

## Boral and Shell

*Sandra Lawson [Thursday 1 September 2005]*

I interviewed Mr Eerik Owerhall of Ecopave Australia™, we talked about the GEO320™ Bio-asphalt™ bitumen invention and other related issues. Ecopave Australia was established in 2002 to commercialize the GEO320 Bio-Bitumen™ adhesives technology, which the family has been working on since 1982.

They have struggled against all odds, over-coming endless false smear campaigns to discredit their humble reputations, character and credibility and they have persisted with the bureaucratic system that has always been inherently pro-petroleum, from financial markets, policy makers to government departments.

**Q: 15, Why is GEO320 MRH Asphalt Bitumen not patented?**

**A,** Our biggest concern has always been the idea of keeping our IP, know-how and expertise secret “prior” to officially launching the products, and the awareness of how easily one can actually lose the rights to a patent. Being aware of these threats we approached our first “official” non-petroleum (renewable resources) prototype field trial in 1991 in Newport made with our GEO320™ technology, the field trial was placed on a private drive way with the utmost of caution since we were already advised by our patent attorneys back in 1989 that we should in fact keep the idea as a know-how (trade secret) since it “could” be possible to by-pass our formulations, we were aware that once our non-petroleum formulation was out in the open it was vulnerable to copying and plagiarism and could jeopardize our future plans in setting up operations to commercialize and exploit the Ecopave GEO320™ technology.

When trying to decide in 2000 which asphalt company we should to turn to with our GEO320™ Technology, Boral was chosen directly due to the recommendation by the Roads and Traffic Authority (RTA) of New South Wales. We went ahead with our second major GEO320™ field trial in December 2000 this time based on our surrogate petroleum hydrocarbon prototype which was placed on **Boral Asphalt** plant in Deer Park Melbourne 2 December 2000, little did we know what trap we walked into as we later found out.

We faced a real threat of losing the patenting rights and novelty in our GEO320 MRH Asphalt and bitumen formulations once we had displayed it the Boral field trial situation. We were forced to formulate our bitumen based on the surrogate hydrocarbons whilst maintaining all the characteristics, benefits and performance attributes of our non-petroleum version as per the technical GEO320 specifications. The rationale was that if we lost the surrogate petroleum based hydrocarbon version as a result of a field trial, our non-petroleum based formulation based on sugar and waste materials such as molasses (renewable resources) would still be intact and patentable. We discovered in 2004 that **Shell** international Research Maatschappij B.V had lodged an international application in 2002 under the international patent cooperation treaty titled “Pigmentable Binder Composition”, Incredibly, the Shell pigmentable binder patent resembles our pigmentable surrogate hydrocarbon bitumen formulation to the letter.

**Boral Asphalt** was the only “organization” that had access to our GEO320 MRH Asphalt bitumen (surrogate hydrocarbon bitumen formulation) material between year 2000 and to the time when Shell lodged their pigmentable binder patent application in 2002 and Kraton polymers research in 2004.

In hind sight it now makes sense why Boral Asphalt attempted to give us misleading test results on the mix size and rutting, ( the field trial was laid at 7mm mix when in fact they led us to believe in writing that it was 10mm) after the field trial.

**Boral Asphalt** went further by telling us in February 2001 that there were some rutting problems after the field trial had been laid even though they “guaranteed” that it would not fail hence the extensive preliminary in house lab testing they conducted, we were forced to go to ARRB Group (Transport Research) spend another \$8000 to confirm the performance of GEO320 to AS2008 which it did, and when we went back to Boral to show that there were no problems, they told us that “Boral could no longer support the project due to financial restraints”. Boral also refused to sign our NDA under a common seal in the beginning, kept dropping their managers to other duties 4 in total, and who were clearly being made to follow the notorious “Peter Principle”, see [http://en.wikipedia.org/wiki/Peter\\_Principle](http://en.wikipedia.org/wiki/Peter_Principle)

In 2001 we had a meeting with Boral in our lawyers office to discuss ways of going forward and to put in practice what they had offered us once we had passed their “8 week”? field trial waiting period to see if it had met expectations (as it did), and to our amazement Boral told us that they were no longer interested in GEO320 for its pigmentability but were now only interested if we could produce GEO320 in “black” to normal bitumen specifications to the same selling price of around A\$0.50 cents/per kg.

We expressed our disappointment at Boral's back-flip which was after the fact (field trial) but we made it clear that we were in fact able to manufacture GEO320 to normal bitumen specs at that selling price, the only response we got from these guys in the meeting were looks of amazement and disbelief.

After the meeting we were told by one of the asphalt managers who at one stage told us that “our binder was the best new asphalt product he had seen in the twenty years that he had been in the industry”, that he was not able to speak in our favor or defense at the meeting since his hands were well and truly tied and that he was “gagged”. After this Boral kept raising the bar and coming up with all sorts of excuses not having to proceed with us i.e, demanding “additional” tests from toxicology to environment impact studies to market research etc, interestingly all of which they had already performed in Boral's own laboratories in NSW prior to the field trial to make sure they weren't risking their employees to any un-known risk factors when handling new products.

Did we get a complete copy of these tests? certainly not, even though they were required under the Non Disclosure Agreement (NDA) for Boral to hand over “all” testing, reports, drawings etc. The only report that we received from Boral kicking and screaming was the asphalt performance tests of GEO320 MRH asphalt bitumen prior to the field trial which was to establish performance parameters.

To add insult to injury Boral threatened to rip the field trial up at one stage in 2003 to make way for “another “ bitumen experiment (product) from “France”, Boral made a complete back flip to a promise and commitment they made before the field trial to formalize our relationship to commercialize the GEO320 MRH technology once the field trial had passed, the tests (which it did), Boral also refused to have the field trial placed anywhere except at their premises in Deer Park asphalt plant which was against our wishes from the beginning but due to their aggressive insistence we were forced to agree. Last but not least Boral asked us not to associate with them any further in 2005 when they told us that they had lost interest in our GEO320 MRH technology even though they were demanding that we hand them over sensitive information about our formulations and know-how, even though a clause in the Non Disclosure Agreement (NDA) specifically stated that “Thermoline was under no obligation to disclose information to Boral if it thought it was commercially too sensitive”

terms to which Boral had agreed. Regardless of the significant financial loss that we and our investors suffered and the disappointment, our fore sight and following the advise of our patent attorneys had paid off by leading us to take measures to protect our Intellectual property, we now had to ask the question, should we risk going down the patenting path with our non-petroleum based Bitumen invention and risk Shell doing the same thing to us again?

There was only one answer to this and that was “not by a long shot”, in November 2004 we decided to publicize our invention by launching the Ecopave Australia web site. *We are actually quite proud of having single handedly and with a simple 4 component Hydrocarbon formulation ( Clear hydrocarbon resin, SIS/SBS thermoplastic rubber, oil and (plasticizer) solved the problems (short comings) associated with Shell's petroleum residue bitumen and especially Shell's Mexphalte C.*

*The reason why we chose to use these particular ingredients in the GEO320 surrogate hydrocarbon based bitumen binder formulation or in the Boral field trial in 2000 and in our line marking applications, was the individual benefits that the ingredients brought into the formulation especially the plasticiser; the Clear hydrocarbon resin gives good coloring options eg (white) is now possible, solvent resistance high temperature resistance, rutting resistance, and gives low volatile emissions and fuming. The SIS/SBS rubber gives flexibility (elastic recovery) and toughness. The oil and (plasticizer) gives workability and flow to the binder and is a processing aid and gives the binder formulation high temperature resistance and protects the binder from microbe and fungal attacks, gives durability and prevents the SIS/SBS or any other rubber from degrading at high temperatures and also prevents the rubber from absorbing the oil “swelling” which stops the binder from degrading over time. This “swelling” has been a problem with residue bitumen reinforced with SBS rubber because the oil in the bitumen attacks the rubber phases causing them to break down by becoming porous and affecting the durability of asphalt over time.*

**Shell** also claims in their new pigmentable binder patent the aggregate formulation to manufacture mastic asphalt by including the mastic asphalt aggregate mesh sizes in their list of claims which we already lodged in our 1987 patent application. The formulation to manufacture mastic asphalt has been around for thousands of years and is public knowledge.

**Shell** is now well on its way to “fixing” their bitumen and asphalt formulations for durability based on our GEO320 invention, fatigue resistance (like GEO320) solvent resistance (like GEO320), light reflecting asphalt surface (like GEO320 MRH), low volatiles (like GEO320) better coloring options using titanium dioxide (like GEO320 ), aggregate mix design (like GEO320 MRH), non fuming (like GEO320), warm mix WAM (like GEO320) low workability temperature (high temperature tolerance like GEO320) Shell's proud release of Cariphalte, Fuelsafe (for solvent resistance), Multiphalte (multigrade) and Scintiflex for (glass for reflective properties), these Shell's newly introduced products all answer the problems that normal residue bitumen has lacked to date, so are we proud? you bet we are if nothing else it should give us a credibility boost by showing all the doubters and skeptics (knockers) over the years that bitumen binder can be manufactured from other than high molecular weight crude oil distillation residues, the petroleum based bitumen battle is over but the real bitumen war is just beginning and is going to be fought on the field called “Environmental Sustainability” and “Asphalt Bitumen from Renewable Resources™ ”.

**For the record**, In 1987 we began to operate under the business name of “Mastech” we had lodged our Australian as well as the international patent applications through Edward Waters and Sons patent attorneys for a petroleum based “Universal pigmentable asphalt Binder” . In 1987 we contacted The bitumen department at Shell resources in Melbourne who became interested in purchasing our pigmentable Mastic Asphalt bitumen formulation or so we were led to believe and in the process they apparently accessed our patent application before the application

was published in the official journal. **Shell** asked us at one point how much we wanted for our invention, we approached Middleton's Oswald Burt solicitors in Melbourne to see if we could do a deal with Shell and to find out more about this attempted breach by Shell, Middleton's also assisted with other interested private investors at the time, as a consequence to the Shell apparent breach EWS advised us to withdraw the applications and maintain the invention and future modifications under a know-how protection only, this advice turned out to be very valuable as we went on to discovered later. Middleton's solicitors were not able to extract any confirmations or reasons from Shell as to the breach so it was decided that we keep pursuing an amicable deal with Shell regardless.

Middleton's tried very hard to come to some sort of compromise in the confidentiality agreement and commercial agreements between us and Shell and finally, when we thought that we had a workable document and we signed our copy and gave it to Shell, they refused to sign the confidentiality agreement and basically walked away from the negotiations and the whole situation folded and we were left with debts to EWS and Middleton's to the tune of some \$10,000.

This behavior by Shell is reminiscent to what Boral did with Thermoline in 2000 and Mastech in 1988, this was quite possibly a tactic designed to wipe us out financially to prevent GEO320 from entering the market place.

We contacted **Boral** asphalt for the first time in Melbourne in 1988 to introduce our invented Mastex (GEO320) Asphalt and Bitumen, we received a rather negative reception from them, which we found very surprising. Boral refused to do a field trial for us at the time unless we paid a \$20,000 surety (guarantee) to cover any damage if our bitumen or asphalt should cause to their equipment, which was fair enough. The failure of Boral to understand or investigate GEO320 at the time and the negative hostile attitudes that we received led to an exchange of opinions from both sides that led to us taking the case to Middleton's, who finally resolved the disputed issues. Boral ex Managing Director is on the record as telling us that "Mastech will never lay one meter of asphalt in Australia". It is interesting to note that two out of the six of Boral's current board of directors are ex **Shell** executives, (CEO) Rod Pearse and Dr J. Williams, the Boral board should consist of directors who have absolutely no connection or history attached to a company that has an appalling environmental, human right violation and business practice record (see [http://en.wikipedia.org/wiki/Controversies\\_surrounding\\_Royal\\_Dutch\\_Shell](http://en.wikipedia.org/wiki/Controversies_surrounding_Royal_Dutch_Shell))

The idea of a company going after profits at what ever cost belong to the last century the pre "climate change" era.

A quick word on Shell's Mexphalte C pigmentable binder which Shell launched in 1987, it was apparently so poorly designed that Shell did not even have a 14mm asphalt mix design for use with the binder and it could not even handle motor oils or gasoline (fuels) let alone major road traffic. Mexphalte C was only suitable since 1986 – 2002 for light trafficked areas such as bicycle and foot paths, Ironically Shell's own sales department talked potential customers away (discouraged) from using Mexphalte C for roads or heavily parked car parks due to its defects and its therefore understandable that Shell had a desperate need to find a workable and more suitable substitute binder that "worked" as quickly as possible,

We decided In November 2004, to make the GEO320 Synthetic Bitumen based on non-petroleum renewable resources public knowledge, our aim has been simple, to prevent a chosen few (Shell) from controlling and manipulating (cartelling) a resource that should be freely available for everyone willing to grow them eg, Sugar, Molasses and waste materials derived from agricultural and vegetable products such as natural latex rubber trees, gum resins and vegetable oils. Bitumen made from these renewable resources should be a benefit to anyone willing and able to manufacture asphalt to construct roads especially in the "developing world" who are already struggling to pay off their debts.

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