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MULL DRILLING COMPANY
MCGUIRE-SVGA NO.1-25
NW NE SEC.25-T14S-R33W
LOGAN COUNTY KANSAS

15-109-20663

WELLSITE GEOLOGY
BY
RSAY ENTERPRISES
RANDY SAY - GEOLOGIST
ARVADA, COLORADO

RUC

JAN 13

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ENCLOSURE IN BACK COVER - GEOLOGICAL STRIP LOG	

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WELL DATA

OPERATOR: Mull Drilling Company, Wichita, KS.

WELL NAME: McGuire-SVGA No.1-25.

FIELD NAME / PROSPECT: Wildcat.

LOCATION: 330' fml 2450' fwl NW NE SEC.25-T14S-R33W, Logan Co., KS.

ELEVATION: 2683'- Ground; 2687'-KB.

SPUD DATE: 11/20/97.

COMPLETION DATE: 11/27/97.

STATUS: Plugged and abandoned 11/27/97.

HOLE SIZE: 12.250"-224'-Surface; 7.825"-TD[4600'].

CASING: 8.625"-219'-Surface casing; No production casing run.

DRILL COLLARS / PIPE: 6.25" / 4.50".

TOTAL DEPTH: 4600'(-1913') - Driller; 4597'(-1910') Electric Log.

CONTRACTOR: Abercrombie Drilling Co., Inc., RIG NO.8.

GEOLOGIST: Randy Say- RSay Enterprises.

ENGINEER: Scott Hample - Mull, Wichita, KS.

MUD COMPANY: Mud Co, Denver, CO.

MUD TYPE: NATIVE (SURFACE-3500'); CHEMICAL (3500' - TD [4600']).

MUDLOGGING: None.

DRILL STEM TEST: DST NO.1 4465'-4485'(20') - Cherokee Sand - Straddle Test.

CORES: None.

ELECTRIC LOGS: Schlumberger Well Services, Liberal, KS.
 Engineer: Michael Martino.

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LOGS RUN	INTERVAL
CNL-LDT-GR-PE	3500'-4579'
ARRAY-INDUCTION	219'-4589'
BHC SONIC	219'-4547'
MICROLOG	3500'-4579'

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1227
1770

23

24

19

MULL DRILLING COMPANY
McGuire-SVGA No.1-25
NW NE SEC.25-T14S-R33W, Logan Co., KS



26

25

30

1226
1793

1227
1790



-1242
1800



-1228
1792



-1218
1779



-1227
1791

Donald Stawson
Peters F No.2
SE NE NW SEC.36-T14S-R33W
Logan Co., KS
Beaver Butte Field

36

31

35

1230
1796

BIT RECORD, DEVIATION SURVEYS, AND ELECTRIC LOG FORMATION TOPS

NO.	MAKE	TYPE	SIZE	DEPTH OUT	FOOTAGE	HOURS	FT/HR	DEV/DEPTH
1	REED	TGC	12.250	224	224	3.50	64.00	0.50° - 224'
2	WM	42CHF	7.875"	4600	4376	98.00	44.65	1.75° - 4600'

DEVIATION SURVEYS

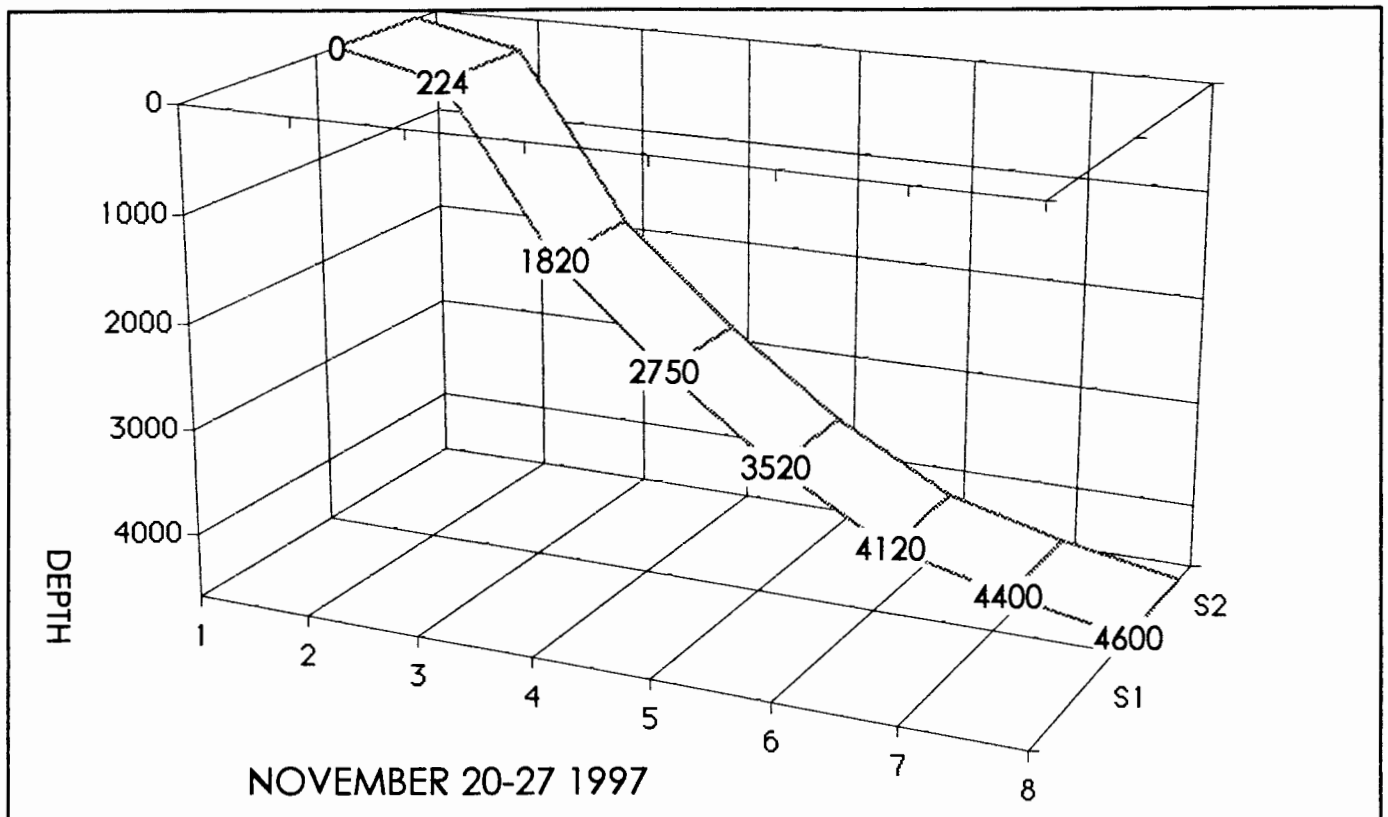
DEVIATION	DEPTH	DEVIATION	DEPTH	DEVIATION	DEPTH
0.50°	224'				
0.75°	4600'				

FORMATION /ZONE	DEPTH (FEET)	DATUM(KB-2687')
Stone Corral	2126	561
Stone Corral-Base	2148	539
Wabaunsee	3286	-599
Topeka	3420	-733
Queen Hill	3590	-903
Oread	3604	-917
Heebner	3654	-967
Toronto	3674	-987
Lansing Kansas City	3696	-1009
A zone	3696	-1009
B zone	3740	-1053
C zone	3756	-1069
D zone	3790	-1103
E zone	3800	-1113
F zone	3816	-1129
Muncie Creek	3866	-1179
G zone	3866	-1179
H zone	3883	-1196
I Zone	3912	-1225
J Zone	3938	-1251
Stark Shale	3962	-1275
K Zone	3980	-1293
L Zone	4014	-1327
Base Kansas City	4038	-1351
Pleasanton	4048	-1361
Marmaton	4080	-1393
Altamont A	4104	-1417
Altamont B	4130	-1443
Altamont C	4150	-1463
Pawnee	4184	-1497
Myrick Station	4218	-1531
Fort Scott	4242	-1555
Cherokee Shale	4270	-1583
Johnson Zone	4316	-1629
Conglomerate	4386	-1699
Cherokee Sand-Top	4475	-1788
Cherokee Sand-Base	4499	-1812
Mississippian	4507	-1820
TOTAL DEPTH(DRILLER)	4600	-1913
TOTAL DEPTH(ELECTRIC LOG)	4597	-1910

DAILY DRILLING CHRONOLOGY

DATE	DEPTH	24HR FOOTAGE	DRILLING ACTIVITIES
11/20	0000	0000	RIG UP, SPUD WELL W/NB1 [12.250"], DRLG, SURF HOLE TO 224', CIRC & COND HOLE, RUN SURF CSG [8.625"] TO 219' CMT SURF CSG, W.O.C.
21	224	224	Drlg, CMT W/NB2 [7.825"], Drlg.
22	1820	1549	Drlg.
23	2750	930	Drlg.
24	3520	770	Drlg, Losing circ at 3200', Regain circ, Drlg.
25	4120	600	Drlg, CFS, Drlg.
26	4400	280	Drlg, CFS, Drlg.
27	4600	200	Drlg, CFS, Drlg, REACH TD [4600 @ 10:30 A.M. CIRC & COND, TOOH FOR ELOGS, RUN ELOGS, W.O.O., TIH W/DST No.1 [4465'-4485'] Run DST No.1 TOOH and Lay Down Tools, W.O.O., Plug and abandon hole.

DAILY DRILLING CHRONOLOGY



RSWSG9713		Mull Drilling Company								Donald C. Slawson			
MULL9713		McGuire-SVGA No. 1-25								Peters F No. 2			
		330ftl 2450'el											
		NW NE SEC. 25-T14S-R33W								SE NE NW SEC. 36-T14S-R33W			
		Logan Co., KS								Logan Co., KS			
		Wildcat P&A								Beaver Butte Field			
		11/27/97								7/26/83			
TIME STRAT	ROCK STRATIGRAPHIC	PROG	SMPL	DATUM-KB	ELOG	DATUM-KB	THICK	ELEV	DIFF.	E-LOG	DATUM-KB	THICK	
						2687		NO. 1	NO. 2		2835		
PERMIAN	STONE CORRAL	2110			2126	561	24	-24		2250	585	20	
	STONE CORRAL (BASE)	2130			2148	539		-26		2270	565		
PENNSYLVANIAN	WABAUNSEE	3265			3286	-599		-34		3400	-565		
	TOPEKA	3385			3420	-733		-36		3532	-697		
	QUEEN HILL				3590	-903		-40		3698	-863		
	OREAD				3604	-917		-41		3711	-876		
	HEEBNER	3630			3654	-967		-42		3760	-925		
	TORONTO				3674	-987		-43		3779	-944		
	LANSING KANSAS CITY	3672			3696	-1009		-44		3800	-965		
	A ZONE				3696	-1009		-44		3800	-965		
	B ZONE				3740	-1053		-51		3837	-1002		
	C ZONE				3756	-1069		-46		3858	-1023		
	D ZONE				3790	-1103		-46		3892	-1057		
	E ZONE				3800	-1113		-50		3898	-1063		
	F ZONE				3816	-1129		-47		3917	-1082		
	MUNCIE CREEK				3866	-1179		-51		3963	-1128		
	G ZONE				3866	-1179		-51		3963	-1128		
	H ZONE				3883	-1196		-49		3982	-1147		
	I ZONE				3912	-1225		-49		4011	-1176		
	J ZONE				3938	-1251		-49		4037	-1202		
	STARK SHALE	3930			3962	-1275		-47		4063	-1228		
	K ZONE				3980	-1293		-48		4080	-1245		
	L ZONE				4014	-1327		-48		4114	-1279		
	BASE KANSAS CITY	4005			4038	-1351		-56		4130	-1295		
	PLEASANTON				4048	-1361		-60		4136	-1301		
	MARMATON	4040			4080	-1393		-58		4170	-1335		
	ALTAMONT A				4104	-1417		-61		4191	-1356		
	ALTAMONT B				4130	-1443		-66		4212	-1377		
	ALTAMONT C				4150	-1463		-70		4228	-1393		
	PAWNEE	4135			4184	-1497		-67		4265	-1430		
	MYRICK STATION				4218	-1531		-66		4300	-1465		
	FORT SCOTT	4200			4242	-1555		-73		4317	-1482		
	CHEROKEE SHALE	4225			4270	-1583		-75		4343	-1508		
	JOHNSON ZONE	4280			4316	-1629		-75		4389	-1554		
	CONGLOMERATE	4334			4386	-1699		-92		4442	-1607		
	CHEROKEE SAND-TOP				4475	-1788	24						
	CHEROKEE SAND-BASE				4499	-1812							
MISSISSIPPIAN	MISSISSIPPIAN				4507	-1820		-189		4466	-1631		
	TOTAL DEPTH(DRILLER)	4600			4600	-1913		-198		4550	-1715		
	TOTAL DEPTH(ELECTRIC LOG)				4597	-1910		-196		4549	-1714		

MUD RECORD

MUD RECORD						
OPERATOR	Mull Drilling Company				MUD TYPE	Chemical Premix
WELL NAME	McGuire-SVGA No.1-25				BIT SIZE	7.825"
PROSPECT	Wildcat				DP SIZE/TYPE	4.50"/XH
LOCATION	NW NE SEC.25-T14S-R33W				DC SIZE/TYPE	6.25
COUNTY/STATE	Logan Co., KS				DC LENGTH	260'
CONTRACTOR	Abercrombie				PUMP SIZE	5.50" X 15"
RIG NO	8				SURF CSG	8.625"-219'
DATE	20-Nov	22-Nov	24-Nov	25-Nov	26-Nov	
DEPTH	SPUD	224	3750	4150	4470	
TIME		9A	1P	8A	6A	
WEIGHT		9.4	8.8	9.2	9.1	
FUNNEL VISCOSITY		30	44	49	47	
WATER LOSS			9.6	8.8	9.6	
pH		7.0	10.5	10.0	10.5	
CAKE THICKNESS			1	1	1	
CHLORIDE [PPM]		31000	3400	4000	3400	
CALCIUM [PPM]		100	60	40	40	
LCM [LB/BBL]		1	1	1	1	
LOSS CIRC [BBL]						
MUD GRADIENT		.488	.457	.478	.488	
PLASTIC VISCOSITY			10	13	16	
YIELD POINT			13	19	18	
GEL STRENGTH			8/15	12/15	10/24	
ALKALINITY FILTRATE			.6	.6	.6	
SAND CONTENT [%]			TR	TR	TR	
SOLIDS [%]		6.0	3.3	5.9	7.4	
OIL CONTENT [%]						
WATER CONTENT [%]		94.0	96.7	94.1	92.6	
HTHP/cK						
MUD VOLUME-HOLE		133	263	290	313	
MUD VOLUME-PITS		400	400	400	400	
MUD VOL-TOTAL CIRC		533	663	690	713	
PUMP- BBL/STROKE		.121	.121	.121	.121	
PUMP- STROKE/MIN		60	60	60	60	
PUMP- BBL/MIN		7.2	7.2	7.2	7.2	
PUMP- GPM						
ANNULAR VEL [FT/MIN]						
" OPPOSITE DP		180	180	180	180	
" OPPOSITE COLLAR		323	323	323	323	
WOB		30	30	30	30	
PP		1000	1000	1000	1000	
SPM		60	60	60	60	
RPM		80	80	80	80	
GPM						
BTM UP [CALCULATED]		18	30	40	43	
BTM UP [MUD LOG]						
SYSTEM TOTAL- MIN		74	93	96	99	
DAILY MUD- WT		9.4	9.0	9.4	9.4	
DAILY MUD-VIS		30	45	50	55	
DAILY MUD-WL			10	10	8	
DAILY COST		661	2555	1002	256	
CUMULATIVE COST		661	3216	4217	4473	



WESTERN TESTING CO., INC.
FORMATION TESTING

Page 8
TICKET No. 22663

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Elevation 2687 KB Formation Eff. Pay Ft.

District Colby Date 11-26-97 Customer Order No.
COMPANY NAME Mull Drilling Company Inc
ADDRESS P.O. Box 2758 Wichita, Kansas 67201
LEASE AND WELL NO. McGwire-SUGA COUNTY Logan STATE Kans Sec 25 Twp 14 Rge 33W
Mail Invoice To same No. Copies Requested 29
Mail Charts To same No. Copies Requested 29

Formation Test No. DST1 Interval Tested From 4465 ft. to 4485 ft. Total Depth 4600 ft.
Packer Depth 4460 ft. Size 6 7/8 in. Packer Depth 4485 ft. Size 6 5/8 in.
Packer Depth 4465 ft. Size 6 7/8 in. Packer Depth ft. Size in.

Depth of Selective Zone Set
Top Recorder Depth (Inside) 4470 ft. Recorder Number 13551 Cap 4150
Bottom Recorder Depth (Outside) 4473 ft. Recorder Number 13266 Cap 4000
Below Straddle Recorder Depth 4600 ft. Recorder Number 260413268 Cap 4150
Drilling Contractor Abercrombie Dng #8 Drill Collar Length I. D. in.
Mud Type Chem Viscosity 47 Weight Pipe Length 600 I. D. 3.2 in.
Weight 9.1 Water Loss 9.6 cc Drill Pipe Length 3959 I. D. 3.8 in.
Chlorides 3,400 P.P.M. Test Tool Length 21 ft. Tool Size 5 1/2 in.
Jars: Make Serial Number Anchor Length 20 ft. Size 5 1/2 in.
Did Well Flow? Reversed Out yes 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: FF-weak to strong blow, off bottom of bucket in 10 min.
FF-weak to strong blow, off bottom of bucket in 12 min.
Recovered 1252 ft. of Muddy water total fluid recover y
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of
Chlorides 43000 P.P.M. Sample Jars used Remarks:

Time On Location 10:00 A.M. Time Pick Up Tool 11:15 A.M. Time Off Location A.M.
Time Set Packer(s) 1:11 P.M. Time Started Off Bottom 4:11 P.M. Maximum Temperature 117°
Initial Hydrostatic Pressure (A) 2299 P.S.I.
Initial Flow Period Minutes 15 (B) 62 P.S.I. to (C) 115 P.S.I.
Initial Closed In Period Minutes 30 (D) 1191 P.S.I.
Final Flow Period Minutes 45 (E) 209 P.S.I. to (F) 366 P.S.I.
Final Closed In Period Minutes 90 (G) 1233 P.S.I.
Final Hydrostatic Pressure (H) 2227 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 18% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Randy Day Signature of Customer or his authorized representative

Western Representative Steve Ewenham

ThankS

FIELD INVOICE

Open Hole Test \$
Misrun \$
Straddle Test \$
Jars \$
Selective Zone \$
Safety Joint \$
Standby \$
Shale Packer \$
Extra Packer \$
Circ. Sub. \$
Mileage \$
Fluid Sampler \$
Extra Charts \$
Elect. Rec. \$
Fax \$
TOTAL \$

SHOW EVALUATION

OVERVIEW

The Mull Drilling Company McGuire-SVGA No.1-25 [NW NE SEC.25-T14S-R33W, Logan Co., KS] was drilled as a wildcat well with a primary objective of the Pennsylvanian Cherokee Sand. The Cherokee Sand, when it does develop, sits on top of the Mississippian Lime and is expressed as a fluvial sand. The Mull McGuire-SVGA No.1-25 prospect was drilled on an indication of a seismic expression of a Cherokee Sand development on top of the Mississippian Lime. The McGuire-SVGA No.1-25 did indeed develop a 24 foot sand with good porosity [16 to 26 percent density porosity]. Thin, silty, and poorly developed sand stringers started to develop at the Conglomerate zone at 4386'(-1699') and increased in grain size down into the main Cherokee Sand interval. The No.1-25 Cherokee Sand [4475'(-1788') to 4499'(-1812')] was drill stem tested [DST No.1 4465'-4485'(20')] after samples and electric logs were evaluated. DST No.1 recovered 1252 feet of muddy water with no trace of hydrocarbons in the pipe recovery. The final shut in pressure was 1233 p.s.i. indicating good reservoir pressure and permeability. No sample shows were found in the cuttings from the Cherokee section. The presence of quartz overgrowths and secondary alteration in the base of the sand indicated the development of a water sand. The structural position of the McGuire-SVGA was 92 feet low at the top of the Conglomerate zone. The McGuire-SVGA No.1-25 Cherokee Sand was determined to be nonproductive after samples and electric logs were evaluated. For a more detailed Cherokee Sand sample description, see below.

SECONDARY OBJECTIVES

The secondary objectives were the Pennsylvanian Lansing Kansas City, Marmaton and the Mississippian and Spergen and Osage formations. None of the secondary zones warranted drill stem testing either while drilling or after electric logs were evaluated. The Lansing Kansas City A-L Zones developed one show [SHOW NO.1 3816'-3832'(16')(-1129')] in the F Zone. The F Zone was a wet zone with a poor residual show and a trace of dead oil stain. No drill stem test was run over the F Zone after samples and electric logs were evaluated and it was determined to be nonproductive. None of the other Lansing Zones, or the Marmaton and Mississippian zones had shows and were not drill stem tested.

STRUCTURE

Structurally, the Mull McGuire-SVGA NO.1-25 [NW NE SEC.25-T14S-R33W] was 92 foot low to the reference offset/control well, the Slawson Peters F No.2 in the Beaver Butte Field one mile to the south [SE NE NW SEC.36-14S-R33W] at the top of the Conglomerate Zone [4386'(-1699') versus 4442'(-1607')].

STATUS

The Mull Drilling Company No.1-25 was plugged and abandoned on November 27 1997 after samples, electric log, and drill stem test data were evaluated.

FORMATION AND SHOW ZONE LISTING

The ensuing Show Evaluation listings are in the order they were drilled. They are categorized either by formation name and or by common zone designation.

The wellsite geologist began sample descriptions at 3600 feet, just above the Oread at 3604'(-917'). Ten foot samples were taken from 3600'-TD[4600']. Listed below are SHOW No.1 in the Lansing Kansas City F Zone and a sample description for the Cherokee Sand interval of 4475'-4499'(24'). No other sample shows were found in the other potential zones.

LANSING KANSAS CITY 3696'(-1009') PENNSYLVANIAN

F ZONE 3816'(-1129')

SHOW NO.1 3816'-3832'(16'). 1.0'/ft vs 3.0'/ft.

LITHOLOGY: LS crm-wh litho-gran vfri-mfirm ool text w/oocastic Ø vchky occ fos shly pyr.

POROSITY: P-occ FR(ool).

OIL STAIN: Rare trace dead stn.

FLOR: TR pale yel.

CUT: TR pale mlky diffuse cut.

RESIDUE: None.

SHOW EVALUATION

CHEROKEE SHALE 4270'(-1583').

PENNSYLVANIAN

CHEROKEE SAND 4475'-4499'(24')(-1788').

LITHOLOGY: SS wh-ltgy-incr clr f-mg-incr cg at base, fri-uncon grs sbang-sbrd msrt cal cmted clus at top of zone, incr to dolo cmted clus toward base & assoc w/qtz ovrghs, occ vf dissem pyr w/in grs(m-cg), incr clner mtrx w/ depth, occ sh prtgs & carb mat, & cly infill at top of zone.

POROSITY: G-FR(decr w/cmt).

OIL STAIN: None.

FLOR: None.

CUT: None.

RESIDUE: None.