



## **GENERAL DESCRIPTION OF GILSONITE IN CEMENTING**

BY GILSONITE DOING PRIMARY CEMENTING THROUGH LOST-CIRCULATION ZONES OF SURFACE, INTERMEDIATE, AND PRODUCTION PIPE IN BOTH SINGLE AND MULTIPLE STAGES AS WELL AS VARIOUS REMEDIAL JOBS SUCH AS SQUEEZING, LE-CEMENTING ABOVE INADEQUATE FILL-UP, AND PLUGGING BACK TO RE-ESTABLISH DRILLING-FLUID CIRCULATION. DESIGNED PRIMARILY AS A COMBINATION LOW-DENSITY, LOST-CIRCULATION SLURRY, GILSONITE HAS YIELDED EXCELLENT RESULTS IN AREAS OF INCOMPETENT FORMATIONS AS WELL AS IN OTHER TYPES OF LOST- CIRCULATION ZONES FIELD RESULTS GENERALLY SHOW THAT FILL-UP OF 80 TO 90 PERCENT CAN BE OBTAINED IN AREAS WHERE ONLY 50 TO 60 PERCENT FILL-UP WAS POSSIBLE WITH OTHER TYPES OF SLURRIES.

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THE UNIQUE PROPERTIES OF GILSONITE SUCH AS LOW SPECIFIC GRAVITY, PARTICLE-SIZE DISTRIBUTION, IMPERMEABILITY, RESISTANCE TO CORROSIVE FLUIDS, CHEMICAL INERTNESS, AND LOW WATER REQUIREMENTS RESULT IN A SLURRY HAVING EXCEPTIONAL BRIDGING PROPERTIES, LOW SLURRY WEIGHT, COMPATIBILITY WITH OTHER SLURRY ADDITIVES, AND RELATIVELY HIGH COMPRESSIVE STRENGTH WHEN COMPARED TO OTHER SLURRIES OF THE SAME WEIGHT.

## **SELECT OF GILSONITE USE IN CEMENTING**

AS THE OIL-PRODUCING INDUSTRY HAS CONTINUED TO GROW, THE NEED FOR A LOW-DENSITY CEMENTING SLURRY POSSESSING LOST-CIRCULATION CONTROL



CHARACTERISTICS HAS BECOME MORE AND MORE EVIDENT. THIS IS ESPECIALLY SO IN PRIMARY CEMENTING BECAUSE OF THE DIFFERENT TYPES OF FORMATIONS BEING ENCOUNTERED AND THE NEED TO REDUCE REMEDIAL CEMENTING OPERATION THESE PROBLEM FORMATIONS MAY RANGE FROM EITHER POROUS OR CAVERNOUS FORMATIONS TO VERY WEAK FORMATIONS THAT ARE UNABLE TO SUPPORT THE HYDROSTATIC HEAD THAT IS NECESSARY FOR DRILLING AND WELL COMPLETION. THIS LATTER TYPE OF FORMATION WILL OFTEN BREAK DOWN OR FRACTURE UNDER HYDROSTATIC LOADING, RESULTING IN PARTIAL OR COMPLETE LOSS OF CIRCULATION.

LOST-CIRCULATION ZONES ENCOUNTERED DURING DRILLING OPERATION MAY PRODUCE MANY PROBLEMS IN THE NORMAL COURSE OF COMPLETING A WELL. INCREASED EXPENDITURES CAN RESULT FROM REDUCED DRILLING FINISHING JOBS, AND OTHER MECHANICAL DIFFICULTIES AS WELL AS FROM LOSS OF LARGE VOLUMES OF DRILLING FLUID . SOMETIMES SEVERE LOST- CIRCULATION PROBLEMS MAY EVEN CAUSE ABANDONMENT OF A WELL. LOST CIRCULATION DURING CEMENTING OPERATIONS WILL OFTEN BE REFLECTED BY INADEQUATE FILL-UP IN THE ANNULUS AND THE CONSEQUENT DISPLACEMENT OF SLURRY INTO FORMATIONS AWAY FROM THE WELL BORE. SATISFACTORY ISOLATION OF THE DIFFERENT FORMATIONS MAY THEN REQUIRE RE- CEMENTING WORK ABOVE THE POINT OF LOSS AND SUBSEQUENT SQUEEZE-CEMENTING JOBS.

**CEMENTING WITH GILSONITE:**

	UNIT	DESIGN 1	DESIGN 2	DESIGN 3	DESIGN 4	DESIGN 5
SLURRY	(KG/M <sup>3</sup> )	1606	1737	1737	1606	1606
DENSITY						
SOLID	(%)	50	53	53	50	50
VOLUME						
FRACTION						
(SVF)						
GILSONITE™	(KG/M <sup>3</sup> )	110	124	124	112	113
SIS PARTICLE	(KG/M <sup>3</sup> )	107	113*	114	102	102
CEMENT	(KG/M <sup>3</sup> )	689	773	772	686	690
SILICA	(KG/M <sup>3</sup> )	199	0	0	201	203
WEIGHTING	(KG/M <sup>3</sup> )	0	254	254	0	0
AGENT						
WATER	(KG/M <sup>3</sup> )	490	457	457	494	491
ANTIFOAM	(KG/M <sup>3</sup> )	4.7	5.3	5.3	3	3.1
AGENT						
DISPERSANT	(KG/M <sup>3</sup> )	2.3	6.5	6.5	3	3.0
ANTISETTLING	(KG/M <sup>3</sup> )	2.2	3.8	3.8	4	0.4**

**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**

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 <sub>2</sub> ,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	205	ASTM-D36
11	PENETRATION @25C	0	ASTM-D5
<b>ELEMENT ANALYSIS</b>			
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**

