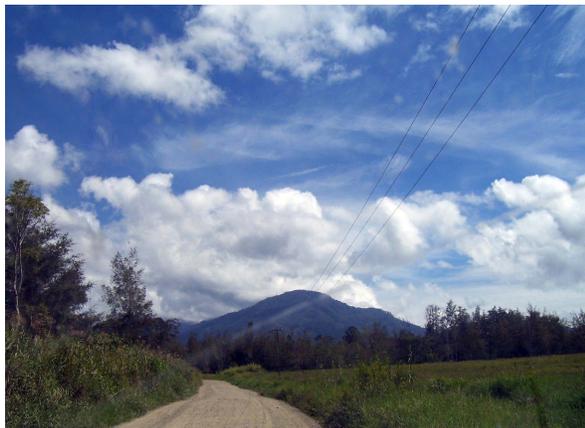




CJ1230 Papua New Guinea Wahgi Valley Kimel Fully Washed Crown Jewel

September 7th, 2018 | [See This Coffee Online Here](#)



Intro by Chris Kornman

Kimel, an estate located in the town of Banz near Mount Hagen in Papua New Guinea, has a long history of producing exceptional quality island coffee, and the new crop is no exception.

[This is a spectacular coffee](#), a PNG for fans of Kenya-like grapefruity zest, with a lot of versatility in roast profile application. Delicate hibiscus florals emerge in lighter styles, while a more drawn out roast accents the supreme brown sugary sweetness without compromising the abundant citrus character.

The country of Papua New Guinea comprises the eastern half of the New Guinea island (the western half is part of the country of Indonesia) that rests like a disjointed puzzle piece off the northern coast of Australia. Commercial coffee production began in earnest in the region in the late 1920s, and is now the country's second most important agricultural export after palm oil.

While the coffee growing landscape is predominantly smallholders, Kimel Estate was established by an Australian named Bobby Gibbs in 1974. However, in 1979 the farm was purchased by Kishan Pau and Pup Kaki, representing a collaboration of local indigenous tribal groups. Kimel Estate is now 100% owned by the indigenous population. The estate boasts a permanent workforce of over 400 individuals, and housing, fresh water, schools and medical services are provided on the farm. Processing cherries onsite, the farm has employed recycling practices for the coffee pulp and water from the nearby Kimel river, and is growing its coffee under the shade of Grevalia and Albizia trees.

Grower:	Kimel Estate	Process:	Fully washed after pulping and fermenting, then dried in the sun.
Region:	Banz, Wahgi Valley, Western Highlands Province, Papua New Guinea	Cultivar:	Arusha, Blue Mountain, Catimor, Caturra, Mundo Novo, Typica
Altitude:	1580 masl	Harvest:	March - April 2018

Green Analysis by Chris Kornman

Very large in size, 90% screen 18 plus, [this AA](#) maintains a surprisingly high density. Its moisture figures are right at the upper end of what we like to see, which may well be what give it its remarkably resilient acidity and easy-to-appreciate caramelized sugar sweetness.



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The variety selection is a real hodge-podge, Typica in two forms (heirloom Asian and Western Hemisphere Blue Mountain), Arabica Bourbon-Typica hybrid Mundo Novo and its small-stature progeny Caturra are also present. Lastly, Catimor can be found in the mix as well, the intercrossed cultivar with hearty resistance to disease and leaf rust.

<u>Screen Size</u>	<u>Percent</u>	<u>Density (freely settled)</u>
>19	35.58%	0.703 g/mL
18	56.21%	
17	6.82%	<u>Total Moisture Content</u>
16	1.16%	12.6% (Sinar)
15	0.23%	12.0% (Kett)
14	0.00%	<u>Water Activity</u>
≤13	0.00%	0.65 @ 24.4 C

Ikawa Analysis by Chris Kornman

Going rogue this week in Jen's absence, I flipped the Ikawa over to the new firmware v. 23 and its "open" airflow setting. I was tempted to try a version of a profile I'd been working with on the old system, attempting to update it and bring out the most from [this bright and juicy Papua New Guinea](#).

The first roast (blue) hit first crack a little later than intended and only ended up with about 20 seconds of post-crack development. The coffee stood the test of the aggressive airflow, however, producing a grapefruit-laden cup with tons of tangy citric notes and a lot of Kenya-like complexity.

I lengthened the Maillard state by about 30 seconds for my second roast (red), keeping the airflow similar but allowing the coffee some room to breathe after first crack, about 50 seconds total development time. Comparatively the coffee was far more chocolatey, deeper in flavor with a solid base layer that undercut the acidity a little but left in tact the lemony, currant, and floral flavors.

Cuppers had some preferences, for sure, but the averaged scores differed by less than a tenth of a point - an indicator this coffee will retain its pleurability and character well regardless of minor changes in roast profile. Roast this PNG with confidence.

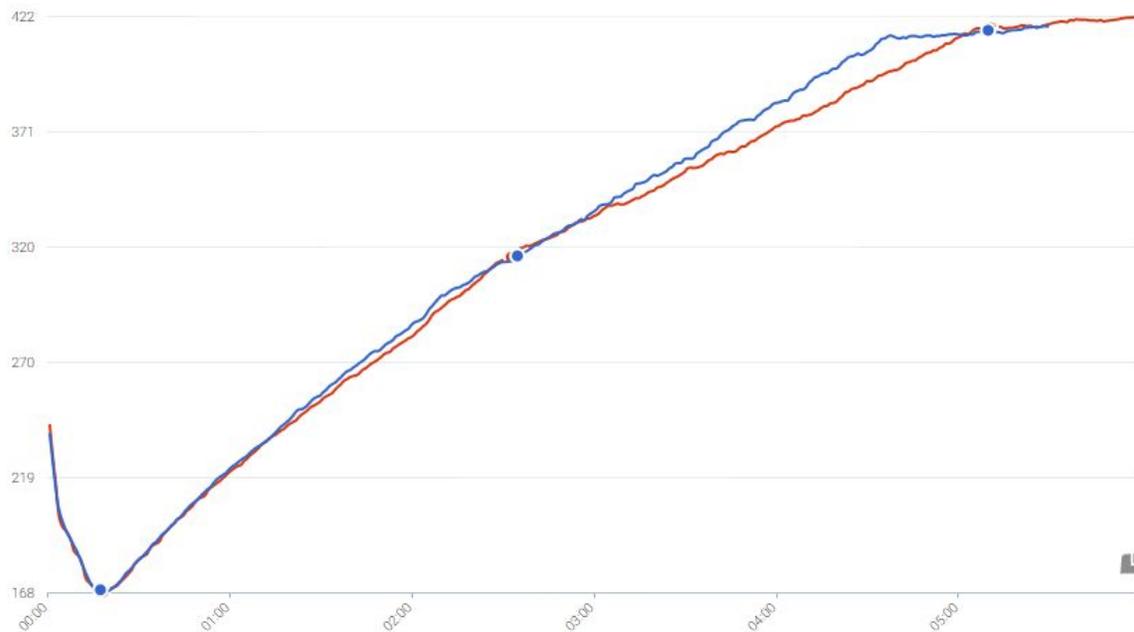
Roast 1: [CKornman Open AF Aug 2018](#)

Roast 2: [CKornman Open Aug 2018 mellow](#)



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Modulation chart



Probatino Analysis by Jen Apodaca

Coffees from Papua New Guinea are so diverse with the varied cultivars available that they can sometimes taste like a classic Kenyan profile and this is one of those coffees. Wanting to bring out the acidity in this coffee, I decided to use a high charge temperature of 390F and to add heat after the turnaround (when the rate of change reaches its peak) to 3 gas. With this much heat I quickly reached yellow and the beginnings of the Maillard reactions. I turned the heat down by a quarter turn to lengthen the roast and push back first crack.

First crack occurred early in the roast at 393.2F which is slightly lower in temperature than average. There was enough momentum to carry the roast through to the end at 405.6F in 1:27 minutes.



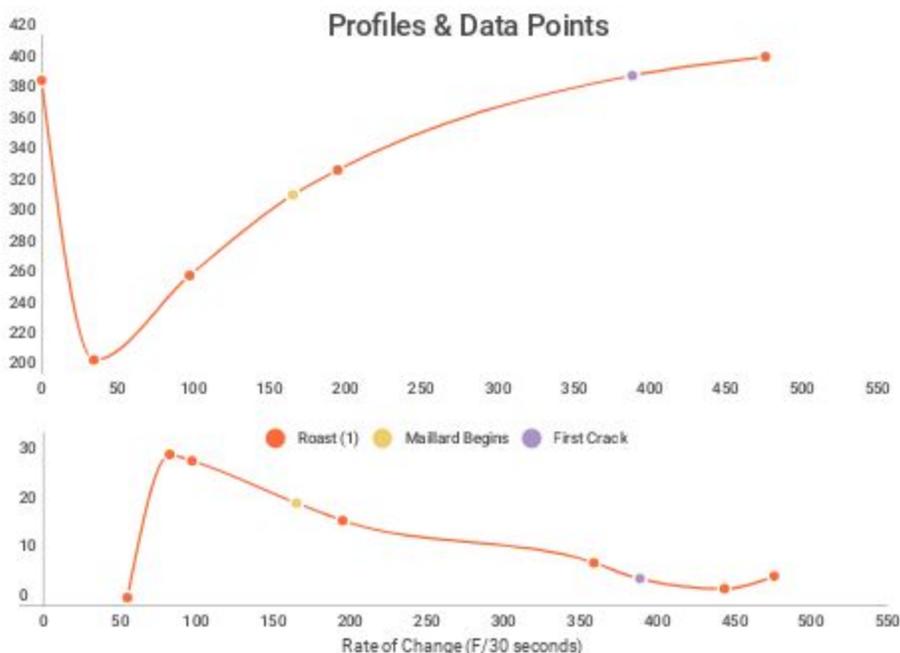
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On the cupping table this coffee was very bright and fruit forward, but also roasty on the backend. If I were to roast this coffee again I would reduce some of the heat up front and extend this roast a little more in the drying stage and the Maillard stage, while reducing the post crack development time and keep the end temperature. In the rate of change chart below you can see a point where the momentum begins to drop well before first crack without any reduction in heat. To increase the time during this stage and keep momentum I would change the gas adjustment I made at 3:15 and perhaps delayed that reduction by a minute or more.

Although this coffee proved to be a touch roasty for my preference, there was no doubt that it produced a lovely classic Kenyan flavor profile of black currant and pink grapefruit with a heavy and syrupy body.

PROBATINO



Probatino Roast (1)

First Crack 6:29 @ 393.2°F End of Roast 7:56 @ 405.6°F
14.75% loss Colortrack 59.9 whole bean sample/ 56.5 ground sample
Tasting notes: blackberry, pink grapefruit, custard apple, juicy





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Quest Analysis by Evan Gilman

For this roast I used two probes: the [TJ36-ICSS-18U-6-SB from Omega](#) for ET (Environmental Temperature) and an [a12031600ux0143 from Uxcell](#) for bean temperature (BT). I also broke out the [Yocto-Thermocouple](#), a small device that relays the information coming from the probes to a computer of your choice. In this case, I used a [Raspberry Pi 3 Model B](#) running [Raspbian Stretch](#). There are some excellent guides to set this system up, which I will detail in a later article!

The ET probe fits perfectly into the top left attachment point of the green bean chute. I removed the nut, and placed the probe most of the way in, but not completely flush. The BT probe screws right into the face of the roaster, directly below the trier.

While not entirely plug-and-play, I was able to get the system working. I placed the two leads in the appropriate ports on the Yocto-Thermocouple chip, opened up [VirtualHub](#) at the default 127.0.0.1:4444 address in my web browser, and was able to see that both of my probes were giving readings by opening up the API. If you want to see a visual representation of these readings, you can get [Yocto-Visualization](#), a free software that works with this setup. One minor point: you'll have to stop VirtualHub with the command 'sudo systemctl stop yvirtualhub.service' if you want to use Yocto-Visualization. Only one of these programs can run at a time.

Onward to [this beautiful coffee from Papua New Guinea!](#)

Happily roasting along (this was my second roast of the day), my thermocouple setup was pleasing me with its responsiveness. I started my roast off with the standard settings: 9A power, back open to stymie airflow, and a charge temperature (as read by the ET probe) of 347F.

This coffee has decently high moisture content, so I thought I would apply heat a bit more vigorously. To that effect, I closed the back of the roaster at 2:35/212F - just about when I began to see steam emanating from the top tube. At 4:30/270F, I increased fan speed to 3 as yellowing began, and I decreased amperage to 7.5A at 6:30/315F. As I move forward I may wait until 340F or later, as I believe adjusting the amperage on the Quest induces a more drastic correction than I knew when using the supplied thermocouple.

At 9:45/365F, I increased fan speed to 6. Crack occurred at 11:15/379F, a bit lower in temperature and later in time than I was expecting. I allowed the coffee to develop for 1:05 and dropped at 12:20/385F. The crack on this coffee was quite soft, and there was nearly no chaff in the back of the roaster afterward. Listen closely for queues!

This coffee turned out splendidly despite the slightly long roast time. As a drip coffee, the Crown crew got almost unanimous notes of brown sugar, lemon, pineapple, and mango. This was a lively and sweet cup, and I probably drank a little too much over the course of the day. Oh well, I didn't lose any sleep over it (or did I..?). This coffee is delicious!



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Brew Analysis by Sandra Loofbourow

The Wahgi Valley coffee from Papua New Guinea really threw me through a loop this week. On the cupping table it offered incredibly clean acidity and an abundance of tropical fruit notes. I was really excited to taste what it would turn into as a brew. I've had great success brewing [coffees from this region](#) on the Clever brewer, so I pulled out my trusty dipper and started brewing.

Using a 1:15 ratio as my starting point, I used 13g of coffee and 200g of brew water to start. I poured the entire brew water dose into the Clever as quickly as possible and gave the solution a quick stir before letting it sit till the 00:45 mark when I stirred again, for 10 seconds. At 1:30 I implemented my last 10 second stir and set the Clever on a carafe to drain, which took about a minute.

This cup had prevalent tropical fruit notes like pineapple, mango, and lychee as well as some heavier flavors like vanilla and cocoa powder. However, overall it was mild and understated, and my fears of under extraction were confirmed by my refractometer which read only 1.28 TDS. Following standard procedure, I tightened the grind by a half notch and brewed the same recipe again. The increased surface area should have resulted in a somewhat higher extraction, but my TDS only went up marginally to 1.29.

Frustrated and unconvinced that the Clever could give me the best results, I turned away from the immersion brewers and looked to my V60 for rescue. Since I was on the hunt for higher extraction, I kept my EK at setting 7.5, finer than my standard setting 8 for V60s. Predictably, this led to a very aggressive extraction, producing flavors of lime, ginger, chocolate, and the pinched or drying feeling indicative of over extraction. Ready to see significant results, I coarsened a full notch to 8.5 on the EK 43 and recreated the previous brew. Here I felt like we were getting somewhere: in the cup I tasted pineapple, peach, date, mango, lime leaf, and brown sugar - the best iteration of this coffee we had tasted so far. Then I took a TDS reading on the refractometer... it read exactly the same as the previous brew! As far as percent extraction and total dissolved solids, this brew, which tasted full, sweet, and balanced, was identical to its predecessor, which had tasted distinctly over extracted and flat.

And so, I have to learn this lesson yet again: the refractometer should be a tool, not a crutch. Our focus should be on cup quality, not target numbers. This Kimel Estate coffee, which cups like a Kenya and has as many fruit notes as a natural, is an excellent reminder that our goal is always deliciousness.

Roast	Method	Grind (EK43)	Dose (g)	H2O (g)	Ratio	Preinfusion (g)	Preinfusion (s)	Time	TDS	Ext %
Quest	Clever	8	13	200	1:15	-	-	2:40	1.28	20.82
Quest	Clever	7.5	13	200	1:15	-	-	2:52	1.29	20.98
Probat	V60	7.5	25	375	1:15	50	30	3:18	1.51	25.60
Probat	V60	8.5	25	375	1:15	50	30	2:55	1.51	25.60



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