

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 4-1/2" Liner
 Date: April 16, 2010



30-025-39946 Proposal No: 556451528A

PRICE ESTIMATE

Product Material

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
345	94lbs	Class H Cement	3,191.25
1160	lbs	Bentonite	201.72
174	lbs	Sodium Metasilicate	236.27
58	lbs	R-3	70.60
345	74lbs	Poz (Fly Ash)	1,589.24
1063	lbs	Sodium Chloride	180.92
290	lbs	FL-52A	2,585.93
116	lbs	CD-32	510.75
4	gals	FP-6L	138.38
1	gals	S-150	13.51
4	lbs	Static Free	52.98
Product Material Subtotal:			\$8,771.55

Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	152.00
741	cu ft	Bulk Materials Service Charge	1,077.49
Service Charges Subtotal:			\$1,229.49

Equipment

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	8hrs	Cement Pump Tubing, 13001 - 14000 ft	9,065.00
1	job	Cement Head	220.15
1	job	Data Acquisition, Cement, Standard	569.80
140	miles	Mileage, Heavy Vehicle	442.89
70	miles	Mileage, Auto, Pick-Up or Treating Van	125.10
1	job	Field Storage Bin, Up To 5 Days	442.15
Equipment Subtotal:			\$10,865.09

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.

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PRICE ESTIMATE

Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1064	tonmi	Bulk Delivery, Dry Products	1,121.99
Freight/Delivery Charges Subtotal:			\$1,121.99
TOTAL:			\$21,988.12

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Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 13-3/8" Conductor Casing
 Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Product Material

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
800	94lbs	Class C Cement	9,087.20
2313	lbs	Calcium Chloride	984.18
3008	lbs	Bentonite	523.09
308	lbs	Cello Flake	520.80
1	ea	Cement Plug, Rubber, Top 13-3/8 in	407.00
430	94lbs	Premium Plus C Cement	5,600.32
3	gals	FP-6L	103.79
3	lbs	Static Free	39.74
Product Material Subtotal:			\$17,266.12

Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	152.00
1347	cu ft	Bulk Materials Service Charge	1,958.67
Service Charges Subtotal:			\$2,110.67

Equipment

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	4hrs	Cement Pump Casing, 1001 - 2000 ft	1,332.00
1	job	Cement Head	220.15
1	job	Data Acquisition, Cement, Standard	569.80
70	miles	Mileage, Heavy Vehicle	221.45
70	miles	Mileage, Auto, Pick-Up or Treating Van	125.10
Equipment Subtotal:			\$2,468.50

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Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 13-3/8" Conductor Casing
Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
2121	tonmi	Bulk Delivery, Dry Products	2,236.59
Freight/Delivery Charges Subtotal:			\$2,236.59
TOTAL:			\$24,081.88

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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. 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: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Date: April 16, 2010



Proposal No: 556451528A

PRODUCT DESCRIPTIONS

Bentonite

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

CD-32

A patented, free-flowing, water soluble polymer that is an efficient and effective dispersant for primary and remedial cementing.

Calcium Chloride

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

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.

Class C Cement

Intended for use from surface to 6000 ft., and for conditions requiring high early strength and/or sulfate resistance.

Class H Cement

Class H cement is an API type, all purpose oil well cement which is used without modification in wells up to 8,000 ft. It possesses a moderate sulfate resistance. With the use of accelerators or retarders, it can be used in a wide range of well depths and temperatures.

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.

FL-62

A patented dry blend of water soluble polymers that are formulated to control the loss of fluid during cementing operations. A dispersant and bonding additive are proportioned to deliver consistent performance and control fluid loss in primary and squeeze cementing applications at low to moderate temperatures.

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.

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Proposal No: 556451528A

PRODUCT DESCRIPTIONS (Continued)

Premium Plus H Cement

Class H cement is an API type, all purpose oil well cement which is used without modification in wells up to 8,000 ft. It possesses a moderate sulfate resistance. With the use of accelerators or retarders, it can be used in a wide range of well depths and temperatures.

R-3

A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.

S-150

A blend of amphoteric and nonionic surfactants, recommended for use in water based stimulation treatments.

Sodium Chloride

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

Sodium Metasilicate

An extender used to produce an economical, low density cement slurry.

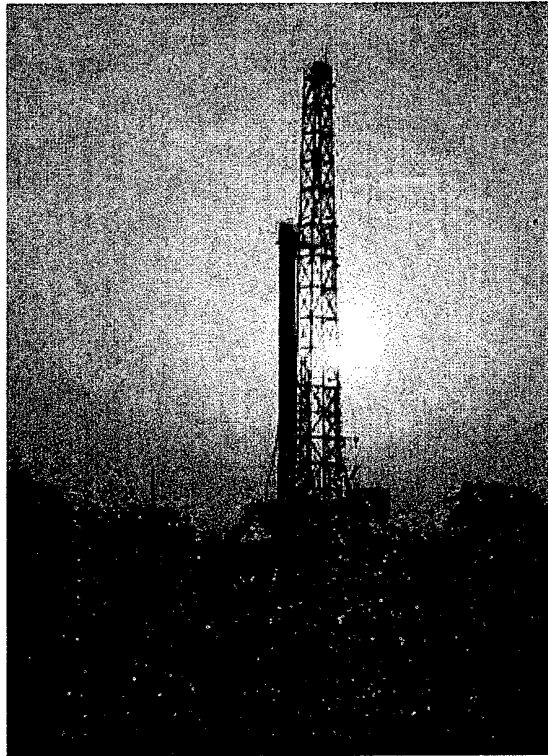
Marshall & Winston
Leguna Deep Federal 35-1H
Lea County, New Mexico

MiSWACO



MiSWACO

**Marshall & Winston
Leguna Deep Federal 35-1H
Section 35, T-19-S, R-33-E
Lea County, New Mexico**



Integrated Fluids Program

Prepared for Mr. Gabe Herrera

Date prepared: February 8, 2010

Prepared by: Todd Passmore

Marshall & Winston
Leguna Deep Federal 35-1H
Lea County, New Mexico

M-I SWACO

M-I SWACO

February 8, 2010

Mr. Gabe Herrera
6 Desta Drive
Suite 3100
Midland, TX 79705

Dear Mr. Herrera,

Thank you for giving M-I SWACO this opportunity to serve you by submitting the enclosed integrated fluids program for your upcoming 'Leguna Deep Federal 35-1H' well to be drilled in Section 35, T-19-S R-33-E, Lea County, New Mexico. I sincerely hope this information will aid you in planning your drilling operation.

To prepare this program, we have used well data from several wells located in the vicinity of your proposed location. This information is included in the reference wells section of this program for your use and evaluation. We recommend a Gel/Water spud mud to surface casing point at 1,390 feet. Below surface casing, drill out with 10 lb/gal Brine Water to reduce wash out. Maintain salt concentrations to the intermediate casing point of 4,850 feet. There is a good possibility you will encounter lost returns in the Capitan Reef Section from 3,500' +/- to 4,200' +/- . We recommend using M-I Gel pill sweeps to ensure a clean hole if dry drilling becomes necessary. From 4,850 feet to 9,800 feet we recommend Cut Brine Water. At 9,500' mud up with a Duo Vis/Poly Pac system for <20cc fluid-loss and 34 sec/qt funnel for logging operations. For the lateral section of the well we recommend using Cut Brine with Duo-Vis sweeps for viscosity and proper hole cleaning. It also may be necessary to add Oil, KCL, or Glass Beads while building the curve to assist slide drilling thru a hard shale section.

We at M-I SWACO, would be pleased to be awarded the privilege of supplying the drilling fluid for your well and will strive for your complete satisfaction in both engineering service and product performance. Should you have any questions or comments concerning our recommendations or if we may be of further service, please do not hesitate to contact us at anytime.

Sincerely,

Todd Passmore
Tech Service Engineer

EXECUTIVE SUMMARY

- In reaching your objectives successfully, M-I SWACO will take a clear and precise drilling plan coupled with competent and experienced personnel with a personal goal in mind "To Succeed". Such will be the posture of M-I SWACO while working with Marshall & Winston on this project.
- M-I's primary objective will be to assist Marshall & Winston technically, competently as well as in a timely manner in order for all targets to be achieved. Our primary concern will be to perform safely and also apply the best drilling fluids practices for every interval of this well.
- Major challenges in this well will be:
 - A) Proper Well Hydraulics and Hole Cleaning.
 - B) Minimizing mud losses while drilling and running casing.
 - C) Hole stability while drilling the Abo section.
- Total mud related costs are estimated at \$35,000-40,000. This estimate is based on the M-I pricing proposal contained in this program.
- The total estimated drilling time is thirty to thirty-five (30 – 35) days.

Marshall & Winston
Leguna Deep Federal 35-1H
Lea County, New Mexico



November 13, 2009

Mr. Gabe Herrera
Marshall and Winston

6 Desta Drive, Suite 3100
Midland, TX 79705

RECEIVED

SEP 30 2010
HOBBSOIL

Re: Drilling Fluid Bid for West Texas / New Mexico Wells to April 30, 2009

WATER-BASE MUD PRODUCTS with SERVICE - FOB WAREHOUSE

<u>Product</u>	<u>Unit Size</u>	<u>Discounted Price</u>
M-I Wate Bulk 4.1 sg	ton	\$ 146.36
M-I Wate 4.1 sg	100 lb	\$ 8.68
Federal Bentonite	100 lb	\$ 8.94
Salt Gel	50 lb	\$ 9.01
MF-55	5 gal	\$ 97.62
Poly-Plus	5 gal	\$ 95.63
Defoam A	5 gal	\$ 89.83
Polypac	50 lb	\$ 145.05
Duovis	25 lb	\$ 184.71
Lime	50 lb	\$ 6.25
Caustic Soda	50 lb	\$ 29.14
Soda Ash	50 lb	\$ 12.68
My Lo Jel	50 lb	\$ 27.42
Yellow Starch	50 lb	\$ 18.03
Cottonseed Hulls	50 lb	\$ 9.01
Fiber Plug	40 lb	\$ 8.60
Paper	40 lb	\$ 10.50
Fiber Seal	40 lb	\$ 15.19

45% Discount on all other products listed on August 15, 2008 Price List (attached)

Pallets and Shrink Wrap - \$12/each

Plastic - \$ 50/roll

24 Hour Engineering Service - \$ 700/Day

Trucking Service at Published Rates Provided by LDI

Thank you for your consideration.

Sincerely,

M-I LLC.

Mike Prewit

Midland Regional Manager

KEY ISSUES

Lost Circulation - Causes and Preventative Measures

- ❑ **Mechanical:**
 - Improper hydraulics, excessive pump rates and annular velocities (causing high ECD's)
- ❑ **Drilling Practices:**
 - Increasing pump rates too rapidly after connections and trips
 - Raising and lowering the pipe too fast (Swab/Surge)
 - Excessive penetration rates which result in high cuttings concentration in the annulus
- ❑ **Hole Conditions:**
 - Kicks and well control procedures
 - Depleted sand zones
 - Slow penetration rates
- ❑ **Preventive Measures:**
 - Rotating the drill string when breaking circulation helps break the gels and minimize pump pressure surges.
 - Bring the pumps up slowly after connections and periods of non-circulation. Plan to break circulation at 1 to 2 different depths while tripping in the hole.
 - Additional LCM material (SAFE CARB fine, medium, and course and Mica) should be ordered and stored at location to combat losses.

Hole Cleaning Recommendations

- ❑ Rheology and hydraulics calculations will be run as needed and the mud properties will be adjusted as needed to maximize hole cleaning.
- ❑ Use the highest possible annular velocity to maintain good hole cleaning without inducing excessive ECD's. Annular velocity provides the upward impact force necessary for good cuttings transport.
- ❑ Control drill to manage difficult hole cleaning situations.
- ❑ As much pipe rotation as possible while drilling.
- ❑ Pump Hi-Viscosity sweeps at the current mud weight in the 17.5" and 12.25" OH sections, plan sweeps to cover 60' - 90' of annular volume in the 17.5" section and 100' - 200' of annular volume in the 12.25" section. Sweep should be pumped every 3 to 4 connections. Sweeps should be monitored upon return
- ❑ DO NOT AT ANY TIME HAVE MORE THAN ONE SWEEP IN THE HOLE AT A TIME.
- ❑ Circulate at least one bottom up prior to pulling out of the hole.

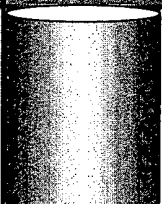
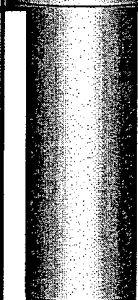
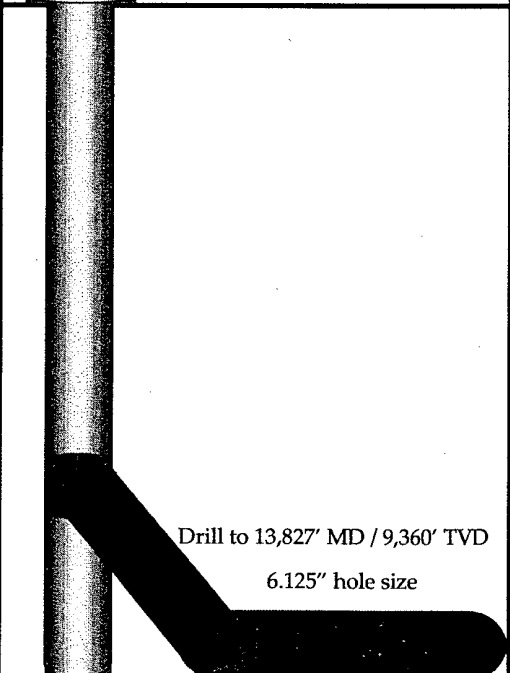
Marshall & Winston
Leguna Deep Federal 35-1H
Lea County, New Mexico



Project Summary with Well bore Geometry

Casing Size	Hole Size	Casing Interval	Depth MD	Mud System	Mud Weight (PPG)	Cure Days
Conductor at 60'	Surface			Spud Mud	8.4	
13 3/8" 48#	17.5"		1,390'		8.6	3
9 5/8" 40#	Intermediate		Yates 3,300'	Saturated salt	10.0	
	12.25"		Capitan Reef 4,100' +/-			7
			4,850'		10.0	
7" 26#	Production 8.75"		Delaware 5,400'	Fresh Water / Brine	8.4	
			Bone Spring 8,200'	Duo-Vi ^s / Poly Pac R / Starch	9.5	
			Bone Spring Sand 9,300'		9.7	14
			9,800'			

Project Summary with Well bore Geometry

Casing Size	Hole Size	Casing Intervals	Mud System	Mud Weight (ppg)	Days
13 3/8" 48# At 1,390'	Surface 17.5"				
9 5/8" 40# At 4,850'	Intermediate 12.25"				
7" 26# At 9,564' in curve	Production 8.75" KOP at 9,002'		Brine / Duo Vis Pump High Vis Sweeps for hole cleaning As needed	9.0 9.4	10

17.5" OH Interval Procedures

0' MD – 1,390' MD							
17.5" Open Hole - 13.375 " Casing							
Drilling Fluid System		<i>High Viscosity Sweeps / Fresh Water Spud Mud</i>					
Key Products		M-I Gel , Lime					
Solids Control		Linear & Dual Motion Shakers, Desander, Desilter, De-Watering Equipment					
Potential Problems		Hole Cleaning, Lost Circulation					
Interval Drilling Fluid Properties							
Depth (MD ft)	Mud Wt. (ppg)	Funnel Viscosity (sec/qt)	Plastic Viscosity (cp)	Yield Point (lb/100ft ²)	API Fluid Loss (ml/30min)	Hardness (Ca ²⁺)	pH
0'– 1,390'	8.4 – 8.6	36 - 40	6 - 10	6 – 8	NC	>400	10.0-10.5

Interval Objective:

Drill a 17.5" hole to 1,390' MD without mud losses while cleaning the hole. Run Conductor to 60 feet and set a full string of 13.375" casing to 1,390' and cement. To successfully utilize the MI-SWACO equipment to de-water the mud while drilling. This will lower the solids percentage while reclaiming water.

Interval Procedures:

Fluid

- This interval should be drilled with a low solids non-dispersed spud mud.
- Increase the funnel viscosity to 36-40 sec/qt. with M-I Gel and lime prior to drilling.
- The continuous use of the rig de-sander, desilter, and dewatering equipment are recommended to minimize low gravity solids. In addition water additions are recommended to minimize the density from increasing and reduce pump wear.
- High viscosity sweeps should cover 60-90' of annular volume.
- Sweeps containing 8-10 ppb of drill paper should be pumped as needed for seepage loss.

12.25" OH Interval Procedures

1,390' MD – 4,850' MD 12.25" Open Hole – 9.625 " Casing								
Drilling Fluid System		Brine						
Key Products		Salt Driller, Salt Gel , Lime						
Solids Control		Linear & Dual Motion Shakers, Desilter, De-Watering Equipment						
Potential Problems		Hole Cleaning, Lost Circulation, Stuck Pipe						
Interval Drilling Fluid Properties								
Depth (MD) (ft)	Mud Wt. (PPG)	Funnel Viscosity	Plastic Viscosity (cp)	Yield Point (lb/100ft ²)	API Fluid Loss (ml/30min)	Hardness (Ca ⁺⁺)	pH	% Oil
1,390'– 4,850'	9.8 - 10	28 – 29	1 - 4	1 – 4	N/C	>400	9.5 - 10.0	3-5%

Interval Objective:

Drill a 12.25" hole from 1,390' to 4,850' MD without mud losses while cleaning the hole. Drill through the salt sections with 10 ppg brine to reduce wash out in the salt sections. Run and cement a full string of 9.625" casing with full returns. To successfully utilize the MI-SWACO equipment to de-water the mud while drilling. This will lower the solids percentage while reclaiming water.

Interval Procedures:

Fluid

- Drill out below casing with 10 lb/gal brine water.
- Maintain pH between 9.5 and 10.0 with lime.
- Pump 15 to 20 barrel High Viscosity sweeps. High viscosity sweeps should be pumped every 3 to 4 connections. Sweeps should be made up with Fresh Water, Soda Ash for hardness, and M-I Gel. Sweeps should be monitored upon return. Do not have more than 1 sweep in the hole at a time.
- Keep mud weights as low as hole conditions will allow.
- Prior to pulling out of hole circulate at least one bottom up to determine if hole is clean.
- Once drilling fluid is saturated, limit the additions of fresh water to minimize wash out of salt section.
- Prior to running casing circulate two hi-vis sweeps to insure hole is clean.
- Set 9 5/8" casing at 4,850'.

- ** There is a good possibility you will encounter lost returns in the Capitan Reef Section, from 3,500' +/- to 4,200' +/-.
 - We recommend bulk fibrous LCM material to combat losses.
 - We recommend using M-I Gel pill sweeps to ensure a clean hole if dry drilling becomes necessary.

For Losses mix the following pills:

Seepage Losses (<10 bbls/hr) - Pump 30-50 bbl sweeps as needed to control seepage.

- Pre-Hydrated M-I GEL 20-30 ppb
- MIX II Fine 6-8 ppb

Partial Losses (10-100 bbls/hr) – Spot 50 bbl pill just above loss zone and let hole heal.

- Pre-hydrated M-I GEL 20-30 ppb
- Fiber Seal 10 ppb
- Cedar Fiber 10 ppb
- MIX II Medium 10 ppb

Total Losses (>100 bbls/hr) – Spot 50-100 bbl pill just above loss zone and let hole heal.

- Pre-Hydrated M-I GEL 20-30 ppb
- Fiber Seal 15 ppb
- Cedar Fiber 15 ppb
- MIX II Medium 10 ppb

8.75" OH Interval Procedures

4,850' MD – 9,800' MD							
8.75" Open Hole 7" Casing							
Drilling Fluid System	Cut Brine / Caustic to control pH						
Key Products	Cut Brine, Poly Pac R, Duo-Vis, Lime						
Solids Control	Linear & Dual Motion Shakers						
Potential Problems	Hole Cleaning, Lost Circulation, Stuck Pipe						
Depth (MD ft)	Mud Wt. (ppg)	Funnel Viscosity (sec/qt)	Plastic Viscosity (cp)	Yield Point (lb/100ft ²)	API Fluid Loss (ml/30min)	Hardness (Ca ²⁺)	pH
4,850' – 9,500'	8.6 – 9.0	28 – 29	1 – 4	1 – 4	N/C	< 400	9.5 – 10.0
9,500' – 9,800'	9.0 – 9.6	34 – 36	10 – 12	8 – 10	<15cc	<400	10.0 – 11.0

Interval Objective:

Drill an 8.75" hole to 9,800' MD without mud losses while cleaning the hole. Set cement plug in existing 8 3/4" hole. Kick off at 9,002', land curve at 9,564' MD/ 9,360' TVD and run 7" casing.

Interval Procedures:

Fluid

- This interval will be drilled with cut brine to approximately 9,800'.
- After drilling cement, casing shoe and 10' of new formation, test casing shoe.
- Keep mud weights as low as hole conditions will allow.
- Have enough LCM material on hand at all times. If losses occur follow lost circulation tree on page 14.
- At 9,500' mud up with Duo-Vis/Poly Pac R for a 34 sec/qt funnel viscosity, <15cc fluid-loss and 9.0-9.6 fluid weight.
- It may be necessary while drilling the Abo section to add Oil to the system to assist drilling.
- 100' prior to T.D. increase the funnel viscosity to 38 sec/qt with Duo-Vis and lower the fluid-loss to <10cc with Poly Pac R for logging operations.
- Once logs are complete and whip-stock is set continue drilling the curve with existing fluid.

- It may be necessary while drilling the curve to add Oil, KCL, or Glass Beads to the system to assist drilling. This will aid in lubricity if needed.
- Pump 15 to 20 barrel High Viscosity sweeps. High viscosity sweeps should be pumped as need to ensure hole proper hole cleaning. Sweeps should be made up with Fresh Water, Soda Ash for hardness, MI Gel, and Caustic for flocculation. Sweeps should be monitored upon return. Do not have more than 1 sweep in the hole at a time.
- *Hole stability is an issue with the Abo section in this area. Make sure to have the fluid above 100,000 Chlorides prior to drilling the Abo section and increase the funnel viscosity to 34-36 sec/qt and lower the fluidloss to 15cc's. Maintain chloride levels above 100,000 until TD. Monitor cuttings while drilling the Abo and Wolcamp formations to determine hole stability.*
- *The Abo has not shown to be a problem on offset wells. If there are signs of Abo problems take preventative measures listed above.*

6.125" Lateral Procedures

9,564' MD/9,360'TVD – 13,827' MD/9,360'TVD							
6.125" Lateral Procedures - 4 ½" Casing							
Drilling Fluid System		High Viscosity Sweeps /Cut Brine					
Key Products		Duo-Vis / Cut Brine					
Solids Control		N/A					
Potential Problems		Hole Cleaning, Lost Circulation					
Interval Drilling Fluid Properties							
Depth (MD ft)	Mud Wt. (ppg)	Funnel Viscosity (sec/qt)	Plastic Viscosity (cp)	Yield Point (lb/100ft²)	API Fluid Loss (ml/30min)	Hardness (Ca²⁺)	pH
8,905'– 13,127'	9.3 – 9.5	30 – 32	1 - 4	1 – 4	NC	>400	10.0-10.5

Interval Objective:

Drill a 6.125" lateral from 8,905' to 13,127' MD without mud loss while keeping hole clean.

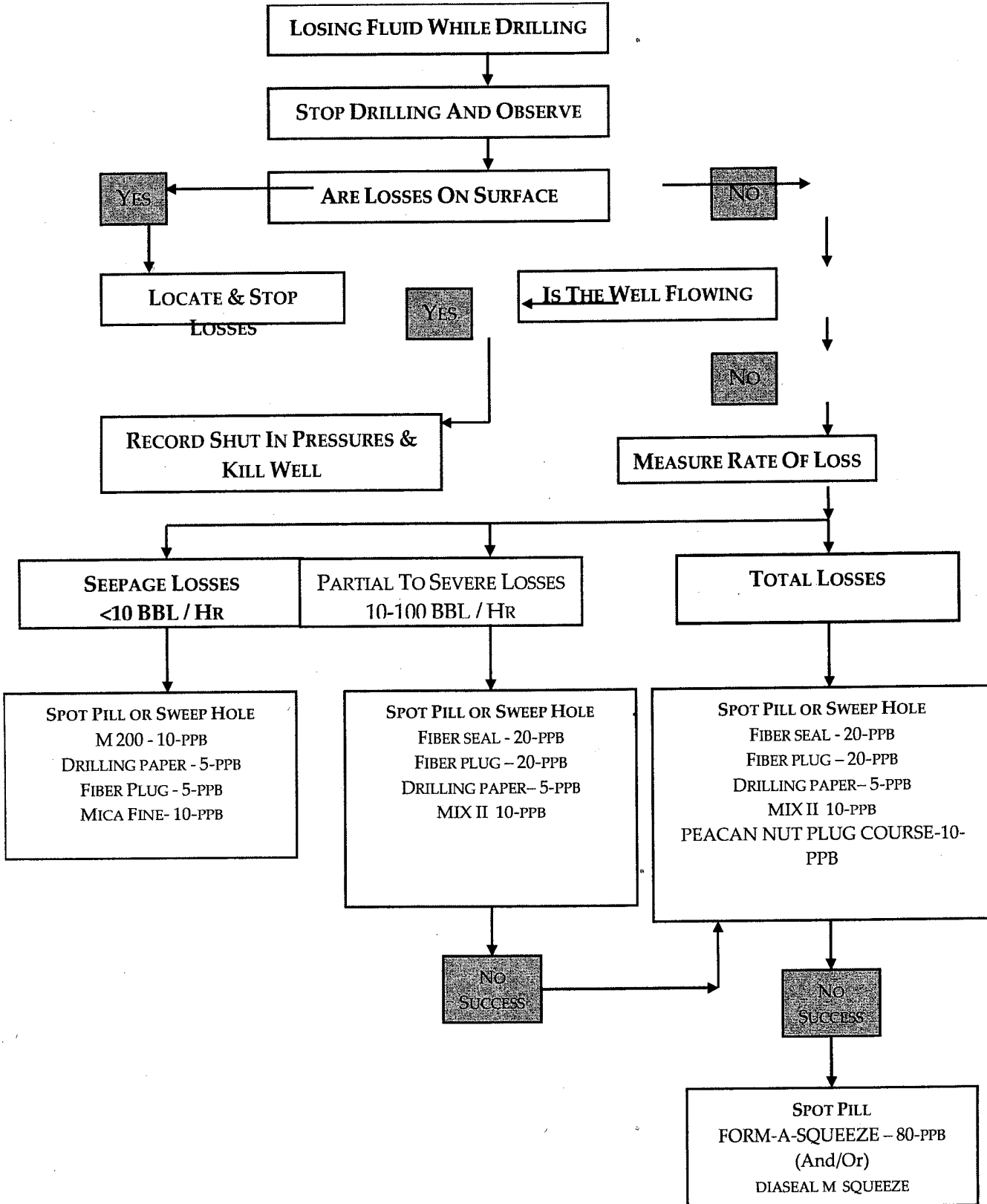
Interval Procedures:

- Drill out cement plug with 9.3 – 9.5 lb/gal cut brine water.
- It may be necessary while drilling the curve to add Oil, KCL, or Glass Beads to the system to assist drilling. This will aid in lubricity if needed.
- Water additions are recommended to maintain fluid density, minimize LGS and reduce pump wear.
- Pump 15 to 20 barrel High Viscosity sweeps. High viscosity sweeps should be made up of Duo-Vis and brine. Sweeps should be pumped as needed to insure proper hole cleaning. Sweeps should be monitored upon return. Do not have more than 1 sweep in the hole at a time.
- Monitor for metal shavings which could indicate damage to existing casing
- If lost circulation is encountered follow the lost circulation tree on page 14.
- Keep mud weights as low as hole conditions will allow.

**Marshall & Winston
Leguna Deep Federal 35-1H
Lea County, New Mexico**



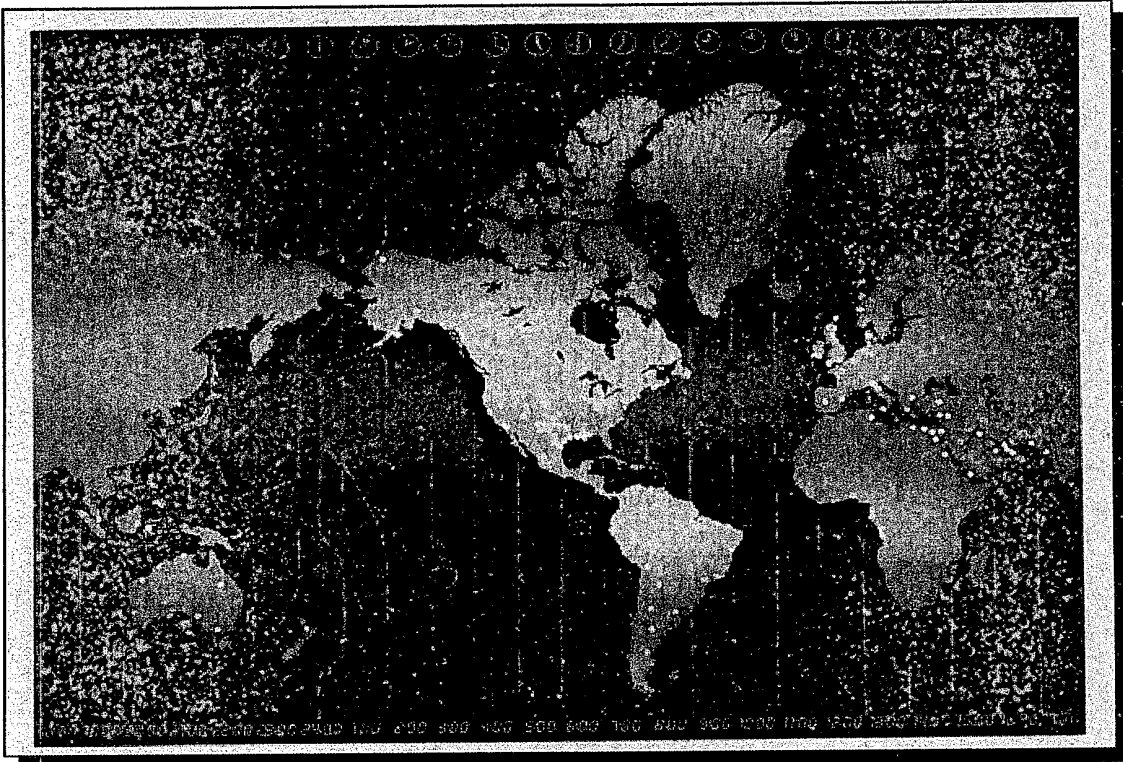
- Maintain an adequate supply of Salt Driller and Brine to weight the entire system up at all times.
- Do not use Poly Plus or MF-55 while drilling the lateral section because of possible completion issues.
- If Kill mud is needed, utilize Duo-Vis and Barite. For pH control use caustic soda, do not use lime.
- Recommend prior to pulling out of hole to circulate at least one bottom up to determine if hole is clean.



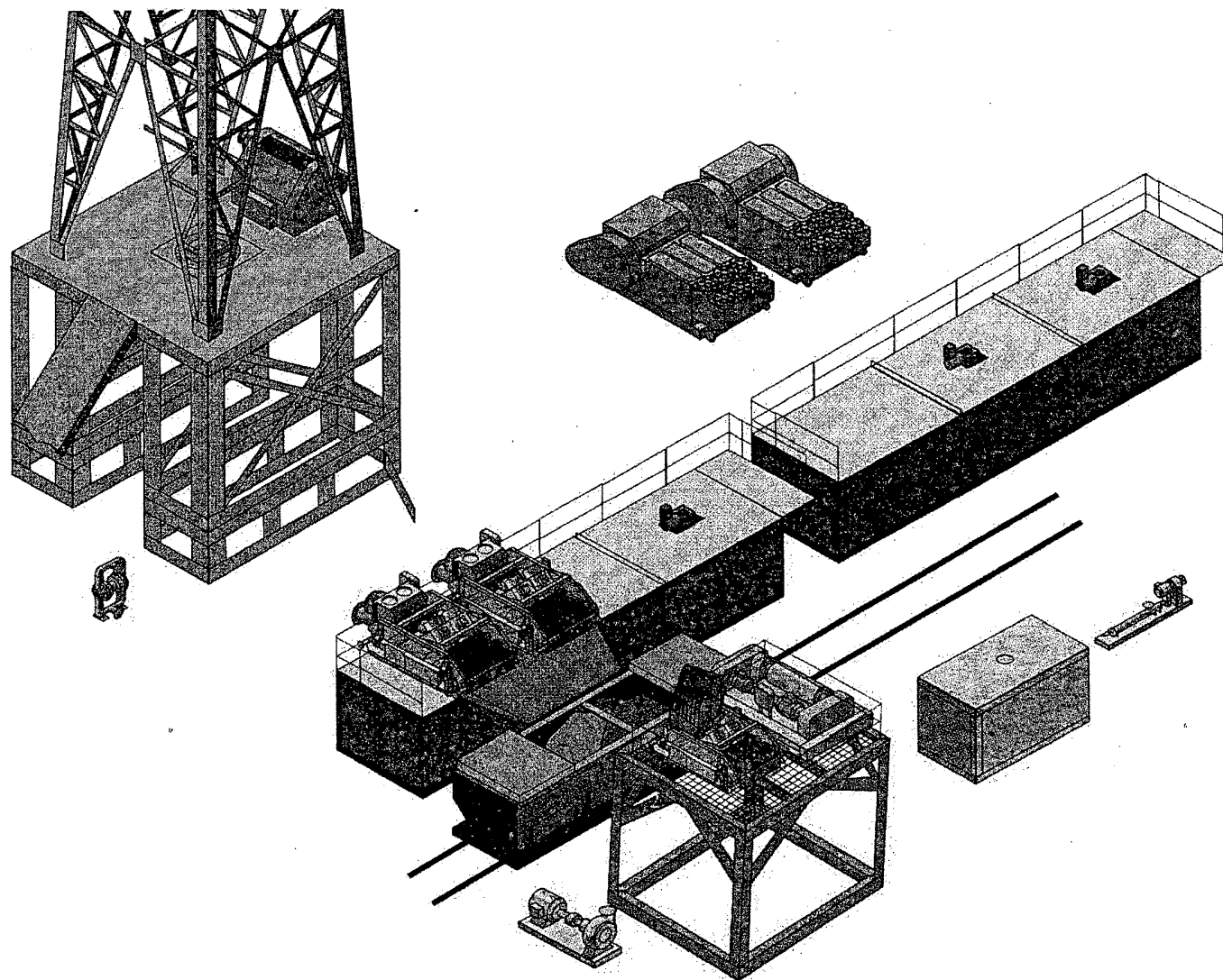
Contacts

DISTRICT MANAGER:	Mike Prewit
LOCATION	Midland, Texas
TELEPHONE NUMBER	432-683-2065
E-MAIL	mprewit@miswaco.com
EPS MANAGER:	Keith Solley
LOCATION	Odessa, Texas
TELEPHONE NUMBER	432-550-2944
E-MAIL	ksolley@miswaco.com
ENGINEER MANAGER:	Wayne Cleere
LOCATION	Midland, Texas
TELEPHONE NUMBER	432-683-2065
E-MAIL	wcleere@miswaco.com
SR ENGINEER	Don Hammer
LOCATION	Hobbs, New Mexico
TELEPHONE NUMBER	575-390-3440
E-MAIL	dhammer@miswaco.com
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LOCATION	Midland, Texas
TELEPHONE NUMBER	432-683-2065
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TECH SERVICE ENGINEER	Todd Passmore
LOCATION	Midland, Texas
TELEPHONE NUMBER	432-683-2065
E-MAIL	tpassmore@miswaco.com

DISCLAIMER



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 SWACO has no care, custody or control of the well, the drilling equipment at the well, or the premises about the well. Also, there are obviously many conditions within and associated with a well of which M-I SWACO can have no knowledge and over which it does not and cannot have control. Therefore, M-I SWACO 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 SWACO 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 SWACO 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 SWACO.



MI SWACO

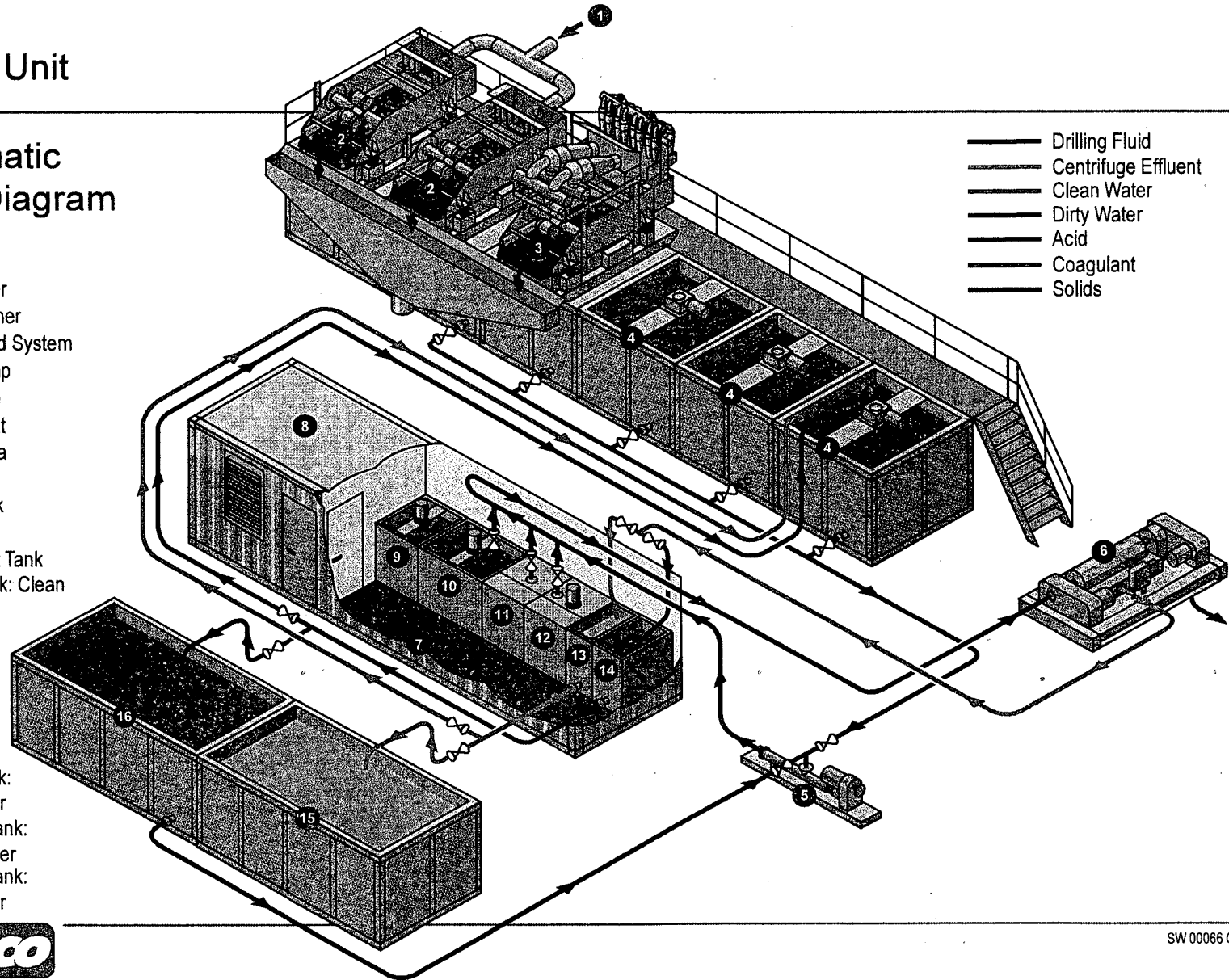
Enviro Unit

Schematic Flow Diagram

- ① Flow Line
- ② Rig Shaker
- ③ Mud Cleaner
- ④ Active Mud System
- ⑤ Feed Pump
- ⑥ Centrifuge
- ⑦ Enviro Unit
- ⑧ Living Area
- ⑨ Mix Tank
- ⑩ Store Tank
- ⑪ Acid Tank
- ⑫ Coagulant Tank
- ⑬ Catch Tank: Clean Water

- ⑭ Catch Tank: Dirty Water
- ⑮ Storage Tank: Clean Water
- ⑯ Storage Tank: Dirty Water

- Drilling Fluid
- Centrifuge Effluent
- Clean Water
- Dirty Water
- Acid
- Coagulant
- Solids



AFE No. API # Permit No. Project No.	<div data-bbox="683 90 832 126" data-label="Image"> </div> Leguna Deep Federal 35-1H Lea County, NM Proposed Wellbore Sketch	AFE Information Dry Hole: Days: Proposed TD: 13,872' TMD 8360' TVD v
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Drill 17-1/2" Hole with 8.4-8.6 Spud Muc
13-3/8" 54.5# J-55 STC Surface at 1390'

Drill out with 12-1/4" Bit

Cement to surface

9-5/8" 40# N-80 STC Casing at 4850'.
Drill with 8-3/4" to TD of Pilot Hole

Liner Hanger at 8850'
Kick off with 8-3/4" bit at about 9002

Land Curve at 9360' TVD 9564 TMD Run 7" 26# P-110 LTC casing and cement to surface;
Drill out with 6-1/8" bit to TD


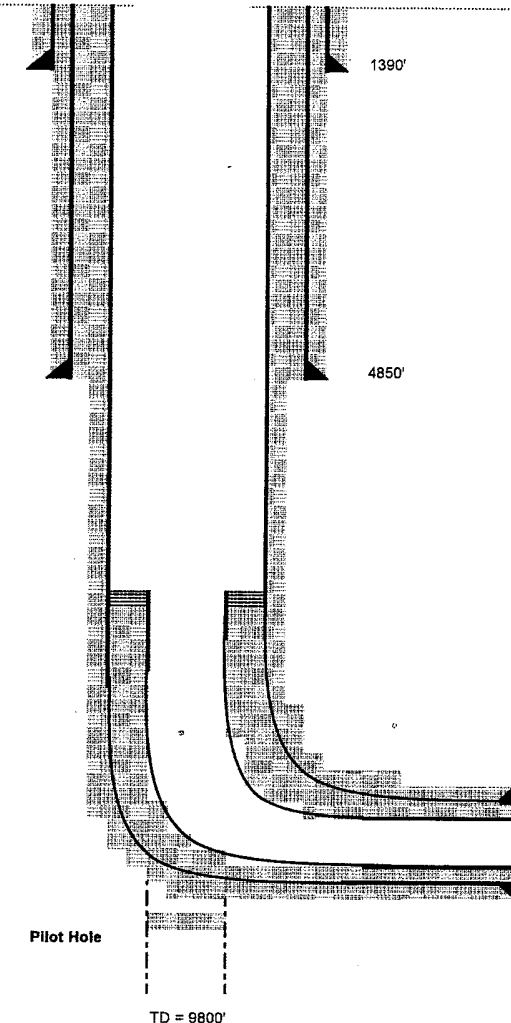
4-1/2" P-110 11.6# LTC Casing

TMD 13,827'

Pilot Hole

TD = 9800'

Well Information
 Surface Location: Lea County, NM T19S R33E Section 35

AFE No.	<div> Leguna Deep Federal 35-1H Lea County, NM Proposed Wellbore Sketch</div>	AFE Information
API #		Dry Hole: Days:
Permit No.		Proposed TD: 13,872' TMD 8360' TVD
Project No.		v
<div></div> <div>Drill 17-1/2" Hole with 8.4-8.6 Spud Muc 13-3/8" 54.5# J-65 STC Surface at 1390'</div> <div>Drill out with 12-1/4" Bit</div> <div>Cement to surface</div> <div>9-5/8" 40# N-80 STC Casing at 4850'.</div> <div>Drill with 8-3/4" to TD of Pilot Hole</div> <div>Liner Hanger at 8850'</div> <div>Kick off with 8-3/4" bit at about 9002</div> <div>Land Curve at 9360' TVD 9564 TMD Run 7" 26# P-110 LTC casing and cement to surface: Drill out with 6-1/8" bit to TD</div> <div>4-1/2" P-110 11.6# LTC Casing</div> <div>TMD 13,827'</div> <div>Pilot Hole</div> <div>TD = 9800'</div>		
<u>Well Information</u> Surface Location: Lea County, NM T19S R33E Section 35		



Proposal No: 556451528A

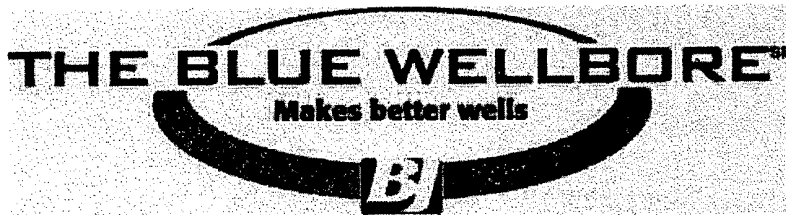
Marshall & Winston Inc
Leguna Deep Federal 35-1H

Lea County, New Mexico
April 16, 2010

Well Proposal

Prepared for:
Mr. Gabe Herrera

Prepared by:
Michael Beggs
Region Engineer
Midland, Texas



Service Point:
Artesia
Bus Phone: (505) 746-3140
Fax: (505) 746-2293

Service Representatives:
Bubba Sullivan
Manager, City Sales
Odessa, Texas

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 13-3/8" Conductor Casing
 Date: April 16, 2010



Proposal No: 556451528A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
17.500 HOLE	1,390	1,390

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
13.375	12.615	54.5	1,390	1,390

Float Collar set @ 1,350 ft
 Mud Density 10.00 ppg
 Mud Type Brine Based
 Est. Static Temp. 89 ° F
 Est. Circ. Temp. 84 ° F

VOLUME CALCULATIONS

1,000 ft	x	0.6946 cf/ft	with	100 % excess	=	1389.3 cf
390 ft	x	0.6946 cf/ft	with	100 % excess	=	541.8 cf
40 ft	x	0.8680 cf/ft	with	0 % excess	=	34.7 cf (inside pipe)
TOTAL SLURRY VOLUME					=	1965.8 cf
					=	350 bbls

TOC = 0 ft

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 13-3/8" Conductor Casing
 Date: April 16, 2010



Proposal No: 556451528A

FLUID SPECIFICATIONS

Pre-Flush 20.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	1389	/ 1.7	= 800 sacks Class C Cement + 4% bwoc Bentonite + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 81.3% Fresh Water
Tail Slurry	577	/ 1.3	= 430 sacks Premium Plus C Cement + 2% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 56.2% Fresh Water

Displacement 208.7 bbls Displacement Fluid

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	13.50	14.80
Slurry Yield (cf/sack)	1.75	1.35
Amount of Mix Water (gps)	9.17	6.34
Amount of Mix Fluid (gps)	9.17	6.34

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 9-5/8" Intermediate Casing
 Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Product Material

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
778	94lbs	Class C Cement	8,837.30
334	lbs	Calcium Chloride	142.12
7098	lbs	Bentonite	1,234.34
4225	lbs	LCM-1	1,703.94
300	lbs	Cello Flake	507.27
423	74lbs	Poz (Fly Ash)	1,948.55
4777	lbs	Sodium Chloride	813.05
1	ea	Cement Plug, Rubber, Top 9-5/8 in	133.94
3	gals	FP-6L	103.79
3	lbs	Static Free	39.74
Product Material Subtotal:			\$15,464.04

Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	152.00
1494	cu ft	Bulk Materials Service Charge	2,172.43
Service Charges Subtotal:			\$2,324.43

Equipment

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	6hrs	Cement Pump Casing, 4001 - 5000 ft	1,785.25
1	job	Cement Head	220.15
1	job	Data Acquisition, Cement, Standard	569.80
140	miles	Mileage, Heavy Vehicle	442.89
70	miles	Mileage, Auto, Pick-Up or Treating Van	125.10
1	job	Field Storage Bin, Up To 5 Days	442.15
Equipment Subtotal:			\$3,585.34

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: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 9-5/8" Intermediate Casing
Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
2119	tonmi	Bulk Delivery, Dry Products	2,234.49
Freight/Delivery Charges Subtotal:			\$2,234.49
TOTAL:			\$23,608.30

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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Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 9-5/8" Intermediate Casing
Date: April 16, 2010



Proposal No: 556451528A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
12.615 CASING	1,390	1,390
12.250 HOLE	4,850	4,850

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
9.625	8.835	40	4,850	4,850

Float Collar set @ 4,810 ft
 Mud Density 9.50 ppg
 Mud Type Brine Based
 Est. Static Temp. 112 ° F
 Est. Circ. Temp. 103 ° F

VOLUME CALCULATIONS

1,390 ft	x	0.3627 cf/ft	with	0 % excess	=	504.1 cf
2,490 ft	x	0.3132 cf/ft	with	100 % excess	=	1559.7 cf
970 ft	x	0.3132 cf/ft	with	50 % excess	=	455.7 cf
40 ft	x	0.4257 cf/ft	with	0 % excess	=	17.0 cf (inside pipe)
TOTAL SLURRY VOLUME					=	2536.5 cf
					=	452 bbls

TOC Lead: 0 ft

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 9-5/8" Intermediate Casing
 Date: April 16, 2010



Proposal No: 556451528A

FLUID SPECIFICATIONS

Pre-Flush 20.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	2064	/ 2.4	= 845 sacks (50:50) Poz (Fly Ash):Class C Cement + 5% bwow Sodium Chloride + 0.25 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 10% bwoc Bentonite + 134.8% Fresh Water
Tail Slurry	473	/ 1.3	= 355 sacks Class C Cement + 1% bwoc Calcium Chloride + 0.25 lbs/sack Cello Flake + 56.1% Fresh Water

Displacement 364.7 bbls Displacement Fluid

CEMENT PROPERTIES

	<u>SLURRY NO. 1</u>	<u>SLURRY NO. 2</u>
Slurry Weight (ppg)	11.80	14.80
Slurry Yield (cf/sack)	2.45	1.34
Amount of Mix Water (gps)	13.57	6.33
Amount of Mix Fluid (gps)	13.57	6.33

Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 7" Production Casing
 Date: April 16, 2010



Proposal No: 556451528A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
9.001 CASING	4,850	4,850
8.750 HOLE	9,564	9,360

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
7.000	6.276	26	9,564	9,360

Float Collar set @ 9,524 ft
 Mud Density 8.90 ppg
 Est. Static Temp. 146 ° F
 Est. Circ. Temp. 132 ° F

VOLUME CALCULATIONS

4,850 ft	x	0.1746 cf/ft	with	0 % excess	=	847.0 cf
2,802 ft	x	0.1503 cf/ft	with	50 % excess	=	631.8 cf
1,912 ft	x	0.1503 cf/ft	with	50 % excess	=	431.1 cf
40 ft	x	0.2148 cf/ft	with	0 % excess	=	8.6 cf (inside pipe)
TOTAL SLURRY VOLUME					=	1918.5 cf
					=	342 bbls

TOC Lead: 0 ft

Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 7" Production Casing
Date: April 16, 2010



Proposal No: 556451528A

FLUID SPECIFICATIONS

Pre-Flush

Spacer

10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Lead Slurry	1479	/ 2.4	= 605 sacks (50:50) Poz (Fly Ash):Premium Plus H Cement + 0.125 lbs/sack Cello Flake + 5 lbs/sack LCM-1 + 10% bwoc Bentonite + 0.2% bwoc FL-52A + 136.3% Fresh Water
Tail Slurry	440	/ 1.1	= 375 sacks Premium Plus H Cement + 1% bwoc FL- 62 + 0.4% bwoc FL-52A + 45.8% Fresh Water

Displacement

364.4 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO. 1	SLURRY NO. 2
Slurry Weight (ppg)	11.60	15.60
Slurry Yield (cf/sack)	2.45	1.19
Amount of Mix Water (gps)	13.73	5.16

SLURRIES WILL BE TESTED BEFORE PUMPING JOB.

Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 7" Production Casing
Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Product Material

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
5082	lbs	Bentonite	883.76
3025	lbs	LCM-1	1,219.98
76	lbs	Cello Flake	128.51
303	74lbs	Poz (Fly Ash)	1,395.77
1	ea	Cement Plug, Rubber, Top 7 in	80.85
243	lbs	FL-52A	2,166.83
4	gals	FP-6L	138.38
353	lbs	FL-62	2,520.77
1	gals	S-150	13.51
4	lbs	Static Free	52.98
678	94lbs	Premium Plus H Cement	7,575.97
Product Material Subtotal:			\$16,177.31

Service Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	ea	Personnel Surcharge - Cement Svc	152.00
1148	cu ft	Bulk Materials Service Charge	1,669.31
Service Charges Subtotal:			\$1,821.31

Equipment

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1	8hrs	Cement Pump Casing, 9001 - 10000 ft	3,422.50
1	job	Cement Head	220.15
1	job	Data Acquisition, Cement, Standard	569.80
140	miles	Mileage, Heavy Vehicle	442.89
70	miles	Mileage, Auto, Pick-Up or Treating Van	125.10
1	job	Field Storage Bin, Up To 5 Days	442.15
Equipment Subtotal:			\$5,222.59

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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Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 7" Production Casing
Date: April 16, 2010



Proposal No: 556451528A

PRICE ESTIMATE

Freight/Delivery Charges

QTY	UNIT	PRODUCT DESCRIPTION	NET AMOUNT
1660	tonmi	Bulk Delivery, Dry Products	1,750.47
Freight/Delivery Charges Subtotal:			\$1,750.47
TOTAL:			\$24,971.68

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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Operator Name: Marshall & Winston Inc
 Well Name: Leguna Deep Federal 35-1H
 Job Description: 4-1/2" Liner
 Date: April 16, 2010



Proposal No: 556451528A

WELL DATA

ANNULAR GEOMETRY

ANNULAR I.D. (in)	DEPTH(ft)	
	MEASURED	TRUE VERTICAL
6.276 CASING	9,564	9,360
6.125 HOLE	13,827	9,360

SUSPENDED PIPES

DIAMETER (in)		WEIGHT (lbs/ft)	DEPTH(ft)	
O.D.	I.D.		MEASURED	TRUE VERTICAL
4.500	4.000	11.6	13,827	9,360

Drill Pipe 3.5 (in) OD, 2.764 (in) ID, 13.3 (lbs/ft) set @ 8,850 ft
 Drill Pipe 4.5 (in) OD, 4.0 (in) ID, 11.6 (lbs/ft) set @ 13,827 ft
 Depth to Top of Liner 8,850 ft
 Float Collar set @ 13,827 ft
 Mud Density 8.80 ppg
 Mud Type Water Based
 Est. Static Temp. 150 ° F
 Est. Circ. Temp. 133 ° F

VOLUME CALCULATIONS

714 ft x 0.1044 cf/ft with 0 % excess = 75 cf
 4,263 ft x 0.0942 cf/ft with 110 % excess = 843 cf
TOTAL SLURRY VOLUME = 918 cf
= 164 bbls

TOC: 8850 ft

Operator Name: Marshall & Winston Inc
Well Name: Leguna Deep Federal 35-1H
Job Description: 4-1/2" Liner
Date: April 16, 2010



Proposal No: 556451528A

FLUID SPECIFICATIONS

Pre-Flush

Spacer

10.0 bbls Fresh Water @ 8.34 ppg

<u>FLUID</u>	<u>VOLUME CU-FT</u>	<u>VOLUME FACTOR</u>	<u>AMOUNT AND TYPE OF CEMENT</u>
Cement Slurry	918	/ 1.3	= 690 sacks (50:50) Poz (Fly Ash):Class H Cement + 3% bwow Sodium Chloride + 0.1% bwoc R-3 + 0.2% bwoc CD-32 + 2% bwoc Bentonite + 0.3% bwoc Sodium Metasilicate + 0.5% bwoc FL-52A + 61.2% Fresh Water

Displacement

143.0 bbls Displacement

CEMENT PROPERTIES

	SLURRY NO. 1
Slurry Weight (ppg)	14.00
Slurry Yield (cf/sack)	1.33
Amount of Mix Water (gps)	6.16
Estimated Pumping Time - 70 BC (HH:MM)	3:15
Free Water (mls) @ ° F @ 45 ° angle	0.0
Fluid Loss (cc/30min) at 1000 psi and 145 ° F	212.0

RHEOLOGIES

<u>FLUID</u>	<u>TEMP</u>	<u>600</u>	<u>300</u>	<u>200</u>	<u>100</u>	<u>6</u>	<u>3</u>
Cement Slurry	@ 80 ° F	142	92	73	52	15	10
Cement Slurry	@ 145 ° F	105	78	62	46	16	10

Conduct Field Blend tests prior to the job. Email results to Mike Beggs.

Customer has requested:

-Thickening time range: 3-3.5 hrs

-0 Free water

-Fluid Loss: 200-500 cc's