

GLOSSARY

Brine/geofluid

Water containing dissolved inorganic salts, mainly sodium chloride. Brine from Innamincka granite has salinity 2/3 of sea water.

Casing

Large-diameter steel pipe with threaded connections lowered into an open hole to line the wall of the well and cemented in place to provide structural integrity.

Commissioning – cold

Cold commissioning is testing all components and systems prior to brine flowing through the plant.

Commissioning - hot

Hot commissioning is the final stage of commissioning and involves flowing hot brine through the plant in a series of test runs to demonstrate that the plant meets its operational specifications including the operation of all plant protective systems and devices.

Completion

The assembly of downhole tubulars and equipment required to enable safe and efficient production from a geothermal well.

Dissolved gases

Our granite brine contains mainly carbon dioxide, methane, and nitrogen with small amounts of hydrogen sulphide.

Doublet

The injection and production wells used in a circulation test.

Drill pipe (string)

Drill pipe is hollow, thick-walled, steel tubing used for the drilling of a wellbore and comes in a wide range of sizes, strengths and weights. Drill pipes are hollow to enable drilling fluids to be pumped through them down into the hole and back up the annulus.

Drilling mud

Provides lubrication and cooling at the drill bit and carries the cuttings back to surface. Its high density holds back overpressures in fractures during drilling.

Heat exchanger

Plant equipment used to take heat from one fluid and transfer it to a secondary fluid such as demineralised water.

High pressure pipeline

Special grade high strength pipe to suit high pressure and temperature brine circulation from production well to re-injection well.

Hydraulic stimulation

In the sense of EGS development, a treatment involving the action of fluid pressure on existing natural fractures to enhance fluid pathways in the granite. It is achieved by pumping water down a well at high pressure.

Hydrogen embrittlement

Cracking of the casing material due to dissolved gases reacting with the high strength steel casing material thereby releasing free hydrogen, which in turn is absorbed by the steel casing materials in the low temperature zone of the well under shut-in conditions.

Managed pressure drilling

Using a combination of heavy weight drilling fluid and back pressure to drill through overpressured fractures and maintain desired bottom hole pressures.

Multi-fracture drilling

Drilling through multiple-overpressured fractures which is challenging if the overpressures are high.

Permeable

A rock property pertaining to the transmission of fluid through well-connected fractures or pores.

Porosity

The space within a rock that contains a fluid such as water, oil or gas.

Re-injection pump

Multi stage centrifugal pump to pump brine back to hot granite structure.

Reserve

A measured resource for which commercial production can be forecast with some confidence with existing technology and prevailing market conditions.

Reservoir/Underground heat exchanger

A particular subsurface body of rock having sufficient porosity and permeability to store and transmit fluids.

Resource

An area/volume of rock that has demonstrated character or dimensions to indicate that a body of thermal energy exists. Commerciality not yet established.

Sidetrack

A well or borehole that runs to one side of the original wellbore or line of drilling. It is possible to have multiple sidetracks away from an original hole, each of which might be drilled to a different subsurface location and/or for a different reason. A sidetracking operation may be done intentionally or may occur accidentally. An intentional sidetrack might bypass an unusable section of the original wellbore or explore a deeper geologic feature.

Stibnite

A mineral composed of antimony and sulphur derived from small quantities of these substances in the reservoir fluid.

Stimulation

See Hydraulic stimulation.

Well head

The surface termination of a well bore that incorporates facilities for installing casing hangers during the well construction phase.