## STATE OF OREGON DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES

800 NE Oregon Street #28, Portland OR 97232

## WELL SUMMARY REPORT

(In compliance with rules and regulations pursuant to ORS 520)

NW Natural		Northwest Natural Gas						OM 12-22-65							
(Company or Operator)			(Lease)						(Well No.)						
							Coordinates (if directional, BHL & SHL):				SHL; S03°05'16"W 2267.48' &				
S86°54'44"E 1224.03' from the NW corner of section 22, T6N, R5W; BHL; 110.97' N & 536.75' W from surface location															
Wildcat: (or) Field						Name: Calvin Creek Storage Field County: Columbia									
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							Sign	ature:	7000		₩ <sub>4</sub>	~~~ <u>~</u>			
Date: 2	Date: 2/5/98 Position: Storage Development Engineer														
Commenced drilling: 8/25/97 Comple					eted drilling: 9/11/97 P&A:										
Total depth: MD 2337' TVD 2243' R					rill depth:										
Logs run: DIL, GR, SP, FMS, FDCN, Sonic															
	Size of	Size of			Wt. in lbs		s. Grade					Amount of			
	hole			Size of casing		per ft.		Туре		Dep		n	cement		
	12 1/4"	12 1/4"		8 5/8"		24#/ft		J-55		343'				) sx	
CASING RECORD	77/0"	7 7/8"		5 1/2"		15.5#/ft	J-55		2300'		· · · · · · · · · · · · · · · · · · ·		) sx		
RECORD	7 7/6	/ //6		5 72		15.5#/10		<b>3</b> -33			2300		700	7 32	
						<u>.</u>				l.		<del></del>			
					Geological Marker							Depth			
Discourt Whitest J. Di . O 14041												702' MD			
Plugs Cement Whipstock Plug @ 1484'				Keasey Cowlitz							792' MD 1256' MD				
Junk Bit, stablizer, 6 1/4" monel DC, stablizer,					Clark & Wilson							1501' MD			
2-6"Steel drill collars, 1 HWDP															
_130' 6	of fish left in	origina	l hole @ 15	86'											
					Method	Method of Perforating									
Size of					То				Į.				~ 1 - 1		
Perforations		Casing 5 ½"		From 1502'			Shots/ft.  1 shot/ft		Jet		Bullet X		Slotted Liner		
or 5 ½			1302		1852'		1 SHOUT				Λ				
Liner															
Clean Oil					Percei		t F.T.P.		F.C.P.		S.I.T.P.		S.I.C.P.		
Date bl		1	l/day Grav		l l								,		
Initial Production															