

12/11/2007 11:17 5057489720

OCD ARTESIA

PAGE 02/02

1625 N. French Dr., Hobbs, NM 88240  
 District II  
 1361 W. Grand Avenue, Artesia, NM 88210  
 District III  
 1009 Rio Brazos Road, Aztec, NM 87410  
 District IV  
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico  
 Energy Minerals and Natural Resources

Form C  
 May 27

Oil Conservation Division  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

Submit to appropriate District

DEC 07 2007  AMENDED REF

OCD-ARTESIA

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

Operator Name and Address DAN A HUGHES COMPANY, L.P. C/O OIL REPORTS & GAS SERVICES, INC. 1008 W. BROADWAY HOBBES, NM 88240		OCD Number 25-034
Property Code		API Number 30-023-
Property Name HUECO SOUTH UNIT 26 STATE		Well No. 601
Proposed Pool 1 WILDCAT		Proposed Pool 2

Surface Location									
UL or lot no.	Section	Township	Range	Lot km	Feet from the	North/South line	Feet from the	East/West line	County
M	16	12S	17W		660	SOUTH	650	WEST	HIDALGO

Proposed Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot km	Feet from the	North/South line	Feet from the	East/West line	County

Additional Well Information				
Well Type Code N	Well Type Code G	Cole/Roary Roary	Lease Type Code S	Ground Level Elevation 4527.68'
Multiple NO	Proposed Depth 6600'	Formation BRCHA SHALE	Completor PATTERSON DRLG	Spud Date 11/2007
Depth to Groundwater 200' (est)		Distance from nearest fresh water well 1000' OR MORE		Distance from nearest surface water 1000' OR MORE
Mud: Linear Synthetic <input type="checkbox"/> mls thick Clay <input type="checkbox"/> PH Volume: tbbh		Drilling Method: Fresh Water <input type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Oil <input type="checkbox"/>		
Closed-Loop System: <input checked="" type="checkbox"/>				

Proposed Casing and Cement Program					
Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
12 1/2" OH	9 5/8"	36# I55 I.T.&C	500'	250 sx circ	Surf
7 7/8" OH	5 1/2"	17# I55 I.T.&C	6600'	1250 sx circ	Surf

22 Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

**\*\*Amended to change proposed surface casing depth & cement and Depth to Groundwater\*\***

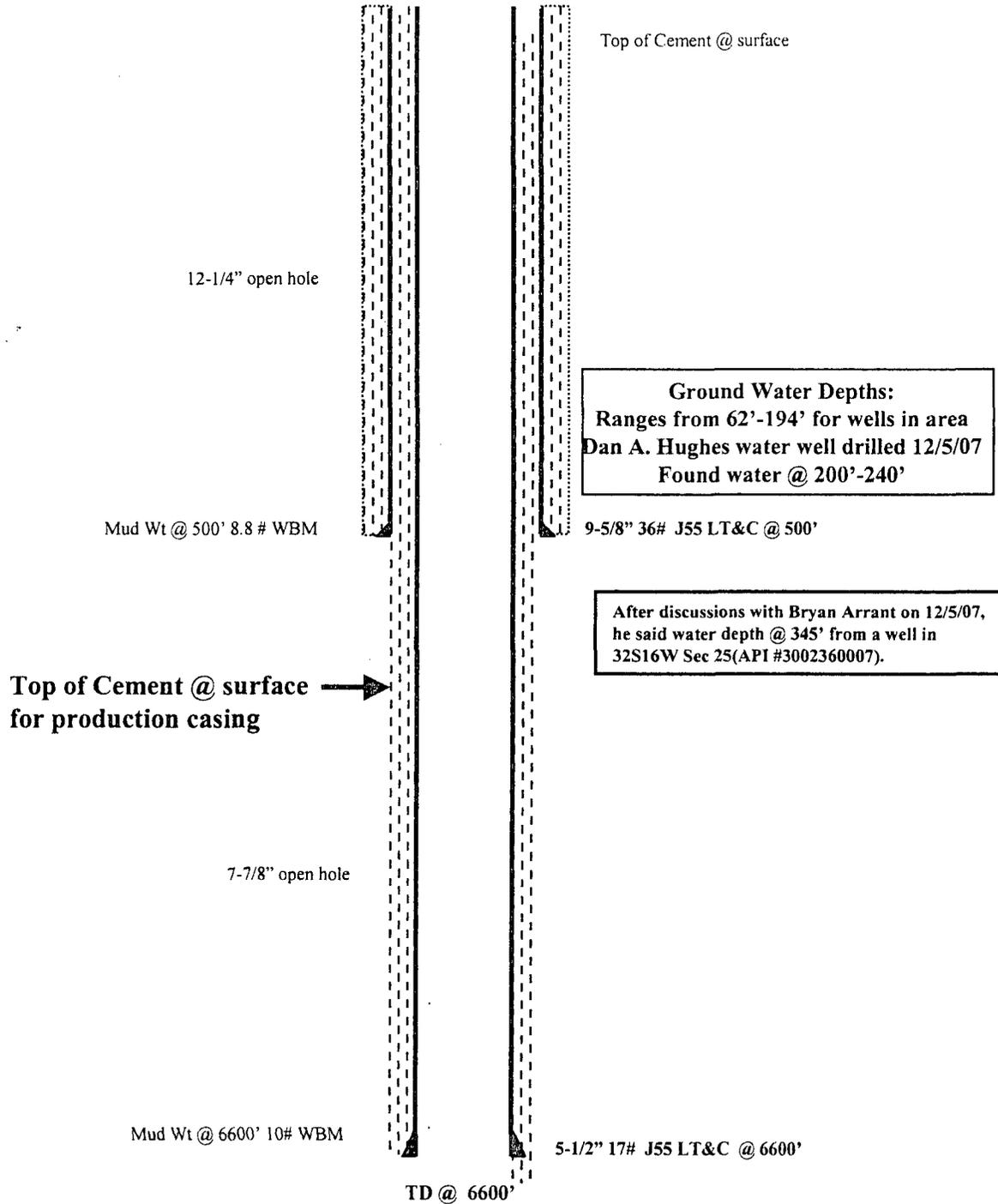
Depth to Groundwater change based upon water well drilled 12/05/07 by Dan A. Hughes Company

I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines <input checked="" type="checkbox"/> , a general permit <input type="checkbox"/> , or an (attached) alternative OCD-approved plan <input type="checkbox"/> . Signature:  Printed name: GAYE HEARD Title: AGENT E-mail Address: oil-rep-arizona@oilreporting.com Date: 12/16/07 Phone: 575-392-2727	OIL CONSERVATION DIVISION	
	Approved by:	
	Title:	Approval Date:
	Expiration Date:	
	Conditions of Approval Attached: <input type="checkbox"/>	

BEFORE THE OIL CONSERVATION DIVISION  
 Santa Fe, New Mexico  
 Case No. 14050, .... Exhibit No. 5  
 Submitted by:  
 DAN A. HUGHES COMPANY, L.P.  
 Hearing Date: December 13, 2007

PROPOSED(REVISED 12/5/07)  
WELLBORE SCHEMATIC

Elev: 4527.68' GL



**DAN A. HUGHES COMPANY, L.P.**

HUECO SOUTH UNIT 26 STATE #1  
WILDCAT FIELD

HIDALGO COUNTY, NEW MEXICO  
BY: JEFF ILSENG DATE: 12/5/07

DIRECTIONS: Located Township 32S Range 17W, Section 26, SW/4 SW/4, 660' FSL x 660' FWL

## GROUND WATER DEPTHS \*

<u>WELL LOCATION</u>	<u>OWNER NAME</u>	<u>SURFACE ELEVATION</u>	<u>DEPTH OF WELL</u>
32S 17W Sec 1	STEEN	4443'	118'
32S 17W Sec 13	OLD WALNUT	4469'	62'
32S 17W Sec 27	FRYE	4525'	194'
33S 17W Sec 3	LARD PLACE	4560'	140'
33S 17W Sec 8	TIMBERLAKE	4595'	172'
32S 17W Sec 26	Dan A. Hughes	4527.8'	240'(Hit sand @ 200') Finished water well 12/5/07
<b>Dan A. Hughes Co. L.P.---Hueco South Unit 26 State #1----32S 17W Sec 26-----Elevation 4527'</b>			

\*Technical Report 15 -- New Mexico State Engineer---"Reconnaissance of Ground Water in Playas Valley" Hidalgo County, New Mexico. Report by Gene C. Doty of the USGS in 1960

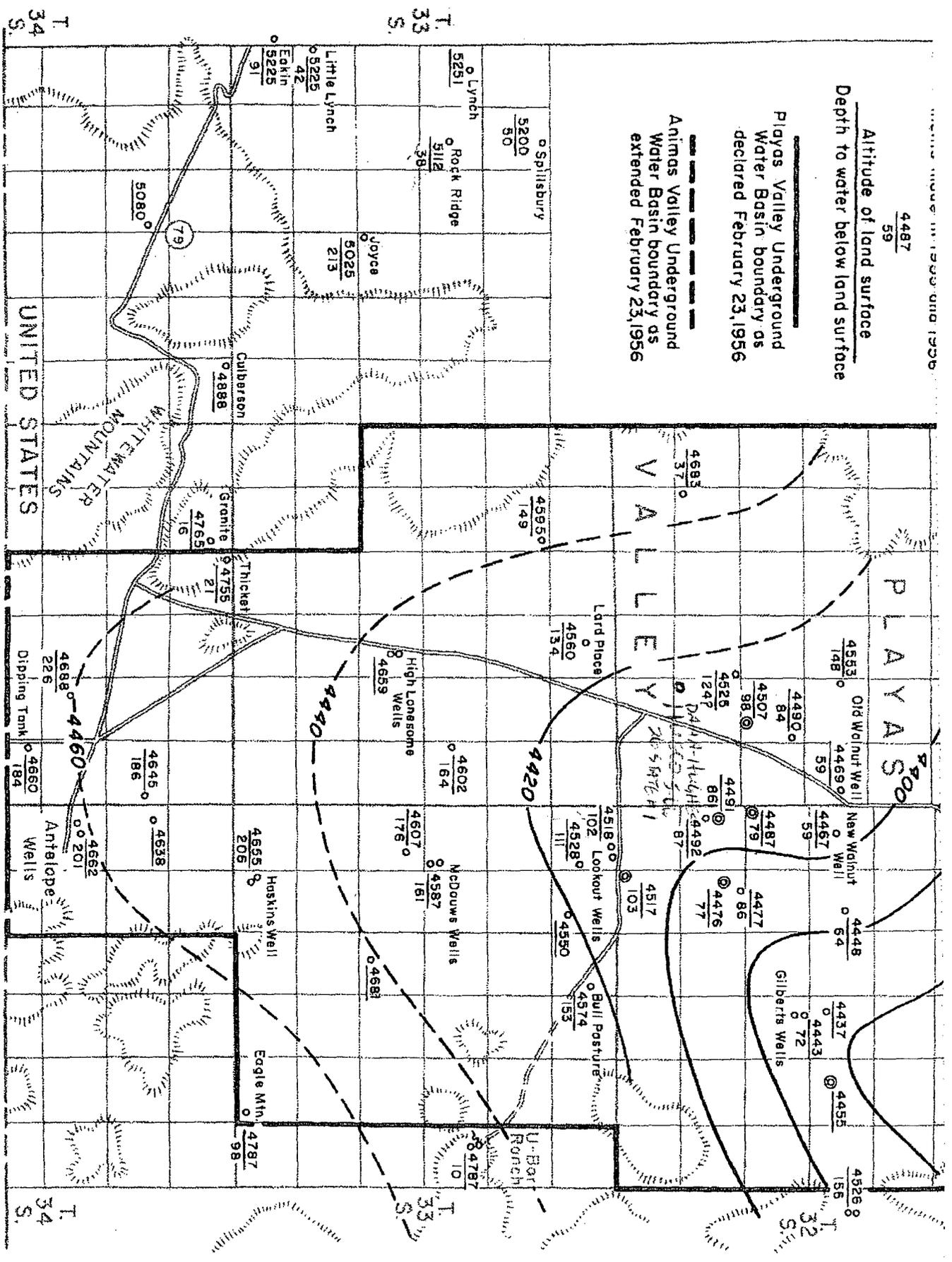
1956 and 1956

4487  
59

Altitude of land surface  
Depth to water below land surface

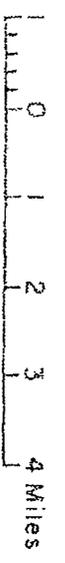
Playas Valley Underground  
Water Basin boundary as  
declared February 23, 1956

Animas Valley Underground  
Water Basin boundary as  
extended February 23, 1956



R.18 W. MEXICO UNITED STATES R.17 W. R.16 W.

Base from U.S. Geological Survey topographic  
maps and County Highway maps, 1956



T. 34 S.

T. 33 S.

T. 32 S.

T. 33 S.

T. 34 S.

**Gaye Heard**

---

**From:** "Arrant, Bryan, EMNRD" <bryan.arrant@state.nm.us>  
**To:** "Gaye Heard" <gheard@oilreportsinc.com>  
**Cc:** "Swazo, Sonny, EMNRD" <Sonny.Swazo@state.nm.us>  
**Sent:** Tuesday, December 11, 2007 3:11 PM  
**Subject:** RE: Revised mud program

Hi Gaye.

Please find an e mail that you sent to me on 12/07/2007 with an attached revised "Drilling Fluids Proposal" that is dated on the cover letter dated of 12/07/2007.

Please note that I did not date stamp this document when I printed out.

However, please note the date we received it below.

If anyone one has issues with this please advise.

Regards,

*Bryan G. Arrant*  
District II Geologist  
New Mexico Oil Conservation Division  
1301 West Grand Ave.  
Artesia, NM 88210  
505-748-1283 Ext. 103

---

**From:** Gaye Heard [mailto:gheard@oilreportsinc.com]  
**Sent:** Friday, December 07, 2007 2:09 PM  
**To:** Arrant, Bryan, EMNRD  
**Subject:** Fw: Revised mud program

----- Original Message -----

**From:** Jeff Ilseng  
**To:** 'Gaye Heard'  
**Sent:** Friday, December 07, 2007 1:19 PM  
**Subject:** FW: Revised mud program

Revised mud program showing 500' surface casing & fresh water mud...

-----Original Message-----

**From:** Cleere, Wayne [mailto:WCleere@miswaco.com]  
**Sent:** Friday, December 07, 2007 1:54 PM  
**To:** Ferguson, Jason; jeffi@dahughes.net  
**Subject:** Revised mud program

Gentlemen,  
Here is the revised mud program that you requested.  
Thanks

Wayne Cleere  
Project Engineer  
Off. (432)683-2065  
Cell. (432)634-5590

---

This email is intended solely for the person or entity to which it is addressed

12/11/2007



Proposal No: 180270033B

**Dan A. Hughes**  
**Hueco South Unit 26 State #1**

Hidalgo County, New Mexico  
December 6, 2007

### **Well Proposal**

**Prepared for:**

Mr. Jeff IIseng

Email: [jeffl@dahughes.net](mailto:jeffl@dahughes.net)

**Prepared by:**

Tanya Gonzalez

Specifications Writer



**Service Point:**

Artesia

Bus Phone: (505) 746-3140

Fax: (505) 746-2293

**Service Representatives:**

Harry Garvey

Senior Account Manager

Corpus Christi, Texas

Bus Phone: 210.841.5671

Mobile: 210.260.2790

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 9-5/8" Surface Casing to 500'  
 Date: December 6, 2007



Proposal No: 180270033B

**WELL DATA**

**ANNULAR GEOMETRY**

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.250 HOLE	500	500

**SUSPENDED PIPES**

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.921	36	500	500

Float Collar set @ 480 ft  
 Mud Density 8.80 ppg  
 Est. Static Temp. 85 ° F  
 Est. Circ. Temp. 80 ° F

**VOLUME CALCULATIONS**

500 ft x 0.3132 cf/ft with 100 % excess = 313.2 cf  
 20 ft x 0.4341 cf/ft with 0 % excess = 8.7 cf (inside pipe)  
**TOTAL SLURRY VOLUME = 321.9 cf**  
 = 57 bbls

**Operator Name:** Dan A. Hughes  
**Well Name:** Hueco South Unit 26 State #1  
**Job Description:** 9-5/8" Surface Casing to 500'  
**Date:** December 6, 2007



**Proposal No:** 180270033B

**FLUID SPECIFICATIONS**

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Cement Slurry	322	/ 1.3	= 240 sacks Premium Plus C Cement + 0.125 lbs/sack Cello Flake + 2% bwoc Calcium Chloride + 56.3% Fresh Water

Displacement 37.1 bbls Displacement

**CEMENT PROPERTIES**

	<b>SLURRY NO. 1</b>
Slurry Weight (ppg)	14.80
Slurry Yield (cf/sack)	1.35
Amount of Mix Water (gps)	6.35

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 9-5/8" Surface Casing to 500'  
 Date: December 6, 2007



Proposal No: 180270033B

**PRICE ESTIMATE**

**Product Material**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
452	lbs	Calcium Chloride	1.04	470.08	0.0	470.08
30	lbs	Cello Flake	4.14	124.20	0.0	124.20
1	ea	Cement Plug, Wooden, Top 9-5/8 in	256.00	256.00	0.0	256.00
240	94lbs	Premium Plus C Cement	31.90	7,656.00	0.0	7,656.00
2	gals	FP-6L	84.75	169.50	0.0	169.50
2	lbs	Static Free	32.40	64.80	0.0	64.80
Product Material Subtotal:				\$8,740.58		\$8,740.58

**Service Charges**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	145.50	145.50	0.0	145.50
252	cu ft	Bulk Materials Service Charge	3.41	859.32	0.0	859.32
Service Charges Subtotal:				\$1,004.82		\$1,004.82

**Equipment**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	4hrs	Cement Pump Casing, 0 - 1000 ft	2,080.00	2,080.00	0.0	2,080.00
1	job	Cement Head	515.00	515.00	0.0	515.00
1	job	Data Acquisition, Cement, Standard	1,335.00	1,335.00	0.0	1,335.00
600	miles	Mileage, Heavy Vehicle	7.40	4,440.00	0.0	4,440.00
600	miles	Mileage, Auto, Pick-Up or Treating Van	4.20	2,520.00	0.0	2,520.00
Equipment Subtotal:				\$10,890.00		\$10,890.00

Customer will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac sand are considered 'SPECIAL PROPPANTS'.

The technical data contained in this proposal is based on the best information available at the time of writing and is subject to further analysis and testing. The pricing data contained in this proposal are estimates only and may vary depending on the work actually performed. Pricing does not include federal, state and local taxes or royalties.

This quotation is based on BJ Services Company being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 9-5/8" Surface Casing to 500'  
 Date: December 6, 2007



Proposal No: 180270033B

**PRICE ESTIMATE**

**Freight/Delivery Charges**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
3456	tonmi	Bulk Delivery, Dry Products	2.47	8,536.32	0.0	8,536.32
Freight/Delivery Charges Subtotal:				\$8,536.32		\$8,536.32
<b>TOTAL:</b>				<b>\$29,171.72</b>		<b>\$29,171.72</b>

Customer will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac sand are considered 'SPECIAL PROPPANTS'. The technical data contained in this proposal is based on the best information available at the time of writing and is subject to further analysis and testing. The pricing data contained in this proposal are estimates only and may vary depending on the work actually performed. Pricing does not include federal, state and local taxes or royalties. This quotation is based on BJ Services Company being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 5-1/2" Production Casing to 6600'  
 Date: December 6, 2007



Proposal No: 180270033B

**WELL DATA**

**ANNULAR GEOMETRY**

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
8.921 CASING	500	500
7.875 HOLE	6,600	6,600

**SUSPENDED PIPES**

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
5.500	4.892	17	6,600	6,600

Float Collar set @ 6,560 ft  
 Mud Density 10.00 ppg  
 Est. Static Temp. 146 ° F  
 Est. Circ. Temp. 117 ° F

**VOLUME CALCULATIONS**

500 ft x 0.2691 cf/ft with 0 % excess = 134.5 cf  
 5,100 ft x 0.1733 cf/ft with 30 % excess = 1148.7 cf  
 1,000 ft x 0.1733 cf/ft with 47 % excess = 254.9 cf  
 40 ft x 0.1305 cf/ft with 0 % excess = 5.2 cf (inside pipe)  
**TOTAL SLURRY VOLUME = 1543.3 cf**  
 = 275 bbls

**Operator Name:** Dan A. Hughes  
**Well Name:** Hueco South Unit 26 State #1  
**Job Description:** 5-1/2" Production Casing to 6600'  
**Date:** December 6, 2007



**Proposal No:** 180270033B

**FLUID SPECIFICATIONS**

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	1283	/ 2.3	= 540 sacks (50:50) Poz (Fly Ash):Premium Plus C Cement + 10% bwoc Bentonite + 3% bwow Sodium Chloride + 135.9% Fresh Water
Tail Slurry	260	/ 1.	= 200 sacks (50:50) Poz (Fly Ash):Premium Plus C Cement + 5% bwow Sodium Chloride + 5 lbs/sack LCM-1 + 2% bwoc Bentonite + 0.5% bwoc FL-52A + 53.4% Fresh Water
Displacement			152.5 bbls Displacement Fluid

**CEMENT PROPERTIES**

	<b>SLURRY NO. 1</b>	<b>SLURRY NO. 2</b>
Slurry Weight (ppg)	11.80	14.20
Slurry Yield (cf/sack)	2.38	1.30
Amount of Mix Water (gps)	13.69	5.37

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 5-1/2" Production Casing to 6600'  
 Date: December 6, 2007



Proposal No: 180270033B

**PRICE ESTIMATE**

**Product Material**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
4872	lbs	Bentonite	0.42	2,046.24	0.0	2,046.24
1000	lbs	LCM-1	0.98	980.00	0.0	980.00
370	74lbs	Poz (Fly Ash)	11.25	4,162.50	0.0	4,162.50
2295	lbs	Sodium Chloride	0.41	940.95	0.0	940.95
1	ea	Cement Plug, Rubber, Top 5-1/2 in	125.00	125.00	0.0	125.00
370	94lbs	Premium Plus C Cement	31.90	11,803.00	0.0	11,803.00
84	lbs	FL-52A	21.80	1,831.20	0.0	1,831.20
4	gals	FP-6L	84.75	339.00	0.0	339.00
4	lbs	Static Free	32.40	129.60	0.0	129.60
Product Material Subtotal:				\$22,357.49		\$22,357.49

**Service Charges**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	145.50	145.50	0.0	145.50
875	cu ft	Bulk Materials Service Charge	3.41	2,983.75	0.0	2,983.75
Service Charges Subtotal:				\$3,129.25		\$3,129.25

**Equipment**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
1	day	Hi-Volume Air Compressor	465.00	465.00	0.0	465.00
1	6hrs	Cement Pump Casing, 6001 - 7000 ft	5,200.00	5,200.00	0.0	5,200.00
1	job	Cement Head	515.00	515.00	0.0	515.00
1	job	Data Acquisition, Cement, Standard	1,335.00	1,335.00	0.0	1,335.00
600	miles	Mileage, Heavy Vehicle	7.40	4,440.00	0.0	4,440.00
600	miles	Mileage, Auto, Pick-Up or Treating Van	4.20	2,520.00	0.0	2,520.00
1	job	Centrifugal Transfer Pump, Trailer	980.00	980.00	0.0	980.00
Equipment Subtotal:				\$15,455.00		\$15,455.00

Customer will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac sand are considered 'SPECIAL PROPPANTS'.  
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 This quotation is based on BJ Services Company being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.

Operator Name: Dan A. Hughes  
 Well Name: Hueco South Unit 26 State #1  
 Job Description: 5-1/2" Production Casing to 6600'  
 Date: December 6, 2007



Proposal No: 180270033B

**PRICE ESTIMATE**

**Freight/Delivery Charges**

QTY	UNIT	PRODUCT DESCRIPTION	UNIT PRICE	GROSS AMOUNT	DISC (%)	NET AMOUNT
10562	tonmi	Bulk Delivery, Dry Products	2.47	26,088.14	0.0	26,088.14
Freight/Delivery Charges Subtotal:				\$26,088.14		\$26,088.14
<b>TOTAL:</b>				<b>\$67,029.88</b>		<b>\$67,029.88</b>

Customer will be charged for all 'SPECIAL PROPPANTS' delivered to location, whether they are pumped or not. All proppants other than standard grade frac sand are considered 'SPECIAL PROPPANTS'. The technical data contained in this proposal is based on the best information available at the time of writing and is subject to further analysis and testing. The pricing data contained in this proposal are estimates only and may vary depending on the work actually performed. Pricing does not include federal, state and local taxes or royalties. This quotation is based on BJ Services Company being awarded the work on a first call basis and within thirty (30) days of the proposal date. These prices will be subject to review if the work is done after thirty (30) days from the proposal date, or on a second or third call basis.



## CONDITIONS

**BJ Services' performance of services and sale of materials is expressly conditioned upon the applicability of the Terms and Conditions contained in the current BJ Services Price Book. The Terms and Conditions include, among other things, an indemnity in favor of BJ Services from Customer for damage to the well bore, reservoir damage, loss of the hole, blowouts and loss of control of the well, even if caused by the negligence or other fault of BJ Services. The Terms and Conditions also limit the warranties provided by the BJ Services and the remedies to which Customer may be entitled in the event of a breach of warranty by BJ Services. For these reasons, we strongly recommend that you carefully review a copy of the Terms and Conditions. If you do not have a copy of the BJ Services Price Book, you can view the Terms and Conditions on BJ Services Web Site, [www.bjservices.com](http://www.bjservices.com). By requesting that BJ Services perform the services described herein, Customer acknowledges that such Terms and Conditions are applicable to the services. Further, by requesting the services, Customer warrants that its representative on the well location or other service site will be fully authorized to acknowledge such Terms and Conditions by executing a Field Receipt or other document presented by BJ Services containing such Terms and Conditions.**

**In the event that Customer and BJ Services have executed a Master Services Agreement covering the work to be performed, such Master Services Agreement shall govern in place of the Terms and Conditions. If you are interested in entering into Master Services Agreement with BJ Services, please contact us through the "Go BJ" button on the BJ Services Web Site.**

Operator: Dan A. Hughes  
Well Name: Hueco South Unit 26 State #1  
Date: December 6, 2007



Proposal No: 180270033B

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## PRODUCT DESCRIPTIONS

### **Bentonite**

Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.

### **Calcium Chloride**

A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development.

### **Cello Flake**

Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.

### **FL-52A**

A water soluble, high molecular weight fluid loss additive used in medium to low density slurries. It is functional from low to high temperature ranges.

### **LCM-1**

A graded (8 to 60 mesh) naturally occurring hydrocarbon, asphaltite. It is used as a lost circulation material at low to moderate temperatures and will act as a slurry extender. Cement compressive strength is reduced.

### **Poz (Fly Ash)**

A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.

### **Sodium Chloride**

At low concentrations, it is used to protect against clay swelling. At high concentrations, it is used to increase the

**Operator Name:** Dan A. Hughes  
**Well Name:** Hueco South Unit 26 State #1  
**Date:** December 6, 2007



**Proposal No:** 180270033B

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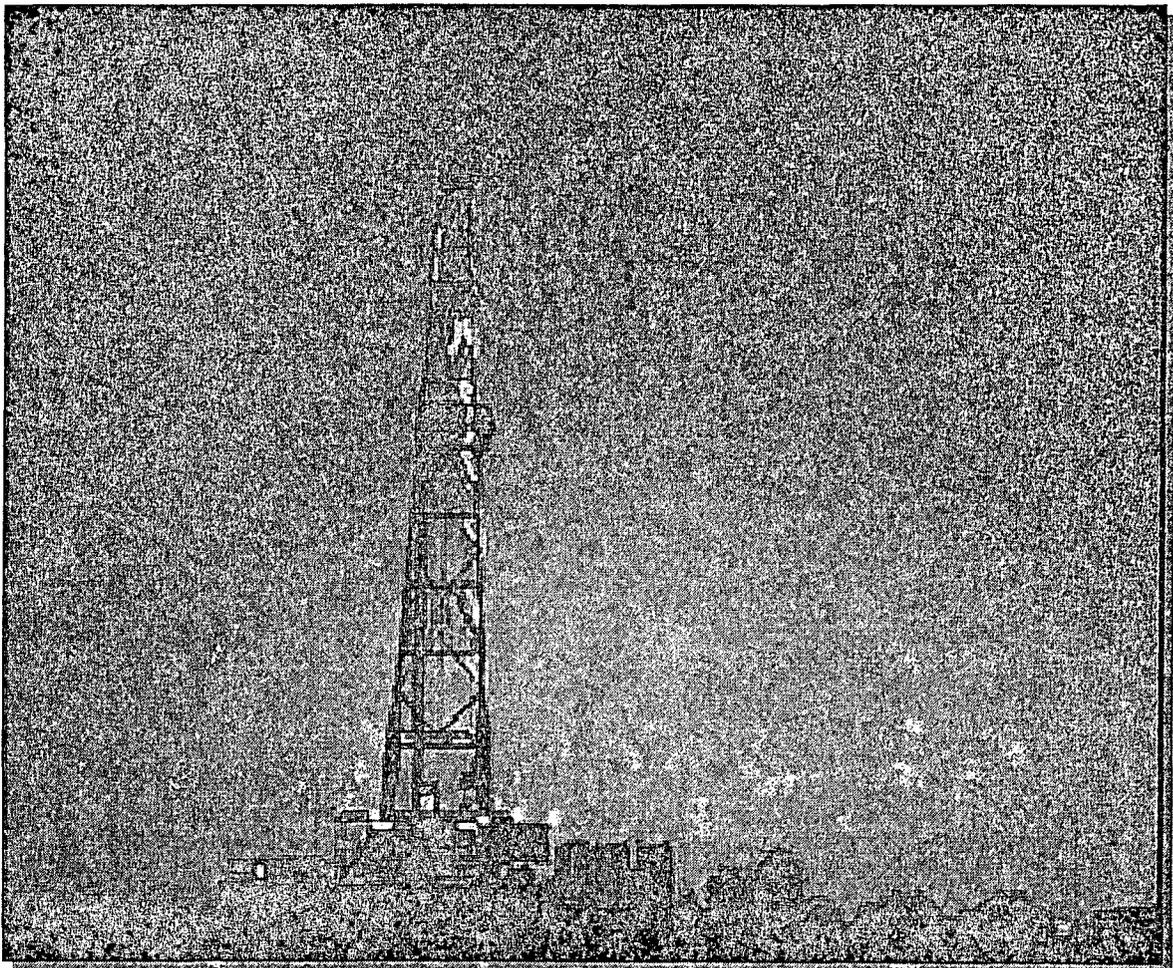
**End of Report**

# Drilling Fluids Proposal

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**DAN A. HUGHES**  
**HUECO SOUTH UNIT 26 St. #1(Revised#1)**  
**SECTION 26, T-32-S, R-17-W**  
**HIDALGO COUNTY, NEW MEXICO**



Prepared For: Mr. Jeff Iseng

Prepared by: Mike Hammer

December 7, 2007

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M-I *LLC*  
508 West Wall, Suite 750  
Midland, Texas 79701  
Tel: (432) 683-2065 • Fax: (432) 683-1434

**MISWACO**



M-I LLC

508 West Wall, Suite 750, Midland, Texas 79701 • Tel: (432) 683-2065 • Fax: (432) 683-1434

December 7, 2007

Mr. Jeff IIseng  
**DAN A. HUGHES**  
PO Drawer 669  
Beeville, Texas 78104

Dear Mr. IIseng:

M-I LLC would like to thank you for the opportunity to present our recommendations for your **Hueco South Unit 26 St.#1** to be drilled in Section 26, T-32-S, R-17-W, Hidalgo County New Mexico.

We recommend spudding with a **M I Gel/Lime** type drilling fluid, having a 32 - 34 sec/qt viscosity. Drill out below 9-5/8" surface casing with **MI Gel/Poly Pac** for a 32 - 40 sec qt funnel viscosity and a 20 - 25 cc fluid loss. At 6,500', lower fluidloss to 12-15 cc's. Adjustments for rheology can be made with **MI Gel**. This fluid should be sufficient to drill to total depth.

Included in this program are recommended properties and estimated costs. Should you have any questions or require additional information, please let me know.

Very truly yours,

**M-I** LLC

Mike Hammer  
Technical Service Engineer

Dan A. Hughes

December 7, 2007

Mr. Jeff Ilseng  
**Dan A Hughes Company**  
PO Drawer 669  
Beeville, TX 78104

Re: Drilling Fluid Bid for West Texas / New Mexico Wells to January 31, 2008

**WATER-BASE MUD PRODUCTS with SERVICE**

<u>PRODUCT</u>	<u>SIZE</u>	<u>PRICE</u>
M-I Bulk Bar	ton	\$ 173.88
Federal Barite	100 lb	\$ 11.25
Federal Bentonite	100 lb	\$ 8.70
M-I Gel	50 lb	\$ 5.01
M-I Salt Gel	50 lb	\$ 9.17
MF-55	5 gal	\$ 125.98
Poly-Plus	5 gal	\$ 129.20
Polypac	50 lb	\$ 189.03
Duo-Vis	25 lb	\$ 229.65
Lime	50 lb	\$ 6.25
Caustic Soda	50 lb	\$ 32.82
Soda Ash	50 lb	\$ 11.74
My Lo Jel	50 lb	\$ 31.00
Yellow Starch	50 lb	\$ 17.60
Cottonseed Hulls	50 lb	\$ 10.15
Fiber Plug	40 lb	\$ 10.17
Fiber seal	40 lb	\$ 19.69
Paper	40 lb	\$ 10.75

40% Discount on all other products listed on December 1, 2006 Price List (attached)

Pallets and Shrink Wrap - \$15/each  
24 Hour Engineering Service - \$ 800/Day  
Trucking Service at Published Rates Provided by LDI

Thank you for your consideration.

Sincerely,  
M-I LLC.

*Mike Prewit*  
Midland Area Manager

M-I LLC  
508 West Wall, Suite 750  
Midland, Texas 79701  
Tel: (432) 683-2065 • Fax: (432) 683-1434

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# Executive Summary

Dan A. Hughes



Recommended muds have proven successful in this area. M-I mud engineers are very experienced running these systems.

- M I Gel/Lime spud mud to drill surface.
- Drill out below surface casing with MI Gel/Poly Pac for a 32-38 sec/qt funnel viscosity and a 20 - 25 cc fluid loss.
- At 6,500' lower fluidloss to 12-15 cc's for logging and casing operations.



- Total mud related costs are estimated at \$45,000 to \$50,000. This estimate is based on the M-I *LLC* pricing proposal contained in this program.



- The total estimated drilling time is eighteen to twenty (28-30) days.



- Key concerns include the following:
  - Seepage losses in all intervals to be drilled.
  - Lost returns in all intervals to be drilled.



This well will be serviced from M-I's facility at Hobbs, New Mexico.

# Key Issues

Dan A. Hughes

## *Seepage Losses*

- Seepage losses can be expected in all intervals to be drilled.
- Control minor and seepage losses with **Drilling Paper**.

## *Lost Returns*

- Lost returns could occur in all intervals to be drilled.
- Bulky fibrous LCM pills or sweeps with **Fiber seal, Fiber Plug or Mix II**.
- **Mix II** and **Magma Fiber** are the acid soluble products and consideration should be given to using only these products in the production zones.
- Maintain fluid density as low as possible to minimize the problem of lost returns.

## *Hole Cleaning*

- Use **Super Sweep** and **Drilling Paper** sweeps to clean the hole.
- Use viscous mud sweeps to clean the surface hole should dry drilling become necessary.

# Interval Summary 1

Dan A. Hughes

12-1/4" Open Hole - (0' - 500') - 9-5/8" Casing	
Drilling Fluid System	Native/Lime Spud Mud
Key Products	Lime, Drilling Paper, M-I Gel
Solids Control	Shakers, Desander, Desilter
Potential Problems	Seepage Losses, Lost Returns, Hole Cleaning

Interval Drilling Fluid Properties					
Depth Interval (ft)	Mud Weight (lb/gal)	Plastic Viscosity (cp)	Yield Point (lb/100ft <sup>2</sup> )	API Fluid Loss (ml/30min)	Drill Solids (%)
0 - 500	8.4 - 8.9	2 - 3	2 - 3	N/C	<3

- Spud with a **Native/Lime** fluid with a funnel viscosity of 32 - 34 sec/qt.
- Control minor and seepage losses with **Drilling Paper** and fibrous material **LCM**.
- In the event losses are not easily controlled, it may become necessary to dry drill to casing point.
- Use high viscosity **M-I Gel** sweeps to ensure a clean hole if dry drilling becomes necessary.

# Interval Summary 2

Dan A. Hughes

7-7/8" Open Hole - (500' - 6,600') - 5-1/2" Casing	
<b>Drilling Fluid System</b>	MI Gel/Poly Pac/Thinsmart
<b>Key Products</b>	MI Gel, Drilling Paper, Poly Pac, Caustic Soda, Fiber Seal, Defoam A, Soda Ash
<b>Solids Control</b>	Shale Shakers
<b>Potential Problems</b>	Seepage Losses, Lost Returns, Hole Cleaning

Interval Drilling Fluid Properties					
Depth Interval (ft)	Mud Weight (lb/gal)	Plastic Viscosity (cp)	Yield Point (lb/100ft <sup>2</sup> )	API Fluid Loss (ml/30min)	Drill Solids (%)
500 - 6,500	8.4 - 8.6	4 - 6	5 - 8	20 - 25	<2
6,500 - 6,600	8.6 - 8.8	4 - 6	5 - 8	12 - 15	<5

- Drill out below surface casing with **MI Gel/Poly Pac** for a 34 - 38 sec/qt funnel viscosity and a 20 - 25 cc fluid loss.
- Use **Drilling Paper** and/or **Super Sweep** for sweeps to ensure good hole cleaning.
- Maintain a pH of 9.5-10.0 with **Caustic**.
- Adjust viscosity with **MI Gel** as needed.
- Lower fluidloss to 12 - 15 cc's at 6,500' for logging and casing operations.

NOTE-Lost circulation and bad deviation are possible throughout this interval.

# Project Summary

Dan A. Hughes

Casing Size (in)	Hole Size (in)	Casing Program	Depth (ft)	Estimated Formation Tops	Mud System	Mud Weight (lb/gal)	Interval Days	Interval Mud Cost
9-5/8	12-1/4		500	Casing Point	Spud Mud	8.4 - 8.9	2	\$2,000
5-1/2	7-7/8		6,500	Lower fluid Loss	MI Gel/Poly Pac	8.4-8.6		
			6,600	Casing Point		8.6-8.8	26	\$43,000

**TOTAL DAYS: 28 TOTAL COST: \$45,000**

- This estimate does not include extensive lost circulation or major problem incidents.
- The cost estimate is based M-I L.L.C. pricing proposal contained in this program.

M-I LLC  
 508 West Wall, Suite 750  
 Midland, Texas 79701  
 Tel: (432) 683-2065 • Fax: (432) 683-1434



# Reference Wells

Dan A. Hughes

**MARSHALL R. YOUNG**  
Bisbee Hills #1  
Sec 11, T-26-S, R-11-W  
Luna County, New Mexico

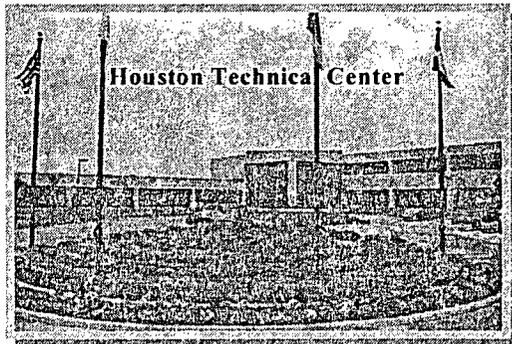
M-I LLC  
508 West Wall, Suite 750  
Midland, Texas 79701  
Tel: (432) 683-2065 • Fax: (432) 683-1434

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# Research & Engineering

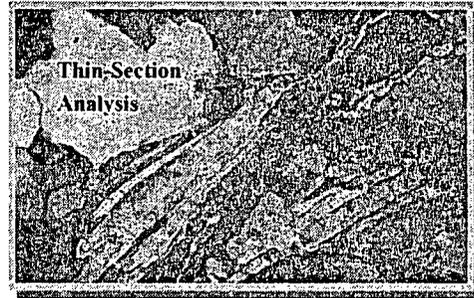
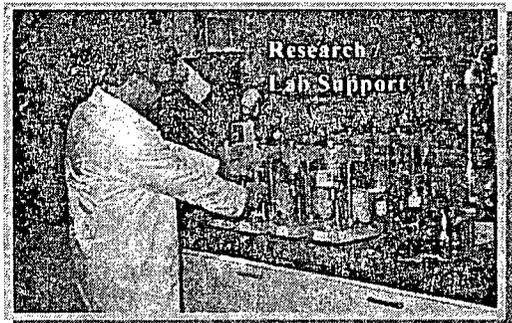
Dan A. Hughes

Technology and service are the cornerstones of M-I Drilling Fluids' success at the wellsite. To ensure both are maintained at optimal levels, M-I provides support from the corporate Technical Center in Houston and from international centers in Norway, Colombia, and Scotland.



Key responsibilities include fluids research and development, technical services, drilling research, environmental affairs, and training. Fully equipped laboratories are staffed by professionals representing a wide range of disciplines in the sciences and the drilling fluids industry.

Current technology focus is on HTHP drilling, extended-reach and horizontal wells, deepwater operations, and wells drilled through troublesome formations.



Advancements in drilling fluids technology have provided step improvements for drilling difficult wells with environmentally friendly drilling fluids. NOVAPLUS, NOVADRIL, and NOVALITE synthetic-based fluids have helped achieve record drilling rates and significant savings in drilling costs. M-I's POLYSTAR 450 high-temperature water-based mud system has set the new industry standard in its class.

Concern for costs to produce a barrel of oil led to the development of FLO-PRO drill-in fluids. These rheologically engineered fluids are designed for optimal hole cleaning and minimum formation damage.



M-I's technical support staffs provide effective solutions for difficult well problems using team-oriented concepts involving customer and local operations personnel. Computer software, special and routine laboratory tests, fluid formulations, and engineering trouble shooting are just a few of these important contributions.

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# Personnel

Dan A. Hughes

## OPERATIONS MANAGER:

Mike Prewit  
Midland, Texas  
Office: 432-683-2065  
Cell: 432-283-3287

## TECHNICAL SERVICE ENGINEER:

Mike Hammer  
Midland, Texas  
Office: 432-683-2065  
Home: 432-687-1912  
Cell: 432-894-6820

## ENGINEERS:

Fred Flores  
Hobbs, New Mexico  
Phone: 505-392-8456  
Cell: 505-390-3437

Byron Flores  
Hobbs, New Mexico  
Phone: 505-392-8456  
Cell: 505-390-3438

Christian Martin  
Midland, Texas  
Phone: 432-631-9009  
Cell: 432-631-9009

Dallas Casey  
Monohans, Texas  
Phone: 432-943-2403  
Cell: 432-238-9562

## WAREHOUSE:

Hobbs, New Mexico  
Phone: 505-392-5586

# M-I Serves the Petroleum World

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This suggested program is advisory only and may be rejected in the sole discretion of any and all parties receiving it. In addition all parties receiving this program recognize, agree, and acknowledge that M-I LLC (M-I) has no care, custody or control of the well, the drilling equipment at the well, nor the premises about the well. Also, there are obviously many conditions within and associated with a well of which M-I can have no knowledge and over which it does not and cannot have control. Therefore, M-I shall not be liable for the failure of any equipment to perform in a particular way or the failure to obtain any particular results from carrying out this program by any party receiving it. Furthermore, the owner and operator of the well and the drilling contractor in consideration of the recommendations contained in this suggested program agree to indemnify and save M-I harmless from all claims and costs for loss, damage or injury to persons or property including, without limitations: subsurface damage, subsurface trespass or injury to the well or reservoir allegedly caused by M-I's operations or reliance by anyone upon this program unless such personal injuries or damage shall be caused by the willful misconduct or gross negligence of M-I.

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