

BIT DATA		CASING & DRILLING ASSEMBLY				Pit Vol. 250	PUMP #1	PUMP #2	HYDRAULICS		
Bit Size	7 7/8	Size	8 5/8	set @	305	Ft	Pipe Capacity	Ideco	Ideco	ANNULAR VELOCITY	
Bit Type	Varrel r	Size		set @		Ft	52 bbls	6 x14	6 x14	Drill Pipe	106 ft/min
Bit No.	3	Size		set @		Ft	Ann Volume	54 SPM	0 SPM	Drill Collar	145 ft/min
Jets (32nd)		Size		set @		Ft	246 bbls	5.52 G/ST	0.00	CIRCULATING PRESSURE	
18	18	Drill Collar		6 1/4	2.25	283	Hole Volume	298 GPM		400 psi	
16		Drill Collar					298 bbls	7.10 BPM		BOT. UP	35 min
		Drill Pipe		4 1/2	3.826	3562	Total Cir Vol	Total GPM	Total BPM	SURF. TO BIT	7.3 min
		H.W. Drill Pipe					548 bbls	298	7.10	TOT. CIR TIME	77 min

Sample From	<input checked="" type="checkbox"/> Flowline	<input type="checkbox"/> Pit	Mud Properties			Calculate Alkalinity			<input type="checkbox"/> Check	HYDRAULICS				
Flowline Temperature (°F)			94							138 Ft/Sec	Nozzle Area			
Time Sample Taken			9am							Horsepower	0.5 HP/SQ.In	0.693 Sq In		
Depth (ft)			3,845							Impact Force	3.9 lbf/Sq. In	ECD		
Mud Weight (ppg)			9.0							Press Loss at Bit	153psi	9.2 ppg		
Mud Gradient (psi/ft)			0.4680							Press Loss at Bit	38%			
Funnel Viscosity @		°F	47						Recommended Equipment					
Plastic Visc.cp @		°F	14						Centrifuge <input type="checkbox"/>	Shaker <input type="checkbox"/>	Desander <input type="checkbox"/>	Other <input type="checkbox"/>		
Yield Point (lb/100ft2)			9						Degasser <input type="checkbox"/>	Desilter <input type="checkbox"/>				
Gel Strength (lb/100ft2) 10-sec			1						Recommended Mud Properties					
Gel Strength (lb/100ft2) 10-min			12						By Authority of:	<input checked="" type="checkbox"/> Company Representative	<input type="checkbox"/> Drilling Contractor			
Gel Strength (lb/100ft2) 30-min			14						Mud Wt:	9.1	Filtrate:	8-10cc	Viscosity:	50
Filtrate API (cm3/30 min)			10.2						LCM:	10.0			Excess Lime:	lb/lb
Filtrate API HTHP (cm3/30 min)									RECOMMENDED TOURLY TREATMENT					
Cake Thickness (/32nds)			2						GEL> for a 50sec/qt viscosity to LOG					
Solids Content (% by vol)			4.8						Caustic> 3 sks Days					
Water Content (% by Vol.)			95.2						Lignite> 2 sks Days					
Sand Content (% by vol)			.5											
Bentonite Content (lb/bbl)									Be sure and break circulation at least once on your way back to bottom					
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter			9.5						from Logging					
Alkalinity Mud (Pm) cm3 N/50 Acid			.8											
Alkalinity, Pf / Mf			.3/1.9											
Chloride (mg/l)			1000						HULLS> for 10-12#/bbl. LCM---CHECK OFTEN					
Total Hardness as Calcium (mg/l)			40						Water> for a 8.9-9.1#/gal mud wt.					
Oil Content (% by vol)														
LCM (lb/bbl)			10						Jet and clean pits tourly BUT keep plenty of volume in case of loss					
Excess Lime (lb/bbl)									KEEP HOLE FULL AT ALL TIMES!					

Solids Analysis						MUD LOOKS GOOD—Thank you guys											
L.G. Solids		%	H.G. Solids		%												
L.G. Solids		ppb	H.G. Solids		ppb												
Corrected Solids		%	Average Sp. Gr.														

Chemicals	Gel	Lime	Soda Ash	Caustic	Lignite	Drispac	Hulls	Pallets	Shrink	Cedar	Maxi		
Cost per Unit	11.35	7.80	26.21	46.00	18.80	258.00	11.15	18.50	15.50	16.65	21.20		
Starting Inventory	285	3	31	48	36	1	230	15	15	33	32		
Chemicals Received													
Closing Inventory	280	3	31	45	34	1	210	10	5	30	30		
Chemicals Used	5	0	0	3	2	0	20	5	10	3	2		
Daily Cost	56.75	0.00	0.00	138.00	37.60	0.00	223.00	92.50	155.00	49.95	42.40		
Chemicals													
Cost Per Unit												Est. Daily Cost:	834
Staring Inventory												Est. Cumulative Cost:	18,601
Chemicals Received												Est. Drayage:	0
Closing Inventory												Est. Taxes:	39
Chemicals Used													
Daily Cost													

TECHNICAL REP:	Gary Fleming	ADDRESS:	Enid	PHONE:	580-541-2158
CELL PHONE NO.		WAREHOUSE:		PHONE:	
ANS. SERVICE:					

IN CONSIDERATION OF THE FURNISHING OF THIS REPORT AND ORAL SUGGESTIONS, IT IS AGREED THAT NO RECOMMENDATIONS MADE HEREON SHALL BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND IT IS AGREED THAT CODY MUD COMPANY SHALL NOT BE LIABLE FOR ANY DAMAGES