



00591664

WELL SUMMARY

NWNE ✓ ☀

OPERATOR:	WESTERN OIL COMPANY
WELL:	APACHE CANYON #30-2
LOCATION:	SEC. 30 T33S-R67W 800 FNL, 3495 FWL
COUNTY:	LAS ANIMAS
STATE:	COLORADO
ELEVATION:	GL 7235', DF 7243'
SPUD DATE:	OCTOBER 8, 1990
FIELD:	WILDCAT
T.D. DATE:	OCTOBER 11, 1990
GEOLOGIST:	JIM DICKSON
DRILLING ENGINEER:	DON PENROD
CONTRACTOR:	FINLEY DRILLING
GEOPHYSICAL LOGGING:	SCHLUMBERGER
HOLE SIZE:	17 1/2" TO 16' 12 1/4" TO 540'
CASING:	13 3/8" TO 16' 8 5/8" TO 540'
DRILLING FLUIDS:	AIR MIST
OBJECTIVES:	RATON AND VERMEJO COALS
T.D.:	1760'
STATUS:	RUN PRODUCTION CSNG

Ed,

This will bring you
current to date. You
will probably want to
review dates of your CBL
to be sure you have
latest since remedial cement
work — there has been
quite a bit.

- Let us know if we
can give you anything.

Western Oil
Jim Hardy
980-9340

BIT RECORD

			IN	OUT	TOTAL FTG	TOTAL HRS
#1	17 1/2	STC F-4	0	23	23	3
#2	12 1/4	STC F-2	23	540	517	12
#3	7 7/8	VAREL V527	540	1320	780	14
#4	4 1/2	? ?	1320	1380	60	
#5	7 7/8	VAREL V527	1380	1610	230	4
#6	4 1/2	? ?	1610	1657	47	
#7	7 7/8	VAREL V527	1657	1760	103	2 1/2

SURVEYS

820	2 3/4 degree
1121	3 degree
1420	3 degree

MIDNIGHT DEPTHS

10/9/90	540
10/10/90	910
10/11/90	1380
10/12/90	1760 (TD)

GENERAL LITHOLOGY

Raton Formation

SS - wht, ltgy, f-cg, sbrnd-sbang, msrt, frm-unconsol, occ hvy wht cly mtrx, calc

SH - lt-dkgy, lt-dkbn, carb ip, slty ip, sndy ip, frm, sbblky

COAL - blk, bri, blk, conch frac, gd cleat

Vermejo Formation

SS - off wht, ltgy-gy, ltbn, f-mg, sbrnd-sbang, msrt, frm-unconsol, calc

SH - gy, gybn, dkgybn, carb, slty, sndy ip, blk-sbblky, frm

COAL - blk, bri, brit, blk, conch, gd cleat, vis desorb

Trinidad

SS - off wht, ltgy, fg, sbrnd, mwsrt, frm-fri, wht cly mtrx, calc

GEOLOGIC SUMMARY
APACHE CANYON #30-2

<u>GEOLOGIC UNIT</u>	<u>E LOG DEPTH</u>	<u>ELEVATION</u>
Raton	Surface	7235'
Vermejo	1273'	5947'
Trinidad	1684'	5561'

WELL CHRONOLOGY

10/8/90 Nipple up to 13 3/8", drill 12 1/2-23'-405', drill 12 1/2" 405'-540' Pump down mud, TOOH, Run 8 5/8" csng, cmt, woc

10/9/90 WOC, nipple up, TIH, drlng cmt, drling 7 7/8" 518'-1321' surv @ 820' 2 3/4 1121 3 degree

10/10/90 Trip to core, core, TOOH w/core, laydown core, TIH, ream, Dring, 7 7/8, 1378-1610' surv @ 1420 3 degree, TOOH, TIH w/core bid core 1610-1657, TOH w/core, lay down core, TIH, ream drling 7 7/8" 1657'

RATON FORMATION COALS

530.1 - 530.3	.2	1020.6 - 1022.0	1.4
530.8 - 531.2	.4	1073.9 - 1074.7	.8
547.7 - 548.1	.4	1075.6 - 1076.2	.8
587.1 - 587.8	.6	1046.9 - 1077.8	.9
591.4 - 592.4	1.0	1113.0 - 1113.7	.7
635.5 - 635.8	.3	1154.5 - 1155.2	.7
636.3 - 636.7	.4	1280.5 - 1280.7	.2
690.9 - 691.7	.8		
696.6 - 696.7	.1		
701.8 - 702.5	.7	Total Raton Coals	21.0
706.2 - 706.5	.3	Raton Coals > .5'	16.1
706.9 - 707.2	.3	Raton Coals > 1.0'	8.6
716.7 - 717.0	.3		
718.6 - 718.8	.2		
720.4 - 721.6	1.2		
722.4 - 722.7	.3		
724.1 - 725.0	.9		
725.0 - 725.2	.2		
728.5 - 728.8	.3		
734.0 - 736.4	2.4		
796.3 - 796.5	.2		
871.0 - 871.6	.6		
993.7 - 994.8	1.1		
996.1 - 996.5	.4		
998.0 - 998.4	.4		
1009.2 - 101.7	1.5		

VERMEJO COALS

1338.7 - 1341.7	3.0
1348.2 - 1348.8	.6
1372.6 - 1374.2	1.8
1395.9 - 1398.7	2.8
1471.2 - 1471.7	.5
1472.5 - 1473.1	.6
1504.3 - 1506.3	2.0
1547.2 - 1547.7	.5
1548.1 - 1548.8	.7
1575.7 - 1577.5	1.8
1596.2 - 1599.1	2.9
1600.4 - 1600.8	.4
1614.1 - 1614.6	.4
1643.0 - 1645.3	2.3
1647.4 - 1647.7	.3
1663.1 - 1664.9	1.8
1667.7 - 1667.9	.2

Total Vermejo Coals	22.6
Vermejo Coal > .5'	21.3
Vermejo Coal >1.0'	18.4

SHOW REPORT

RAVEN RIDGE RESOURCES

HYDROCARBON SHOW SHEET

SHOW No. 1

OPERATOR: WESTERN OIL COMPANY

WELL NAME: APACHE CANYON 30-2 COUNTY LAS ANIMAS STATE COLORADO

SHOW INTERVAL: FROM 820 TO 890

DRILL RATE: ABOVE 1.5 THROUGH .25 BELOW 1.25

DRILLING FLUID: WT VS WL PH CK CL

GAS CHROMATOGRAPH DATA

FLUID: MUD AIR X MIST

	TOTAL UNITS	PPM C1	C2	C3	C4-I	C4-N	OTHER
BEFORE	2	tr					
DURING	18	1,800					
AFTER	10	1,000					

POROSITY: X POOR FAIR GOOD

TYPE intergranular

STAIN: X NONE POOR FAIR GOOD

COLOR %

FLUORESCENCE: X NONE POOR FAIR GOOD

 MINERAL EVEN SPOTTY

COLOR

CUT: NONE POOR FAIR GOOD

COLOR

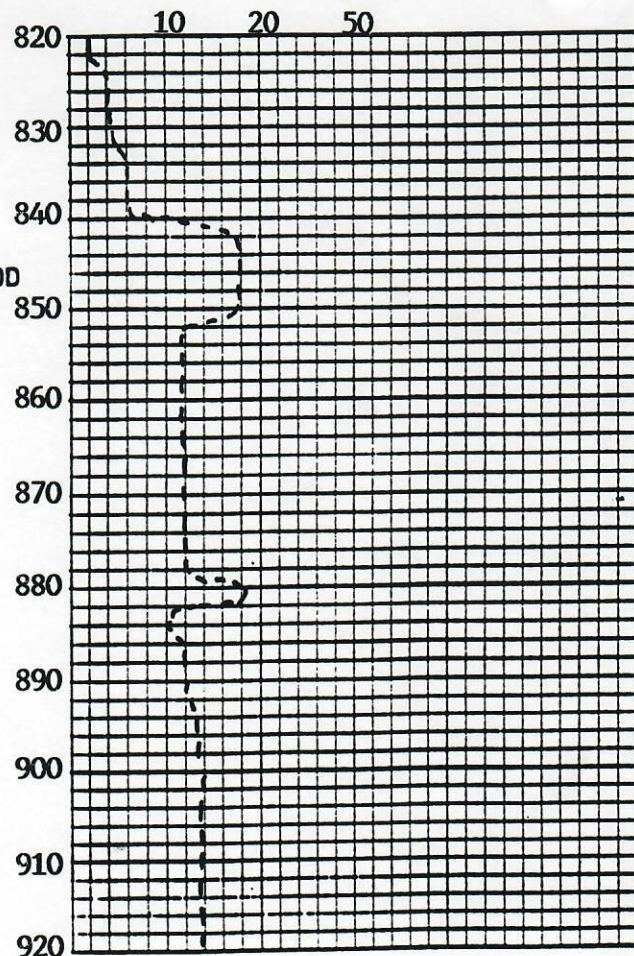
SAMPLE QUALITY: POOR FAIR X GOOD

LAG:

SHOW LITHOLOGY: SS-gy, gybn, vf-f g, slty & arg
mp srt, sbang, hrd-frn, calc

REMARKS:

ZONE DESCRIPTION BY: j dickson



SAMPLE DESCRIPTIONS

50 - 80	100% SH	gy, occ dkgy, sbblky, msndy, carb ip, occ coal frags, occ carb bnds, non calc
80 - 110	90% SH	gy, ltgy-occ dkgy, tn, sbblky, msndy, sft-mfrm, mcarb ip, tr ss, non calc
	10% COAL	blk, dkbrn, pred bri, occ dul zns, sbblky, frm, p conch, no cleat dev, vit, slty ip
110 - 140	10% COAL	blk, dkbrn, bri-occ dull, brit, conch frac, cleat, vit
	80% SH	bngy, dkbngy, sbfiss-fiss, carb, slty, sndy ip, frm
	10% SS	bn, gy, vf-fg, slty, ang, mpsrt, sbang, frm, calc, non calc
140 - 170	TR COAL	TR calc to frac fill
	100% SH	dkbngy, dkbn, carb, smth, blk, frm
170 - 200	70% COAL	blk, bri, shny, blk, conch frac, cleating brit
	30% SH	vdkbn, carb, tr fess, sbfiss, frm
200 - 300	100% SS	ltbn, offwht, fg, wsrt, sbrnd, m-sl cly mtrx frm-hrd, yell flu, no cut
230 - 260	60% SH	gybn, slty, sndy ip, carb ip, blk, frm
	40% SS	bn, gy, vf-fg, slty and arg, sbang, mpsrt, frm-fri, mica, tr dull yell flu, no cut
260 - 290	TR COAL	tr calcite frac fill
	80% SH	gy, gybn, dkbn, mica, slty ip, sbfiss-sbblky-frm
	20% SS	clr, gy, bn, ltgy, fg, occ ang and carb, m-mpsrt, sbrnd, fmr-fri, mica, occ calc, tr dull yell flu, no cut
290 - 320	TR COAL	
	10% SH 90% SS	gy, bn, sbfiss, smth, frm gy-vf-fg, ang and slty sbang, mpsrt, fri
320 - 350	100% SS	offwht, f-mg, sbrnd, msrt, hvy wht, cly mtrx frm, spty yell flu, no cut

SAMPLE DESCRIPTIONS

350 - 380	TR COAL	
	20% SH	gy, occ slty and sndy, sbblky, frm, carb ip
	80% SS &SD	off wht, ltgy, f-occ crs g, msrd rnd, frm, calc ip, sl wht, cly mtrx, spty yell flu no cut
380 - 410	40% SH	gy, bngy, dkbn, slty ip, occ carb, frm, sbfiss-sbblky
	60% SS&SD	clr, off wht, gy, bn, f-occ m and crsg, m-mpsrt, sbrnd-ang, fri-uncon, calc, wht cly mtrx, spty dull yell flu, no cut
410 - 440	100% SS	wht, f-mg, occ crsg, sbrnd-sbang, mwsrt, wht cly mtrx, frm-fri, spty bri yell-dull yell flu
440 - 470	40% COAL	blk, bri, shy, blk, brit, frac, gd cleat
	50% SH	gy, bn, dkbn, sbfiss-sbblky, frm
	10% SS	wht, ltgy, gy, fg, sbrnd, mwsrt, frm-fri, wht cly mtrx
470 - 500	TR COAL	
	100% SH	bn, blk, smth, frm
500 - 530	30% SH	bn, gy, slty, mica, carb, blk, frm
	70% SS	gy, bn, off wht, vf-fg, sbang, m-psrt, arg, slty, mica, fri-hrd, calc
530 - 560	CMT	
560 - 590	90% SH	gy,dkgy, bngy, slty-nonslty, blk, carb ip, frm
	10% SS	ltgy, offwht, bn, fg, sbrnd, m-mpsrt, occ arg and slty frm-hrd, calc
590 - 620	60% SH	gy, gybn, dkbn, sbblky, frm
	40% SS	ltgy, ltnb, gy, bn, fg, sbfiss, msrt, mica, arg, frm-fri, calc
620 - 650	TR COAL	
	40% SH	gy, bn, bngy, dkbn, blk-sbfiss, slty and sndyip, carb, frm,
	60% SS	gy, ltgy, offwht, vf-fg, msrt, sbang, slty and arg ip,frm-fri, calc
650 - 680	80% SH	gy, sbfiss, sl slty, frm

SAMPLE DESCRIPTIONS

	20% SS	gy, gybrn, vf-fg, msrt, slarg, arg, frm, carb, calc
680 - 710	90% SH	gy, smth, sbblky-sbfiss, frm
	10% SS	gy, ltgy, vf-occf, sbang, msrt, sl-marg, frm calc
710 - 740	100% SH	gy, sbblky, slsly, frm
740 - 770	50% SH	gy, bngy, sbblky, slty ip, carb ip, frm
	50% SS	gy, ltgy, bngy, vf-fg, mw-mpsrt, ang, org and slty ip sl calc
770 - 800	TR COAL	
	70% SH	bn, bngy, dkbn, gy, blky, carb, slty, frm
	30% SS	gy, ltgy, vf-fg, sbang, mwsrt, occ slang and slty frm
800 - 830	30% SH	gy, dkgy, slty, carb, sbblky, frm
	70% SS	gy, vfg, sl arg, slty and carb ang, msrt, frm-ltgy, offwht, fg, sbrnd, mwsrt, hvy cly mtrx, frm-fri, spty dull-bri yell flu, no cut
830 - 860	10% SH	dkgy, dkbn-blky, frm, slty
	90% SS	gy, gybn, vf-fg, slty and arg, mpsrt, sbang, hrd-frm calc
860 - 890	60% SH	gy, dkgy, dkbn, carb clsts, sbfiss-sbblky, frm
	40% SS	gy, vf-fg, sbang, mwsrt, frm, sl arg, calc
890 - 920	80% SS	qtz, wh, ltgy, sbang-sbrd, pred fg, occ mg, wsrt, wcmt, calc ip, no flor
	20% SH	gy, gybrn, sbplty-sbblky, slty, sl sndy ip, occ carb bnds and clst, non calc
920 - 950	70% SS	incr fg-vfg, a/a
	30% SH	vsly, sft, a/a
950 - 980	50% SS	qtz, wh, ltgy, sbang-sbrd fg, wsrt, wcmt, calc, no flor, occ gy
	50% SH	gy, sbblky, slty, sl sndy ip, occ carb clst, non calc

SAMPLE DESCRIPTIONS

980 - 1010	60% SH	gy, occ dkgy, sbblky, slty, sft-mfrm, sl sndy ip, mcarb ip, non calc
	40% SS	qtz, wh, ltgy, brn, sbang-sbrd, wh cly mtx, fg, wsrt, mcmt, fri ip, calc, no flor
1010 - 1040	70% SS	mcalc, a/a
	30% SH	decr carb, a/a
1040 - 1070	70% SS	qtz, wh, ltgy, gygrn, sbang-sbrd, vf-fg, wsrt, wcmt, sl calc, no flor tr glauc
	30% SH	dkgy, dkbrn, gy, sbblky, slty, msndy ip, mcarb ip, frm, rr carb clst, noncalc
1070 - 1100	70% SH	dkbrn, dkgy, gy, sbblky, carb, slty, msndy ip, frm, occ carb bnds, non calc
	30% SS	ltgy, gygrn, sbang-sbrd, vf-fg, wsrt, wcmt, non calc, no flor tr glauc
1100 - 1030	90% SH	gy, gybrn, dkbrn, sbblky, sl sndy, carb, slty, occ carb bnds, frm, non calc
	10% SS	gy, ltgy, sbang-sbrd, fg, wsrt, m-wcmt, sl calc ip, no flor
1130 - 1160	80% SS	qtz, wh, ltgy, pred sbang, occ sbrd, f-cg, msrt, p-mcmt, pred unconsol, tr dul yel flor, no cu
	20% SH	dkgy, dkbrn, sbplty, mcarb, slty, sl sndy ip, mfrm-frm, non calc
1160 - 190	70% SS	no flor, a/a
	30% SH	decr carb, a/a
1190 - 1220	60% SS	qtz, clr, brn, ltgy, pred sbang, occ sbrd, f-cg, msrt, pcmt, unconsol, sl calc
	40% SH	gy, gybrn, sbplty-sbblky, slty, occ sl sndy, mfrm, occ carb, non calc
1220 - 1250	60% SS	incr wh cly mtx, decr unconsol, a/a
	40% SH	incr sbblky, tr coal clst, a/a
1250 - 1280	80% SS	qtz, occ wh, pred sbrd, occ sbang, cg, wsrt, pcmt, unconsol, non calc, tr dul yel flor, no cut

SAMPLE DESCRIPTIONS

	20% SH	gy, ltgy, sbblky, sl sndy ip, pred slty, tr coal and coal clst, mfrm, non calc
1280 - 1310	100% SH	dkgy, dkgybrn, occ blk, sbblky, carb, msndy, occ sl slty, tr ss, non calc
Core @ 1320'		
1380 - 1410	10% COAL	blk, bri, shny, brit, blk, gd cleat
	80% SH	bn, dkgy, sbblky, hrd,
	10% IGNEOUS	bn, gn, blk, vf-f frm-hrd
1410 - 1440	10% SH	gy, dkgy, sbblky, frm
	90% SS	clr, m-crsg, ang, msrt, hrd, wcmt, sil-silcalc
1440 - 1470	90% SS	qtz, clr, wh, sbang, occ ang, pred mg, wsrt, pcmt, unconsol, sl calc, no flor
	10% SH	gy, gybrn, brn, sbblky, occ sbplty, msndy, frm, non calc
1470 - 1500	80% SH	dkgy, blk, sbplty-sbblky, slty, vcarb, occ grdg to shly coal, tr coal, frm, non calc
	20% SS	qtz, wh, grn, sbang-sbrd, f-mg, occ glauc, m-wsrt, wcmt, calc, no flor
1500 - 1530	70% SS	qtz, clr, sbang, occ sbrd, m-cg, occ fg, m-wsrt, pcmt, unconsol, no flor, calc
	30% SH	dkgy, gy, sbblky, vcarb, slty, sl sndy ip, sft-mfrm, non calc
1530 - 1560	60% SH	decr carb, a/a
	40% SS	incr fg, a/a
1560 - 1590	80% SH	dkgy, gy, sbblky, slty, occ sl sndy, occ coal clst and coal, carb ip, frm, non calc
	20% SS	qtz, wh, ltgy, sbang-sbrd, f-mg, wh cly mtx, wsrt, wcmt, calc ip, no flor
1590 - 1610	70% SH	dkgy, gy, sbblky, decr sndy, tr coal
	30% SS	ltgy, wh, sbang-sbrd, fg, occ mg, wsrt, wcmt, no flor, calc ip

SAMPLE DESCRIPTIONS

Core #5

1660 - 1690	10% COAL	blk, bri, brit, gd cleat, shny
	20% SH	gy, dkgy, dkbn, vdkgy, blk, carb, frm
	70% SS	gy, ltgy, fg, sbrnd, mwsrt, fri-unconsol, calc
1690 - 1720	10% SH	dkgy, dkbn, blk, carb, frm
	90% SS	off wht, ltgy, fg, sbang, mwsrt, fri-unconsol, calc
1720 - 1760 TD	10% SH	dkgy, gy, bngy, sbfiss, frm
	90% SS	offwht, ltgy, fg, sbrnd, mwsrt, frm-fri, wht mtrx calc