kr	36	83.80
lanthanum	La	57	138.91
lawrencium	Lr	103	256(?)
lead	Pb	82	207.19
lithium	Li	3	6.939
lutetium	Lu	71	174.97
magnesium	Mg	12	24.312
manganese	Mn	25	54.9380
mendelevium	Md	101	258(?)
mercury	Hg	80	200.59
molybdenum	Mo	42	95.94
neodymium	Nd	60	144.24
neon	Ne	10	20.183
neptunium	Np	93	237.00
nickel	Ni	28	58.71
niobium	Nb	41	92.906
nitrogen	N	7	14.0067
nobelium	No	102	255(?)
osmium	Os	76	190.2
oxygen	O	8	15.9994
palladium	Pd	46	106.4
phosphorus	P	15	30.9738
platinum	Pt	78	195.09
plutonium	Pu	94	239.05
polonium	Po	84	210.05
potassium	K	19	39.102
praseodymium	Pr	59	140.907
promethium	Pm	61	145(?)
protactinium	Pa	91	231.10
radium	Ra	88	226.00
radon	Rn	86	222.00
rhenium	Re	75	186.2
rhodium	Rh	45	102.905
rubidium	Rb	37	85.47
ruthenium	Ru	44	101.07
samarium	Sm	62	150.35
scandium	Sc	21	44.956
selenium	Se	34	78.96
silicon	Si	14	28.086
silver	Ag	47	107.868
sodium	Na	11	22.9898
strontium	Sr	38	87.62
sulfur	S	16	32.064
tantalum	Ta	73	180.948
technetium	Tc	43	97(?)
tellurium	Te	52	127.60
terbium	Tb	65	158.924
thallium	Tl	81	204.37
thorium	Th	90	232.038
thulium	Tm	69	168.934
tin	Sn	50	118.69
titanium	Ti	22	47.90
tungsten	W	74	183.85
uranium	U	92	238.03
vanadium	V	23	50.942
xenon	Xe	54	131.30
ytterbium	Yb	70	173.04
yttrium	Y	39	88.905
zinc	Zn	30	65.37
zirconium	Zr	40	91.22

* International Atomic Weights. Carbon at 12 is the standard.

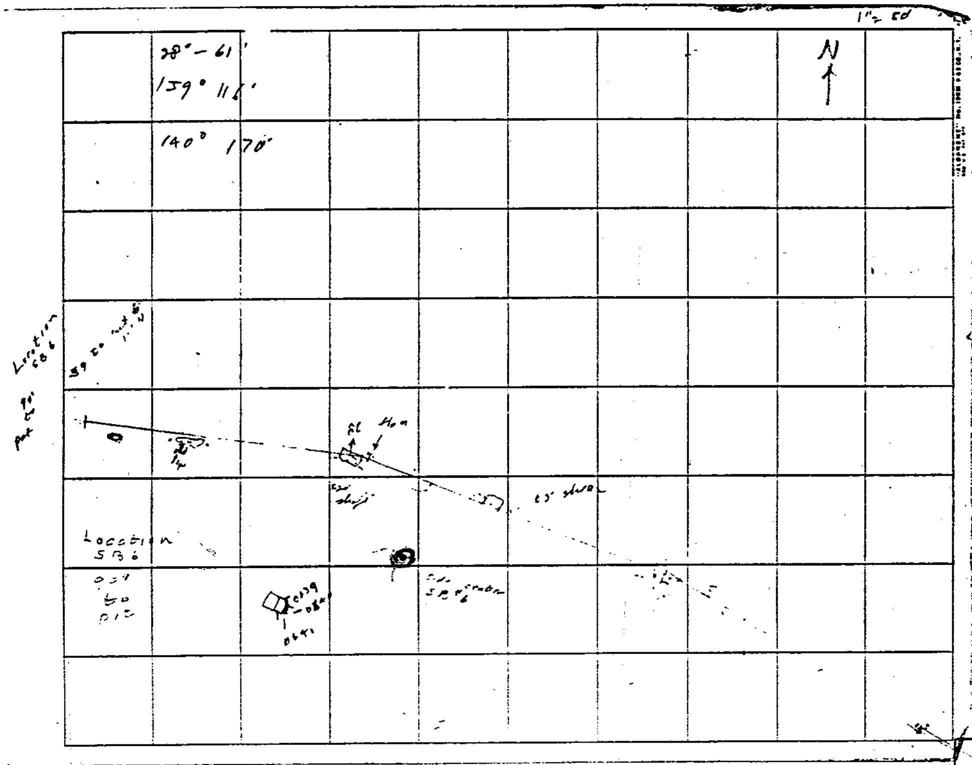

T3N
Fivemile
Au?
Au?
Au?
ED-2
Ba

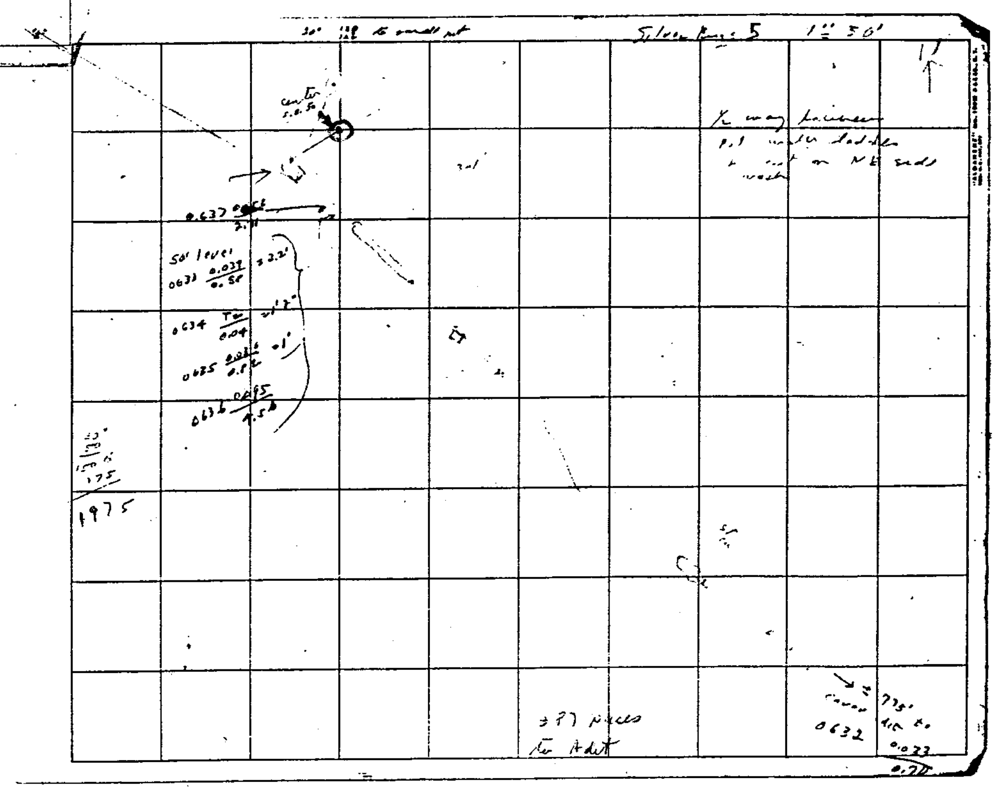

Wash
6100
5900
T4N
T3N
Fivemile Spring
Au?
BUTTE
Au?
ED-1
6000
Windmill
7128
Au?
ED-2
Ba
Corral

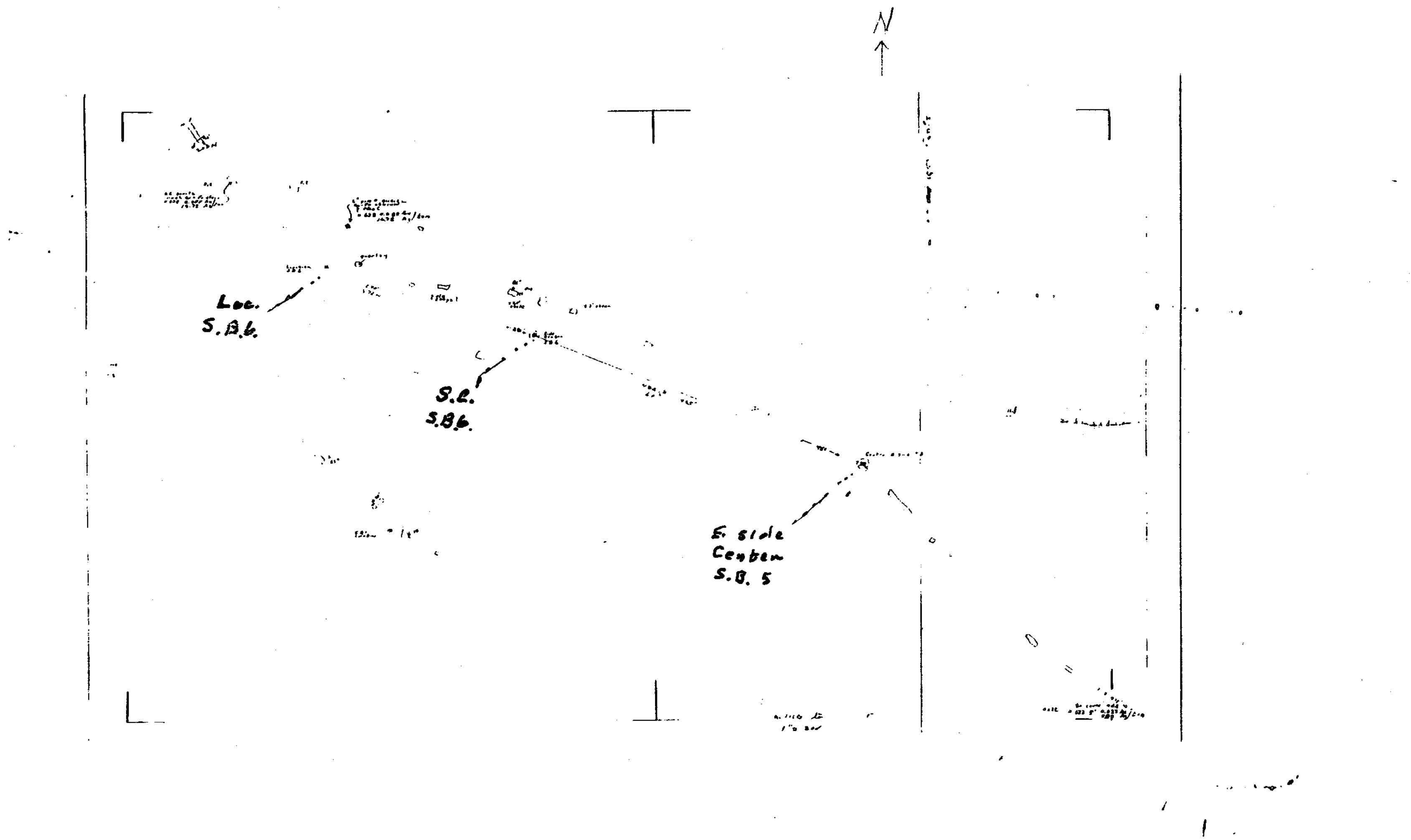
Wash
6100
5900
Fivemile Spring
Au?
Microwave
Tower
BUTTE
Au?
ED-1
Windmill
7128
Au?
ED-2
Ba
Corral


Wash
Fivemile Spring
Au?
BUTTE
Au?
ED-1
Au?
ED-2
Ba
Windmill
Corral
5900
6100
6100
6000
6128
5500

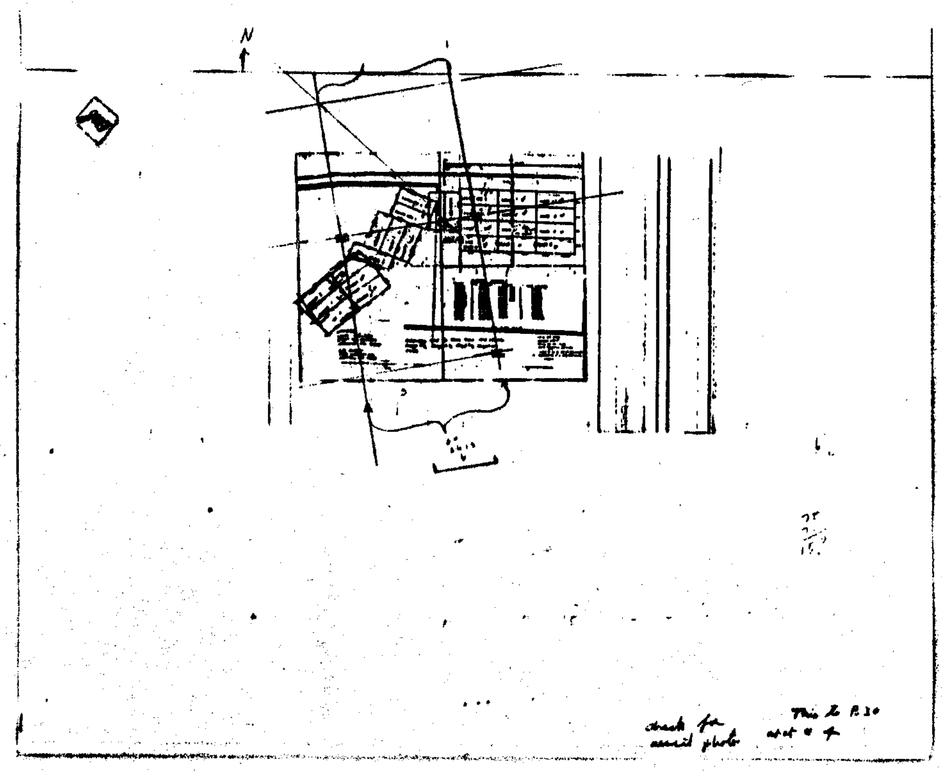
Wash
Wash
5900
6100
Fivemile Spring
Au?
BUTTE
Microwave
Tower
Au?
ED-1
Windmill
Au?
ED-2
Ba
Corral

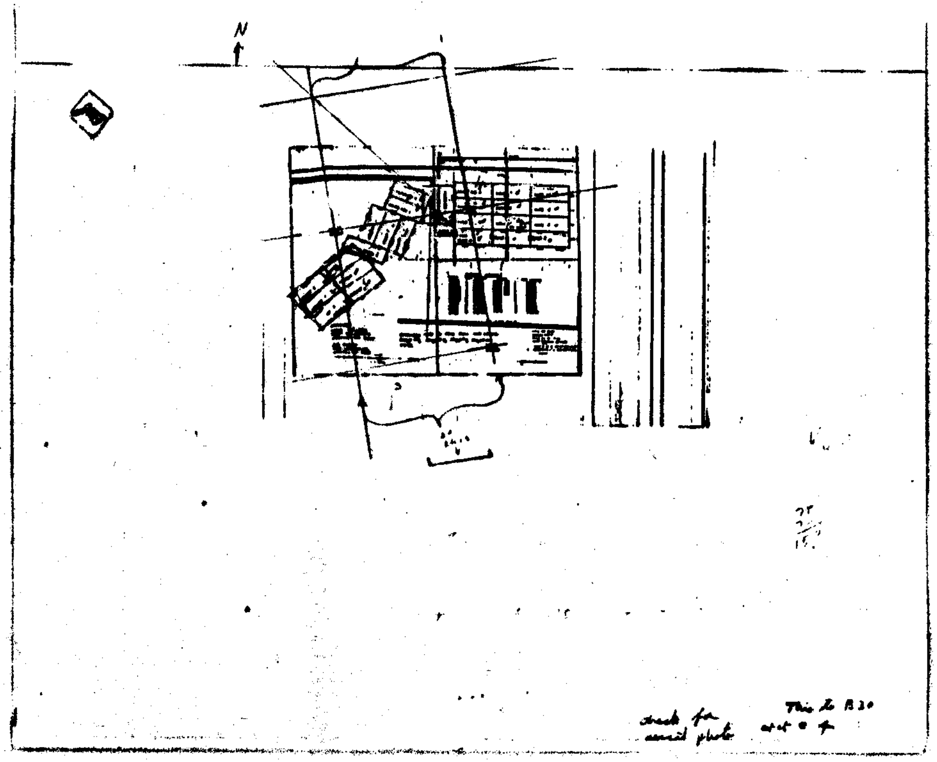

1" = 50'
N
28° – 61'
140° 170'
Location
SB6
25' shaft

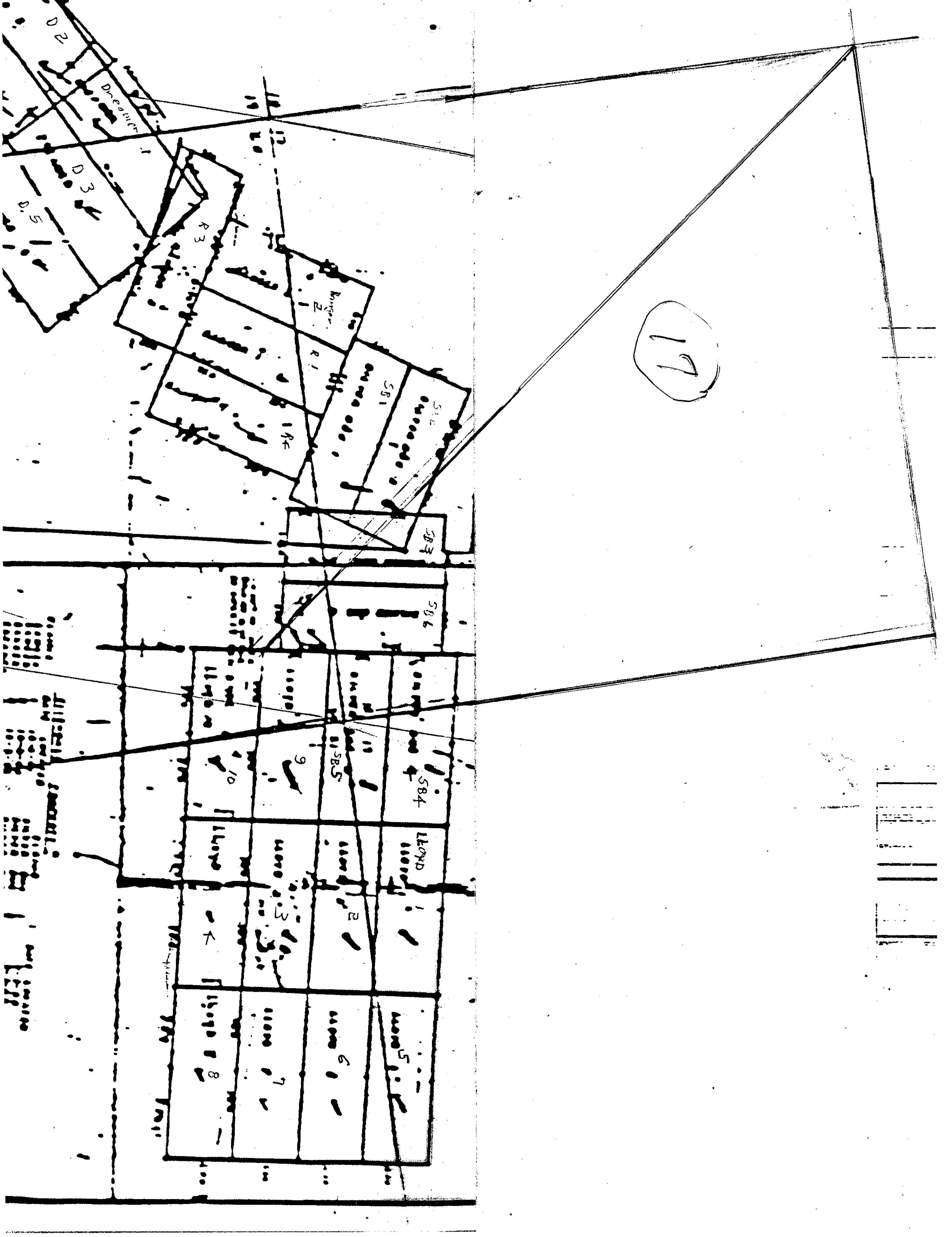

Silver Ramp 5
1" = 50'
center
50' level
0633
0634
0635
0636
1975
0632



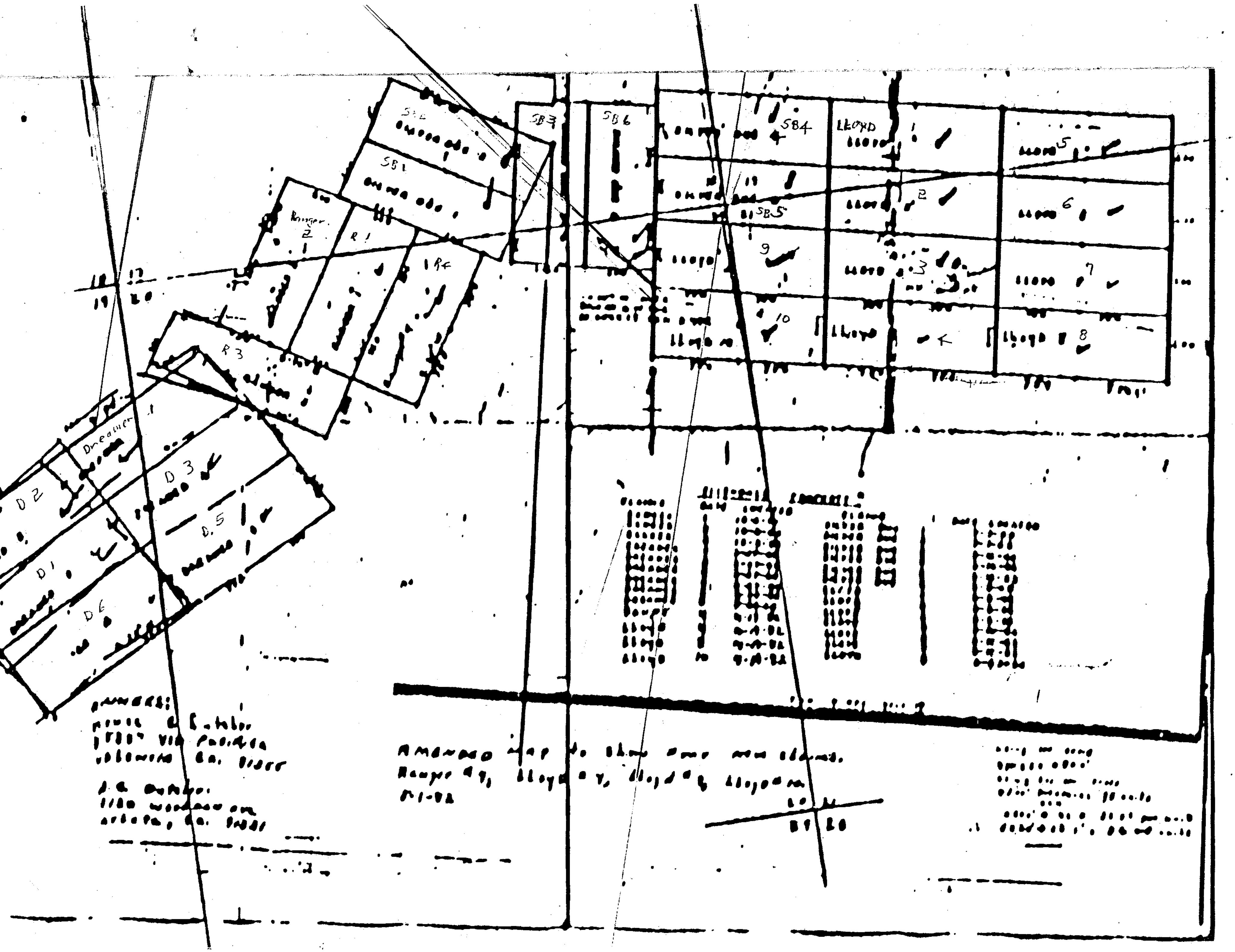
1" = 200'


N
check for
aerial photo

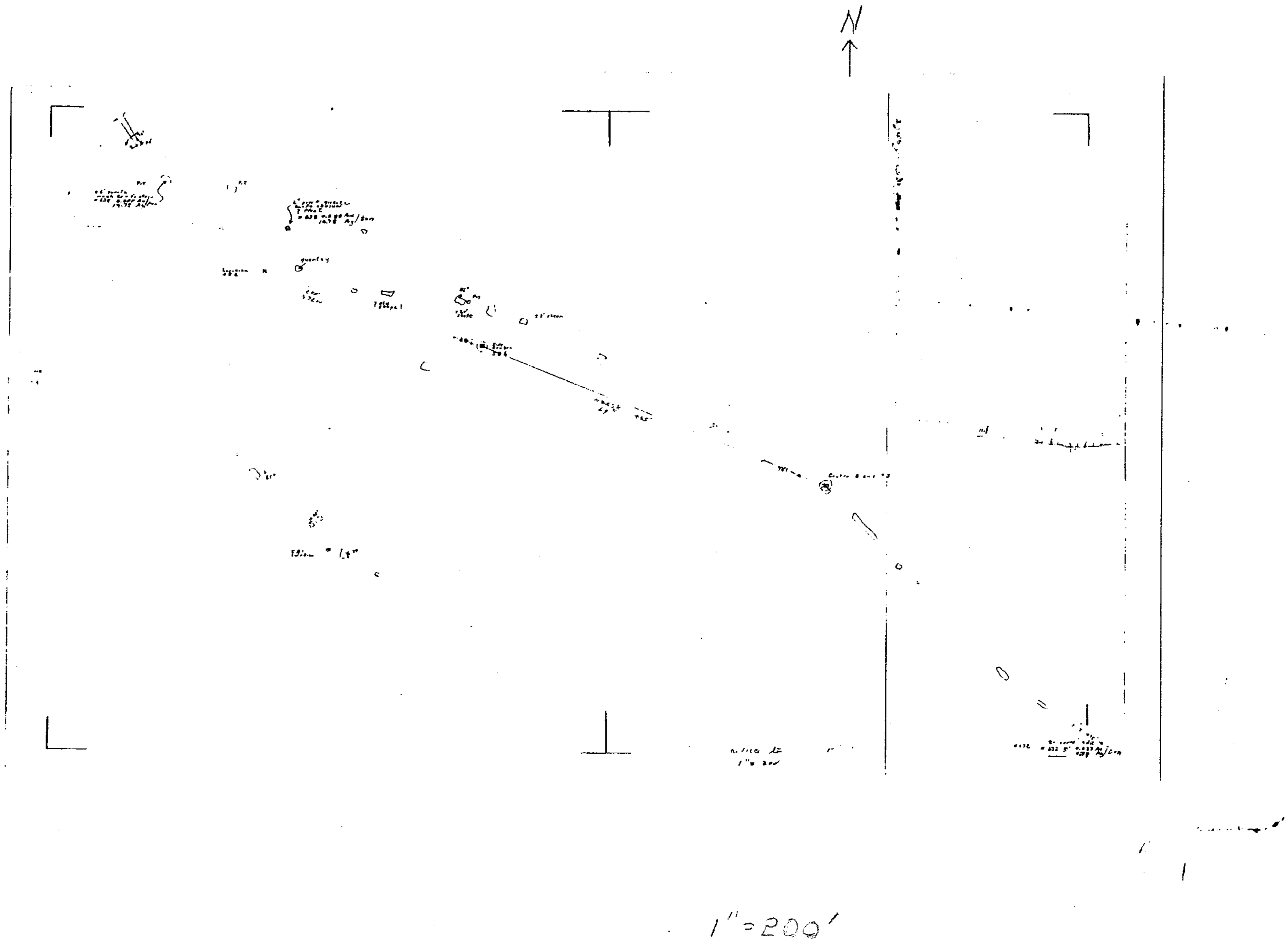

N
check for
aerial photo
This is B30

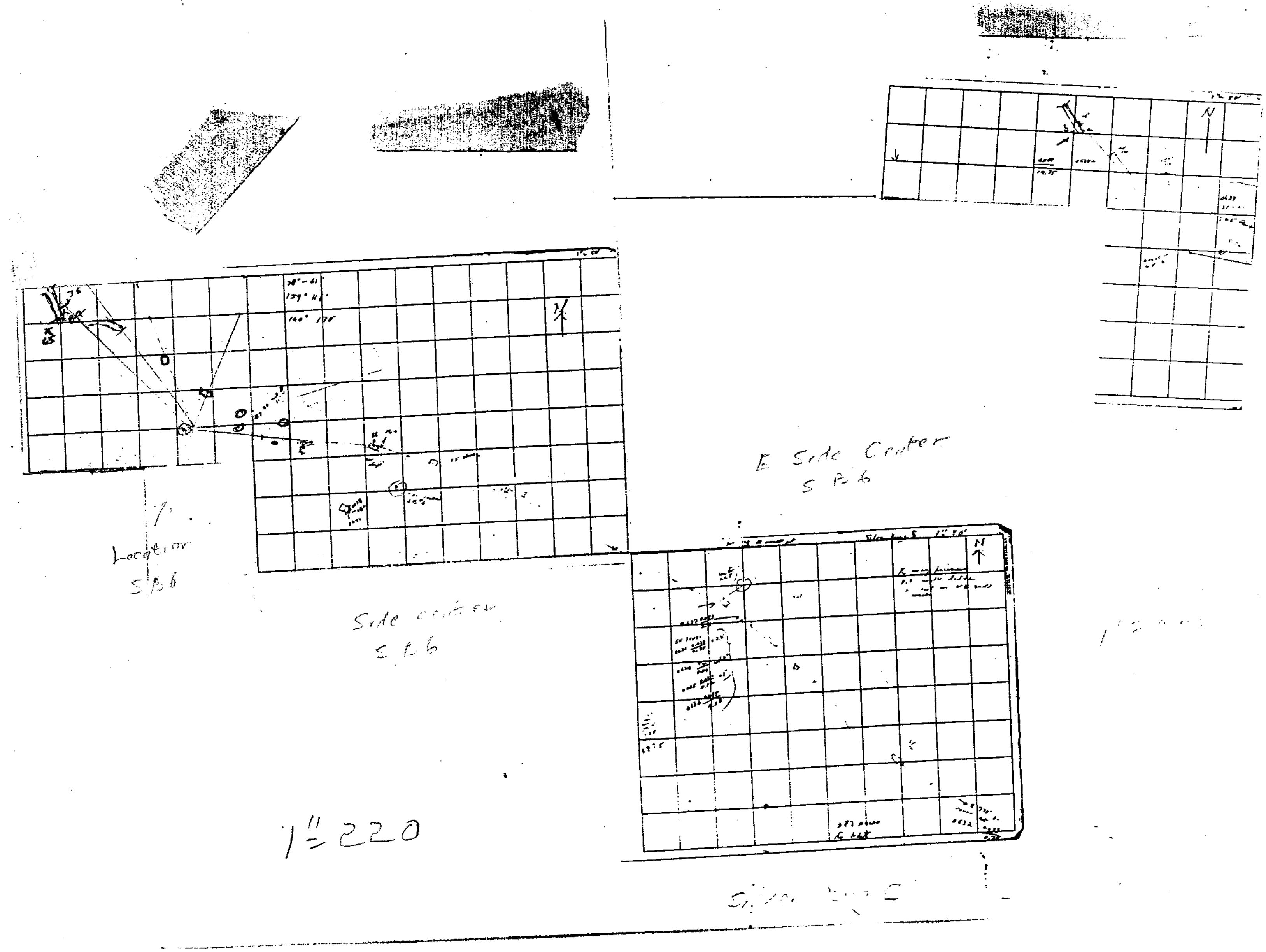


17
SB1
SB3
SB6
SB5
SB4
LLOYD
R3
R4
D2
D3
D5

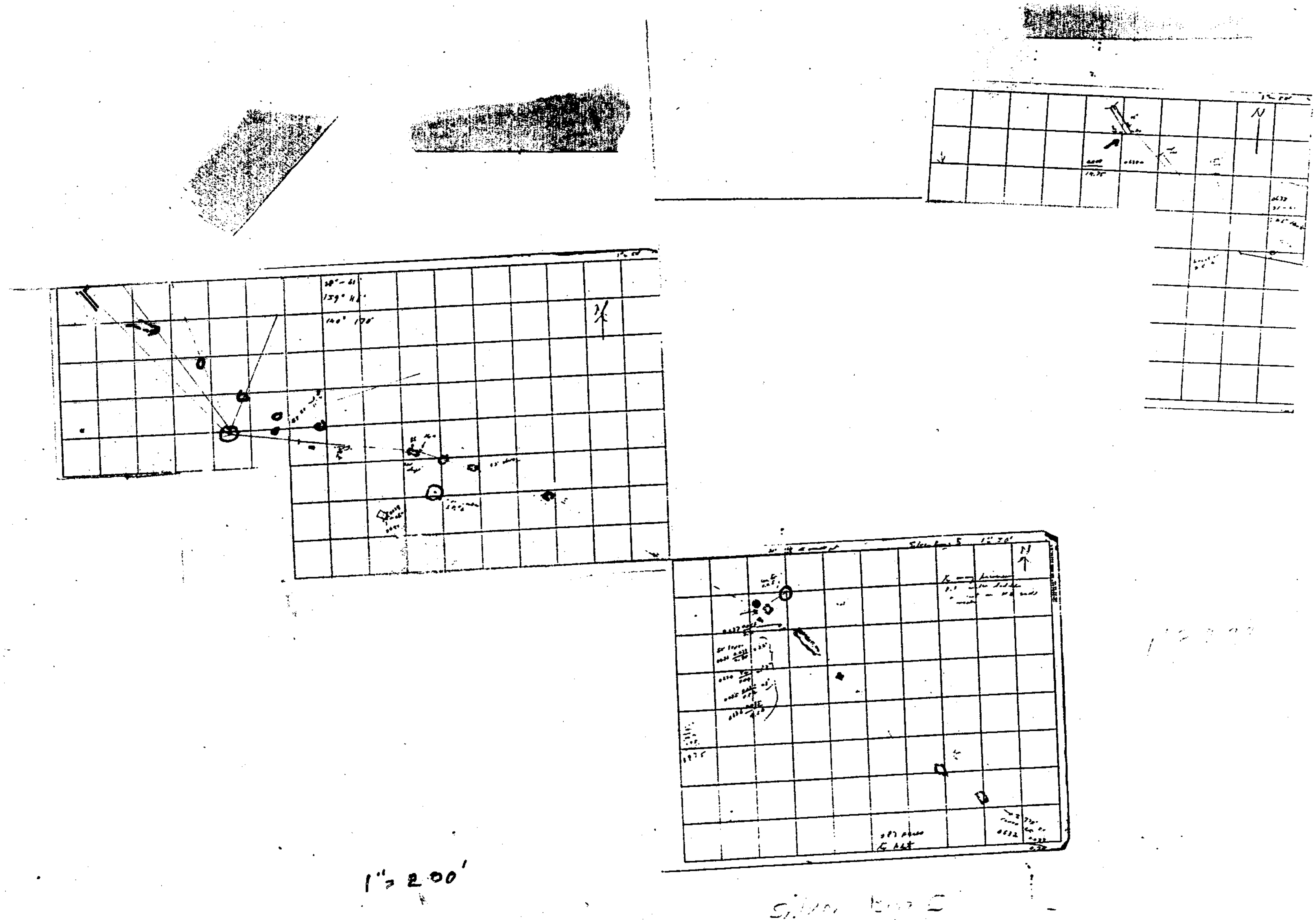


SB1
SB3
SB6
SB4
LLOYD
SB5
Ranger 2
R1
R3
Dreamer 1
D2
D3
D5
D1
D6

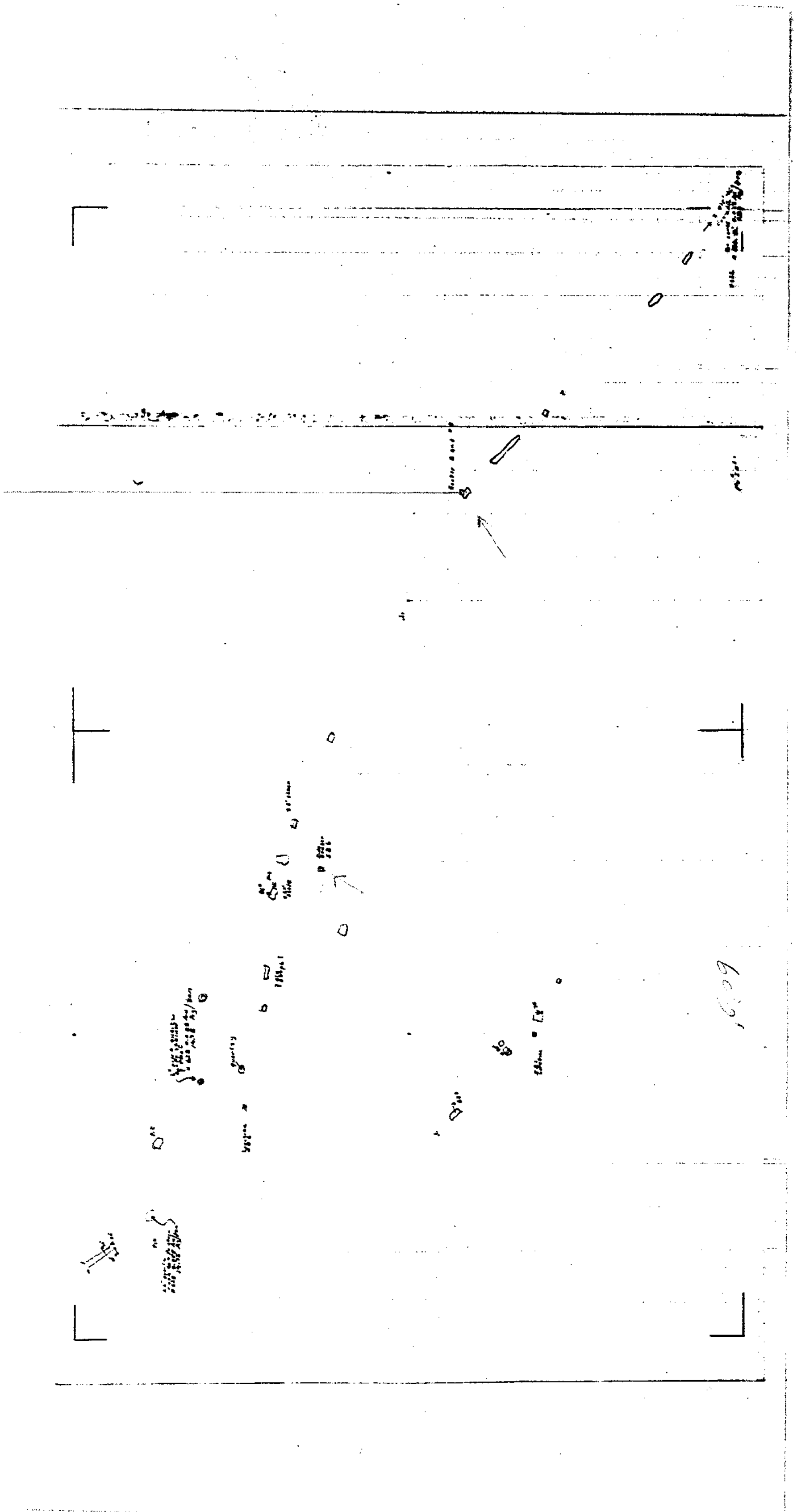

N
1" = 200'



N
E Side Center
S R 6
Location
S R 6
Side center
S R 6
1" = 220

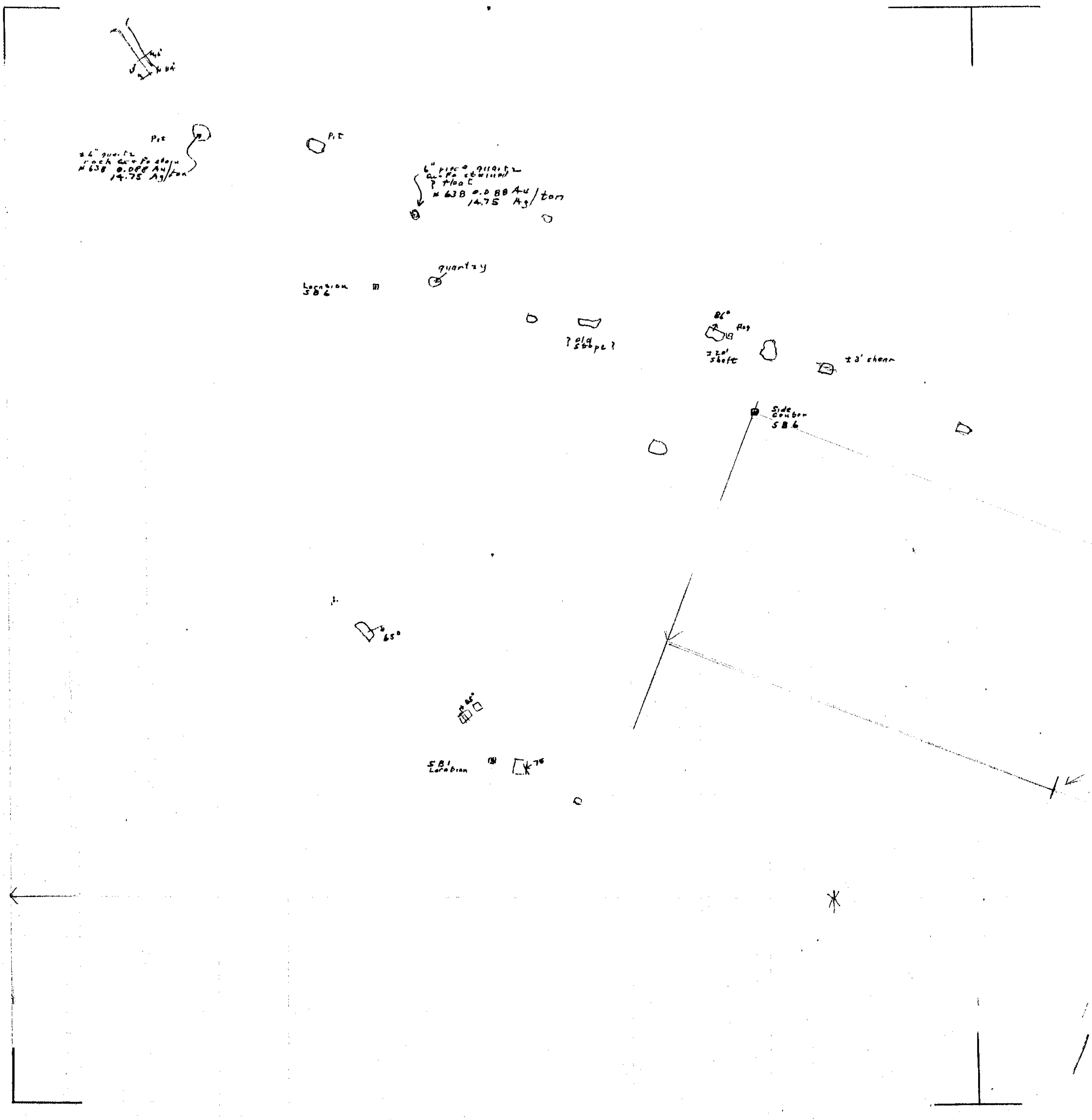


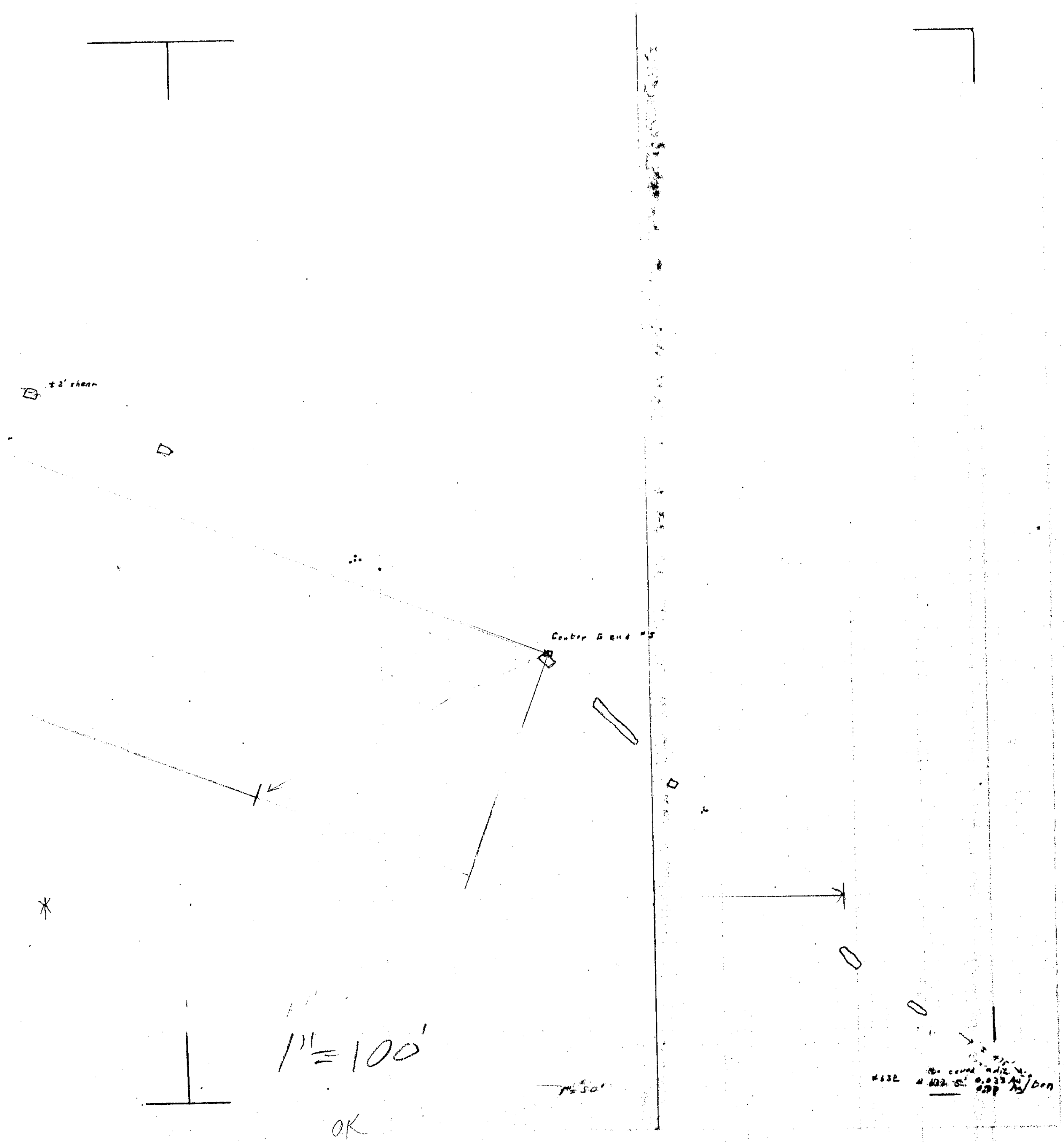
1" = 200'



1" = 200'

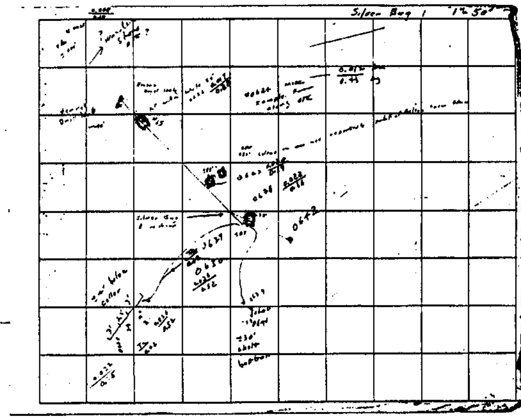
OK


Pit
±6" quartz rock w/ Fe stain
#638 0.088 Au
14.75 Ag/ton
Pit
6" piece quartz
? float
#638 0.088 Au
14.75 Ag/ton
quartzy
Location
SB 6
? old Stope ?
86°
±20' shaft
±3' shear
Side Center
SB 6
65°
SB1
Location

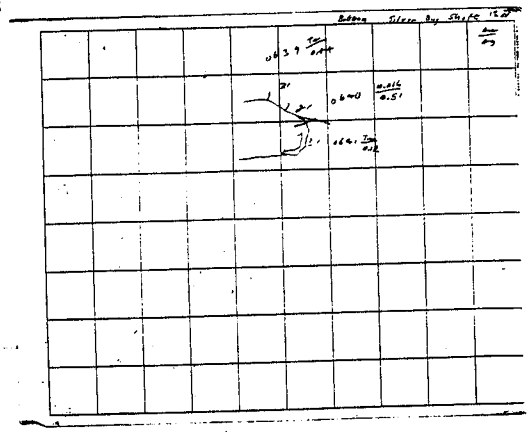


±2' shear
Center & end #5
1" = 100'
1" = 50'
OK

1" = 200'

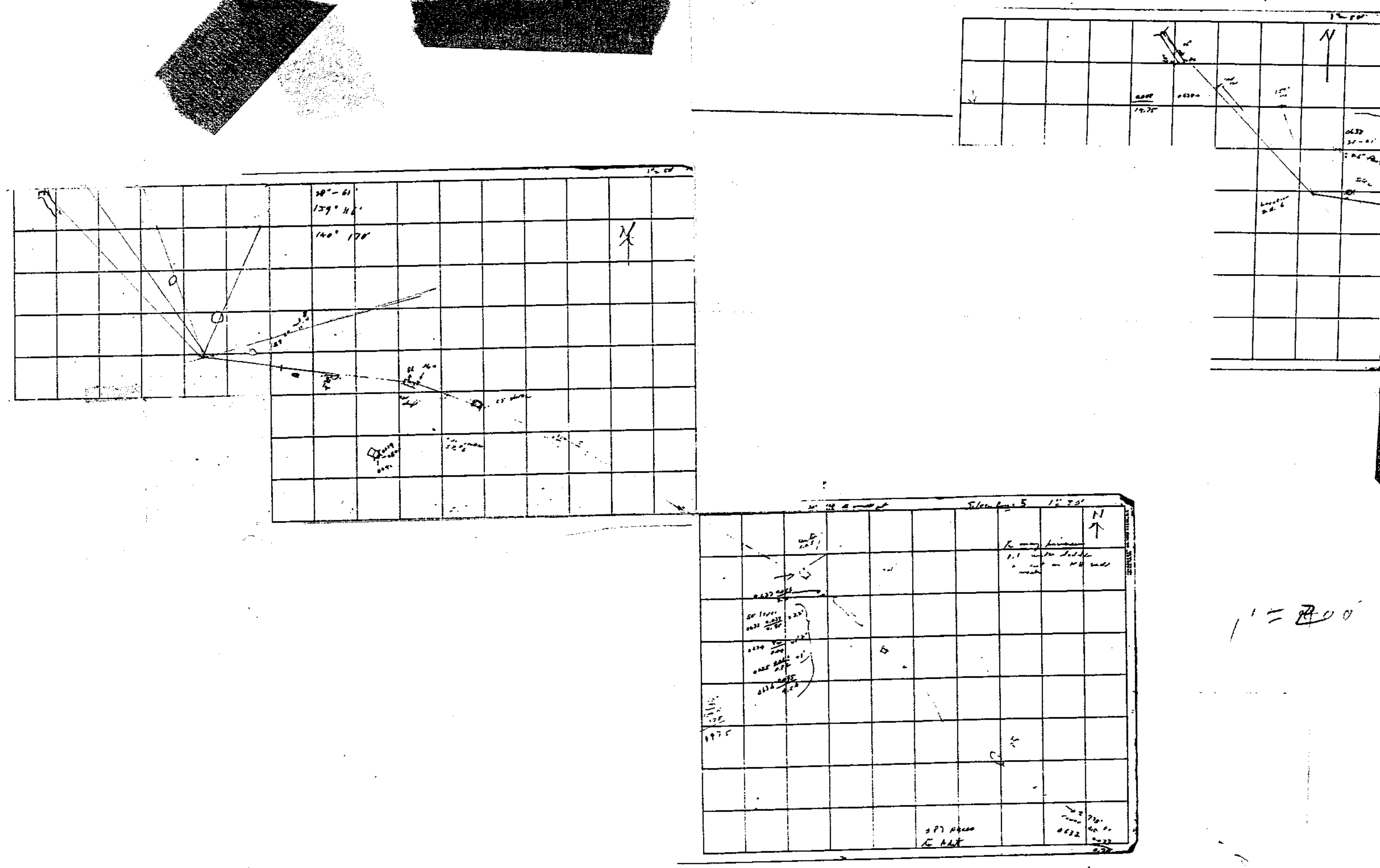


1" = 200'



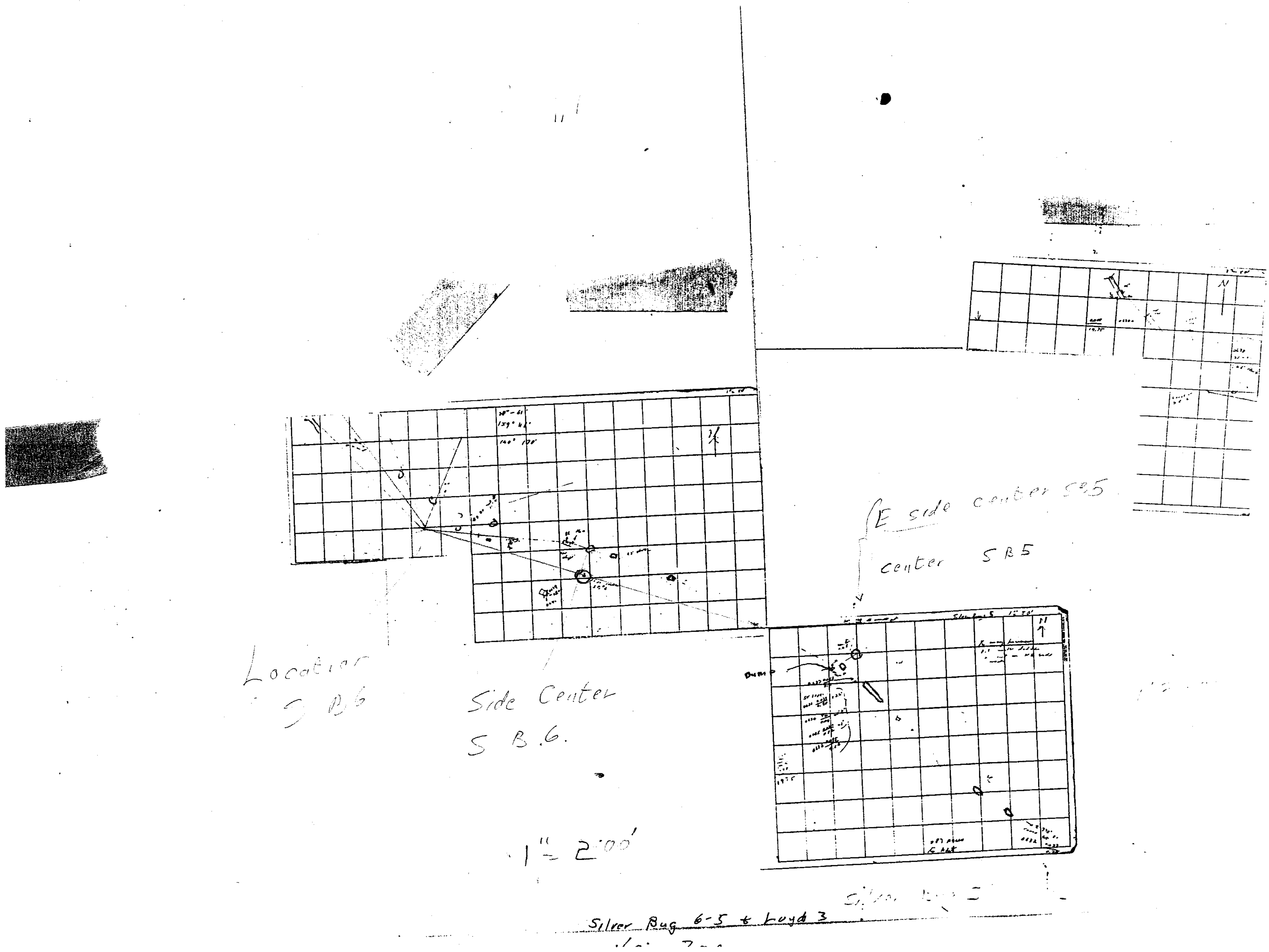
1" = 200'

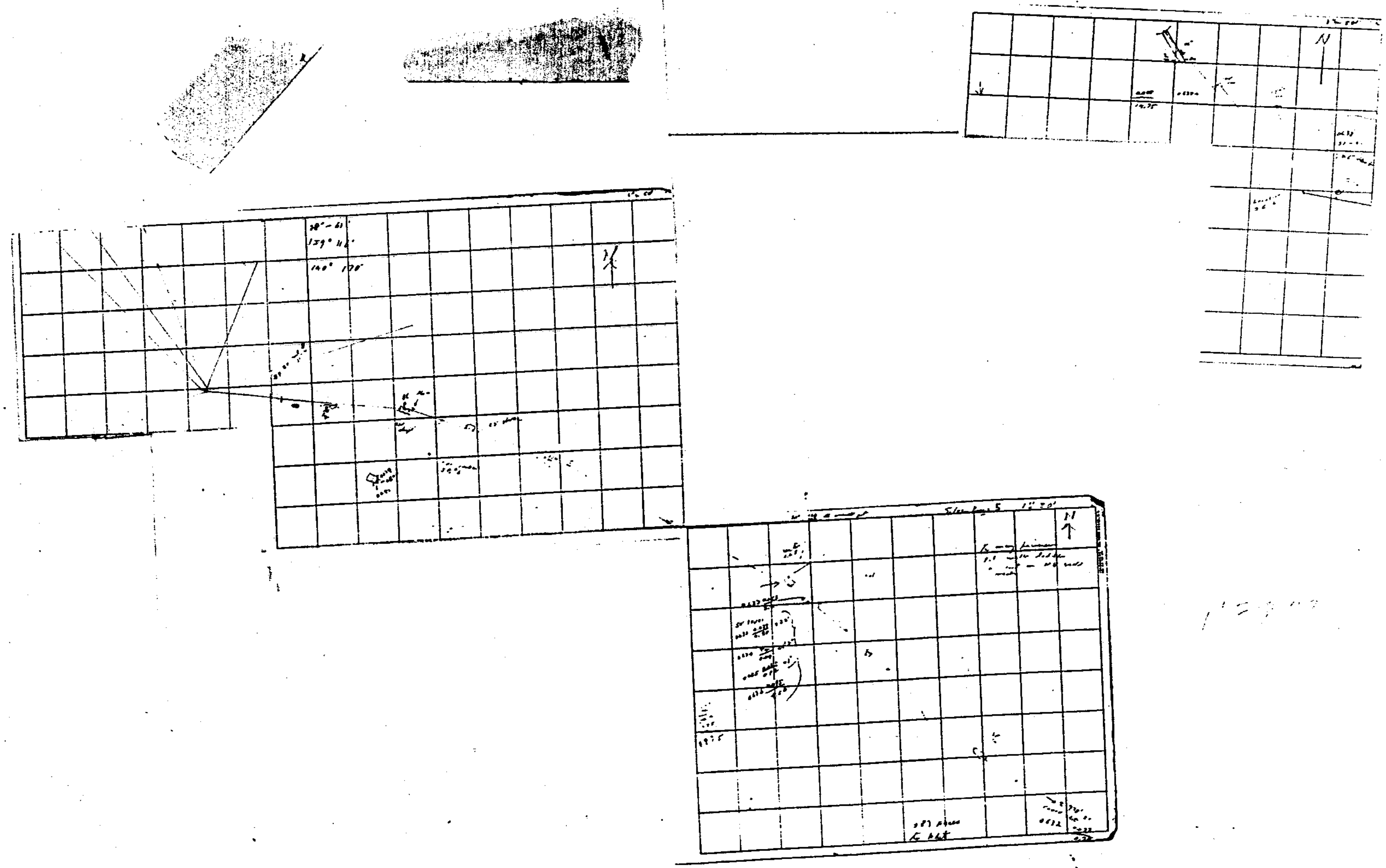
1" = 200'



1' = 200'

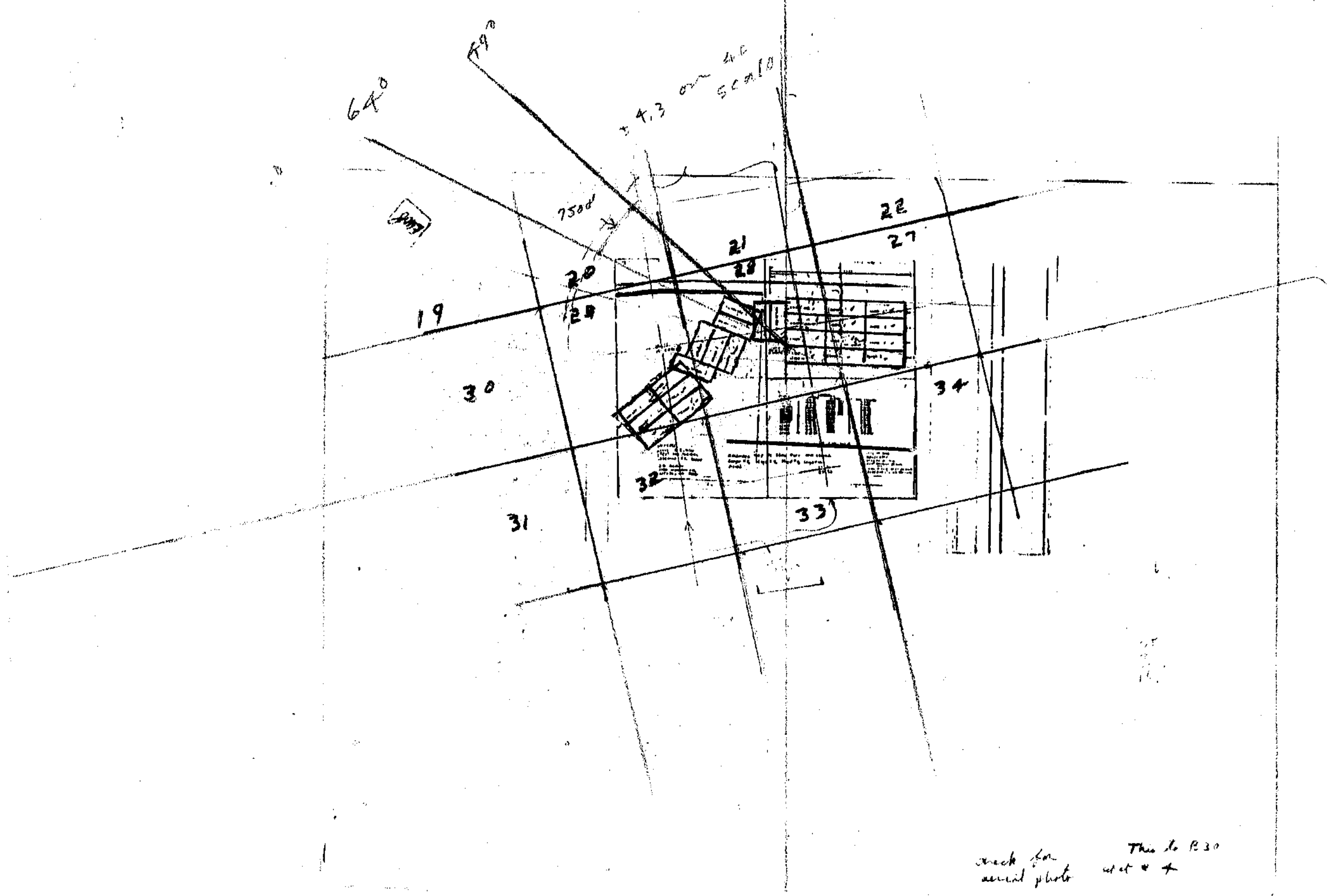
Silver Bow C


E side center SB5
center SB5
Location SB6
Side Center SB.6.
1" = 200'
Silver Bug 6-5 + Loyd 3

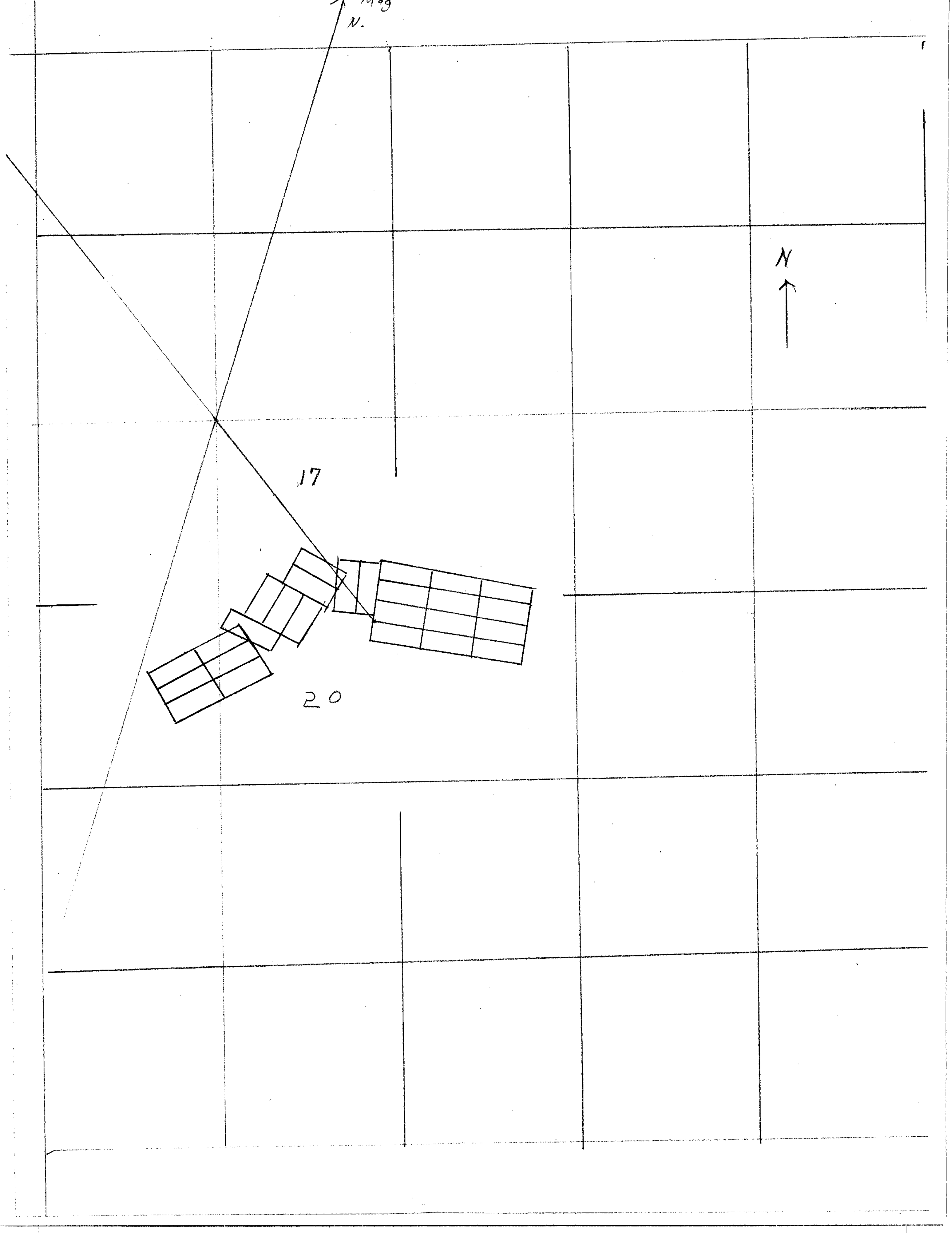


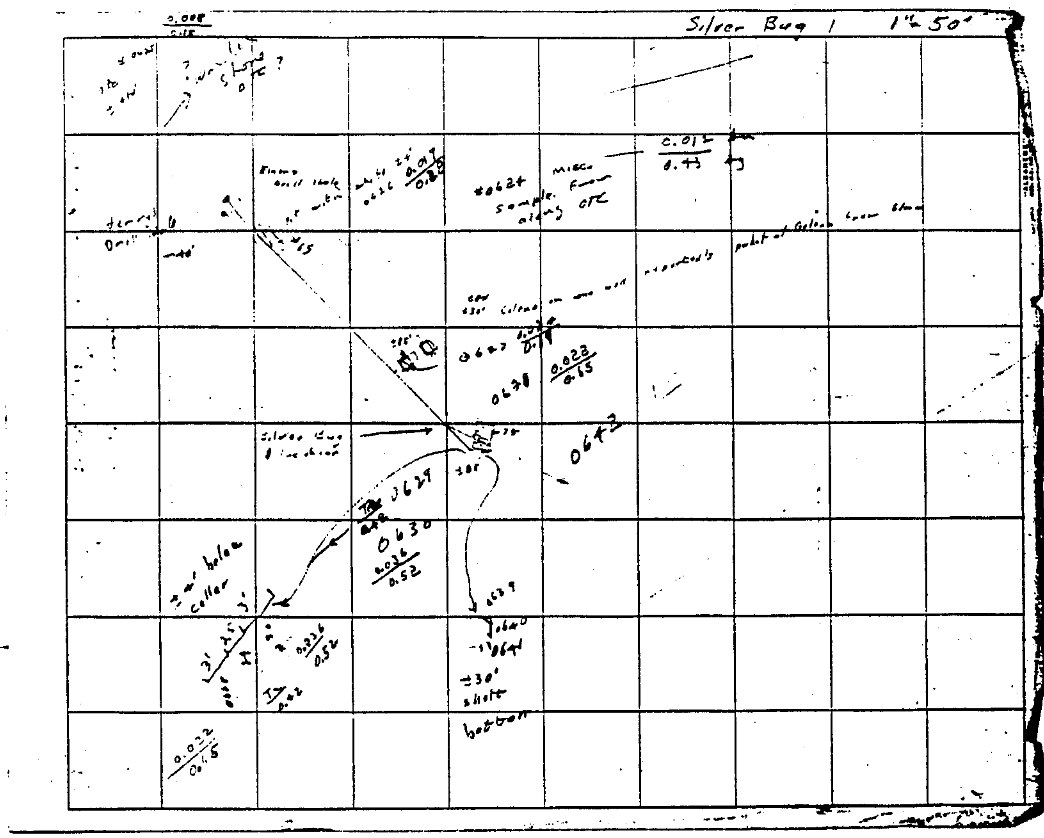
1" = 200'

Silver Bug E

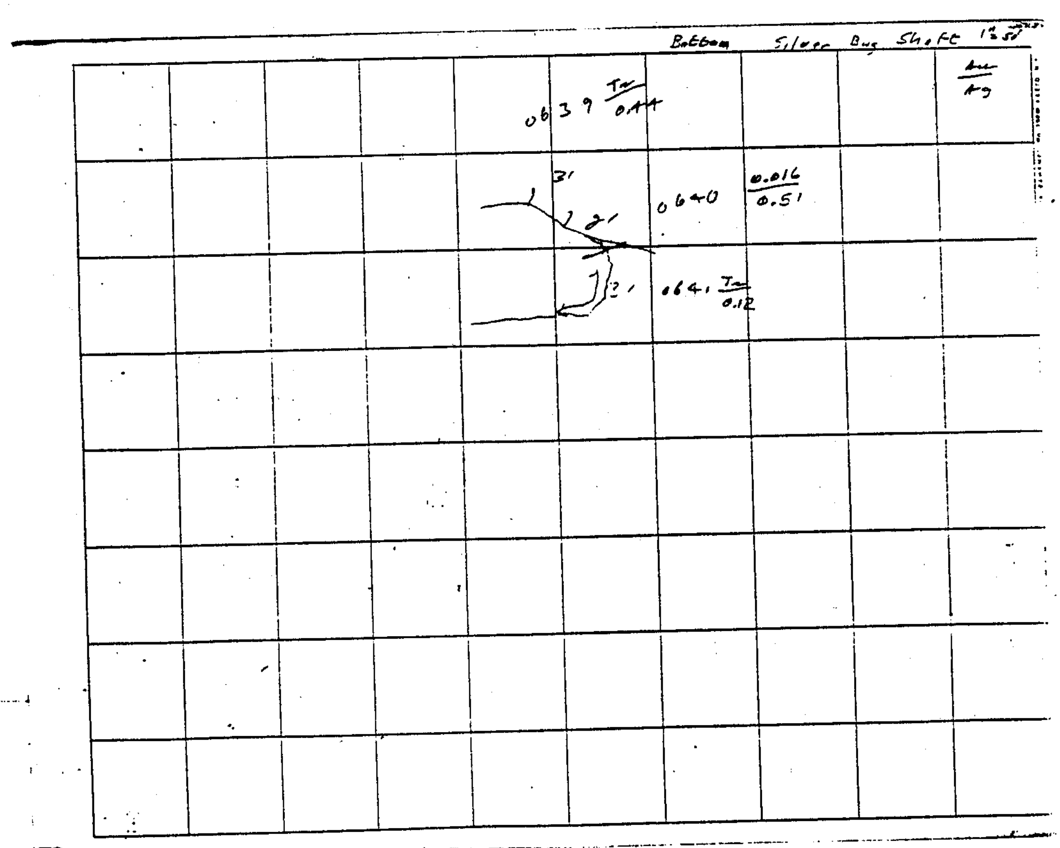


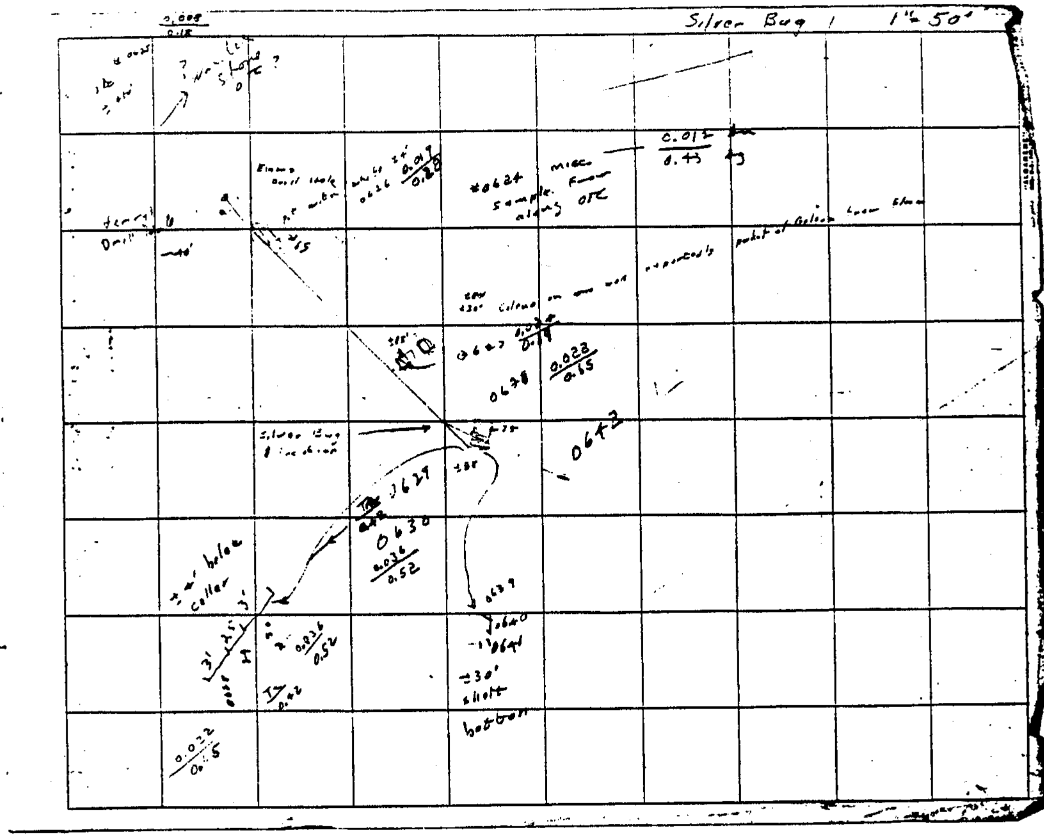
Sections to agree with
section 28


Mag
N.
N
17
20


Silver Bug 1 1"=50'
0.012
0.43
#0624 misc. sample. From along ore
Silver Bug 1 incline
0643
0638 0.023
0.65
0629
0630
0.036
0.52
0.022
0.15
±30' shaft bottom

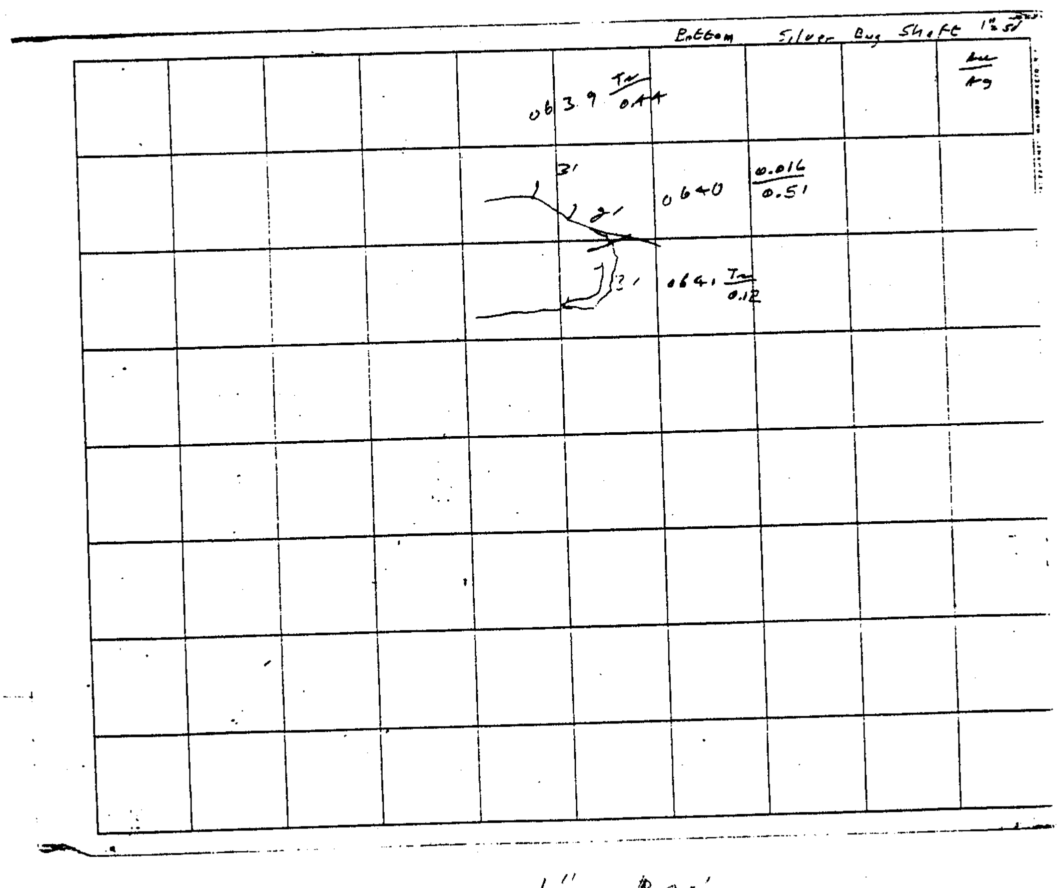
1" = 100'


Bottom Silver Bug Shaft 1"=50'
Au
Ag
0639 Tr
0.44
0640 0.016
0.51
0641 Tr
0.12



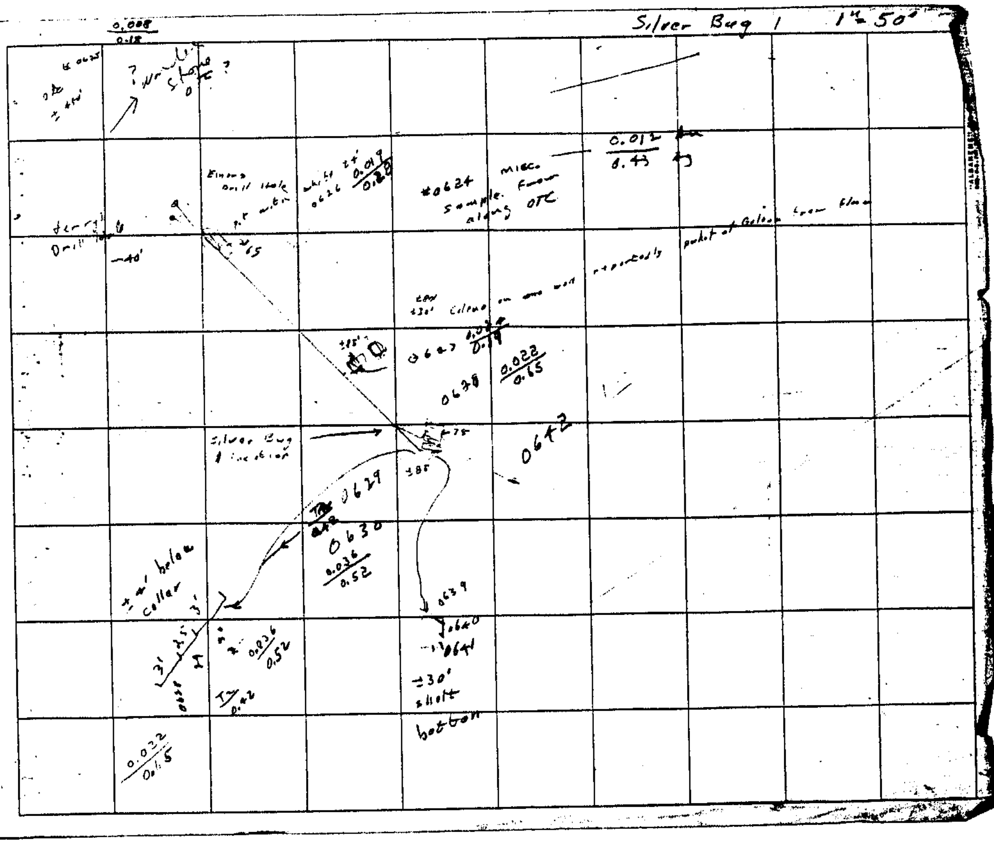
Silver Bug 1 1" = 50'
0.012
0.43
#0624 misc. sample. From along ore
Silver Bug 1 incline
0629
0630
0.036
0.52
0638
0.023
0.65
0642
0639
0640
0641
±30' shaft bottom
collar

1" = 200'

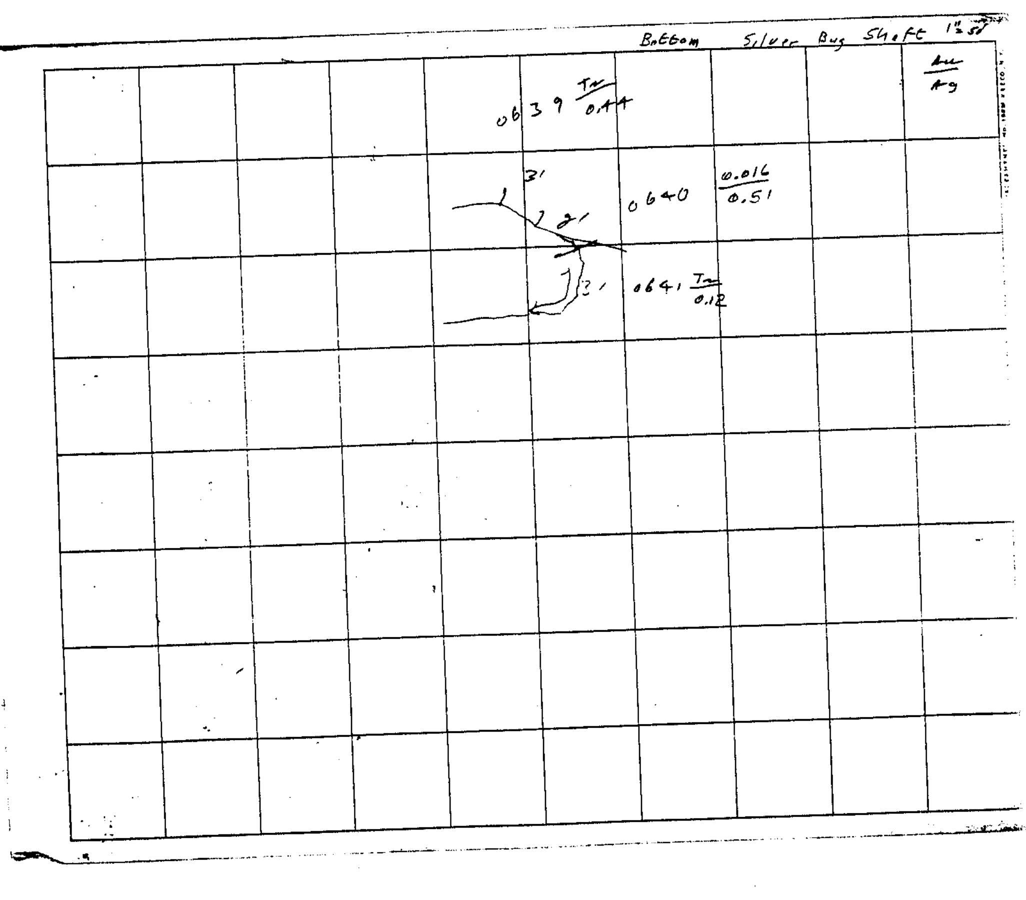


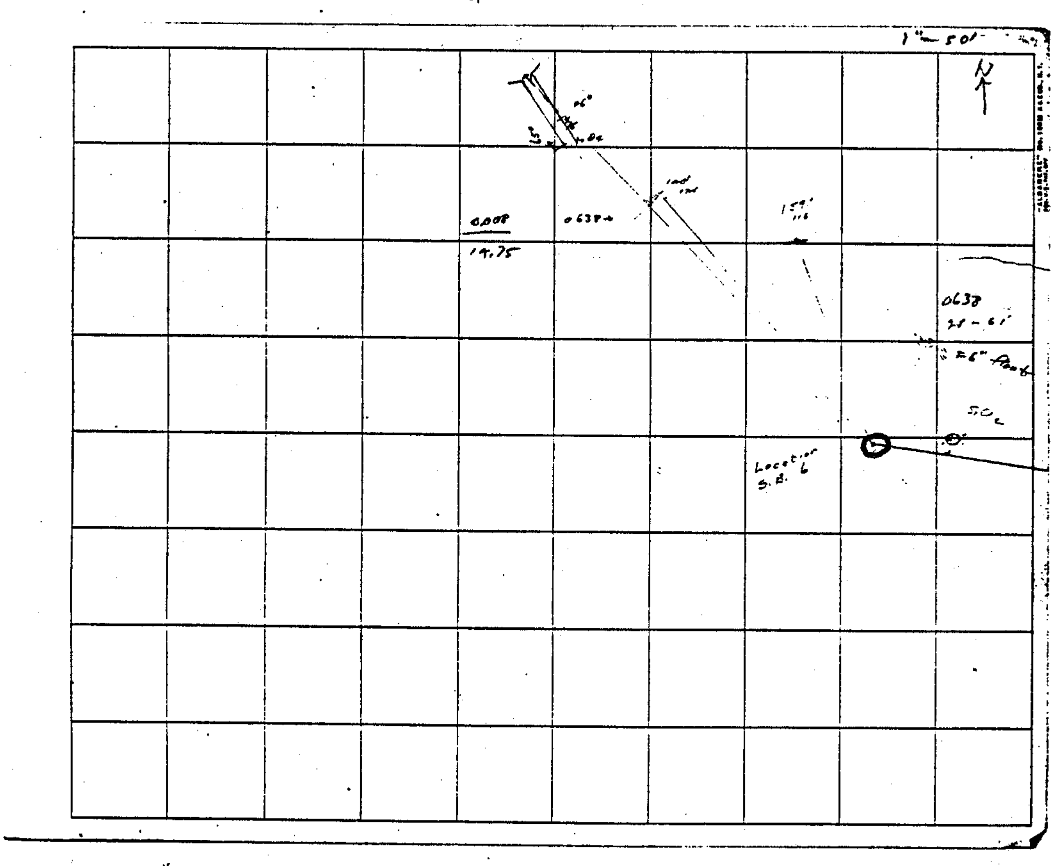
Bottom Silver Bug Shaft 1" = 50'
0639
0640
0.016
0.51
0641
0.12

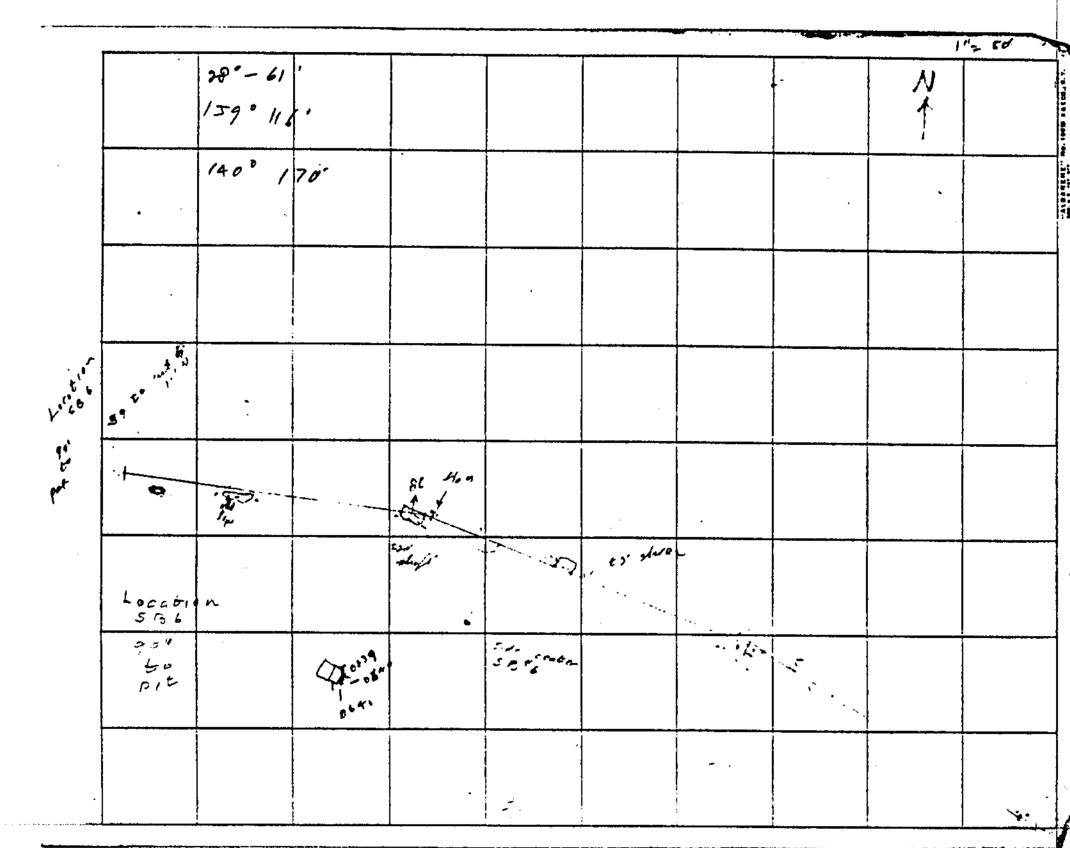
1" = 200'


Silver Bug 1   1" = 50'
0.008
0.18
0.012
0.43
#0624 misc. sample. from along OTC
0628
0.022
0.65
Silver Bug 1 location
0642
0629
0630
0.036
0.52
0639
0640
0641
±30' shaft bottom
0.022
0.15

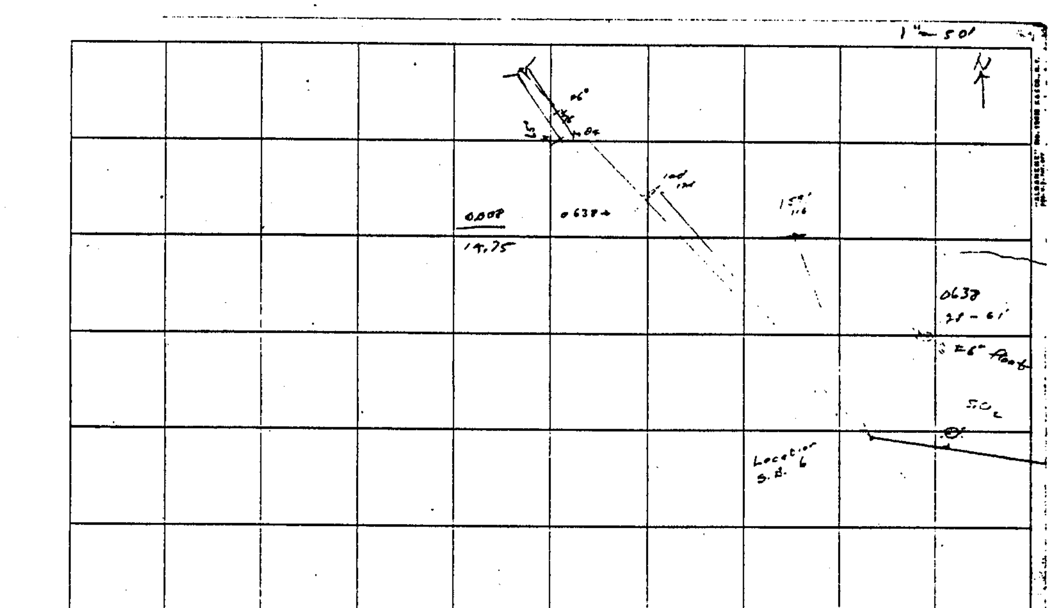
1" = 200'


Bottom Silver Bug Shaft 1" = 50'
Au
Ag
0639 Tr/0.44
0640 0.016/0.51
0641 Tr/0.12
3'
2'
3'

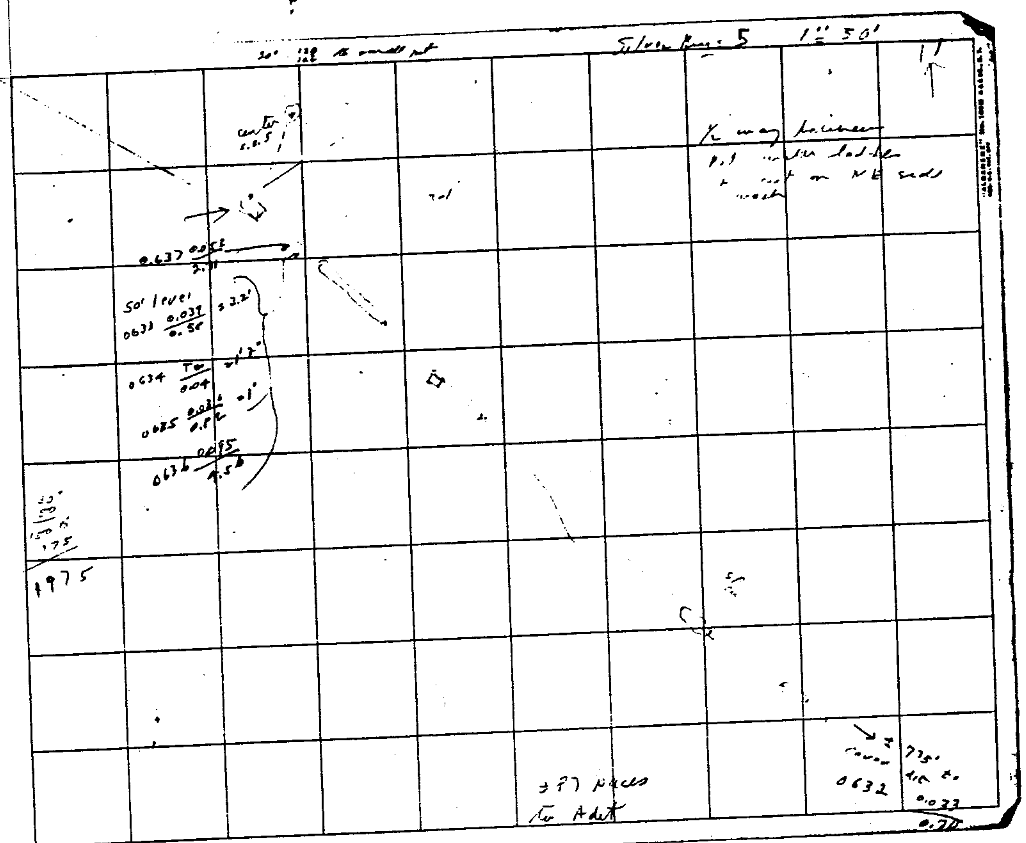

1" = 50'
N
0008
14.75
0638
Location
S.B. 6


1" = 50'
28° - 61'
139° 116'
140° 170'
N
Location
SB6
Location
SB 6

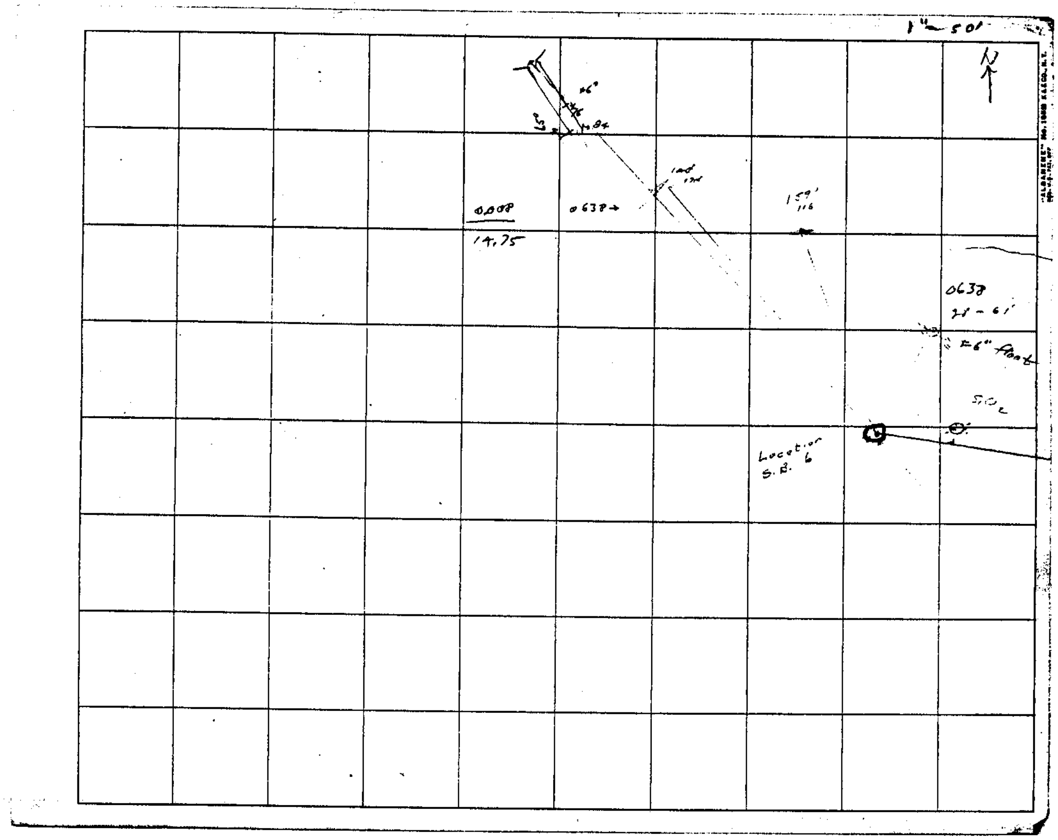
1" = 100'

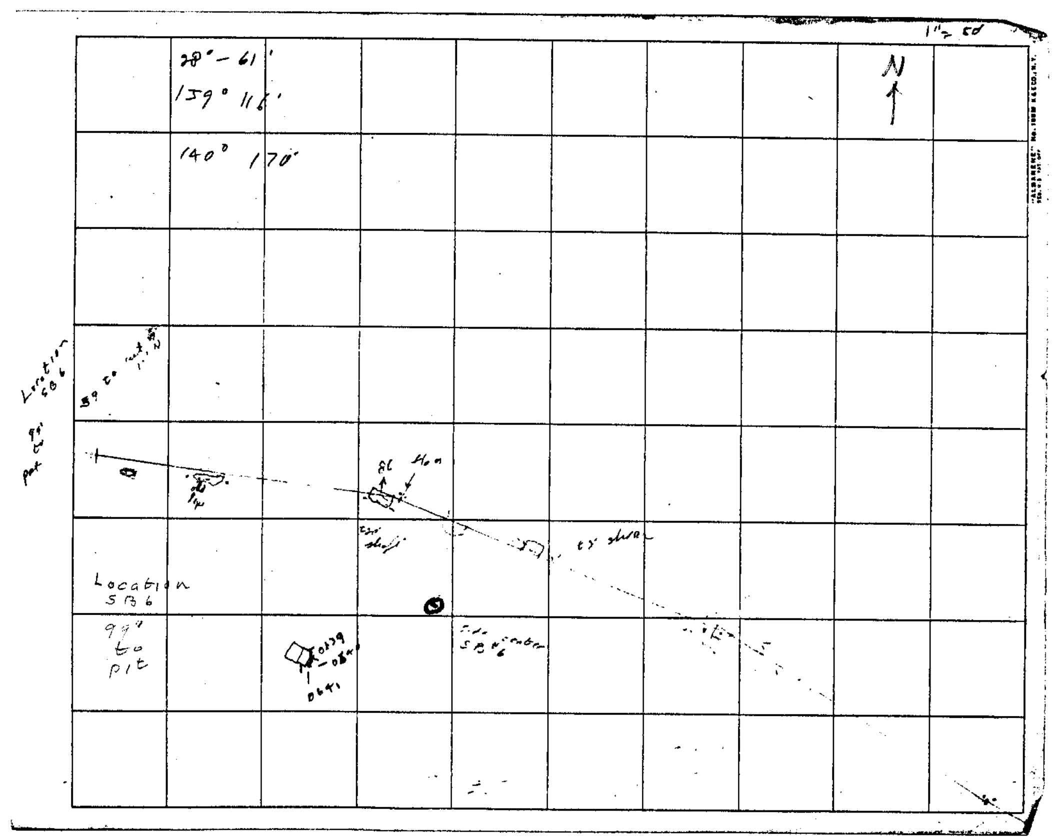

1" = 50'
N
0.008
14.75
0638
Location
S.B. 6

1" = 200'

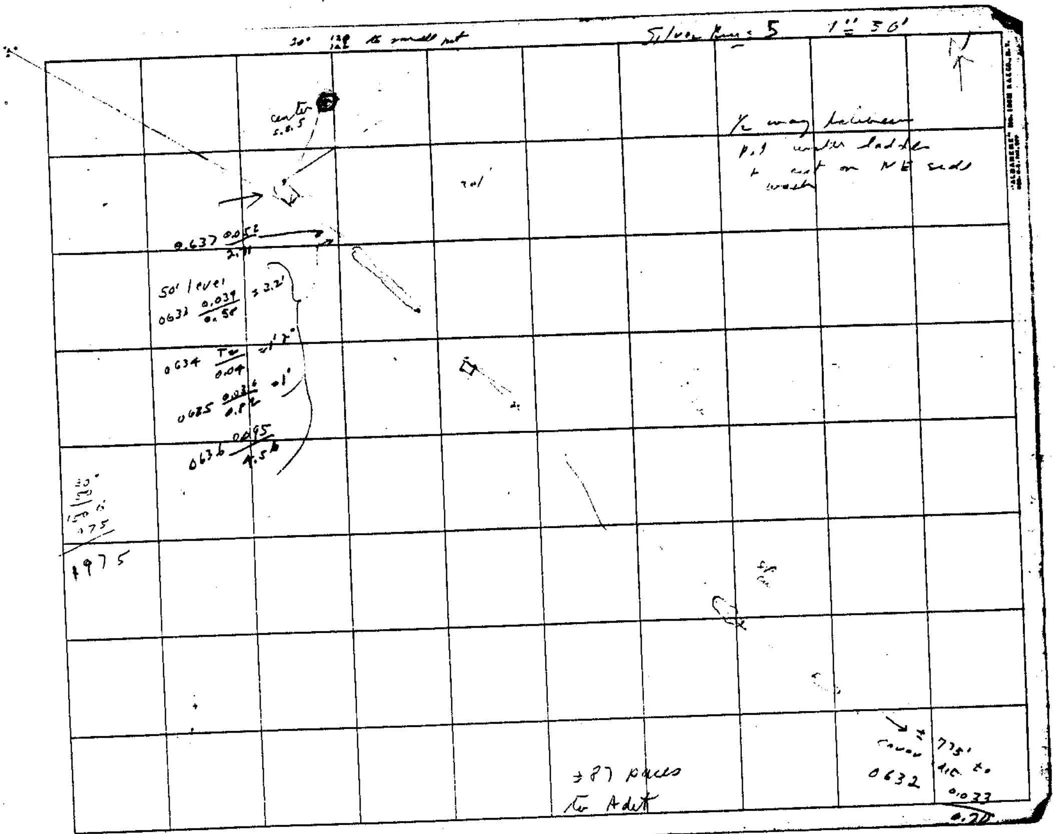

Silver King: 5
1" = 50'
50' level
0631
0634
0625
0636
0637
1975
0632
±77 paces to Adit

1" = 100'

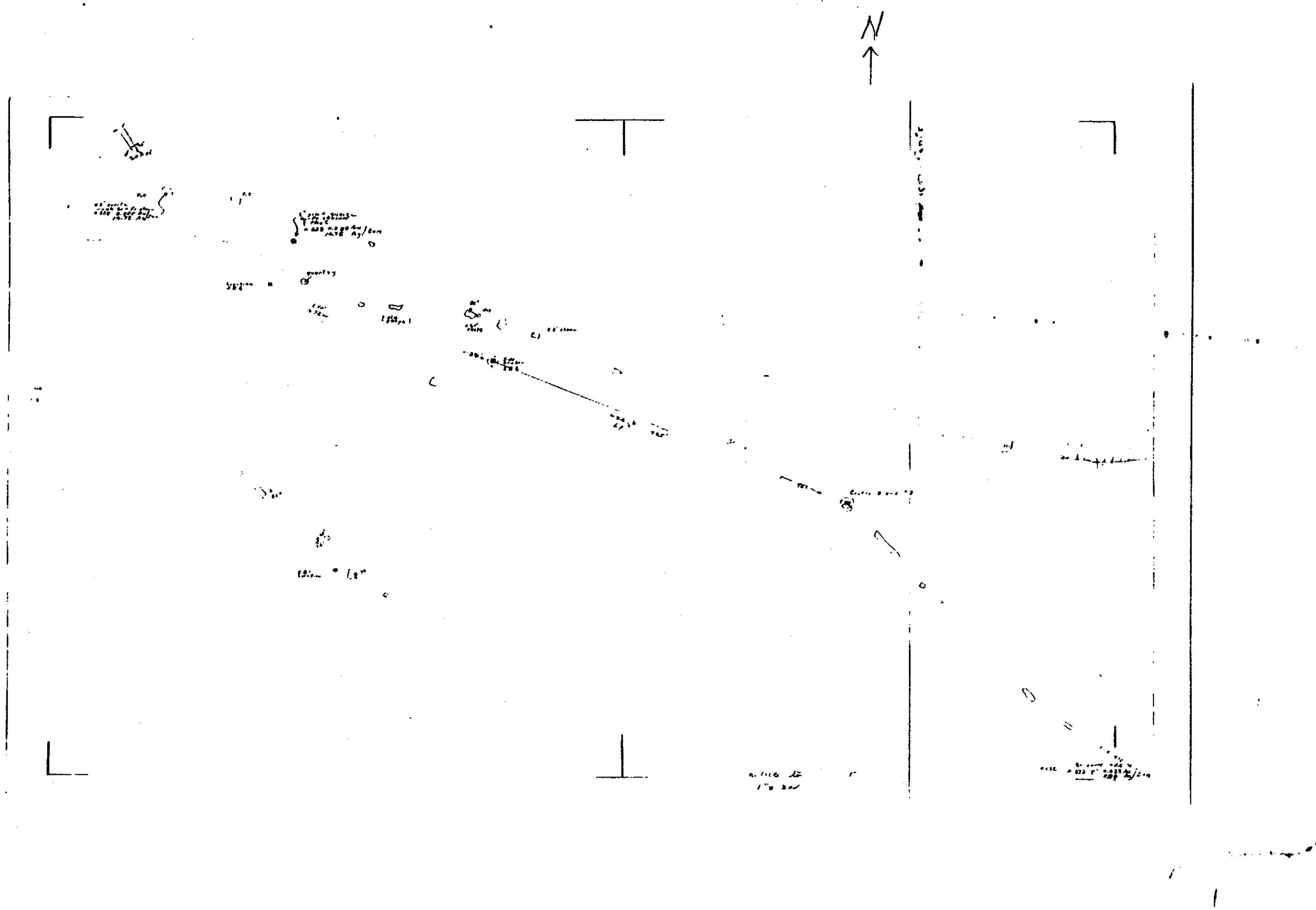

1" = 50'
N
0008
14.75
0638
159'
116
0638
28 - 61'
6" float
Location
S.B. 6


1" = 50'
N
28° - 61'
159° 116'
140° 170'
Location
SB 6
Location
SB 6
99'
to
pit

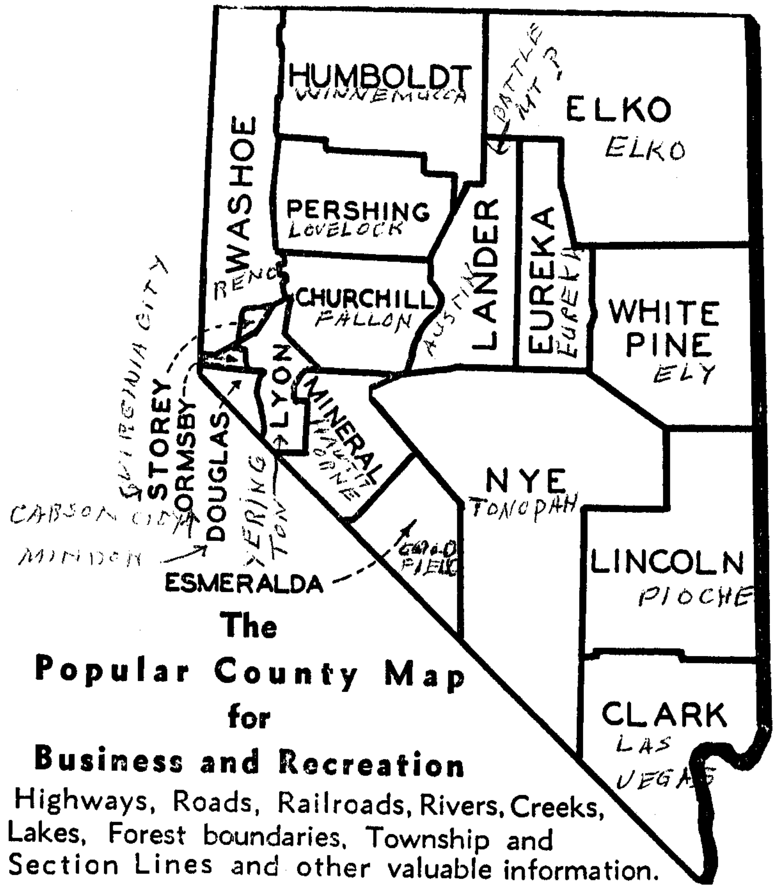
1" = 100'


Silver King 5
1" = 50'
center
50' level
0637
0633
0634
0635
0636
±87 paces
to Adit
0632
0.023
1975

1" = 100'



1" = 200'



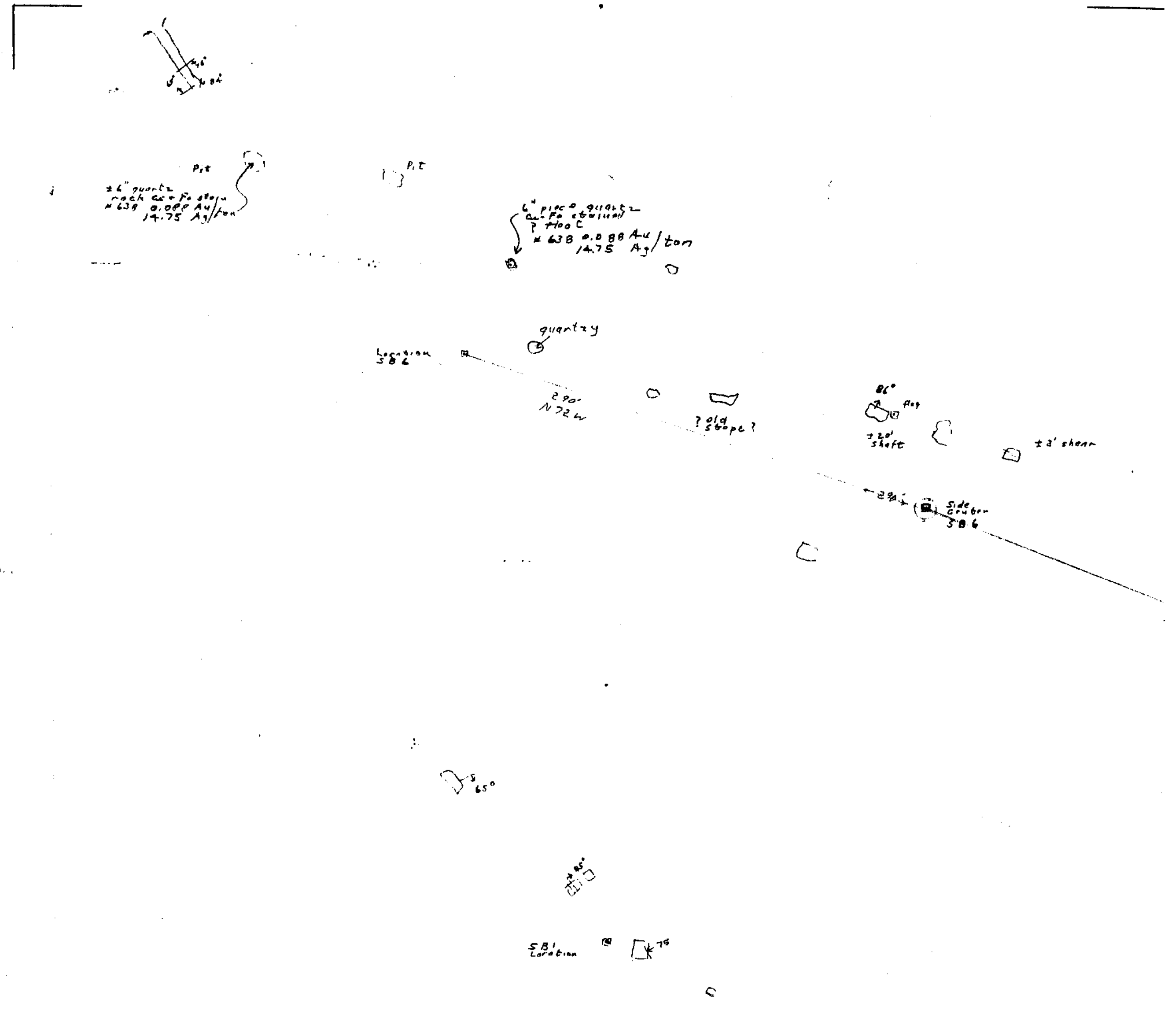
The

Popular County Map

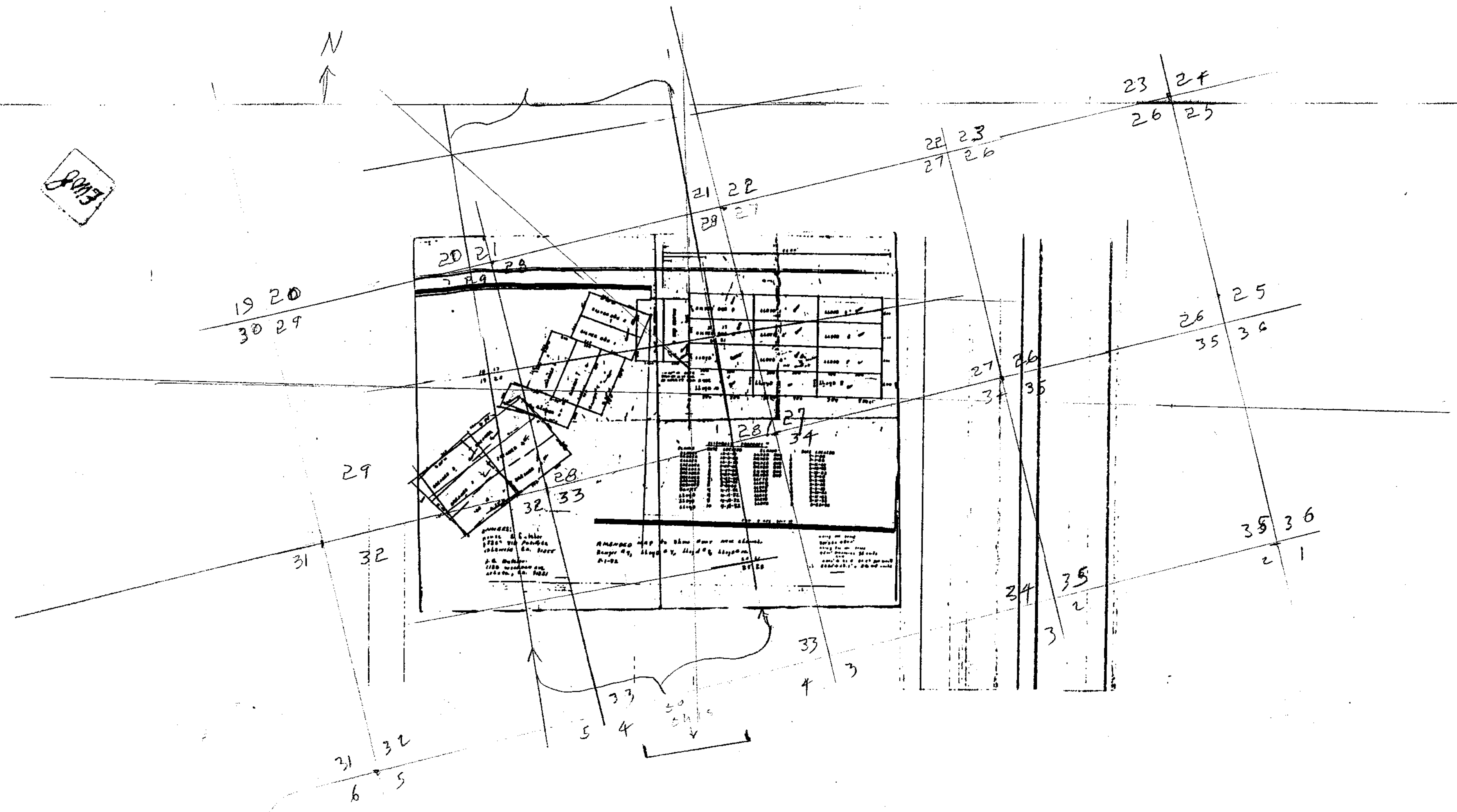
for

Business and Recreation

Highways, Roads, Railroads, Rivers, Creeks, Lakes, Forest boundaries, Township and Section Lines and other valuable information.


Pit
±6" quartz
rock Cu + Fe stain
639 0.088 Au
14.75 Ag/ton
Pit
6" piece quartz
Cu-Fe stained
638 0.088 Au
14.75 Ag/ton
quartzy
Location
SB6
290'
N72W
? old
stope ?
86°
±20'
shaft
±2' shear
Side
Corner
SB6
65°
SB1
Location
75

1" = 100'



26 claims

check for

This

Music Canyon.

Bruce Dutcher - Hawaii
1-808-239-2070- called me Aug 27, 1998
Return call Aug 27 1990- phone he is at work. His wife (poor hearing) and son answered. The will have him call back

subjects

Haanapell ① use names on present claim.
Music Canyon ② Location etc. Jerry says only 2 left / I was told 4.
Ellendale ? ③ (some) I will give names if re file

25 25 Sharon Way

Bristlecone # -Jules } Le Praine Mining 826-283
" # -Dennis LaPrarie 324-1906

$1500.00
patent plat
~~? use names as on present~~ filings.
??? ? whose name claims filed under?

Four Patents [illegible] + Callier

Names
→ Whose have claims filled under as of NOW

~~Lead Duke~~ Silver Duke 1 & 2

Dennis La Prairie 324-1806 6:35 @ 9:30
La Prairie Mining 826-2838
If pattened claims pay only ~~Taxes~~ (over)

what about Music Canyon

Have Patent Plats For
Hannapell
Rattler
Comstock
Sandwitch

8-27-88

...at CzMzw, north of the quartz diorite, con-...etamorphosed mafic volcanogenic and fine ...astic rocks of uncertain age but possibly ...and definitely not Cenozoic. The oldest un-...ly Tertiary rocks, probably late Oligocene or ...cene, are the volcanic rocks of Hannapah and ... mining districts (fig. B30). They are divided ... map units: (1) the tuffs of McKinney Tanks ...uffs of Hannapah, undifferentiated, comprised ...ck of rhyolitic welded tuffs, tuffs, tuffaceous ...entary strata, and possibly some rhyolite, and (2) ...endale andesitic pile, consisting of a thick series ...a flows and intrusive bodies of altered (prop-...d, locally more intensely altered) andesitic rocks. ...e rocks may also be included, and the unit may ...a counterpart in dikes and flows(?) in the west-...art of the Hannapah district. Lavas of the Ellen-...ndesitic pile may be underneath, if not interleaved ... the rhyolitic rocks; a stratigraphic position above ...yolitic rocks cannot be ruled out. The thick series ...elded tuffs questionably mapped with the volcanic ...s of Hannapah and Ellendale mining districts in the ...ern part of the district are roughly divisible into ...atively unaltered northern part north of U.S. Highway 6 and a southern part that is commonly ...ached, argillized, and silicified. The welded tuffs ... the northern part, distinguished by subhorizontal ...olor bands which probably serve to define multiple ...ows within cooling units, appear to underlie the tuff ... Saulsbury Wash, a thick postmineral(?) rhyolitic ...elded tuff dated at 21.6±0.6 m.y. (M. L. Silber-...man, oral commun., 1974) and preserved as erosional ...mnants capping ridges. A normal magnetic polarity ...ith N. 50° E. azimuth was determined with a port-...ble fluxgate magnetometer at locality D (fig. B30); ...he measurement is significantly different from the strongly reversed polarity of the tuff of Saulsbury Wash.

The extensive host rocks for the main gold deposits at the Ellendale Mine and vicinity are rhyolite plugs and domes, irregular masses, and dikes of uncertain stratigraphic position. They are almost certainly younger than the map unit termed "volcanic rocks of Hannapah and Ellendale." The rhyolites are probably early to middle Miocene (about 26–16 m.y.), a common age range for rhyolites in the region (see section of this bulletin on Cenozoic Erathem—West-central Region). Small aphanitic to porphyritic dacitic to andesitic plugs and dikes intrude the rhyolites at Ellendale, and even some of these young intrusive rocks are altered. Basaltic rocks in the extreme southwest part of the district appear to be unaffected by alteration and are judged to be the youngest volcanic rocks. Travertine crops out along a northwest-striking fault in rhyolite in the eastern part of the district. An outcrop several hundred feet across of calcareous sinter, possibly an erosional remnant of a larger hot spring apron, lies on altered andesite about 1½ miles (2.4 km) north of the Ellendale Mine. These calcitic deposits, which may have formed in the Pleistocene or Holocene, suggest that heat from volcanism may have been of long duration and that volcanism may have been almost continuous since the Miocene.

The Paleozoic rocks are cut into a series of imbricate plates by low-angle faults on the 7281-ft (2219-m) peak. The thrust plates may be related to the mid-Paleozoic Antler orogeny, as may the inferred low-angle fault that must lie beneath the metamorphic-facies (hornfelsed) rocks farther east if they have been thrust into the area. However, it seems reasonable to suppose that the rocks were metamorphosed in situ and that their lateral transport preceded metamorphism. Evidence for such a low-angle fault beneath the metamorphic rocks is weak and consists chiefly of the fact that this facies does not quite resemble the rocks generally found in this part of northern Nye County. The age of the inferred fault is even more conjectural.

Numerous steep Tertiary faults disrupt the Paleozoic and Tertiary rocks, and some faults place Tertiary rocks against Paleozoic. The oldest Tertiary rocks dip as much as 65° locally, but their dips generally do not exceed 25°. The steep dips could represent drag near faults, but folding cannot everywhere be ruled out. Steep faults with small separations were not mapped, but they are common in the Tertiary section, and some have been intruded by rhyolite and dacitic to andesitic dikes. Most of the mapped faults have a strong northerly trend, but many of the unmapped faults near the Ellendale Mine strike northeast. The main part of the district is perhaps best described as a volcanic center where the intrusion of rhyolitic to dacitic dikes and plugs and the formation of protrusive(?) domes were the last events of consequence. The metamorphosed Paleozoic strata in the southeastern part of the district are believed to conceal a shallow pluton.

MINERAL DEPOSITS

Ellendale is one of many districts in northern Nye County that was never geologically mapped prior to this bulletin. Several geologic features that permit an enhanced outlook for the economic potential of the district have been defined and were first reported by Kleinhampl (1967). The features include scattered outcrops of tactite, hornfelsed and marmorized Paleozoic strata, and dioritic bodies that are either Cretaceous and (or) Tertiary. These features suggest that concealed but shallow plutons underlie a large part of the district and that other minerals such as copper, molybdenum, and tungsten, as well as gold, silver, and barite, deserve attention. An aeromagnetic map (U.S. Geological Survey, 1968) lends support to this view; a separate plutonic body probably underlies the southeastern part of the district near the Jumbo Mine (fig. B30). The quartz diorite near the Ellendale Mine is probably responsible for the conspicuous elongate anomaly in that area.

The general character of the magnetic contours in the area underlain by Tertiary volcanic rocks is similar to that in many Tertiary volcanic terrains, and aside from two exceptions, little of economic significance is attributed to this area. One exception is the relatively featureless region of aeromagnetic contours east of the microwave tower and nearly south to the Jumbo Mine, where the tuff of McKinney Tanks and tuff of Hannapah, undifferentiated, and some rhyolite commonly

find

Company had agreed to ship 1000 tons of ore per month from a deposit near Ellendale. Production data for the Ellendale district are given in table B18.

TABLE B18. Production of Ellendale district 1908–60.
[Ag, Au, Cu, Ba]

Year	Ore tonnage[1]	Value
1908–48	[2]18,245	[2]$166,015
1910–32	[3]670	[3]109,966
1908	[4]241	[4]31,842
1909	[5]80+	[5]49,000
1910	[2]25	[2]18,737
1911	[2]94	[2]55,668
1913	[4]4930	[4]11,083
1931	[6]1000 (Ba)	[6]7000
1938	[4]117	[4]3024
1939	[4]1320	[4]11,663
1939–49	[7]16,070 (Ba)	[7]112,500
1953	[8]Small (Ba)	— —
1955	[9]Small (Ba)	— —
1957	([10])	— —
1958	([11])	— —
1959	[12]Small (Ba)	— —
1960	[13]Small (Ba)	— —
Total	[14]18,245 17,070+ (Ba)	[14]166,015 119,500+

Production data not available after 1960. Production believed to be small or nil from 1961 to the mid-1970's.

[1]Unqualified amounts are Ag, Au, and Cu.
[2]Kral (1951, p. 55), based on Couch and Carpenter (1943) and unpublished data of Couch.
[3]Hewett and others (1936, p. 67).
[4]Couch and Carpenter (1943, p. 112).
[5]Mining and Scientific Press (1909a–1909h). Only 5 tons valued at $20,000 are recorded by Couch and Carpenter (1943, p. 112).
[6]Rand and Sturgis (1931, p. 1577).
[7]Kral (1951, p. 57).
[8]U.S. Bureau of Mines (1956, p. 667).
[9]U.S. Bureau of Mines (1958, p. 711).
[10]U.S. Bureau of Mines (1959, p. 713) lists "a few thousand tons" of Ba.
[11]U.S. Bureau of Mines (1959, p. 610) lists some Ba shipments from stocks.
[12]U.S. Bureau of Mines (1960, p. 645).
[13]U.S. Bureau of Mines (1961, p. 658).
[14]There are unexplained differences in total recorded production reported by Kral (1951) and by Hewett and others (1936). These totals are based on the figures for 1908–48, 1931, and 1939–49.

GEOLOGIC SETTING

Geology of the Ellendale district is complex; sequences of Paleozoic and Tertiary rocks are locally mineralized, and their stratigraphic sections have not been fully established. We expect that the geologic map of the district (fig. B30), for which the following description applies, will be more useful to the reader than the geologic map (pl. A1), where stratigraphic units are in part grouped differently. In addition, the reader is referred to the section of this bulletin on Mining Districts and Areas—Hannapah District; the Tertiary volcanic history of both districts is similar enough to indicate possible partial contemporaneity in metallization.

The oldest strata, quartzitic siltstone, quartzite, phyllitic shale, and possibly a little limestone of late Precambrian(?) to Early Cambrian age, crop out near and on the flanks of the highest mountain, at 7281 feet (2219 m), of the district (fig. B30). Similar quartzite is found on the dump of a small adit located about 1 mile (1.6 km) east of the microwave tower and in a small outcrop at a prospect about ½ mile (0.8 km) south of the adit. The quartzite at these two localities (loc. B, fig. B30) is surrounded by Tertiary volcanic rocks, and whether or not it represents the pre-Tertiary basement or exotic masses within the Tertiary is uncertain. The quartzite exposures might be slivers along faults. Other outcrops of quartzite surrounded by Tertiary rocks are described later, grouped with megabreccia. The Lower Cambrian Zabriskie Quartzite crops out extensively in the extreme southeastern part of the district. There and nearby, much of the Precambrian and Cambrian section correlated most closely with strata to the southwest in Esmeralda County (Mike McCollum, oral comm., June 1981), where pertinent units include the Campito through Emigrant Formations as mapped by Albers and Stewart (1972). Some of the Precambrian and Cambrian strata at Ellendale are grouped with the Zabriskie Quartzite and others with the phyllitic shale unit (fig. B30). Thrust plates of Lower, Middle, and Upper(?) Cambrian limestone, Roberts Mountains Formation, and undifferentiated strata of probable Late Ordovician to Devonian age cap the 7281-foot (2219-m) peak. The latter unit includes the Ely Springs(?) Dolomite. The low hills east of the mountain and at the Jumbo barite mine are underlain by highly deformed, thinly bedded, siliceous hornfels, calc-silicate hornfels, limestone, and coarsely crystalline marble of a possibly transitional facies that superficially resembles "Vinini-type" strata except for the limy beds. The sequence is most likely Cambrian and Ordovician or possibly Devonian and may well be parautochthonous or allochthonous. F. G. Poole (oral commun., 1970) suggested that the hornfelsed sequence may represent an altered limestone or argillite unit within the Devonian. He based this view partly on the association with barite and noted that barite in the region is commonly found in Devonian strata, as at Warm Springs and at Northumberland. However, barite is also associated with Cambrian rocks in the Toiyabe Range. Convincing evidence for either view is not available at the Jumbo.

The Tertiary rocks are of diverse origin and composition and include rhyolitic to basaltic andesite flows, dikes, and plugs and rhyolitic to rhyodacitic welded tuffs, tuffs, and tuffaceous sedimentary strata. The plutonic bodies exposed in the district include Tertiary quartz diorite about 4 miles (6.4 km) northwest of the 7281-ft (2219-m) peak and a Late Cretaceous or Tertiary hornblende biotite diorite porphyry north of the Jumbo Mine. Also, a concealed near-surface pluton was postulated south and southwest of the Jumbo based on geologic evidence near the Jumbo Mine (Kleinhampl, 1967). Greenstone dikes(?) of uncertain age are associated with the hornfelsed section at the Jumbo Mine.

Megabreccia of Paleozoic quartzite and limestone northwest of the 7281-ft (2219-m) peak may be related in origin to the thrusts mapped on the peak. The masses have not been carefully examined, however, and may have formed during a later and as yet poorly defined event in the Tertiary. They are shown as landslide blocks on plate A1 and megabreccia on figure B30.

Geology adapted from Figure B 30 University of Nevada Bulletin 99B by KLEINHAMPL and ZIONAY, 1984

Title

Scale

by

38°7'30" N

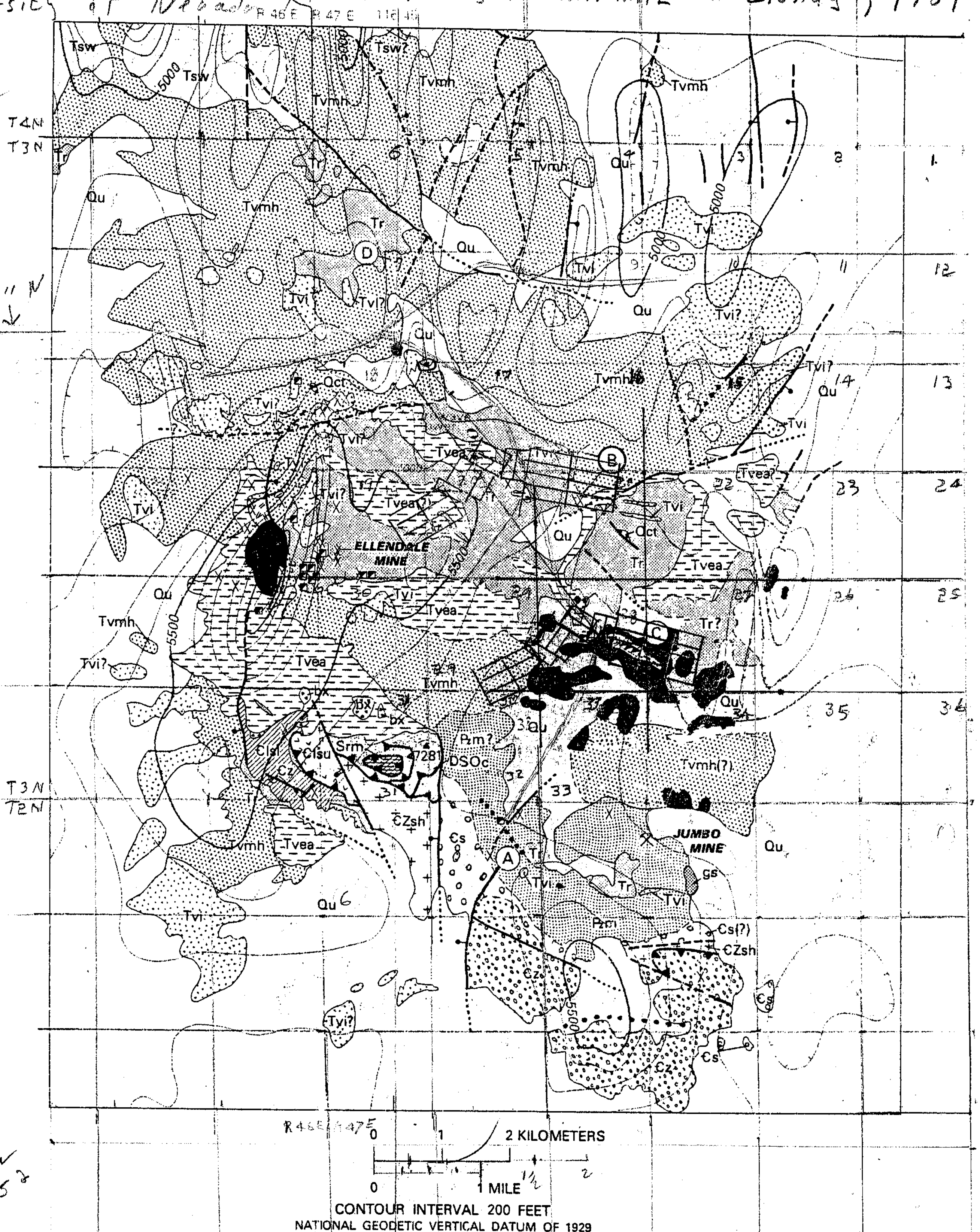


FIGURE B30. Reconnaissance geologic map of Ellendale district. Topographic base from U.S. Geological Survey Tonopah 1 x 2° sheet, 1971, scale 1:250,000.

86-1830

38° N

116 45° W

Measure on 100 scale

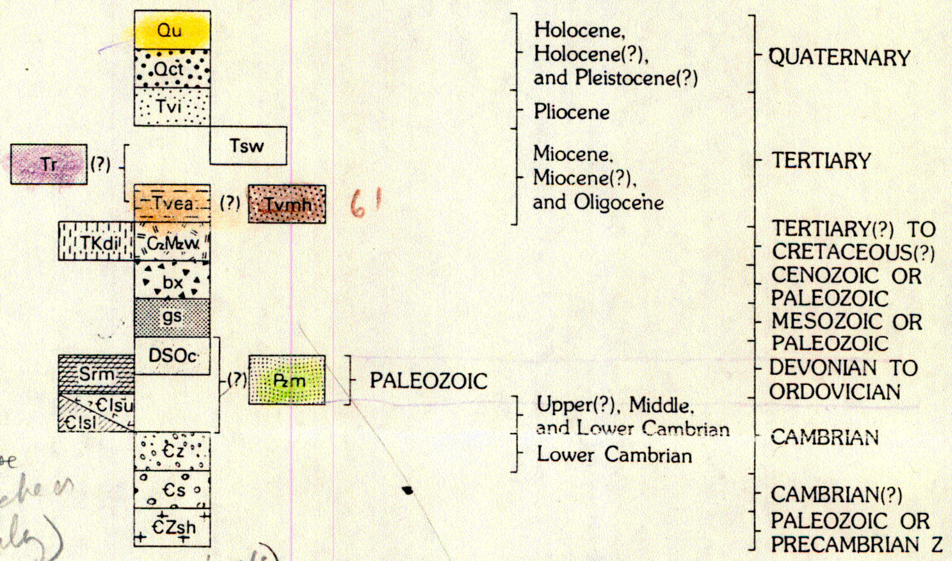
1 unit = 70.40'

75 units = 5280'

36-2534

CORRELATION OF MAP UNITS

Query signifies that age relations are in part unknown



DESCRIPTION OF MAP UNITS

See text for more complete descriptions; map symbol queried where correlation uncertain

Qu UNCONSOLIDATED DEPOSITS

Qct CALCAREOUS TUFA AND TRAVERTINE

Tvi VOLCANIC ROCKS OF INTERMEDIATE COMPOSITION—Chiefly dacitic to andesitic flows and plugs. Includes some basalt in southwest part of map. Porphyritic hornblende andesite at Black Butte exhibits positive (normal) polarity and a nearly north azimuth

Tsw TUFF OF SAULSBURY WASH—Chiefly rhyolitic welded tuff, age 21.6±0.6 m.y.

Tr RHYOLITE—Chiefly as domes and plugs: main host rock for gold deposits. Stratigraphic position uncertain with respect to tuff of Saulsbury Wash but probably older than the tuff

Tvmh VOLCANIC ROCKS OF HANNAPAH AND ELLENDALE MINING DISTRICTS: TUFFS OF MC KINNEY TANKS AND TUFF OF HANNAPAH, UNDIFFERENTIATED

Tvea VOLCANIC ROCKS OF HANNAPAH AND ELLENDALE MINING DISTRICTS: ELLENDALE ANDESITIC PILE

CzMzw WELDED TUFF—Silicified; may correlate with tuff of Williams Ridge and Morey Peak of Ekren, Rogers, and Dixon (1972a) or, less likely, with Darrough Felsite or Mesozoic metavolcanic rocks

bx MEGABRECCIA—Stratigraphic position uncertain. Most likely Tertiary

qd QUARTZ DIORITE

Pzm METAMORPHOSED ROCKS—Hornfelsed and marmorized beds; includes tactite zones. Age most likely Cambrian and Ordovician or Devonian

gs GREENSTONE—Stratigraphic position uncertain. May be Devonian, Permian, or Triassic

DSOc CARBONATE ROCKS, UNDIFFERENTIATED

Srm ROBERTS MOUNTAINS FORMATION

Ꞓlsu LIMESTONE—Limestone, shaly limestone, minor dolomite; possibly correlative with Bonanza King or Carrara Formations. In upper plate of minor(?) thrust

Ꞓlsl SHALE—Thinly intercalated shale, siltstone, and limestone. May be Carrara Formation

Ꞓs SHALE—Shale, siltstone, limestone, and other sedimentary rocks undifferentiated

Ꞓz ZABRISKIE QUARTZITE— May include older formations locally

ꞒZsh PHYLLITIC SHALE—Phyllitic shale, siltstone: pale greenish gray to brown and reddish brown

Contact—Dashed where inferred or approximately located. All bedrock-alluvium contacts approximately located but shown with solid lines

Fault—Dashed where inferred; dotted where concealed; queried where uncertain. Bar and ball on downthrown side

Low-angle fault—Sawteeth on upper plate

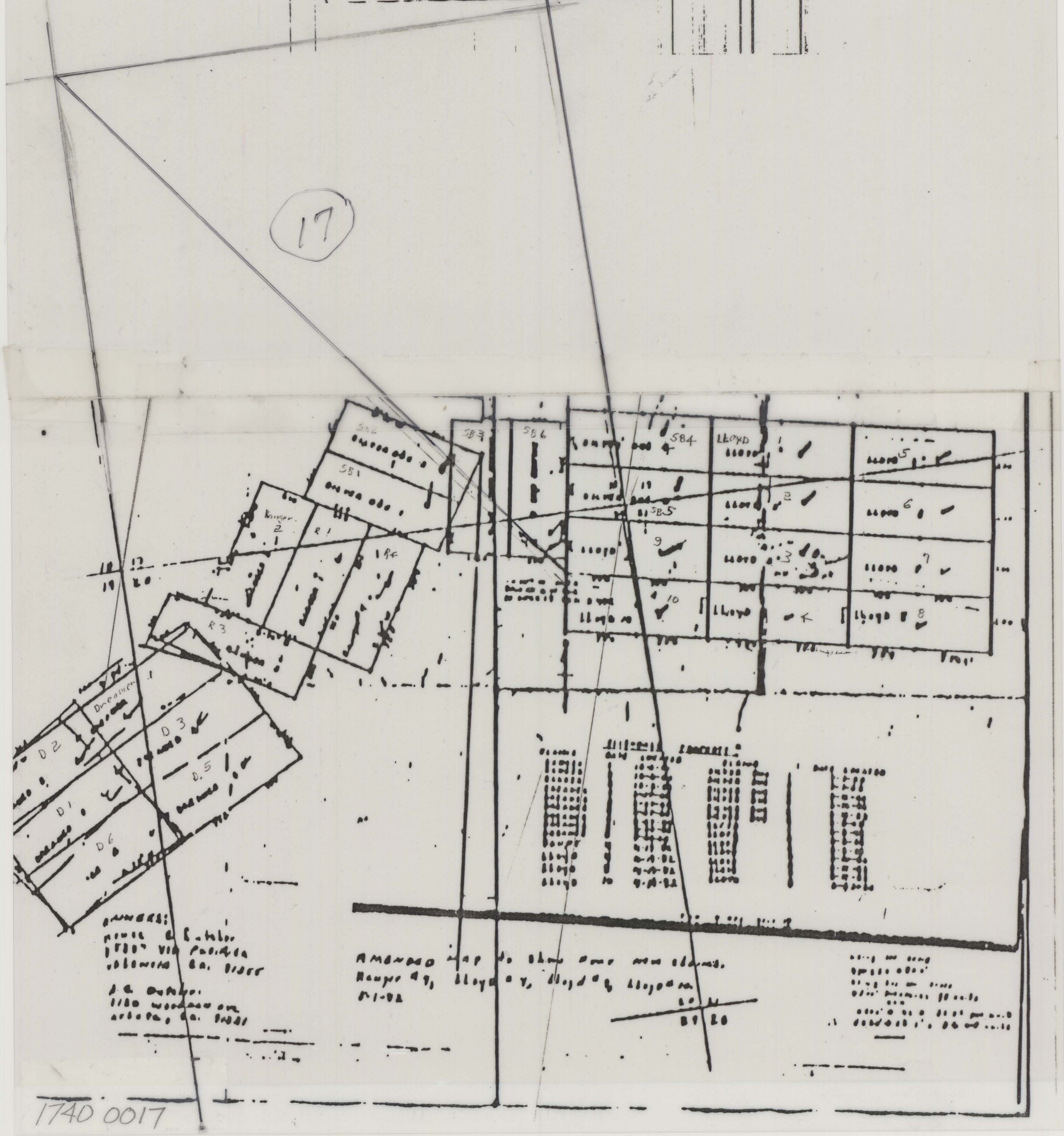
(A) Locality referred to in text

Mine workings

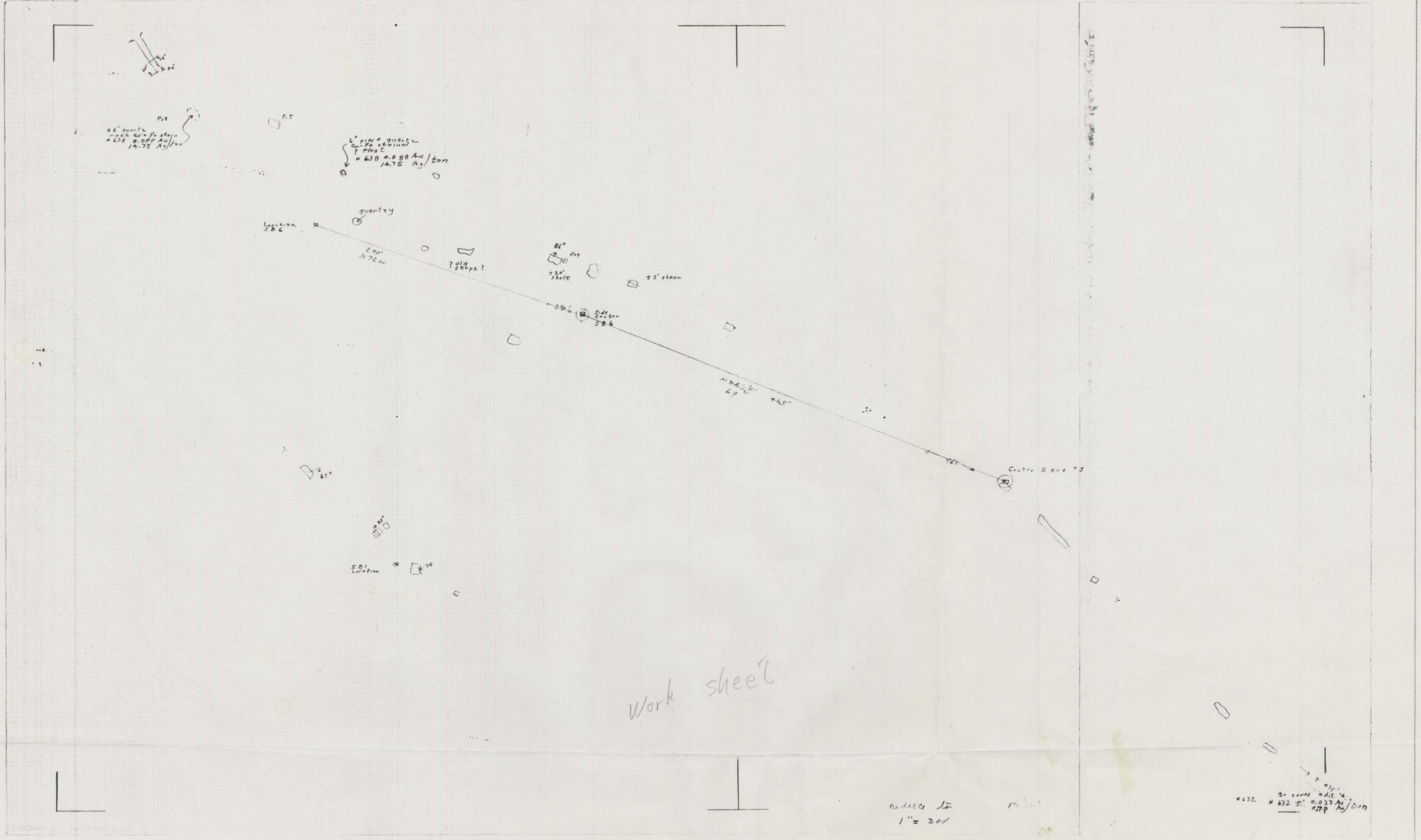
- Prospect or undifferentiated working
- Adit
- Shaft
- Inclined shaft
- Open pit

5100 Magnetic contours—Showing total intensity magnetic field of the earth in gammas relative to arbitrary datum. Hachured in closed magnetic lows. Contour interval 100 gammas. Survey flown at 500 feet above ground at 1-mile spacing. Dot and figure indicate maxima or minima in gammas. Data from U.S. Geological Survey Map GP-637 (1968)

FAULT
CONTACT



1740 0017



1740 0017

1" = 100'

1" = 100'

ok