00523211

RESUME

Operator	UNION PACIFIC RESOURCES COMPANY
Well Name and Number:	#1 MOCKELMAN 21D-19 NENW
Location:	1200'FML & 1500'FWL, Sec. 19, T-15S, R-46W
County and State:	Cheyenne County, Colorado
Elevation:	GL 4262' KB 4272'
Spud Date:	June 29,1990
Completion Date:	July 6,1990
Drilling Foreman:	Bob Austin
Wellsite Geologist:	Gregg Smith
Contractor:	Murfin Drilling Co., Rig #25
Pumps:	#1 Nat K-500A,6"x 15" #2 Emsco D-300,5 1/2"x14"
Tool Pusher:	Rex Salling
Mud Type:	Chem-Gel
Mud Company:	Service Mud Co.
Hole Sizes:	12 1/4" 0-436'; 7 7/8" 436'-5510'
Surface Casing:	8 5/8" set at 423'
Logs Run:	DIL, FDC/CNL, BHC, SONIC
Total Depth:	Driller 5510'; Logger 5508'
Drilling Days:	8 Days
Rotating Hours:	131 1/4 Hours
Bottom Formation:	Warsaw
Status:	D&A

FORMATION TOPS AND CORRELATION

	UPRC #1 Mockelman NW 19-15S-46W KB 4272' E-Log	UPRC Cenex SE SW 17-15S-46W KB 4331' E-Log
STONE CORRAL	2878'(+1394')	2946'(+1385')
NEVA	3497'(+775')	3563'(+768')
FORAKER	3574'(+698')	3638'(+693')
SHAWNEE	3940'(+332')	3991'(+340')
HEEBNER	4136'(+136')	4186'(+145')
TORONTO	4160'(+112')	4216'(+115')
LANSING	4187'(+85')	4241'(+90')
MARMATON	4610'(-338')	4678'(-347')
CHEROKEE	4717'(-445')	4760'(-429')
ATOKA	4876'(-609')	4918'(-587')
MORROW SHALE	5068'(-796')	5086'(-755')
MORROW SAND	not present	5239'(-908')
L.MORROW Ls.	5260'(-988')	5276'(-945')
SPERGEN	5390'(-1118')	5368'(-1037')
TOTAL DEPTH	5510'	

BIT RECORD

BIT	SIZE	TYPE	IN	OUT	FOOTAGE	HOURS
1	12 1/4	F-P-D	0	436'	436'	6 1/4
2	7 7/8	S82-CF	436'	2895	2459	30 3/4
3	7 7/8	ATJ-22S	2895	5510	2615	94 1/4

SURVEYS

103' 1/8	950' 1/4	2895' 7/8	5510' 3
225' 0	1500' 3/4	3515' 1/2	
320' 1/4	2031' 7/8	4008' 1/2	
436' 1/4	2555' 1/2	4600' 3/4	

MUD REPORTS

DATE	7/3	7/4	7/4	7/5	7/6	7/6
DEPTH	3948'	4262'	4394'	4636'	5168'	5494'
WT	8.6	8.4	8.5	8.6	8.9	8.9
VIS	47	57	37	42	54	62
PV	8	18	10	10	15	15
YP	27	22	12	14	20	33
GEL	16/24	14/24	10/14	12/18	15/34	18/40
WL	24.0	11.2	13.6	12.8	8.0	8.0
CK	1	1	1	1	1	1
Sol	1.5	.3	1.2	1.9	3.9	3.9
Sd	tr	tr	tr	tr	tr	tr
pH	12.0	11.5	10.0	9.0	9.5	10.5
Alk pf/mf	5.0	3.22	1.0	.40	1.1	3.55
Chl	10.5K	7.8K	4.6K	4.6K	5.8K	6.3K
Cal	40	40	40	60	40	20
LCM	8	6	13	13	8	8

DAILY CHRONOLOGY

	DATE	7:00AM DEPTH	FOOTAGE DRILLED	ACTIVITY
DAY 1	6/29	0	0	Spud 12 1/4" 6:30pm 8 5/8" sfc csg set at 423' WOC
DAY 2	6/30	436'	436'	Drill out 3:30pm drlg. lost circ at 1508' drlg.
DAY 3	7/1	1680'	1244'	Drlg. lost circ 1820'-1955'; drlg. TFB,drlg
DAY 4	7/2	3040'	1360'	Drlg. lost circ at 3376' displace hole at 3905'
DAY 5	7/3	3905'	865'	Mix mud drlg, lost circ at 3640' drlg,lost circ at 4262' drlg.
DAY 6	7/4	4284'	379'	Lost circ at 4284',4304' & 4339' 4375', 1100 bbl. drlg.
DAY 7	7/5	4715'	437'	Drlg.
DAY 8	7/6	5280'	565'	Drlg., TD at 11:15pm, con. hole for E-Logs
DAY 9	7/7	5510'	230'	

SUMMARY

The #1 Mockelman was drilled as a wildcat test on the Minaret Prospect. It was spud June 29,1990, drilled to a total depth of 5510' on July 6,1990. The primary objective was V-7 Sandstone development in the Morrow. Secondary objectives included any V-5 or V-9 Morrow Sand development as well as Mississippian pay. Primary Subsurface control was the Cenex #14-17 UPRC in Section 17. Structurally, the #1 Mockelman was 9' high at the base of the Stone Corral and gradually thickened to become 41' low to the #14-17 UPRC at the top of the Morrow Shale. After evaluation of the E-Logs and samples, the #1 Mockelman was plugged and abandoned.

DISCUSSION

STONE CORRAL

Sample evaluation began at 2900', app. 20' after the base of the Stone Corral. No shows were present throughout

FORAKER

A porous dolomite was present at the top of the formation, somewhat unusual for this area. There were no shows, although there was visable porosity. Lost circulation problems encountered intermittently from 4262' to 4384' prevented gas monitoring and resulted in questionable samples through these next zones.

CHEROKEE

A gas increase recorded at 4736' may be the result of existing fractures. There were no shows from this interval.

MORROW SHALE

No sands were developed. Shale resistivity in the interval 5160'-5218' was in the 8 to 10 ohm range, indicating possible, passive fill to exist, i.e. a nearby channel development. Samples from this interval contained trace amounts only of the following: Sh-light grey, light brown, light green, occasionally varigated, predominately splintery. Also, some dark grey to grey, with a weathered appearance were present.

SPERGEN

Spotty shows were present, throughout the St. Louis and Spergen. Most were very minor and originating from tight micro sucrosic dolomites. The Spergen Dolomite looked to be regional and was comparatively more calcareous than usual.

SAMPLE DESCRIPTIONS
(Samples are unlagged)

2900-20 Sh rd orng sft frm grty slty occ sdy tr blky sb wxy Anhy wh hd blky gran suc tex sb vit
2920-50 Sh rd orng sft frm blky grty slty occ lt gy rr vgtd Anhy AA
2950-80 Sh AA gy dk gy occ fis carb i.p. Anhy AA
2980-3010 Sh AA sb fis tr pyr Anhy wh hd blky sb vit gran Aa
3010-30 Sh rd orng frm blky grty slty tr blky sb wxy Anhy wh AA Ls tr only lt gy hd blky f xl dns
3030-60 Sh rd orng bn sft frm pred blky grty slty occ sdy tr dk gy fis Anhy AA tr ls AA
3060-80 Sh rd orng frm sft grty slty tr lt gn sb wxy tr gy sb fis Anhy wh gran AA
3080-3100 Sh rd orng lav bn gy frm sft pred grty tr lt gn wxy rr fis pos carb i.p. Anhy AA
3100-40 Sh rd orng lt gn gy frm sft blky grty v f slty occ sb wxy tr vgtd
3140-50 Sh brck rd frm sft blky v f grty occ lt gn rr vgtd
3150-3200 Sh rd orng lt gn AA occ lav gy blk frm blky sb fis tr v carb
3200-50 Sh rd orng gy lav blk frm v f grty occ sb fis carb occ lt gy gn sb wxy rr vgtd
3250-3300 Sh rd orng gy lt gn frm sft blky grty occ lt gn sb wxy tr vgtd tr fis carb
3300-50 Sh rd orng lav lt gn dk gy frm blky grty occ sb wxy vgtd tr fis carb
3350-60 No Sample
3360-3400 Sh rd orng bn gy frm grty slty tr sdy tr blk carb occ lt gn wxy
3400-30 Sh rd orng bn gy frm sft grty com lt gn sb wxy occ slty sdy tr calc tr carb
3430-50 Sh rd orng bn gn gy frm sft grty slty occ Anhy rr vgtd tr bent
3450-80 No Samples Lost Circ.

3480-3500 S rd orng gy gn bn sft v f grty tr sb fis carb
3500-30 Sh rd orng vcol AA tr vgtd rr carb

NEVA

3530-50 Sh AA Ls wh cln frm f micxl pred v f cuttings tr gran mic fos rr fr intprt por bgt yel mnrl flor NSOC
3550-80 Sh rd orng gn gy frm sft slty grty AA Ls tr only wh cln AA tr bn hd blky micxl dns NFSOC
3580-3610 Sh rd orng gn gy sft frm f grty rr fis carb

FORAKER

3610-20 Sh rd orng AA Ls wh tan frm hd blky f micxl dns fr gran mic suc lt tan dol i.p. tr fr intprt por NSOC
3620-30 Sh AA Ls lt gy tan frm blky f xl f gran Dol lt bn frm mic suc occ fr g intprt por NSOC
3630-50 Sh rd orng gy AA Ls wh tan frm hd f micxl occ f gran tr wh clky
3650-70 Sh rd orng gy sft grty occ wxy tr carb tr pyr Ls wh lt gy bn frm blky f xl occ gran fos tr sdy NSOC
3670-80 Sh rd orng AA
3680-90 Sh AA Ls lt gy tan frm hd blky f micxl occ gran fos
3690-3730 Sh rd orng gy bn frm blky v f grty tr fis carb tr pyr
3730-50 Sh AA Ls tan lt bn frm sft f xl occ gran i.p. tr p pp por NSOC
3750-90 Sh rd orng gy AA tr blk carb Ls tan bn frm f xl
3790-3820 Sltst com grad fg SS rd orng fgr fri sb ang mod w p srtd w con tr blk mnrl Occ pyr incl rd orng cly mtx sl n calc p int gr por NFSOC Sh AA
3820-30 Sh rd orng gy gn frm sft f grty com sdy AA Ls tan lt bn hd blky f micxl dns
3830-40 Sh AA Ls tan rd orng frm c gran com c fos frag occ sft clky
3840-50 Sh rd orng bn gy sft frm blky f grty tr lt gn vgtd Ls tr only AA
3850-80 Sh rd orng gy gn AA Ls lt gy bn frm hd blky f micxl tr arg i.p. rr fos
3880-3900 Ls dist inc lt bn gy frm hd blky f xl f gran occ mic fos no vis por
3900-50 No Samples Lost Circ.

SHAWNEE

3950-60 Pred cvgs
3960-70 Ls tan bn frm f micxl com mic gran tr f c gr fos Sh rd orng sft frm grty occ gy
3970-90 Ls lt tan lt bn frm hd blky f micxl occ fos tr gran Sh dk gy frm plty sb fis occ carb abnt rd ang AA
3990-4000 Ls tan bn frm hd blky micxl dns tr mic gran rr lt yel flor wk strmg cut Sh AA
4000-20 Ls tan lt bn AA tr mic gran suc pos dol i.p. rr dull yel flor wk slow strmg cut
4020-40 Ls tan bn hd frm blky f micxl occ c fos mot tr f gran Sh dk gy blk frm plty sb fis occ carb
4040-50 Ls tan lt bn frm f xl occ fos tr sdy tr mic suc pos dol occ p fr pp por rr dull yel flor wk strmg cut n stn odr Sh AA
4050-60 Ls tan bn AA tr mic gran NSOC Sh AA
4060-70 Ls tan bn frm f micxl occ mic f gran tr p pp por rr wk fr strmg cut yel flor no stn odr

4070-90 Ls tan lt bn frm f xl f gran com fos occ mot arg i.p. Sh gy dk thn fis sb fis com carb
4090-4100 Ls lt bn tan frm blky f micxl com fos abnt dns
4100-10 Ls bn tan hd blky micxl pred dns rr mic suc wk strmg cut AA Sh mod dist inc gy dk blk frm plty blky sb fis com carb
4110-30 Ls AA NSOC
4130-40 Ls drty bn sft frm c gran occ sd gr com mot fos wh clky rthy mtx NSOC Sh AA

HEEBNER

4140-60 Ls bn gy frm f gran f xl com fos vis por NSOC Sh dk gy blk frm sft blky plty sb fis com carb
4160-70 Ls wh lt tan frm f gran tr f xl p mic vugy por NSOC pred Sh AA
4170-80 Ls tan drty gy frm f gran com mot occ fos tr arg n vis por Sh dk gy blk
4180-4200 Ls tan wh AA abnt f mic gran tr pos dol occ mot arg fos tr p pp por NSOC Sh dk gy blk frm plty blky occ fis carb
4200-20 Ls wh tan lt bn frm f gran occ f xl com mic fos tr mot sl arg rr v p intprt por NSOC Sh AA

LANSING

4220-40 Ls wh lt tan frm hd blky f micxl com c ool tr p clky oom por tr lse c gr ool occ f gran pred tt NSOC
4240-60 Ls wh tan frm f micxl oom ool AA sl inc in f mic gran occ lt gy arg Sh dk gy blk frm plty sb fis com carb
4260-80 Poor Sample after lost circ. Ls wh tan bn frm hd f xl com f gran pred tt Sh dk gy Aa abnt cvgs
4280-90 Ls wh tan lt bn frm f xl com f mic gran tr fr intprt por rr ool por NSOC Sh AA
4290-4300 No Samples
4300-10 Ls wh tan bn frm hd blky f xl occ fos tr mic gran pos dol i.p. n p vis por Sh dk gy blk frm plty sb fis occ carb
4310-30 Ls wh tan lt bn frm f xl c fos com f mic gran com sft clky tr suc dol i.p. NSOC Sh AA
4330-40 No Samples
4340-70 Ls lt tan lt bn hd frm blky f micxl pred dns sft clky rr fos Sh dk gy blk frm blky plty sb fis fis com carb
4370-90 Ls tan bn hd frm blky f micxl occ gran arg i.p. occ sft clky tr mot fos Sh AA
4390-4400 Sh dk gy blk frm plty sb fis fis pred carb Ls bn tan hd blky f micxl com v fos occ gran arg i.p. occ sft clky Sh AA
4400-10 Ls bn dk bn frm hd blky mot v fos tr lse gr fos frag pred v NSOC
4410-40 Ls bn tan com mot fos AA abnt f micxl occ f gran tr rthy clky tr arg Sh AA
4440-60 Ls bn dk hd blky f micxl dns com mot fos tr gran arg Sh dk gy blk frm plty sb fis com carb
4460-70 Ls tan bn hd frm blky f micxl com f c gran mot fos tr gy arg
4470-4500 Ls tan bn mot fos AA com f gran v arg occ sft clky tr lse c gr fos frag Sh AA
4500-30 Ls bn tan frm hd mot fos f gran com blky f micxl occ arg i.p.
4530-50 Ls bn tan frm f mic gran com mot fos tr clky occ f micxl Sh dk gy blk plty sb fis carb
4550-60 Ls bn frm hd f gran arg com f xl abnt mot fos tr sft rthy clky Sh AA
4560-80 Ls bn tan frm hd f mic gran com f micxl dns occ fos

4580-4600 Ls tan lt bn frm hd f xl com f mic gran abnt sft rthy clky com fos occ arg Sh gy blk frm blky sb fis com carb
4600-20 Ls tan bn frm hd f mic gran com fos abnt f micxl tr arg tr suc tt Sh AA
4620-40 Ls bn tan AA com sft clky fos no vis por Sh

MARMATON

4640-50 Sltst lt gy frm fri com v f sdy micro mica v tt abnt bn f micxl com gran AA
4650-70 Ls bn hd blky f micxl pred dns com sft rthy clky occ fos tr arg tt
4670-4700 Ls bn hd blky micxl AA com f mic gran occ mot fos rr p vgy por NSOC Sh blk carb
4700-20 Ls bn hd blky f micxl com f xl abnt mot fos tt
4720-50 Ls bn tan AA tr lith inc in micxl dns tt

CHEROKEE

4750-70 Ls bn hd blky micxl dns tr fos v tt Sh blk frm fis carb
4770-80 Ls tan lt bn frm f xl pred v fos tr p int fos por occ clky NSOC
4780-4800 Ls bn gy frm f gran fos occ clky abnt f micxl hd dns Sh blk frm blky sb fis carb
4800-30 Ls tan bn gy hd blky f micxl tr lith abnt mic gran occ mot fos Sh blk carb
4830-50 Ls AA occ wh rthy clky occ fos
4850-4900 Ls lt tan bn gy hd blky f micxl occ gran arg tt tr fos Sh dk gy blk frm blky sb fis pred carb

ATOKA

4900-50 Ls bn dk gy hd blky micxl occ mic gran arg tr rthy tr fos tt Sh dk gy blk frm blky sb fis fis pred carb
4950-80 Ls bn dk gy hd blky f micxl dns occ lt bn mot fos tr pyr Sh blk carb AA
4980-5000 Ls AA tr c gran slty rr sdy tr pyr tr lse pyr Sh blk fis carb tr pyr Cht wh bn blky opq rr fos
5000-10 Ls tan bn gy frm pred f gran arg com fos abnt f xl AA Sh gy blk carb
5010-50 Sh dk gy blk frm sb fis fis pred carb tr pyr Ls dk gy hd blky mic xl dns tr lt gy rthy arg i.p. fos Cht tr only wh bn opq fos
5050-80 Sh dk gy blk frm plty blky sb fis fis pred carb Ls dk bn gy hd blky f micxl dns com lt gy arg i.p. tr fos

MORROW SHALE

5080-5100 Ls lt gy lt bn frm sft plty mic gran com rthy occ fos com AA Sh blk dk gy frm plty sb fis fis pred carb tr bn lt gy splnt rr grty slty
5100-20 Sh pred blk fis carb tr lt gy frm sb fis rr slky lus Ls AA
5120-50 Sh lt gy gy frm fis sb fis occ grty tr slky lus rr lt gn sb wxy rr vgtd com carb Ls tan bn dk gy hd blky micxl dns
5150-70 Sh dk gy blk frm splnt plty sb fis fis com slky lus occ blk carb
5170-80 Sh lt gy dk gy bn frm plty splnt com carb occ slky lus rr lt gn vgtd
5180-5200 Sh AA sl inc in lt gy lt bn splnt Ls lt bn frm blky f xl com rthy fos
5200-15 Sh gy dk gy tr bn lt gn frm sft plty sb fis occ slky lis occ carb tr vgtd Ls AA

5215-25 Sh dk gy blk frm blky plty sb fis carb tr pyr rr grty slty tr glau rr vgtd
5225-40 Sh dk gy blk frm blky plty splnt sb fis occ v carb tr pyr rr lt gy gn grty
5240-45 Sh lt gy dk blk frm sb fis fis occ pyr com carb
5245-55 Sh gy dk gy AA tr sl slty rr flo sd gr rr glau com carb
5255-60 Sh gy dk frm plty blky sb fis com grty tr pyr Ls lt tan bn frm hd f xl com fos tr only
5260-65 Sh dk gy blk frm blky sb fis com carb tr hd rr pyr

LOWER MORROW LIMESTONE

5265-70 Sh gy dk AA Ls tr only tan bn frm hd blky f micxl dns
5270-90 Sh dk gy blk frm blky plty sb fis rr lt gy gn mot vgtd Ls tan bn frm blky f xl occ mot fos rr c ang sd gr
5290-5300 Sh dk gy blk AA Ls tan lt bn frm hd f micxl com sft rthy rr glau tr fos
5300-10 Ls dist inc tan bn frm f xl com v fos c gr p srtd fos frag in sft clky mtx n p vis por abnt lse c fos frag Sh AA
5310-30 Ls tan lt bn frm hd f xl com rthy clky pred v fos tr lse fos no vis por
5330-50 Ls tan bn pred fos AA tr dol dk bn frm hd f mic suc rr bg yel flor fr g strmg cut when samples dry no vis por
5350-70 Ls tan bn frm f xl com rthy fos NSOC dol tr bn mic suc
5370-90 Ls bn gy frm f xl mic gran com fos mot tr gran pos dol NSOC Sh blk frm splnt carb Cht mlky wh opq smi opq
5390-5400 Ls AA dol lt bn drty frm hd f gran suc mot i.p. NSOC rr dk bn suc wk strmg cut no vis por

SPERGEN

5400-20 Ls lt bn sft frm f micxl com gran occ rthy clky occ fos tt Dol gy bn frm hd blky f suc rr mic suc bgt yel flor wk strmg cut v rr xl calcite tan oil stn wk strmg cut
5420-50 Ls tan bn frm f gran com mot v fos occ gran Dol i.p. Dol tan drty bn frm hd f mic gran com mot fos com grad Ls tt NSOC Cht gy blky opq smi opq
5450-60 Ls gy bn frm f gran tt com arg Dol drty bn gy frm hd mot arg i.p. f gran rr f suc dk bn p fr intprt por lt yel flor fr strmg cut
5460-70 Ls drty gy AA Dol tr AA p n vis por
5470-80 Ls drty bn frm mot f gran fos tr suc dol i.p. NSOc
5480-90 Ls AA Dol lt bn frm hd f mic suc rr bgt yel flor wk fr strmg cut
5490-5510 Ls drty bn gy frm mot f gran com arg tr dol i.p. Cht gy wh blky opq rr vgtd
5510 Ls drty bn gy occ wh frm f mic gran com mot tr glau Cht wh gy clr blky opq smi opq tr diss glau tr i.p.