Salt Waste Monetization

Challenge:

- ARA E&P currently produce 600 and 800 m3/d of wastewater which is then evaporated in evaporation ponds in QAM site.
- ARA realized that there was a need to study different sustainable techniques that can generate revenue out of monetizing wasted salts.
- Needed an adequate research to understand how to make this salt as a dry powder product, which can be used as drilling fluid.

Objectives:

- Investigate solidification and stabilization methods for salt waste from QAM evaporation ponds.
- Modify the salt's crystal structure using chemical and thermal processes for improved usability.

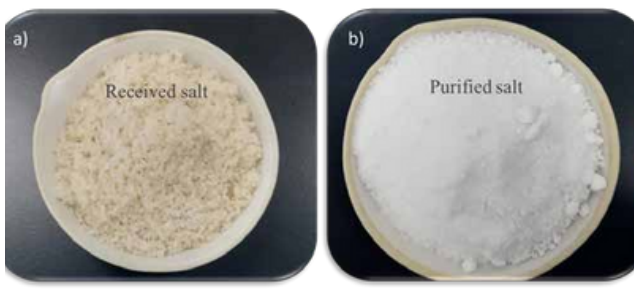
Insights:

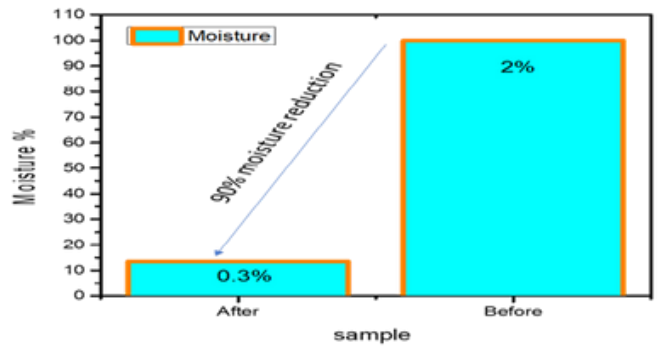
As received Salt

S NO.	Weight of watch glass in g	Weight of salt before in g	Weight of salt after	Moisture
1	19.3	10.055	9.985	1.14%
2	19.5	10	9.775	2.25%
3	21.16	10.075	9.88	1.94%
4	19.645	10.04	9.86	1.89%
5	19.575	10.005	9.815	1.95%
6	21.085	10.1	9.965	1.49%
7	21.435	10.03	9.885	1.65%

Thermal Treatment Salt with cellulose

Salt Type	Weight of watch glass in g	Weight of salt before in g	Weight of salt after	Moisture
AW	20.86	7.43	7.41	0.27%
AB	20.855	7.505	7.48	0.60%
PW	18.885	8.645	8.625	0.58%
PB	19.575	8.67	8.655	0.46%





Impact:

- Contribute towards achieving Oman Vision 2040.
- Improving environmental sustainability, by recycling industrial waste into new products.

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