

8Dec22

To : **Cubit Sales / TechSupport**

Follow up e-mail to that sent earlier today

a brilliant overall concept > with many possibilities for us

### ***an Immediate sales prospect !***

Main components CH<sub>4</sub>, CO<sub>2</sub> 100ppM to 50% time dependant fermentation over 3 to 4 days per project via a timed event Datalogger (Win PC) type PC

Minor O<sub>2</sub> and H<sub>2</sub> to monitor the process > less important

Hopefully a single purpose lab instrument > with some "field" portability preferable

Maybe something like **Q-Box Research Package** or **RP1LP Q-Box Soil Respiration Package**  
( or to be modified ? you or us on more of a **DIY** basis ?)

later > **Qubit Gas Switching Systems (GSS)** for some

### ***Limitations ?***

your high flow rate required needs a workaround

Cell volume is small fixed ( 250/500cc )

Original customer intention to sample from approx 1cc port on "animal feed digestion fermenter" and analyse by an external GC

Wishful thinking was to also analyse N<sub>2</sub>O at low ppM ( since discarded as being far too complex and only of a minor relevance anyway initially )

some automation eventually to cope with multiple digestors ( 1x set initially, but up to 8 sets eventually )

Limitations ? - Your high flow rate required ? 200-500cc/min) and destructive electrolytic CO<sub>2</sub> cell

Improvisation - with a flow through diluted fermenter gas stream on the cell outlet bringing final concentration(s) more within the range of your CO<sub>2</sub>/CH<sub>4</sub> sensors

A recycling pump to replenish cell gas if / as needed ? Cell gas diluted maybe 100:1 ?

The reaction is obviously temperature / pressure ( ambient ) and time dependant )

Might sound complicated but really simple in principle

Complication fermentation is a dirty process eg to 100% humidity ( water ) but also other VOC slow concentration eg fatty acids etc ( probably need clean up to minimise sensor contamination problems ?

Our customer is quite prepared to start with a simplified setup( as the actual components in the gas are still speculative ) and scale up to semi automated analyser multiple systems

Potential is for Greenhouse Gas type implications

Need a quote for an initial setup plus accessories needed for later scale up maybe even and consequent multiple end users agricultural Field APPs

Dairy Cows and "feed lot" experiments to hopefully reduce GH Gas emissions

Initial lab simulation ( Govt Dept ) with eventual farm APPs in mind depending on trials

Direct sampling from animal breath is obviously fraught with logistics and initial sampling if via "rumen contents " > all a bit hypothetical

Funding has been approved and we have a GC Order in process with our GC OEM supplier but it may be too over-complicated for the end user, and my role is as an **overview consultant**

We may be able to switch that GC Order over to a simpler more viable system from CUBIT

Ideally an initial setup required shipped into Melbourne early in January with later add-on possibilities

ALL still subject to your costing ( program intended ) and feasibility in principle

This Customer ( and myself /Chromalytic Tech ) are quite prepared to a DIY type system if / where feasible preferably from your hopefully (in-) stock components

My role is as primarily a lab Instrument/consumable Distributor in Australia but my background is as an R&D Chemist ( chromatographer )

Your overall **QUBIT** System generally are of much interest to us ( with an established customer base in Australia )

Looking forward to an initial collaboration with CUBIT now ! ( but more-so with many other similar possibilities eventually )

I trust your Company is NOT associated with "CUBITLife" a "Ponzi type" cryptocurrency scam current in quite some notoriety !

I am quite happy to talk through this initial App with your "Tech Support" re the Urgency etc and what you might be able to offer

- call Time dependant of course as Melbourne is 11 hours ahead of Ontario time possibly even tonight (or ASAP) our time depending on your timely response

Of course any extra PDF info on the specifics for this project would be appreciated ASAP

I have briefly browsed your "simplified" Website in response to your e-mail newsletter received earlier today

Most impressive ! and my initial assessment is exactly what I've really been looking for ! ( compared the existing & in place GC Order from our customer ! )

thank you

Your response and from Tech Support will be appreciated !



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