K

K

SECTION 2-2'

SECTION 1-1'

TOMBSTONE TOWN SITE

MAIN

SULPHURET DIKE

EMPIRE DIKE

VEIN FISSURE SECTION 5-5'

SILVER THREAD SHAFT

SKI-U SAFT FISSURE

FAULT TRANQUILITY - CONTENTION

ROAD

9000

8800'

8600'

8400'

8200'

8000'

7800'

7600'

7400'

7200'

7000'

6800'

6600'

6400'

6200'

6000'

5800'

5600'

5400'

5200'

5000'

4800'

4600'

4400'

4200'

4000'

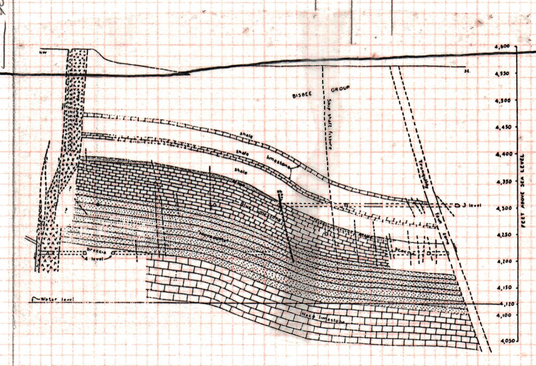
3800'

3600'

3400'

3200'

3000'



K-K'

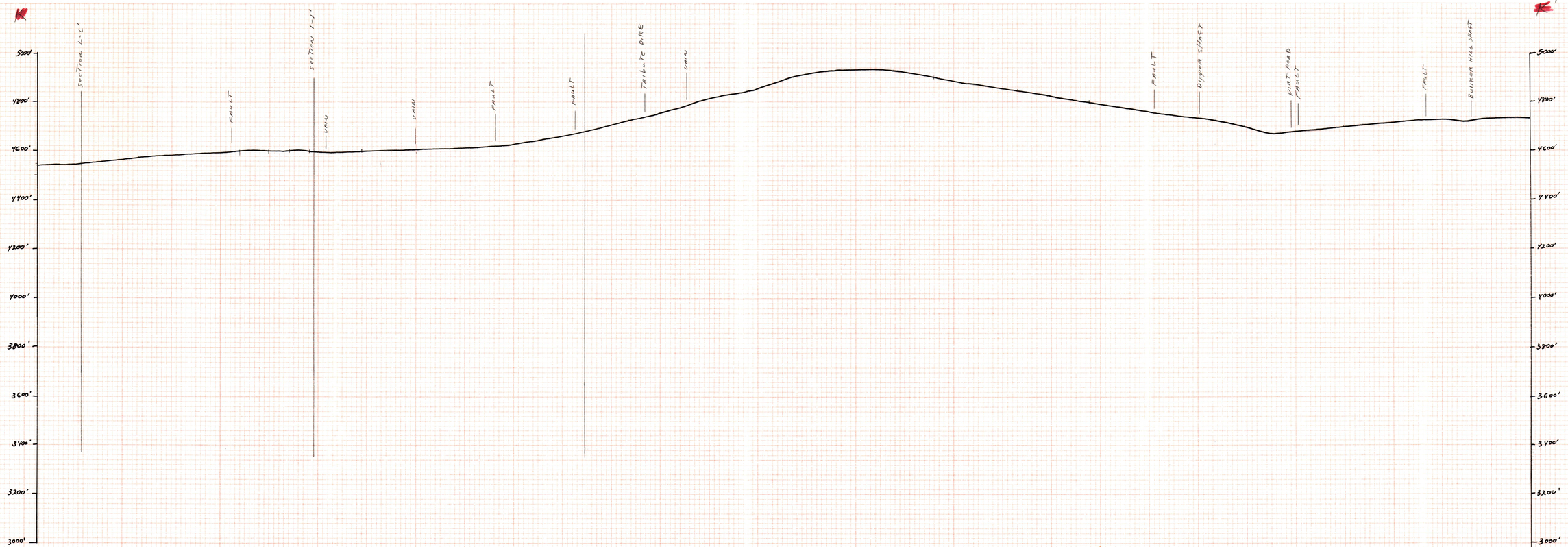
1"=200'

NO. 1294—CROSS SECTION 10 x 10
"CLEARPRINT PAPER CO."
MADE IN U.S.A.

Looking NORTH EAST

N

N'

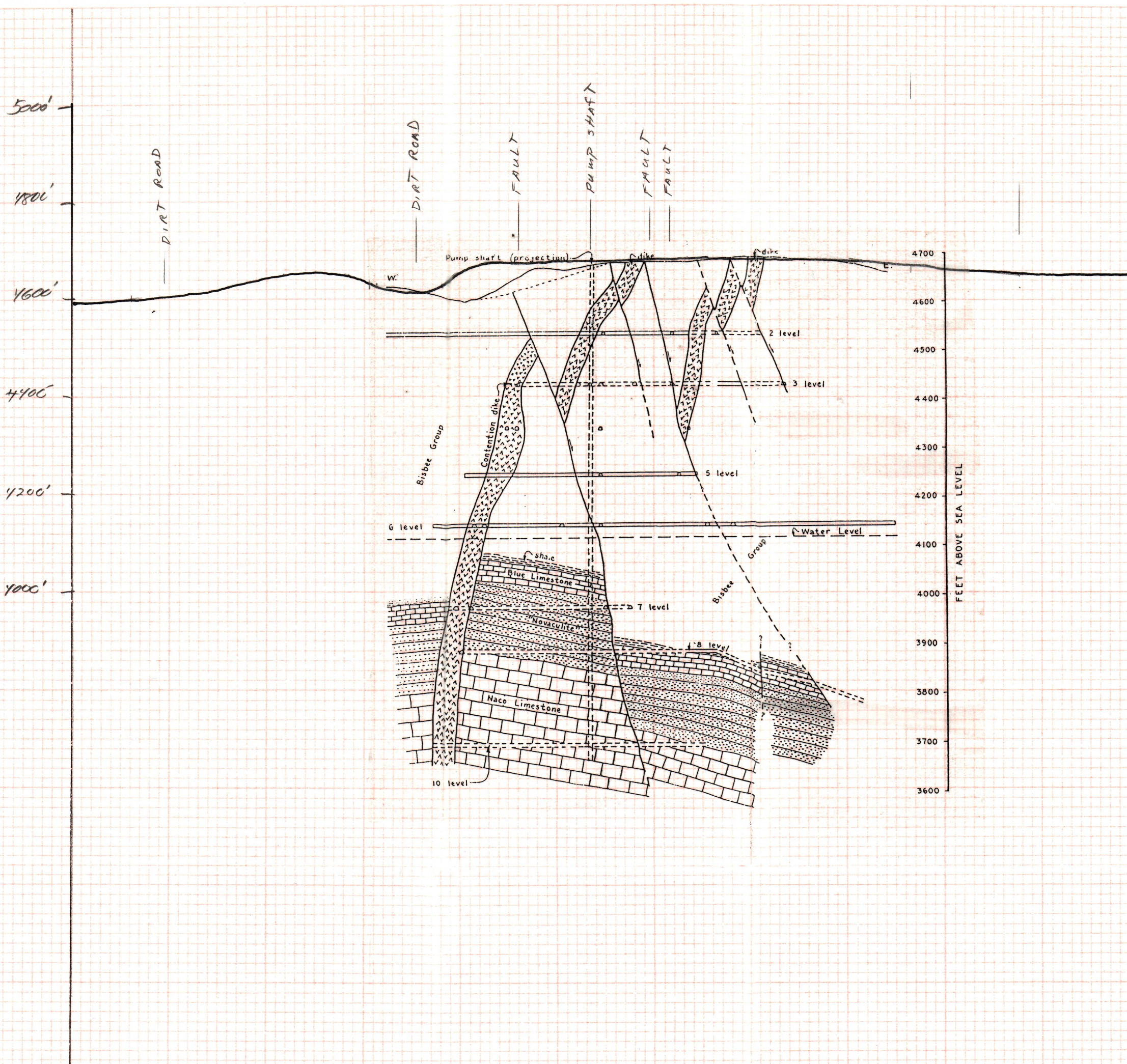


NO. 1294—CROSS SECTION 10 x 10
"CLEARPRINT PAPER CO."
MADE IN U.S.A.

TOMSTONE
1"=200'
SECTION ~~A-A'~~ N-N'

M

LOCKING NORTH-NORTHEAST



TOMBSTONE
1"=200'
SECTION
PLATE II

Sec

8138

R

5200'
5000'
4800'
4600'
4400'
4200'
4000'
3800'
3600'
3400'
3200'
3000'

FAULT
FAULT
SOUTH FORK
FAULT
FAULT
TAILINGS PILE
CANYON HOTEL FAULT
PIPE ROAD
BOSS DIKE
PIPE ROAD
PIPE ROAD
ROAD
SULPHUR ST. FAULT
SULPHUR ST. FAULT
ROAD
EMPIRE DIKE
TOMBSTONE TOWNSITE
ROAD
HIGHWAY

R'

5000'
4800'
4600'
4400'
4200'
4000'
3800'
3600'
3400'
3200'
3000'

TOMBSTONE
1"=200'
SECTION
R-R'

Q

Q'

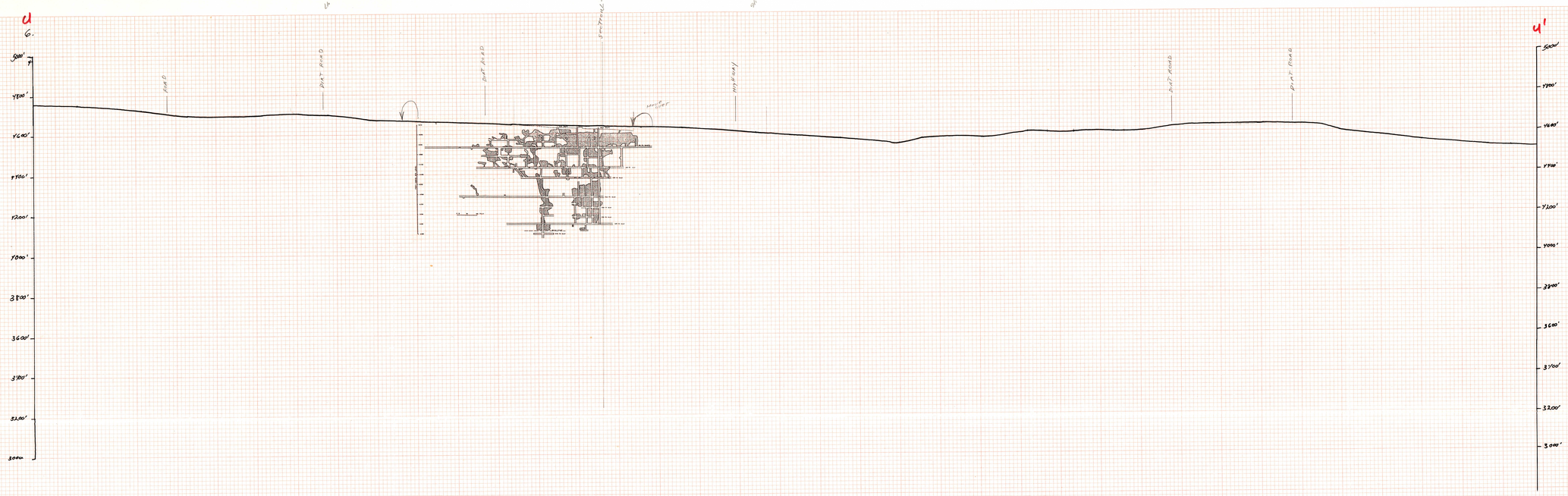
Looking NORTHWEST

5000'
4800'
4600'
4400'
4200'
4000'
3800'
3600'
3400'
3200'
3000'
2800'
2600'

DIRT ROAD
FAULT
SECTION K-K'
FAULT
FAULT
DIRT ROAD
BRAND CENTRAL FAULT (CROSSCUT NO.2)
TRIBUTE DIKE
DIRT ROAD
DIRT ROAD
WEST SIDE SHAFT
ROAD
BOSS PIKE
TOMBSTONE FAULT (CROSSCUT NO.1)
SECTION L-L'
ROAD
TOMBSTONE TOWN SITE
ROAD

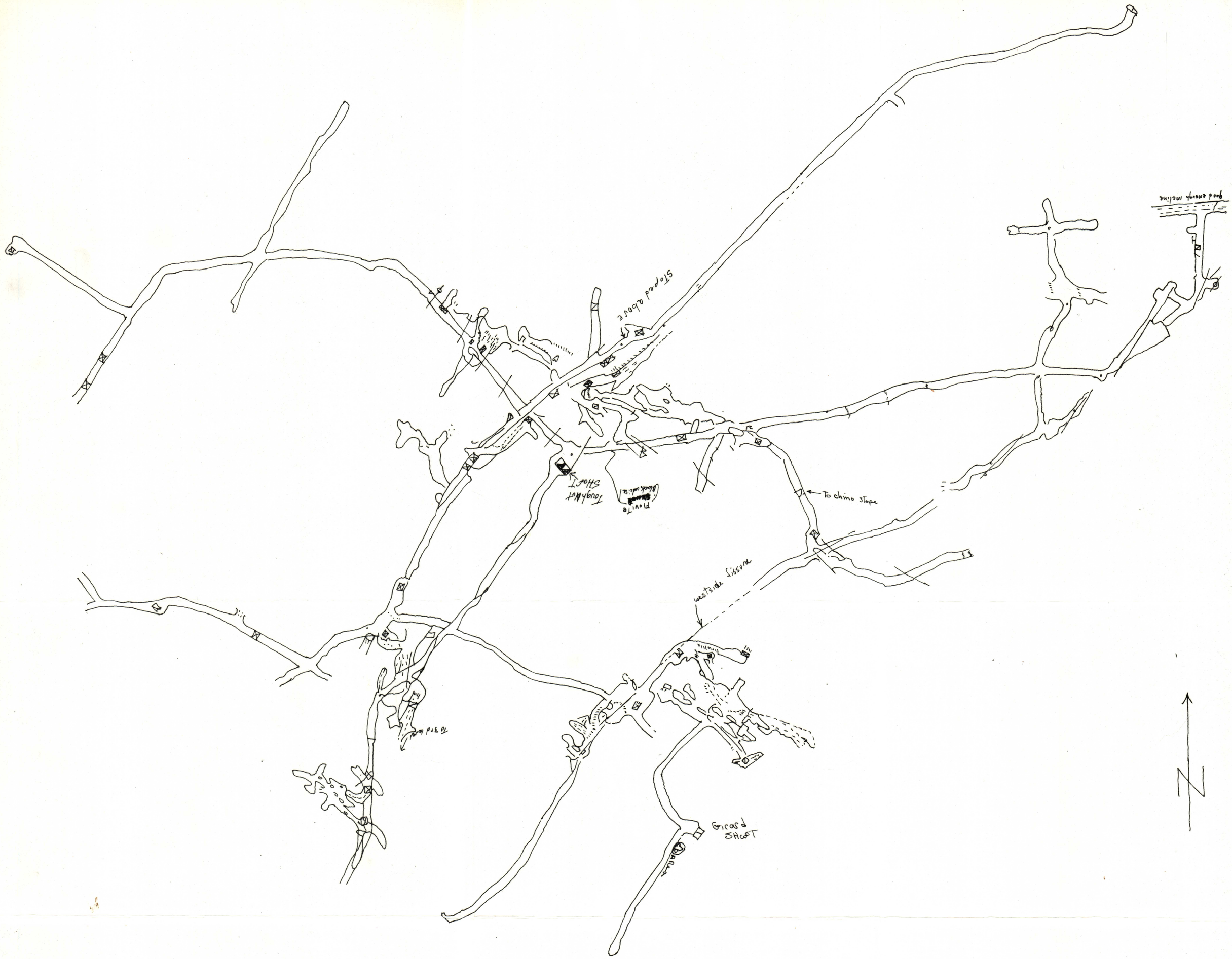
NO. 1394—CROSS SECTION 10 x 10
"CLEARPRINT PAPER CO."
MADE IN U.S.A.

Tombstone
1"=200'
Section Q-Q'



TOPOGRAPHIC SECTION u-u'

LOOKING NORTH WEST



Toughnut
2d Level
Scale 1"=50FT

E 9800 E 10000 E 10200 E 10400 E 10600 E 10800 E 11000 E 11200 E 11400

N 10,600 N 10,400 N 10,200 N 10,000 N 9,800 N 9,600

10,400E

June 14, 1989
DRAFT

SCALE 1"=50' circa JULY 1989

TOPOGRAPHY EXPLANATION

- NAD83 STATE GRID
- CONTROL
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- SPOT ELEVATION 5000.00
- ROAD - PAVED
- ROAD - PAVED CL
- ROAD - DIRT
- ROAD - TRAIL
- RAILROAD
- RAILROAD - ABANDONED RIGHT OF WAY
- BRIDGE
- STRUCTURE
- TRAILER
- FENCE
- TANK
- FOUNDATION
- STREAMS - PERENNIAL
- STREAMS - INTERMITTENT
- POND
- DITCH
- PIPE
- CUTS
- CREST
- TOE
- POLE
- WELL — WELL NUMBER
- DRILL HOLE - SURVEYED — DH OWNER / DH NUMBER
- DRILL HOLE - UNSURVEYED — DH OWNER / DH NUMBER
- MINE SHAFT (OPEN FENCED / COVERED / BULK HEADED /BACK FILLED)
- MINE SHAFT - MULTI COMPARTMENT
- MINE SHAFT - INCLINED WITH DEGREE OF INCLINATION (60°)
- PROSPECT
- ADIT PORTAL
- TRENCH

GEOLOGIC EXPLANATION

ROCK TYPES

Era	Period	Symbol	Description
	RECENT	Qwtc / Qwtf	WASHED TAILS - COARSE & FINES
		Qmd / Qhlt	MINE DUMPS & HEAPLEACH TAILS
			DISCONFORMITY
CENOZOIC	QUATERNARY	Qu	QUATERNARY UNDIVIDED - PRIMARILY UNTILTED SOIL
		T?r	TERTIARY ? RHYOLITIC DIKES
		Qb	BASALT INTRUSIVE
	TERTIARY	Tgg	GILA CONGLOMERATE - CEMENTED & SOMETIMES TILTED GRAVELS
			UNCONFORMITY
MESOZOIC	CRETACEOUS	Kha	HORNBLENDE ANDESITE PLUG AND ASSOCIATED DIKES
		Krd	RHYODACITE
		Kg	GRANOPHYRE
		Kr	RHOLITE PLUG AND ASSOCIATED DIKES (AGE, 63 M.Y.) POSSIBLE HYPABYSSAL EQUIVALENT OF THE Kcqm
		Kcqm	COMSTOCK QUARTZ MONZONITE PORPHYRY (AGE: 63.5 M.Y. FROM SAMPLE COLLECTED BY BRISCOE & DREWES, DATED BY USGS) INTRUSIVE INTO Ksg
		Kqlp	QUARTZ LATITE PORPHYRY
		Ksg	SCHIEFFELIN GRANODIORITE (AGE: 72 M.Y.)
		Kut	UNCLE SAM TUFF (AGE: 71.9 ± 2.4 M.Y.)
		Kbr	BRONCO RHYOLITE - DOMES AND FLOWS ?
		Kap	ANDESITE PORPHYRY DIKES
		Kba	BRONCO ANDESITE - LAHARIC FLOW BRECCIAS, FLOWS AND DIKES ?
			UNCONFORMITY
		Kb	BISBEE FORMATION - UNDIFFERENTIATED REDBEDS - SHALE, ARKOSIC QUARTZITE — LINE INDICATES MARKER HORIZON OF PETRIFIED WOOD IDENTIFIED BY DR. ERIC FORCE, USGS
		Kjls	JOE LIMESTONE
		Kbls	LIMESTONE - INCLUDES BLUE, 12 FOOT, AND 6 FOOT LIME OF LOCAL USAGE
		Kbg/Kbn	GLANCE CONGLOMERATE - "NOVACULITE" OF LOCAL USAGE - RANSOME & BUTLER & WILSON. CHARACTERIZED BY INTENSE SILICIFICATION IN MINERALIZED ZONES
			UNCONFORMITY
PALEOZOIC	PENNSYLVANIA - PERMIAN	Pcn	CONCHA (NACO) LIMESTONE
		Ped	EPITAPH DOLOMITE
		Pc	COLINA LIMESTONE
		IPe	PERMIAN - PENNSYLVANIAN EARP LIMESTONE
		IPh	HORQUILLA LIMESTONE
			DISCONFORMITY
	MISSISSIPPIAN	Me	ESCABROSA LIMESTONE
			DISCONFORMITY
	DEVONIAN	Dm	MARTIN LIMESTONE
			DISCONFORMITY
	CAMBRIAN	Ca	ABRIGO LIMESTONE
		Cb	BOLSA QUARTZITE
			NONCONFORMITY
PRECAMBRIAN		Pcg	GRANITE
		Pcp	PINAL SCHIST

SYMBOLS

SECTION LINES
a. GEOLOGIC CROSS SECTIONS FROM BUTLER - WILSON REPORT
b. GEOLOGIC CROSS SECTIONS FROM THIS REPORT

CONTACT
DASHED WHERE APPROXIMATELY LOCATED, AND DOTTED WHERE CONCEALED OR INTERPRETED

FAULT
DASHED WHERE APPROXIMATELY LOCATED, AND DOTTED WHERE CONCEALED OR INTERPRETED

VEINS
INCLUDES THE SO CALLED "FISSURES" OF LOCAL USAGE

STRIKE AND DIP
a. BEDDING TRENDS
b. JOINT TRENDS
c. VERTICAL DIP

FLOW STRUCTURE
a. INDICATING STRIKE AND DIP
b. VERTICAL DIP

ANTICLINES AND SYNCLINES
a. THESE ANTICLINES AND SYNCLINES HAVE BEEN TAKEN FROM OLD HISTORIC DATA
b. THESE ANTICLINES AND SYNCLINES WERE INTERPRETED FROM EXISTING MAPPED GEOLOGY BY J. A. BRISCOE

ALTERATION AND MINERALIZATION

- HORNFELS
- SKARN
- SILICIFICATION - MASSIVE TO WEAK
- MARBLE, BLEACHING AND/OR PHYLLIC ALTERATION
- LIMONITE AFTER SULFIDES - MASSIVE TO DISSEMINATED
- MANGANESE - MASSIVE TO DISSEMINATED
- MINED ORE MINERALIZATION FROM HISTORIC DATA
- INFERRED MINERALIZATION SIMILAR TO PREVIOUSLY MINED
- MEASURED ORE FROM DRILL HOLE INFORMATION
- INFERRED DISSEMINATED GOLD & SILVER MINERALIZATION FROM GEOLOGY AND/OR GEOCHEMISTRY/ GEOPHYSICS AND/OR SCOUT DRILLING

UNDERGROUND WORKINGS

SHAFT, STOPE, INCLINE; LEVEL 1 – LEVEL 10

LEVELS	FEET	MILES	% TOTAL	Σ TOTAL
1	9,040	1.7	7.0	7.0
2	21,580	4.1	16.0	23.0
3	46,200	8.8	34.0	57.0
4	23,220	4.4	17.0	74.0
5	14,720	2.8	11.0	85.0
6	14,280	2.7	11.0	96.0
7	5,660	1.1	4.0	100.0
8	800	0.2	1.0	101.0
9	–	–	–	–
10	580	0.1	0.4	101.4
	136,080	25.9	101.4	

NUMBERS INDICATE UNDERGROUND MINE LEVEL FROM SHAFT COLLAR

EXPLANATORY NOTES

Produced for the Tombstone Development Co.
by the Orthoshop - Tucson
Aerial Photo Date October 12 1992
Ground control provided by the A-TEAM Professional Associates, Inc.
using NAD83 State Plane coordinates for the Arizona Eastern Zone

PROPERTY DATA ARE FROM THE RECORDS OF THE COCHISE COUNTY COURTHOUSE, U.S. B.L.M., AND PRIVATE RECORDS OF THE TOMBSTONE DEVELOPMENT Co., INC., RESEARCHED BY THOMAS E. WALDRIP, JR. THEY HAVE BEEN PLOTTED AS CLOSELY AS RECORDS WOULD PERMIT ON THE U.S.G.S. 7 1/2 MINUTE MAPS COVERING THE TOMBSTONE AREA AND ITS ENVIRONS. THESE ARE TOMBSTONE, TOMBSTONE S.E., FAIRBANK AND LEWIS SPRINGS 7 1/2 MINUTE QUADRANGLES - SEE PLATE 3 (BRISCOE & WALDRIP, 1982) THE DATA FROM PLATE 3 WERE ENLARGED PHOTOGRAPHICALLY TO 1" = 500 FEET AND SUPERIMPOSED ON AN ELARGEMENT OF THE TOMBSTONE 7 1/2 MINUTE TOPOGRAPHIC MAP, 1952, PHOTO REVISION, 1978. THE CLAIM DATA WAS RE-DRAFTED AND ADJUSTED WHERE NECESSARY TO CONFORM TO THE RECORDS. NO FIELD CHECKING OF THIS DATA HAS BEEN DONE.

LOCATIONS OF MINE SHAFTS WERE DIGITIZED FROM THE 1908 U.S.G.S. 1" = 500' TOMBSTONE TOPOGRAPHIC MAP. GEOLOGY OF THE TOMBSTONE BASIN AREA HAS BEEN PLOTTED DIRECTLY FROM THE 1955? VINTAGE MAP NOTED IN THE REFERENCES ON THIS MAP SHEET. SOUTH OF THE PROMPTER FAULT, GEOLOGY FROM THE 1955? MAP WAS UPDATED ACCORDING TO THE MORE RECENT WORK BY NEWELL AND DREWES, AS INTERPRETED BY JAMES A. BRISCOE.

IN SEPTEMBER 1992, THE NORTHERN PART OF THE TOMBSTONE HILLS WAS REMAPPED. A BASE TRIANGULATION SURVEY WAS PERFORMED BY "THE A-TEAM" REGISTERED PROFESSIONAL SURVEYORS, OF PHOENIX AND TUCSON, AZ USING GPS EQUIPMENT AND TIED TO THE ARIZONA STATE PLANE COORDINATES. THE AREA WAS THEN FLOWN PHOTOGRAMMETRICALLY BY THE ORTHO SHOP OF TUCSON AT A PHOTO SCALE OF 1:24,000, IN COLOR. SEVERAL PRODUCTS FROM THIS PHOTOGRAMMETRIC WORK HAVE BEEN PRODUCED TO DATE: 1. AT A SCALE OF 1:24,000 A BLACK AND WHITE ORTHOPHOTO MAP WITH SURVEY BASE AND 1,000 FOOT GRID TICKS. 2. AT A SCALE OF 1:2,400 (1" = 200') AND 5' CONTOURS A DIGITAL TERRAIN MODEL (DTM) WITH A. TOPOGRAPHIC HARD COPY B. ORTHOPHOTO MAP WITH 20' CONTOURS SUPERIMPOSED. C. ORTHOPHOTO MAP WITH GRID TICKS BUT NO TOPOGRAPHY. SHEET 5 PRODUCED IN OCTOBER 1992 AND SHEET 8 IN NOVEMBER 1993. NO OTHER SHEETS (AS SHOWN ON THE INDEX MAP ARE EXTANT AT THIS DATE). STILL EXISTING MINE OPENINGS WERE INTERPRETED FROM PHOTOGRAPHY AND LIMITED FIELD CHECKING. MOST MINE DUMPS ASSOCIATED WITH EARLY DAY MINING WERE REMOVED CIRCA 1972 BY 1971 MINERALS LIMITED, TO A CENTRAL HEAP LEACH PAD WHERE THEY WERE LEACHED WITH CYANIDE. THE OPEN PIT WAS PRIMARILY EXCAVATED CIRCA 1978 - 1985 BY TEI (TOMBSTONE EXPLORATION INC.), WITH MINIMAL FURTHER EXCAVATION BY PBR - COWICHAN MINES INC. AND MERRILL-CROWE PLANT AND HEAP LEACH PAD CONSTRUCTION (SEE SHEET 8) CIRCA 1987 - 1990. MANY SHAFTS WERE SEALED OFF OR FILLED PRIMARILY BY SANTA FE MINERALS INC. UNDER THEIR LEASE WITH TOMBSTONE DEVELOPMENT CO., INC. CIRCA 1987 - 1990.

THIS MAP WAS PRODUCED USING COMPUTER AIDED DRAFTING (AUTOCAD R. 12.C2) SOFTWARE AND PRINTED IN COLOR USING A HEWLETT - PACKARD INK JET PLOTTER. THE DATA IN THE COMPUTER IS A 3 DIMENSIONAL DIGITAL TERRAIN MODEL. CAD DRAFTING HAS BEEN DONE BY MESSRS PETER BONDANTE CIRCA 1988 - 1993, AND UPDATED AND REVISED BY GARY M. BLACHARSKI. SUPERVISION PROVIDED BY JAMES A. BRISCOE, THOMAS E. WALDRIP JR., AND ROBERT J. MACER, GEOLOGISTS, JABA INC.

1	2	3
4	5 CONTENTION	6
7	8 GRAND CENTRAL SHEET	9
10	11	12
13	14	15

REFERENCES - GEOLOGY

DREWES, HARALD, 1980, TECTONIC MAP OF SOUTHEAST ARIZONA, U.S. GEOLOGICAL SURVEY MAP I-1109.

NEWELL, ROGER A., 1974, EXPLORATION GEOLOGY AND GEOCHEMISTRY OF THE TOMBSTONE - CHARLESTON AREA, COCHISE COUNTY, ARIZONA, PLATE 2, STANFORD UNIVERSITY PH.D. DISSERTATION.

UNKNOWN, CIRCA 1955 PROBABLY A NEWMONT MINING CO. GEOLOGIC AND ALTERATION MAP, WITH SURFACE PROJECTION OF UNDERGROUND MINE WORKINGS, PLOTTED ON U.S.G.S. 1:6,000 (1" = 500') TOMBSTONE ARIZONA AND VICINITY TOPOGRAPHIC MAP, 1908, REPRINTED 1948, CONTOUR INTERVAL 10 FEET. FROM THE FILES OF THE TOMBSTONE DEVELOPMENT COMPANY, INC.

SCALE 1" = 200'
200 100 0 200 400 600 800
CONTOUR INTERVAL = 5 ft

NORTH — TRUE NORTH, MAGNETIC NORTH 12°
APPROXIMATE MEAN DECLINATION, 1980

INDEX MAP 1992 PHOTOGRAPHY & PHOTOGRAMMETRY (SHADING SHOWS SHEETS EXTANT AS OF THIS DATE)

1	2	3
4	CONTENTION SHEET 5	6
7	GRAND CENTRAL 8	9
10	11	12
13	14	15

TOMBSTONE, ARIZONA
COCHISE COUNTY
GRAND CENTRAL SHEET NO. 8

PREPARED BY: JABA INC. TUCSON, ARIZONA

TYPE	AUTHORS LIST	DATE
GEOLOGY	JAMES A. BRISCOE	
PROPERTY	T.E.W. Jr.	
TOPOGRAPHY	THE ORTHO SHOP	
SURVEY	A-TEAM SURVEYORS	
CADD	GARY M. BLACHARSKI	12/05/93
APPROVED		

TOMBSTONE, ARIZONA COCHISE COUNTY GRAND CENTRAL SHEET No 8 WITH MINE WORKINGS

200 100 0 400
SCALE 1" = 200' CONTOURS AT 5'

PREPARED FOR: Tombstone Development Co. (TDC) Inc.
P.O. BOX 1445
Grand Island, Nebraska

COUNTRY: U.S.A. STATE: ARIZONA COUNTY: COCHISE
MOUNTAIN RANGE: TOMBSTONE HILLS
MINING DISTRICT: TOMBSTONE
USGS QUAD SHEET(S): TOMBSTONE, Az 7 1/2 MIN.

CAD No	REV DATE	DWG NUMBER	REV
TMD-08B2	06/17/94		6