

## INDEPENDENT COMMISSION AGAINST CORRUPTION

**RECORD OF INTERVIEW BETWEEN INVESTIGATOR PAUL GRAINGER AND  
CHIEF INVESTIGATOR TIM FOX OF THE INDEPENDENT COMMISSION  
5 AGAINST CORRUPTION AND MALCOLM ROBERTS AT THE INDEPENDENT  
COMMISSION AGAINST CORRUPTION BUSINESS PREMISES ON 6 MARCH,  
2019.**

**TIME: 9:41AM**

**10 PRESENT: INVESTIGATOR PAUL GRAINGER  
CHIEF INVESTIGATOR TIM FOX  
MALCOLM ROBERTS**

**15 GRAINGER:** This is an electronic record of interview between Paul Grainger and Mr Malcolm Roberts. Today is the 6th of March, 2019, and the time - by my watch - is 9.41am, and we're currently in the ICAC offices in Sydney. Other than myself, there are two other people present, and for voice ID, I'll ask them to state their names. So, you, Malcolm?

**ROBERTS:** Malcolm Roberts.

**20 GRAINGER:** Tim?

**FOX:** Tim Fox.

**25 GRAINGER:** Thank you. Malcolm, there's just a couple of things that I'll adopt – sh told you prior to the commencement. Do you agree that I told you this is a voluntary process? You are under no obligation to take part in this interview?

**ROBERTS:** Yes.

**GRAINGER:** Have you given your consent to have your voice recorded?

**ROBERTS:** Yes.

**30 GRAINGER:** And do you have that I have advised you that this interview will form part of the Commission's evidence holdings and may be used in whatever course of resolution to this matter the Commission decides?

**ROBERTS:** Yes.

**GRAINGER:** That could include a public inquiry.

**ROBERTS:** Yes, that's right.

Sensitive

GRAINGER: And do you agree that I advised you that, under the ICAC Act, it makes it a criminal offence to wilfully make a false or misleading statement to a Commission officer?

ROBERTS: Yes.

5 GRAINGER: So, anything you tell us today has to be true.

ROBERTS: Yes.

GRAINGER: Malcolm, I'll have your full name, please.

ROBERTS: It's Malcolm Derek Roberts.

GRAINGER: Your date of birth?

10 ROBERTS: [REDACTED].

GRAINGER: Contact number?

ROBERTS: [REDACTED].

GRAINGER: And a residential address?

ROBERTS: [REDACTED]

15 GRAINGER: Thank you, Malcolm. So you're totally aware of what the scope of our investigation, and I'll tell you what - I'll read you the -

ROBERTS: Uh-huh.

GRAINGER: - allegation. It is - since 2012, Mr Daryl Maguire - the former member for Wagga Wagga - engaged in conduct that involved a breach of public trust, by using his public office involving his duties as a Member of the New South Wales Parliament, and the use of the parliamentary resources to improperly gain a benefit for himself, a company known as G8way International, and any other associated persons.

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ROBERTS: Mmm.

25 GRAINGER: So, what we want to talk to you today about, Malcolm, is an approach to you by Mr Maguire in relation to some oil extraction technology.

ROBERTS: Yep.

GRAINGER: Just for my background, can you tell me a little bit about your current position.

30 ROBERTS: Well, I'm the CEO of the Australian Petroleum Production and Exploration Association; it's the national peak body representing oil and gas producers in Australia, and the broader industry, so, most of my members - well, nearly all of the oil and gas produced in Australia is produced by my members.

GRAINGER: Mm-hmm. And are you a similar body to New South Wales Mining, as an industry type body?

ROBERTS: We're an industry association like New South Wales Minerals Council; we just represent a different industry.

5 GRAINGER: Okay. And where are you based?

ROBERTS: Canberra.

GRAINGER: Now, I understand that on the 3rd of April, '18, you were contacted by Mr Stephen Galilee?

ROBERTS: That's correct.

10 GRAINGER: And who do you - how do you know Mr Galilee?

ROBERTS: I used to work for Stephen. We both work for the then Minister for Industry, Tourism and Resources the Honourable Ian Macfarlane so, I've known Steve since - or at least 2001.

GRAINGER: OK. So, just going forward, tell us what your recollection's about your contact with Mr Galilee and what -

15 ROBERTS: Uh-huh.

GRAINGER: - happened after those events.

ROBERTS: Well, I hadn't seen Stephen for quite some time, and we met at a function - (COUGHS) excuse me - we met at a function, we made the usual comments, that we really should catch up sometime, and then, I received an email from Steve - that's in the pack here - and sent back a short reply. Nothing much followed after that; we both got caught up with other things. I noticed that he'd mentioned that he had been contacted by Mr Maguire. I hadn't previously heard Mr Maguire, so it was news to me, and Steve had to send me a reminder email later, that I hadn't been back in touch with him, so, I did contact Mr Maguire after that.

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GRAINGER: OK. So, how did you - how did you contact Mr Maguire?

ROBERTS: Oh, I recollect I called him, because Stephen had provided me with his mobile number.

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GRAINGER: OK. Do you recall the conversation with Mr Maguire?

ROBERTS: Not very clearly. You know, it was sometime ago. I said that - I, I - my recollection is that I would've introduced myself as having been advised by, by Steve, that Mr Maguire wanted to have a chat about, about something, some new technology, and I would've said that I'm happy to, to have a conversation with the principals or whoever might be able to do that, and probably would've explained more generally, that, in these occasions, what I would normally do is have a conversation with the, the party, and then probably provide any information that that person wanted to pass to me, to members of mine who may or may not have an interest

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- 5 in that technology. So, from time to time, people will contact me as a shortcut, to trying to connect with people in the oil and gas industry. It might be people just wanting to find a connection in the business. They might want to – you know, it, it seems strange, but they might want to buy an LNG cargo. I've had silly people ring up and, and ask about that, so - and those practices, I normally act as a bit of a buffer between members and, and their -
- GRAINGER: Yes.
- 10 ROBERTS: - enquiring party. I ask for information, which I can then pass to whoever I think might be interested. So, just - more or less - like a conduit.
- GRAINGER: OK. Did you know -
- ROBERTS: Mm-hmm.
- GRAINGER: - of Mr Maguire when you contacted him?
- 15 ROBERTS: No, I had never heard of him actually.
- GRAINGER: Yep. Did you know - do you know what he actually -
- ROBERTS: Oh, well, Stephen's email made it clear that he's a Member of Parliament, and he'd approached Steve, so, that's all I knew about him.
- GRAINGER: OK.
- 20 ROBERTS: I hadn't encountered - I haven't encountered him. I hadn't met him before or heard of him.
- GRAINGER: In the telephone call with Mr Maguire, do you recall whether he indicated to you that he was the - a Member of Parliament or a member of some other organisation?
- 25 ROBERTS: Well, I knew he was a Member of Parliament when I contacted him. That was in the original email from Stephen, and the subsequent follow-up email. So, I, I knew he was a Member of Parliament.
- GRAINGER: Did he indicate to you on the phone whether he was a member of any other organisation?
- 30 ROBERTS: I don't recollect. I think we may - during our face to face conversation in Canberra, he may have mentioned being a, a member of a parliamentary friendship society with China; there was some organisation of that nature - I think - which was mentioned in passing.
- GRAINGER: OK. Anything that was in Canberra -
- 35 ROBERTS: Yes. Yeah.
- GRAINGER: OK.
- ROBERTS: That wasn't -

GRAINGER: Yep.

ROBERTS: - over the phone -

GRAINGER: OK.

ROBERTS: - no.

5 GRAINGER: So just dealing with the phone call, you said that you don't have a great recollection -

ROBERTS: No -

GRAINGER: - of -

ROBERTS: - I -

10 GRAINGER: - what -

ROBERTS: - don't.

GRAINGER: - was discussed. Was there an agreement reached on the phone about something to happen in the future?

15 ROBERTS: Well, I said I was happy to have a conversation with the principal himself. I equally will be happy to pass any information they might think relevant, on to people in the industry who I think could have an interest. So, it was just a general offer to help convey any information to parties who might be interested.

GRAINGER: OK. So, what happened after that?

20 ROBERTS: There was a - as you can see - with the email exchanged, there was a little bit of to-ing and fro-ing about whether there was an opportunity to, to catch up. I don't normally come to Sydney. The industry doesn't have a great deal of activity in the state. So, it also coincided with our conversation, which was a rather busy time, so, I was a bit strapped. I'm

25 not quite sure. I'd have to consult the, the emails, but, it got to a point where Mr Maguire said he was happy to see me in Canberra. I felt a little bit surprised by that, but, he explained that he would be driving home, and he would pop in on the way home for a conversation, so, I said, well, that was fine -

30 GRAINGER: OK.

ROBERTS: - and so, we arranged for the appointment. I've had to consult here, but I think it was late May or was it, 25th or something like that. Yes, the 25th. So, he came to see me at our offices in Civic. We went downstairs to the coffee shop. We had a, a general conversation where he said that

35 he had information around a new enhanced oil recovery technique that had been developed by a Chinese business, and he passed to me a reasonably substantial document, which explained some of that. I said I wasn't a reservoir engineer or anyone with a technical background, so, it didn't mean terribly much to me, but I was happy to pass it to a couple of

40 local companies who might be interested in enhanced oil recovery. I had

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in mind at that time, Santos and Beach, and he had two copies of this presentation; one copy had the branding of the, the company, the Chinese company, and he took me through that. I said I was happy to pass a copy, and he said the second copy was one without the, the identification of the company, and I recollect that's what he provided me, which - at the time - I thought was a little odd, in the sense of - if it was a recognised company in that line of work, it would've been more credible for me to pass that to, to a member company, then, something that wasn't identified, where it came from, or where the technology was.

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GRAINGER:

During the meeting, did Mr Maguire indicate what his interest was?

ROBERTS:

Well, he made a general comment that he knew some of the people concerned, and he'd been told by them that this was a promising new technology that had been trialled in China, and he was just seeking to help them make the right contacts in the Australian industry.

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GRAINGER:

You indicated previously you've actually worked in an administerial office?

ROBERTS:

Yes.

GRAINGER:

Is that state or federal?

ROBERTS:

Federal.

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GRAINGER:

Federal? In your experience, is it the usual course of events, that MPs promote technology by foreign companies?

ROBERTS:

(LAUGHS)

GRAINGER:

(LAUGHS)

ROBERTS:

Well, I can only speak about my -

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GRAINGER:

Experience -

ROBERTS:

- experience -

GRAINGER:

- yep.

ROBERTS:

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- in Canberra over 10 years, working for three ministers. MPs would occasionally be in touch, usually just to find a contact, you know? So, occasionally, you'll have an MP who might say, "I have a constituent who has a problem." and they will not, and usually do anything other than just connect to parties. So, most recently, for example, I've had a federal Member of Parliament - who had a local business - that was struggling to work out where they were going to buy their next supply of gas from, and the company soon contacted me directly, to say that their local of Member of Parliament had suggested they speak to me, whether there was any connections in the industry they should make to seek, whether there are alternative contracts available. So, normally, the - my experience with has been, MPs will perhaps ask for a name, or perhaps direct someone to have a conversation with you; not go quite so far as to

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be presenting themselves with information from another party and normally, they just make the connection.

GRAINGER: So, that caused you some concern?

5 ROBERTS: I thought it was rather unusual, and I felt it was more unusual as well when there seemed to be two copies of the documents, one which took away the branding, and I have to say - perhaps being of a nasty, suspicious nature - my first thought was the only reason why you would pass a document to me without the branding on it was perhaps to make him an agent for this discussion, and funnel the conversation through him - or connection through him; so, I was surprised by that. I normally - I was a little surprised to be having the conversation in the first place, and I was, again, surprised to see that he wasn't suggesting that I circulate the document that had the, the Chinese company's details on it.

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15 GRAINGER: OK. Do you remember the Chinese company's name at all?

ROBERTS: No. No. I thought it started with J - because I only saw the name on the document showed to me during our discussion at the coffee shop, and the, the document that I subsequently circulated - which, ironically, is corrupted in my system; I couldn't open that, so - but that was the one that was without the branding, from recollection -

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GRAINGER: OK.

ROBERTS: - so, so that's my recollection -

GRAINGER: Uh-huh. Well -

ROBERTS: - and unfortunately, I, I, I don't have the document -

25 GRAINGER: Yep.

ROBERTS: - to hand, so, I may, may not be right.

GRAINGER: So, in that meeting, did Mr Maguire ask anything of you?

ROBERTS: Well, his request - really - was, "Could I circulate that document to parties who are within the industry who I thought might be interested in enhanced oil recovery?" and made the usual comments that there are a couple of companies who would be, and that I was happy to pass them, those documents, but, essentially, I said, "I got to do that myself. I wouldn't be passing on other people's names or contacts." Effectively, I would go to a couple of trusted people in those companies, and give them the documents, and they can make their own judgements as to whether they were interested in the conversation about the technology.

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GRAINGER: OK. And did you do that?

ROBERTS: Yes, I did.

GRAINGER: Whom to?

- ROBERTS: Brett Woods. He's a member of the APPEA board, and has significant senior role in Santos, and also to Rob Malinauskas, who was in Beach Energy; both of those businesses have an interest in enhanced oil recovery.
- 5 GRAINGER: And to your knowledge, what happened?
- ROBERTS: Oh, well, Brett passed the document straight on to a chap called Chad Wilson, who I don't know, who operates, was the operator in the Cooper Basin, and I'm not sure if anything followed from that. They had a look at the document. They had an interest. They'd gone to
- 10 Chad Wilson. I don't know if there was any subsequent contact between Santos and any other party. Beach thanked me for providing them with the document, but said they weren't interested, and I went back to Mr Maguire to say that there had been one company that was interested. It's somewhere in an email trail, probably should have had a look at, but certainly
- 15 gave him just a contact email for Chad.
- GRAINGER: OK. So, after that, providing those -
- ROBERTS: Mmm.
- GRAINGER: - contact details, did you have any other further dealings with Mr Maguire?
- 20 ROBERTS: I - no, I didn't hear from him at all and - so, I assumed that either a conversation was being scheduled between Santos and the Chinese company, or they had yet to be done.
- GRAINGER: Uh-huh. And subsequent to that, have you had any feedback from Santos about whether there's any procedures or not?
- 25 ROBERTS: No. But I have mentioned to Santos that I was having the conversation with ICAC, and I also mentioned to Beach so that - I, I assumed that you'd been in touch with them anyway, but I just wanted to close the circle -
- GRAINGER: Sure.
- 30 ROBERTS: - there.
- GRAINGER: Yep. No problems at all. During your conversations with Mr Maguire, did he ever refer to a person as known as Maggie or Maggie Wang?
- ROBERTS: He did refer to - I don't believe he named her in the, in the coffee shop conversation we had. He did say something about knowing of the person who was associated with this technology of this proposal, and he did use a female pronoun, so - I don't believe he mentioned the name.
- 35 GRAINGER: OK. How long did your meeting go for in the coffee shop?
- ROBERTS: Oh, it was about half an hour, actually.
- GRAINGER: OK.

5 ROBERTS: It was a reasonably busy day, and I had - in a way - tried to - in a way - discourage him from making the trip to Canberra by saying I don't have terribly much time, and I'm happy to see you in Sydney when I am, or, or just handle it by email. So, he did pop in; it was about half an hour of conversation, a bit of pleasantries, then, he took me through some of the presentation, but neither he nor I could understand the, the technology, and that was about it, really.

GRAINGER: OK. I've read through the emails you've provided earlier.

ROBERTS: (Coughs) Excuse me.

10 GRAINGER: s -to

ROBERTS: Hmm.

GRAINGER: s - the Commission, and I think, from the version you've given me now is very much aligned with the emails, so I don't propose to go through the emails individually -

15 ROBERTS: OK.

GRAINGER: - now with you, but, I noticed in one of the emails, I think the email to Beach Petroleum. You indicated you were not commissioned -

ROBERTS: Yes.

GRAINGER: Yep.

20 ROBERTS: Yes. I thought you'd -

GRAINGER: Why -

ROBERTS: - raise that. Well, because, it just seems a little odd, really. That wasn't a reference to Mr Maguire; it was to say here (UNDECIPHERABLE) coming to one of my member companies, to say, "Here's a new technology that you might like to consider and possibly use." I didn't want to seem like I was promoting or selling that technology; that I was simply a passive conduit for it to come to them. So, that's why I said, "I'm not on commission." No. It wasn't a reference to Mr Maguire. With subsequent events, and I re-read it, I can see that people might -

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30 GRAINGER: So -

ROBERTS: - conclude that.

GRAINGER: Does it tie in with your - the concerns you spoke about earlier about it, about it being unusual Mr Maguire was doing this?

35 ROBERTS: Well, I'm always a little hesitant to bother my members with approaches from third parties who I don't know whether they're people in other industries or our industries, et cetera I mean, my members are rather busy; they have their own channels to track technology, et cetera. So, I just really wanted to say that this had come to me, I was neutral on the value of it, I wasn't promoting it, I was just making it available to them

so they could form their own judgements, whether they'd have an interest or not. So, I know the (UNDECIPHERABLE) perhaps, sometimes my emails are a little bit flippant.

GRAINGER: Uh-huh.

5      FOX:                      During the coffee shop meeting -

ROBERTS:                  Mmm. Yes Tim.

FOX:                         - you said that he mentioned a parliamentary friendship group.

ROBERTS:                  Something like that.

FOX:                         Can you remember the context of that?

10      ROBERTS:                I think it was probably the context of being familiar with the, the Chinese community, and interested in Chinese business in Australia; so, it's put in - I think it was put in that context. I didn't draw the conclusion from that, that this was something that the, the broader group was involved in or had an interest in; I think he was just using it as an example of his  
15                                interest in, in Chinese - relationship with China and Chinese business in Australia.

FOX:                         So, what was his explanation as to how he came to be making these representations to you?

20      ROBERTS:                Well, it was - it sounded very personal, in the sense of, a list has come to me, and there's this person who's asked me, "Was there anywhere she should go?" or - I'm pretty sure that the female pronoun was used in that conversation, so, it was more, "I've got these connections", or "these people I know", "I'm, I'm participating in a, a parliamentary group that was interested in China", and so forth. I've been approached by this  
25                                person who has this technology, but not quite sure who she should talk to, and so, that she's asked me. I'm just trying to help out. That was pretty much the context. That would've been a little bit more credible to me at the time, I suppose, if the person was there, or there was a direct connection; so, my, my number's available. I would've been half  
30                                expecting to have a call directly, from the principals, rather than talking to Mr Maguire.

GRAINGER:                I'll just initiate a couple of documents -

ROBERTS:                Yep.

35      GRAINGER:                - now, Malcolm, and this one's a document entitled, "EVP: The New EOR Technology by Jun Lun Petroleum Ltd" -

ROBERTS:                Ah, Jun Lun.

GRAINGER:                - and you spoken about being given a copy of a redacted and also a - viewing a full document. I'll just show you that, to have a look.

ROBERTS:                Sure.

- GRAINGER: See if you can identify that one for me, please.
- 5 ROBERTS: I can't identify exact pages, but, this looks the back - this looks the format of the document that I saw in the coffee shop, and because it was a technical document, and I'm not an engineer, I just tried to feign intelligent interest in the technique, and I had a vague recollection, it might have been a bit longer than that, but the name does ring a bell, now that I see it.
- GRAINGER: Now, you said there was another version of this document. Was it in a similar format, do you recall, or was it -
- 10 ROBERTS: Yeah. There was a - if I - again, I'm, I'm hoping I recall this correctly - a sort of clumsy elimination of the branding -
- GRAINGER: So -
- ROBERTS: - on the document.
- GRAINGER: - you're talking about -
- 15 ROBERTS: Sort of covered over - or something or other - like, it was a physical copy where the, the, the name had been covered.
- GRAINGER: OK.
- ROBERTS: Yeah.
- GRAINGER: And did you take that upstairs and scan to distribute do you remember?
- 20 ROBERTS: I think so. I know I circulated a copy of the document - and my recollection is it's a copy of the document without the Jun Lun brand on it, and I had looked in my office, there's no hard copy of the document. I went through my IT system and all - as I said I could find was a PDF that is -
- 25 GRAINGER: Won't open.
- ROBERTS: - corrupted, and so, I tried opening it. It's - I would assume that - or maybe the Santos and Beach IT systems are a bit better, and they have a proper copy of the document in the emails I sent to Rob and to Brett.
- GRAINGER: What I might ask you to do is just send me a copy of the corrupted file.
- 30 ROBERTS: Sure.
- GRAINGER: We may have tools that can -
- ROBERTS: Thank -
- GRAINGER: - open it.
- ROBERTS: - you.
- 35 GRAINGER: - that.

ROBERTS: Yep. I'll hunt that out.

GRAINGER: And if you could do that, it would be appreciated.

ROBERTS: Happy to Paul.

GRAINGER: Have you ever heard of this company Jun Lun -

5 ROBERTS: No.

GRAINGER: - before?

ROBERTS: No, I haven't; which doesn't necessarily mean anything at all, because, if they were technology providers to the industry, but not APPEA members, I wouldn't have encountered them.

10 GRAINGER: OK. All right. Malcolm, I have nothing further to ask you at this point. Tim?

FOX: No, no. Just to clarify (UNDECIPHERABLE)

ROBERTS: Yep.

FOX: - when he called you -

15 ROBERTS: Yes.

FOX: - he offered to come to Canberra?

ROBERTS: Yes.

FOX: And he said that he was on his way home, presumably to Wagga Wagga?

ROBERTS: Well, that's what I assumed -

20 FOX: Yeah.

ROBERTS: - yes.

FOX: And so, what time of the day was it when he came -

ROBERTS: Oh -

FOX: - to -

25 ROBERTS: - it -

FOX: - see -

ROBERTS: - was -

FOX: - you?

ROBERTS: - in the morning.

30 FOX: In the morning.

ROBERTS: It might have been something – in fact

FOX: That's OK.

ROBERTS: - I could check.

FOX: So, it was -

5 ROBERTS: My recollection would be something like 10 o'clock in the morning, or such like –

FOX: Was there a reason why you didn't meet him at your office, but you met him in a coffee shop?

10 ROBERTS: Again, my recollection would be, and the coffee shop's downstairs from - in the same building - downstairs from the office; my recollection is, I did meet him in the coffee shop, rather than take him up to the 10th floor; that's my recollection. It would have just been a courtesy. The fact was, he was a Member of Parliament; he was coming to see me. He had have driven down from Sydney - I assume - that morning, so, I

15 though, well, we might as well just meet in the coffee shop and have a conversation. We conducted a little bit of business in the coffee shop downstairs, so, it wasn't anything other than a courtesy to him.

FOX: OK. OK.

20 ROBERTS: It sometimes helps, if you're in a coffee shop rather than your office, and if you want to - or have to - break off the conversation and go back to your other work, that you sort of – degree of separation. Rather than throwing someone out of your office, you're apologising and going back to work.

25 GRAINGER: Did –you agreeing to meet Mr Maguire, you indicated before that you tried to dissuade him from coming to Canberra as best you could?

30 ROBERTS: I felt - well, I, I really just felt that, that was, how to put it, an imposition. He said – I think he'd suggested, "Well, when are you next in Sydney?" and I made the point, "Well, we don't do very much business in New South Wales, so I don't come to Sydney very often. I would be happy to catch up with you on one of those occasions", but it doesn't happen very often; there was nothing programmed, and that's when he suggested that he could see me in Canberra, and felt there was a little bit of an obligation here - that someone was interrupting their trip home, coming to see me in my office, a Member of Parliament, so, I did feel a

35 little - how can I put it? Well, normally, I would go and see the Member of Parliament rather than a Member of Parliament come and see me.

GRAINGER: Did you - your agreeance to seeing Mr Maguire after all this -

ROBERTS: Yep.

40 GRAINGER: - if Mr Maguire had not been a Member of Parliament -

ROBERTS: Yep.

GRAINGER: - would you have agreed to see him over this issue?

ROBERTS: Probably not. What I probably would have said is, "Well, if you wanted to send me via email or by mail, a document, a presentation, then I'd be happy to forward it to other parties." I, I wouldn't say that would be necessarily always the case. If in a conversation with someone, I always convinced that they understood the indus- that this was a genuine party, in a good - something, possibly, to offer, as opposed to someone just floating an idea or hunting around for an opportunity. I might have agreed to, to have a meeting, but certainly since he was a Member of Parliament, I respect Members of Parliament, of course we'll have a discussion. I think, in my first email - well, not when I've - maybe not my first email, but one of my emails back to him, I had - sort of - indicated that I was quite happy to meet the principals, and I was happy to meet directly with the people who had the technology, and that's what I would normally have assumed would have happened - that I would have seen the people who, who had the technology, had the command of the technique, and under those circumstances, I would have - again - just been like the, the butter between the, the party that's trying to interest people in the product, and my members who I don't wish to bother with frivolous enquiries.

GRAINGER: OK. Malcolm, I have nothing further to ask you. Thank you for taking the time -

ROBERTS: Oh.

GRAINGER: - to talk -

ROBERTS: Not -

GRAINGER: - to -

ROBERTS: - at -

GRAINGER: - us -

ROBERTS: - all -

GRAINGER: - today.

ROBERTS: - Paul. I'm sorry about the delay in getting - come, come up to Sydney and see you, but -

GRAINGER: No -

ROBERTS: - I -

GRAINGER: - probs.

ROBERTS: - don't come to Sydney very often.

GRAINGER: No problems. If you could look for that -

ROBERTS: Yes, I -

GRAINGER: - corrupted -

ROBERTS: - will.

GRAINGER: - file and send it to me, that would be appreciated.

ROBERTS: Absolutely.

5 GRAINGER: I'll just finalise the interview now. Malcolm, do you have any complaints about the way we conducted the interview today?

ROBERTS: None at all.

GRAINGER: Thank you. Malcolm, the time is now 10.09am, and I'll finalise this.

ROBERTS: Thank you.

10 (INTERVIEW CONCLUDED)



# EVP

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君伦石油



# Catalog

- 1 EVP technical overview**
- 2 EVP technical advantages**
- 3 Heavy oil exploration example**
- 4 Conventional oil tertiary process example**



# 1. EVP Technical Overview

JUNLUN PETROLEUM CO., LIMITED is a technology engineering company engaged in oil exploration & production, with oil & gas technical services and particularly committed to tertiary oil recovery, heavy oil development.

JUNLUN has developed a new type of highly efficient alkali-free oil displacement system in EOR field called EVP(Enhanced Viscosity Program) technology, with many patents, It can be used for both conventional and unconventional oilfields.EVP can greatly increase crude oil production(enhanced oil recovery around 30%), significantly reduce developing costs (conventional heavy oil cost around \$ 20 under normal conditions).

EVP combines both advantages of conventional polymers and surfactants. EVP can not only improve displacing fluid viscosity, increase reservoir swept volume, but also have emulsion, visbreaking and oil-lifting capabilities, so it can further exploit the remaining crude oil which cannot be exploited by polymer flooding, which effectively solves the problems which exist in SP & ASP displacement techniques.

EVP has exceeded conventional polymer flooding in EOR capability, and also ASP flooding in EOR degree and viscosity reduction, etc. EVP has proven its efficacy in conventional oil, heavy oil, high pour point crude, low permeability reservoir.



## 2. EVP Technical Advantages

### Main process technology of EVP and its displacement screening criteria

#### Main process technology of EVP

Viscosity <10000 cp,  
EVP Flooding, Non-thermal Process  
Viscosity 10000 cp~50000 cp,  
Hot Water-EVP Stimulation  
(EVP + 100°C~120°C hot water )  
Viscosity >50000 cp,  
EVP+Steam Stimulation, This  
method can substantially reduce  
steam inject volume, prolong  
production period, improve oil  
recovery, and reduce production cost.

#### EVP displacement screening criteria

Reservoir conditions suitable for EVP flooding

Screening items		Suitable conditions	Optimal conditions
Crude physical property	Viscosity (mPa.s) *	<1000000	<6000
	Density (g/cm)	---	---
	Acidity (mg.KOH/g)	---	---
Formation water	Salinity (mg/L)	$\leq 25 \times 10^4$	$\leq 5 \times 10^4$
	Ca+Mg (mg/L)	$\leq 5 \times 10^4$	$\leq 0.5 \times 10^4$
Reservoir	Depth (m)	<6000	<2500
	Thickness (m)	---	---
	Temperature (°C)	$\leq 130$	$\leq 90$
	Permeability (10 $\mu$ m)	$\geq 18$	>40
	Porosity (%)	$\geq 3$	$\geq 10$
	Lithology	Limestone, sandstone	Sandstone
Others	Favorable factors	Low clay content	
	Unfavorable factors	Fractures, bottom water	



## 2. EVP Technical Advantages

- Wide Application, Good Customization Capability

EVP can be adapted to all types of crude oil, various development approaches, and reservoirs in different development stages. It can further exploit the remaining crude oil which can not be exploited successfully by surfactant flooding and polymer flooding.

EVP components can be regulated in accordance with reservoir characteristics. Junlun can customize various EVP products to suit the activity and viscosity of reservoir.

- Significantly Enhance Oil Recovery

EVP flooding can both greatly improve flushing efficiency and expand swept volume to dramatically improve oil recovery. The total recovery of EVP flooding can be respectively increased by over 30% and 10% compared with water flooding and conventional polymer flooding at the same cost.



- **High Salt Tolerance, Thermal Stability, Biodegradation Resistance, Oxidation Resistance and Shearing Resistance Capabilities**

EVP solution could be prepared by various water resources, such as salt water with high salinity(TDS 250,000ppm), seawater, as well as the treated sewage in oil production, which can reduce the chemical preparation cost.

Salinity: TDS 250,000 ppm Temp.: >120°C heat stability: aging for 180 days at 120°C, stable performance

- **Production Liquid Easy to Be Demulsified, and Produced Fluid Sewage Easy to Be Treated**

Oil and water are easy to be separated without increasing the cost of demulsification. The produced sewage could be injected again or used for EVP solution preparation. The produced fluid from ASP flooding is emulsified severely and oil/water can be difficult to be separated. The costs of demulsification and sewage treatment are much higher than EVP flooding.

- **Scale-free**

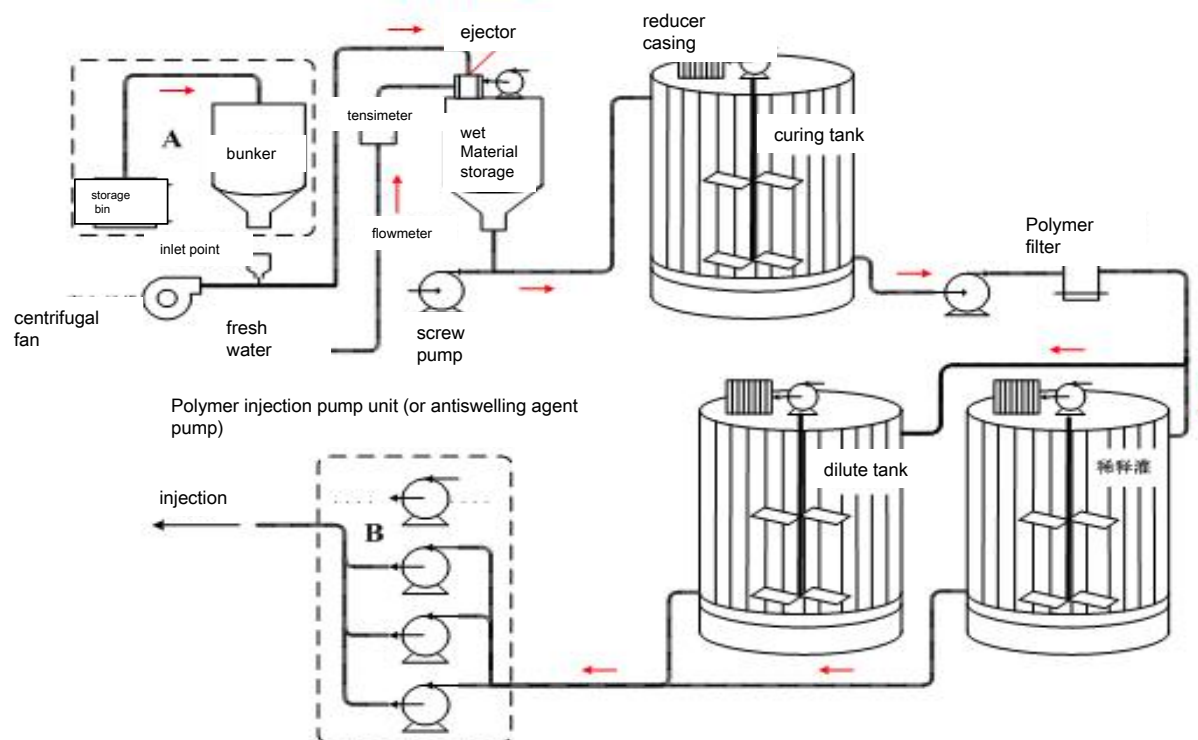
EVP will neither scale in wellbore and formation, nor block the reservoir pores, thus not reduce the injection capability and fluid production capacity of reservoir. Downhole tools are not to be scaled, which results in longer pump inspection period, less oil well maintenance workload, and lower management costs.

- **Simple Chemical Preparation Process, Simple Injection Facilities and Process, Easy to Operate and Manage**

ASP preparation and injection need lots of tanks to store Alkali, Surfactant and Polymer, and the strong alkali will corrode tanks, pipelines and injection facilities; EVP is a sole chemical agent, only needing a set of facility for its preparation and injection. So its costs for facilities purchase, operation and maintenance are lower than ASP(or AS) system.

- EVP has formed 5 sets of perfect process technology system, including injection-production , oil and water separation, sewage treatment , sewage re-injection process technology.EVP meets the requirements of large-scale applications.

EVP injection distribution system chart





### 3. Heavy oil exploration Example

#### Heavy oil -----He 4 Block of Zhongyuan oilfield, Sinopec

Oil-bearing area: 0.195 km<sup>2</sup>

Effective thickness: 8.03m

Geological reserves: 197,713 tons

Well spacing: 100m

Viscosity: 238.1-302.7 mPa.s at 50°C, 1183 mPa.s at reservoir temperature

Density: 0.9187-0.9225 g/cm<sup>3</sup>

Parameters	Before EVP Flooding	After EVP Flooding
Single Well Production (m <sup>3</sup> /d)	0.1-0.5	6.29-12.58
Daily Block Production (m <sup>3</sup> /d)	8	Maximum 52.0
		General 28.0 -30.0
Recovery Ratio (%)	5-10±	>40%

Before EVP injection, the monthly oil production was 373.59 m<sup>3</sup>; after EVP injection (from August 20, 2011), it reached the peak production of 1080 m<sup>3</sup> in October, 2011. Since then, it long maintained at 800-900 m<sup>3</sup>. As of the end of 2012, the cumulative oil production was 9183.1 m<sup>3</sup>, increased oil production was 108.7 m<sup>3</sup> by EVP per ton.



### 3. Heavy oil exploration Example

#### Super Heavy oil-----Huan 60--35-353 well of Liaohe oilfield,CNPC

Lithology: sandstone, Crude viscosity at reservoir temperature: 651702mPa·s at 30.3°C,  
Density: 0.984g/cm<sup>3</sup> at 20°C; Colloid+asphaltene content: 31.2% ; Wax: 5.3%

Oil Layer Data Sheet of HUAN 60-35-353 Perforation Interval

No.	Perforated interval (m)		Thickness (m)	Porosity (%)	Permeability (10 <sup>-3</sup> μm <sup>2</sup> )	Oil Saturation (%)	Shale Content %	Conclusion
	Top Depth	Bottom Depth						
16	722.6	726.6	4	21.4	436.4	54.2	1.7	Heavy Oil layer
17	727.1	728.3	1.2	25.7	833.8	37.3	2.1	Heavy Oil layer
19	730.6	738.1	7.5	23.4	691.1	56.4	1.6	Heavy Oil layer

Comparison table of main indicators of each cycle (Production increased significantly)

Process Comparion	EVP Injection Parameters		Steam Injection Parameters		Production situation			Oil/gas ratio
	Solution vol.(m <sup>3</sup> )	EVP volume (t)	Steam Inj. vol.(t)	Steam Inj. Intensity (t/m)	Production days	Oil Production (t)	Water Yield (m <sup>3</sup> )	
I cycle Steam stimulation			1210	95.3	57	117.1	380.8	0.097
II cycle Steam stimulation			1344	105.8	179	184.6	702.4	0.137
I cycle Steam+EVP stimulation	516.7	1.219	1030	81.1	193	315.4	600.5	0.306
II cycle Steam+EVP stimulation	417.1	0.914	1556	122.5	97 (on producing)	407.5	705.4	0.262



### 3. Heavy oil exploration Example

#### Super Heavy oil-----Huan 60--35-353 well of Liaohe oilfield,CNPC

Obviously, the main production indicators of steam stimulation in 1<sup>st</sup> and 2<sup>nd</sup> cycle were not good, the oil/gas ratio and water recovery rate were low, which result in a large amount of condensed water detented in the reservoir, also this will significantly reduce the thermal efficiency and stimulation effect in the follow-up period.

In I cycle Steam+EVP stimulation, EVP solution was injected for 516.7m<sup>3</sup> with usage EVP powder for 1.219 tons. The accumulated production period of this cycle was **193 days**. The accumulated oil production was **315.4 tons**, if deduct 154.6 tons that is the effect of steam injection, the increased oil volume of EVP is 160.8 tons, that is **131.9 tons** crude increased by EVP per ton. The economic benefit improved significantly.

In II cycle Steam+EVP stimulation, Based on a comprehensive study of the reservoir, EVP solution was injected for 417.1m<sup>3</sup> with usage EVP powder for 0.914 tons. The accumulated production period of this cycle is **97 days**(still on producing now). The accumulated oil production was **407.5 tons**, if deduct 233.6 tons that is the effect of steam injection, the increased oil volume of EVP is 173.9 tons under the condition that the cycle evaluation has not ended, that is **190.3 tons** crude increased by EVP per ton. The economic benefit continued to improve.

**Conclusion:** The Steam+EVP stimulation technology has a strong displacement capability, EVP can strongly strip, viscosity break, emulsify the crude oil in the super-heavy oil reservoirs horizontally and vertically, which can greatly improve the stimulation effect, significantly increase the oil production and prolong the production cycle, the tons cost of the crude oil is significantly reduced.

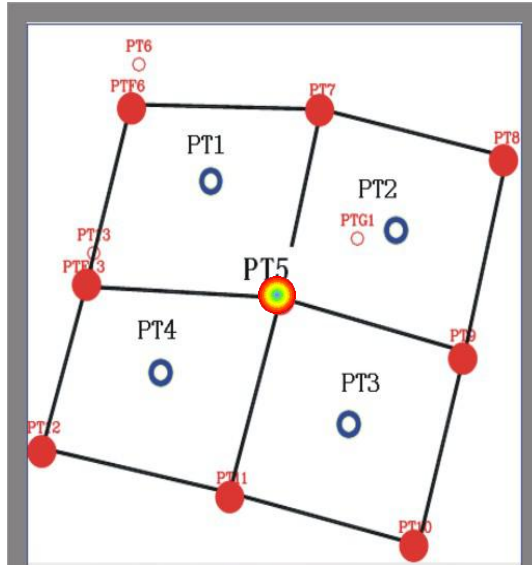
Daily oil production curves of each production cycle





## 4. Conventional oil tertiary process example

### Conventional oil tertiary process-----Daqing Oil Field of CNPC



Well Location in Pilot Area

Crude Oil Density: 0.8674 g/cm<sup>3</sup>  
Crude Oil Viscosity: 25 mPa.s

Unit SI4+5b

Unit SI1

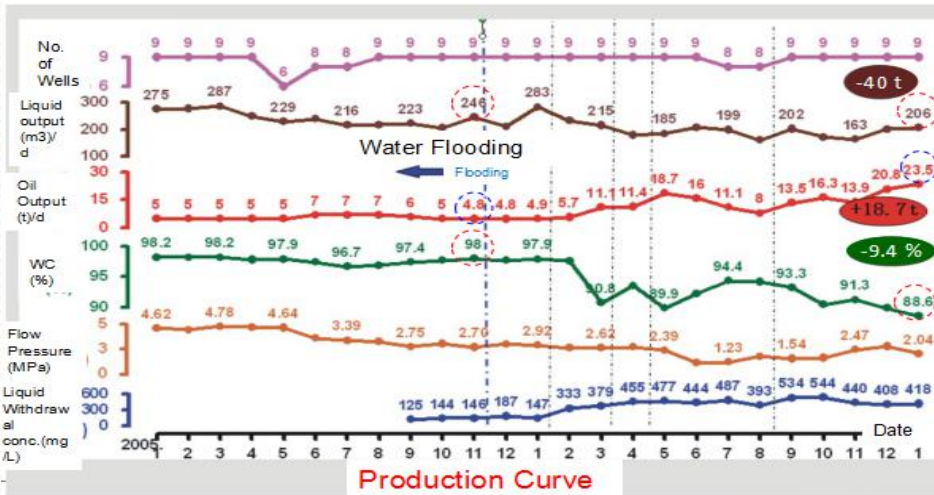
Items	Pilot Area	Central Well
Area (km <sup>2</sup> )	0.089	0.022
No. of well	13(9+4)	1
Well distance (m)	106	106
Pore volume (* 10 <sup>4</sup> m <sup>3</sup> )	23.88	4.16

Note:

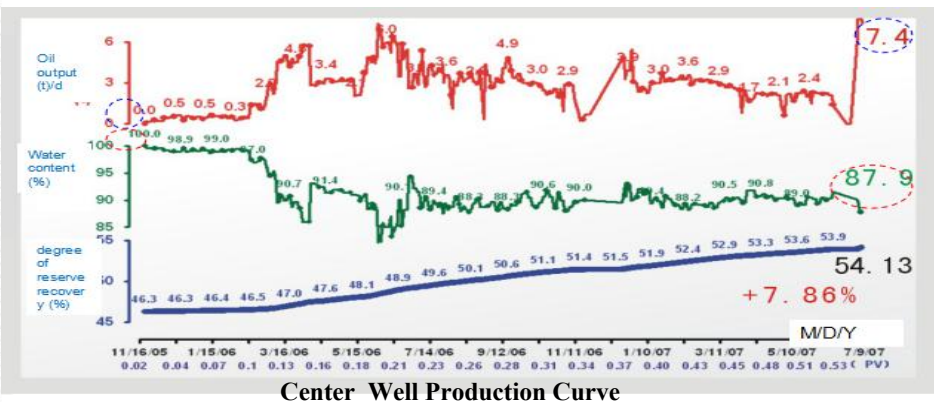
1. Second and third type of layers of Daqing Oilfield refer to those which have lower permeability and more difference of individual zones than the first type of layer.
2. Between 1999 - May of 2005, cumulative water injection was 2.216PV, cumulative oil production was 735 tons, periodical oil recovery is 3.8%, the water cut for center well was 98%.
3. Starting from Nov 2005, EVP chemical flooding was introduced and produced exceptional result.



## 4. Conventional oil tertiary process example



For second and third type of layers of Sa I, EVP injection led in more production and lower water cut under the limit water content.



In the west part of central section, water cut of center well is 100% before test. After 19-month test, WC decreased to 87.9%, daily oil production increased from 0 to 7.4t/d, period recovery factor increased by 7.86%.