

WINTERSHALL CORPORATION
UTE MOUNTAIN UTE #33-14
SECTION 33, T31N, R14W
SAN JUAN CO.-NEW MEXICO

GEOLOGIC REPORT
BY
DAVE MEADE
ROCKY MOUNTAIN GEO-ENGINEERING COMPANY

WELL SUMMARY

OPERATOR: WINTERSHALL CORPORATION

WELL NAME: UTE MOUNTAIN UTE #33-14

LOCATION: SECTION 33, T31N, R14W
ELEVATION: GL 5498' - KB 5510'
COUNTY/STATE: SAN JUAN, NEW MEXICO

ENGINEER: RALPH SLAONE/FRED CLAUSSEN

CONTRACTOR: AZTEC WELL SERVICE, RIG #124

TOOL PUSHER: BUDDY DAVIS

DRILLING MUD COMPANY: MUSTANG MUD COMPANY
MUD ENGINEER: CAROLL HART

MUD LOGGING COMPANY: ROCKY MOUNTAIN GEO-ENGINEERING COMPANY
ENGINEERS: DAVE MEADE, BLAIK COPELAND, DON PHARES

COMPANY GEOLOGIST: RIC KOPP, WINTERSHALL CORP.

WELLSITE GEOLOGIST: DAVE MEADE, ROCKY MOUNTAIN GEO-ENGINEERING CO.

HOLE SIZE: 12¼" TO 275': 7 7/8" TO 5830'

CASING SIZE: 8 5/8" TO 275'; 5½" PRODUCTION CASING TO T.D.

CORING COMPANY: NORTON-CHRISTENSEN
ENGINEER: DARREL GLEMM/ROY ROSS

DRILL STEM TESTORS: HALLIBURTON
TESTER: DELL GUNN

ELECTRIC LOGGING: WELEX
ENGINEER: PETER NEUMANN
TYPE OF LOGS RUN: DIL/NEUTRON DENSITY/CAL/GR/SP

OBJECTIVE ZONE: BASIN DAKOTA

TOTAL DEPTH: DRILLER 5830'; SLM 5825'; SAMPLE 5830';
E-LOGGER 5810'

SPUD DATE: 9/8/88
COMPLETION DATE: 9/28/88

STATUS: WAITING ON COMPLETION ORDERS;
RUN 5½" PRODUCTION CASING

BIT RECORD

WELL NAME: UTE MTN UTE #33-14 ELEVATION: GL 5498' - KB 5510'
CO. NAME: WINTERSHALL CORP. SECTION: 33 - T31N- R14W
CONTRACTOR: AZTEC DRLG RIG# 124 CO. & STATE: SAN JUAN, NM
SPUD DATE: 9/8/88 T.D. DATE: 9/28/88

[illegible]

COMPANY NAME: WINTERSHALL OIL & GAS CORP.

MUD RECORD: 1

WELL NAME UTE MOUNTAIN UTE #33-14

DATE	DEPTH	WEIGHT	MUD GRADIENT	FUNNEL VIS	PLASTIC VIS	YIELD POINT	GEL STRENGTH	PH	FILTRATE API	CAKE	ALKALINITY FILTRATE	CHLORIDE PPM	CALCIUM PPM	SAND % CONTENT	SOLIDS % CONTENT	OIL % CONTENT	WATER % CONTENT	% KCL	% CHROMATE PPM
9/8/88	-0-	SPUD	MUD																
9/9/88	275	8.4	--	26	--	--	--	6.0	--	--	--	6500	400	--	--				
9/10/88	1760	8.33	--	27	--	--	--	7.0	--	--	--	1500	60	--	--				
9/11/88	2570	8.7	--	39	4	5	2/3	10.5	11.0	2/32	.4/.6	1300	40	TR	2 1/2				
9/12/88	2630	8.8	--	36	4	3	1/3	10.0	10.0	1+	.2/.4	1400	50	TR	3				
9/13/88	2698	8.9	.463	36	--	--	--	9.5	9.2	1+	.1/.3	1300	60	TR	4				
9/14/88	3202	9.0	--	42	8	5	2/4	10.0	10.4	1+	.2/.3	1200	60	TR	5				
9/15/88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--				
9/16/88	3280	9.0+	.468	34	4	3	1/3	8.0	9.6	2	--	1400	60	TR	5				
9/17/88	4163	8.5	.442	28	--	--	--	9.5	--	--	--	1400	80	--	1 1/2				
9/18/88	4702	8.6+	.448	34	4	3	1/2	10.5	10.4	1+	--	1400	40	--	2 1/2				
9/19/88	4715	8.7	--	32	3	2	1/1	10.0	12.0	1+	--	1400	60	TR	2 1/2				
	4792	8.7+	.452	40	5	4	1/3	10.0	7.8	1+	.3/.5	1300	60	1/8	3				
9/20/88	4812	8.8	.458	47	8	6	2/4	9.5	8.0	1+	--	1500	80	TR	--				
	4812	8.8+	.458	64	10	9	4/10	10.0	7.6	2	.3/.5	1400	80	--	3 1/2				
9/21/88	4812	8.8	--	66	12	10	4/10	9.5	8.2	1+	--	1300	60	--	3 1/2				

WINTERSHALL CORP.
UTE MTN UTE 33-14
SEC. 33-T31N-R14W
SAN JUAN CO., NM

CORE DESCRIPTIONS

CORE #1, 2570'-2598', CUT 28', RECV 15.5'

- 2570.5 SS ltbrn vf-fgr,w/tr m-c qtzxl, sbang-sbrd, wsrt, mcmt-wcmt-w-cmt ip, vslcalc-sil cmt, arg-slsly ip, mica, glau,tr intgr Ø, NFSOC
- 2571.5 SS mbrn AA vsly ip w/thn blk slcarb SH INCL
- 2573 SS ltbrn,vf-fgr, w/occ m-c qtzxl, sbang-sbrd, wsrt, mcmt, vslcalc-sil cmt arg-sly, mica, glau ip, rr carb mat, rr intgr Ø-tt, NFSOC
- 2775 SS AA w/incr carb mat, NFSOC
- 2577.2 SS AA NFSOC
- 2581.2 SS AA NFSOC
- 2585 SS AA NFSOC

CORE #2, 2598'-2615', CUT 17', RECV 13'

- 2585.5 NOTE: Probable recovery of btm section of Core #1
SS bf-ltgy, vf-fgr, sbang-sbrd, wsrt, mcmt, sil-vslcalc cmt, slty-vslty, arg, mica-GLAU INCL, occ tr carb mat, rr intgr Ø, NFSOC
- 2587.3 SS AA w/occ m qtz gr, NFSOC
- 2589.7 SS AA NFSOC
- 2591.5 SS AA NFSOC
- 2594.8 SS bf-ltgy, vf-fgr, sbang-sbrd, wsrt, mcmt, sil-vslcalc cmt, slty, arg, mica, trGLAU, occ tr carb mat, rr intgr Ø,NFSOC
- 2598 SS AA NFSOC

CORE #3, 2615'-2630', CUT 15', RECV 30'

- 2598.5 NOTE: Recv all CORE #2 & 13' of CORE #3
SS bf-ltgy, vf-fgr, w/occ mqtz gr, sbang, sbrd ip, wsrt, m-w cmt, vslcalc-pred sil cmt, slty-arg ip, tr mica-GLAU, occ tr carb mat, rr-tr intgr Ø, NFSOC
- 2600 SS AA NFSOC
- 2601 SS AA NFSOC
- 2603.2 SS bf-clr, vf-fgr, sbang-sbrd, occ ang, wsrt, m-wcmt, vslcalc-sil cmt, tr hrnbld, slty-slarg, tr mica-GLAU, occ tr carb mat, rr-tr ingr Ø, NFSOC

CORE #3, 2615'-2630', CONTINUED

2604.8 SS AA NFSOC

2605.8 SS AA NFSOC

2609.7 SS AA w/lg carb mat incl NFSOC

2611.7 SS AA w/tr carb mat NFSOC

2614 SS bf-clr, vf-fgr, ang-sbang-sbrd, w srt, m-wcmt, sil-vslcalc
cmt, tr hrnbld, tr mica-GLAU, slty-slrg, occ tr carb mat,
rr-intgr Ø, NFSOC

2618 SS AA NFSOC

2619 SS ltgy-clr, vf-fgr, sbang-sbrd, wsrt, m-wcmt, sil-calc-sldol
cmt, tr hrnbld xl, slsly-slrg, tr mica-GLAU, tr carb mat,
w/blk carb slcalc SH INCL, w/rr intrgr Ø, NFSOC

2620 SS AA tr frac, NFSOC

2621 SS ltgy-clr, vf-fgr, sbang-sbrd, wsrt, m-wcmt, sil-calc cmt, tr
hrnbld xl, vslrg, tr mica, occ tr GLAU, s/tr carb mat, vrr
intrgr Ø, NFSOC w/intbd SH-blk, slrg, vslsly, mica ip, brit

2622 SS clr-bf, vf-fgr, occ mqtz gr, sbang-sbrd, ang ip, wsrt, m-wcmt,
sil-slcalc cmt, slsly, arg ip, mica-GLAU ip, tr hrnbld, rr
intrgr Ø, NFSOC w/intbdd blk, carb, vslcalc, slsly SH

2623 SH blk, blk, slsly, carb, vsl-ncalc, mica ip, w/v thn rr blk
vit COAL INCL

2625 SH AA incr COAL INCL

2625.8 SS clr-wh, vf-fgr, sbang-sbrd, ang ip, wsrt, m-wcmt, sil-slcalc
cmt, occ arg vslsly, mica-GLAU IP, pyr ip, tr hrnbld xl,
occ tr carb mat, rr intxl Ø, NFSOC

2626.3 SS AA w/incr carb mat, occ thn SH INCL, NFSOC

2627.1 SS AA w/incr SH INCL, tr vthn COAL INCL, NFSOC

2627.6 SH blk, plty, brit, slsly, carb, vslcalc, w/thn intbd blk vit
COAL

2628.5 SH AA w/rr intbd thn COAL INCL

CORE #4, 2630'-2658', CUT 28', RECV 28'

2630 SH dkgy-blk, blk, slsly, carb, ncalc, w/vrr COAL INCL

2631 SH AA incr intbd blk vit brit COAL

2632 SH dkgybrn, blk, brit, slsly, carb, ncalc, decr COAL INCL,
tr carb mat

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CORE #4, 2630'-2658' CONTINUED:

2633 SH AA tr COAL INCL

2634 SH AA abnt COAL INCL

2635 SS clr, bf, vf-fgr, occ m qtz gr, sbang-sbrd, wsrt, m-wcmt, sil-
vslcalc cmt, arg ip, tr mica, GLAU ip, tr hrnbld xl, rr carb
mat, rr intgr Ø, NFSOC

2636.3 SS AA w/intbd gybrn-dkgy, blk, slsly SH w/rr blk, vit COAL INCL

2636.8 SS AA w/intbd SH AA

2637.5 SS AA w/intbd SH AA

2637.9 SS gy, vfgr, sbang, wsrt, mcmt, sil cmt, slty, mica, sl GLAU, tr
hrnbld xl, occ rr carb mat, vrr intgr Ø, NFSOC w/intbd SH-dkgy,
vslsly, vsl sdy, ncalc, rr carb incl, frm

2638.5 SS grbrn AA vslty, intbd SH gy AA

2639.8 SS gybrn, vfgr, sbang-sbrd, wsrt, m-wcmt, sil-arg cmt, slty, mica,
vsl GLAU, tr carb mat, w/thn gybrn SH bands ncalc

2640.3 SH dkgybrn, plty, frm-brit, ncalc, carb, slsly, vslmica, w/tr thn
COAL INCL-blk, vit, brit

2641 SH gy AA rr COAL INCL

2642.2 SLTST gy, sdy, slarg, ncalc w/thn COAL INCL & occ gygn CLYST INCL
& intbd gy SH-sbwxy, ncalc, tr blk CARB mat INCL, rr COAL INCL

2643.5 SLTST ltgy, sdy, arg, slmica, vsl-ncalc, tr CARB mat

2644.5 SLTST AA w/tr blk, brit, vit, COAL INCL

2645.7 SH gybrn, blk, slsly, mica ip, ncalc, tr CARB mat w/slty SS
INCL-gybrn, vfgr, sbang, wsrt, mcmt, sil cmt, mica, tr CARB
mat

2646.5 SH blk, plty, vslsly, vslmica, ncalc, carb, tr thn intbd blk,
vit COAL

2647.9 SH AA w/incr COAL INCL

2648.5 SH AA abnt thn intbd COAL

2649.5 SH blk, plty, slmica, vslsly, carb, w/abnt blk vit COAL intbd

2650.8 SH AA decr to tr thn intbd COAL

2652 SH dkgybrn, blk, ncalc, carb-tr carb mat, sbwxy, tr thn COAL INCL

2655 SH blk, dkgybrn, plty, AA rr blk vit COAL INCL

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CORE #5, 2658'-2681', CUT 23', RECV 17'

2664 SH blk, plty-fis, vslssty, occ mica, sbwxy, carb, w/abnt blk, vit
COAL INCL conc frac

2664.7 CLYST tan, plty, sft, ncalc, wxy, w/dkbrn-blk carb SH INCL

2665 SH blk, plty-sbplty, carb, ncalc, slsty, sbwxy, w/occ thn blk
vit COAL INCL

2670 SH AA incr COAL INCL

2670.7 SLTST gy, sdy, mica, ncalc, tr carb mat, rr vthn intbd SH

2672.5 SLTST AA

2673.4 SLTST AA verr COAL INCL

2675 SH dkgy-dkgybrn, sbplty, slty ip, slmica, carb, ncalc, w/tr carb
mat, w/ltrbrn slty, CLYST INCL

2676.1 SLTST gybrn, shly, sdy, mica, tr carb mat, ncalc

2677.5 BANDED ltgy-clr vfgr sbang slty SS & gybrn-brn sdy, mica, arg
SLTST w/occ blk thn carb SH

2678.5 SLTST ltgy, gybrn, sdy, shly, ncalc w/thn SS-gy-clr vfgr & dkgy-
blkcarb SH bds & occ thick SS-clr-ltgy, vfgr, sbang, wsrt, m-w
cmt, calc cmt incl

2680.5 SS gy-s&p, vf-fgr, sbang-sbrd, wsrt, m-wcmt, slcalc-sil cmt, mica,
occ GLAU, slty ip, p integr Ø, NFSOC, w/blk carb, ncalc, intbd
SH & SH INCL

2681 SS gy-clr, vf-fgr, sbang-sbrd, wsrt, m-wcmt, calc-slsil cmt, GLAU,
slmica, tr hrnbldd xl, rr-p integr Ø, frac w/calc flg in frac,
NFSOC

CORE #6, 2681-2702', CUT 21', RECV 20'

2681.5 SLTST bf, sdy, arg, slcalc w/intbd gy-clr vfg SS-sbang-sbrd, wsrt,
w-mcmt, calc-sil cmt, slty, mica, tr GLAU, NFSOC

2681.9 SH brn, gybrn, blk, slty, vslmica, vsldy, tr carb mat, vsl dol

2682.9 SH dkgybrn, plty, vslmica, sbwxy, sldol, tr carb mat, carb, w/
COAL INCL-blk vit brit

2683.5 SH AA

2684.3 SH mgybrn AA w/SLTST INCL-ltgy, sdy, arg, slmica, ncalc

2686 SH gy, blk-fis, slsty, occ slmica, vsldol, rr tr carb mat

2688.1 SH mgy, plty, carb AA

CORE #6, 2681'-2702' CONTINUED:

2688.9 SS gy, vfgr, sbang-sbrd, wsrt, m-wcmt, sil-vslcalc cmt, slty, sl
mica, abnt carb SH INCL, tr intbd COAL

2689.2 SH blk, fis, carb, vslslty, slmica w/COAL INCL-blk, brit, vit

2690.5 SH AA w/COAL INCL

2691.5 SH AA w/COAL INCL

2691.9 SH AA w/COAL INCL

2693.0 SH gy, blk, slfis ip, w ind, slslty, sl tr carb mat, rr COAL INCL

2695.1 SH AA w/incr COAL

2696 SH brn, blk, plty, slty, slmica, ncalc w/sdy gy-gybrn SLTST INCL &
tr slty vfg SS INCL

2696.9 SH AA w/SLTST & SS INCL AA

2697.5 INTBD SH brn, slty, carb, & grybrn, sdy, arg slmica ncalc SLTST &
ltgy-gybrn vfg slty SS

2698 COAL blk, brit vit w/calc fl frac-thn blk carb SH intbd

2699.1 SH blk, fis, carb, w/tr COAL INCL & intbd SLTST gy, sdy, ncalc,
mica, arg

2700.4 SH gybrn, plty-slfis, carb, slty-slsdy, tr COAL INCL, scat carb
mat w/intbd SLTST-ltgybrn, sdy, slmica, arg, slcalc

2701 SH gy, blk-sbplty, sbwxy, vslslty, vslcarb, tr scat carb mat

CORE #7, 3202'-3232', CUT 30', RECV 24'

3202 SS clr-ltgy, fgr, sbang-sbrd, wsrt, wcmt, sil-vslcalc cmt, arg,
slmica-GLAU, tr hornbd xl, tt-fr intgr Ø, NFSOC

3204.5 SS AA tr feld, fr intgr Ø, NFSOC

3205.1 SS clr-ltgy, fgr, sbang-sbrd, wsrt, wcmt, sil-slcalc cmt, arg, sl
mica-GLAU, tr feld-hornbd xl, fr intgr Ø, NFSOC, w/thn carb,
blk SH INCL

3207 SS clr, bf, vfgr AA slty ip, NFSOC

3207.5 SS clr-bf, vf-fgr, sbang-sbrd, wsrt, m-wcmt, sil-slcalc cmt, arg-
slty, slmica, GLAU, tr hornbd xl, tr feld, fr intgr Ø, NFSOC

3208.5 SS clr-bf, vf-fgr, sbang-sbrd, wsrt, m-pcmt, sil-slcalc cmt, arg-
slslty, slmica, GLAU, tr hornbd-feld xl, fr intgr Ø, spty dul-
bri y gld FLOR, lt-dkbrn 0 STN, tr dd 0 STN, g fast stmg mlky
CUT

CORE #7, 3202'-3232' CONTINUED

- 3209.5 COAL blk, brit, vit, conc frac ip, w/intbd blk, carb, plty-fis SH
- 3210 SH gybrn, blk, frm, slcarb, ncalc, vslsly, tr plant fos, tr scat carb mat, vthn COAL INCL
- 3210.7 SH AA bcmg ltgy
- 3211.2 SH ltgy, frm, slsly, ncalc, sbwxy ip, vslmica
- 3213 SH AA vslty ip, mica, ncalc, frm, plty
- 3213.7 SH dkgy, plty, slty, carb, ncalc, slsdy, w/intbd gy-gybrn, sdy, ncalc, SLTST
- 3215.9 SLTST ltbrn, vsdy, arg, slcalc, tr carb mat, mica, w/intbd, ltgy-clr, vfgr, sbang-sbrd, wsrt SS
- 3217.2 SS ltgy-bf, vfgr, sbang-sbrd, wsrt, m-wcmt, calc cmt, vslty ip, mica, GLAU, tr feld-hornbd xl, fr intgr Ø, NFSOC w/intbd ltbrn vsdy, slcalc SLTST
- 3218.8 INTBD ltgy, vfgr, slty SS, sbang,wsrt, wcmt, sil cmt, NFSOC & lt brn, sdy, ncalc, SLTST w/scat carb mat thruout
- 3219 INBD SS & SLTST AA w/abnt carb mat NFSOC
- 3220 SLTST m-ltbrn, arg, vsdy, slmica, grdg to vfgr SS, w/ltgy, vfgr, sbang SS-wsrt, m-mcmt, slty, mica-GLAU, scat carb mat thruout NFSOC
- 3222.7 SLTST mgy, vsdy, slmica, slcarb w/scat carb mat, arg
- 3224.1 SS ltgy-clr, vf-fgr, sbang-ang, wsrt, m-wcmt, sil-vslcalc, GLAU-mica ip, tr hornhd xl, fr intxl Ø, NFSOC, w/tr ltbrn, sdy SLTST INCL
- 3224.6 SS ltgy AA w/intbd mbrn SLTST-sdy, mica, arg, ncalc
- 3225.7 SS ltgy-wh, vf-fgr, sbang-sbrd, wsrt, wcmt, sil-vslcalc cmt, arg, slsly, mica ip, tr hornbd xl, tr pyr, glau, fr intxl Ø, NFSOC w/mbrn, sdy, arg, SLTST INCL
- 3226.7 SH mgy, blk, slcarb, vslmica, ncalc, w/tr ltgy-wh, vfgr, sbang, wsrt, mcmt SS-slsly, mica, GLAU ip, tr hornbd xl, NFSOC
- 3227.5 SH AA w/SS INCL, NFSOC AA

CORE #8, 3232'-3262', CUT 30', RECV 32'

- 3230 SS ltgy, vf-fgr, sbang-sbrd, wsrt, m-wcmt, sil-calc cmt, varg, slty, slmica, GLAU ip, w/scat carb mat & carb incl, tr GLAU-hornbd xl, tr fr intgr Ø, NFSOC
- 3231.4 SS AA, tr fr intgr Ø, NFSOC

CORE #8, 3232'-3262' CONTINUED

- 3231.5 SH dkgy, blk, frm, carb, ncalc, slsly, slmica, rr COAL INCL
- 3232.8 SH AA incr slty ip, abnt carb incl, tr leaf fos
- 3233 SH ltgy, blk-plty, frm, ncalc, sbwxy, vsi-ncarb, rr carb incl, vsisly ip
- 3234.1 SH ltgy, blk AA
- 3235 SLTST ltgygrn, arg, sdy, slmica, ncalc, w/gygn, sbwxy, ncalc SH INCL
- 3236.5 SH gy, blk, frm, slsly, ncalc, sbwxy-wxy, slmica, vrr tr carb mat
- 3237 SH AA
- 3238.5 SLTST gybrn, frm, vsdy, mica, arg, abnt carb mat, vsi-ncalc, w/thn bnds of gy slty vfgr SS & dkgybrn carb SH
- 3239.5 INTBD SLTST & SS AA w/vthn blk COAL INCL
- 3240 SS gy, vf-fgr, sbang-ang-sbrd, wsrt, mcmt, sil cmt, vsly ip, mica, arg, tr hornbd xl, sl GLAU, NFSOC, w/brn sdy arg SLTST INCL, abnt carb mat thruout w/intbd blk, carb, blk, slsly, SH w/tr COAL INCL
- 3242 COAL-blk, brit, vit, shly w/thn blk carb SH INCL
- 3423.1 SH blk, plty, frm, carb, vsisly, ncalc, mica ip, tr scat carb mat, rr blk COAL INCL
- 3244 SH mgy, blk, bent ip AA
- 3244.7 SS gy, vfgr, sbang-sbrd, wsrt, mcmt, sil cmt, slty-arg, mica-GLAU, tr hornhd xl, tr COAL INCL, tr scat carb mat, w/brn, vsdy, n-calc SLTST INTBD
- 3245 SH mgy, blk, slsly, carb, ncalc, slmica, tr plant fos, vrr blk COAL INCL
- 3246 SH AA sl bent
- 3247 INTBD gybrn, sdy, ncalc, SLTST-arg w/scat abnt carb mat & ltgy vfgr, slty SS-sbang-sbrd, wsrt, wcm, fr integr Ø, NFSOC
- 3248.5 SH mgy, frm, blk, slcarb, sbwxy ip, ncalc, vsi bent
- 3249 COAL-blk, brit, vit, shly ip, w/blk carb SH INCL
- 3250 SH blk-dkbrn, frm-brit, blk, vcarb, abnt scat carb mat, tr COAL INCL, slsly, ncalc
- 3250.5 SLTST brn, vsdy, arg, mica, ncalc w/abnt carb mat, abnt COAL INCL

CORE #8, 3232'-3262' CONTINUED

- 3251.5 SS gy, vfgr, sbang, wsrt, wcmt, sil cmt, abnt scat carb mat, tr COAL INCL w/intbd gygn, ncalc, blk, vslsly SH
- 3252.5 SH gy, plty, frm, carb, ncalc, slsly, tr scat carb mat, w/intbd ltgy-gy, sdy, arg, mica, ncalc SLTST
- 3253.3 INTBD SS gy, vfgr, sbang, wsrt, mcmt, slty, slmica, NFSOC & SLTST gybrn, vsdy, ncalc, mica, arg & SH gy, blk, frm sbwxy, ncalc
- 3253.9 SLTST mgy, sdy, mica, tr scat carb mat, ncalc, rr COAL INCL
- 3254 SS gy-clr, vf-fgr, sbang, wsrt, mcmt, sil cmt, slty, arg, mica ip, GLAU, tr hornbd xl, tr intgr Ø, NFSOC
- 3254.5 SH dkgy, blk, frm-brit, carb, ncalc, mica, sl bent ip
- 3256 SH gy, blk, frm, brit, sbwxy, vslsly, mica, ncalc, rr scat carb mat, tr COAL INCL
- 3257.7 SH AA tr COAL INCL, w/gy, sdy, ncalc, SLTST INCL
- 3258.8 SS gy-wh-clr, vf-fgr, wsrt, mcmt, sil cmt, slty, arg, mica ip, rr hornbd xl, GLAU, rr-tr intxl Ø, NFSOC
- 3259.5 INTBD SS AA vslty ip, abnt scat carb mat, NFSOC & SLTST gybrn, v-sdy arg, slcarb-abnt scat carb mat, tr COAL INCL & SH dkgybrn, plty, slsly, carb ncalc
- 3260.5 SS ltgy-wh-clr, vf-fgr, sbang-sbrd, wsrt, mcmt, sil cmt, arg, slty, mica, tr GLAU-hornbd xl, rr scat carb mat, tr intgr Ø, NFSOC, w/thn, blk, plty, carb, ncalc SH INTBD
- 3260.7 SS AA w/intbd sdy, arg, slcarb, dkbrn SLTST & blk carb, ncalc SH
- 3261.5 SLTST gy, sdy, arg, mica, ncalc, w/thn intbd blk, carb, ncalc, v slsly SH
- 3262 SH blk, blk, sbwxy-wxy ip, vslmica, ncalc, slcarb, rr scat carb mat, w/rr SS & SLTST INCL

WINTERSHALL CORP.
 UTE MTN UTE 33-14
 SEC. 33-T31N-R14W
 SAN JUAN CO., NM

FORMATION	FORMATION TOPS			
	SAMPLE TOP	SUBSEA DATUM	E-LOG TOP	SUBSEA DATUM
KIRKLAND	SURFACE	-----	SURFACE	-----
FRUITLAND COAL	568'	+4942'	482'	+5028'
CLIFFHOUSE	2400'	+3110'	2392'	+3117'
MENEFEE	2616'	+2894'	2618'	+2892'
POINT LOOKOUT	3292'	+2218'	3340'	+2170'
MANCOS	3632'	+1878'	3658'	+1852'
GALLUP MARKER	4574'	+ 936'	4550'	+ 960'
TOCITO/GALLUP	4624'	+ 886'	4600'	+ 910'
SANASTEE	4769'	+ 741'	4881'	+ 639'
GREENHORN	5398'	+ 112'	5400'	+ 110'
GRANEROS	5454'	+ 56'	5459'	+ 48'
DAKOTA	5524'	- 14'	5517'	- 7'
BURRO CANYON	5725'	- 215'	5716'	- 206'
MORRISON	5768'	- 258'	-----	-----
TOTAL DEPTH	5830'	- 320'	5810'*	- 300'

* With fill on bottom

GEOLOGIC SUMMARY
AND
ZONES OF INTEREST

The Wintershall Ute Mountain Ute #33-14, located in Section 33, T31N, R14W in San Juan County, New Mexico, was spudded on September 8, 1988 in the Cretaceous Kirkland Formation. 8 5/8" surface casing was set at 275' and a 7 5/8" hole was drilled to 5830' on September 27, 1988. This was a Dakota test with the Menafee coals and Tocito/Sanastee zones of the Lower Mancos Formation as secondary zones of interest.

At 2570' on September 11, 1988 a coring program was begun in the Lower Cliffhouse sand, just above the Menafee Coal, for Resource Enterprises, Inc. Cores #1 thru #6 were cut from 2570' to 2702' on 9/11/88 to 9/13/88. On 9/13/88 an "E"-Log run was made. Rotary drilling was resumed on 9/13/88 at 2702' and continued to 3202' on 9/14/88 when coring was resumed. Cores #7 and #8 were cut from 3202' to 3262' on 9/14/88 to 9/15/88. An injection test was run over this interval on 9/15/88. For detailed core and drill stem test information, see attached sheets at end of mud log and core descriptions are included in this report. Drilling was resumed on 9/16/88 to a depth of 3362' when "E"-Logs were again run for REI.

On 9/16/88 rotary drilling was resumed for Wintershall and was continued to 4700' in the Upper Gallup Member of the Mancos on 9/18/88. A DST was attempted, but due to the amounts of fill encountered on bottom with the DST tool, the test was cancelled. Drilling resumed on 9/19/88 and continued to 4810' also on 9/19/88 when the decision was made to test. The DST was run on 9/20/88 after a trip to clean hole and raise viscosity. The DST was run from 4710' to 4810' with very poor surface bubbles in bucket and no measurable pressure and no gas to surface.

While tripping back into the hole after the DST, the rig broke a shaft and drilling was not resumed until 7:30 A.M. on 9/24/88. The Dakota Formation was topped at 5528' on 9/25/88. Returns and circulation was lost in the upper Dakota at 5533', a total of 175' barrels of mud was lost. The Dakota was light gray, clear, white-to-gray brown, very fine-to-fine, occasionally medium grained sandstone. Sandstone was subangular-to-subrounded-to-occasionally rounded, predominately well cemented, poor-medium cemented in part, well-to-medium sorted, with siliceous-to-very slightly-to-slightly calcareous cement. There were none-to-fair intergranular, occasionally fractured porosity; none-to-fair, dull-to-bright, yellow green fluorescence, rare-to-trace of light brown stain, traces of black dead oil stain, poor-to-fair, slow streaming milky cut. The Dakota had thin black carbonaceous shale interbedded, increasing in thickness with depth.

The Burro Canyon Sandstone was drilled at 5726' on 9/26/88 and was clear-white, very fine-to-medium grained, occasionally coarse grained, sub-rounded-to-rounded, poorly sorted-to-medium sorted, poor-to-well cemented, unconsolidated in part, siliceous cement and no fluorescence, stain or cut.

The Morrison was drilled at 5768' on 9/37/88 and was a green-to-gray green, occasionally white and tan shale with thin chert nodulars in the top. The Morrison was drilled to a depth of 5830 where the drilling was halted on 9/27/88 for electric logs.

WINTERSHALL CORP.
UTE MTN UTE 33-14
GEOLOGIC SUMMARY CONTINUED

On 9/27/88 and 9/28/88 several attempts were made with the logging tool before the tool was finally able to get close to total depth and begin logging. At the time of this report completion casing has been run on Ute Mountain Ute #33-14.

UTE MOUNTAIN UTE 33-14

The following is a tabulation of all deviations surveys ran on the Ute Mountain Ute 33-14 well.

The well is located on Unit M, 1180' FSL and 820' FWL Sec. 33; T31N; R14W in San Juan County New Mexico.

Depth	Deviation
275	1
772	3/4
1262	3/4
1720	1 1/2
2200	1 1/2
2570	1 3/4
3065	2 3/4
3362	2 1/2
3856	2 1/4
4380	1 1/4
4701	1 1/4
5234	1 1/2
5820	1 3/4

I, Fred J. Clausen, Area Superintendent for Wintershall Corporation, do here by attest that I have inspected the above surveys and found the same to be accurate, valid and complete to the best of my knowledge.

Fred J. Clausen
Fred J. Clausen
Area Superintendent

State of Colorado

County of Montezuma

Subscribed and sworn to me this 6th day of March, 1989

Bygona lyl
Notary Public

My Commission Expires: 06/01/91

REC
MAR 12 1989
OIL COMPANY