



## **LONE STAR GTC, LLC**

17595 Blanco Rd. Ste 200  
San Antonio, TX 78232

### API Bentonite.

Our API bentonite complies with API 13A Section 9, Specifications for Drilling Fluid Materials. This type of bentonite is mainly used for oil and gas drilling, deep water wells and in other applications where these special characteristics are required.

Packed presentation:

- a) 1 Short Ton Super sack.
- b) 3 layers Paper bags of 50lbs or 100lbs. (3,500 lbs per Pallet covered with plastic bag )

<b>API 13A section 9 Bentonite</b>			
análisis químico típico		%	
	SiO <sub>2</sub>	58.0	64.0
	Al <sub>2</sub> O <sub>3</sub>	18.0	21.0
	Fe <sub>2</sub> O <sub>3</sub>	2.5	2.8
	MgO	2.5	3.2
	CaO	0.1	1.0
	Na <sub>2</sub> O	1.5	2.7
	K <sub>2</sub> O	0.2	0.4
especificaciones técnicas	Color	Variable	
	Viscosidad Aparente	15	cps mín
	Viscosidad Plástica	8	cps mín
	Punto de Cedencia	6.7	pa mín
	Relación PC/VP	3	máx
	Filtrado	15.0	ml máx
	Humedad (2 hrs a 105° C)	10.0	% máx
	Finura en húmedo (Malla 200)	96	% mín
*Viscosidad Fann haciendo un lodo al 6.4% de sólidos			

LABORATORY ANALYSIS



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**CERTIFICATE OF ANALYSIS**

**REPORT FOR:**  
**REQUESTOR:**

**REPORT#:** M13-55  
**DATE:** 04/26/13

**INTRODUCTION:**

Mudtech Laboratories, Inc. was asked to run API Spec 13A; Section 9 tests on a bentonite sample. The sample was delivered by UPS and was designated as follows:

<b>Designation</b>	<b>Mudtech Lab #</b>
Muestra de Bentonita Perfobent API	130416-01

**RESULTS:**

Sample->	RESULT	SPECIFICATION
Viscometer dial Reading @ 600 rpm	38	30 min
Viscometer dial Reading @ 300 rpm	27	
Plastic Viscosity,cp	11	
Yield Point,lb/100ft <sup>2</sup>	16	
Yield Point/Plastic Viscosity Ratio	1.45	3.0 max
Filtrate Volume,ml	13.6	15.0 max
Residue Greater than 75 micrometers,% by wgt.	1.78	4.0 max

**COMMENTS:**

The bentonite sample met the specifications.

**EXAMINER:** Mike Evans

**APPROVED:** Bob Lewis  
**DATE:** 04/26/13

This analysis, opinion or interpretation is based on material supplied by the client to whom, and for whose exclusive and confidential use this report is made. Mudtech Laboratories, Inc. and its officers assume no responsibility and make no warranty for proper operation of any petroleum, oil, gas, or any other material in connection with which this report is used.



**CERTIFICATE OF ANALYSIS**

In house lab analysis.

Date: 29-Jul-2013  
 Product: PerfoBent API  
 Lot #: Jun-14-13

TEST	SPEC.	RESULTS	METHOD
Viscometer Reading @ 600 rpm	30 min	37	ATP-2005
Plastic Viscosity, cp		11	"
Yield Point, lb/100ft <sup>2</sup>	15~25	16	ACCTP2005
Yield Point/Plastic Viscosity Ratio	3 max	2.11	ACCTP2005
Filtrate Volume, ml	15 max	14.2	ATP-2003
Residue > 75micrometers % by wgt.	4.0 max	1.78	ATP-1015
Marsh Cone/Funnel Test	35~52 sec.	37	ACCTP 1014

Analyzed by: Carolina Mendoza

Approved by: Sonia Muro Torres



*Lone Star GTC, LLC*

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