



GENERAL DESCRIPTION OF GILSONITE IN OIL DRILLING FLUID SYSTEMS

GILSONITE COMPONENT APPEARS TO BE PARTICULARLY IMPORTANT TO CONTROL FLUID LOSS AS FLC AND TO ACT AS A SHALE INHIBITOR. THIS COMPONENT BY ITSELF WOULD TEND TO CAUSE AN INCREASE IN FLUID VISCOSITY BUT THIS IS EFFECTIVELY DEALT WITH BY THE OTHER COMPONENTS WHICH MAKE UP THE ADDITIVE OF THE INVENTION.

THE GILSONITE CONTAINING FILTRATE LOSS CONTROL FLUIDS AND CHEMICAL DRILLING MUD ADDITIVES, NAMELY, CONTAINING FILTRATE LOSS CONTROL FLUIDS FOR USE IN THE OIL AND GAS WELL DRILLING INDUSTRY.

AS INDICATED EARLIER, THE ADDITIVE OF THE INVENTION COMPRISES THE PRODUCT OBTAINED BY REACTING TOGETHER IN THE PRESENCE OF WATER, QUEBRACHO, LIGNITE, GILSONITE, SODIUM SULFITE, PARAFORMALDEHYDE AND SODIUM HYDROXIDE. EACH OF THE INDICATED COMPONENTS IS ESSENTIAL TO OBTAIN OPTIMUM RESULTS ACCORDING TO THE INVENTION.

THE REACTION CONDITIONS USED TO MAKE THE PRODUCT OF THE INVENTION CAN BE FAIRLY WIDELY VARIED. USUALLY, HOWEVER, THE PRODUCT IS PREPARED BY HEATING THE INDICATED COMPONENTS IN A SEALED REACTION VESSEL AT A TEMPERATURE IN THE ORDER OF 100° TO 150° C. FOR A PERIOD OF 120 TO 30 MINUTES, IT BEING APPRECIATED THAT SHORTER TIMES CAN BE USED AS THE TEMPERATURE IS INCREASED. IT APPEARS THAT THE REACTION RESULTS IN SULPHOMETHYLATION AND CAUSTIZATION OF A COMPLEX FORMED BETWEEN THE QUEBRACHO, LIGNITE AND GILSONITE ALTHOUGH THE CHEMISTRY INVOLVED IS HIGHLY COMPLEX AND NOT FULLY UNDERSTOOD. IN ANY CASE, THE RESULTING COMPOSITION, WHICH IS ESSENTIALLY WATER-SOLUBLE, IS PREFERABLY DRIED AND MAY BE STORED FOR SUBSEQUENT BLENDING WITH CONVENTIONAL CLAY-BASED AQUEOUS DRILLING DISPERSIONS OR DRILLING FLUIDS. THIS BLENDING ADVANTAGEOUSLY IS CARRIED OUT ON SITE ALTHOUGH IT WILL BE APPRECIATED THAT THE ADDITIVE MAY BE PRE-PACKED WITH THE DRILLING FLUID.



SUITABLE GILSONITE IN OIL WELL DRILLING FLUID SYSTEMS

TYPICALLY THE GILSONITE IS THAT AVAILABLE IN IRAN IN ROCK FORM AND PULVERIZE TO 200 MESH. THE NATURAL ASPHALT HAS FLASH POINT OF 380° C. AND A SOFTENING POINT OF MINIMUM 205° C. THIS GILSONITE USING BY OUR CUSTOMERS WORLDWIDE IN SLB, SCOMI, HALLIBURTON.

USE OF GILSONITE USE IN FLUID LOSS CONTROL (FLC)

GILSONITE HAS BEEN ADDED TO DRILLING FLUIDS TO GIVE BETTER STABILITY OF WELL WALLS, TO LUBRICATE THE DRILL STRING IN A WELL, TO SEAL MICROFRACTURES AND THUS PREVENT THE FORMATION OF LARGER FRACTURES AND TO DECREASE THE LOSS OF FILTRATE TO FORMATIONS AT HIGH TEMPERATURES.

THE USE OF GILSONITE IN DRILLING FLUID DISPERSIONS OR MUDS, TO COAT THE WALLS OF WELL HOLES, IS AN OLD AND WELL-ESTABLISHED PROCEDURE. THE PURPOSE OF THE FLUID IS TO STABILIZE THE WALLS OF THE HOLE BY FORMING A RELATIVELY THIN BUT STRONGLY ADHERENT COATING OR "CAKE" ON THE WALLS. THE COATING MUST BE ABLE TO WITHSTAND RELATIVELY HIGH TEMPERATURES AND IT SHOULD BE RESISTANT TO THE PASSAGE OF MOISTURE OR FLUID THERE THROUGH.

DRILLING FLUIDS SYSTEM ADVANTAGE

- PROVIDES SUPERIOR SHALE STABILIZATION
- PREVENTS DIFFERENTIAL STICKING
- REDUCES OR ELIMINATES LOST CIRCULATION
- PROVIDES WELLBORE STRENGTHENING MATRIX



PACKING OF GILSONITE “NATURAL ASPHALT” LUMP AND POWDER FORM “MICRONIZED”

GILSONITE IN LUMP FORM LIKE ROCK PACKED IN 500~1000KG JUMBO BAG

GILSONITE 200 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 300 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 30-40 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 100 MESH PACKED IN 500~1000KG JUMBO BAG

GILSONITE 300 MESH PACKED IN 25KG PP BAG

GILSONITE 200 MESH PACKED 25KG MULTI PAPER BAG

GILSONITE 200 MESH PACKED 50LBS MULTI PAPER BAG

GILSONITE 30-40 MESH PACKED PP BAG ON PALLET

BULK ON VESSEL



SPECIFICATION OF GILSONITE WITH DRILLING FLUID APPLICATION

NO	TEST	RESULT	TEST METHOD
1	ASH CONTENT,WT%	5	ASTM-D3174
2	MOISTURE CONTENT,WT%	1%	ASTM-D3173
3	VOLATILE MATTER,WT%	63	ASTM-D3175
5	SOLUBILITY IS CS ₂ ,WT%	81	ASTM-D4
6	SPECIFIC GRAVITY @25 C	1.11	ASTM-D3289
7	NORMAL HEPTHAN INSOLUBLES,WT%	79	ASTM-D3279
8	COLOR IS MASS	BLACK	-----
9	COLOR IN STREAK OR POWDER	BLACK	-----
10	SOFTENING POINT,C	210	ASTM-D36
11	PENETRATION @25C	0	ASTM-D5
ELEMENT ANALYSIS			
1	CARBON,WT%	84	ASTM-D5291
2	HYDROGEN,WT%	7.1	ASTM-D5291
3	NITROGEN,WT%	3.67	ASTM-D5291
4	OXYGEN,WT%	3.1	ASTM-D5291
5	SULPHURE,WT%	4	LECO(S)ANALYZER



OUR APPROVALS

