

**SUGGESTED
DRILLING FLUID
PROGRAM**

DATE: May 16, 1983

COMPANY: R. W. DIRKS ENGINEERING

ATTENTION: Mr. Jon Fischer
R. W. DIRKS ENGINEERING
P. O. Drawer 200
Tuleta, Texas 78162

WELL: Lackland #1

LOCATION: Lackland Air Force Base
Bexar County, Texas

COPIES:

PREPARED BY: Don Allison
Senior Sales Engineer



MAGCOBAR NORTH AMERICA DIVISION, DRESSER INDUSTRIES, INC., P.O. BOX 2783, 602 WINNEBAGO, ATLANTIC-MOBIL BLDG. CORPUS CHRISTI, TEXAS 78403

May 16 ,1983

Mr. Jon Fischer
R. W. DIRKS ENGINEERING
P. O. Drawer 200
Tuleta, Texas 78162

Dear Mr. Fischer:

Thank you for giving Magco-bar this opportunity to serve you by submitting the enclosed Drilling Fluid Program for your Lackland #1 Well to be drilled in Bexar County, Texas. 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 same vicinity of your proposed location. This information is included in the "Reference Wells" section of this program for your use and evaluation.

This program has been designed with a KCl/Polymer system due to its low solids content, temperature stability, and being acid soluble. An alternate TannAthin system has also been submitted for your consideration.

The estimated cost of the KCl/Polymer system of \$35,000 and \$4,100 for the TannAthin system is based on a minimum number of 12 days assuming no unusual hole problems are encountered.

We, at Magco-bar, would be very 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 concerning our recommendations or if we may be of further service, please do not hesitate to call upon us at any time.

Sincerely,

MAGCOBAR PRODUCTS

A handwritten signature in cursive script that reads 'Don Allison'.

Don Allison
Senior Sales Engineer

DA/11c



SUGGESTED DRILLING FLUID PROGRAM

COMPANY: R. W. DIRKS ENGINEERING WELL NAME: Lackland #1
 LOCATION: Lackland Air Force Base COUNTY, STATE: Bexar, Texas

SUGGESTED CASING PROGRAM:

10 3/4" at 1100'

9 7/8" Hole to 4200'

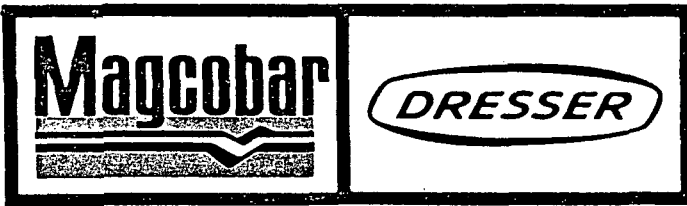
SUGGESTED MUD PROPERTIES

KCL/POLYMER

Depth	Weight	Viscosity	Fluid Loss	Treatment/Remarks
0'-1100'	8.8-9.0	40-45	N.C.	Magcogel - Lime
Set 10 3/4 inch surface casing.				
1100'-3500'	8.8-9.0	40-42	N.C.-12	KCl - Duovis - KOH - Magco-Poly-Pac
3500'-4200'	9.0-9.2	40-42	12-10	(Same as above)

TANNATHIN SYSTEM

0'-1100'	8.8-9.0	40-45	N.C.	Magcogel - Lime
Set 10 3/4 inch surface casing.				
1100'-3000'	8.8-9.0	36-38	N.C.-12	TannAthIn - Magcogel - Caustic Soda
3000'-4200'	9.0-9.2	38-40	12-6	(Same as above)



DEPTH BY INTERVAL ANALYSIS

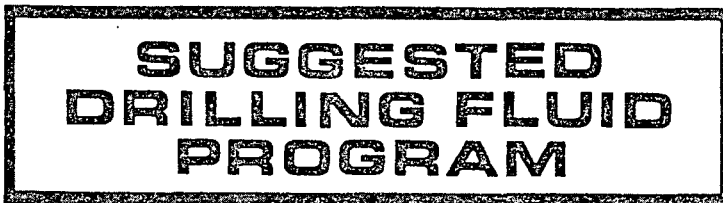
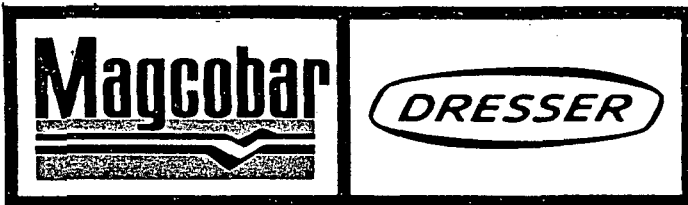
KCL/POLYMER

0' to 1100'

We recommend this interval be drilled with a Magcogel and Native spud mud. Used mud can be hauled in to spud well if available nearby. If not, spud mud can be mixed by increasing viscosity to 38-40 sec/qt with Magcogel and then adding Lime slowly until viscosity is about 45 sec/qt. Higher viscosity will give better carrying capacity for hole cleaning. Desander and/or desilter should be run continuously to avoid weight increase and excessive wear on pumps.

1100' to 4200'

After drilling cement, shoe, and five feet of new hole, clean out the surface system and fill the pits with 3% (10.5 pound per barrel) KCl water, 3/4 pound per barrel Duovis, 1 1/2 pound per barrel Magco-Poly-Pac, and approximately .1 pound per barrel KOH to yield a 9.0-9.5 pH. The mud weight should be maintained as light as safely possible to increase penetration rates and to lessen the chance of formation damage. To maintain viscosity, increase the Duovis content and control the fluid loss with Magco-Poly-Pac. Control the pH at 9.0-9.5 with KOH.



DEPTH BY INTERVAL ANALYSIS

TANNATHIN SYSTEM

0' to 1100'

We recommend this interval be drilled with a Magcogel and Native spud mud. Used mud can be hauled in to spud well if available nearby. If not, spud mud can be mixed by increasing viscosity to 38-40 sec/qt with Magcogel and then adding Lime slowly until viscosity is about 45 sec/qt. Higher viscosity will give better carrying capacity for hole cleaning. Desander and/or desilter should be run continuously to avoid weight increase and excessive wear on pumps.

1100' to 3000'

Continue to run desander and desilter to control drill solids. Treatments should consist of Magcogel for viscosity and large additions of water along with Magcophos to control rheological properties. Regular additions of Drilling Detergent will aid in solids control and reduce balling of the bit and drill string.

3000' to 4200'

Initiate TannAthIn and Caustic Soda treatments at 3000 feet to stabilize flow properties and reduce fluid loss. Continue Magcogel additions for hole stabilization and viscosity. Continue to run desanders and desilters for drill solids control along with water additions. All drilling parameters should be monitored for indications of insufficient mud weights. Increase weights only as hole conditions dictate.

ESTIMATED MATERIALS AND COST ANALYSIS
TANNATHIN SYSTEM
Page 2

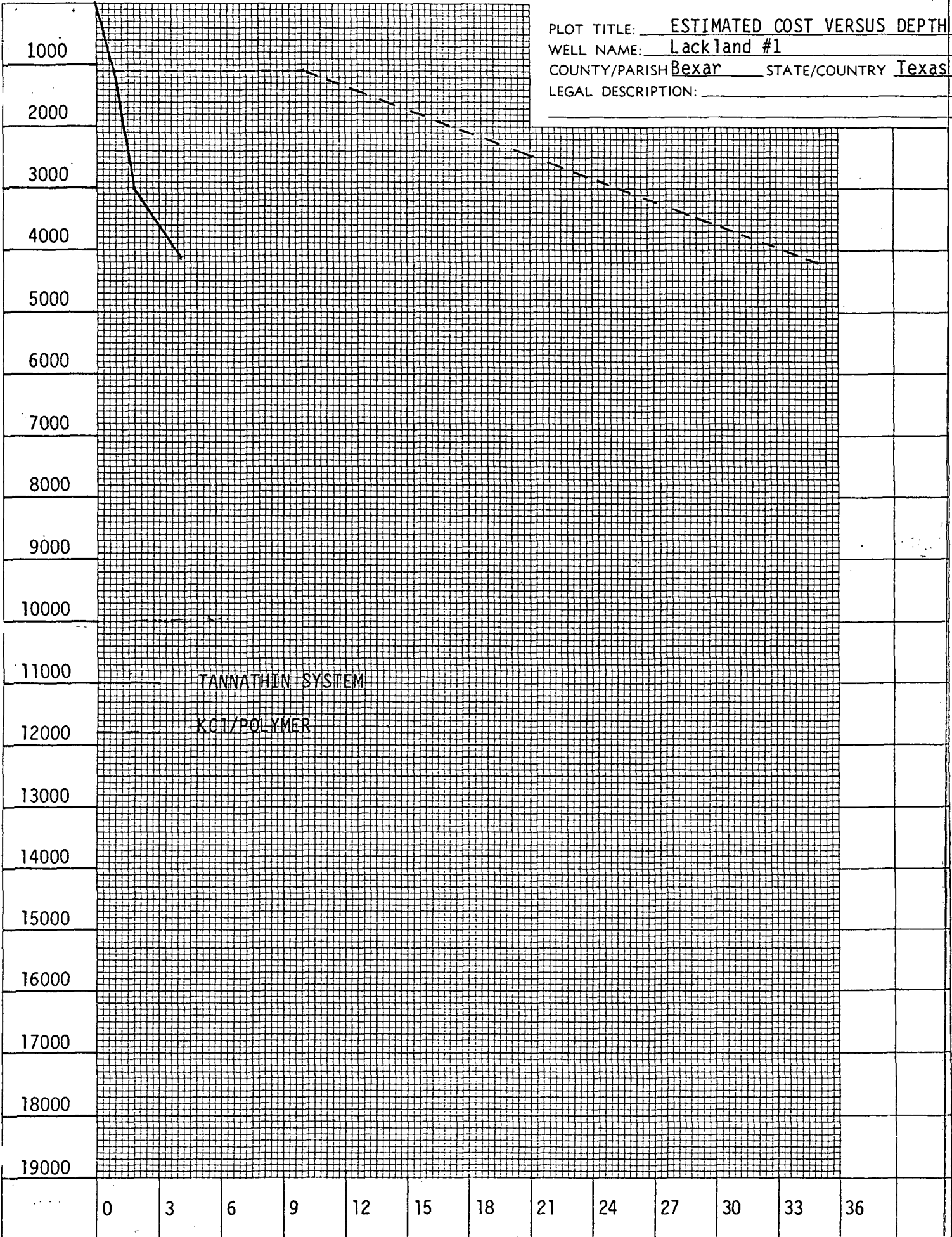
<u>DEPTH</u>	<u>DRLG DAYS</u>	<u>VOLUME</u>	<u>PRODUCTS</u>	<u>UNITS</u>	<u>PRICE/UNIT</u>	<u>COST/INTERVAL</u>	<u>CUMULATIVE COST</u>
0'-1100'	2	750	MAGCOBAR (SX)	10	\$5.70/sx	\$ 57.00	
			MAGCOGEL	100	6.80/sx	680.00	
			LIME	2	4.60/sx	9.20	
							\$746.20
1100'-3000'	5	800	MAGCOBAR (SX)	50	\$5.70/sx	285.00	
			MAGCOGEL	50	6.80/sx	340.00	
			MAGCOPHOS	3	86.00/sx	258.00	
							883.00
3000'-4200'	4	900	MAGCOBAR (SX)	70	\$5.70/sx	\$ 399.00	
			MAGCOGEL	50	6.80/sx	340.00	
			TANNATHIN	80	11.60/sx	928.00	
			CAUSTIC SODA	20	21.75/sx	435.00	
							\$2,102.00
		TRUCKING				337.92	
						\$4,069.12	
						<u>=====</u>	TOTAL COST

PLOT TITLE: ESTIMATED COST VERSUS DEPTH
 WELL NAME: Lackland #1
 COUNTY/PARISH Bexar STATE/COUNTRY Texas
 LEGAL DESCRIPTION: _____

FEET/METERS

IN

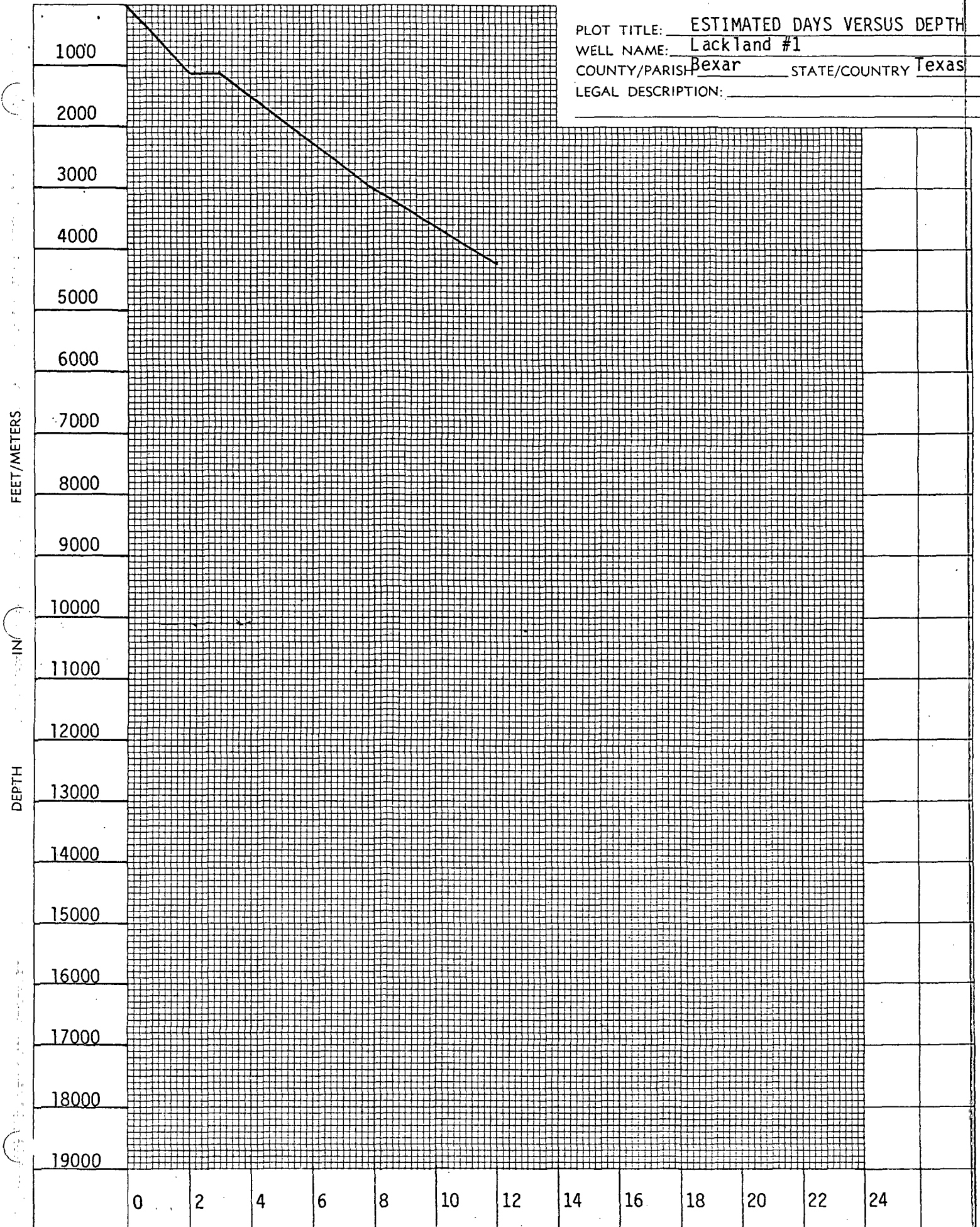
DEPTH



TANNATHIN SYSTEM

KCl/POLYMER

PLOT TITLE: ESTIMATED DAYS VERSUS DEPTH
 WELL NAME: Lackland #1
 COUNTY/PARISH: Bexar STATE/COUNTRY Texas
 LEGAL DESCRIPTION: _____



WELL DATA SHEET



MAG-380-A

Page 1

OPERATOR COASTAL STATES GAS PRODUCING		SURVEY SEC. T R		CASING SIZE 13-3/8" at 80'		DEPTH 80'		BIT SIZE	
WELL Loesberg #1		FIELD Fairfield - McDona - Lytle		SURFACE 8-5/8" at 2555'		INTERMEDIATE		7-7/8" - 9	
CONTRACTOR Cibolo Drilling Company		COUNTY Bexar		STATE Texas		PRODUCTION Dry Hole			
ENGINEER Lloyd West									

DATE	DEPTH	WT.	VIS.	AV	PV	YP	GELS	PH	W/L	PF	CL PPM.	CA PPM.	SOL %	OIL %	H.T.H.P.	TOTAL MUD COST:	TOTAL DEPTH:
																\$3,721.00	5200'
REMARKS																	
1973																	
3-31	935	9.3	31		10	10	2 5	9.0	14.0	TR.	400	20	7				
4-1	1300	9.3	36		8	7	2 7	10.0	12.0	05	550	40	7				
4-2	1884	9.4	34		6	4	2 4	9.0	18.0	.1	400	NIL					
4-3	2009	9.2	33		5	4	1 3	9.0	22.0	.1	350	NIL	6				
4-4	2225	9.1	31		7	3	2 4	8.5	26.0	.1	400	NIL	6				
4-5	2412	9.2	34		5	5	2 3	10.0	15.0	.1	400	TR.	6				
4-6	2526	9.3	40		10	10	2 10	9.0	12.2	05	450	TR.	7				
4-10	3200	9.2	30		5	5	1 2	9.5	30.0	05	350	120	7				
4-11	3300	9.3	32		10	5	2 4	10.5	18.0	.18	400	40	7				
4-13	3650	9.4	37		13	4	0 2	10.5	9.4	.2	450	40					
4-13	3806	9.7	47		26	18	3 6	9.0	8.0	05	350	130	9				
4-14	4120	9.3	35		9	4	2 5	9.2	8.0	.2	400	100	7				
4-15	4365	9.4	35		9	3	?	9.3	8.2	.1	400	80	8				
4-16	4700	9.4	36		11	7	6 14	8.5	9.4	.1	300	80	8				
4-19	5178	9.5	42		18	5	0 2	8.0	7.8	.1	400	140	9				

DATE SPUD:	DATE T.O.:	B.H.T.:	COMPLETION FLUID TYPE:	COST:
3-30-73	4-23-73			
			PACKER MUD TYPE:	COST:

SCHLUMBERGER WELL SURVEYING CORPORATION

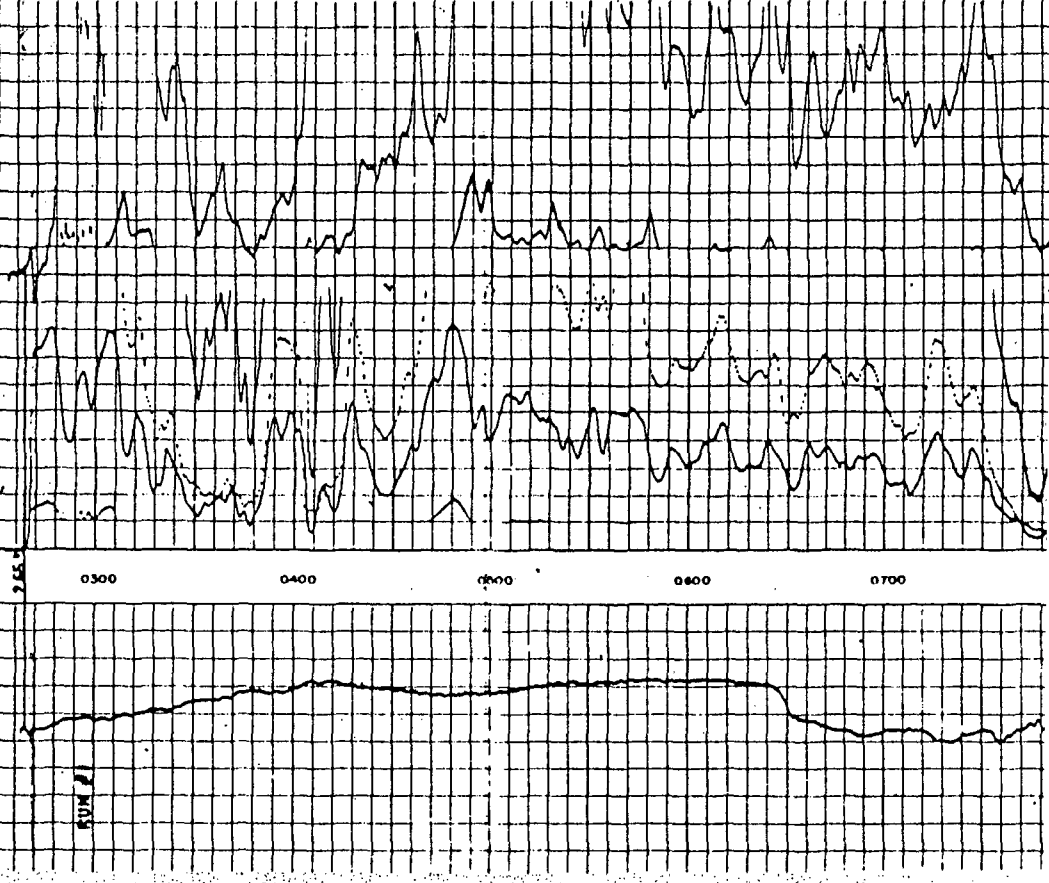


COUNTY: BEXAR	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	Location of Well BEGIN AT N. COR. OF 208.04 AC. 1/4 SE 1/4 80 SSE 837' ALONG ITS MEL (TALLEY RD) THENCE WSW AT R/A 330' TO LOC. SC: 700' NWL & 100' MEL OF (SEE REMARKS)
FIELD: MILD CAT	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	Elevation: D.P.: K.S.: 881 G.L.: 862
LOCATION: T. R. EDMONDSON	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	FILING No. 58-20
SURVEY #203	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	
COUNTY: BEXAR	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	
STATE: TEXAS	WELL: JAMES MADY TALLEY	COMPANY: GENERAL CRUDE OIL	

RUN No.	ONE	TWO	THREE	FOUR	FIVE
Date	11-13-54	11-20-54			
First Reading	841	2617			
Last Reading	841	841			
Feet Measured	1776				
Crg. Schlum.	841				
Crg. Driller	840				
Depth Reached	2618				
Bottom Driller	2622				
Depth Datum					
Mud Nature	NATURAL	NAT ABOVE GR			
Density	10.2				
Viscosity	41				
Resist.					
Res. BHT					
pH					
Wtr. loss	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. °F	80				
Bit Size	15"	11 3/4"			
Spgrs. - AM	16"	16"	16"	16"	16"
AO	18 1/2"	18 1/2"	18 1/2"	18 1/2"	18 1/2"
Op. Rig Time	2 1/2 hr	2 1/2 hr			
Truck & District	MARTIN	CHAPMAN			
Recorded by	MARTIN	CHAPMAN			
Witness by	PINKLEY	PINKLEY			

REMARKS: NOT AVAILABLE
 LOCATION COULT. T. R. EDMONDSON SURVEY #203. (13 MI. W. OF SAN ANTONIO) (M.)
 RUN #1 - LOST RETURNS AND NO MID AVAILABLE
 RUN #2 - MID SAMPLE OBTAINED FROM PIT
 LESS THAN 100' F

RESISTIVITY -ohms. m/m	200	1000	10000	1000	10000
RESISTIVITY -ohms. m/m	AM = 16"	AM = 16"	AM = 16"	AM = 64"	AM = 64"
RESISTIVITY -ohms. m/m	AO = 18 1/2"	AO = 18 1/2"	AO = 18 1/2"	AO = 18 1/2"	AO = 18 1/2"



SCHLUMBERGER WELL SURVEYING CORPORATION

SCHLUMBERGER

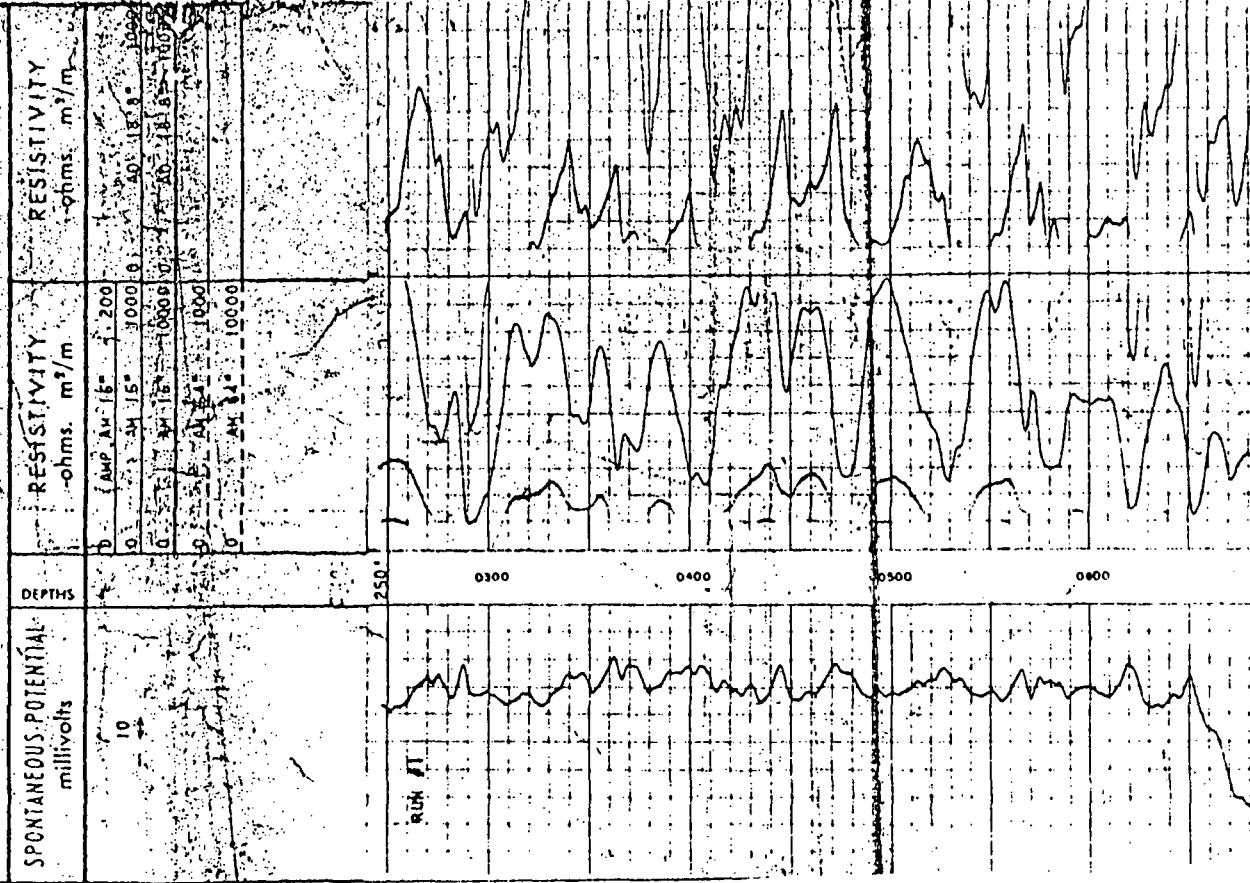
Stratwell Log

COUNTY: BEJAR
 FIELD: MILD CAT
 LOCATION: ROGERS RANCH #1
 COMPANY: GENERAL CRUDE OIL
 WELL: ROGERS RANCH #1
 FIELD: MILD CAT
 LOCATION: J. S. COLLARD SUR. #256, A-15
 COUNTY: BEJAR
 STATE: TEXAS

Location of Well
 1100' S.M. &
 1950' S.E. OF
 320 AC. TR. &
 OF J.S. COLLARD
 SURVEY #256,
 A-15, (8 MILES
 WEST OF SAN
 ANTONIO)
 (M. T.M.)
 Elevation: D.F. B20
 K.B.
 or G.L. B12
 FILING No. 56-20

RUN No.	ONE	TWO	THREE
Date	8-14-54	9-30-54	10-17-54
First Reading	1046	5030	5895
Last Reading	250	1044	5030
Feet Measured	176	3986	865
Cog. Schlum	-	1044	-
Cog. Driller	-	1044	-
Depth Reached	1047	5031	5896
Bottom Driller	1060	5031	5896
Depth Datum	R.B.	12.5' ABOVE GL	-
Mud Nat	NATURAL	NATURAL	NATURAL
Density	-	10.1	10.2
Viscosity	-	-	55
Resist	-	2.5 cc BT	3.8 cc BT
Res. Bit	-	1.8 cc BT	1.8 cc BT
pH	-	-	-
Wtr. Loss	CC 30 min	4.2 cc 30 min	1.1 cc 30 min
Mix. Temp. of	-	117° F	123° F
Bit Size	14-3/4	-	-
Spgrs. - AM	16	19	16
AO	18.8	18.8	18.8
Op. Rig Time	11 hrs	20 hrs	11 hrs
Truck No.	-	-	-
Recorded By	ALLEN	MARSH	MARTIN
Witness By	-	-	-

REMARKS: NOT AVAILABLE - LOSS RETURNS AND NO ROD AVAILABLE
 LESS THAN 100' F
 8-14-54 TO 8-17-54 TO D
 9-30-54 TO 10-17-54 TO D





SUGGESTED DRILLING FLUID PROGRAM

DRESSER MAGCOBAR PERSONNEL

<u>DRESSER MAGCOBAR PERSONNEL</u>	<u>ADDRESS</u>	<u>PHONE</u>
Kerry Kennemer Senior Sales Engineer	Corpus Christi	512/883-2841 512/991-5145 (Night)
Mark Watson Senior Sales Engineer	Beeville	512/358-2692 512/358-4781 (Night)
Don Vick Senior Sales Engineer	Victoria	512/575-4541 512/578-4769 (Night)
Hinds Jones District Engineering Manager	Portland	512/883-2841 512/643-3887 (Night)
Ken Stewart Senior Technical Service Engineer	Portland	512/883-2841 512/643-2066
Orville Welch Area Engineering Manager	Portland	512/883-2841 512/643-7100
Marvin Padgett Area Distribution Superintendent	Corpus Christi	512/883-2841 512/937-4276
Carroll Perry Senior Account Representative	Corpus Christi	512/883-2841 512/851-9382
K. W. Beerman Area Manager	Houston	713/972-6805 713/331-4405

STOCKPOINT

<u>STOCKPOINT</u>	<u>ADDRESS</u>	<u>PHONE</u>
BEEVILLE WAREHOUSE	Beeville, Texas	512/358-2692

LOWER TEXAS GULF COAST ENGINEERING PERSONNEL

Orville O. Welch
AREA ENGINEERING MANAGER
 Corpus Christi

CORPUS CHRISTI 883-2841
 BEEVILLE 358-2692
 EDINBURG 383-1679
 LAREDO 722-5259
 VICTORIA 575-4541

Kenneth P. Stewart
SENIOR AREA TECHNICAL SERVICE ENGINEER

Karl Gillenwater
DISTRICT ENGINEERING MANAGER
 Corpus Christi South

Hinds H. Jones
DISTRICT ENGINEERING MANAGER
 C.C. North & Offshore

Bob Yocom
 Program Writer

Don Allison
 Program Writer

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 Edinburg

Frank Lopez
 Sr. Sales Engr.
 Laredo

Kerry Kennemer
 Sr. Sales Engr.
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Mark Watson
 Sr. Sales Engr.
 Beeville

Don Vick
 Sr. Sales Engr.
 Victoria