



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](mailto:inquiries@azgs.az.gov)

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— LUCY & DOUGHERTY —

DISTRICT: BAGDAD, YAVAPAI COUNTY.

PROPERTIES: Lucy & Dougherty. Two claims (Omega and Palestine) 50 unpatented, mostly relocations of abandoned properties. Includes old Niagara property.

LOCATION: Immediately adjoining Bagdad Copper Co.'s property on south and west. Elevation 3250-3800.

Owners and Operators. Alec Lucy and J. L. Dougherty. Lucy working alone on assessment work.

Visited August 23rd and 24th, 1917.

A zone of alaskite, with irregular intrusions of quartz monzonite and rhyolite, extends in a southerly direction from the Bagdad Co.'s property thru some of the Lucy Claims. While there is no continuous belt, patches of altered porphyry suggest the probability of small bodies of enriched disseminated copper ore similar to the Bagdad secondary ore, but harder siliceous ribs of apparently little altered alaskite predominate. At the higher elevations are large exposures of very fine grained fractured siliceous rock often felsitic in structure, which may be alaskite which has cooled more quickly than the "Red Hills" alaskite. This fine grained rock might be called aplite, but is apparently mapped by Botsford as rhyolite.

On the N.E. side of Mineral Creek, to the west of the Bagdad property is a tunnel 180' long in blocky quartz-monzonite, fresher than the Bagdad secondary one. Generally, pyrite shows on the fractured planes, but occasionally malachite and a little chalcopyrite show. The chalcopyrite is usually unaltered, but sometimes shows a tin coating of bornite or chalcocite. A samples across 5' at the breast of the tunnel assayed (H-147) 0.26% copper.

On the opposite (west) side of Mineral Creek at an elevation 3250' is a caved 300' tunnel in dioritic rock, locally called bird's eye porphyry, showing no copper on the dump.

To the west, around the mountain, is a softer leached belt of quartz-monzonite about 600' wide, running H-S, locally called the "Copper Belt." Then comes a patch of hard, little leached, ground 600' long by 100' wide.

On the Emerald No. 10 claim is a tunnel 300' long, which is in hard fractured alaskite for 100', the 100' softer leached ground which assayed (h-154) 0.26% copper. Then 100' hard ground which assayed (h-153) 0.44% cu. Next to the breast is a 5' belt of dioritic rock which is caving. The breast is hard alaskite. Going east, along Mineral Creek, is a hard belt 25' wide with softer quartz-monzonite on either side.

The Palestine Tunnel is driven northerly in three branches, altogether about 600' of work. The rock is porphyritic, showing larger crystals of feldspar than the Bagdad quartz-monzonite and would perhaps best be described as rhyolite-porphyry. Blossoms of copper sulphate appear on the walls. On the same claim, at an elevation of 3300' is another tunnel 80' long, running N.E. which shows nothing but leached fractured porphyry. Following the "Copper Belt" up hill brings one to an incline 45 degs. N.E. 80' deep with no timbers, in fractured porphyry which shows stains of malachite, azurite and a little chrysocolla. At an elevation of 3400' a 20' open cut in porphyry shows copper stains on the fracture planes. Up Alum Creek, on Shasta 31 (formerly a Niagara Claim) is a 60' tunnel in whiteleached porphyry showing pyrite and a little chalcocite on fracture planes. A sample of the breast across 5' showing coarse pyrite crystals and a little chalcopyrite assayed (h-155) Cu.262%. There are some inclusions of very hard rock in the tunnel. Across the Divide, to the head of Niagara Gulch, after traversing rounded boulders of porphyry, angular boulders of alaskite and very fine grained aplite, one finds at an elevation of 3800' a 10' cut on Mineral Hill No. 6, showing white leached porphyry and conglomerate. Some of the conglomerate pebbles have a very slight copper stain.

Down Niagara Gulch, northerly towards Burro Creek, is a tunnel 125' long with a branch 75' on Shasta No. 4, (formerly Niagara) on the east side of the gulch. This tunnel and two shafts 50' deep are in the fractured zone called the "Copper Belt," copper stains on fracture planes are plentiful. On the west side of the

gulch the fractured zone is in places 75' wide. A tunnel has been driven 175' in silicified porphyry showing iron stains on the fracture planes and a blossom of copper sulphate on the walls. The tunnel forks about 100' in. The left fork is in very light colored leached porphyry, some perfectly white, with coarse crystals of pyrite. The right fork continues 75' to caved ground in brown iron stained porphyry. A few spots show considerable chalcopyrite.

At an elevation of 3375' at the bottom of the gulch is a tunnel running a little east of south for 175' with a slight dip east, on a fractured zone in silicified porphyry. There are some copper stains and a very little chalcocite showing.

On Mineral Hill No. 3, on west side of Niagara gulch is a 10' cut showing white leached porphyry with pyrite crystals similar to assay sample 155.

The only probable value of the large property appears to be as additional territory for exploration by operators of the Bagdad property. Commercial ore, if any, will be in isolated patches.

(signed by L. F. S. Holland)

(S)

*Extra Copy*

Name - Lucy Claims  
Date - February 18, 1920

Since Mr. Holland's report of August 1917, very little work has been done on the property and there are no new developments of interest.

The property may be of interest in event of rail and mill construction by Bagdad people, though they are the logical ones to develop the small isolated areas of secondary ore so far indicated by development work.

W.V.D.

Humboldt, Arizona.  
April 6, 1920.

District	Properties	Location	Owners & Operators	Date Visited	Notes
Bagdad, Yavapai County	Lucy & Dougherty. Two claims (Omega and Palestine) patented. 50 unpatented, mostly relocations of abandoned properties. Includes old Niagara property.	Immediately adjoining Bagdad Copper Co.'s property on S. and W. Elevation 3250-3800.	Alec Lucy & J. L. Dougherty Lucy working alone on assessment work.	1917 Aug. 23rd 24th	<p>A zone of alaskite, with irregular intrusions of quartz monzonite and rhyolite, extends in a southerly direction from the Bagdad Co.'s property through some of the Lucy claims. While there is no continuous belt, patches of altered porphyry suggest the probability of small bodies of enriched disseminated copper ore similar to the Bagdad secondary ore, but harder siliceous ribs of apparently little altered alaskite predominate. At the higher elevations are large exposures of very fine grained fractured siliceous rock often felsitic in structure, which may be alaskite which has cooled more quickly than the "Red Hills" alaskite. This fine grained rock might be called opelite, but is apparently mapped by Botsford as Rhyolite.</p> <p>On the N.E. side of Mineral Creek, to the west of the Bagdad property is a tunnel 180' long in blocky quartz-monzonite, fresher than the Bagdad secondary one. Generally, pyrite shows on the fracture planes, but occasionally malachite and a little chalcocite show. The chalcocite is usually unaltered, but sometimes shows a thin coating of bornite or chalcocite. A sample across 5' at the breast of the tunnel assayed (H-147) 0.26% copper.</p> <p>On the opposite (west) side of Mineral Creek at an elevation 3250' is a caved 300' tunnel in dioritic rock, locally called bird's eye porphyry, showing no copper on the dump.</p> <p>To the west around the mountain, is a softer leached belt of quartz-monzonite about 400' wide, running H-S, locally called the "Copper Belt." Then comes a patch of hard, little leached, ground 600' long by 100' wide.</p> <p>On the Emerald No. 10 claim is a tunnel 300' long, which is in hard fractured alaskite for 100'; the 100' softer leached ground which assayed (H-154) 0.26% Cu.</p>

District Properties	Location	Owners & Operators	Date Visited	Notes
Bagdad; Yavapai County. (contd.)	Lucy & Dougherty (contd.)			<p>then 100' hard ground which assayed (H-153) 0.44% Cu. Next to the breast is a 5' belt of aloritic rock which is caving. The breast is hard Alaskite. Going East, along Mineral Creek, is a hard belt 25' wide with softer quartz-monzonite on either side.</p> <p>The Palestine Tunnel is driven Northerly in three branches, altogether about 600' of work. The rock is porphyritic, showing larger crystals of feldspar than the Bagdad quartz-monzonite, and would perhaps best be described as rhyolite-porphyry. Blossoms of copper sulphate appear on the walls. On the same claim, at an elevation of 3300', is another tunnel 80' long, running N.E. which shows nothing but leached fractured porphyry. Following the "Copper Belt" up hill brings one to an incline 45 degrees N.E. 80' deep, with no timbers, in fractured porphyry which shows stains of malachite, azurite and a little chrysocolla. At an elevation of 3400' a 20' open cut in porphyry shows copper stains on the fracture planes. Up Alum Creek, on Shasta 31 (formerly a Niagara claim) is a 60' tunnel in white leached porphyry showing pyrite and a little chalcocite on fracture planes. A sample of the breast across 5' showing coarse pyrite crystals and a little chalcocite assayed (H-155) Cu. 2.62%. There are some inclusions of very hard rock in the tunnel. Across the divide, to the head of Niagara Gulch, after traversing rounded boulders of porphyry, angular boulders of alaskite and very fine grained aplite, one finds at an elevation of 3800' a 10' cut on Mineral Hill No. 6, showing white leached porphyry and conglomerate. Some of the conglomerate pebbles have a very slight copper stain.</p> <p>Down Niagara Gulch, northerly towards Burro Creek, is a tunnel 125' long with a branch 75' on Shasta No. 4 (formerly Niagara) on the East side of the gulch. This tunnel and two shafts 50' deep are in the fractured</p>

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Bagdad, Yavapai County (contd.)	Lucy & Dougherty (contd.)				<p>zone called the "Copper Belt", copper stains on fracture planes are plentiful. On the West side of the Gulch the fractured zone is in places 75' wide. A tunnel has been driven 175' in silicified porphyry showing iron stains on the fracture planes and a blossom of copper sulphate on the walls. The tunnel forks about 100' in. The left fork is in very light colored leached porphyry, some perfectly white, with coarse crystals of pyrite. The right fork continues 75' to caved ground in brown iron stained porphyry. A few spots show considerable chalcopyrite.</p> <p>At an elevation of 3375', at the bottom of the gulch, is a tunnel running a little E of S for 175', with a slight dip E, on a fractured zone in silicified porphyry. There are some copper stains and a very little chalcocite showing.</p> <p>On Mineral Hill No. 3, on West side of Niagara gulch, is a 10' cut showing white leached porphyry with pyrite crystals similar to assay sample 155.</p> <p>The only probable value of the large property appears to be as additional territory for exploration by operators of the Bagdad property. Commercial ore, if any, will be in isolated patches.</p>

*Signed L. F. S. Holland*