

COMMONWEALTH OF AUSTRALIA.

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DEPARTMENT OF SUPPLY AND SHIPPING.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

REPORT No. 1947/71.

THE BLUE SPEC MINE, NULLAGINE,

WESTERN AUSTRALIA.

BY

C.W. Ball,
Geologist.

DEPARTMENT OF SUPPLY AND SHIPPING.

Bureau of Mineral Resources.

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In accordance with instructions an inspection was made of the Blue Spec Mine, Nullagine, from 22nd to 27th October. A survey was made of development work since Mr. Sullivan's visit on 20th September. This entailed a survey of the 3 level drives off No. 2E. and No. 2W. winzes and the new cross-cut from the main shaft at No. 3 level. The new shaft and cross-cut on M.L. 266 were mapped and the lode was sampled and assay results obtained. The water supply problem was investigated and a site chosen for a new domestic supply bore.

The Blue Spec Mine.

No. 2 East Winze.

The west drive off No. 2E. winze had been driven a distance of 131 ft. from the centre of the winze at the time of the visit. The face of the drive on 6th November was 148 ft. from the centre of the winze.

The east drive off No. 2E. winze extends for 57 ft. from the winze.

A distinct change is to be noted 90 ft. west of No. 2E. winze.

The ore which prevails from the shaft to this point is suddenly replaced by crushed country rock consisting of slates with lenses of quartz. This extended for 40 ft. to the face at the time of my visit. At that time rich antimony ore was starting to come in on the south wall and subsequently it was reported to have worked right across the drive.

The east drive off No. 2E. winze extends for approximately 58 ft. on fairly good values.

Altogether in the east and west drives off No. 2E. winze there is now cut 150 ft. of ore which averages 25 dwt. gold per ton and 5 per cent stibnite over a width of 4 ft. The assay data are indicated in Fig. 1.

No. 2 West Winze.

The new developmental work in the east drive off No. 2W winze at 3 level has been surveyed. Full assay data are not available but Mr. Newman of Bewick Moreing, Perth, indicated that from 9 ft. to 57 ft. the average value was only 2 dwt. gold per ton.

Cross-Cut from Main Shaft at No. 3 Level.

At the time of my visit a cross-cut was being driven south from the main shaft. It had been driven a distance of 8 ft. when inspected on 24th October.

The main shaft between No. 2 and No. 3 levels is closely timbered except for the last 14 feet. In this bottom section of the shaft there is exposed sandstone overlying sheared black slate, the latter carrying barren quartz veins up to

6 inches across. The strike and dip of the sandstone are shown in Fig. 1.

M.L. 266.

This lease is located approximately 1 mile west of the Blue Spec main shaft. A cross-cut has been driven at the bottom of an old 96-foot vertical shaft for 28 feet from the shaft to intersect a gold/stibnite lode which was previously worked in a 40-foot shaft.

At the mine it was reported that 80 tons of ore from the old shaft was treated in 1937 for a return of 30 dwt. of gold over the plates.

The section of lode sampled in the face of the new cross-cut was 33 inches in width. The features of the lode from F.W. to H.W. are as follows:-

Sandstone.

F.W.

5 inches quartz
12 inches sandstone (presumably barren).
14 inches quartz with 6 inches of stibnite -
_____rich quartz with pyrites on F.W. side.

H.W.

3 inches of pug on H.W.

The lode was dipping at 70 degrees south. The assay was carried out by Mr. Roberts, Blue Spec Gold Mines Assayer, the result being 10.6 dwt gold and less than 0.5 per cent antimony.

It is understood that the Company proposes to drive westerly along the lode.

Water Supply.

Pumping tests were observed at No. 5 bore and samples of drill sludge and chippings from No. 6 bore were examined in the field. A new bore site was selected on Middle Creek, and data was obtained from the Manager of the Blue Spec Mine, Mr. A. Thompson, regarding the various wells operated by the Company. This data is shown in Appendix II, and the locations of the bores are shown in Figure 2.

No. 5 Bore is 159 feet deep and was reported to be mostly in blue slate. Water was struck at 35 feet (seepage only). The main supply was struck at 66 feet and it was stated that it was lowered only 2 feet when pumping at 600 gallons per hour. The bore finished in slate.

The following pumping tests were conducted on 25th and 26th October:-

Pumping commenced at 3 p.m. 25th October, 1947.

At 3.30 pm. water was being pumped at the rate of 900 gallons per hour.

At 4.30 pm. water was being pumped at the rate of 738 gallons per hour.

At 4.40 pm. water was being pumped at the rate of 720 gallons per hour.

By 10.00 pm. the bore was "pumped out" i.e. it settled down to a steady supply.

The pumping rate then averages 480 gallons per hour through the night and at 7.30 a.m. the rate was 520 gallons per hour.

At 5.15 pm. on 26th October, 1947, after 2 hours 40 minutes pumping the rate was 350 gallons per hour (8,400 gallons per day).

No. 6 Bore is approximately 3 miles south-east of Branchi Well.

At the time of final inspection on 26th November, 1947, the total depth of the bore was 161 feet. A section of the bore is shown in Figure 3. Water was struck at 86 feet (trickle), 120 feet (small supply only, good water) and 147 feet. The water-level was 61 feet below the surface on 26th October, 1947. As the going was soft it was proposed to sink until a hard bar was encountered before testing the supply.

Proposed New Domestic Bore, Middle Creek.

The new site was selected on 26th October, 1947. It is located on the left bank of the Creek slightly downstream from a right bend in the Creek. The site on the line of strike of a porous felspathic sandstone which outcrops over a width of 50 feet in the Creek bed. Minor shaley beds up to 18 inches thick and limonite bands occur within the sandstone, which is conspicuous for its coatings of travertine. The site chosen is close to the existing pipe line from the present Domestic Bore and is readily accessible.

Canberra, A.C.T.
18/11/47.

C. W. Ball.
Geologist.

APPENDIX I.

BLUE SPEC MINE, NULLAGINE.

Report Date	Location and nature of Sample.	Values		
		Gold	Stibnite	
		Actual dwt.	Cut dwt.	
23rd to 30th September	West drive oof East winze. Face at 69 feet.	79.2	35	10.3
	East drive off East winze.			
	: Face at 61 feet	13.8		2.5
	: Borehole in north wall at 52 feet	2.5		
	West drive oof East winze.			
	Bore-hole at 59 feet in north wall	7.8		1.2
		These 2 values represent average over 60 inches.		
1st October to 7th October	Extension 51 feet in West drive.	No assays. Assayer absent from mine.		
7th October to 14th October		No assays. Assayer absent from mine.		
Not given	West drive off No. 2 East winze			
	at 76 feet	46.4	35	
	" 80 "	67.2	30	
	" 84 "	5.8		
	" 91 "	9.1		
	" 96 to 106 feet.	Traces		
	" 111 feet	4.2		
	" 116 "	3.4		
	" 120 "	2.0		
Not given	West drive off No. 2 East winze			
	: Bore Hole at 90 feet, in south wall.			
	0 - 20 inches	Trace	35	
	20 - 40 inches	78.2	35	
	40 - 60 inches	126	50	
	: Bore Hole at 106 feet.			
	Over 60 inches	Traces		
	: Bore Hole at 96 feet on south wall			
	0 - 20 inches	1.2		
	20 - 40 inches	2.4		
	40 - 60 inches	28.7	20	

Report Date	Location and nature of Sample	Values		Stibnite.
		Gold		
		Actual dwt.	cut dwt.	
	East drive off No. 2 West winze 9 - 57 feet.	2.0		
	No. 2 East winze, west drive.			
	At 124 feet.	5.5		
	" 128 "	0.8		
	" 131 "	2.4		
	" 135 "	3.3		
	" 140 "	2.4		
	No. 2 East winze, west drive.			
	North wall 118 feet	Trace		
	South wall 122 feet			
	Bore Hole { 0 - 20 inches	3		
	{ 20 - 40 "	28.6	20	
	{ 40 - 60 "	21.2	20	
6th November, 1947	No. 2 West winze, East drive. 2 - 59 feet	Nil		Nil
	No. 2 East winze, west drive. 8 - 148 feet	17.4	15	8.8
	N.B. Full face of quartz and stibnite.			

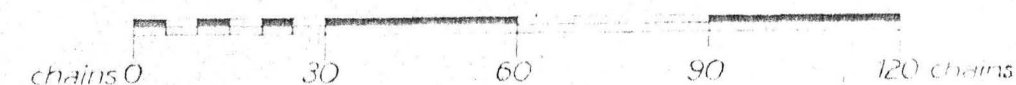
APPENDIX II.

Bore	Depth in Feet	Location	Supply Gallons per Day	Remarks
Branchi Well	127		4,500	
No. 1	70	At Branchi Well	1,500	Bore not in use. Mostly slate on dump, some sandstone.
No. 2	150	At Branchi Well	4,500	
No. 3	150	$\frac{1}{2}$ mile north-east of Branchi Well.	3,000	Bore in hard slate.
No. 4 bore and well	77	300 yards north-east of Branchi Well.	1,200	Water came in at bottom 77 feet. Material on dump from bottom of shaft is felspathic sandstone (with a little mica) and grey slate. Tested 26/10/47 at 567 gallons. per hour after 16 hours run.
No. 5 bore	159	Approximately $\frac{1}{2}$ mile south-east of Branchi Well.	8,400	Successful Bore. For details see text.
No. 6 bore	161	Approximately $1\frac{1}{2}$ miles south-east of Branchi Well.	Un- tested	Should be a good pro- ducer. For details see text. Porosity of sand- stone specimen 4.81%.
No. 7 proposed		300 yards east of Branchi Well.		Site suitable. Bore should pass through shaley sandstone principally.
No. 8 proposed (20 miles bore)		Approximately 3 miles south-east of Branchi Well.		Outcrop 120 feet wide of sandstone with a little slate. Specimen of sandstone collected for porosity test. (Porosity Spec. A = 4.64% " " B = 2.76%)
Salt Bore	280	On Middle Creek, 3 miles south of Blue Spec Mine.	3,000	Water suitable for plant, but supervision and maintenance costly.
Domestic Bore	210	On Middle Creek, $\frac{1}{4}$ mile south-east of the Blue Spec Main Shaft.	1,500	High quality water.
Proposed New Middle Creek Domestic Bore		On Middle Creek, $\frac{1}{4}$ mile downstream from present Domestic Bore		Site selected on geo- logical grounds 26/10/47. Porosity 8.21%.

BLUE SPEC WATER SUPPLY

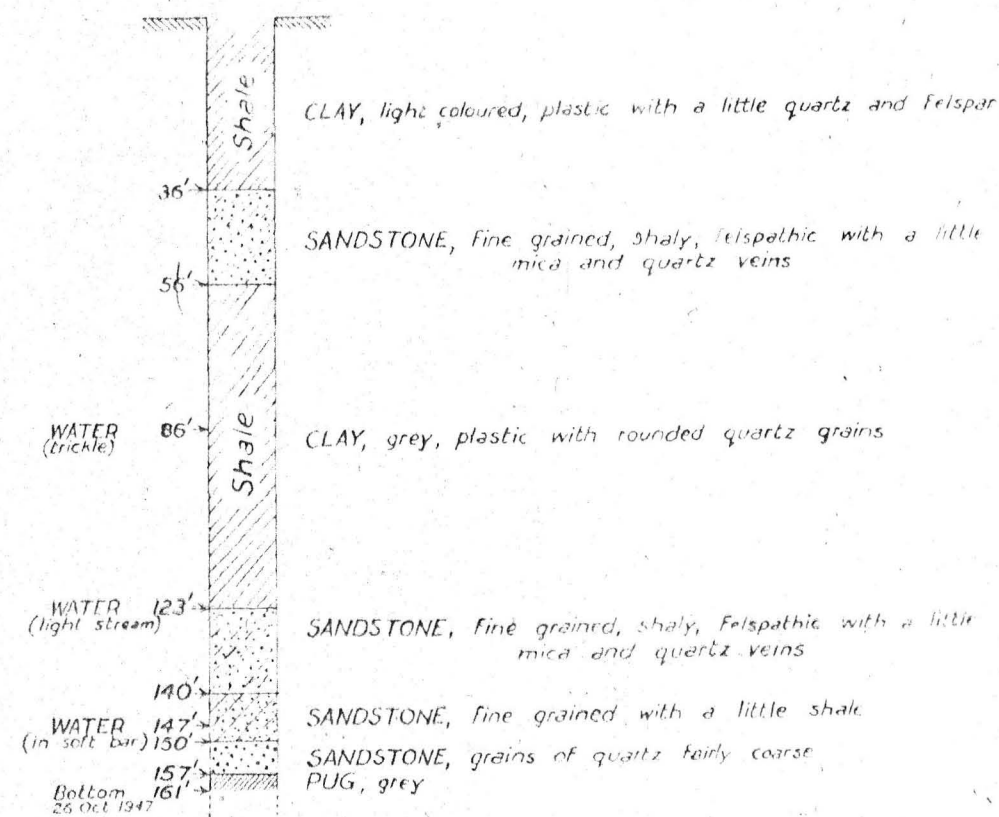
Map of water bores, wells and proposed bores, as of 26 Oct 1947

Scale 1" = 30 chains



INSET

SECTION OF No 6 BORE
Scale 1" = 40 ft



200W

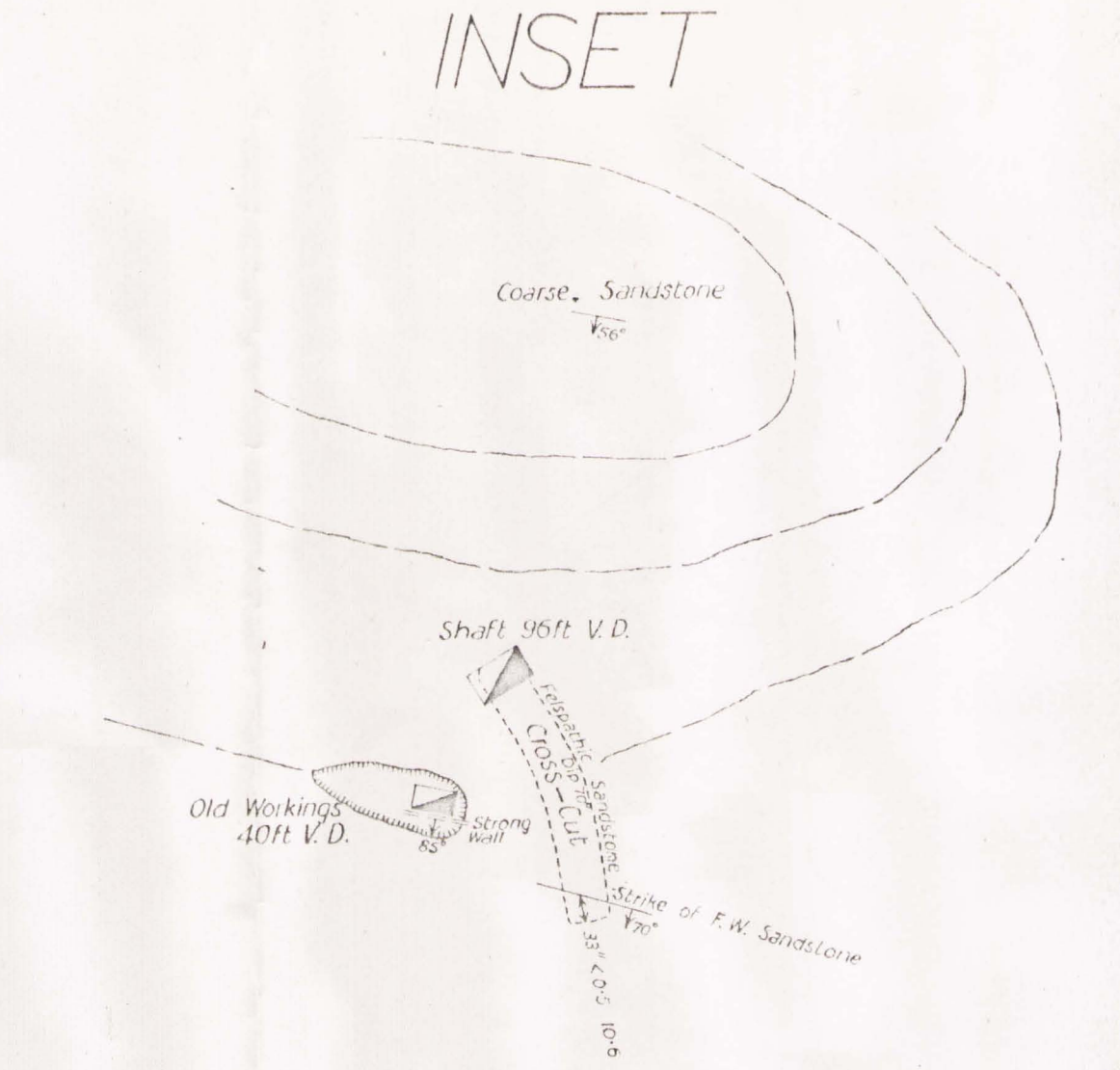
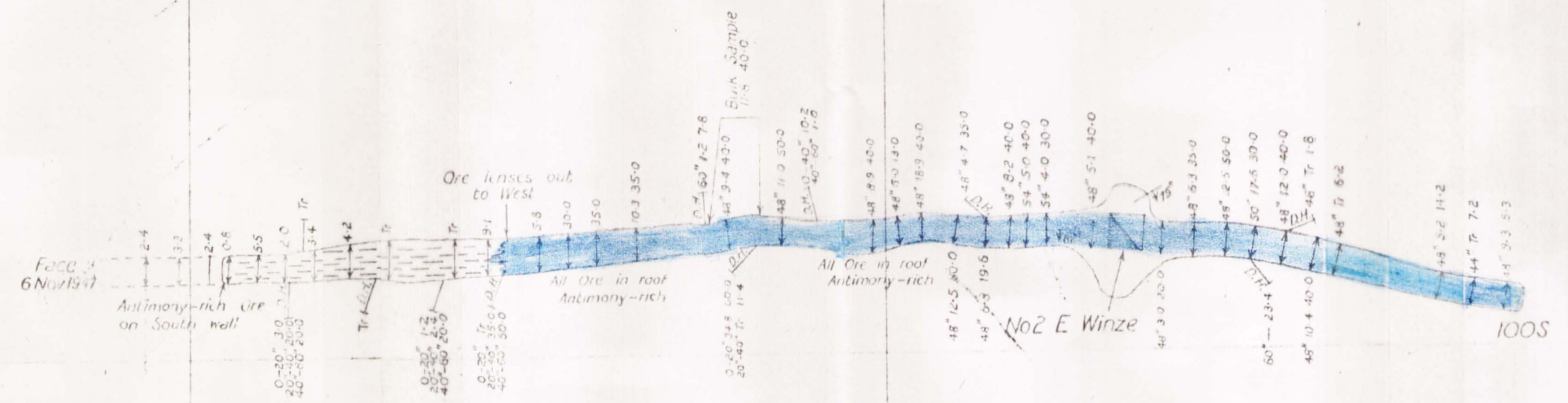
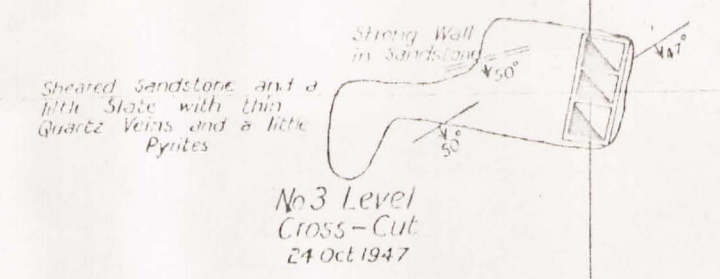
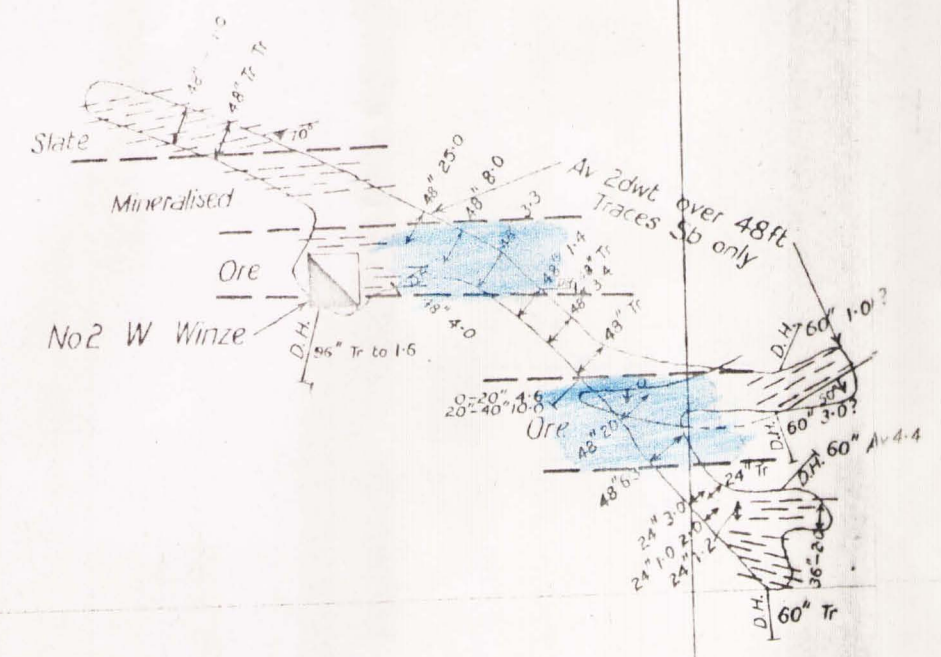
100W

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100E

200S

200E

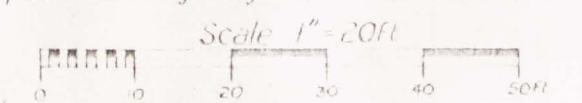


M. L. 266 (1 mile West of Blue Spec Mine)
SURFACE AND UNDERGROUND PLAN
SCALE 1"=20ft Compass Survey by C.W. Ball 23 Oct 1947

BLUE SPEC MINE PLAN OF No 3 LEVEL LEGEND

- Bedding
- Jointing
- Cleavage

ASSAY DATA
All gold values cut according to Bewick Moreing scale. All figures are in the following order: Width in inches, Antimony %, dwt Gold per ton. Where only one value is given, it refers to gold.
Compass Survey by C.W. Ball 23 Oct 1947



LONGITUDINAL SECTION
BLUE SPEC GOLD MINE
NULLAGINE, W.A.

0 20 40 60 80 100 120 Ft

Reference

- Ore body averaging 10-20 dwts Au per Ton.
- " " " 5-10 " " "
- Stopped areas
- Intersection of bedding and lode

