

EPM 18237
WALTERS PLAINS LAKE DIATOMITE PROJECT
ANNUAL AND FINAL REPORT
FOR THE PERIOD ENDING 5.05.2015
M.J., R.J., & R.R. WILKINS

CONTENTS

SUMMARY

INTRODUCTION

LOCATION AND ACCESS

TENURE

GEOLOGY AND MINERALISATION

WORK CARRIED OUT

MARKET STUDY

CONCLUSIONS

BIBLIOGRAPHY

Figures

Figure 1.	Background Holdings EPM 18237
Figure 2.	EPM 18237 Google Earth Map
Figure 3.	Regional Geology 1:250 000
Figure 4.	Photograph WPL Deposit (from Lam 2008)
Figure 5.	Glen Eagle Operation
Figure 6.	Agripower Operation
Figure 7.	Agripower Plant Charters Towers
Appendix	Silicon Guidelines - BSES Mount Sylvia Agripower Data Sugarcane

SUMMARY

The Wilkins brothers trading as themselves or as Miriwinni Lime Pty Ltd and Zinaback Pty Ltd are the largest suppliers of natural fertilizers in the area from Cooktown to the Burdekin. Following reported successful trial tests on sugar cane at Mossman using imported wollastonite, they searched for that mineral and for other silica mineral deposits as another addition to their Ag-fertilizer range.

The reported increases in both tonnes/ha and ccs for the cane trials prompted a number of companies to enter the Ag-fertilizer industry through taking up a number of tenements over diatomaceous earth deposits, viz. Conjuboy and Glen Eagles. These companies and individuals have now dwindled and all but disappeared from the scene. In north Queensland, diatomaceous earth from the Glen Eagles deposit is being sold into the sugar cane industry as a silica injection. These sales follow an intense campaign led by the local operators and a Russian scientist. At the present time, operations appear to have stalled.

The Conjuboy deposit is now under the control of Agripower Australia Ltd who has been establishing a crushing and preparation plant at Charters Towers. The company's aim is to produce and sell 200,000 tpa, the majority of which will be exported to India.

In southern Queensland Diatomaceous Earth is being sold under a number of aliases from Mount Sylvia Diatomite P/L. Depending on the fineness and degree of screening, the product is marketed as being suitable for a number of horticultural pursuits.

Diatomites or diatomaceous earth deposits in North Queensland are located at or near the pressure fronts of basalt flows. A number of discrete outcrops occur at Conjuboy and Wyandotte Stations, (the largest), Cashmere Station, Glen Eagles Station and near Walters Plains Lake. Most of the NQ deposits were found during regional mapping by the then BMR (AGSO) in the late 1950's and early 1960's.

A reasonably recent summary report of the geology and production of diatomite has been prepared by the Queensland DME, (Lam, 2008), which provides an update at that time of the more recent activity at Conjuboy and Glen Eagles.

The DE industry in north Queensland is in its infancy and the benefits of broad scale spreading of the product on prepared soils have yet to be shown. However, it would appear from field trials conducted by the now superseded BSES, that straight diatomaceous earth (pure silica) requires an addition of Ca to render the product viable.

Following the inspection of the Walters Plains deposit and market analysis the first year of tenure, we have followed the projected expansion of the silica market with not a little expectancy. We have found the market to be small, and more akin to a niche market garden situation in North Queensland and elsewhere. Agripower are going ahead with their palletisation plant and exporting to India where the real market lies.

We have decided to surrender the tenement on the bases of low market penetration and success in trial situations.

INTRODUCTION

EPM 18237 was applied for in August 2011 to explore for Ag-diatomite deposits in the Walters Plains Lake Area. The area had been identified by DNR & M personnel from regional mapping.

LOCATION AND ACCESS

EPM 18237 is located approximately 80 km south of Mount Garnet on Yamanie Station. Access from Mount Garnet is via the Gunnawarra Road. Despite recent roadwork, access is still restricted during the wet season.

TENURE

1. EPM

EPM 18237 of 9 sub-blocks is held in the name of Maxwell John, Robert James and Russell Ross Wilkins.

Details are:

Block	Sub-Blocks
TOWN 1958	z
TOWN 1959	v, w
TOWN 2030	e, k
TOWN 2031	a, b, f, g

Mining District Mareeba

Map Series Einasleigh 1:250 000; Cashmere 1:100 000

BIM Townsville

No of Sub-Blocks 9

Application Date 5.08.2009

Date of Grant 5.05.2013

Expiry Date 6.05.2015

2. Background Tenure

- Tenure 4573/PH820 ; B/AP9379
J.L., & C.R. Barden
Yamanie Station, Wairuna Road
Mount Garnet 4872

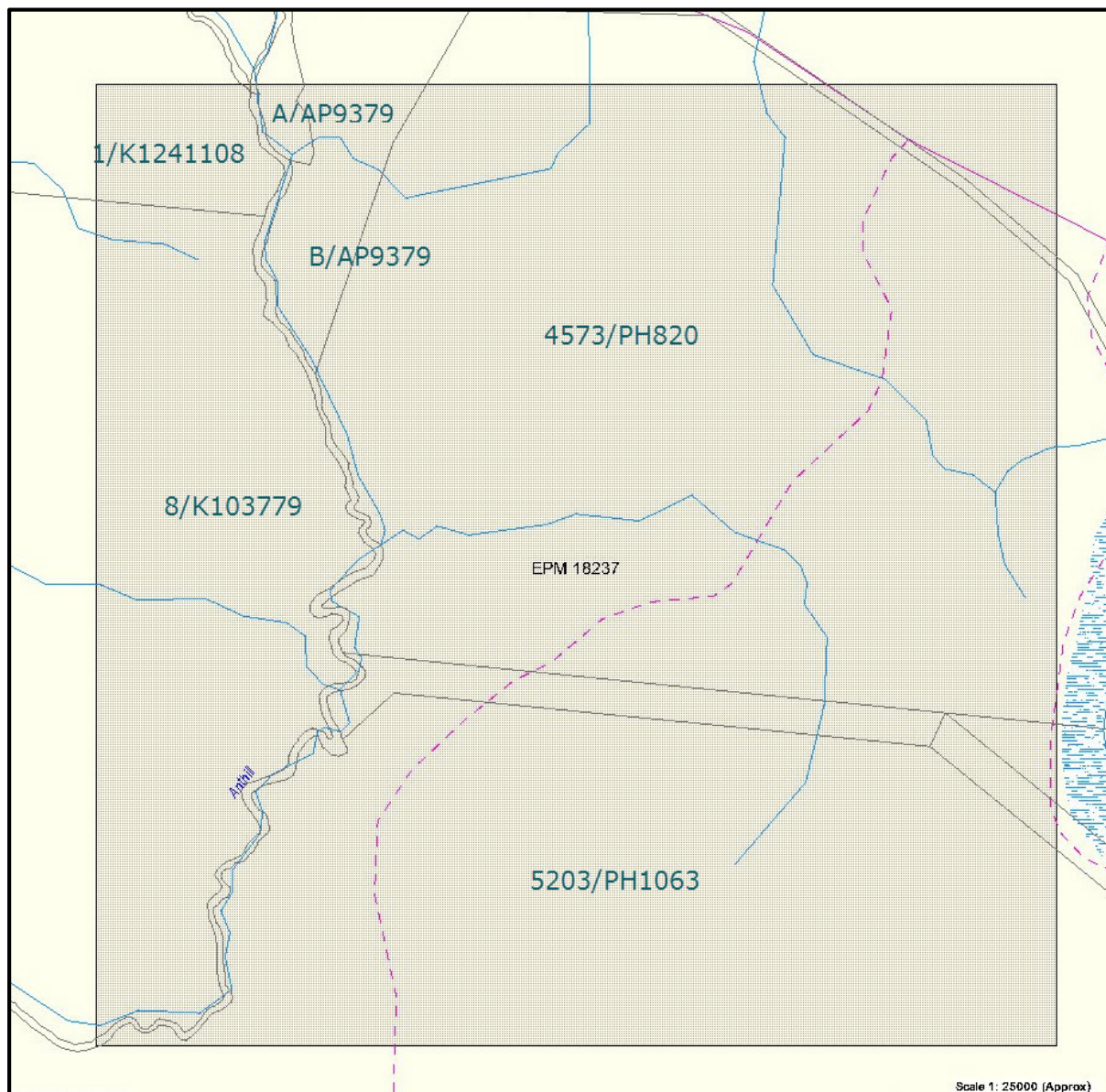
1/K1241108
K. Atkinson
P.O. Box 97, Mt Garnet 4872
5203/PH1063
R.S., & R.M. Burge
Lamonds Lagoon
Mt Garnet 4872

8/K103779
Reserve for Camping

A/AP9379
R.J. Wheatley
MS584, Mt Garnet 4872

- Land Use Description Class VII – land not suitable for cultivation
- Reserves No National Parks or Forestry Reserves

The diatomite outcrop is located on “Yamanie” Station. The other background holdings are for access, although public roads do connect to the various holdings.



Background Holdings EPM 18237



EPM 18237 Walters Plains Lake (Google Earth Photo)



GEOLOGY AND MINERALISATION

Queensland Deposits [from Lam, 2008]

The distribution of selected diatomite deposits in Queensland is shown in Figure 2. Reported deposits extend from inland of Ingham in the north to the Gold Coast hinterland in the south-east near the Queensland and New South Wales State border. They are mainly a lacustrine style deposit associated with hot springs, creeks and lakes, occurring as thin seams (averaging ~2–3m thick) interbedded with basalt lava flows of the Late Oligocene to Early Miocene. The cylindrical *Melosira* appears to be the most common identified species.

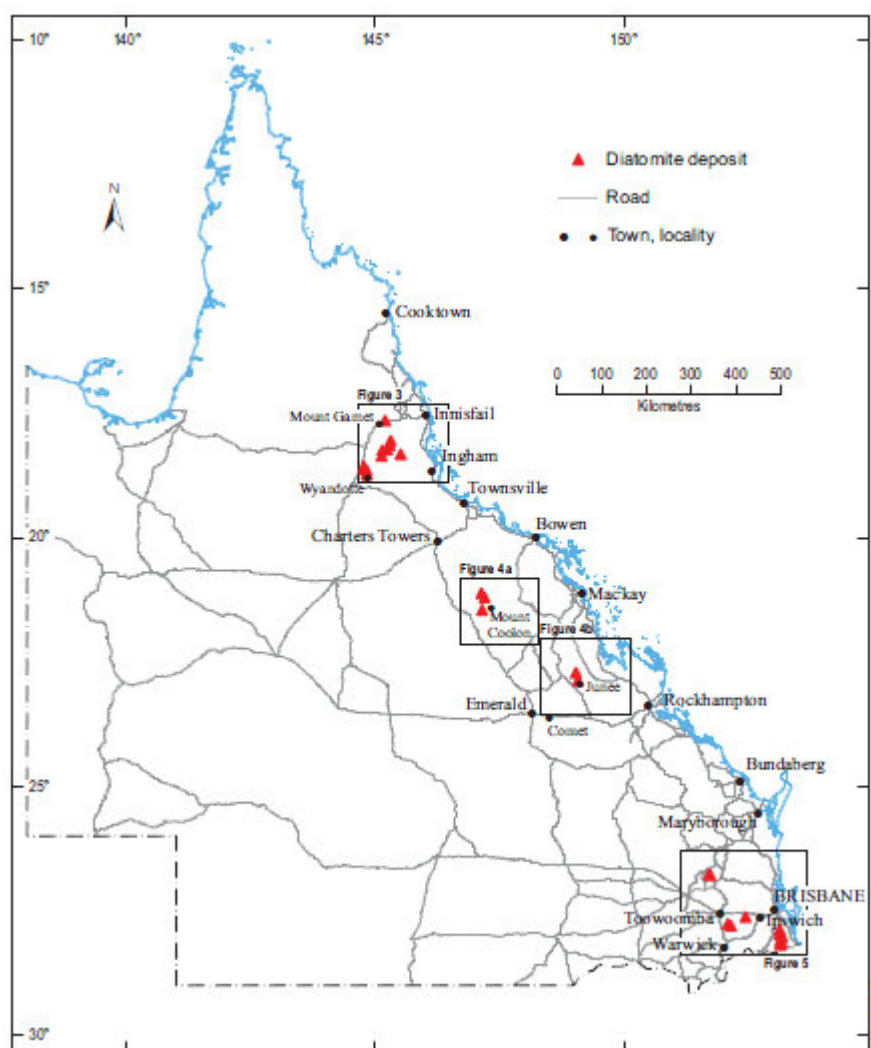


Figure 2: Distribution of diatomite deposits in Queensland

Most of the Queensland diatomite deposits were discovered in the early 1900s. No mining was carried out for many years as there was little local demand for diatomite at the time. The Mount Sylvia deposit was mined in the 1920s. The Maidenwell deposit probably was discovered soon after 1900 but was not mined until the mid-1990s. These two deposits continue to produce in 2006 with a small annual production of 5 to 6 thousand tonnes meeting the local market in the agricultural and horticultural industries. The Conjuboy and Planet Downs deposits were among the early discoveries, and the Conjuboy deposit is being developed as the third diatomite mine in Queensland. Very little is known about the Planet Downs deposit. Other early discoveries include Mount Meerscham (1889), Beechmont (1908), Mount Tambourine (1908), Numinbah Valley (1907) in the Gold Coast hinterland but none of them has been assessed to any extent.

The Cashmere, Gleneagle (Glen Eagle), Walters Plains Lake (Lake Walters), and Flaggy Creek (Princess Hills) deposits were discovered by government geologists during mapping in the Herbert River area in 1958 (White & Crespin, 1959). In 1970, two leases were applied over the Cashmere deposits and a number of leases were applied for mining diatomite 4km east of Gleneagle homestead, covering a distance over 6km south of the track to Glen Ruth homestead. However, no evidence of mining was found during field inspection in 2006. The north Queensland deposits (Figure 3) are inland from Innisfail, and include the Pozzolan, Cashmere, Glen Eagle, Walters Plains Lake, Flaggy Creek and Conjuboy deposits. The Cashmere deposit was discovered around 1958 and the Rosetta Creek deposit around 1990 by geologists of the Geological Survey of Queensland mapping in the Herbert River and Mount Coolon areas. Shallow quarry development work is evidenced at the Pozzolan deposit; however, no sign of recent mining or excavation is recognised. The Glen Eagle and Cashmere deposits were explored from 2002 to 2005 as a result of mining lease applications over prospective areas. The Conjuboy deposit was explored in the 1970s and 1980s, and Australian Diatomaceous Earth Pty Ltd reported that a high grade diatomite test result has been obtained for this deposit. The Flaggy Creek deposit appears to have development potential but as it lies entirely within the Girringun National Park no exploration has been conducted over this deposit. The north Queensland deposits are interbedded with vesicular basalt flows of the McBride and Wallaroo Basalt Provinces, which dammed palaeo-streams, -springs and -lakes providing a quiescent environment for the growth of diatoms. Most of the deposits are finely-laminated and flat-lying, and contain clay and organic matter reflecting the local environment and seasonal change at the time of deposition. Sections of the deposits are preserved between basalt flows that periodically filled the lakes and streams. Nowadays, the diatomite outcrops are generally exposed on creek banks.

Regional Geology (von Gnielinski, 2013)

The Conjuboy deposit, near Conjuboy homestead 45 km north-west of Greenvale, is the largest known diatomite resource in Queensland. The deposit is operated by Greenvale Silicon Pty Ltd. This lacustrine deposit consists mainly of the cylindrical diatom *Melosira* in a poorly cemented horizon, interbedded with clay sand and conglomerate lenses. Typically, diatomite at Conjuboy is 10–15 m thick beneath 3–4 m of sandy clay, diatomite and basalt rubble. It is exposed in the beds of creeks that cut the Quaternary basalt cover. A measured and indicated resource of 21 Mbcm has been identified, and a reserve and resource update is in progress.

The Glen Eagle deposit, 77 km north-east of Conjuboy, has a potential, but poorly defined resource of 10 Mt of diatomaceous earth.

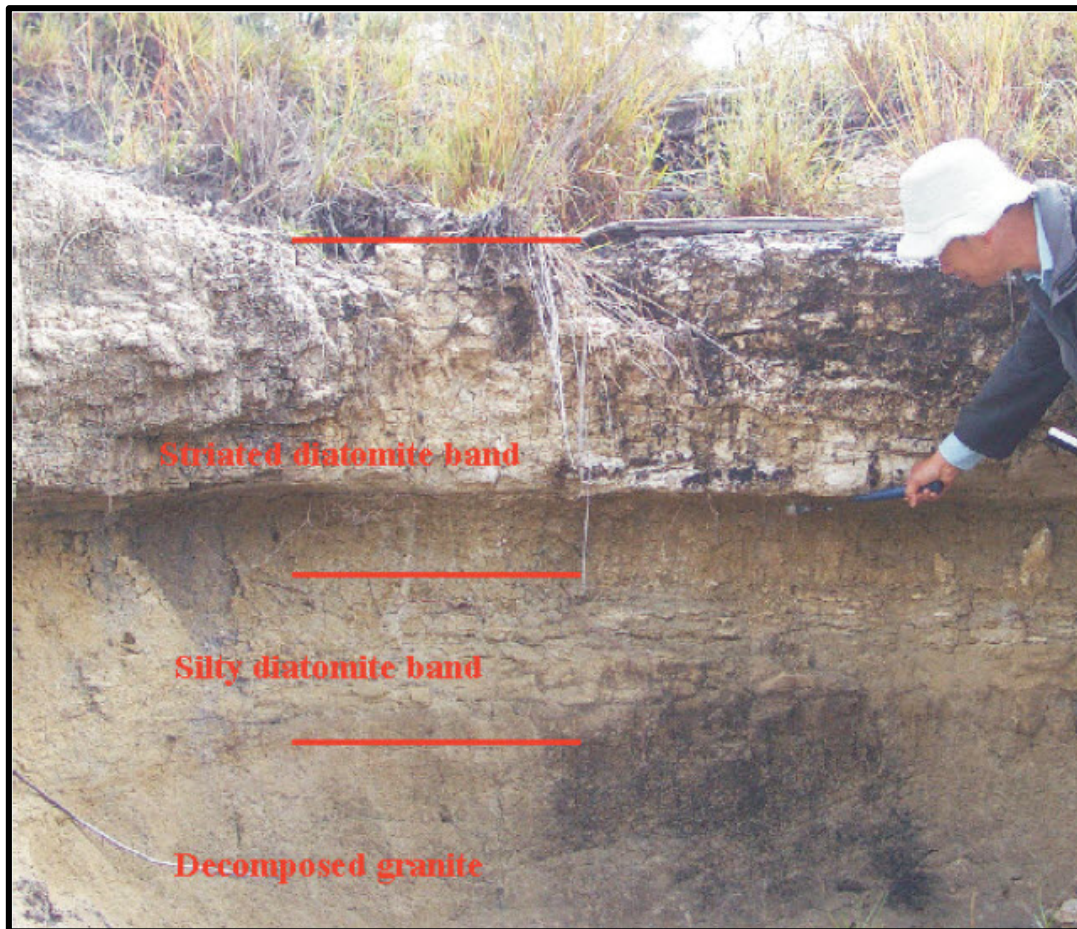
Local Geology (From Lam, 2008)

The **Walters Plains Lake deposit** is 5km west of the Walters Plains Lake and 27km south-west of the Cashmere deposit. White & Crespin (1959) reported that outcrops in a small tributary of Leichardt Creek (in Dam Creek, a small tributary of Anthill Creek) consist of well-laminated, impure diatomite with intercalations of coarse-grained, clayey sandstone. It is part of the freshwater deposits formed relatively recently when Walters Plains Lake was somewhat larger than at present.

The diatoms identified are *Cymbella*, *Epithema*, *Navicula* and broken fragments of *Synedra*. The diatomite has a porosity of 68.93%, a dry bulk density of 0.91g/cm³ and grain density of 2.92g/cm³.

An extensive area of outcrop is exposed across the width of the creek. It consists of up to 1m thick seam of off white diatomite and 0.5m clayey diatomite underlain by decomposed granite of the Permo-Carboniferous Princess Hill Granite. The overall size of this deposit is not known as the diatomite seam is concealed beneath a cover of black soil. Recent mapping by the Geological Survey of Queensland outlined other outcrops in

the area and further exploration is necessary to delineate the extent of this deposit. The Walters Plains Lake deposit is believed to be of Holocene in age, (Withnall, Lang & Warnick, 1985).



Walters Plains Lake Deposit (from Lam 2008)

WORK CARRIED OUT

In the first year of tenure, we examined the data available on the material and looked very hard at the current marketing situation in north Queensland and the viability of such a product should we develop it and add it to our current Ag-fertilizer portfolio. The first year also included an inspection of the "deposit" and a helicopter reconnaissance of the area.

The second year of tenure was much more circumspect. Having been in the Ag-fertilizer business for over 35 years and being cane farmers ourselves, we are able to adjudge the market reaction to new products entering the market. One diatomite company, Synergy, held a series of meetings at venues throughout North Queensland and the Atherton Tableland to interest farmers in their product. Despite a number of claims, the company has disappeared from the scene. Enquiries for the product are few and far between, and we feel we should concentrate on the other deposit which we have under tenure as it appears to be cleaner and closer to any potential market.

Interestingly, there is a market in North Queensland for bulk sales to the free range chicken market and as smaller volumes to backyarders in an increasing niche market.

MARKET STUDY

Diatomaceous Earth / Diatomite

The uses of diatomite or diatomaceous earth have been well documented since the discovery of the material.

Its use as a filter was extended to in-ground swimming pools and, with the boost in Australia in the late 1960s and early 1970s for backyard pools, the search was on for suitable material to market Australia-wide. The Conjuboy deposit received great attention at that time from both Metals Exploration and several small mining companies, in particular FNQ Minerals, as a source of that material. Interestingly, the latter company sent samples to CSIRO to test the material as to its suitability for commercial filter aid manufacture. The results were as follows:

- Sample had a moisture content of 7.4% as received
- Sample was crushed and screened to 100, 200 and 300 mesh giving 4 size fractions.
- The +100 mesh fraction was rejected.
- Samples were air classified
- Calcination showed the presence of small amounts of iron
- Results:
 - Acceptable filter aids could be produced from the Conjuboy Deposit
 - For use in beer filtration – after processes of wet dispersion, air classification and calcination the material was comparable with some imported filter aids.
 - A more complete examination is warranted

Diatomite finds use in many applications not only as a filter. The advertising brochures remind us that its uses are also as a mild abrasive, as a mechanical insecticide, as an absorbent for liquids, as cat litter, and as a component of dynamite.

Over recent years, several individuals and companies have advertised the use of diatomaceous earth as a soil additive to enhance the growth and stability of monocotyledons such as rice, sugar cane and grasses. This extension was based on a number of trials, particularly in the US, of the addition of silica to paddocks growing corn. The word “silica” became somewhat confused with diatomite which led to a number of misconceptions in its applicability to the sugar cane industry in particular.

A number of seminars were held throughout North Queensland to promote this Ag-diatomite to farmers. Venues at Townsville, Ayr and Mareeba were not well attended. A number of speakers quoted US Scientific Journal papers to promote the pure silica product. It eventuated that the scientific papers referred to by the speakers promoted the use of silicon contained in Ca slags and Ca silicate as being the most useful in promoting healthy plants and rigorous growth. [See Matichenkov & Calvert, 2002]

Field trials held on a Mossman (North Queensland) cane farm, where imported wollastonite was spread over the paddock prior to planting, gave an increase in yield of over 4t/ha. This was sufficient for farmers to begin asking companies like ours, for the product. As a result, several areas were pegged by the Wilkins Brothers in the Chillagoe area, one of which is the main producer of limestone/wollastonite in Queensland.

Trials with both Diatomaceous Earth and limestone/wollastonite in sugar cane by the BSES came out strongly in favour of the wollastonite. [See attached article]

From the evidence to date, the Ca content is required to appreciably affect the particular crop, particularly in sugarcane. Trials by Agripower in India seem to refute that premise, however, the full results of the trials have not been seen or analysed.

Queensland Producers of Diatomite

Deposit	Location	Reserves/Resources	Other Products
Mount Sylvia	35 km SE of Toowoomba	>600,000 tonnes	Road Base; Palagonite
Maidenwell	26 km SE Nanango	N/A (Not operating)	N/A
Glen Eagle	77 km NE Conjuboy	N/A (\$600/t)	Nil
Conjuboy	45 km NE Greenvale	2.25 billion m ³	Nil

The Conjuboy deposit

This is the major and only producer at the present time. The Mining Lease is held in the name of Greenvale Silicon Pty Ltd who also holds tenure to several EPMs in the Conjuboy area, notably over Gilldale Station.

Product mined from the lease was trucked initially to a setup immediately south of Greenvale. A new plant, the remains of the defunct Skardon River Kaolin Plant, was transported to Charters Towers at Plumtree Road where construction is ongoing. The company in charge of the operation is Agripower Australia Limited. On-site inspection has revealed that the very fine diatomite is to be encased in bentonite to form a prill which will enable the material to be spread by means of a “spinner” or centrifugal spreader.



Glen Eagle Operation ML 20341 - Kenneth Tobler

Current Production North Queensland

Miriwinni Lime Pty Ltd and Zinaback Pty Ltd have proceeded through the last financial year with a sale of some 20 tonnes of DE to interested farmers. The material was sourced from the Glen Eagles deposit at \$600/tonne.

At present the market is not there for the quantities required for a viable local operation. The sale price is also beyond the pockets of most farmers. While export to Asia and India to countries involved in rice growing would be a viable concept and that is the Agripower target. However, this endeavour is not within the company's scope.

CONCLUSIONS

The quality of the Walters Plains Lake diatomite is below that of other deposits. The location and environmental considerations add to the non-viability of exploitation. Until the market improves or new markets can be found, it is best to surrender this tenement in favour of the Glen Eagles extensions.



The Agripower Plant site Charters Towers Plumtree Road



Agripower Plant under construction Charters Towers

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APPENDIX

Silicon guidelines for nutrient management

Here we provide the silicon (Si) guidelines used within the Six Easy Steps program and Dr Graham Kingston (Principal Scientist, BSES Limited, Bundaberg) answers other questions relating to Si nutrition.

Is silicon considered an essential plant nutrient?

Silicon is currently regarded as a beneficial element, with yield responses reported in a wide range of crops including rice and sugarcane. These crops are classified as silicon accumulators and have capacity to extract large amounts of plant available silicon from soils. Silicon uptake by sugarcane ranges between 120 and 700 kg/ha, depending on soil type and crop yield. Responses in cane yield to calcium silicate fertilisers in Australia ranged between 20 and 40% on silicon deficient soils.

What is the role of Si in plant growth?

A clear physiological role for silicon across plant species is yet to be discovered, but responses in a number of crops are related to relief of stresses caused by factors such as pests, diseases, drought, salinity and heavy metal toxicity. For example, BSES researchers have observed that although silicon did not protect sugarcane from orange rust disease, treated plants recovered more quickly than did untreated plants.

What are the symptoms of a Si deficiency in sugarcane?

Sugarcane expresses very clear symptoms of silicon deficiency. Initial symptoms appear as minute white flecks on the upper surface of the lower green leaves in the canopy (*Photo 1*), usually during the mid-late summer and early autumn. The upper surface only of deficient leaves then develops a reddish-brown or bronze colouration (*Photo 2*).

How is Si requirement for sugarcane determined?

Recommendations for silicon inputs



Photo 1. White flecks of silicon deficiency in sugarcane.



Photo 2. Reddish-brown symptoms of silicon deficiency in sugarcane.

within the Six Easy Steps program are based on two soil tests. The one involves extracting the soil with dilute sulphuric acid and the other with a calcium chloride (CaCl_2) solution. The acid based extraction is referred to as BSES-Si. While BSES-Si should be thought of as an indicator of Si reserves in soil, the CaCl_2 -Si gives an indication of the plant available Si. Ameliorants containing Si (such as calcium silicate, cement or mill mud/ash) are only required if both of the Si test values are low (*Table 1*). If leaf analysis shows silicon levels are below 0.55% then we can also expect crops to respond to silicon fertiliser.

Are the suggested ameliorants indicated in Table 1 the most appropriate sources of Si for sugarcane?

The fact that a product contains silicon does not mean the silicon is plant available. For instance sand and rocks contain high levels of silicon but it is not available to plants in the short-term. Calcium silicate is the most suitable silicon fertiliser for sugarcane at present. It is currently available in a commercial product derived from wollastonite rock in north Queensland and market development work is underway with air cooled blast furnace slag.

Cement is also a suitable but uneconomic source, due to its high price, lower silicon content (8.2%) compared to calcium silicate (17-18%) and low residual value because of high reactivity associated with fine texture. Mill mud/ash mixtures and mill ash also contain silicon and are the most accessible sources at present. However the available silicon level in ash is low and therefore limited residual value is likely.

Diatomaceous earth and crushed rock materials have high levels of total silicon, but to date these materials have not released sufficient plant available silicon to improve crop silicon levels or yield. Irrigation water from underground aquifers also contains useful amounts of plant available silicon. ■

For further information contact:

Dr Bernard Schroeder, John Panitz or Dr Graham Kingston, BSES Limited, Bundaberg – 07 4155 7400.

Table 1 – Silicon guidelines based on Si reserves and available soil silicon

	Si (BSES/sulphuric acid)		Si CaCl_2	Suggested application rate
Si (mg/kg)	<70	and	<10	Calcium silicate @ 4 t/ha; or Cement @ 3t/ha or Mill mud/ash @ 100 – 150 wet t/ha

The Six Easy Steps program forms part of the nutrient management initiative involving BSES Limited, CSR Ltd and the Queensland Department of Natural Resources and Water (NRW). It is supported by CANEGROWERS and receives funding from SRDC, Queensland Department of Primary Industries & Fisheries (QDPI&F) and the Australian Department of the Environment, Water, Heritage and the Arts.

Queensland Minerals

A Summary of Major Mineral Resources, Mines and Projects, 2014

507521 MOUNT SYLVIA

OPERATING MINE

Descriptive Location: 35KM SE OF TOOWOOMBA, NEAR GATTON.

1:100 000 sheet Number and Name: 9342 HELIDON

Grid Reference: Zone 56 417528 mE 6921861 mN Latitude -27.8253 Longitude 152.1626 Date Recorded: 20/January/2015

Other Names for Deposit / Mine

Black Duck
Boot Hill

Commodities	Size	Size Definition
DIATOMITE	MEDIUM	200 000 - 2 000 000 tonnes DIAT

Production Details

Period: 1-Jul-1996 to 30-Jun-2014

DIATOMITE	17,356.0 tonnes
BUILDING STONE	297.0 tonnes
AGGREGATE	29,087.0 tonnes

Published Reserves/Resources

**MOUNT SYLVIA DIATOMITE
INFERRED MINERAL RESOURCE**
600,000 Tonnes DIATOMITE

Comments/Cut Off Factor: Estimated reserves from Mount Sylvia Diatomite Pty Ltd website.

Resource figures listed above are NOT JORC compliant.

Published Reference ID	Year	Author	Title	Source
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Major Mining Related Events

Year Commenced	Year Completed	Comments
1996		Mined by Mount Sylvia Diatomite Pty Ltd

Mining Operations

Comments

OPEN CUT MINING

Tenure Type/Number	SHARE	Company Name/Surname
ML 5954	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5955	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5956	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5957	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 5966	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD
ML 50225	100.00%	MOUNT SYLVIA DIATOMITE PTY LTD

Host Rock/Cover Sequences

Structural Unit	Formation Name/Age
MAIN RANGE VOLCANIC SUBPROVINCE	Main Range Volcanics / TERTIARY to TERTIARY

Deposit Model

GENERAL OREBODY MODEL	SEDIMENT-HOSTED DEPOSIT
DETAILED OREBODY MODEL	DIATOMITE DEPOSIT

Mineralisation Age

ORE	TERTIARY
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Comments

Mount Sylvia Diatomite Pty Ltd operates the Mount Sylvia (Black Duck) mine. Diatomite crops out on both sides of a spur. The product is a massive, near white, relatively pure diatomite. It has a chalky appearance and is generally soft and friable. Products include various grades of diatomite for soil conditioning, pet litter, potting mix, oil and beverage clarifying, industrial and domestic spillage absorbents, fillers, abrasives, insecticides and stock feeds. The diatomite is overlain by basalt flows. Mount Sylvia Diatomite has been stockpiling overburden for use as road base, road aggregate and a source of basalt boulders. The basalt fines (palagonite) are a potential source of soil conditioner/fertiliser. In 2012 the Mount Sylvia Diatomite website states a basalt resource of greater than 15Mt of "palagonite". The unique combination of smectite clays from the palagonite and fresh basalt has produced as a very effective road base (Unbound paving material).

Web Page

www.mtsylvia-diatomite.com.au

A COMPARISON BETWEEN MOUNT SYLVIA DIATOMITE AND MAIDENWELL DIATOMITE

X-RAY DIFFRACTION ANALYSES:

	MAIDENWELL	MT SYLVIA
Amorphous Silica	81%	84.5%
Kaolin	15%	9%
Smectite clay	1%	5%
Quartz	1%	2%
Anatase	2%	0
Calcite	1%	0 - 1%

Calcined Maidenwell diatomite contains more than 2% quartz

Calcined Mt Sylvia diatomite contains 2% quartz

X-RAY FLUORESCENCE ANALYSES:

Na ₂ O	0.25%	0.11%
MgO	0.63%	1.24%
Al ₂ O ₃	12.1%	6.34%
SiO ₂	77.8%	84.5%
P ₂ O ₅	0.166%	0.03%
SO ₃	0.053%	0.06%
Cl	0.013%	0.05%
K ₂ O	0.44%	0.06%
CaO	0.05%	0.87%
TiO ₂	0.77%	0.43%
V ₂ O ₅	0.14%	0.03%
Cr ₂ O ₃	0.01%	0.01%
MnO	0.009%	0.02%
Fe ₂ O ₃	7.35%	3.8%
CuO	0.007%	0.014%
ZnO	0.032%	0.01%
PbO	0.006%	0.000%

The lead (PbO) content of the Maidenwell material could be of concern



SUGAR CANE

A replicated sugarcane trial was conducted in Maharashtra India, in 2011-12 using locally mined diatomite. The results of this trial are reported to show the effects that we expect Agripower Silica would achieve/exceed.

Variety	N/A
Location	Maharashtra, India
Objective	Evaluate the effect of applied Silica on yield and brix of Sugar Cane
Product tested	Diatomite ¹
Trial Design	Randomised Complete Block Design
Soil Test Results	Not Available
Irrigation	Not Recorded
Application method	Banded
Control Treatment^a	Standard Fertiliser Practice (SFP) used by the grower - N, P ₂ O ₅ , K ₂ O 300:140:140 Kg/ha
Tested treatments	500kg/ha diatomite

¹Control Treatment refers to the same treatment and application methods and rates previously used by the grower

Treatment Results			
	Treatment	Yield t/ha	Commercial Cane Sugar (CCS) t/ha
	100% Standard Fertiliser Practice (SFP) - Control	162	18.06
	500 Kg/ha Agripower Silica plus 100% SFP	176	20.67
Observations	Yield was increased by 9% and CCS was increased by 14%		
Net Benefit	\$360/ha minimum net benefit from the 9% yield increase alone. There is a 14% increase in CCS which would further increase the revenue to the farmers that are paid on CCS		
Conclusion	This trial was run independently by the University and showed significant improvements in both yield and CCS for sugarcane treated with diatomite		