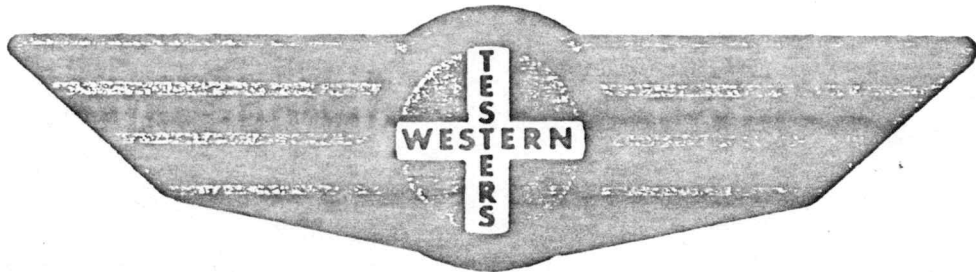


FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY ENERGY EXPLORATION, INC. LEASE & WELL NO. #1 C M DEUTSCHER SEC. 4 TWP. 12SRGE. 21W TEST NO. 1 DATE 12/8/85

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE: 12-8-85 TICKET #7728
CUSTOMER: ENERGY EXPLORATION INC. LEASE: C.M. DEUTSCHER
WELL: 1 TEST: 1 GEOLOGIST: K. HOWARD
ELEVATION (KB): 2333 FORMATION: MARMATON
SECTION: 4 TOWNSHIP: 12S
RANGE: 21W COUNTY: TREGO STATE: KANSAS
GAUGE SN #1566 RANGE: 4300 CLOCK: 12

INTERVAL TEST FROM: 3945 FT TO: 3963 FT TOTAL DEPTH: 3963 FT
DEPTH OF SELECTIVE ZONE: FT
PACKER DEPTH: 3940 FT SIZE: 6 3/4 IN PACKER DEPTH: 3945 FT SIZE: 6 3/4 IN
PACKER DEPTH: FT SIZE: IN PACKER DEPTH: FT SIZE: IN

DRILLING CONTRACTOR: ABERCROMBIE DRLG. #8
MUD TYPE: STARCH VISCOSITY: 9.5
WEIGHT: 44 WATER LOSS (CC): 8.0
CHLORIDES (P.P.M.): 17000
JARS - MAKE: SERIAL NUMBER:
DID WELL FLOW? NO REVERSED OUT? NO
DRILL COLLAR LENGTH: FT I.D.: IN
WEIGHT PIPE LENGTH: 668 FT I.D.: 3.2 IN
DRILL PIPE LENGTH: 3257 FT I.D.: 3.8 IN
TEST TOOL LENGTH: 20 FT TOOL SIZE: 5 1/2 OD IN
ANCHOR LENGTH: 18 FT SIZE: 5 1/2 OD IN
SURFACE CHOKE SIZE: 3/4 IN BOTTOM CHOKE SIZE: 3/4 IN
MAIN HOLE SIZE: 7 7/8 IN TOOL JOINT SIZE: 4 1/2 XH IN

BLOW: INITIAL FLOW PERIOD WEAK BLOW;
1/2 INCH IN BUCKET.
FINAL FLOW PERIOD WEAK BLOW;
1/2 INCH IN BUCKET.

RECOVERED: 1 FT OF: FREE OIL.
RECOVERED: 15 FT OF: HEAVY OIL CUT MUD
RECOVERED: FT OF: (60% MUD; 10% WATER; 20% OIL; 10% GAS).
RECOVERED: 60 FT OF: OIL CUT MUD
RECOVERED: FT OF: (80% MUD; 10% WATER; 10% OIL).
RECOVERED: FT OF: CHLORIDES 20000 PPM.
RECOVERED: FT OF:
RECOVERED: FT OF:
RECOVERED: FT OF:

REMARKS:

TIME SET PACKER(S): 8:30 AM TIME STARTED OFF BOTTOM: 12:00 PM
WELL TEMPERATURE: 115 °F
INITIAL HYDROSTATIC PRESSURE: (A) 2091 PSI
INITIAL FLOW PERIOD MIN: 35 (B) 13 PSI TO (C) 18 PSI
INITIAL CLOSED IN PERIOD MIN: 60 (D) 396 PSI
FINAL FLOW PERIOD MIN: 60 (E) 57 PSI TO (F) 59 PSI
FINAL CLOSED IN PERIOD MIN: 60 (G) 375 PSI
FINAL HYDROSTATIC PRESSURE (H) 2021 PSI

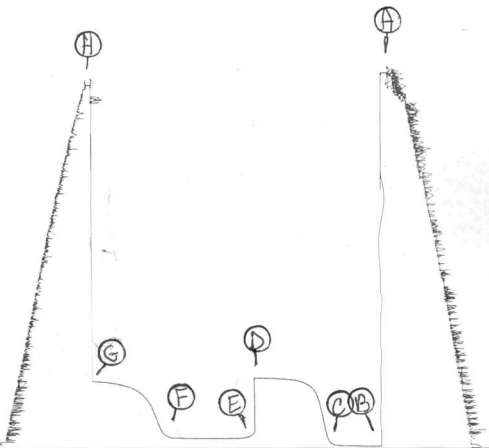
1566

Ybt # 7728

I

Energy Exp

D. ST 1



MUD-GO INC.

DEC 12 1985

DRILLING MUD REPORT

REPORT NO. 2

110 South Main Suite 900, Wichita, Ks. 67202, 316 264-2814

DATE 12-6 1985 DEPTH 3252

API WELL NO. STATE COUNTY WELL S/T

OPERATOR Energy Exploration
 ADDRESS Rig
 REPORT FOR MR.

CONTRACTOR MacCrombie
 ADDRESS Rig
 REPORT FOR MR. Drilling

RIG NO. 8
 SPUD DATE 12 3 85
 SECTION, TOWNSHIP, RANGE 4 12 21W

WELL NAME AND NO. #1 Deutscher " " CMS #1

FIELD OR BLOCK NO.

COUNTY TREAS

STATE KANSAS

OPERATION DRILL
 PRESENT ACTIVITY
 BIT SIZE (IN.) 7 7/8
 DRILL PIPE SIZE 4 5/8
 DRILL COLLAR SIZE 6 7/8

CASING 8 5/8
 SURFACE IN. at 265 FT.
 INTERMEDIATE IN. at FT.
 PRODUCTION OR LINER IN. at FT.
 MUD TYPE Starch

MUD VOLUME (BBL)
 HOLE PITS 211 400
 TOTAL CIRCULATING VOLUME 611
 IN STORAGE

CIRCULATION DATA
 PUMP SIZE X IN. 6 X 18
 PUMP MAKE
 MODEL
 BBL/STROKE STROKE/MIN 1175 52
 BBL./MIN. 9.1

ANNULAR VEL. (FT./MIN.)
 OPPOSITE DP 224
 OPPOSITE COLLAR 407
 CIRCULATING PRESSURE PSI
 BOTTOMS UP (MIN.) 23+
 SYSTEM TOTAL (MIN.) 674

Sample from <input checked="" type="checkbox"/> Flowline <input type="checkbox"/> Pit		MUD PROPERTIES	
Flowline Temperature °F		°F	
Time Sample Taken	<u>(am)</u> pm	<u>8:45</u>	
Depth (ft)		<u>3252</u>	
Weight <input type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu ft)		<u>9.7</u>	
Mud Gradient (psi/ft)		<u>.504</u>	
Funnel Viscosity (sec/qt) API at _____ °F		<u>29</u>	
Plastic Viscosity cp at _____ °F			
Yield Point (lb/100 sq ft)			
Gel Strength (lb/100 sq ft) 10 sec/10 min		<u>1</u>	<u>1</u>
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter		<u>7</u>	
Filtrate API (ml/30 min)		<u>NC</u>	
Cake Thickness 32nd in API <input checked="" type="checkbox"/> HP-HT <input type="checkbox"/>		<u>NC</u>	
Alkalinity, Mud (P _m)			
Alkalinity, Filtrate (P _f /M _f)		<u>1</u>	<u>1</u>
Salt <input type="checkbox"/> ppm <input type="checkbox"/> gpg Chloride <input checked="" type="checkbox"/> ppm <input type="checkbox"/> gpg		<u>40,000</u>	
Calcium <input checked="" type="checkbox"/> ppm <input type="checkbox"/> Gyp (ppb)		<u>1407</u>	
Sand Content (% by Vol)			
Solids Content (% by Vol)		<u>7.5</u>	
Oil Content (% by Vol)			
Water Content (% by Vol)		<u>92.5</u>	
L.C.M. #/bbl			
Preservative #/bbl			

Lost Returns at 3225'

DATE	MUD ON HAND/USED
<u>10</u>	Premium Gel
<u>150</u>	Salt Clay
<u>80</u>	Starch
<u>40</u>	Lime
<u>1</u>	C/S Hulls
	Soda Ash
<u>4</u>	Caustic Soda
	C.L.S. Super Lig
	Preservative
	Drispac
<u>4</u>	Mud Seal
	Multi Seal

DAILY COST	CUMULATIVE COST
<u>265.88</u>	<u>506.07</u>

MATERIALS RECOMMENDED

Suggest

① MUD UP AT 3300' JET & LOWER VOLUMES

② Premix to 80 BBLs water 2 Tanks

2 Tanks → 1/2 5x Soda Ash
1 Tank → 1 5x Preservative & 2 Tanks
25 5x Pres. Gel
5 5x Hulls
5 5x Mud Seal
 Roll Tanks 1 hr & add over system

③ Pickup 80 BBLs Pit mud & add 40 5x Starch - Roll & add over system

④ For vis. 42-48 sec/qt Pickup Pit mud - add Spat Clay - Roll and add over system

② Control mud wt. 9.4-9.8 #/gal
 ③ maintain 1-2 #/bbl L.C.M.
 ④ Suggest short Trip prior to DST

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY MUD-CO., INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE Harry Weber HOME ADDRESS WAKEENEE TELEPHONE 913-743-2454
 Great Bend Answering Service 316/793-7957 WAREHOUSE LOCATION HAYS TELEPHONE 108-3654

MUD-CO INC.

110 South Main Suite 900, Wichita, Ks. 67202, 316 264-2814

DRILLING MUD REPORT REPORT NO. 3
 DATE 12-7 1985 DEPTH 3870
 API WELL NO. STATE COUNTY WELL S/T

OPERATOR Everay Explor. CONTRACTOR Abercrombie RIG NO. 8
 ADDRESS Rig ADDRESS Rig SPUD DATE 12 3 85
 REPORT FOR MR. DREILING REPORT FOR MR. SECTION, TOWNSHIP RANGE 4 12 21W
 WELL NAME AND NO. #1 DEUTSCHER "CMS" #1 FIELD OR BLOCK NO. COUNTY IREP STATE KANSAS

OPERATION		CASING		MUD VOLUME (BBL)		CIRCULATION DATA	
PRESENT ACTIVITY <u>DRILL</u>		SURFACE <u>8 7/8</u> IN. at <u>265</u> FT.		HOLE <u>251</u> PITS <u>400</u>		PUMP SIZE X IN. <u>6</u> X <u>18</u>	
BIT SIZE (IN.) NO. <u>7/8</u>		INTERMEDIATE IN. at FT.		TOTAL CIRCULATING VOLUME <u>651</u>		ANNULAR VEL. (FT./MIN.) OPPOSITE DP <u>224</u>	
DRILL PIPE SIZE TYPE <u>4 1/2</u>		PRODUCTION OR LINER IN. at FT.		IN STORAGE		OPPOSITE COLLAR <u>407</u>	
DRILL COLLAR SIZE <u>6 7/8</u> LENGTH		MUD TYPE <u>STARCH</u>		BBL/STROKE STROKE/MIN. <u>1175</u> <u>52</u>		CIRCULATING PRESSURE PSI	
				BBL./MIN. <u>9.1</u>		BOTTOMS UP (MIN.) <u>284</u>	
						SYSTEM TOTAL (MIN.) <u>724</u>	

Sample from Flowline Pit Flowline Temperature °F MUD PROPERTIES DAILY COST 2062.38 CUMULATIVE COST 2568.45

Time Sample Taken	am	pm	MUD PROPERTIES
Depth (ft)			<u>2115</u>
Weight <input checked="" type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu ft)			<u>9.6</u>
Mud Gradient (psi/ft)			<u>1.499</u>
Funnel Viscosity (sec/qt) API at °F			<u>40</u>
Plastic Viscosity cp at °F			<u>10</u>
Yield Point (lb/100 sq ft)			<u>20</u>
Gel Strength (lb/100 sq ft) 10 sec/10 min			<u>1200</u>
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter			<u>7</u>
Filtrate API (ml/30 min)			<u>10.4</u>
Cake Thickness 32nd in API <input checked="" type="checkbox"/> HP-HT <input type="checkbox"/>			<u>2/32</u>
Alkalinity, Mud (P _m)			/
Alkalinity, Filtrate (P _f /M _f)			/
Salt <input type="checkbox"/> ppm <input checked="" type="checkbox"/> Chloride <input checked="" type="checkbox"/> ppm			<u>20000</u>
Calcium <input checked="" type="checkbox"/> ppm <input type="checkbox"/> Gyp (ppb)			<u>144</u>
Sand Content (% by Vol)			/
Solids Content (% by Vol)			<u>8</u>
Oil Content (% by Vol)			/
Water Content (% by Vol)			<u>92</u>
L.C.M. #/bbl			<u>14</u>
Preservative #/bbl			<u>3 days 1.50</u>

MUD PROPERTIES SPECIFICATIONS
 WEIGHT 9.6-9.9 VISCOSITY 42-48 FILTRATE 10-12
 BY AUTHORITY OPERATOR'S WRITTEN DRILLING CONTRACTOR
 OPERATOR'S REPRESENTATIVE OTHER

MATERIALS RECOMMENDED
 Suggest
 (1) maintain vis 42-48 sec/qt with ~~fine~~ salt clay mixed in pit mud
 (2) maintain 1-2 #/bbl h.l.m.
 (3) Control mud wt. 9.6-9.9 #/gal
 (4) Suggest short trip prior to DST
 (5) KEEP HOLE FULL ON TRIPS

Daily Treatment
 7.56 Starch

DATE _____ MUD ON HAND/USED

<u>16</u>	Premium Gel		Caustic Soda
<u>115</u>	Salt Clay		C.L.S. Super Lig
<u>40</u>	Starch	<u>2</u>	Preservative
	Lime		Drispac
<u>49</u>	C/S Hulls		Mud Seal
	Soda Ash	<u>4</u>	Multi Seal

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY MUD-CO., INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE HARRY WEBER HOME ADDRESS WAKEFIELD TELEPHONE 913-43-2154
 Great Bend Answering Service 316/793-7957 WAREHOUSE LOCATION HAYS TELEPHONE 620-3654

MUD-CO INC.

DEC 12 1985

DRILLING MUD REPORT

REPORT NO. 4

110 South Main Suite 900, Wichita, Ks. 67202, 316 264-2814

DATE	12-8-85	DEPTH	3963
API WELL NO.		STATE	
		COUNTY	
		WELL	
		S/T	

OPERATOR	Energy Exploration	CONTRACTOR	Abercrombie	RIG NO.	8
ADDRESS	Rig	ADDRESS	Rig	SPUD DATE	12 3 85
REPORT FOR MR.		REPORT FOR MR.	Drilling	SECTION, TOWNSHIP, RANGE	4 12 21W

WELL NAME AND NO.	#1 Deutscher CMS #1	FIELD OR BLOCK NO.		COUNTY	Trago	STATE	Kansas
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OPERATION		CASING		MUD VOLUME (BBL)		CIRCULATION DATA					
PRESENT ACTIVITY	DST #1	SURFACE	8 5/8 IN. at 265 FT.	HOLE	257	PITS	400	PUMP SIZE X IN.	6 X 18	ANNULAR VEL. (FT./MIN)	
BIT SIZE (IN.)	NO. 7 7/8	INTERMEDIATE		TOTAL CIRCULATING VOLUME	657			PUMP MAKE		OPPOSITE DP	284
DRILL PIPE SIZE	TYPE 4 1/2	PRODUCTION OR LINER		IN STORAGE				MODEL		OPPOSITE COLLAR	407
DRILL COLLAR SIZE	LENGTH 6 3/4	IN. at	FT.					BBL/STROKE	175	CIRCULATING PRESSURE PSI	
		IN. at	FT.					STROKE/MIN	52	BOTTOMS UP (MIN.)	284
		MUD TYPE	Starch					BBL./MIN.	91	SYSTEM TOTAL (MIN.)	724

Sample from <input checked="" type="checkbox"/> Flowline <input type="checkbox"/> Pit	MUD PROPERTIES	DAILY COST	1051.95	CUMULATIVE COST	3620.40
Flowline Temperature					

Time Sample Taken	am pm	10:00
Depth (ft)		3963
Weight <input checked="" type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu ft)		9.5
Mud Gradient (psi/ft)		4.94
Funnel Viscosity (sec/qt) API at _____ °F		44
Plastic Viscosity cp at _____ °F		10
Yield Point (lb/100 sq ft)		27
Gel Strength (lb/100 sq ft) 10 sec/10 min		2025
pH <input checked="" type="checkbox"/> Strip <input type="checkbox"/> Meter		7.0
Filtrate API (ml/30 min)		8.0
Cake Thickness 32nd in API <input checked="" type="checkbox"/> HP-HT <input type="checkbox"/>		8.52
Alkalinity, Mud (P _m)		
Alkalinity, Filtrate (P _f /M _f)		
Salt <input type="checkbox"/> ppm <input checked="" type="checkbox"/> gpg Chloride <input type="checkbox"/> ppm <input checked="" type="checkbox"/> gpg		17000
Calcium <input checked="" type="checkbox"/> ppm <input type="checkbox"/> Gyp (ppb)		1104
Sand Content (% by Vol)		
Solids Content (% by Vol)		7.5
Oil Content (% by Vol)		
Water Content (% by Vol)		92.5
L.C.M. #/bbl		44
Preservative #/bbl	3 Drops	150
Lost circulation at 3190' and 3932'		

MUD PROPERTIES SPECIFICATIONS			
WEIGHT	9.6-9.9	VISCOSITY	42-48
		FILTRATE	10-12cc
BY AUTHORITY	<input type="checkbox"/> OPERATOR'S WRITTEN <input type="checkbox"/> DRILLING CONTRACTOR <input type="checkbox"/> OPERATOR'S REPRESENTATIVE <input type="checkbox"/> OTHER		

SUGGEST MATERIALS RECOMMENDED

- ① Maintain Viscosity 42-48 sec/qt with Salt Clay in pit mud
- ② Control wt 9.6-9.9 #/gal
- ③ Add LCM as needed
- ④ Keep hole full on all trips
- ⑤ Trip in hole slow

NO Starch needed

Thanks

DATE	MUD ON HAND/USED
35	Premium Gel
60	Salt Clay
33	Starch
	Lime
64	C/S Hulls
	Soda Ash
	Caustic Soda
	C.L.S. Super Lig
2	Preservative
	Drispac
15	Mud Seal
9 Drops	Multi-Seal

THE RECOMMENDATIONS MADE HEREON SHALL NOT BE CONSTRUED AS AUTHORIZING THE INFRINGEMENT OF ANY VALID PATENT, AND ARE MADE WITHOUT ASSUMPTION OF ANY LIABILITY BY MUD-CO., INC. OR ITS AGENTS, AND ARE STATEMENTS OF OPINION ONLY.

REPRESENTATIVE	Steve Ward	HOME ADDRESS	Hays	TELEPHONE	913 628-2289
Great Bend Answering Service 316/793-7957		WAREHOUSE LOCATION	Hays	TELEPHONE	628-3654

MUD-CO INC.

DEC 12 1985

DRILLING MUD REPORT

REPORT NO. 5

110 South Main Suite 900, Wichita, Ks. 67202, 316 264-2814

DATE 12-9-85 DEPTH 4100

API WELL NO.	STATE	COUNTY	WELL	S/T

OPERATOR <u>Energy Exploration</u>	CONTRACTOR <u>Abercrombie</u>	RIG NO. <u>8</u>
ADDRESS <u>Rig</u>	ADDRESS <u>Rig</u>	SPUD DATE <u>12 3 85</u>
REPORT FOR MR.	REPORT FOR MR. <u>Drilling</u>	SECTION, TOWNSHIP, RANGE <u>4 12 21W</u>

WELL NAME AND NO. #1 Deutscher Cms 1 FIELD OR BLOCK NO. _____ COUNTY Trego STATE Kansas

OPERATION		CASING		MUD VOLUME (BBL)		CIRCULATION DATA			
PRESENT ACTIVITY <u>TD-Logging</u>		SURFACE		HOLE	PITS	PUMP SIZE X IN.	ANNULAR VEL. (FT./MIN.)	OPPOSITE DP	
BIT SIZE (IN.)	NO.	IN. at	FT.	TOTAL CIRCULATING VOLUME		PUMP MAKE	OPPOSITE COLLAR		
DRILL PIPE SIZE	TYPE	INTERMEDIATE		IN STORAGE		MODEL	CIRCULATING PRESSURE PSI		
DRILL COLLAR SIZE	LENGTH	IN. at	FT.			BBL/STROKE STROKE/MIN	BOTTOMS UP (MIN.)		
		PRODUCTION OR LINER				BBL./MIN.	SYSTEM TOTAL (MIN.)		
		IN. at	FT.						
		MUD TYPE							

Sample from Flowline Pit Flowline Temperature _____ °F MUD PROPERTIES DAILY COST -0- CUMULATIVE COST 3620.40

Time Sample Taken	am	pm			
Depth (ft)					
Weight <input type="checkbox"/> (ppg) <input type="checkbox"/> (lb/cu ft)					
Mud Gradient (psi/ft)					
Funnel Viscosity (sec/qt) API at _____ °F					
Plastic Viscosity cp at _____ °F					
Yield Point (lb/100 sq ft)					
Gel Strength (lb/100 sq ft) 10 sec/10 min			<u>1</u>	<u>1</u>	<u>1</u>
pH <input type="checkbox"/> Strip <input type="checkbox"/> Meter					
Filtrate API (ml/30 min)					
Cake Thickness 32nd in API <input type="checkbox"/> HP-HT <input type="checkbox"/>					
Alkalinity, Mud (P _m)					
Alkalinity, Filtrate (P _f /M _f)			<u>1</u>	<u>1</u>	<u>1</u>
Salt <input type="checkbox"/> ppm <input type="checkbox"/> gpg Chloride <input type="checkbox"/> ppm <input type="checkbox"/> gpg					
Calcium <input type="checkbox"/> ppm <input type="checkbox"/> Gyp (ppb)					
Sand Content (% by Vol)					
Solids Content (% by Vol)					
Oil Content (% by Vol)					
Water Content (% by Vol)					
L.C.M. #/bbl					
Preservative #/bbl					

MUD PROPERTIES SPECIFICATIONS

WEIGHT	VISCOSITY	FILTRATE
--------	-----------	----------

BY AUTHORITY OPERATOR'S WRITTEN DRILLING CONTRACTOR OPERATOR'S REPRESENTATIVE OTHER

MATERIALS RECOMMENDED

TD-4100'
Logging
Final Count

DATE _____ MUD ON HAND/USED

<u>35</u>	Premium Gel		Caustic Soda
<u>60</u>	Salt Clay		C.L.S. Super Lig
<u>33</u>	Starch	<u>2</u>	Preservative
	Lime		Drispac
<u>64</u>	C/S Hulls	<u>15</u>	Mud Seal
	Soda Ash	<u>4</u>	Multi Seal

Thanks

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REPRESENTATIVE <u>Steve Ward</u>	HOME ADDRESS <u>Hays</u>	TELEPHONE <u>913-628-2209</u>
Great Bend Answering Service 316/793-7957	WAREHOUSE LOCATION <u>Hays</u>	TELEPHONE <u>628-3654</u>