



AquaCarotene Limited

ABN 18 074 969 056

Natural Culture®

Registered Office:

16 Emerald Terrace
West Perth WA 6005

Postal Address:

PO Box 898
West Perth WA 6872

Tel: (61 8) 9486 8833

Fax: (61 8) 9486 8833

REVIEW OF THE YEAR

At this time last year we made comment that the selling of whole Dunaliella Salina into the nutraceutical markets was not going to allow us to expand the business as we would like. We have therefore spent considerable time during this last year on trying to find a sensible business proposition that has synergies with our current assets. As also reported last year we saw some synergy between our algae operations and biodiesel.

Algae biodiesel is a very attractive option for Aquacarotene going forward. Hundreds of millions of dollars have been raised in venture capital in the USA recently to further develop the production of Algae biodiesel in an economical fashion. Many of the largest energy companies now have a stake in Algae biodiesel companies or research ventures. (see attached article)

Aquacarotene has a potentially excellent site for the production of biodiesel through the growing of algae in open raceway ponds. We have

- 380 hectares of leased land
- Gravel to expand the ponds
- Abundant CO₂ nearby
- Native title issues cleared
- Abundant pristine sea water within close pumping range
- Excellent practical knowledge on the growing of Algae especially Dunaliella Salina
- Land to house production facilities.

It should also be noted that the Algae for Biodiesel research is heading down two main directions. The first is to extract the lipids and process them into biodiesel, the second is to grow algae for biomass and ferment into ethanol or similar fuel substitute. Either path would suit our operations.

We are actively looking for a partner with the other half of the equation for the successful production of biodiesel, the technical knowledge to process the algae into biodiesel. Progress in this area is happening at an amazing rate with breakthroughs announced regularly, especially in the USA. However harvesting methodologies continue to be refined and extraction processes are being further developed. (see attached article)

During the year we have also looked at several transactions in the broader bio-energy market and nutraceutical markets. It is interesting to note that these two often go together (as with algae) as nutraceutical products are often the by-product of these processes.

We are currently talking with several parties in the broader bio-processing field that have the ability to complement what we can do with algae. The end result of this would be a company that produces bio energy and/or nutraceuticals in a clean way through bio-processing processes that work in a similar way to algae.

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In addition to the above we are also pursuing (as stated last year) value adding of our current product. We have recently commissioned a company with an excellent track record in this field to look at extracting the Beta Carotene from our Dunaliella Salina organically. There are good reasons to believe that this can be done, but the key question, as always, will be economics. The outlay for this research is modest and within our current limited means, however the payoff, albeit uncertain would be attractive. If this research is successfully completed further research will be needed to scale up the technology.

Our previous contractor in this area, that we had hoped to report by the end of June (after several previous delays), has disappointed us again and that contract was terminated at no cost to Aquacarotene.

To facilitate the time necessary to complete transactions and given that not all transactions reach the finish line we have taken steps to minimise our cash outflow. These steps that were reported to the market in May include:

- Production at our Karratha Ponds has been put on hold until further notice and staff are currently on leave without pay. Arrangements have been made for the site to be maintained.
- Head office expenses have also been cut with a reduction by 50% of in the number of hours for which the Managing Director is contracted.

On 29 December 2008 we had our gravel assets valued at \$4.15 million. We continue to be frustrated by a lack of sales of our gravel and that is partially explainable by the economic downturn. Our JV partner advises us of renewed interest through the royalties for regions programme from the State government and we are hopeful of sales through this programme. The gravel remains a valuable asset should there be any expansion of the ponds.

In summary Aquacarotene is looking to reinvent itself as a bio-processing company based on algae and other complementary bio-processing projects that produce energy and/or nutraceuticals. Shareholders will be informed of progress as is appropriate.



Ken Richards
Executive Director

Algae-based Biofuels Ready to Boom

Algae is the ideal carbon neutral substitute for fossil-based petroleum products and Australia is the ideal place to grow it according to senior Austrade representative Graeme Barty, as reported recently in the Australia Financial Review. According to this article, Mr Barty "sees enormous potential for Australia in the latest developments in the prospective algae biofuels revolution".

"Where else" he asks, "are conditions as favourable for large-scale algae cultivation that requires industrial-scale CO2 emitters such as power stations, gas conversion facilities or fertiliser plants alongside wide open spaces of non-arable land, a plentiful supply of nutrients, a lot of brackish water and plenty of sunlight." According to Barty the Karratha area of Western Australia comes to mind, but indications are that much of the continent, excluding southern regions would be suitable for growing algae for biofuels.

Barty is also quoted as saying that Australia is well positioned as a "production base for Asian markets", an assertion with which Sapphire Energy spokesman Tim Zenk is apparently in agreement, saying "Australia makes a lot of sense to us".

While companies like Sapphire Energy have still to prove that the potential of algae-based biofuels can be realised on industrial scales, last month brought "an extraordinary surge of interest – and investment – in the nascent algae biofuels sector. It is quickly emerging as "the leading potential renewable energy alternative to fossil fuels," according to the article, with the Wall Street Journal dubbing this latest period "the summer of algae".

Interest has been sharply aroused by the announcement that ExxonMobil will be investing \$US600 million (\$715 million) into a partnership with Synthetic Genomics of San Diego to develop algae-based biofuels. Other similar ventures which attest to the exciting promise of biofuels from algae include:

- Dow Chemical and Algenol Biofuels (\$US50 million pilot plant using Algenol's technology)
- Algenol and Mexican company Biofuels (\$US850 deal to grow algae in the Sonoran desert)
- Solix Biofuels of Colorado, Chinese investors and petroleum refiner Valero Energy (\$US16.8 million capital raising towards a demonstration plant)
- Solazyme of San Francisco (\$US60 million in entrepreneurial funding)

Reportedly, Chevron, British Petroleum and Shell are also getting involved, with Chevron "partnering the US Government's National Renewable Energy Laboratory to transform algae into transport fuels, including jet fuel".

So why the interest in "green scum"?

According to Emil Jacobs, vice president of research and development at ExxonMobil, "We pulled together a pretty high-powered team to look at alternative energy sources and we looked at all biofuels." Quite a turn-around from referring to biofuels, as CEO Rex Tillerson once did, as "moonshine".

The Obama administration is removing many of the former obstacles to getting government help for algae project start-ups, as is making algae refineries eligible for a share of the \$US800 million to fund bio-refineries.

While no one process has yet emerged as the industry leader, two start-ups are showing particular promise: Algenol, whose patented method isolates GM algae in glass photobioreactors to produce a harvestable ethanol residue, and Sapphire Energy which harvests GM algae as "green crude" with a molecular structure that replaces fossil fuels such as diesel, gasoline and avgas.

In Australia, Algal Fuels Consortium and the University of Melbourne, supported by Bio Fuels both received government funding to the tune of \$2.72 million and \$1.24 million respectively. Algal Fuels will be developing a pilot scale biorefinery while University of Melbourne will be researching biofuel from micro algae.

Sapphire, with more than 200 patents on its technology has seed investors who include Bill Gates and the Rockefellers. While it is essentially a research and development organisation at present, as well as developing a process capable of producing "green crude" in commercial quantities, Sapphire is also creating a New Mexico plant with an expected capacity of 100,000 million gallons P.A. by 2015.

Sapphire's Tim Zenk admits the commercial challenges are not to be underestimated because new ground is being broken, but that they have made an important step in establishing that their product works – it powered a Continental Boeing 737-800 on a test flight in January more efficiently than conventional avgas.

As Zenk points out, algae is a "voracious consumer" of CO₂ and was responsible for the original oxygenation of the Earth's atmosphere billions of years ago. Ironically, the oxygen build-up ended its reign as the planet's dominant life-form and laid down the basis for the vast source of fossil fuel from which our civilisation now urgently needs to wean itself. "If mother nature has done it before, it is reproducible," he is reported as saying.

Not only will the production of "green crude" consume about two kilograms of CO₂ for every one kilogram of biofuel, the replacement of 25-30% of fuels in the US would save in the order of 5 billion tons in net CO₂ emissions – the equivalent of eliminating the emissions from entire US passenger vehicle fleet for a period of four years.

With an impressively fast reproductive cycle of 72 hours, micro algae produces roughly ten times the yield per acre of its competing sources of biomass-for-fuels such as rape seed and palm oil and therefore is likely to free the production of bio fuel from the disadvantages it currently faces in using these, which include displacement of food crops from available arable land and low net CO₂ emissions savings.

Once biofuels were merely the darling of the environmental movement. Now, with "peak oil" approaching (if it has not in fact already arrived) and the inevitable upward pressure on oil prices combined with the push to reduce dependence on foreign oil, the economic viability of micro algae-based biofuels is coming to the fore.

Source: "The drive for an algal boom" by Tony Walker, page 60, Australian Financial Review, 11th August 2009

**Appendix 4E
Preliminary Final Report**

Name of entity: AquaCarotene Limited
ABN: 18 074 969 056

1. Reporting period (“current period”) 30 June 2009
Previous corresponding period 30 June 2008

2. Results for announcement to the market

Revenue from ordinary activities	down	97%	to	\$'000 32
Loss from ordinary activities after tax attributable to members	increased	342%	to	(876)
Loss for the period attributable to members	increased	342%	to	(876)

	Amount per share	Franked amount per share
	cents	cents
<i>Dividends</i>		
Final	Nil	N/A
Interim	Nil	N/A

Record date for determining entitlements N/A

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3. Condensed consolidated income statement

	Current period	Previous corresponding period
	\$'000	\$'000
Revenue	32	234
Cost of sales	(344)	(331)
Gross Profit	<u>(312)</u>	<u>(97)</u>
Other income	-	699
Depreciation expense	(72)	(66)
Employee benefits expense	(284)	(319)
Directors' fees	(39)	(39)
Office administration	(82)	(80)
Professional fees	(59)	(110)
Share based payments	(43)	(171)
Share registry and statutory fees	(16)	(30)
Other expenses	<u>-</u>	<u>-</u>
Loss before financing costs	(907)	(213)
Financing income	38	52
Financing expenses	(7)	(37)
Net financing costs	<u>31</u>	<u>15</u>
Loss before tax	(876)	(198)
Income tax expense	-	-
Loss for the year	(876)	(198)
Loss attributable to members of the parent	(876)	(198)

Notes to the condensed consolidated income statement

Revenue

Sales	32	234
Land development	-	-
Profit on disposal of plant and equipment	-	698
Profit on sale of shares	-	1
Total revenue	<u>32</u>	<u>933</u>

4. Condensed consolidated Balance Sheet

	Current period	Previous corresponding period
	\$'000	\$'000
CURRENT ASSETS		
Cash and cash equivalents	343	868
Trade and other receivables	138	109
Inventories	212	103
Other financial assets	1	1
TOTAL CURRENT ASSETS	694	1,081
NON-CURRENT ASSETS		
Trade and other receivables	-	132
Other financial assets	34	33
Property, plant and equipment	216	184
TOTAL NON-CURRENT ASSETS	250	349
TOTAL ASSETS	944	1,430
CURRENT LIABILITIES		
Trade and other payables	49	78
Interest-bearing liabilities	21	21
Provisions	10	36
TOTAL CURRENT LIABILITIES	80	135
NON-CURRENT LIABILITIES		
Interest-bearing liabilities	57	75
TOTAL NON-CURRENT LIABILITIES	57	75
TOTAL LIABILITIES	137	210
NET ASSETS / (EXCESS OF LIABILITIES OVER ASSETS)	807	1,220
EQUITY		
Issued capital	29,870	29,272
Other reserves	99	233
Accumulated losses	(29,162)	(28,285)
TOTAL (DEFICIENCY)/EQUITY	807	1,220

5. **Condensed consolidated statement of cash flows**

	Current period	Previous corresponding period
	\$'000	\$'000
Net cash flows from operating activities		
Receipts from customers	133	91
Payments to suppliers & employees	(987)	(1,035)
Interest received	38	51
Interest paid	(7)	(37)
Net cash used in operating activities	(823)	(930)
Cash flows from investing activities		
Payments for plant & equipment	(104)	(25)
Proceeds from disposal of assets	-	821
Proceeds from disposal of investments	-	9
Net cash used in investing activities	(104)	805
Cash flows from financing activities		
Net proceeds from share issues	420	1,249
Repayment of interest-bearing liabilities	(18)	(294)
Net cash provided by financing activities	402	955
Net increase in cash and cash equivalents	(525)	830
Cash and cash equivalents at the beginning of the year	868	38
Cash and cash equivalents at the end of the year	343	868

8. Retained earnings

	Current year	Previous year
	\$'000	\$'000
Accumulated losses at the beginning of the financial period	(28,286)	(28,095)
Net loss attributable to members	(876)	(198)
Unrealised gains	-	7
Accumulated losses at end of financial	(29,162)	(28,286)

9. Tangible assets

Net tangible asset backing per ordinary share	0.3 cents	0.5 cents
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10. Details of entities over which control has been gained or lost

Control gained over entities

N/A

Control lost over entities

N/A

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11. Details of associates and joint venture entities

Name of entity
N/A

12. Going Concern Note

This financial report has been prepared on a going concern basis. The Directors believe that this status is appropriate, but that the company's continuation as a going concern is dependent on one of several opportunities occurring:

- The company has stated in its Managing Directors report that Aquacarotene is looking to re-invent itself as a bio processing company producing energy or nutraceuticals. Aquacarotene is in discussions with several companies that have interesting technologies that will assist in this transformation.
- There is considerable interest in Algae Biodiesel and Aquacarotene has a potentially excellent site for the production of biodiesel through the growing of algae in open raceway ponds. This site is already proven in the growing of algae, is already licensed for the growing of marine algae (*Dunaliella Salina*) and has cleared native title issues. Aquacarotene is in discussion with companies that can offer the technology to turn this site into a viable bio-diesel production facility.
- Aquacarotene is working with a third party to add value to its current inventory and if this is achieved then those inventories could be worth more than their current carrying value.
- Aquacarotene has suspended production at Karratha to conserve cash and reduced its outlays in Perth head office to concentrate its efforts of securing a transaction that makes business sense and has synergies with our current assets.

13. Any other significant information

Details of any other significant information needed by an investor to make an informed assessment of the entity's financial performance and position.

N/A

14. Mining Lease

The Board has had its two mining leases (ML 47/450 and 47/397) near Karratha valued by an independent valuer. The major points from the valuation report are:

- 3.8 million tonnes of general fill, calcrete and clay is present in the top 2.5 meters of the tenements.
- The Valuation indicates a range of net present values of \$3,500,000 to \$4,500,000 with a preferred value of \$4,150,000
- Approximately 340,000 tonnes has been mined and sold to date and 3,800,000 tonnes remain. Under the Joint venture agreement (see below) Aquacarotene have "free" access to 300,000 tonnes leaving 3,500,000 tonnes, however an unknown amount of loss will occur in the area of the creeks and therefore the valuer has based the valuation on 3,000,000 tonnes being available to the Joint Venture for mining.
- The valuation is based on 71 test pits, and associated GPS surveying, geological logging and test work.
- Financial modeling, using current general fill pricing in the Karratha region based on the resource being sold uniformly over the next ten years, provide estimates that the financial benefits to AQL from the joint venture over that time (including the 'free' 300,000 tonne benefit, but ignoring the time value of money) range between \$7,600,000 and \$11,200,000 after expenses.
- The assumptions for the financial modeling are as follows
 - Price for Material \$8 to \$10 per tonne. These prices are based on an independent market appraisal and knowledge of the relevant prices in the market place from market intelligence.
 - Uniform sales of 300,000 tonnes per annum for 10 years
 - Mining costs, royalty and rehabilitation totaling \$10,940,000 over the ten years
 - Discount rate 25%
 - All revenue and costs are in current dollar amounts
 - Mining is low impact and is confined to the top 2.5 meters. Mining approvals are sought from the Department of Industry and Resources on an "as required basis".
- By way of background, in February 2004 Aquacarotene signed a joint venture agreement with Carr Civil to share profits on the mining of ML 47/450. The main terms of this agreement were that Carr Civil would act as managers of the quarry and they paid Aquacarotene \$800,000 for a 50% interest. In addition they have the right to recoup this amount out of profits and must provide Aquacarotene with 300,000 tonnes of "free" general fill for the expansion of their ponds.
- The company through its JV Partner, Carr Civil is currently planning a new mining and rehabilitation plan for approval on mining lease ML47/450.

15. Results for the period

Earnings per security

	Current year	Previous year
	cents	cents
Basic (loss) earnings per share	(0.35)	(0.10)
Diluted earnings per share (if materially different)	(0.35)	(0.10)
Weighted average number of ordinary shares outstanding during the period used in the calculation of basic EPS	<u>248,840,201</u>	<u>192,144,447</u>

16. This report is based on accounts which are in the process of being audited.

Charles Wilson
Chairman
28 August 2009

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