

A Chilean water well driller helped and monitored the drilling of this well as the in order to further educate Suma Jayma and ensure a great well as they get the hang of their using the new water well drilling rig. Topographical maps, drawings and more detailed information available upon request. This is the second well drilled.

**REPORT ON THE DRILLING OF THE WELL
CAMINO A LAJA CITY OF EL ALTO**

1. How many bags of bentonite were used in the Project to prepare the “mud”?

Three “muds” were prepared during the drilling as detailed below:

Nº	D E T A I L	C/BENTONITE	C/ADDITIVE
1	The first day we used 3.5 bags of bentonite, 1 kilo of ezmud, 1 kilo of Quit Gold Trol for the first well and 2.5 bags of bentonite, 1 kilo of Quit Gold Trol, 1 kilo of Ezmud for the second well.	6 bags of bentonite	2 Kg Ezmud 2 Kg Quit Gold Trol
2	In the second preparation for the first well 2.5 bags of bentonite, 1 kg of Ezmud and for the second well 2 bags of bentonite, 1 kg of Ezmud. The viscosity decreased after drilling, the next day we increased 1 kg of Ezmud	4.5 bags of bentonite	3 kg Ezmud
3	Finally, we changed in one well 3.5 bags of bentonite, 2,5 kg of Ezmud	3.5 bags of bentonita	2.5 kg Ezmud
TOTAL BENTONITE		14 BAGS BENTONITE	
TOTAL EZMUD		7,5 Kg. OF EZMUD	
TOTAL N-SEAL		2 Kg. Quit Gold Trol	

Note- The first preparation of “mud” allowed us to drill to 40 meters depth where the percentage of sand in the “mud” increased and the viscosity decreased. Later we prepared a second batch where we had to again change the “mud” because the sand percentage wwas high but we continued drilling to a depth of 52 meters. Finally, we prepared the third batch which allowed us to finish at 61.5 meters deep.

2. Viscosity of the “mud”

Nº	D E T A I L	TOTAL VISCOSITY
1	In the first batch of “mud” with the bentonite we reached 33 seconds and with 1 kg of ezmud 62 seconds.	62 seconds
2	In the second batch, with the bentonite we reached 38 seconds and with 1 kg of ezmud 68 seconds. But with the drilling the viscosity decreased to 41 with a high sand content.	68 seconds

3	<p>With the third batch, with the bentonite we reached 42 seconds and with 1 kg of Ezmud 77 seconds.</p> <p>Our problem was we could not expel the cores and we increased the Ezmud by 1.5 kg to be able to expel. We increased the motor's acceleration which allowed us to expel the cores allowing us to proceed with the drilling.</p>	77 seconds
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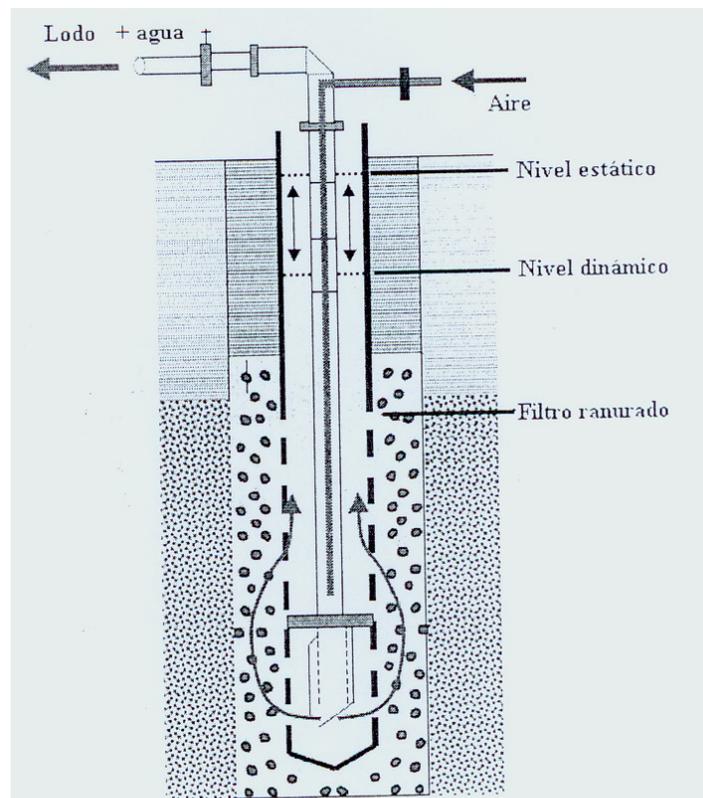
Note- We made three “mud” batches because the ground was very hard. According to Enrique the technician from SmarDrill, the mixtures must be changed depending on the amount of sand or very low viscosity. It was a good learning experience drilling in El Alto where the ground has a lot of sand and gravel.

3. Diagram showing the meters of gravel around the sieve, cement cap from the top to what depth so that surface water cannot get in, freatic cap or how deep did you find water?

See attached diagram of the well.

4. Work Days

Drilling began on Saturday March 29 and was completed on Wednesday April 2nd. Thursday the well was cleaned with the compressor.



Total drilling days = 5

Total well cleaning days = 1

Total days drilling and cleaning = 6

5. Bing or Google map showing well location

Upon request

6. What did you learn from the technician from Chile? Were you satisfied? What more do you want to learn?

Enrique showed us how the “mud” works and how to prepare it

We need a 100 liter tub for “mud” mixing

We need to clean the tub very well to ensure a good reaction from the bentonite

Use water with a pH of 8.5—9.5 to ensure a good reaction from the bentonite.

First we put the water in the tub using the “mud” mixer then add the bentonite reaching a viscosity of +/- 30-40 seconds then mix the additives such as Quit Gold Trol and finally the Ezmud. The Ezmud must always be added last because the additives will not react properly otherwise.

It was very good for Suma Jayma to have Enrique because he is a very calm person, a hard worker and very professional in the mixing of the “mud”. He showed us some of his experience with drill rigs. All of us in Suma Jayma greatly appreciate having had Enrique for our training in “mud” preparation. This would not have been possible without WEFTA’s great help in purchasing the bentonite and additives. Thanks to everyone at WEFTA and to Enrique at SmarDrill.

7. Experience drilling

We had no problems with the drilling rig

Everything came out as we had planned, we are satisfied with the bentonite from the US whose quality is much higher than that of Bolivia.

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