Appendix F:
Mud Program

EAGLE DRILLING FLUIDS, LLC

DRILLING FLUIDS PROGRAM

PREPARED FOR:

DCP LINAM AGI # 1

Section 30, T-18S R-37E
Lea, County, New Mexico

SUBMITTED TO:

Mr. Russell Bentley
DCP Midstream, LP
11221 Richmond Ave.
Suite 107 C
Houston, Texas
77082

PREPARED BY:

Ron Bailey

EAGLE DRILLING FLUIDS, LLC

August 16, 2007

Mr. Russell Bentley
DCP Midstream, LP
11221 Richmond Ave. Suite 107c
Houston, Texas
77082

Dear Mr. Bentley:

Enclosed are our drilling fluids recommendations for your DCP LINAM AGI # 1 well to be drilled in Section 30, T-18-S, R-37-E, Lea County, New Mexico. They are derived from information from your office, offset well data, and our knowledge of the area.

Estimated mud cost for this well is $14,000-$15,000 based on 18-20 days to total depth with no severe lost circulation or major hole problems included.

Materials	$11,974
Trucking	$1,500
Taxes	$1,400
Total	$14,874

For questions or comments, call (432)682-9300 or (432)664-3690. Both are 24-hour numbers.

Sincerely,

Ron Bailey

Ron Bailey

EAGLE DRILLING FLUIDS, LLC.

(432)682-9300

Price List

West Texas/ New Mexico

August 16, 2007

(DCP Midstream, LP). FULL SERVICE

BASICS	PRICE
BARITE 100# bag	$10.45
BARITE bulk ton	$158.85
FW GEL 100#	$7.33
FW GEL bulk ton	$160.64
SALT WATER GEL 50#	$8.05
FLUID LOSS CONTROL	
DRISPAC SUPERLO 50#	$179.93
LO-LOSS 50#	$161.56
DRISPAC 50#	$188.97
STAFLO 50#	$260.42
STARCH (yellow) 50#	$19.89
STARCH (white) 50#	$37.75
STARLOSE 50#	$69.12
THINNERS	
CLS 50#	$34.13
DESCO 25#	$66.65
LIGNITE 50#	$16.94
CHEMICALS	
ALUMINUM STEARATE 25#	$84.67
CAUSTIC SODA 50#	$29.89
LIME 50#	$6.20
POTASSIUM CHLORIDE 50	$13.78
SAPP 50#	$68.30
SODA ASH 50#	$11.55
SODIUM BICARBONATE 50#	$35.94
OIL MUD PRODUCTS	
VG-69 50#	$80.45
VERSA COAT 55gal	$1,284.81
VERSA WET 55gal	$1,379.78
VERSA THIN 5 gal	$198.78
VERSA-TROL 5 gal	$58.73
MISCELLANEOUS	
PALLETS	NC
PLASTIC 20'x50'	$50.75
ENGINEERING -24 HR SERVICE	$550.00

LOST CIRCULATION MATERIALS	PRICE
CALCIUM CARBONATE 50#	$9.05
CEDAR SEAL 40#	$11.84
CHEM SEAL 40#	$24.01
COTTONSEED HULLS 50#	$9.21
DP 2000 CS 25#	$22.04
DYNA FIBER 50#	$19.29
FIBER PLUG 40#	$15.74
MAGMA FIBER 50#	$26.89
MICA 50#	$15.52
NUT PLUG (Pecan Shell) 50#	$17.88
PAPER 40#	$10.80
WALLNUT SHELL 50#	$17.27
SPECIALTY PRODUCTS	
BEN-EX, GELEX 2#	$17.88
CITIRIC ACID 50#	$191.88
ALCOHOL DEFOAMER 5 gal	$82.86
FEED SALT 50#	$7.00
GRAPHITE 50#	$47.40
LUBRICANT 55 gal	$592.55
MF-55 5 gal	$166.45
100-N 55 gal	$606.20
PHPA 5 gal	$181.08
XCD (LIQUID) 5 gal	$231.48
PIPE FREE 55 gal	$1,140.68
DEFOAMER (SILICONE)	$191.14
SOAP STICKS each	$10.00
SOLTEX 50#	$105.72
SUPER SWEEP 15#	$150.83
X-CIDE 102 5gal	$183.49
DRILLING BEADS 50#	$155.75
XCD POLYMER	$258.23

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Lea County, New Mexico

Mud Program Summary

Depth	Hole Size	Casing Size	Mud Wt.	Viscosity	Fluid Loss
0 – 530'	17-1/2"	13-3/8"	8.8-9.4	32-35	NC
530'-4,200'	12-1/4"	9-5/8"	9.8-10.1	29-30	NC
4,200'-8,100'	8-3/4"		9.0-9.2	28-29	NC
8,100'-9,100'	8-3/4"	7"	9.0-9.5	34-38	8-10cc

Potential Problems

Surface Interval 0-520'

- **Moderate seepage**
- **Poorly consolidated formations,may require higher viscosity.**

Intermediate Interval 520'-4,200'

- **Red Bed sloughing and swelling.**
- **Wall cake build up on water sands.**

Open Hole Interval 4,200'-8,100'

- **Moderate loses.**
- **Deviation.**

Lower Hole Interval 8,100'- 9,100'

- **Water sensitive sands.**
- **Hydration and swelling through Abo section.**
- **Swelling and sloughing through Wolfcamp section.**

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Surface Interval

Interval:	0-520'
Hole Size:	12-1/4"
Casing Size:	13-3/8"
Total Days:	1
Mud Type:	Fresh Water GelNative
Properties:	
Weight:	8.8 – 9.4 ppg
Viscosity:	32 – 35 sec/1000cc
Filtrate:	N/C
pH:	N/C

Interval Discussion:

Spud with a conventional Fresh Water Gel/Lime "spud mud". Circulate working pits, jetting to inside reserve pit as needed to maintain mud weight and solids in desired range..Use fresh water additions at flowline for volume and viscosity as needed. Paper as needed to control seepage loss.

At total depth sweep hole with Super Sweep using fresh water in sweep bbl.with ½ box of Super Sweep. Circulate sweep out flowline prior to tripping out of hole to run surface casing.

Materials Consumption & Cost:

50	sx	Fresh Water Gel	$366.50
20	sx	Paper	$195.60
10	sx	Lime	$61.50
1	bx	Super Sweep	$140.83
			$764.43

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Intermediate Interval

Interval:	520'-4,200'
Hole Size:	12-1/4"
Casing Size:	9-5/8"
Total Days:	7
Mud Type:	Brine-Native Oil
Properties:	

Weight:	9.0-10.2 ppg
Viscosity:	32-34 sec/1000cc
Filtrate:	N/C
Oil:	2-3%

Interval Discussion:

Drill below surface casing with existing fluid. Circulate through a controlled portion of the reserve pit for gravitational solids removal. Use fresh water additions at flowline for volume, at 2,000' begin Brine additions to avoid excessive Salt leaching. Around 2,400', or prior to the first bit trip below Surface Casing, add 2-3 % oil to mud system and maintain this concentration throughout this interval to sofen filter cake and lubricate the hole. Use native solids to maintain a constant viscosity of 32-34 sec/1000cc to help stabilize hole conditions through and below Red Beds. Mix 2 sacks of Paper every 100' of hole drilled.

Suggest to sweep hole at td with 1 box of Super Sweep circulating sweep out flowline prior to tripping out to run casing.

Materials Consumption & Cost:

90	Sx.	Paper	$972.00
5	Cn.	Defoamer ®	$414.30
2	Bx.	Super Sweep	$301.66
			$1,687.96

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Open Hole Interval

Interval:	4,200'-8,100'
Hole Size:	8-3/4"
Casing Size:	
Total Days:	7
Mud Type:	Cut Brine
Properties:	
Weight:	9.0-9.2
Viscosity:	28-29 sec/1000cc
Filtrate:	NC
pH:	9.5 – 10.0

Interval Discussion:

Drill below casing with cut **Brine circulating through reserve pit to help minimize drilled solids. Use Paper sweeps to control seepage loss. Mix Caustic Soda for pH control. Add one gallon New-55 at flowline for every 250 feet drilled to promote solids settling. Use Super Sweep for additional hole cleaning as needed.**

Materials Consumption & Cost:

40	sx	Paper	$432.00
30	sx	Caustic Soda	$1,195.60
2	sx	Super Sweep	$281.66
3	cn	New-55	$499.35
			$2,408.61

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Lower Hole Interval

Interval:	8,100'-9,100'
Hole Size:	8-3/4"
Casing Size:	7"
Total Days:	4
Mud Type:	Salt Water Gel/Starch
Weight:	**9.0-9.5 ppg**
Viscosity:	**34-38 sec/1000cc**
Filtrate:	**8-10cc**
pH:	**9.0-10**

Interval Discussion:

Continue drilling with cut Brine water adjusting mud weight 9.2-9.5 ppg with 10 ppg Brine as needed. Maintain sufficient 10# brine water on location in case abnormal pressure is encountered. Use Yellow Starch to lower water loss below 8-10cc. Adjust pH 9.0-9.5 with additions of Caustic Soda. Treat mud system with Newcide to prevent bacterial degradation of organic materials. Small additions of Defoamer may be needed for foaming. Mix Mica and Dynafiber for seepage control. Suggest to raise viscosity at 8,800' to 36-38 sec/1000cc with Salt Water Gel for logging and casing operations. Maintain Water Loss below 10cc.

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Materials Consumption & Cost:

250 sx	Salt Water Gel	$2012.50
100 sx	Yellow Starch	$1,989.00
15 sx	Caustic Soda	$448.35
10 cn	Defoamer (R)	$828.60
10 cn	Newcide	$1,834.90
		$7,113.35