KA-C-2-80 SBORAX Poge 1 of 1 EXPLORATION Area Jones-Keystone Au Project Hole No. GNJK-2 Property_ County RANDOLPH __State___N.C.__Quad__ Coordinates 354420 800110 Elev. 610 Bearing __Contractor_ _____Completed ____/ __Casing Logged By T.A. Paris Core Disposition____ <10% >50%, sulfide sericite 10 15 20 25 30 A OVERBURDEN 6" Hetained -> 35.4 ex. 513. matic tuff w felsic lapilli (2"-3") 15% core 1055 zo. w. hvy ox. 90% core loss

EXPLORATION SELECTION SECRETARION Poge 2 of 11 Aron Jones-Keystone Au Project Hole No. GNJK-2 Property _____ State _____ Quad _ Coordinates _____ Elev._____Bearing _____Incl.___ Contractor _ Started ____/ Completed ___/ Casing Logged By T.A. Paris Core Disposition____ 90% care loss; zone of huy. ox 50 6" retained 4. 55 matic tuff w felsic lapilli 60% core loss; zone of huy ox. 75% core loss; zone of huy.ox. 6 retained 75 4 50% core loss; zone of hey. ox. 85 problem. 90% core loss; felsic xl-lapilli tuff

SBORAX Page 3 of 11 EXPLORATION Hole No.GNJK-2 Property Area Jones-Keystone Au Project County_ _____ State _____ Quad __ Coordinates___ Bearing_ __Contractor_ _____Completed____/__Casing_ Core Disposition Logged By T.A. Poris 40% 7,50% 90% core loss; felsic lapilli-xl troff 95 90% core loss; matic lapilli tuff 100 zone of hvy ox 105 ox. zo. trs py 90 I matic tuff w Selsic & intermed comp lapilli 110 ble.fr. lapilli w nu ca. eyes"; ox fr. 6" retained 113 matic lapilli tuff 115 matie tuff w felsic lapilli & bombs ca. spots 4 in frs ox. 5c. 120 4/19/ wy ox-20. scatts of py matic tuff windermed . comp. lapilli } leached 20. (matic feldx1-lapillituff) 130 scat ca "spots" 4 tr. fill co fill vuq matic tuff w felsic lapillix bombs (motic feld xl-lapilli tuff) Fo } leached 20.

SBORAX Page 4 of 11 EXPLORATION Areo Jones-Keystone Au Project Hole No. GNUK-2 Property_ _____ State _____ Quad __ Coordinates____ ____ Incl. ____ Contractor __ Started ____/ Completed ___/ Casing_ Core Disposition_____Logged By T.A. Paris Core U.... leadned core trs py intermed comp lapilli tuff ca-filled frs. ca fr. scat ca spots Selsic lapilli tuff :- lapilli & - 1" in dia 6" Netained 155 155 scat ca spots ca Sill fr. scat qtzxl Stags felsic lapilli tuff ; kpilli #-1"india. minor ca throughout mitx 170 c" retained 176 my Ise ca-py fill fr.

ca fill fr.

EXPLORATION - Strange Sot 11 _ Area Jones-Keystone Au Project Hole No.GNJK-2 Property____ ______State_____Quad__ County___ Coordinates _____ Elev._____Bearing __ _____ Incl.____ Contractor __ Started ____/ Completed ___/ Casing _ Core Disposition _____Logged By T.A. Paris ca filled spots ca.fr; occas lapilli replaced by py trs4 185 190 6 retained 195 ca fill fr 195 why bedded "ashy" felsic lapillituff abu ca dissem in mtx 200 We.fr. 199-221' nu dk, soft spots - CaSO4.24,0 205 ca + py fill fr 210 ca. Sill fr. Si. gr. (ashy) felsic lapilli tuff trs 4 Shi py 220 # ca fill frs.

EXPLORATION AND AND LANGE TO SERVICE TO SERV Area Jones-Keystone Au Project Hole No. GNJK-2 Property_ ______State ______Quad _ County_ Coordinates____ _____Bearing _ ____ Incl. ____ Contractor _ Started ____/ Completed ___/ __Casing _ Logged By T.A. Paris Core Disposition____ sulfide sencite 270 6 3 swkox 20; ca fill fis casil Siz Si.gr. intermed. comp. tuff wabu.ca. in mtx. 2 ratains 275 trs py lge. ca.fill. fr. 280 cafill.frs. ca spots lge ca.fill. frs nu ca spots ca fill vugs 290 Si.gr. (ashy) Selsic lapilli tuff 295 ca fill frs catpy. fill. fr. 300 Ige cast py. fil.fr #2 PY py fill frs +lapilli borders 310 topb. fis by

EXPLORATION ASSESSMENT USBORAX Page 8 of 11 Area Jones-Keystone Au Project Hole No.GNJK-2 Property _____ State _____ Quad ___ Coordinates _____ Elev._____Bearing_ _____Incl.___Contractor __ Started___/_Completed___/_Casing_ ____Logged By T.A. Paris Core Disposition____ 10% >50% Sencit 315 £"cafill frw py I" ca "bed" cafill.vug afrs. 325 lge ca fill frs cafill mag 330 ca fill fr figr. felsic lapilli tuff 335 ca fill fr. -ble, ca fill. fr. ca fill wag -str ca in mtx 20-2" - str cain mtx zo.~2" why befr. -str ca in Mtx 20. ~2" (ca snd?)
fielsic xl-lapilli tuff
tipy.po bnd w trs cpy

MSRORAY

	EXPLORAT	10N habbanance Will Ulling Page 9 of 11
Hole No. G	NJK-2 Property	Area Jones-Keystone Au Project
County	Sto	T. D
Coordinate		
Elev	Bearing	InclContractor
		Core Disposition Logged By T.A. Paris
		40% >50%
		Started Completed Logged By Paris Logged By A. Paris Logged By Paris Started Logged By
		to the second se
		Felsic xl-lopilli tuff (\$ -1 1/apilli)
		\$-1" clasts w~25% py
	2" etained 365	
	2 ferunea to	1/200 365 365 W 25% PY
	4" retained 378	370 141" vein: 1"-12" ca borders; mlky otz interior
		570
		scat ca. "eyes"
		2" ca vein w shis po.
		375 -07
		wispy lapilli tuff - welded?
		shis of -
		figr fels tuff w scat 19pilli
		fi gr fels tuff w scat lapilli nu ca eyes"} trs apy
		380 To nu ca eyes" \$ "5 apy
		# 2"q.v 1-2" ble zo either side # ca fill bedded fis.
		# ca fill bedded fis.
	2" retained 385	
	7	385
		1" of /corb bodded vein
		1" stz/carb bedded wein sigr, massive intermed comp tuff
		(dacite-rhyadacite)
		390
		17. py - 18" py bads } welded tuff?
		trs py - scat ca. eyes"; abu ca in mtx
		395
		lapilli portly replaced by py and ca
		176 py
		// // // -
		400 to py brids
		trs py nu ca eyes , abu ca in with
	n and	900
	5" retained 405	1/05 50

SBORAX Page 10 of 11 EXPLORATION Area Jones-Keystone Au Project Hole No. GNJK-2 Property_ ______ State ______ Quad ___ County___ Coordinates____ Elev.____ Bearing_ Started ____/ Completed ___/ Casing _ Logged By T.A. Paris Core Disposition____ felsic lapilli tuff w smeared out lapilli-welded Pyritic spotted fige tuff 4"q.v. w ca, ank, pa, +TiO2 410 alt felsic lapilli tuff; strong pyritization lapilli partly replaced by py + po 技% PY pyritic lapilli nu to py bods 420 etained \$25 425 silic lapilli fuff 5 gc obty tuff : nutn py bods Pric, sericitic teff figr chtytuff; to py bods ca fill frs. 440 wkly bedded to massive intermed comp tuff ca. fill frs. a vugs ; tn.py bad. 19. py 445 to py bad ca. fill. frs. 17. PY ca. fill fis + vugs

5 gr. massive tuff

EXPLORATION ASSESSMENT USBORAX Page 11 of 11 Area Jones-Keystone Au Project Hole No. GNUK-2 Property County___ _____ State _____ Quad ___ T. D. -Coordinates____ Elev._____Bearing_ ____Incl.____Contractor__ _____Completed_____/__Casing_ Started____ Core Disposition_____Logged By T.A. Paris suffice sericite 450 Fry bads co fill fr. tm. py brids 2190py 455 nuth py bods to a fill for med 45B t"py. bnd. t"py Ind. 460 E Py bad o intermed comp lapilly troff w felsic lapilli ta. py. bnd. ca. fill frs 465 465 in py. bnd. 67 carpy sill fis matic lapilli tuff w felsic lapilli cafill fre 480 15 2 ca fill frs ca fill for. calgtz fill ungs 485.25'T.D. 490

RA- C- 2-80

SAMPLE #	INTERVAL	Tilleries	SPLIT FOR
Unitize #	330-335	THICKNESS 5	SPLIT FOR
2	335-340	5	
3	340 - 345	5	, Y
	345-350	5	
4 5	350-355	5	
6	355 - 360	5	
7	360-365	5	
8	365-370	5	
9	370-375	5	0
10	375-380	5	0 L 1 A
11	380 <i>-3</i> 85	5	\nearrow
	385-390	5	
12 13	390-395	5	0
14	395-400	5	710N
15	400-405	5	
16	405-410	5	*
17	410-415		
	415-42°	5	
18	420-425	<u>5</u> 5	
19	425-430		
20		5	
21	430-435	5	
22	435-440	5	V

Blue Ridge Analytical Laboratory, Inc.

Post Office Box 7545 • Charlottesville • Virginia • 22906 • 804-973-4353

April 10, 1980

Job No. 780

U.S. Borax & Chemical Corp.

P.O. Box 10831

Knoxville, Tenn. 37919

Attn: Harry Dunn

Submitted by: Bill Szymanski

Certificate of Analysis

DRILL CORE

There are 22 rock samples analyzed as follows:

Sample Number	ppm Au	Sample Number	ppm Au
GNJK-1	.25	GNJK-12	.25
GNJK-2	.20	GNJK-13	-35
GNJK-3	.22	GNJK-14	.28
GNJK-4	.26	GNJK-15	.38
GNJK-5	.31	GNJK-16	.18
GNJK-6	.28	GNJK-17	.23
GNJK-7	.23	GNJK-18	.37
GNJK-8		GNJK-19	.16
GNJK-9	.23	GNJK-20	.21
GNJK-10	.25	GNJK-21	.21
GNJK-11	.21	GNJK-22	.20

GNJK-2

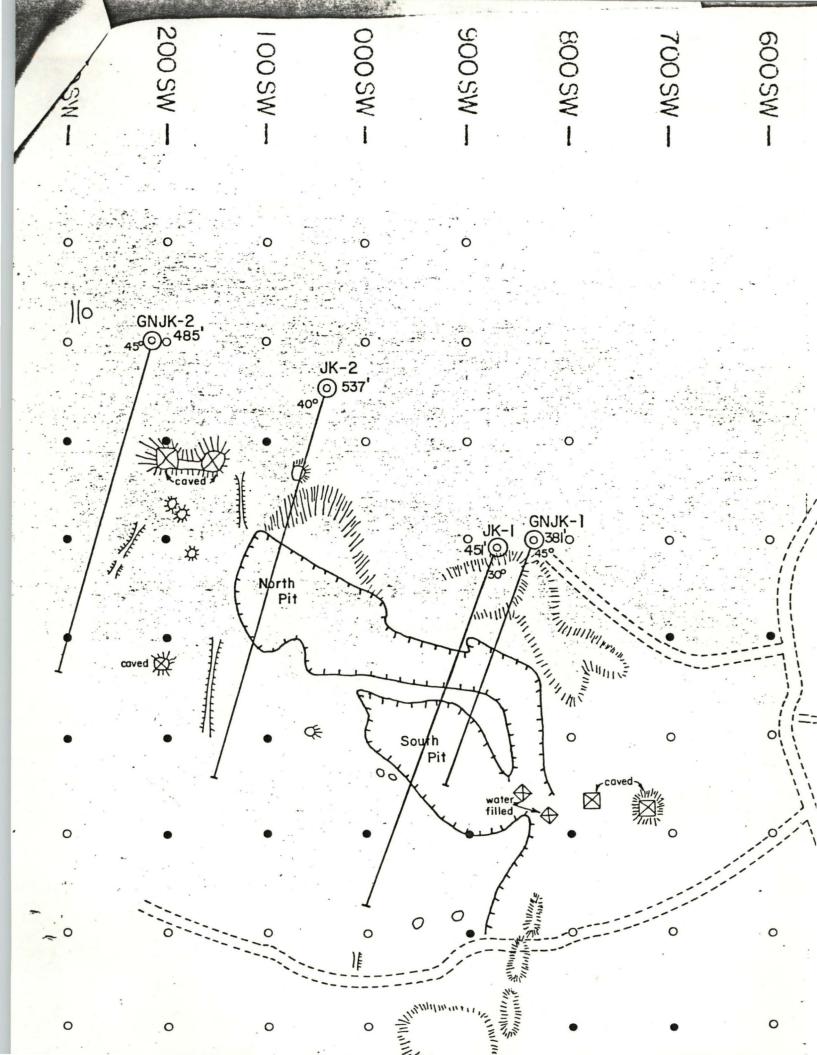
Respectfully submitted:

Donald W. Foss

President

DWF: jaw

Samples are GNJK 2-



RA-C-1-80 GNJK-1 RA-C-2-80 GNJK-2

LEGEND

GNJK-I JK-I

U.S. Borax D.D.H.

()K-1

Asarco D.D.H.

(0)500

Total Depth

48

Inclination

489

memarion

0

Soil Sample less than .1 ppm Au

•

Soil Sample greater than .1ppm Au

EXPLORATI

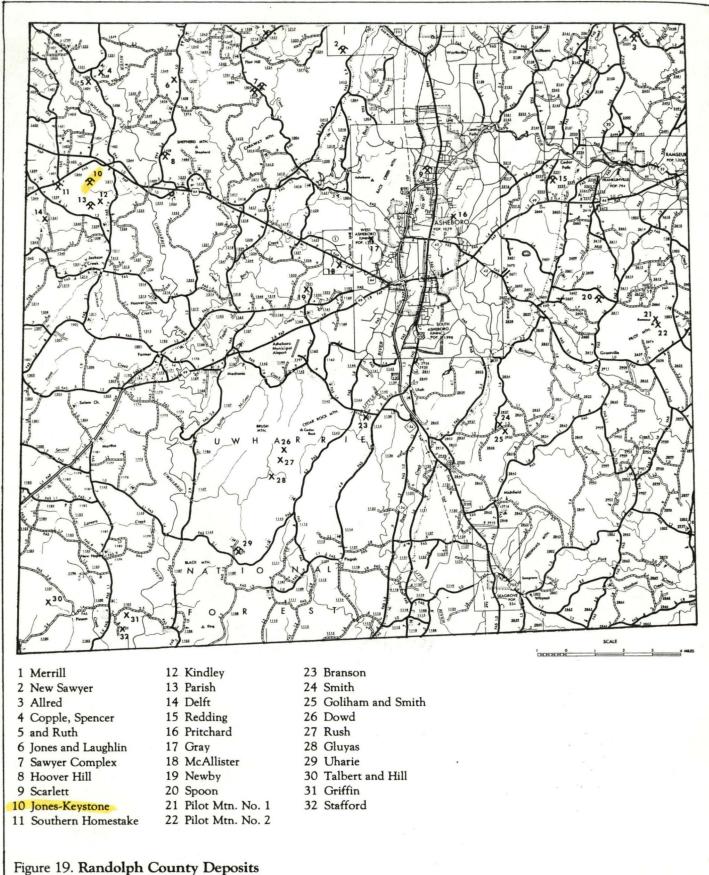
JONES KEYSTONE P

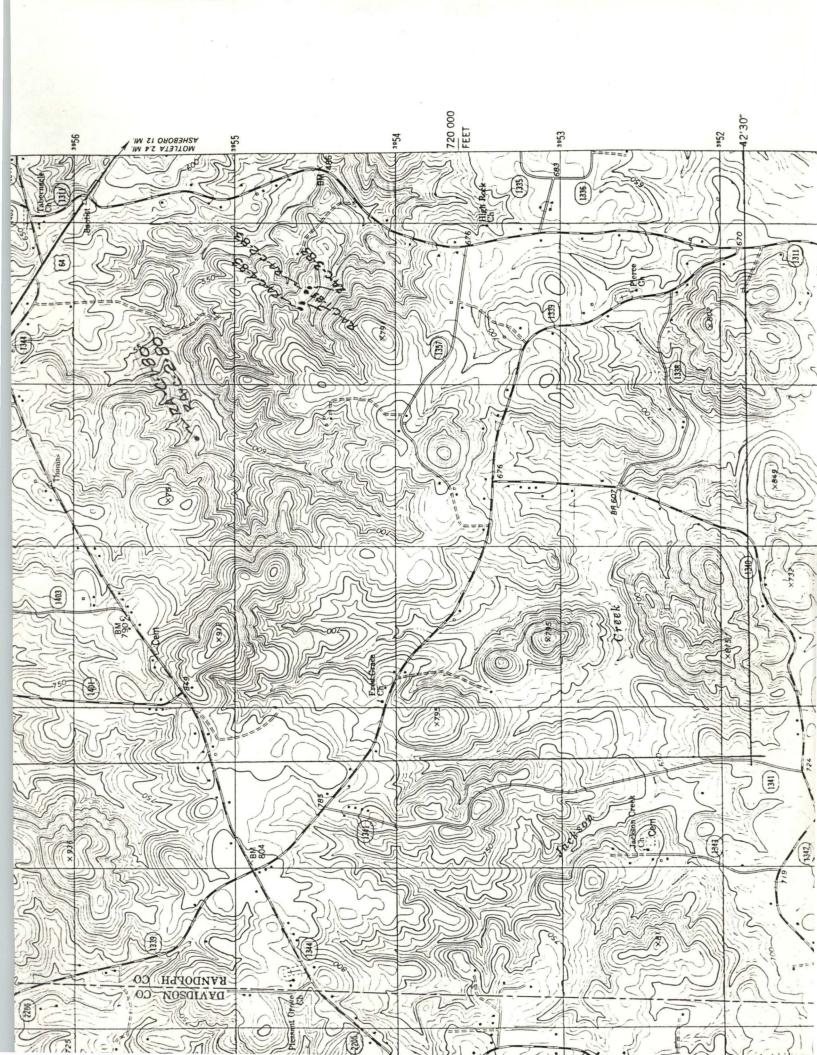
DRILL HOLE LOCATI

Exhibit 5

SCALE: |" = 100

Jones Keystone





A lease was obtained and detailed soil (exhibit 3), rock, and pit sampling and mapping were conducted in late 1979 - early 1980. Also in early 1980 core from three holes drilled by Asarco at the Jones-Keystone Mine was obtained on loan and logged (exhibit 4).

Data obtained from Asarco showed only non-economic gold mineralization. From our soil and rock sampling however, it was decided to drill our own holes. A contract was secured with Cementation Corporation of America for core drilling. Two holes were drilled in March 1980 (exhibit 5 - map; exhibit 6 - log).

D.D.H. GNJK-1 was drilled to investigate the quartz-sericite schist unit cropping out in the south pit of the main workings. The hole was drilled to a depth of 381 feet (linear) at an inclination of 45° and a bearing of S20°E. Stratigraphic picks made in the field place the top of the quartz-sericite schist unit at 270 feet and the top of the footwall lapilli tuff unit, of intermediate composition, at 365 feet.

A total of 24 split core samples from a 112 foot section of GNHK-1 were analyzed for gold. The sampled section includes the entire quartz-sericite schist unit. No interval in excess of five feet was found to contain more than 0.03 oz/tn Au (exhibit 7).

D.D.H. GNJK-2 was drilled to a depth of 485 feet (linear), also at an inclination of 45°, and a bearing of S20°E. The hole was located approximately 400 feet NW of GNJK-1 to examine bedrock underlying soil and soil float anomalies west of the main workings and the continuity of the quartz-sericite schist unit. The tops of the quartz-sericite schist and footwall lapilli tuff units were picked in the field at 270 feet and 435 feet, respectively.

Twenty-two split core samples from a 110 foot section of GNJK-2 were analyzed for Au. Again, the entire quartz-sericite schist unit was sampled. No value greater than 0.01 oz/tn Au was found, however, the entire zone averages 0.007 oz/tn Au indicating a broad zone of non-economic gold mineralization.

Upon completion of drilling well record forms were filed with the North Carolina Department of Natural Resources and Community Development (exhibit 8).

The following conclusions are supported by drill core and assay data:

- (1) Uneconomic, low-grade gold mineralization is hosted by a quartz-sericite schist unit, and continues down dip from the weathered and largely mined-out surface outcrop. This fact is further substantiated by data obtained from Asarco.
- (2) Gold values for fresh rock are lower that those reported in the literature for decomposed rock, however, it is not known if processes of supergene enrichment are responsible for the differences.

ot wide,

1. 25° E.

e is ir on

namillary

crystals

rities are

pyrite(?).

r planes.

tandolph xoro and e can be 08 from mine is his point



Plate 8B. Shaft at Hoover Hill Mine



1848 by ears. The Hill Gold ad operawas ded in that 17. Total

nafts, the ain shafts to within adits are

chimneyit its widcurred in

northeast-trending, sheared and brecciated zones of rhyolite. Older reports indicate that free gold was found along the planes of contact between the quartz in the shoots and the sheared rhyolite. Sphalerite is disseminated through the sheared and brecciated zones in the rhyolite. The color of the sphalerite ranges from reddish black to light greenish brown. Pyrite (auriferous?) is disseminated throughout, generally exhibiting good cubic outlines. Some pyrite has been smeared out along fractures while other pyrite was emplaced with the quartz that healed the fractures. The sphalerite is usually associated with the more fractured zones and is disseminated through the silicified zones and sheared, brecciated country rock. There is massive white orthoclase feldspar in the brecciated rhyolite that, along with the quartz, has healed fractures. The biotite in the breccia appears confined to clots or clusters, some of which show minor silicification. Chlorite is minor and is disseminated through the quartz-feldspar matrix. A few pieces of bornite have been observed in the breccia. The ore deposit is apparently fault controlled.

Jones-Keystone Mine (AuM)

Location: The Jones-Keystone mine is in western Randolph County, 11.7 miles west of Asheboro and 13.3 miles southwest of Randleman. To reach the mine, travel 1.0 mile southwest on SR 1344 from its intersection with U. S. Highway 64. Turn south (left) onto a farm road and go 0.65 mile. The mine is 100 yards S. 50° W. of the old farm road.

Workings: The mine was active in 1852 and was apparently operated until the Civil War. The mine was reopened in the late 1870's but was idle from 1881 to 1883. In 1884, the mine was reopened and was worked intermittently until 1903. A considerable amount of development work was undertaken in the 1930's but

NC65 Bul 84

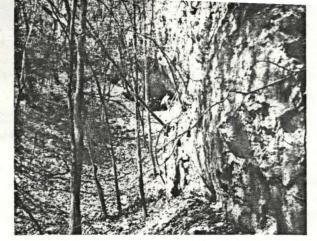


Plate 8C. Open cut, Jones-Keystone Mine

there is no record of production. Mining was carried out in two large open pits and several shafts. In 1968, many large pits and shafts remained along with three Chilean mills and one or more cyanide vats.

Geology: Mining was concentrated in sheared, silicified, felsic volcanic rock. Minor quartz stringers in the silicified zone strike N. 30° to 48° E., and dip vertically. The silicified zone and the workings strike N. 60° E. and the zone dips 80° NW. Pyrite and pyrite cavities are disseminated throughout the zone.

Earlier reports indicate pyrophyllite composes a major portion of some samples. The silicified zones were said to be about 50 feet wide and iron-rich zones exposed were 30 feet wide. Gold was supposedly disseminated throughout the rock and a great deal of it was lost during processing because of the fineness of the gold.

Jones and Laughlin Mine (AuP)

Location: The Jones and Laughlin mine is in western Randolph County, 10.2 miles northwest of Asheboro and 9.3 miles west-southwest of Randleman. The mine is 510 feet due west of the intersection of SR 1408 and SR 1539.

Workings: One partially filled shaft was on the property in 1967. Apparently, only prospect work was carried out here.

Geology: Prospecting was carried out in a quartz vein enclosed by gray-green to black, porphyritic rhyolite. The quartz is fractured and healed with silica and contains pyrite altering to limonite in the fractures. Pyrite and chalcopyrite after pyrite are also in the fractures. The rhyolite contains disseminated vugs filled with limonite which has altered from pyrite. The rhyolite is fractured, and the phenocrysts, now altered, seem to have

County, 11: southwest at 0.7 mile southwest at 0.7 mile southwest at 1311 and 12 road and cos of the road south side of south side of

Working

on the prop 1890's, but Geology: iron-stained 40° E. and altered to se rock contain formed from hematite in no evidence

McAllister

Location southwest of four. The r road on the site the interpolation of the direction of the site of t

Workin Civil War feet deeptrench 20 and trendi workings (hill.

Geology zone of fe dips 70° sericite-ch arsenopyr and silicit few relic rock. Epi larite are foot zone inches by