

Cesium Formate Brines History Timeline

1929	Jack Nutt Mines commenced exploitation of pegmatite deposits in the Bernic Lake area of Canada.
1957	Pollucite is identified in core cut on behalf of the American Metal Company, Limited.
1960	2,500 tons of pollucite is mined.
1967	After the mines have been abandoned for six years, Chemalloy begins to evaluate the potential for tantalum.
1969	Tantalum production commenced and pollucite shipments began to Russia.
1970	Chemalloy Minerals acquired 100% ownership of TANCO.
1974	The mine focused on lithium carbonate. Kawecki Berylco Industries buys Tantalum Mining Corporation.
1980	Kawecki Berlyco Industries changes its name to Cabot Berlyco Inc.
1980	Cabot Berlyco Inc. amalgamates with Cabot Corporation. Tantalum operations were stopped and the mine is placed on care and maintenance watch.
1985	Shell researchers in Sittingbourne (UK) discover that concentrated solutions of formate salts can enhance the thermal stability of drilling fluid polymers.
1986	Shell files a patent claiming that soluble formate salts exert a stabilizing effect on water-soluble polymers at high temperatures.
1988	Tantalum operations re-commenced.
1990	John Downs in Shell Rijswijk (the Netherlands) begins to experiment with cesium formate sourced from Chemetall and Cabot Corporation.
1992	International Drilling Fluids introduces the first formate drilling fluids system, IDSALT F, after laboratory work conducted at ID's St. Austell Research Centre.
1993	Cabot Corporation of Boston buys a 100% stake in Tantalum Mining Corporation. At an SPE conference in New Orleans, Shell makes first public disclosure on properties and potential benefits of cesium formate brines for HPHT applications. John Downs visits Cabot at its headquarters in Boston and TANCO to discuss availability.
1995	Schlumberger Dowell Fluids (previously IDF) proposes cesium formate as the best technical solution for the reservoir sections of the Marnock HPHT gas condensate field. The Formate Brine Company (Forbrico) is formed and attempts to secure exclusive supply from Cabot, but Cabot decided to go it alone.
1996	Construction of the cesium formate chemical plant commences. Cabot Specialty Fluids Inc. is established in Houston, Texas.
1997	Cabot Specialty Fluids North Sea Limited is set up in Aberdeen, Scotland.
1998	Cabot Specialty Fluids establishes bulk brine handling facilities in Aberdeen and begins to receive the first production from Canada.
1999	First small field trial of cesium formate by Shell Expro in September on the Shearwater field in the UK sector of the North Sea. First major completion fluid application on an extended reach HPHT well in TOTAL's Dunbar field, also in the North Sea by the United Kingdom. Later in November 1999, cesium formate is chosen by ELF (now amalgamated with TOTAL) for a series of completion and workover operations in the Elgin Field — the most extreme HPHT field found so far in the North Sea.

2000	Cabot Specialty Fluids North Sea Ltd. establishes a base in Bergen, Norway and the fluid is used for the first time to drill the reservoir section of an HPHT well in Statoil's Huldra field.
2001	Norsk Hydro becomes the first operator to use cesium formate as a low-solids weighted oil, in the Visund field. It is the first application of the fluid in a field with sub-sea wellheads. BP uses cesium formate in the Devenick field in the UK Central North Sea and becomes the second operator to use the fluid for drilling.
2002	First use in the Gulf of Mexico on the Ocean Spur rig on BP's High Island A5 well, this time as a coiled tubing intervention fluid.
2003	Marathon becomes the fifth UK operator to use the fluid, this time in its Braemar field. A major milestone is reached as Cabot Specialty Fluids starts its 50th job. This job is with Statoil on the Kristin field, the most extreme HPHT field yet to be developed using sub-sea wellheads. Low-solids cesium-weighted oil is also used as completion fluid in Visund, Statfjord, Njord and Gullfaks.
2004	This year saw the first use of the fluid in the Danish sector of the North Sea by the state-owned operator D.O.N.G. on a well in the South Arne field.
2005	Second application in the GoM by Walter Oil & Gas as a completion fluid in their Mobile Areas 682 well. July also saw ConocoPhillips join the list of UK users with a HPHT completion in the Judy field. In October, Cabot Specialty Fluids's 100th job saw cesium formate used for the first time in a land application as MOL, the Hungarian state-owned oil-company, used it to complete a HPHT gas well.
2006	Cesium formate was used by Statoil to drill and test the longest HPHT well yet drilled on the Norwegian continental shelf for the Valemon prospect. This year also saw the first use of cesium formate in Argentina through Petrobras, including a drilling application in the El Campamento field.
2007	Cabot Specialty Fluids provided completion fluids for the Canadian independent TXM's Mako-6 well in Hungary. It claims the record as the highest temperature use of cesium formate to date — 235°C/455°F. This year also saw another significant breakthrough with the first job in Asia with three offshore completions for ExxonMobil in the Tapis field, Malaysia.
2008	Thirty jobs were completed in 14 HPHT fields located in six countries. Highlights include six well completions in the Kashagan field, Kazakhstan, including Cabot Specialty Fluids's 200th job, and the first deployment of cesium formate as a designer fluid for managed-pressure drilling in Statoil's Kvitebjørn field.
2009	The first drill-stem test operation using cesium formate in a HPHT gas well is completed in Total's Victoria field in the North Sea at reservoir temperatures of 200°C. This is one of 30 operations this year, including a further nine HPHT completions and workovers in Kashagan and operations for Total in Jura, Kessog, Elgin and Victoria.