

GEOLOGICAL REPORT
ON
DOME PETROLEUM CORPORATION
DOME FEDERAL 34-24-7 #3
SE 1/4 NE 1/4 SEC. 34, T24N, R7W
RIO ARriba COUNTY, NEW MEXICO

BY
RANDY T. LANEY
FOR
LARSEN GEO-LOGGING

WELL SUMMARY

OPERATOR: Dome Petroleum Corp.
WELL: Dome Federal 34-24-7 #3
LOCATION: SE 1/4 NE 1/4 Sec. 34, T24N, R7W
COUNTY: Rio Arriba
STATE: New Mexico
FIELD: Escrito-Gallup
ELEVATION: gl 6883', kb 6896'
SPUD DATE: 3/18/82
COMPLETION DATE:
TOTAL DEPTH: Driller (strap 5843' Logs 5851'
ENGINEER: Holly Hollingsworth
GEOLOGIST: Randy Laney - Larsen Geo-Logging
CONTRACTOR: Coleman Bros. #1
TOOL PUSHER: Guy Easely
DRILL COLLARS: 6 1/4" XH (19)
DRILL PIPE: 4 1/4" Grade E
HOLE SIZE: 12 1/4" to 380', 7 7/8" to TD
CASING: 8 5/8" set @ 375', 4 1/2" set @ 5846'
DRILLING MUD: Gel and starch
MUD ENGINEER: Dennis Vargo - NL Bariod
ELECTRIC LOGGING: Bill DePaul - Dresser Atlas, Farmington
TYPE LOGS RUN-Depth: DIFL/GR 376' to 5849'
GR/CN/CDL 376' to 5849'
Spectralog 5250' to 5849'
OBJECTIVE: Gallup
STATUS: Awaiting completion work

FORMATION TOPS

OPERATOR: Dome Petroleum Corp.

WELL: Dome Federal 34-24-7 #3

gl 6883'

kb 6896'

FORMATION	PROGNOSIS	E-LOG	SEA LEVEL DATUM
Ojo Alamo	1420	1384	+5512
Fruitland	1543	1545	+5351
Pictured Cliffs	2005	2020	+4876
Chacra	2465	2432	+4464
Cliff House	3050	2885	+4011
Menefee	3575	3528	+3368
Point Lookout	4345	4280	+2616
Mancos	4555	4573	+2323
Gallup	5303	5274	+1622

WELL CHRONOLOGY

OPERATOR: Dome Petroleum Corp.

WELL: Dome Federal 34-24-7 #3

DATE	DEPTH (Midnight)	FTG (24 hr)	OPERATIONS
3/19/82	380'	780'	Drilling (6 1/2), run 8 joints 8 5/8" casing to 375', cmt / 275 sx class 'B', WOC, nipple up, test BOP to 750 PSI-OK, TIH / Bit #2, break circ., bit plugged, TOH, TIH, drilling plug, FC, and 45' cmt (@ 1630 hrs), drilling WOB 30, RPM 100, SPM 56, PP 1700
3/20/82	1160'	1527'	Drilling (14 1/2); drilling, circ & trip for NB #3, drilling, lost pump pressure (change pumps) service rig, drilling, service rig, drilling, circ & level rig, trip for NB #4 WOB 40, RPM 150, SPM 66, PP 1700
3/21/82	2687'	753'	Drilling (19 1/2); TIH, wash 100' to bottom, drilling, service rig, drilling, level rig, drilling, circ for survey, (misfire), drilling, circ for survey, survey, drilling WOB 35-40, RPM 70-80, SPM 56, PP 1600
3/22/82	3440'	860'	Drilling (22 1/2); drilling, rig service, drilling, circ for survey, survey, drilling WOB 40, RPM 75, SPM 61, PP 1600
3/23/82	4300'	225'	Drilling (9 3/4); drilling, TOH, left nose off #2 cone, WO magnet, service rig, make up magnet, TIH, break circ, fish for cone, TOH with magnet & cone, PU NB #5, TIH, wash 60' to bottom, wash by junk, drilling WOB 40, RPM 75, SPM 56, PP 1600

WELL CHRONOLOGY

OPERATOR: Dome Petroelum Corp.

WELL: Dome Federal 34-24-7 #3

DATE	DEPTH (Midnight)	FTG (24 hr)	OPERATIONS
3/24/82	4525'	580'	Drilling (23); drilling, rig service, drilling, survey, drilling WOB 35-40, RPM 70-75, SPM 61, PP 1500
3/25/82	5105'	520'	Drilling (22); drilling, rig service, drilling, circ for survey, survey, drilling WOB 35, RPM 70, SPM 61, PP 1500
3/26/82	5625'	218'	Drilling (14); drilling, rig service, drilling, TD (strap 5843') @ 1430 hrs, circ for logs & cond mud, short trip 25 stds, 10' fill (no drag), PU kelly, break circ, circ, TOH, rig up Dresser Atlas WOB 40, RPM 70, SPM 61, PP 1500
3/27/82	5851' (TD)	0	Drilling (0); hit bridge @ 900', work logging tool, TIH, circ & cond mud, TOH, rig up Dresser, logging (TD 5851'), finish logging @ 1800 hrs, geologist released

SAMPLE DESCRIPTION

OPERATOR: Dome Petroleum Corp.

WELL: Dome Federal 34-24-7 #3

Sample quality: satisfactory; samples caught by roughnecks, not lagged.

385-415	SH	100%	blk, dk brn, dk gy, sft, f tex, non fis, sme carb flk
415-445	SH	85%	aa
	SS	15%	gy, gn-gy, vf-f gr, p cmt / cly ark in pt
445-475	SH	50%	aa, occ cgl
	SS	50%	aa, ark, sme mica, cly cmt
475-505	SH	20%	pred aa
	SS	80%	sme clr uncons qtz gr
505-535	SH	80%	aa
	SS	20%	lt-dk gy, gn, sme cse grns
535-565	SH	70%	blk, brn, occ pyr
	SS	30%	aa
565-595	SH	10%	aa
	SS	90%	sme clr uncons, sme lt gn-gy, slty p srt
595-625	SH	15%	aa, occ pyr, tr coal
	SS	85%	aa
625-655	SH	10%	aa
	SS	90%	aa, pred clr
655-685	SH	30%	lt brn, lt gy
	SS	70%	aa, grdg to sltst
685-715	SH	70%	aa
	SS	30%	aa
715-745	SH	50%	aa
	SS	50%	clr, gn, gy, vf-f gr, cly cmt, mica
745-775	SH	60%	aa
	SS	40%	aa
775-805	SH	70%	m gy, gn-gy, sb wxy, tr coal
	SS	30%	pred clr, sm cgl
805-835	SH	80%	aa
	SS	20%	aa

835-865	SH	25%	brn-dk brn, tr pyr
	SS	75%	clr, gy, gen uncons
865-895	SH	30%	aa, tr coal
	SS	70%	aa, sme ark ss, tr orng cht
895-925	SH	5%	aa
	SS	95%	pred m-cse uncons qtz grns, occ cgl / cly cmt
925-955	SH	10%	aa, tr coal
	SS	90%	aa, bcm inc cgl
955-985	SH	5%	gy, lt gn, slty
	SS	95%	aa
985-1015	SH	90%	aa
	SS	10%	aa
1015-1045	SH	100%	pred lt gy, v cly, sft, f-m qtz gr incl
1045-1075	SH	80%	aa
	SS	20%	clr, uncons, sme cly cmt
1075-1105	SH	30%	aa
	SS	70%	occ ark to cgl, sb rd-sb ang
1105-1135	SH	25%	aa
	SS	75%	gen aa
1135-1165	SH	10%	aa
	SS	90%	aa
1165-1195	SS	100%	clr, m-cse uncons qtz grns
1195-1225	SH	5%	aa, tr carb mat
	SS	95%	aa
1225-1255	SH	10%	aa
	SS	90%	aa, cgl in pt cly & sil cmt, tr pyr
1255-1285	SH	10%	aa, tr coal
	SS	90%	aa, sme gn-gy
1285-1315	SH	40%	dk brn, dk gy, red-brn, tr carb flks
	SS	60%	aa, ark in pt
1315-1345	SH	30%	aa
	SS	70%	aa, sme orng cht
1345-1375	SH	10%	aa, tr coal
	SS	90%	gen uncons, m-cse sub rd, qtz grns
1375-1405	SH	15%	aa
	SS	85%	aa

1405-1435	SH	10%	aa
	SS	90%	aa, ark
1435-1465	SH	5%	aa
	SS	95%	gen uncons qtz grns
1465-1495	SS	100%	aa
1495-1525	SH	70%	dk brn, m gn, gy sb wxy, slty
	SS	30%	sme case cgl grns
1525-1555	SH	70%	aa
	SS	30%	aa
1555-1585	SH	50%	pred brn, carb mat
	SS	50%	aa
1585-1615	SH	40%	lt-dk brn, rthy non fis
	SS	60%	aa
1615-1645	SH	30%	aa
	SS	70%	lt-m gn, gy, clr ang-sb rd, mod w cmt, sme blk mica flks
1645-1675	SH	40%	aa, slty in pt
	SS	60%	aa
1675-1705	SH	50%	aa, bcm incr carb
	SS	50%	aa
1705-1735	SH	85%	aa, tr dism pry
	SS	5%	aa
	COAL	10%	brit, str / pyr
1735-1765	SH	75%	aa, carb
	SS	15%	aa, grdg to sltst
	COAL	10%	aa
1765-1795	SH	95%	aa, v carb, sme coal
	SS	5%	aa
1795-1825	SH	100%	aa
1825-1855	SH	80%	aa, tr dism pry
	COAL	20%	aa
1855-1885	SH	60%	aa, tr amb, tr pyr
	SS	10%	gy, lt gn, vf gr
	COAL	30%	aa
1885-1915	SH	80%	lt-m brn, slty, carb
	SS	10%	aa
	COAL	10%	aa

1915-1945	SH	100%	aa, sme coal
1945-1975	SH	80%	m-dk brn, carb
	SS	10%	lt gn, gy vf-f gr, mod fri
	COAL	10%	aa
1975-2005	SH	65%	aa
	SS	10%	aa
	COAL	25%	aa
2005-2035	SH	60%	aa
	SS	30%	clr, wh, f-m gr
	COAL	10%	aa
2035-2065	SH	70%	pred m-dk brn, plty, carb mat
	SS	25%	aa
	COAL	5%	aa
2065-2095	SH	70%	aa
	SS	25%	clr, tl gn, p srt, glau in gn pt
	COAL	5%	aa
2095-2125	SH	80%	aa
	SS	20%	aa
2125-2155	SH	60%	m brn, m gy sb blk, non fis
	SS	40%	gy, f gr, sl-mod calc, p vis ϕ
2155-2185	SH	70%	aa, tr lt brn ls, dull gold min flor
	SS	30%	aa
2185-2215	SH	55%	aa
	SS	25%	aa
	COAL	5%	aa
2215-2245	SH	50%	m brn, red-brn, sme carb mat
	SS	40%	clr, gy, sl ark
	COAL	10%	aa
2245-2275	SH	30%	aa
	SS	70%	aa, grdg to sltst
2275-2305	SH	70%	aa
	SS	30%	aa
2305-2335	SH	60%	aa
	SS	40%	aa, sft, v slty
2335-2365	SH	80%	aa
	SS	20%	aa

2365-2395	SH	95%	aa, tr coal, tr pyr
	SS	5%	aa
2395-2425	SH	95%	aa
	SS	5%	aa
2425-2455	SH	80%	mgy, m-dk brn, v slty-sl sdy tr ls
	SS	20%	gy, clr, p srt, grdg to cgl in pt, mod fri
2455-2485	SH	65%	aa
	SS	35%	aa
2485-2515	SH	50%	aa, mod-v slty
	SS	50%	aa
2515-2545	SH	90%	aa, tr dism pyr
	SS	10%	aa
2545-2575	SH	80%	aa, grdg to sltst, tr carb mat
	SS	20%	gy, vf-f gr, p srt
2575-2605	SH	85%	aa
	SS	15%	aa
2605-2635	SH	90%	lt-m gy, brn, v slty
	SS	10%	gy, clr, f gr, calc
2635-2665	SH	90%	aa
	SS	10%	aa
2665-2695	SH	90%	m-dk gy, tr free calc xls
	SS	10%	aa
2695-2725	SH	95%	aa, v sl calc
		5%	aa, sl s & p
2725-2755	SH	90%	aa, wxy in pt
	SS	10%	aa, wh, gn, tr glau
2755-2785	SH	95%	aa, incr amt gn sh
	SS	5%	aa
2785-2815	SH	100%	aa
2815-2845	SH	100%	m gy, m-dk brn v slty-sl sdy sft, blk, sl calc
2845-2875	NS		
2875-2905	NS		
2905-2935	NS		
2935-2965	SH	100%	m-dk brn, dk gy, dk gn sft-frn, slty in pt
2965-2995	SH	100%	aa

2995-3025	SH	100%	aa
3025-3055	SH	100%	aa, sme blk, sl calc
3055-3085	SH	95%	aa
	SS	5%	clr, sl s & p, f-m gr, f vis ϕ
3085-3115	NS		
3115-3145	SH	75%	lt-dk brn, sme carb mat
	SS	25%	clr, gy, cmt / wh cly
3145-3175	SH	90%	aa
	SS	10%	aa
3175-3205	SH	100%	pred m-dk brn, tr free calc xls
3205-3235	SH	100%	aa
3235-3265	SH	85%	aa
	SS	15%	clr, f gr, sb ang, mod w srt, tr glau
3265-3295	SH	100%	aa, plty, slty in pt, sme carb mat
3295-3325	SH	100%	aa
3325-3355	SH	100%	aa
3355-3375	SH	80%	gen aa, tr dism pyr
	SS	20%	clr, gy, f-m gr sme blk carb flks
3375-3405	SH	75%	aa
	SS	25%	aa
3405-3435	SH	80%	aa
	SS	20%	aa
3435-3465	SH	90%	m-dk brn, rthy-wxy, sme carb mat
	SS	10%	aa
3465-3495	SH	90%	aa
	SS	10%	aa
3495-3525	SH	85%	aa, tr coal
	SS	15%	clr, wh, m gr p-mod srt
3525-3555	SH	95%	aa, carb
	SS	5%	aa
3555-3585	SH	95%	aa, tr coal
	SS	5%	aa
3583-3615	SH	65%	aa
	SS	10%	clr, wh, f gr, cly cmt
	COAL	25%	blk, semi-brit, conch
3615-3645	SH	80%	
	SS	10%	

	COAL	10%	
3645-3675	SH	70%	pred m brn, slty
	SS	10%	aa
	COAL	20%	aa
3675-3705	SH	90%	m gy, brn, gn, tr coal
	SS	10%	gy, lt gn, f-m gr, v sl calc, tt
3705-3735	SH	75%	aa
	SS	10%	aa
	COAL	15%	blk, brit, tr pyr
3735-3765	SH	100%	aa
3765-3795	SH	80%	aa, sme coal
	SS	20%	aa, gy, cly mtx, tt
3795-3825	SH	75%	aa, occ pyr
	SS	15%	aa
	COAL	10%	aa
3825-3855	SH	75%	m brn, dk gy mod calc in pt
	SS	25%	clr, wh, f gr cly cmt
3855-3885	SH	100%	aa
3885-3915	SH	60%	aa
	SS	40%	wh, gy, sme s & p, tr glau
3915-3945	SH	60%	aa
	SS	40%	aa
3945-3975	SH	80%	m-dk brn, occ sl fis, tr coal
	SS	20%	aa
3975-4005	SH	80%	aa
	SS	15%	aa, sme gn glau
	COAL	5%	aa
4005-4035	SH	100%	brn, gy, lt-m gn, non calc tr coal
4035-4065	SH	70%	aa
	SS	20%	aa
	COAL	10%	aa
4065-4095	SH	90%	aa, sme carb mat
	SS	10%	gy, f-m gr, cly cmt
4095-4125	SH	90%	aa
	SS	10%	aa
4125-4155	SH	85%	m-dk brn, dk gy, rthy, sb plty, mod sft, tr carb mat

	SS	15%	gy, clr, f-m gr w cmt / wh cly
4155-4185	SH	80%	aa
	SS	20%	aa
4185-4215	SH	80%	aa, slty, bcm more carb
	SS	20%	aa, arg in pt
4215-4245	SH	80%	aa
	SS	20%	gy, vf-f gr, p srt
4245-4275	SH	70%	aa, tr vn pyr
	SS	30%	gy, sme gn / abnt carb mat, NFSC
4275-4305	SH	70%	aa
	SS	30%	NFSC
4305-4345	SH	60%	aa
	SS	40%	gy, clr, f-m cse gr, ang-sb rd, NFSC
4345-4375	SH	100%	aa
4375-4405	SH	95%	aa
	SS	5%	aa
4405-4425	SH	90%	aa
	SS	10%	gy cle, lt gn, p srt, cmt / cly, p vis ϕ
4425-4465	SH	95%	aa
	SS	5%	aa
4465-4495	SH	90%	aa, incr amt gn-gy & gn sh
	SS	10%	aa
4495-4525	SH	90%	aa
	SS	10%	gy, wh, f-m gr p srt, frm, cly cmt
4525-4555	SH	70%	aa
	SS	30%	aa
4555-4575	NS		
4575-4605	SH	90%	m brn, gy, sme blk, sb wxy-rthy slty in pt
	SS	10%	gy, lt gn, f gr, sb ang, p vis ϕ
4605-4635	SH	70%	aa, slty-sl sdy
	SS	30%	aa, slty, tt
4635-4665	SH	95%	aa
	SS	5%	aa
4665-4695	SH	90%	grdg to sltst in pt
	SS	10%	gy, slty-arg in pt
4695-4725	SH	100%	aa

4725-4755	SH	90%	aa, sme blk, slty, sl carb
	SS	10%	aa
4755-4785	SH	100%	aa, v slty-mod sdy in pt, grdg to sltst
4785-4815	SH	95%	aa
	SS	5%	aa
4815-4845	SH	80%	aa
	SS	20%	gy, lt brn, f gr, p srt, fri-frm, sl calc
4845-4875	SH	80%	aa
	SS	20%	gy, dirty brn, f gr, mod hd p vis ϕ , sme grns / dull gold flor, fast blooming cut, n vis 0 STN
4875-4905	SH	90%	aa
	SS	10%	aa, NFSC
4905-4935	SH	90%	aa
	SS	10%	aa
4935-4965	SH	95%	pred gy, grdg to sltst, tr pyr
		5%	aa
4965-4995	SH	85%	aa
	SS	15%	gy, sme clr, vf-f gr, non-sl calc, tt
4995-5025	SH	90%	gen aa, sme brn, sb wxy, plty, sft sh
	SS	10%	aa
5025-5055	SH	85%	m brn, slty-mod sdy
	SS	15%	m gy, lt brn, f gr, sb ang, p vis ϕ , n flor, N 0 STN, wk mky cut
5055-5085	SH	70%	aa
	SS	30%	aa, NFSC
5085-5115	SH	60%	aa
	SS	40%	aa, NFSC
5115-5145	SH	70%	m brn, m gy, slty-sl sdy
	SS	30%	aa
5145-5175	SH	70%	aa
	SS	30%	aa
5175-5205	SH	70%	m-dk brn, wxy-rthy, slty, sl carb
	SS	30%	dk gy, sb ang, mod calc

5205-5235	SH	75%	aa
	SS	25%	aa
5235-5260	SH	90%	aa
	SS	10%	aa, tr glau
5260-5280	SH	70%	aa
	SS	30%	gy, clr, f-m gr mod w srt, w cmt, calc, tr glau, dull yel flor, slow flo cut, v sl tr brn stn
5280-5295	SH	60%	aa
	SS	40%	aa
5295-5310	SH	90%	aa
	SS	10%	aa, NFSC
5310-5325	SH	80%	aa
	SS	20%	tr lt brn o stn, dull yel flor, wk cut
5325-5340	SH	75%	aa
	SS	25%	sl tr o stn, dull yel flor, slow flo cut
5340-5355	SH	85%	aa
	SS	15%	aa, NFSC
5355-5370	SH	50%	aa
	SS	50%	tr brn o stn, pal yel flor, slo wk cut
5370-5385	SH	50%	aa
	SS	50%	gy, clr, vf-f gr, mod fri, calc, tr glau, tr brn mica, n-v sl brn o stn, full gold-pale yel flor, wk cut
5385-5400	SH	70%	aa
	SS	30%	aa, soak cut
5400-5415	SH	80%	m-dk brn, m-dk gy, slty, sb plty, mod sft
	SS	20%	aa, wk cut
5415-5430	SH	40%	aa
	SS	60%	clr, mod w srt, calc, n-sl tr brn o stn, pale yel flor, u wk flo cut, p-occ f vis ϕ
5430-5445	SH	70%	aa
	SS	30%	aa, wk cut
5445-5460	SH	90%	aa
	SS	10%	aa, NFSC

5460-5475	SH	90%	aa
	SS	10%	tr lt o stn, dull flor, wk cut
5475-5490	SH	80%	m-dk brn, plty, bcm less slty
	SS	20%	aa, pale gold flor, wk cut
5490-5505	SH	80%	aa
	SS	20%	aa, wk cut
5505-5520	SH	90%	aa
	SS	10%	aa, NFSC
5520-5535	SH	90%	aa
	SS	10%	occ grn / brn o stn, wk cut
5535-5550	SH	90%	aa
	SS	10%	one grn / wk cut, n vis o stn
5550-5565	SH	80%	aa
	SS	20%	clr, gy, f gr, sb ang, mod srt, frm, cmt / cly, tr glau, tt, n-sl vis o stn, dull gold flor, slow flo cut
5565-5580	SH	80%	dk brn, gy, sb wxy-rthy, non calc
	SS	20%	occ grn / lt brn even stn, pale yel flor, good flo cut
5580-5595	SH	75%	aa
	SS	25%	aa, even lt brn stn, mod yel flor, good flo cut
5595-5610	SH	70%	aa
	SS	30%	gy, lt brn, sme clr, f-occ m case gr, sb ang-sb rd, mod fri-frm, calc & cly cmt, mod srt, tr glau, pale yel flor, tr lt brn stn, slow flo cut
5610-5625	SH	80%	aa
	SS	20%	occ grn / brn stn fair flo cut
5625-5640	SH	90%	aa
	SS	10%	aa
5640-5655	SH	90%	gen aa, incr amt gn wxy sh
	SS	10%	aa, v pale flor lt stn, v wk cut
5655-5670	SH	80%	aa
	SS	20%	several grns / tr lt brn o stn, n-v pale flor, ring cut

5670-5685	SH	75%	aa, slty, sl sdy
	SS	25%	aa, no flor, ring cut
5685-5700	SH	95%	gy, blk, dk brn, slty, sme carb mat
	SS	5%	NFSC
5700-5715	SH	95%	aa, pyr in pt, tr bent
	SS	5%	aa, NFSC
5715-5730	SH	90%	aa
	SS	10%	gy, wh, clr, f-m gr, fri, sb rd, NFSC
5730-5745	SH	90%	grdg to sltst in pt
	SS	10%	aa
5745-5760	SH	80%	aa
	SS	20%	gy, sme clr, lt gn, f gr, tr lt brn o stn, n flor, lt ring cut
5760-5775	SH	95%	aa, tr bent
	SS	5%	aa, NFSC
5775-5790	SH	95%	aa, grdg to sltst
	SS	5%	aa
5790-5805	SH	95%	aa
	SS	5%	aa, NFSC
5805-5820	SH	100%	aa
5820-5835	SH	100%	aa
5835-5850	SH	100%	aa

GEOLOGIC SUMMARY

OPERATOR: Dome Petroleum Corp.

WELL: Dome Federal 34-24-7 #3

The Dome Federal 34-24-7 well #3 was spudded on 18 March, 1982, in the Tertiary San Jose Formation. Geological logging operations began at 1630 hrs. on 19 March, 1982, in the Tertiary Nacimiento Formation.

The fluvial and lacustrine derived sediments of the Nacimiento are composed of varicolored, occasionally carbonaceous shales, arkosic and quartzitic sandstones, along with some conglomeratic sandstones. The sandstones are generally poorly sorted, poorly cemented with clay, or unconsolidated, and fine to coarse grained.

The Upper Cretaceous-Tertiary Ojo Alamo Sandstone occurred at an E-log depth of 1384 feet. This sandstone is coarse grained, arkosic, conglomeratic in part, and interspersed with some greenish-grey shale beds.

The true Upper Cretaceous sequence was encountered at a depth of 1545 feet. The uppermost Cretaceous units, the Kirtland and Fruitland Formations and the Farmington Sandstone, are composed of medium to dark brown, black, and grey shales that become increasingly carbonaceous downward in the sequence. The sandstones are generally fine to medium grained and poorly sorted. Coal beds of some extent occur in the lower Fruitland and contributed moderate amounts of methane to the background gas readings and to connection and trip gases.

The Pictured Cliffs Sandstone was topped at a depth of 2020 feet. This top occurs below a prominent basal coal bed in the Fruitland. This strandline deposit consists of very fine to fine grained, clay cemented, occasionally glauconitic sandstone. Thin brownish, slightly carbonaceous shale interbeds are also present.

The Pictured Cliffs Formation intertongues with the underlying marine-derived Lewis Shale. This shale is characteristically grey to black in color and non to moderately silty. Occasional thin limestone stringers are also present.

A sandy zone in the Lewis, known as the Chacra Formation occurred at a depth of 2432 feet. The uppermost part of this grey, fine to medium

GEOLOGIC SUMMARY

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WELL: Dome Federal 34-24-7 #3

grained, slightly calcareous sandstone produced a moderate gas kick. However, this gas was almost entirely methane with just a small amount of ethane. No oil shows were noted in this sandstone.

The Cretaceous Mesaverde Group was encountered at a depth of 2885 feet. The upper and lower formations of this Group, the Cliff House and Point Lookout Sandstones are marine strandline deposits which are separated by the continental-derived sediments of the Menefee Formation.

The Cliff House Sandstone is typically grey to clear, fine grained, moderately sorted, and contains traces of glauconite and carbonaceous flakes. The underlying Menefee Formation, at a depth of 3528 feet, consists of medium to dark grey and brown silty shales, grey argillaceous sandstones, and thin coal beds which contributed measurable amounts of methane to the background gas readings. The Point Lookout Sandstone, at a depth of 4280 feet, is a medium grey, fine grained, sub angular sandstone with some carbonaceous material. No oil shows were noted in either of the two sandstone formations of the Mesaverde.

The marine deposits of the Upper Mancos Formation were encountered at a depth of 4573 feet. These shales are generally medium to dark brown, dark grey, and black in color. They are occasionally very silty to sandy in part, some grading to siltstone. Several thin sandstone lenses in the lower Upper Mancos produced moderate gas shows as they were drilled. The gases included propane and butane and the sands gave weak milky cuts. No oil staining was observed, however, except in a thin sandstone immediately above the Gallup.

The strandline deposits of the Gallup Formation were encountered at a depth of 5274 feet. A moderately extensive series of very lightly oil stained sandstone lenses was noted to occur, including the Mayre Sandstone at a depth of 5505 feet.

These sandstones are typically clear to grey, fine grained, moderately well sorted and generally well cemented with clay and calcite resulting in relatively tight sands. The show intervals were

GEOLOGICAL SUMMARY

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WELL: Dome Federal 34-24-7 #3

characterized by an almost undetectable to very light brown, even oil staining, dull gold to pale yellow fluorescence, and cuts which ranged in quality from ring to brief, fast flowing. However, the majority of cuts were weak and the shows rated as poor. Gas shows producing moderate amounts of methane through butane also occurred at a depth of approximately 5660 feet.

The well was drilled to a depth of 5851 feet, with drilling operations halted in shale of the Lower Mancos Formation.

BIT RECORD

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DEVIATION SURVEYS

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