STATE CORPORATION COMMISSION OF KANSAS	API NO. 15- 119-20,833-00-00 0011 11/1/1/ IAL
OIL & GAS CONSERVATION DIVISION	County Meade
WELL COMPENSORY ONFIDENTIAL ACO-1 WELL HISTORY DESCRIPTION OF WELL AND LEASE	Appx. 50 East W NE NE Sec. 15 Twp.34S Rge 28 X West
Operator: License # 30444	4620 Ft. North from Southeast Corner of Section
Name: Charter Production Company	
Address 400 Kress Energy Center	(NOTE: Locate well in section plat below.)
224 East Douglas	Lease Name Enns "A" Well # 1
city/State/Zip Wichita, KS 67202	Field Name Wildcat
·	Producing FormationCouncil Grove
Purchaser:	Elevation: Ground 2403 KB 2416
Operator Contact Person: Robert C. Spurlock	Total Depth 6466 PBTD 3152
Phone (316) 264-2808	5280
Contractor: Name: Eagle Drilling	4620
License: 5380 REUE	110N COMMISSION 3960 3630
Wellsite Geologist: Doug Davis	1 8 19 91 2540 N
X New Well Pe-Entry Workover	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
CONSERVA	N DIVISION 1980 N 1650
Oil SWD Temp. Abd. Wichik X Gas Inj Delayed Comp. Dry Other (Core, Water Supply, etc.)	1320 990 660
If OMHO: old well info as follows:	330 //- 1
Operator:	5280 4850 4850 4850 4850 3850 3850 1320 980 990 990 990 930 990
Well Name:	Amount of Surface Pipe Set and Cemented at Feet
Comp. DateOld Total Depth	Multiple Stage Cementing Collar Used? YesX_ No
Drilling Method:XMud Rotary Air Rotary Cable	If yes, show depth SctFeet
5/9/91 5/24/91 5/31/91 Spud Date Date Reached TD Completion Date	If Alternate II completion, cement circulated from
Spud Date Date Reached TD Completion Date	feet depth to sx cmt.
writing and submitted with the form. See rule 82-3-	s of the spud date of any well. Rule 82-3-130, 82-3-107 and be held confidential for a period of 12 months if requested in -107 for confidentiality in excess of 12 months. One copy of all this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 all temporarily abandoned wells. Any recompletion, workover or
All requirements of the statutes, rules and regulations promule with and the statements herein are complete and correct to t	algated to regulate the oil and gas industry have been fully complied the best of my knowledge.
Signature Kolent Church	K.C.C. OFFICE USE ONLY
Title President Date 7-	F Letter of Confidentiality Attached C Wireline Log Received
Subscribed and sworn to before me this $\pm 7 \text{th}_{\text{day}}$ of $\pm 19 \pm 91$.	uly Drillers Timelog Received RELEASED Distribution
Notary Auf Command Com	KCC SWD/Rep NGPA KGS Jin Flug Other (Specify)

丁号的私籍 (書稿) SIDE TWO Charter Production CompanyLease Name FROM CONSISSEMNTIAL County Sec. 15 Twp 34S Rge. 28INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log. ☑ Yes □ No Drill Stem Tests Taken Formation Description (Attach Additional Sheets.) X Yes No X Sample Log Samples Sent to Geological Survey ☐ Yes ☒ No **Bottom** Cores Taken Name Top X yes | No Electric Log Run (Submit Copy.) SEE ATTACHED SHEET -PLEASE KEEP CONFIDENTIAL. CASING RECORD ☐ New ☐ Used Report all strings set-conductor, surface, intermediate, production, etc. Type and Percent Purpose of String Size Hole Size Casing Weight Type of # Sacks Setting Additives Drilled Set (In O.D.) Lbs./ft. Depth Cement Used Surface (used) 8-5/8 28# 628 230 3% cc 100Class ae. Prod (used) 60/40 Poz 5-1/2 15.5# 3454 125 10% Salt* PERFORATION RECORD Acid, Fracture, Shot, Cement Squeeze Record Shots Per Foot Specify Footage of Each Interval Perforated (Amount and Kind of Material Used) Depth 4 3168 - 70' 3098 - 3100 TUBING RECORD Liner Run 2-2/8 Yes X No 3111 Producing Method Flowing Pumping Gas Lift Other (Explain) Date of First Production WOPL Estimated Production Bbls. Mcf Water Bbls. Gas-Oil Ratio Gravity Per 24 Hours 200 Disposition of Gas: 1967 1999 METHOD OF COMPLETION Production Interval

Vented X sold Used on Lease (If vented, submit ACO-18.)

COMPRESENTATION OF THE

 \square Open Hole \square Perforation \square Dually Completed. \square ... Commingled

U Other (Specify) _____

* 10% salt; 10# sx gilsonite .6% Halad 322 and 420 gals Super Flush

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FROM CONFIDENTIAL

Charter Production Company #1 Enns "A"
App. 50' W of NE NE
Section 15-34S-28W
Meade County, Knasas
ACO-1
Page 2

PLEASE KEEP ALL INFORMATION CONFIDENTIAL.

DRILL STEM TESTS:

DST #1 from 3091' to 3114'.

Open 30", SI 60", Open 45", SI 90"

During first opening gas to surface in 8"; gauging first opening 117 MCF increased to 258 MCF. During second opening began with 400 MCF increased to 497 MCF.

IHP 1582#

FHP 1552#

IFP 72-14#

FFP 135-166#

ISIP 899#

FSIP 889#

DST #2 from 4834' - 4860'

4860' STATE CORPORATION COMMISSION

Open 30", SI 30", Open 30", SI 30"

Recovered 180' mud. No show.

IHP 2423#

FHP 2383#

IFP 93-104#

FFP 124-145#

ISIP 1471#

FSIP 1371#

JUL 1 8 1991

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CONSERVATION DIVISION Wichita, Kansas

DST #3 from 5240'-5276'

Open 30", SI 60", Open 60", SI 90"

Fair blow building to strong in 4". Gas to surface at the end of second SIP and burned.

Recovered 630' total fluid as follows:

210' gassy mud

420' gassy oil cut mud

IHP 2632#

FHP 2553#

IFP 93-155#

FFP 207-301#

ISIP 0

FSIP 1722#

DST #4 5320'-5338'

Open 30", SI 60". Open 60", SI 120"

Fair blow increasing to strong in 1". Gas to surface in 60" on second opening.

Recovered 750' total fluid as follows:

210' gassy oil cut muddy water

540' gassy salt water

IHP 2632#

FHP 2602#

IFP 104-182#

FFP 259-363#

ISIP 1722#

FSIP 1722#

DST #5 from 6129' - 6194'

Open 30", Si 30", Open 30", Si 45"

Recovered 60' drilling mud with scum of oil.

IHP 3108#

FHP 3058#

IFP 72-72#

FFP 83-83#

ISIP 135#

FSIP 135#

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CONT TIAL

Charter Production Company #1 Enns "A"
App. 50' W of NE NE
Section 15-34S-28W
Meade County, Knasas
ACO-1
Page 2 (cont'd)

SAMPLE TOPS:

Formation Tops

Chase 2618' (-202) Krider 2658' (-242) Wreford 2948' (-532) Council Grove 2995' (-579) Heebner Shale 4423'(-2007) Toronto Limestone 4445'(2029) Lansing 4578'(-2162) T/KC 4887' (-2471) Stark 5078' (-2662) Swope 5097' (-2681) Marmaton 5271' (-2855) Novinger 5331' (-2915) Oswego 5396' (-2980) Cherokee 5430' (-3014) Morrow 5786' (-3370) 1st Morrow 5811' (-3395) 2nd Morrow 5821' (-3405) Miss. Chester " D " 5853' (-3437) Miss. Chester "C " 6028' (-3612) Miss. Chester "B" 6065' (-3649) Miss. Chester "A" 6144' (-3728) Chester Sandstone 6183' (-3767) St. Genevieve 6229' (-3813) St. Louis 6306' (-3890) TD 6470' (-4054)

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JUL 1 8 1991

CONSERVATION DIVISION Wichita, Kansas

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CONSERVATION D ... Wichita, Kansus

CHARTER PRODUCTION COMPANY

1 Enns "A"

API 15-119-20833

4620' FSL; 710' FEL

SECTION 15

T34S-R28W

MEADE COUNTY

Kansas

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FROM CONFIDENTIAL

May 27, 1991

Douglas V. Davis Jr. Petroleum Geologist 1962 Joann Wichita. Kansas 67203 316-943-8393

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WELL DATA

Operator- Charter Production Company #30444

Well- # 1 Enns "A"

Location- 4620' FSL; 710' FEL. 15-T34S-R28W Meade Co., Ks.

Elevation- 2416' KB; 2403' GL Contractor- Eagle Drilling Co.

Tool Pusher- K. O. Steinert

Geologist- D. V. Davis

Spud- 5-09-91

Surface Casing- 16 Joints of 8-5/8" @ 628'

Commenced- 5-10-91

Bit Size- 7-7/8" Reed HP 52J 635'-5276; RR 5276'-6466'

Completed- 5-24-91

RTD/LTD- 6466'/6470'

Mud-Co, Inc. Eng. Scott Selzer

Testing- Trilobite Testing Co. Tester- Rod Steinbrink

Logging- Halliburton Logging Services Eng. Bob Johnson

Gas Detector- GeoDynamic Logging Co.

Samples- K.G.S. Well Sample Library, Wichita

Status- 5½" 84 Joints

CHRONOLOGICAL DATA

5-09-91 0000' Moved on; Spud; Set Surface Casing

5-10-91 0635' Drilled out plug; Drilled ahead

5-11-91 2250' Drilling ahead; geologist on location

5-12-91 3030' CFS @ **3**062'; Lost circulation; CFS **@** 3114'; DST #1;

5-13-91 3315' Drill ahead; Lost circulation @ 3383'; Displaced mud @ 3805'

5-14-91 4015' " "

5-15-91 4602' CFS @ 4860'; DST #2

5-16-91 4860' CFS @ 4900; CFS @ 5082

5-17-91 5238' CFS 2 5276'; DST #3; CFS @ 5338'

5-18-94 5468' DST \$3; Drill ahead

5-19-91 5468' Lost Circulation @ 5510'; Drill ahead

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5-20-91 5763' CFS @ 5851'; Drill aheaD

6010": CFS @ 6194'; DST #5 5-21-91

5-22-91 6194' Drilling ahead

5-23-91 6441 CFS @ 6466'; Log

Run 84 Joints $5-\frac{1}{2}$ " Production casing 5-24-91 6466'

HOLE DEVIATIONS

635' - 1/4°

2426' - 1/80

3114' - 1/8°

4715' - 3/4°

4860' - 3/4°

5338' - 3/4°

 $6194' - 3/4^{\circ}$

6466' - 1/2°

TESTS

1) 3091-3114' Council Grove 30"-60"-45"-90"

> Strong blow of bottom bucket 30""; GTS/8" GA- 117 to 258 MCF 1st; 400.5 to 497.5 MCF 2nd

Rec- 460' Water Chlorides 38,000 ppm

IHP 1582#

FHP 1552#

IFP 72-114#

FFP 135-166#

ISIP 899#

FSIP 889# BHT 93°F

4834-4860' Wyandotte Limestone 30"-30"-30" 30"

Weak blow died/27"

Rec- 180' Mud

IHP 2423#

FHP 2383#

93-104#

FFP 124-145#

ISIP 1471#

FSIP 1371# BHT 110°F

5240-5276' 3) Marmaton 30"-60"-60"-90"

Strong blow/4"; GTS/ end FSI

Rec- 210 GM (15% G; 85% M)

180' GOCM (65% G; 5% O; 30% M)

GOCM (58% G; 2% O; 40% M)

180' GOCM (50% G; 10% O; 40% M)

IHP 2632# FHP 2553#

IFP 93-155#

FFP 207-301#

ISIP HYdrostatic FSIP 1722# BRT 1160

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4) 5320-5338' Novinger Zone 30"-60"-60"-120"

Strong blow/1"; GTS/ end FF

Rec- 90' GOCWM (73% G; 2% O; 10% w; 15% M)

60' " (79% G; 1% O; 10% W; 10% M)

60' GOCMW (70% G; 5% O; 15% W; 10% M)

540' GW

IHP 2632# FFH 2602#

IFP 104-187# FFp 259-363#

ISIP 1722# FSIP 1722# BHT 122°F

5) 6129-6194 Chester Sandstone :30"-30" 30"-45"

Blow died/25"

Rec- 60' Mud w/ scum oil @ top

IHP 3108# FHP 3058#

IFP 72-72# FFP 83-83#

ISIP 135# FSIP 135# BHT 124°F

GEOLOGICAL COMMENTS

There were no shows observed in the Permian Chase Group. Whereas, in the Council Grove Group there were gas detector shows. This group lag top was chosen at 2995 (-579). This would be 9 feet high to the Charter #1-14 Davis (1/2 mile east, 1/4 mile south); and 5 feet low to the Mesa #1-15 Meierdirks (1/2 mile west, 1/2 mile south). We circulated for samples at 3062', equivalent to the producing zone of the Davis, but lost circulation. Thus, we drilled ahead, we were running 3 feet high to the #1-14 Davis.

We circulated for samples at 3114' where there was a 40 unit show (14 units background) on the gas detector. Samples, from 3095' to 3104', were white to light grey, finely crystalline limestone, with fair intecrystalline porosity. There were no shows observed (see the reuslts of DST #1).

The Heebner Shale log top was chosen at 4423 (-2001), 15 feet high to the Davis and 16 feet low to the Mesa well.

There was a 52 unit show (18 units background) on the gas detector at 4838', located in the Wyandotte Limestone. Samples, from 4836' to 4846', were cream to tan to light brown, finely crystalline Climestone, with poor to fair inter-crystalline and solution pinpoint porosities. There were no shows observed in samples (see the results of DST #2).

The T/KC log top was chosen at 4887 (-2471). This would be 21 feet high to the Davis and 15 feet low to the Meierdirks. There were no shows observed in the samples or by the detector.

The Marmaton Group log top was 21 feet high to the Davis and 27 feet low to the Meirerdirks. Samples, from 5266 to 5274, were light grey to white, finely crystalline, fossiliferous, pellatal, dolomitic limestone, with poor inter-crystalline poroisty. There was a fair fluorscence and

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solvent cut (see the results fo DST #3).

The Novinger log top was 18 feet high to the Davis and 17 feet low to the Meierdirks. Samples, from 5339 to 5346, were tan to light brown, finesly crystalline, oolitic, fossiliferous limestone, with fair inter-crystalline and oomoldic porosities. There was a light brown staining and a poor show of free oil and gas. The detector had a 277 unit show with 140 units of background (see the results of DST #4).

The Morrow Sandstone log top was 5 feet low to the Meierdirks and 31 feet high to the Davis. Samples were well sorted, subangular to subrounded, clear quartz, very fine grained sandstone and siltstone, with poor inter-granular porosity. There was a 62 unit show (30 units of background), but no shows observed in the samples. It was decided not to test, but review the log.

The Mississippian Chester D zone log top was 3 feetlow to the Meierdirks and 30 feet high to the Davis. There were no observed shows either in samples or by the detector.

The Mississippian Chester Sandstone log top was chosen at 6183 (-3767). This would be 47 feet high to the Kennedy & Mitchell #1-94 Davis (3/4 mile east, 1/2 mile north) Samples, from 6191 to 6197, werewell sorted, subangular to subrounded very fine-grained clear quartz sandstone and siltstone. There was a fair show of free oil and a 20 unit show on the gas detector. See the results of DST #5.

The St louis log top was chosen at 6306 (-3890). There were no porosities in this zone. It was recommended the production casing be run , so as to further evaluate the Council Grove formations.

Respectfully submitted,

Origles Claris

Douglas V. Davis

Petroleum Geologist

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FROM CONFIDENTIAL

		03		INC.
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100 South Market, Suite 203, Wichita, KS 67202, 316-264-2814

OPERATOR

Charter

			•	* **
_	DRILLING MU	D REPORT	REI NO	PORT 1
	DATE 5/09/91	19	DEPTH	-0-
	API WELL NO.	STATE COL	YTNL	WELL S/T
				RIG NO. 1 SPUD DATE 5/09/91 SECTION, TOWNSHIP, BANGE 15-34-28W
	Meade		STAT	U
_		IRCULATIO	N DAT	ГА
S	5	IN. 14		ULAR VEL. (FT./MIN.) SITE DP
	MODEL			SITE COLLAR
_	BBL/STROKE S .096 BBL/MIN. 6.0	TROKE/MIN 62	BOTT	OMS UP (MIN.)
Ŧ			14 1.14	E COST
_	MUD PROPE	RTIES SPECI	FICAT	IONS

AUG 0 2 1993

FROM CONFIDENTIAL

ADDRESS	•	•	/	ADDRESS	3			SPUD DATE
Rig				Rig				5/09/91
REPORT FOR MR.			F	REPORT				SECTION, TOWNSHIP, RANGE
Davis			Щ.	Stei				15-34-28w
WELL NAME AND NO.			FIELC	ORBLO	OCK NO.	COUNTY	STAT	
#1-15 Enns						Meade		Kansas
OPERATION	CASING		ll ———		UME (BBL)		ULATION DA	
PRESENT ACTIVITY	8 5/8 _{N. at} 000		HOL		PITS	PUMP SIZE X	1 h	ULAR VEL. (FT./MIN.)
Spudding BIT SIZE (IN.) NO.	8 5/8 _{N. at} 000			L CIRCU	-0-	5 PUMP MAKE	TT OPPO:	SITE DP
12 1/4	IN. at	FT,	VOLU		0-	OPPO:	SITE COLLAR	
DRILL PIPE SIZE TYPE	PRODUCTION OR		IN ST	ORAGE	<u> </u>	KE/MIN CIRCI	ULATING	
4 1/2	IN. at	FΤ.			0-	.096	62 I	SURE PSI
DRILL COLLAR LENGTH	MUD		[<u> </u>	BBL./MIN.	BOTT	OMS UP (MIN.)
size 6 1/4	TYPE Premix	k & Li	m <u>e</u>			6.0		L (MIN.) -0-
Sample from [] Flo	wline Pit	MUD	PROPE	RTIES	DAILY COST		CUMULATIV	E COST
Flowline Tempetur	e <u>9</u> E			<u>.</u>	429.14		429.14	
Time Sample Taken am	0440	2:00	Ĺ			MUD PROPERTIE	S SPECIFICAT	IONS
Depth (ft)	···	-0-			WEIGHT 9.4-9.8	VISCOSITY 36-40	FIL	TRATE NC
Weight 🗌 (ppg) 📋 (lb/cu ft)				<u> </u>	OPERATOR'S WI	RITTEN DRI	LLING CONTRACTOR
Mud Gradient (psi/ft)					BY AUTHORI	VE OTHER		
Funnel Viscosity (sec/qt) API	at°F		·		Suggest:	MATERIALS	RECOMMEND	ED
Plastic Viscosity cp at	°F]}	-1 -+ 0 h 0 0 .	#/1/ -	
Yield Point (lb/100 sq ft)					(I) Contr	ol wt 9.4-9.8 <i>i</i>	//gar w/ w	vater.
Gel Strength (lb/100 sq ft) 1	0 sec/10 min	/	1	/	(2) Vis 3			
pH 🗌 Strip 📋 Meter					}	•		
Filtrate API (ml/30 min)					120 b	•		l 1 hr & add
Cake Thickness 32nd in API	☐ HP-HT ☐				1 sx	Soda ash	only	as needed.
Alkalinity, Mud (P _m)					25-30	sx Prem Gel		
Alkalinity, Filtrate (Pf/Mf)		1	- /	1	(2) (44 1	ime as needed	to flugh k	nole & holm
Salt ppm Chloride	jppm I gpg	3000			II ' = '	ain Vis.	to riush i	iore « Herb .
Calcium ppm Gyp (ppb		220	-		llia III c	ain vis.		
Sand Content (% by Vol)		†			(4) 2-6 #	/bbl LCM.		
Solids Content (% by Vol)	·· .					•		
Oil Content (% by Vol)				(5) Trip	slowly & Keep 1	nole full.		
Water Content (% by Vol)					Cir h	ole clean prio	r to csg.	KCC
L.C.M. #/bbl					†			1 1111 8 ***
Preservative #/bbl			-	1		RECEIVED		IJUL 17
·					STATE C	INPPORATION COMMISSI	NC	DOM: TITLE TO THE
· · · · · · · · · · · · · · · · · · ·						CONTINENTIAL		
 		<u>i </u>		<u> </u>	<u> </u>	JUL 1 8 1991		
DATE MUD (N HAND/USED				`			a.
362 30 Premium Ge	40	Cauctic C	ode		[] co:	NSERVATION DIVISION	Thanks	
Premium Ge	40 20	Caustic S	oua 		[]	Wichita, Kansas	R	ELEASED

CONTRACTOR Eagle

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.

MPC

P10

DD

C.L.S. Super Lig

Preservative

Drispac

Mud Seal

Multi Seal

Salt Clay Starch

C/S Hulls

Soda Ash

Lime

6

4

12

2

40

25

24

REPRESENTATIVE	Scott Selzer	HOME ADDRESS	Dodge City	TELEPHONE	227 <u>-76</u> 15
Great Bend Answering Service 316/793-7957		WAREHOUSE LOCATION	Pratt	TELEPHONE	6 <u>72-29</u> 57



REPRESENTATIVE

Great Bend Answering Service 316/793-7957

Scott Selzer

DRILLING MU	D REPO	ORT	RE NO	PORT		2	 	<u> </u>
DATE 5/10/91	1	9	DEPT	- 	63	35 '		_
API WELL NO.	STATE	cou	NTY		VEL		S/	<u> </u>

100 South	h Market, S	Suite 203, Wid	chita, KS	6720	02, 310	6-264-28	14			ELL NO.								
OPERATOR									Fig. 1. Share						IG NO.			
Charter						Eagle	9								1			
ADDRESS	•			-	─ 	ADDRESS				JUL	1 7			Si	PUD DA	ATE		
Rig						Rig				00%	<u>' /</u>				5/09,			
REPORT FOR MR.	•		- -			REPORT				3011		TIA	1	SE	CTION, 1	rownshi	IP, RANGE	
Davis_ well name and	NO	_ -			FIEL	Steir Don Blo			CONT. TIAL				_ │STAT	15-34-28w				
#1-15 Enns					''	D ON BEC	JCK 110.		Mea	de			3121		Kansa	as		
OPERATIO		CAS	ING			NUD VOL	IME (RE				CIR	ULATI	ON DA					
PRESENT ACTIVIT		l .	FACE		HOL		JINE (DE	PITS	PUMP S	SIZE 2	×	IN.		ANNULAR VEL. (FT./MIN.)				
Tripping		8 5/8N. at		FT.	51			350_	5			14			E DP			
	NO.	INTERN	MEDIATE)	TOTA	AL CIRCU	LATING	;	PUMP	MAKE			OPPC	SIT	E COLI	LAR		
7 7/8 DRILL PIPE SIZE	TVPE	IN. at	N OB LIN	FT.		UME 40)1		MODE	L TROKE	CT D	NE MAI	N 0100		. =:::-		· · · · · · · · · · · · · · · · · · ·	
4 1/2	1172		JN ON LIN		1114 3	IONAGE				_		62	PRES	SUF	ATING REPSI			
DRILL COLLAR	LENGTH	IN, at		FT.	L	_		 {	.09 BBL./N			02	- вотт	гом	IS UP (N	<u>ع_(.nin</u>	3+	
SIZE 6 1/4		TYPENat	cive						6.0				SYST	EM AL (MIN.)	<u>67+_</u>		
	from Flov		1	MUD	PROPE	ERTIES	DAILY	COST					JLATI	/E C				
Flowling	e Tempeture	°F					599	64				10	28.78	3				
Time Sample Taken	n aprilipi	n	5:	55_			To 43	300'	М	JO PROP	ERTI	ES SPEC	IFICA	TIO	NS			
Depth (ft)			635	5			WEIGH	T 2	_	viscos As	YTIS No.	haha	F	LTR	ATE NC			
Weight 🗌 (ppg) 📮	(lb/cu_ft)					1				PERATOR							CTOR	
Mud Gradient (psi/f	ft)						BY AU	THORI		PERATOR								
Funnel Viscosity (se	ec/qt) API a	t	°F				Suga	gest:		MATERI	ALS	RECO	MEND	ED				
Plastic Viscosity cp	at	≏ F					[]	=	. ,			.10 17	/ 		2 - 4	-64-		
Yield Point (lb/100	sq ft)						(1) Drill w/ native mud & F/water, jet often.							:11.				
Gel Strength (lb/10	00 sq ft) 10	sec/10 min		/	/	/	(2) Flush hole as needed due to tight hole.											
pH Strip M	eter			ĺ			(2)					cu uu						
Filtrate API (ml/30	min)						1	120 1		F/wat					& ac		ι⊥y	
Cake Thickness 32	nd in API (□ НР-НТ □					ĬI	1/2 :		Soda			as	s n	eedeo	1.		
Alkalinity, Mud (Pr	m)							20-30) sx	Prem	GeT							
Alkalinity, Filtrate	(P _f /M _f)			/	1	1	(2)	I CM	onlu	if nee	hah							
Salt ppm gpg	Chloride	ppm gpg	ĵ					LON	OHLY	II IICC	ucu	•						
Calcium 🗌 ppm 📋							(4)	P-10	L: Ad	d 1 ga	ıli	n dri	11 p:	ipe	eac	h 90'	'-150'	
Sand Content 1%	by Vol)						` ' '	1 10	_	w = 0~			F			, -	-2-	
Solids Content (% t	by Vol)			RE	JE1 A C	CUMMISS	h.(5)	Fill	frac	tank	w/	this	prem	ix	to d	ispla	ace	
Oil Content (% by	_		STAT CC	<u></u>	* L: JV	CHAMISS.	hiv \	by 4	3001.		•				LEAS			
Water Content (% b	ov Vol)					10.01		120	hh 1	F/wat	on		,	,		سے عمر ہی		
L.C.M. #/bbl			- 	{ 	1 R	<u> </u>	ĺ	1 sx		Soda					- A O	1007	?	
Preservative #/bbl		78			5 2 C 1 T	187. O		1 sx		Caust			,	ΔIJ	B 0 S	. 1770)	
-	-		COM	Mich	ita, Kai	ຽ . ເວລີປີ ກະas		1 sx		Ligni								
				10101	100, 110			Ge1	for a	36 V i	s	F	ROM	1 C	ONF	·IDF	NTIAL	
			<u></u> i				(()	17	_1, _ 1 1	DCT	r -:	- h-1	a a1.		. 0 ~	not i	٠٠ د د د د د	
DATE	MUD OI	HAND/USED					(6)	thic	snall	ow DST k of c	hom	mnq r. nor	from	eai	l & S	pot a Sin	a hole	
321 41 P	remium Gel	40	Caus	stic S	oda			LILLC	r rgu	V OI C	, II CIII	muu	I I OIII	51	,εp π	ייי ע	TOTE .	
11	alt Clay	19	<u> </u>		oua per Lig	3	(7)	Trin	ഭിവ	ly & F	(eer	hole	e ful	1.				
L is	tarch		I	ervati				1110	U L U W	OC 1	L			•				
10 aa	ime	6	Dris	pac		MPC												
1 25 1 1	/S Hulls	12 3	1 1	Seal		DD P10							Than	ķs				
S	oda Ash		Mult	i Sea	I	110							Inon					
		MADE HEREON S BILITY BY MUD-										LID PAT	ENT, AN	iD Al	RE MAD	E WITH (DUT	

HOME ADDRESS

WAREHOUSE LOCATION

Dodge City

Pratt

TELEPHONE 672-2957

				and the state of the state of	والمراجية ويعيم المارية	DRILLING MUD	ŖĔPŎŖŢ	REPORT			
			IJτ	NC.	. [DATE <u>8/12/01</u>	19	DEPTH			
					·	API S	TATE COL	, <u>, , , , , , , , , , , , , , , , , , </u>			
100 South Market, S	SUITE COE A SECTION.	KS 6720	2, 316	5-264-28	14	WELL NO.					
OPERATOR				CONTRA		KC	<u>, </u>	RIG NO.			
('harter ADDRESS	AUG 0 2 1993	<u>.</u>	-	For)	e		# _/	1 SPUD DATE			
Ria	,,,,			Rig		JUL 1	7	5/09/91			
REPORT FOR MR. FRC	M CONFIDEN	TIAL	F	REPORT	•			SECTION TOWNSHIP MANGE			
Davia WELL NAME AND NO.				Stei	nert ock no	TI COUNTY 1 TO 1	<u>. 'TiAl</u>	15-34-28w			
#1-15 Enns				3 011 520		Meade		Koneas			
OPERATION	CASING		м	UD VOL	JME (BBL)		CULATIO				
PRESENT ACTIVITY	SURFACE		HOL		PITS	PUMP SIZE X	IN.	ANNULAR VEL. (FT./MIN.)			
Drilling BIT SIZE (IN.) NO.	8 5/0. at 627	FT. TE	10; TOTA	2 NL CIRCU	350_	5 PUMP MAKE	14	OPPOSITE DP			
7 7/8	IN. at	FT.	VOL	IME	42	MODEL		OPPOSITE COLLAR			
DRILL PIPE SIZE TYPE	PRODUCTION OR	LINER	INST	ORAGE		BBL/STROKE STR		CIRCULATING PRESSURE PSI			
4 1/2 DRILL COLLAR LENGTH	IN. at	FT,	<u>L</u> _		20	.096	62	BOTTOMS UP (MIN.) 32+			
SIZE 6 1/4	MUD TYPE Promis				_	6.0		SYSTEM TOTAL (MIN.) 90+			
Sample fromrFlow	dine Pit	MUD	PROPE	RTIES	DAILY COST		CUMUI	LATIVE COST			
Flowline Tempeture	·	<u> </u>		·	2238.70		320	67.48			
Time Sample Taken am pri		3:55		ļ		MUD PROPERT					
See Depths (ft)	هیري خد ادوای د ۱۱ موراي د 	2960	وي درسور وي	T	WEIGHT	VISCOSITY 31-32		FILTRATE			
Weight □/(ppg) □ (lb/cu ft)		2.6			BY AUTHORI	OPERATOR'S V	VRITTEN[DRILLING CONTRACTOR			
Mud Gradient (psi/ft)		400		<u> </u>	ar Admon	□ OPERATOR'S F		TATIVE OTHER			
Funnel Viscosity (sec/qt) API a	t	30			Suggest: MATERIALS RECOMMENDED						
Plastic Viscosity cp at		-		-	(1) Control wt 9.2-9.4 #/gal w/ water.						
Yield Point (lb/100 sq ft) Gel Strength (lb/100 sq ft) 10		,		 							
pH Strip Meter	sec/10 min			 '	(2) Vis 31-32 sec/qt w/ premix.						
Filtrate API (ml/30 min)				-	120 %	bl F/water	F	Roll 1 hr & add 1			
Cake Thickness 32nd in API					l sx	Soda neh	t	tank/tour over 1			
Alkalinity, Mud (Pm)	 - -			1	20-30	ax Prem Gel	C	eir.			
Alkalinity, Filtrate (P ₁ /M ₁)		7	1	- , -	(2) LOM .	anlu an maadad					
	pm apg	96.00	<u></u>		(3) ECIN (only as needed	•				
Calcium ppm Gyp (ppb)		7 9 4	1,7		(4) Disp	lace at 3800'.	Have	frac & premix tank			
Sand Content (% by Vol)			•		full	of this premi	х.				
Solids Content (% by Vol)		3.5				obl F/water	1	Note: Run a 40 bbl			
Oil Content (% by Vol)	ECEIVED				2 ex	Soda ash Caustic		enter flush shend of			
Water Content (% b\\$TV-01)	- At M 2 have the	96.5			2 6x		(displacement mud.			
L.C.M. #/bbl	t 1 8 1991	0				for a 36 Vis					
				\perp		-					
	אווען איטיבעאין MOISION			1	(5) Vis	36-40 sec/qt w	/ prem:	ix from step #2.			
	nantid marisas			<u> </u>				ı			
DATE MUD ON	I HAND/USED							clean & spot a			
၁၆ 225 Premium Gel		Caustic S	oda		tnici	t tank of prem	ix iron	step #4.in holo.			
Salt Clay		C.L.S. Su _l		Ì	(7) Trip	slowly & Keep	hole	full.			
Starch		Preservati	_			nicht, Grieef.					
Lime 15 3 C/S Hulls		Drispac		MPC							
15 5 C/S Hulls 19 6 Soda Ash	ا امد ا	Mud Seal Multi Sea		DD P10			Thank	(B			
					<u> </u>		Literen				
THE RECOMMENDATIONS (ASSUMPTION OF ANY LIA!							ALID PATE	NT, AND ARE MADE WITHOUT			
REPRESENTATIVE	Scott Selzer		номі	E ADDRE	ss	Dodge City		TELEPHONE 227-7615			
Great Bend Answering Service 316/793-	7957				LOCATION	Pratt		TELEPHONE 672-2957			
<u>ا ين الحجود المحمد المحمد المحمد على المحمد المحم</u>	E 4 - 1	* 100 1 100 1 10 10 10 10 10 10 10 10 10	1-1-	erit as	Page 4	L.C.C.C.	<i>*</i>	<u> U[6=695]</u>			

		A Car			<u>:</u>				REPOR	₹	
entriple experience (All Fig. 1) is a finite of the control of the				Controlles parte d	and the standard community of the standard c	DRIL	LING,MUD,R	EPORT.	NO:	for we represent the	province the co
		到例		NC.	,]:	DATE_	5/13/91	19	DEPTH		
•							API STA	TE COU	NTY	WELL	S/T
100 South Market, S	Suite 203, Wichita,	KS 6720)2, 316	-264-28 	14		NO.				
OPERATOR	RELEASED			ONTRA	CTOR		KC	Co	RIG	NO.	
<u>Charter</u> ADDRESS	MELLAGE		—II.,	Fagl DDRESS	<u>e</u>		y 11 -ca-			D DATE	
Rig	AUG 0 2 1993	1	1	Rig	•		JUL 1	7	ll ll	5/09/91	
REPORT FOR MR.	AUG U 2 1773		— _R	EPORT I	OR MR.		<u></u>		SEC	TION, TOWNSH	IIP, RANGE
Davis WELL NAME AND NO	OM CONFIDE	NTIAL.		Stei	nert	, -	000 "			<u>15-34-28</u>	te
•	OW COMLINE		FIELD	ORBLO	OCK NO.	COUNTY	4		STATE		
#1-15 Enns			<u> </u>			Me	ade			Kansas	
OPERATION PRESENT ACTIVITY	CASING		HOLE		JME (BBL)	PUMP		ULATION		R VEL. (FT	/MIN)
Drilling BIT SIZE (IN.) NO.	8 5/0 at 62			_		5		. 1	OPPOSITE		
	INTERMEDIA		TOTA VOLU	L CIRCU MÉ	LATINGO -		MAKE		OPPOSITE	COLLAR_	
7 7/8 DRILL PIPE SIZE TYPE	PRODUCTION OR	FT.	4	ORAGE	78	MODE BB1/S	L STROKE STRO	KE/MIN	CIRCIII AT	TING	
4 1/2	IN, at	FT.				.0	_	ا دی	PRESSURE	PSI	
DRILL COLLAR LENGTH	MUD		<u> </u>	———5	00	BBL./N			SOTTOMS SYSTEM	UP (MIN.)_	-14:30 -
Size 6 1/4	TYPE Premi				<u> </u>	6.0	0		TOTAL (M	IIN.) 1137	
Sample from F Flow Flowline Tempeture		MUD	PROPE	RTIES	DAILY COST			CUMUL	ATIVE CO	ST	
	· · · · · · · · · · · · · · · · · · ·	l [1	1562-31			****	0.79		
Time Sample Taken am pn		11:3)	1			UD PROPERTIE			_	
Depth -(ft)	THE STATE OF THE S	3470	Mary States Alternate State	>1 Sautage experience	9.0-9.2	Talent State Co.	*** VISCOSITY** 31-32	a Applica magazinak beraturi	FILTRA NO		
Weight 🗹 (ppg) 🔲 (lb/cu ft)	1	9.2		-	BY AUTHORI	TY 🗀 o	PERATOR'S WI	RITTEN	DRILLIN	G CONTRA	CTOR
Mud Gradient (psi/ft)	<u></u>	.478		- 		٥ا_ا	PERATOR'S RE			OTHER	
Funnel Viscosity (sec/qt) API a		32			Suggest:		MATERIALS	RECOMM	IENDED		
Plastic Viscosity cp at	°F			 	(1) Contr	ol wi	e 9.0-9.2	#/gal	w /wate	or.	
Yield Point (lb/100 sq ft)	110			 				, 0	,		
Gel Strength (lb/100 sq ft) 10	sec/10 min	/	/	/	(2) Vis 3	1-32	sec/qt w/	premi	х.		
pH Strip Meter	····			-	120 b	b1	F/water	;	Roll 1	hr & ad	ld
Filtrate API (mI/30 min) / Cake Thickness 32nd in API	TUBUT [1/2 8		Soda ash			needed	
Alkalinity, Mud (P _m)] UL-UI []			 	II '		Prem Gel				
Alkalinity, Filtrate (P _f /M _f)		1		,							
Salt gpg Chloride	pm -	/		,	(3) LCM:	As no	eeded.				
Calcium ppm Gyp (ppb)	ipg :	40.00	<u>0</u>	+			. 20001				
Sand Content (% by Vol)			 -		(៤) ការខ្សារ	ace a	at 3800° w	/ this			•10
Solids Content (% by Vol)					120 b	bl	F/water			Run a A	
Oil Content (% by Vol)		4.0-			2 sx		Soda ash			flush ab	
Water Content (% by Vol)					2 sx		Caustic	;	dispiac	cement m	រប់៤.
L.C.M. #/bbl		96.0		-	2 sx	່ດອຸດ	Lignite 36 Vis				
Preservative #/bbl		1				Or C	20 110				
<u> </u>					(5) Vis 3	6-40	sec/qt w/	premi	x from	step #2	2.
Lost 15 bbl at 3	062' & 80 bb1	et 3	<u> </u>	 			,			-	
	-			<u> </u>	(6) Trip	slow:	ly & Keep !	hole f	ull.		
DATE MUD ON	I HAND/USED				. 20	CEIVI	En				
176 144 Premium Gel	58 2	Daustic S	oda				COMMISSION				
Salt Clay PHP	"/-\"	C.L.S. Su									
50 Starch MBL	. 2	Preservat	ive		.1111.	1.8	1991	ፍታቂዝ			
Lime		Drispac		MPC	ا مورث	x. U	(9.91	Ta	nnke		
194 45 C/S Hulls 19 5 Soda Ash		Mud Seal Multi Sea		DD P10	1		DIVISI ON				
			·		Wich	nita, Kar	nsas	-			
THE RECOMMENDATIONS I								LID PATEN	T, AND ARE	MADE WITH	OUT
ASSUMPTION OF ANY LIAI	BILITY BY MUD-CO., INC	OR ITS		· · · · · · · · · · · · · · · · · · ·		DF OPIN	ION ONLY.		I		
REPRESENTATIVE	Scott Selzer		HOME	ADDRE	ss	odge	City		TELEPHO	227-7	615
Great Bend Answering Service 316/793-			WARE	HOUSE	LOCATION -	_			TEL EPHC	INF -	

WAREHOUSE LOCATION

E LUCATION Prott

TELEPHONE 672-2957

REPRESENTATIVE

Great Bend Answering Service 316/793-7957

		G	INC.
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100 South Market, Suite 203, Wichita, KS 67202, 316-264-2814

	DRILLING	AUD REPO	ORT RE	PORT	
DA	ATE 5/14/9	911	9DEPT	н	
	API WELL	STATE	COUNTY	WELL	S/T

			_,			NO.		<u> </u>			1			
OPERATOR	RELEASE)	[-	CONTRA	TOR					RIG	NO.			_
Charter ADDRESS	MELENOE:		_	Fng ADDRESS	le		(, (,)	,		4	l D DA			
	0. 0. 10	กร	′		,				1					
Rig REPORT FOR MR.	AUG 0 2 19	7J	┈╢╒	Rig REPORT F	OR MR.	— JUL	17)/91 ownsh	IP, RAI	NGF
Davie			- 11			_ ~~						34-2		
WELL NAME AND NO.	ROM CONFID	EMILLA	/FHE L	ORBLO	OCK NO.	COUNTY, UIL	STATE							
#1-15 Enna						Meade				<u>-</u>	Cons	888		
OPERATION	CASING		· ——		JME (BBL)		CIRC	ULATIC	N DAT	A				_
PRESENT ACTIVITY	SURFACE		HOL		PITS	PUMP SIZE	l .	NULAR VEL. (FT./MIN.)				.)		
Drilling BIT SIZE (IN.) NO.	8 5 jill at 62		31 TOTA	L CIRCU	400_	PUMP MAKE		14	OPPOS					
7 7/8	IN, at	FT.	VOLU	^{JME} 7	14	MODEL			OPPOS			AR		
DRILL PIPE SIZE TYPE]]					BBL/STROKE	STRO	KE/MIN	CIRCU	LATI	NG	•		
4 1/2						.096		62	PRESS				F 2 .	
DRILL COLLAR LENGTH	ILL COLLAR LENGTH MUD TYPE Chem & Chem					BBL./MIN.			SYSTE	M				
SIZE 6 1/4				6,0	'		TOTAL			119	<u> </u>	=		
Sample from Flow	PROPE	RTIES	DAILY COST			CUMUI		-	Т					
			1390.64				20.43					=		
Time Sample Taken am p		আ ভাইত সক্তৰত		MUD PRO							··· <u>- · ·</u> · · -			
	·	Charles and a s		8.8-9.0	VISC 4	0=45			12-1					
Weight 🗗 (ppg) 🗌 (lb/cu ft)		3921 8.8											СТО	₹
Mud Gradient (psi/ft)		457				TY OPERATO					OTHE	R		
Funnel Viscosity (sec/qt) API	at	48 -4	3		Suggest:	MATE	RIALS	RECOM	MENDE	iD.				
Plastic Viscosity cp at	°F 	10		(1) Control wt 8.8-9.0 #/gal w/ water.										
Yield Point (lb/100 sq ft)		1/3			(1) control we o.o-y.o a/gat w/ water.									
Gel Strength (lb/100 sq ft) 10	sec/10 min	18 20	1	/	(2) Via 4	10-45 sec/	nt. w/	การต	1 x .					
pH ☐ Strip		10.5	•			,	•	-			_		_	
Filtrate API (ml/30 min)		14 4			1	obl F/wat			Roll					
Cake Thickness 32nd in API	Ø HP-HT □	1 1			1 sx	Soda			only	ឧន	пее	aea.	•	
Alkalinity, Mud (P _m)		+			Inici	ten w/ Pre	ur Ce 1	L						
Alkalinity, Filtrate (Pf/Mf)		6	1	1	(3) Tour!	l er								
Salt ppm / Chloride	ppm gpg	8000												
Calcium 🖫 ppm 🔲 Gyp (ppb)		40			Caust	tic: 3 sx	over	4-6 h	rs.					
Sand Content (% by Vol)	-				Lign	ite: 1 sx	over	2 hrs						;
Solids Content (% by Vol)	·			1	<u></u>					"				:
Oil Content (% by Vol)		3-1			ŀ	ling Deter			n ove	3F 6	пг	8.		
Water Content (% by Vol)			-CFIV	/FD	(4) 1 CM-	Only if n	റമറിക്ക്	1						
L.C.M. #/bbl	STA	TE Com	, A1 1	S COMMI	SION LOSS	Only II h	CCIAC	• •						
Preservative #/bbl		- 1. 1.			(5) At 45	300° add 1	ex (Causti	c. 3	8X	Lig	nit	e. 3	
		' 1111	1 B	1991		c to prem					_			
<u></u>	hanks	001	. 1 0	1.7.71	2 hrs	-		•						
			11:07:02	A PINNOIUS	ļ									
DATE MUD O	N HAND/USED	\\	unia, k	ເມເະຣຜິຣີ	(6) Trip	slowly &	Коер	hole	full.					
						nole clean	-	or to	DST.					
80 96 Premium Gel	1 27 1 7 1	Daustic S D.L.S. Suj				15 for DST		_						
50 Starch 143		رد.c. دران. Preservati	_			ignite as				_		is.		
Lime 13	13 1	Drispac		MPC	Break	c cir on t	rips	in ho	TG M	/ bi	τ.			
170 24 C/S Hulls	17	Mud Seal		ממ										
11 8Soda Ash	1 1	Multi Sea	I	P10										
THE RECOMMENDATIONS	MADE HEREON CHAIL N	OT BE CO	UCTO: IF	DAC 411*		EDINGERAENT OF	ANVVA	IID DATE	NT AND	APE	MADE	WITT	OUT.	

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	Scott Selzer	HOME ADDRESS	Dodge City	TELEPHONE 227-7615
Great Bend Answering Service 316/7	93-7957	WAREHOUSE LOCATION	Pratt	TELEPHONE 672-2957

				en e		DRILLING N	UD REPORT	REP NO.	PORT
国际利 保持		7 14		NC	, [7	DATE	19	DEPTH	-
			9	.40.	'	API	STATE COL		
100 South Market, S	Suite 203 WEATSE	6 6720	2, 316-	·264-28	14	WELL NO.	SIATE CO		WELL S/T
OPERATOR			C	ONTRAC	TOR	May C	C		RIG NO.
<u>Charter</u>	AUG 0 2 19	93	_	Engle DDRESS			-		SPUD DATE
Rig	M00 0 = 1		^	Rig		JUL 1	7		5/09/91
REPORT FOR MR.	ROM CONFIC	ENTI	AL RE	EPORT F					SECTION, TOWNSHIP, RANGE
Davis WELL NAME AND NO.			 EEELD	Stein OR BLO		COUNTY	TIAL	STATE	15-34-28w
						Meade			Kansas
#1-15 Enns	CASING		MU	ID VOLL	IME (BBL)	L MERCIA	CIRCULATIO	N DAT	
PRESENT ACTIVITY	SURFACE		HOLE		PITS	PUMP SIZE	X IN.		JLAR VEL. (FT./MIN.)
BIT รใชย (เกิ.) กระเบอ.	8 5/60. at 62*		- 378.	C) DCIII	LATING 100	5	14	OPPOS	ITE DP
7 7/8	INTERMEDIAT	FT.	VOLUM		LATING	PUMP MAKE		OPPOS	SITE COLLAR
DRILL PIPE SIZE TYPE	PRODUCTION OR		INST	PAGE	8		STROKE/MIN		
4 1/2	IN. at	FT.				.096	62		URE PSI
DRILL COLLAR LENGTH	MUD					BBL./MIN.		SYSTE	
<u> </u>	TYPE Chem &					6.0		<u> </u>	_ (MIN.) <u>13()</u> +
Sample from T Flow Flowline Tempeture		MUB	PROPER	RTIES	DAILY COST			LATIVE	
Time Sample Taken am pr					1447.06	MUD PRO	PERTIES SPECI	FICATI	
Depth (ft) a beautiful station and an articles		11:45	Tall the title of	ath agrippe on	WEIGHT≫≪≪				TRATE
Weight (ppg) (lb/cu ft)		A710		†	9.0) 49	j-48	1	.0-12cc
Mud Gradient (psi/ft)	· · · · · · · · · · · · · · · · · · ·	9.3			BY AUTHORI		DR'S WRITTEN DR'S REPRESEN		LLING CONTRACTOR
Funnel Viscosity (sec/qt) API a	t °F	<u> នុស្ស។</u>	1	13:	Suggest.	ومربر كمهارا والعالق والبهاء والمتهاد	NALS RECOM	4 7.1	The second secon
Plastic Viscosity cp at	°F	47	·		Suggest:				
Yield Point (lb/100 sq ft)		12 22			(1) Contr	ol wt 9.0	#/gal w/ v	wter	•
Gel Strength (lb/100 sq ft) 10	sec/10 min	/ I		 	101 111 - 1	or 30 /		f	
pH ☐ Strip	-	25 37			(S) VIS 4	15-48 sec/q	ic w/ prem	LX.	
Filtrate API (ml/30 min)		11.3			120 b	bl F/wate			1 br & add
Cake Thickness 32nd in API		15.2			1 ex	Soda n		m].v	es needed.
Alkalinity, Mud (P _m)		1		<u> </u>	Thick	en w/ Prem	Gel		
Alkalinity, Filtrate (Pf/Mf)	/	1.3	1	7	(3) Tourl	142			
Salt ppm Chloride	pm gpq	11.50	1						
Calcium ppm Gyp (ppb)		40			Caust	ic: 2 ex o	ver 2-4 hi	·8.	
Sand Content (% by Vol)		.16			Ligni	te: 1 ex o	ver 2 hrs.	(A	đđ 2 sx 1f necyle
Solids Content (% by Vol)		6.5		1	to ke	ep Vis in	proper ran	ige.)	
Oil Content (% by Vol)		- C.			Drill	ing Deters	ent: 1 car	i/tou	r over 2 hrs.
Water Content (% by Vol)		93.5				.		•	
L.C.M., #/bbl	ianks	0			, ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		e lose cir from
Preservative #/bbl	Harth C			1	4800*	-5200' if	wt exceeds	9.0	#/gal.
- (7)-Cir hole cle	an malan sa N	- 470			4 Pr 5 Pr				
• • •	trips in hole		1 + <u> </u>			i te s jet go 2 hrs.	ood & add	i tan	k of this premix
DATE MUD ON	HAND/USED				120 b	bl F/wate	r i	Rall	1 hr prior to
275 20 Premium Gel		Daustic S	oda	ļ	1 sx	Soda a			g. Mix Monpac
Salt Clay PHP		C.L.S. Su			2 sx	Causti			n/ex.
Starch	3,	Preservat		}	3 sx	Monpac			
Lime C/S Hulls	4 4 5	Drispac		MPC	3 sx	Lignit			
C/S Hulls Soda Ash	P 0	Mud Seal Multi Sea		DD MBL	Prem	Cel as nee	aed		
1 Jouda Asn		viuiti Sea	1	6 * 66/* Loj	(6) Trip	slowly & H	<u>Geop hole</u>	rull.	
THE RECOMMENDATIONS				AND AD	HORIZING THE IN	NFRINGEMENT OF	ANY VALID PATE	NT, AND	ARE MADE WITHOUT

HOME ADDRESS

WAREHOUSE LOCATION

Dodge City

Pratt.

Scott Selzer

REPRESENTATIVE

Great Bend Answering Service 316/793-7957

TELEPHONE 227-7615
TELEPHONE 672-2957

MUDOCUINC.	ANALY DESCRIPTION OF THE PROPERTY OF THE PROPE

100 South Market, Suite REL MASIED KS 67202, 316-264-2814

re, estimates		IUD REPO	ORT RE	PORT	e e san
	DATE	1	9DEPT	77 (73 75	-
_	API /	STATE	COUNTY	WELL	S/T
4	WELL NO.				
TOR				RIG NO.	

						NO.					
OPERATOR			С	ONTRA	CTOR	100		RIG NO.			
ADDRESSLOP	AUG 0 2 199	} 3	Щ <u>.</u>	o GAES	(3		:C	1 2000 0 275			
ADDME22001			^	DORESS	s [.]			SPOD DATE			
REPORT FOR MR.	ROM CONFIDE	ENTIAL		₽ 1 c EPOĦT I	FOR MR.	- JUL 1	7	SECTION, TOWNSHIP, BANGE			
						ensemble that a	***** A #				
WELLENAME AND NO.	_ _		FIELD	OFUELL	BERNO.	conditA (s	:/-\L	STATE 15-34-28#			
						Meade		Kaneas			
OPERATION	CASING		ML	D VOL	UME (BBL)		CIRCULATIO	N DATA			
PRESENT ACTIVITY	SURFACE		HOLE		PITS	PUMP SIZE	X IN.	ANNULAR VEL. (FT./MIN.)			
BIT SPEE (TN.) NO.	8 5/N. at	TE FT.	TOTAL	CLBCU	LATING 100	PUMP MAKE	14	OPPOSITE DP			
	IN, at	FT.	VOLU	ME		MODEL		OPPOSITE COLLAR			
DRILL PIPE SIZE TYPE	PRODUCTION OR	LINER	IN STO	PRAGE	788		STROKE/MIN	CIRCULATING			
11.172	IN, at	FT.				-096	<i>-</i> -	PRESSURE PSI			
DRILL COLLAR LENGTH	MUD					BBL./MIN.		BOTTOMS UP (MIN.) [山, SYSTEM			
SIZE:	TYPE	-Chem_6	_Mon	pare		الے	*	TOTAL (MIN.)			
Sample from I Flov		MUDP	ROPER	RTIES	DAILY COST			LATIVE COST			
Flowline Tempeture	· 4F	<u> </u>		<u> </u>	1260.45		892	27.94			
Time Sample Taken am pi		#:05- -					PERTIES SPECI				
Depth (ft)		4860	Tank Shalis	preser 33.4	WEIGHT	VISC	osity 15-48	FILTRATE 10-12cc			
Weight (ppg) (lb/cu ft)		9.2			OPERATOR'S WRITTEN DRILLING CONT						
Mud Gradient (psi/ft)		1.978	- 17. · - 11.	~!;;~.	BY AUTHORI	OPERATO	R'S REPRESEN	TATIVE OTHER			
Funnel Viscosity (sec/qt) API a	otF	17		I	Suggest:	MATER	HALS RECOMP	MENDED			
Plastic Viscosity cp at	°F	14									
Yield Point (lb/100 sq ft)		1			(1) Contr	rol wt 9.0	#/gal w/ v	vater.			
Gel Strength (lb/100 sq ft) 10	sec/10 min	13 16' 21	1	1		in hO		•			
pH ☐ Strip ☐ Meter	<u></u> .	1 1			(2) V18 4	15-48 sec/c	it w/ prem:	ix.			
Filtrate API (ml/30 min)		10.5			120 b	obl F/wat	er	Roll 1 hr & add			
Cake Thickness 32nd in API [Ø HP-HT □	 9.6			1 ex	Soda	neh	only as needed.			
Alkalinity, Mud (P _m)	······	†*			Thick	cen w/ Prom	Gel	•			
Alkalinity, Filtrate (Pf/Mf)		. 8/	1	1	†						
Salt ppm Chloride	opm 400		·		(3) <u>Tourl</u>	<u>Ly</u>					
Calcium 🗹 ppm 🔲 Gyp (ppb)		10,000	<u> </u>	 	tauan	t ic: 2 sx c	ver 3-4 h	78.			
Sand Content (% by Vol)		40			{						
Solids Content (% by Vol)		+ +		 	11 -			(Add 2 sx if y			
		5-8		 	поеце	за со кеер	ATR IN DLC	oper range.			
Oil Content (% by Vol)					Drill	ling Deterg	g <mark>ent:</mark> 1 car	n over 2 hrs.			
Water Content (% by Vol)	<u> </u>	98.2									
L.C.M. #/bbl		tr			' '	=		ssible lose cir 4800			
Preservative #/bbl		ļ l			'-52C	00' 1f Wt 6	exceeds 9.0) //gal.			
					11	slowly & h	-				
<u> </u>		' ' -		-	17	iole clean	-				
DATE MUD OI	N HAND/USED				Break	e eir on tr	rips in hol	le w/ bit.			
250 25 Premium Gel	40 3	Caustic So	da								
l laa.		C.L.S. Sup									
Starch	3 -	Preservativ	e					, was 4			
Lime	7 3 1	Drispac		MPC				Thanks			

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.

MBL

Mud Seal

Multi Seal

158

C/S Hulls

Soda Ash

REPRESENTATIVE	Scott Selzer	HOME ADDRESS	Dodge City	TELEPHONE 227-7615
Great Bend Answering Service 31	6/793-7957	WAREHOUSE LOCATION	Pratt	TELEPHONE 672-2957.
				

				NC.	•	DATE 1,/17/08	19	DEPTH	51081	
doo Carrilla Manicat Cri	ita 000 Wiahita	VS 6700	10 21/	2 064 06		API WELL	STATE CO	UNTY	WELL	5/1
100 South Market, Su			J2, 3 IC	0-264 - 28	514	NO.				
OPERATOR	RELEASED			CONTRA	CTOR	in the	فر باز کار		RIG NO.	
<u>Chorter</u> ADDRESS	0 0 400	17	 -	Eng)	e		6 7		SPUD DAT	E .
Rig	AUG 0 2 199	13		Rig		JUL	1 /		5/09/	
REPORT FOR MR.	ONEIDI			REPORT		- ,70,,		\	SECTION, TO	WNSHIP, RAN
Davie FRO	OM CONFIDI	<u>=N HA</u>		Stei Dorble	nert ock no.	COUNTY		STATE	15-34	<u>-28w</u>
#1-15 Enns						Meade			Kansa	В
OPERATION	CASING		N	IUD VOL	UME (BBL)		CIRCULATION		A	
PRESENT ACTIVITY	SURFACE 8 5/8.at 62	7 er.	HOL 416		PITS 400	PUMP SIZE X	IN. 14	,	JLAR VEL.	(FT./MIN.
BIT SIZE (IN.) NO.	INTERMEDIA		TOTA	AL CIRCU		PUMP MAKE	17	1	ITE COLLA	
7 7/8	IN. at	<u>FT.</u>	٠ı -	<u>Q</u>	16	MODEL		1		
DRILL PIPE SIZE TYPE	PRODUCTION OR		INS	TORAGE		BBL/STROKE S	62		'LATING URE PSI —	
	IN. at	FT.	<u> </u>			BBL./MIN.		вотто	MS UP (MI	_
8176 2 . A U	YPE Chem &	Monpac	-			6.0		TOTAL	.WI (MIN.)	136+
Sample from Flowlin	e ☐ Pit	MUD	PROPE	ERTIES	DAILY COST		CUMU	LATIVE	COST	
	<u> </u>	<u>. </u>			1106.75=			*	10,034	<u>. 60</u>
Time Sample Taken am pm Depth ((t)	The state of the s	h.:40	~ · · · · ·	t the same	WEIGHT	MUD PROPE	-5.455.555.454		TRATE	<u> </u>
Weight (r) (ppg) (lb/cu ft)		5198	-	-	9.0	45-	-48	10	D-12cc	
Mud Gradient (psi/ft)		9.1			BY AUTHOR	OPERATOR		_		
Funnel Viscosity (sec/qt) API at _	°F	173	<u>* . , . , *</u>	CONTACTOR	C	MATERIA	LS RECOM			
Plastic Viscosity op at		17		 	Suggest:					
Yield Point (lb/100 sq ft)		12			(1) Cont	rol wt 9.0 A	//gal w/	water	г.	
Gel Strength (lb/100 sq ft) 10 se	c/10 min	/	7	/	121 110	45-48 sec/qt	· w/ nred	nix.		
pH□Strip 🗹 Meter		12 24 108			` `					
Filtrate API (mI/30 min)		9.6			120				l 1 hr 8 y as nee	
Cake Thickness 32nd in API 🗹	HP-HT □	1			1 63	cken w/ Prem		OHL	y as nec	sueu.
Alkalinity, Mud (P _m)	<u> </u>		_	-	1					
Alkalinity, Filtrate (Pf/Mf)	<u>n</u>	1.0	/		(3) <u>Tour</u>	-ly				
Salt ppm Chloride ppr Chloride ppr Gpp Calcium ppm Gpp (ppb)		11,00	0	-	Caus	stic: 2 ex o	ver 3-4	hrs.		
Sand Content (% by Vol)		20		-	li i	ite: 1 8x 0			AAA 2 a	v (? .
Solids Content (% by Vol)				+		ite: 1 8x 0 ied to keep \				A II Q
Oil Content (% by Vol)		5.1		-	 	•	-	-		_
Water Content (% by Vol)				+	Dri.	Lling Detergo	ent: 1 c	an ov	er z nr	6 .
L.C.M. #/bbl		0 24.3		- 	(4) Honr	p ac: As neede	ed to ke	ep MT	L 10-12	ce. Mi
Preservative #/bbl		(1		 		sx w/ prem:				
ffile or we	le a			 	hrs	if needed to	o keep W	TL in	range,	
Than	Publi			<u> </u>	,			4 EQA	ል፤ ይ- ፣	. 1794 -
		!				: Only if ned /bbl. (Add a				
DATE MUD ON F	IAND/USED				Mult	ti Blend.)	(Add 1 G	al X-	CIDE in	premix
155 95 Premium Gel	1 17 1 10 1	Caustic S				at flowline				
Salt Clay PHPA		C.L.S. Su Preservat	-]			_	_		
Lime	19	Preservat Drispac	146	MPC		p slowly & K				
153 C/S Hulls	9 3	Mud Seal		DD		hole clean ak cir on tr				
Soda Ash	50	Multi Sea	ıl	MBL	l pre	ar cir on tr	who ym n	MTG M	A DIE.	
THE RECOMMENDATIONS MA								_	-	

WAREHOUSE LOCATION

Dodge City

Pratt

TELEPHONE 672-2957

Scott Selzer

Great Bend Answering Service 316/793-7957



100 South Market, Suite 203, Wichita, KS 67202, 316-264-2814

REPRESENTATIVE

Great Bend Answering Service 316/793-7957

Scott Selzer

DRILLING MUD REPORT REPORT 9

DATE 5/18/91 19 DEPTH 5338'

API STATE COUNTY WELL S/T NO.

					ال	NO.	<u> </u>	$\perp \perp$	<u> </u>	<u> </u>
OPERATOR		_	وال	CONTRA	TOR	<u></u>	.00		RIG NO.	
Charter	RELEASE	<u> </u>	_	Eagle			ارد کا کهروت <u></u>		1	
ADDRESS		-		ADDRESS		i 1111	4 >	- 1	SPUD DATE	
Rig	AUG 0 2 19	03		Rig			<u> </u>		<u>5/09/9</u>	
REPORT FOR MR.	AGE O Z 13	7.0	F	REPORT		ረጫ/ዓይ ተጠ	1: man		SECTION, TOW	
Davis Well name and no.			ELE L	Steir	ier.r	COUNTY	1/1	STATE	<u> 15-34-</u>	<u> </u>
#1-15 Enns FRC	M CONFID	ENTIA	VL.			Meade			Kansas	
OPERATION	CASING		М	UD VOL	ME (BBL)	C	IRCULATIO	N DAT	Α	
PRESENT ACTIVITY	SURFACE		HOL		PITS	PUMP SIZE X	IN.		JLAR VEL. (FT./MIN.)
DST #4 8	5/8N. at 627		42	CIRCU	400	5 PUMP MAKE	14	OPPOS	ITE DP	
7 7/8	INTERMEDIAT	ll ll	VOLU	IME		MODEL		OPPOS	ITE COLLAP	3
	IN. at	드' 네		ORAGE	"/	BBL/STROKE S'	TROKE/MIN	CIRCU	LATING	
4 1/2			-			_		PRESS	URE PSI	
DRILL COLLAR LENGTH MU	IN. at	FT.				.096 BBL./MIN.	62	ВОТТО	MS UP (MIN	
SIZE 6 1/4 TYI	Chem & M	lonpac		<u> </u>	<u></u>	6.0		-		38+
Sample from ☐ Flowline ☐ Flowline Tempeture] Pit _^9F	MUDF	ROPE	RTIES	734.10			LATIVE 10,768		
Time Sample Taken am pm		1:00				MUD PROPEI	RTIES SPECI	FICATI	IONS	
Depth (ft)		5338			WEIGHT	viscosi			TRATE	
Weight (ppg) (lb/cu ft)		9.1			9.0	45- □ OPERATOR:	.48	10	0-12cc	BACTOR
Mud Gradient (psi/ft)	· · · · · ·	.473		_	BY AUTHORI	TY OPERATOR				
Funnel Viscosity (sec/qt) API at		42		1	Suggest:	MATERIA	LS RECOM	MENDE	. D	
	 	13		1		"				
Yield Point (lb/100 sq ft)		14			(1) Contr	o1 wt 9.0 #/	gal w/ w	ater	•	
Gel Strength (lb/100 sq ft) 10 sec/	10 min	16/ 25		1	(2) Via Ju	5-48 sec/qt	u/ pnemi	v		
pH ☐ Strip ☐ Meter	_	10.6			(2) VIS 4					
Filtrate API (ml/30 min)		12.0		- 	120 ы	•			l 1 hr &	
Cake Thickness 32nd in API HP	.н <u>т</u> □	1	_	-	1 sx	Soda a		only	y as need	ied.
Alkalinity, Mud (P _m)					Thick	en w/ Prem G	e⊥			
Alkalinity, Filtrate (Pt/Mt)		1.0	ļ	1	 (3)	v				
Salt gpg Chloride gpg		11,500)			_				
Calcium ppm Gyp (ppb)		40			Caust	ic: 2 sx ove	r 2-4 hr	s.		
Sand Content (% by Vol)					Ligni	te: 1 sx ove	r 2 hrs.	(Ac	dd 2 sx :	if needed
Salids Content (% by Vol)	_	5.1			to ke	ep Vis in pr	oper ran	ge.)		
Oil Content (% by Vol)					Drill	ing Detergen	t: 1 can	ove	r 2 hrs.	
Water Content (% by Vol)		94.9								
C.M. #/bbl		0				c: Mix 1-2 s				
reservative #/bbl Thanks					over	2 hrs if nee	ded to k	eep V	WTL 10-1	2cc.
					i			-0		
						Only if need				
			_			bl. (Add ap Blend.) (A				
DATE MUD ON HAI	ND/USED			,	II	owline prior			_	Lemix Of
155 Premium Gel		Caustic Se	oda		at 11	Owithe Dirtor	to addi	,118 L/	Ori ,	
4 Salt Clay PHPA		C.L.S. Sup		3	(6) Trin	slowly & Kee	n hole i	21111		
Starch	7 A	Preservati	ve	MDC	' ' -	ole clean pr	-			
Lime	<u> </u>	Drispac		MPC	II	cir on trip			hit	
149 4 C/S Hulls		Mud Seal		DD MBL	preak	cir on trip	9 111 1101	.c w/	ULU.	
Soda Ash		Multi Seal	l 		<u> </u>					
THE RECOMMENDATIONS MADE							Y VALID PATE	NT, AND	ARE MADE W	тноит

HOME ADDRESS

WAREHOUSE LOCATION

Dodge City

Pratt

TELEPHONE

)	CLASSING SECTION SECTION	on ship was a ship was	DRILLIN	G MUD	REPO	ORT	REI NO.	PORT		
			JI	NC.	,	DATE	10 /07	1	9 C	EPTH	,, _{-::-} ,	, 1	
, , , , , , , , , , , , , , , , , , , ,	0 - 12 - 000 - U.S - 12 - 12 - 12	40,0700				API		ATE	cour	YTY	WEL	Ļ	S/Y
100 South Market, S	Suite 203, Wichita, P	(5 6/20	2, 316	-264-28	14	WELL NO.	<u> </u>			1			
OPERATOR		ASED		CONTRA	CTOR	*****					RIG NO.		
Charter ADDRESS	KELE	ASED		Eagle ADDRESS			1.5	3			SPUD DA	TF	
Rig		A 100	- 11	Rig			• •			İ	5/09		
REPORT FOR MR.	<u> </u>	2 199	'J F	REPORT F			UL 1	7			SECTION.	OWNSHI	
WELL NAME AND NO.	FROM CO	ALCID!		Stein Mole Blo	ert ock no	COUNTY -	D. F. STORE	. e e my m	an ds	TATE	15-3 ⁴	1-28W	
	FROM CO	יטואאי	EI&-FI	746 555	i .	Meade	4		IA S		- Kansı	h er	
#1-15 Enns	CASING		м	UD VOLU	JME (BBL)			CUL	ATION	DAT		40	
PRESENT ACTIVITY	SURFACE		HOL		PITS	PUMP SIZE		1N.			ULAR VE	L. (FT./	MIN.)
BIT SIZE (IN,) IS NO.	8 5/8N. at 627	FT.	ਕੁਮੀਜ਼	1 010011	LATING 100	FUMP MAK		14	c	PPOS	SITE DP		
7 7/8	INTERMEDIAT	FT.	VOLU	JME		MODEL	.E		c	PPOS	SITE COLI	AR	
DRILL PIPE SIZE TYPE	PRODUCTION OR		INST	ORAGE	42	BBL/STRO	KE STR	OKE/					
4 1/2	IN. at	FT.				.096		62	ĺ		SURE PSI - DMS UP (N	4151	
DRILL COLLAR LENGTH	MUD (V)					BBL./MIN.			s	YSTE	M	11 N.) <u>-7</u>	<u>''</u>
6.1/4	TYPE Chem & M		DOORE	RTIES		6.0		Tai			L (MIN.)	142+	
Sample from 🛍 Flow Flowline Tempeture	vline ∐ Pit %F	MODI	PROPE	KIIES	DAILY COST			- 1			E COST		
Time Sample Taken am pr				1	672.35	MUD F	ROPERT	IES S	<u>li.</u> PECIF	∰‡. ICAT	, 1 IONS		
Depth-"(ft))- John Comment	many and the second second		grands m.	(S. Barrier, Learning)	WEIGHT (***		SCOSITY					*************************************	
Weight ☑ (ppg) ☐ (lb/cu ft)	-	5520 			9.0	OPER	ATOR'S V	velt-	TENT	l DBI	LLING CO	NTRA	CTOB
Mud Gradient (psi/ft)).0 :468		a constant a side	BY AUTHOR	OPER.	ATOR'S F	EPR	ESENT	ATIV	/E □OTH	ER	
Funnel Viscosity (sec/qt) API a	t°F				Chaman		TERIALS	REC	СОММ	ENDE	D		
Plastic Viscosity cp at	<u>°</u> F	10			Suggest:	í							
Yield Point (lb/100 sq ft)		L ¹⁴			(1) Cont	rol wt 9	.0 #/g	al ı	4/ W	atei	. •		
Gel Strength (lb/1.00 sq ft) 10	sec/10 min	<u> </u>	- /	/	1,	form to Co	. 4 -	,		_			
pH ☐ Strip		10.0			(2) Vie	45-48 se	C\Gr M	/ pı	rem i.	х.			
Filtrate API (ml/30 min)	Area	12.0			120	bbl F/w					hr &		
Cake Thickness 32nd in API	₫ HP-HT 🗆	1			l sx		a nah		on)	Ly a	ia need	ed.	
Alkalinity, Mud (Pm)	/			ļ	Thic	ken w/ P	rem Ge	L					
Alkalinity, Filtrate (Pf/Mf)	/ Nom	.5/		/	(3) Tour	าไษ							
——————————————————————————————————————	opm gpg	10,500		1									
Calcium ppm Gyp (ppb)		10			Caus	tic: 3 s:	over	3-4	hre	3			
Sand Content (% by Vol)				1	Lign	ite: 1-2	SX OV	er 2	hre	7			*
Solids Content (% by Vol)		1.9			Dref 7	ling Dete	reent	: 1	can	ove	er 2 hr	n.	'
Oil Content (% by Vol)				\perp			21-035 B	- ~	42544 6	C. 4 N/	ian bes Kikida	4	
Water Content (% by Vol))5.1			(4) Monp	ac: As n	eeded	to l	teep	wTi	. 10-12	ec.	xiM)
L.C.M. #/bbl .		7			1	it Mud or							
Preservative #/bbl.													

DATE	MUD ON HAND/USED

thet 100 bbl at 9510

130	25	Premium Gel
12		Salt Clay-TPA
	- 1	Starch
	,	Lime .
110	39	C/S Hulls
10	ĺ	Soda Ash

25	2	Caustic Soda	
-7	-5	C.L.S. Super Lig	3
3		Preservative	
6		Drispac	MPC
5	1	Mud Seal	DD
50		Multi Seal	MBL

(5) LCM: As needed. At 5800 Raise to 5 #/bbl. (17 ex LCM will raise LCM 1 %/bbl in system) (Use 1/2 Hulls & 1/2 Multi Blend) (Add 2 Gnl prior to LCM)

(6) Trip slowly & Keep hole full. Cir hole clean prior to DST. Break cir on trips in hole w/ bit.

 $din_{MMK_{\mathbb{Q}}}$

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REPRESENTATIVE	Scott Solzer	HOME ADDRESS	Dodge City	TELEPHONE 227-7615
Great Bend Answering Service 316	5/793-7957	WAREHOUSE LOCATION	Pratt	TELEPHONE 672-2957
AN CONTRACTOR AND A STATE OF THE PARTY OF TH			See A A	



REPRESENTATIVE

Great Bend Answering Service 316/793-7957

DRILLING MUD REPORT NO.									
DATE 5 - 20 - 9 DEPTH 5 X 5									
API WELL	STATE	COUNTY	WELL	S/T					

TELEPHONE 227-7615
TELEPHONE 672-2957

100 South Market, S	Suite 203, Wichita,	KS 6720	2, 316	5-264 - 28	14	WELL NO.	-					
OPERATOR				CONTRA	CTOR		<u>'</u>	<u>-! - </u>		RIG NO.		'
Charter				Engl	o	REI	EASE	'n		1 1		
ADDRESS			(<i>7</i>	ADDRESS			LMOL			SPUD DA	TE	
Rig				Rig						5/09	/91	
REPORT FOR MR.			F	REPORT		AUG	0-2-19	993		SECTION, T		
Davis WELL NAME AND NO.				Stei ORBLO		COUNTY			STAT		4-26v	<u>isl</u>
			FIELL	JORBLO	F I	ROM C	NFID	ENTIA	15 I A I I			
#1-15 Enns		<u></u>	,			Triende				Kans	<u>aa</u>	
OPERATION PRESENT ACTIVITY	CASING		1		JME (BBL)			CULATIO				
LATELLA OC	SURFACE 8 5/60.at 62	7 гт.	HOL HOL		400 PITS	PUMP SIZE ភ	×	IN. 14	,	ULAR VEL	(FT./	MIN.)
BIT SIZE (IN.) NO.	INTERMEDIA		TOTA	LCIBCH	LATING	PUMP MAK	Ę	7-1	1			
7 7/8	IN. at	FT.	VOLU	JME 8 (ුපි	MODEL			OPPOS	SITE COLL	.AR	
DRILL PIPE SIZE TYPE	PRODUCTION OR	LINER		ORAGE		BBL/STROP	E STR	OKE/MIN				
4 1/2	IN. at	FT.				.096		62		SURE PSI_		78+
DRILL COLLAR LENGTH	MUD					BBL./MIN.			SYSTE	OMS UP (M EM	IIN.) LL_/	-t
SIZE 6 1/4	TYPEChem	& Mon	pac			6.0			TOTA	L (MIN.)	170	
Sample from Flov		MUD	PROPE	RTIES	DAILY COST	149		сһйл	LATIV	E COST		
Flowline Tempeture	<u> </u>	1		T	215	1. TT		<u> 113</u>	<u> </u>	<u>ملک</u>	<u> </u>	
Time Sample Taken am pr		11:50						IES SPEC	IFICAT	IONS		
Depth: (ft)	AND A MARKET A AND A	5x55			WEIGHT	VI:	SCOSITY	40	FIL	TRATE	CL	
Weight 🗹 (ppg) 🔲 (lb/cu ft)		Γ			 	OPERA	TOR'S V	VRITTEN	!_ □ DRI	LLING CO	NTRA	CTOR
Mud Gradient (psi/ft)		4-73			BY AUTHORI	OPERA	TOR'S F	REPRESE	VITATIV	VE □OTHE	R	
Funnel Viscosity (sec/qt) API a	tF					MAT	ERIALS	RECOM	MEND	ED		
Plastic Viscosity cp at	°F	14			74667 1. COM) i ,	\sim	1.5.L	Δ1	Whish	13 R	
Yield Point (lb/100 sq ft)		2			1.000	RUL W	· . 4.	O/G	THE CO			
Gel Strength (lb/100 sq ft) 10	sec/10 min	14-129		1		um LLU	1	١١	1. 4	×1018	:	
pH ☐ Strip ☐ Meter	360/10 111111		·····′	 	12. VIS	45 73	> 4/0	71 0	$\gamma V_{e}^{p_{e}}$	vi () 1	\Si	000
<u> </u>		10.6			2. VIS 1 120 [36 L F/U	$O\widetilde{V}_{ab}$	1	17.	10 K 1 / D	105	- i . D
Filtrate API (ml/30 min) Cake Thickness 32nd in API [] un u t []	130		_	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	5% 2520	y 117	1-1	~~	7		
		1 1		·····	mach	(EU M)	1.6:1	1 G: L	-			
Alkalinity, Mud (P _m)					1103 -1	,						
Alkalinity, Filtrate (Pf/Mf)	<u></u>	, /8		/	3. Tour	W			e~ 1			
Salt gpg Chloride	gpg	9000			COL	SETUL	3 .5X	OUNTS	٠ , د	1 1100	ر.	
Calcium ppm 🔲 Gyp (ppb)		40			$I = I_{-\lambda i}$	SELLING	-2.5	N JV.	K - ,	11261	7	1111.0
Sand Content (% by Vol)					,	1012) 1012)	1. 1. 1.	wait.	10	by one	アン	1 COLLE
Solids Content (% by Vol)		5.2			` -					٠,	cs 1	14. 13.0
Oil Content (% by Vol)	-				4. Mon	\mathbb{R} and \mathbb{R} . In	205	1 5 W.	10 M	251, 00	: \	10 121
Water Content (% by Vol)		8.49			an x	ひりんてつ	Max) okii	17 W	2 X 4	13471)	
L.C.M. #/bbl	<u> </u>	3			11.2	11 6 11	F.S.					
Preservative #/bbl		- 									. 3	
- TOSCIVATOR WIDDI		-			5. LC	M'5'	766	MJ.	1+1	115151	24,	
	·	,		ļ		WE TO	1111	1 CV	$\ell_{1,2}$			
	<u>.</u>				1 1 6	CA C 1 12	W. E.	-1				
DATE MUD Of	N HAND/USED				6. Th	S & 10	i L. V	3 K E	217	راسال ت	トル	- ⁽ - ,
					6. 183		1.7	30 (61.	٠,٠ ١٠	تال د	٦Î.
26787 Premium Gel	. 1	Caustic S			C2 6	(, 11062	(()	1111		sa leke	.i <	
Salt Clay (1)		C.L.S. Su		l	1560	are esti	ا دا 🔒	1 107	: > ,	11 112		
1 1 1		Preservati				TH GI	\					
E7 23 Lime C/S Hulls		Drispac (Mud Seal			(ا الجودا		1				
87 23 C/S Hulls 13 2 Soda Ash		viud Seai Multi Sea					i j	84				
			un Di	·	I							
THE RECOMMENDATIONS ASSUMPTION OF ANY LIA								ALID PATE	NT, ANI	O ARE MADE	E WITHO	TUC

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			INC.
30 South Market Suite 3	003 Wichita k	(\$ 67202	316-264-2814

REPRESENTATIVE

Great Bend Answering Service 316/793-7957

Scott Selzer

,	DRILLING MU	D REPO	ORT. RE	PORT	
	DATE 5.	익다.	9DEPT	H 6 60	
	API WELL	STATE	COUNTY	WELL	S/T

TELEPHONE 227-7615 TELEPHONE 672-2957

100 South Market,	Suite 203, Wichita,	KS 6720)2, 31	6-264-28	14	WELL NO.			\prod			TT	
OPERATOR				CONTRA	CTOR						RIG NO.		
ADDRESSTOR	RELEASED			Engl	o	\$ <					1		
ADD'AESS ***				ADDRESS				_			SPÛD D	ATE	
Rig REPORT FOR MR.	AUG-0-2) -1003 -		Rig		—— JŲĿ	17			ᆀ.		9/91	
	400 0 5		- 11	REPORT		0 4	•			ll.			IP, RANGE
WELL NAME AND NO.	FROM CONE	IDEA:	FIEL	Stei DORBLO	CK NO.	COUNTY		A	LST	ATE	<u> [ŋ~</u>	<u> 34-28</u>	14
#1-15 Enns	FROM CONF	יוחרוא	IA	_		Moade					Kans	SAR	
OPERATION	CASING		_	MUD VOL	JME (BBL)	110000	CIRC	ULATI	ONE	DATA		- C-C-1	
PRESENT ACTIVITY	SURFACE		HO	7E	PITS	PUMP SIZE	×	IN.	A	NNU	LARVE	L. (FT.	/MIN.)
DIT LUTILG BIT SIZE (IN.) NO.	8 5/17% at 62°	7 FT.		AL CIRCU	40C	5 PUMP MAKE		14	OPF	osı.	TE DP_		
"	IN. at	FT.	VOL	UME X	13	MODEL			OPI	POSI	TE COL	.LAR_	
7 7/8 DRILL PIPE SIZE TYPE	PRODUCTION OR	LINER	INS	TORAGE		BBL/STROKE	STROI	KE/MI	NCIF	RCUL	ATING		
4 1/2	IN, at	FT.				.096	(52	- 1		RE PSI		17
DRILL COLLAR LENGTH	MUD	Nam-s	_			BBL./MIN.			SYS	STEM		MIN.)_ L+ X	
SIZE 6 1/4	TYPE Chem &					6.0		-			(MIN.)	<u> </u>	
Sample from Thow Flowline Tempeture	/line Pit %F	MUD	PROP	ERTIES	DAILY COST	1446		CUMI	华.T	IVE	cosτ 7. Ο	C_{l}	
Time Sample Taken am pr	n	11:30				MUD PROP	ERTIE	S SPEC	IFIC	ATIC)NS	!	
Depth (ft)	and the superior of the superior	6160	~*	رد در - خور محرب	WEIGHT ()	, visco	SITY			FILT	RATE	7 11	 -
Weight (ppg) (lb/cu ft)		9.1			1.0	FIGRERATO	5 - 4 R'S WR	N HTTEN	<u>,⊢</u> -	RIL	LING CO	ONTRA	CTOR
Mud Gradient (psi/ft)		.473			BY AUTHORI	TY OPERATO	R'S RE	PRESE	NTA	TIVE	□отн	(ER	· · · · · · · · · · · · · · · · · · ·
Funnel Viscosity (sec/qt) API a	t°F	54 - 4	 5			MATER	IALS I	RECO	MEN	IDEC	,		
Plastic Viscosity cp at	°F	12			7466+ 21	· :		ر پښت			. 1.		. •
Yield Point (lb/100 sq ft)		[a3]			1 00,55	in the	<i>₽</i> ,0) 16	- (1)	L.	1.6	11 15	8.0c
Gel Strength (lb/100 sq ft) 10	sec/10 min	15/29	1	/			. 1.	٠,	į	s		v	
pH ☐ Strip ☑ Meter		10.6			人 火バシー	45.48 S. BBL F/C	-/6	\ \	$\sim f_{\perp}$	- js - i	112	c 4 i	000
Filtrate API (ml/30 min)		12.0			120	BBL F/L	11/15	12	1	دین کی آئر کار		\mathcal{E}_{i}	
Cake Thickness 32nd in API) HP-HT []	}			1 1.50	. 30 (1 1)	1-10		•	` '	1		
Alkalinity, Mud (P _m)					7	Win con	111	, í~	· w (_ : L	.		
Alkalinity, Filtrate (Pf/Mf)		_ /1.3	1	1	''' 2	. (\ " "							
Salt gpg Chloride	pm pg	10000			3. TUU!	ily.				· .	L 1 1 1 1	c 🛴	
Calcium ppm Gyp (ppb)		40				,	5X (اتار	<u> </u>	<u> </u>	7	6 3 . 5 .	
Sand Content (% by Vol)													
Solids Content (% by Vol)	- 1	5.1			1 02-	TLLTING D	1515	الأحي	ĺ	į ,	24 66	Vr 15.	1 1 2
Oil Content (% by Vol)					,, ,,						,	v1 l	1, 12
Water Content (% by Vol)		94.9			4. Man	buc 11/2	7:50	2.1)	70	~ V -	: ,		130
L.C.M. #/bbl		4 4 4			$1 + \Omega \chi \chi$	- レッパュオーリン	CCKZ	~ K	(**	i ii k	1177	· I	, ,,,,
Preservative #/bbl					l	~ 7 1-16 '	` .						
						· · · · · · · · · · · · · · · · · · ·		mi	\	1. L	165	LIV	(2)
					5. LCN	n 5 m	. <u>.</u> .	·	, ;				
DATE MUD ON	I HAND/USED	<u> </u>	_	<u> </u>	1	يال ۱۲۱	1 1		1	•			
(A) (A) (A) (A)					, , ,	n simul	Uti	d = 5	, }\	٠. <u>١</u>	1 F	JLL	,
The state of the s		Caustic S			6.74.	1 2000	7	30	100		va i	7.0	
Salt Clay (1		C.L.S. Sur Preservati		J	(CDF.	p slower	- 11	a ye. 	~ `` "	7		, ,	
Lime	1	reservati Prispac ל			1.633	V 128 -	. 1	1. 1)	7 1	1 11	٠ ٠	
53 5 C/S Hulls	(2 3 N	Mud Seal	QQ	.	1557	H MITT,							
Soda Ash		Multi Seal	Ta B	L			******	1	111	U F	·		
THE RECOMMENDATIONS ASSUMPTION OF ANY LIA	MADE HEREON SHALL N BILITY BY MUD-CO., INC	OT BE CON	ISTRU GENT:	ED AS AUTI S, AND ARE	HORIZING THE IN	FRINGEMENT OF A	NY VAL	JD PAT	ENT, A	ND A	RE MAD	E WITH C	TUC

HOME ADDRESS

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Dodge City

Pratt

					DRILLING M	UD REPORT	REPORT	
			AND THE STATE OF T	_			1 0 1 21	#34% - N. 42
			JINC.	· [5	DATE 5-2.)		DEPTH 6-16()	=
100 South Market,)2, 316-264-28	14	API WELL, NO.	STATE COL	JNTY WELL S,	/ T
OPERATOR	RELEAS	EV	CONTRA	CTOR		2 200 800	RIG NO.	—
CHARTER		4007			i	(CC		
ADDRESS	AUG 0 2	כצעו	ADDRESS			4 =7	SPUD DATE	
REPORT FOR MR.			REPORT				SECTION, TOWNSHIP, RA	NCE
1 1	FROM CONFI	DEN		TAIL	wall.	- I MEIA	1 (- [- [])	
WELL NAME AND NO.			FIELD OR BLO	OCK NO.	COUNTY COUNTY	, 4: 1	STATE	
1 15:1113	•				111-1102		<u> </u>	
OPERATION PRESENT ACTIVITY	CASING SURFACE	-	HOLE	UME (BBL) PITS	PUMP SIZE	X IN,	N DATA ANNULAR VEL. (FT./MIN	
14 617116	7 /1 IN. at ()	/ FT.	501	400	5	<u> </u>	OPPOSITE DP	
BIT SIZE (IN.) NO.	INTERMEDIA	I	VOLUME C	LATING	PUMP MAKE		OPPOSITE COLLAR	
/ / j DRILL PIPE SIZE TYPE	PRODUCTION OR	FT.	INSTORAGE	ا ب	MODEL BBL/STROKE	STROKE/MIN	CIRCULATING	
4 1/2	IN. at	FT.			-046	63	PRESSURE PSI	<u></u>
DRILL COLLAR LENGTH	MALLO		<u> </u>		BBL./MIN.	Car man	BOTTOMS UP (MIN.) X -	-
SIZE (1/4	TYPE CHEN		un PMC		<u> </u>		TOTAL (MINI) ALL I	_
Sample from ☐ Flow Flowline Tempeture		MUD	PROPERTIES	DAILY COST	16.92	CUMUI	LATIVE COST	
Time Sample Taken am p	Marin State of the	1:35			•	ERTIES SPECI	FICATIONS	
Depth=(ft)<	al adition toppication throat many in		· - Militarian - monaccina	WEIGHT	visco		FILTRATE	· · · · · · · ·
Weight (ppg) [] (lb/cu ft)		9.1		41) 4+5	· 4 X	DRILLING CONTRACTO	
Mud Gradient (psi/ft)		.473		BY AUTHORI	TY OPERATO	R'S REPRESEN	TATIVE OTHER	
Funnel Viscosity (sec/qt) API a	rF	50		SUCGIST	MATER	IALS RECOM	MENDED	
Plastic Viscosity cp at	°F	12		1 000	 	03/101	Column R. R	
Yield Point (lb/100 sq ft)		27		II .				
Gel Strength (lb/100 sq ft) 10	sec/10 min	21/28	/ /	2 V13 4:	5.48 5:0	/at w/it	[
pH ☐ Strip	· · · · · · · · · · · · · · · · · · ·	10.4		120 B	Or EMULE	e Ri	or beened free HE + you	
Filtrate API (ml/30 min) Cake Thickness 32nd in API (HP-HT []	15.2		1.5%	2001 175H	۱ د د د د	, , , , , , , , , , , , , , , , , , , ,	
Alkalinity, Mud (P _m)		╼╌┸╌┼			in w/per	i(<u> </u>		
Alkaliaity Eiltean (D-/84-)		1.9	, ,	3. Tou	chy -		11.27	
Salt gpg Chloride		10000		Cons	प्रदे हे अंदर अंदर्ह अंदर्श	3 6076	2 118 2 2 114	
Calcium ppm 🔲 Gyp (ppb)		40		1 L. C.	1012 1 2 1201 - 1-126	2541	(10,00°; 2) 11"	,
Sand Content (% by Vol)	·-			17%.16	1746 1711	•	a . 12 tr 12 (1
Solids Content (% by Vol)		4.9		H. mone	AC ATAIN	-010 CE	WAS WILL TO 17	,
Oil Content (% by Vol)				ll mux	ベーノアダス しいい	Carlo And	add x russ	
Water Content (% by Vol)		95.1		∠∪ 5€	5 3 HEZ			
L.C.M. #/bbl	<u>-</u>				rt /		HULLS CELLOFI	LAKE
Preservative #/bbl]		5. LCN	n 5-766	ا ۱۲ دیل یا	PACIFIC	
		į		Ex 13	ล ยามก	251111.		
	 -			6 700	S113	1 165-3	1-1-12 m 1-117 h	
	N HAND/USED			1 . I	Holf clar	on cra-	R 10 DOT.	
Premium Gel Salt Clay (%) Starch C L F	29 3	Caustic S	oda		1/ 170 . :	, 5 TOTO	3 or Hick	
Salt Clay(1)		C.L.S. Sup	_			er g	-	
Limo	1 1 1	Preservati Drispac 1		ا `ربی، ا	IN WIT			
37 16 C/S Hulls	1 10 1 1	Mud Seal			اسمام	MANK	_ \$	
Soda Ash		Multi Seal	ነ <i>ርነነ የ</i> ጉዜ		-	1 1-14-11.11		
THE RECOMMENDATIONS ASSUMPTION OF ANY LIA							NT, AND ARE MADE WITHOUT	
DEPRESENTATIVE		,, UN 113 A	HOME ADDRE			-·· <u></u>	TELEPHONE 1 27-76	 ,
Great Bend Answering Service 316/793	· · · · · · · · · · · · · · · · · · ·			<u> </u>	. () [] .	<u>/</u>	TELEPHONE A	
		عبيه إدب	WAREHOUSE		ing I Tank		4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4	

				RADIONAL TOO		DRILLING N	IUD REPORT	REPORT L
				NC.	, [DATE 5.7	3 -(1)19_	DEPTH 6466
100 South Market,	Suite 203, Wichita,	KS 6720			li li	API WELL NO.	STATE CO	UNTY WELL 5/T
ADDRESS:	2] [ONTRA	CTOR	LS	KCC	RIG NO.
REPORT FOR,MR.	•			K,	- /	ند ده	JUL 17	SPUD DATE 5 - 1 SECTION, TOWNSHIP, HANGE
WELL NAME AND NO.		•	FIELD	OR BLC	OCK NO.	COUNTY	Wr F T	15 34 08 STATE
1 15 500						1:1:16		<u> </u>
OPERATION PRESENT ACTIVITY	CASING		HOLE		JME (BBL) PITS	PUMP SIZE	X . IN.	ANNULAR VEL. (FT./MIN.)
	13/8 IN. at 22	7 _{ft.}	1.51	7	400	5	~ 14	OPPOSITE DP.
BIT SIZE (IN.) NO.	INTERMEDIAT	FT.	VOLU	ME Y	LATING	PUMP MAKE MODEL		OPPOSITE COLLAR
DRILL PIPE SIZE TYPE	PRODUCTION OR IN. at	LINER FT.	IN ST	DRAGE		BBL/STROKE	STROKE/MIN	PRESSURE PSI
DRILL COLLAR LENGTH	MUD OUS		/\ . \	(·'(>	1	BBL./MIN.		BOTTOMS UP (MIN.)
	1110		PROPER		DAILY COST	<u> </u>	Lauren	TOTAL (MIN.)
Sample from ☐ Flow Flowline Tempeture		<u> </u>	PROPE	TILES		78.36	160	LATIVE COST
Time Sample Taken am p		1:50					PERTIES SPEC	the second secon
-Sta Depth (ft)	and the second s	6466	man and all the second	etatical de «	WEIGHT	VISCO	SITY	FILTRATE
XWeight ☐ (ppg) ☐ (lb/cu ft)		9.3			BY AUTHORI	TY OPERATO	R'S WRITTEN	DRILLING CONTRACTOR
Mud Gradient (psi/ft)	· · · · · · · · · · · · · · · · · · ·	<u>.483</u>				DOPERATO		NTATIVE OTHER
Funnel Viscosity (sec/qt) API a	ot	51		ļ	301662		HALS RECOM	MENDED
Plastic Viscosity cp at	F	17			3000	, ,		•
Yield Point (lb/100 sq ft)	40	15	, - .	-	1. Tir	17 5.000	JULY K	. of HOLE
Gel Strength (lb/100 sq ft) 10 pH Strip	sec/10 min	16/28						
√ Filtrate API (ml/30 min)		10.4			F-{(t	. (.) [.]	1 106 6	ciann
Cake Thickness 32nd in API	HP-HT 🗆	10.7		·	1811	CR 10	i Tecli	
Alkalinity, Mud (Pm)	- · · · · · · -	!			, ' ' '		6 0	acapt an
Alkalinity, Filtrate (Pf/Mf)		. 45	1	1	1,1,	UN CT	K - 11	TRIPS IN
Salt ppm Chloride	opm gpg	8000			131.	ita U /	/_T\.	
Calcium ppm Gyp (ppb)	- -	40				, ,		DCI CAO
Sand Content (% by Vol)					-	•		RELEASED
Solids Content (% by Vol)		6.7						4110.0.0.4
Oil Content (% by Vol)		7-17	-					AUG 0 2 1993
Water Content (% by Vol)		93.3						2014 001-
L.C.M. #/bbl		5					FF	ROM CONFIDENTIAL
Preservative #/bbl	1							/

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DATE	- —	MUD	ON	HAN	D/U	SE	
1000					177.		r

Premium Gel Salt Clay (日 (內 Starch CLF Lime C/S Hulls Soda Ash

AD/USE	ע	
3000	a	Caustic Soda C.L.S. Super Lig Preservative Drispac (** ** ** ** ** ** ** ** ** ** ** ** **

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.

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	WAREHOUSE LOCATION	TELEPHONE 7)