

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
800 NE Oregon Street #28, Portland OR 97232

HISTORY OF OIL OR GAS WELL
(In compliance with rules and regulations pursuant to ORS 520)

NW Natural (Company or Operator)	Northwest Natural Gas (Lease)	OM 43a-22-65 (Well No.)
Sec. 22 T. 6N R. 5W	Surveyed Coordinates (if directional, BHL & SHL): SHL; 2441.82' North & 122.17' West from the SE corner of section 22, T6N; R5W, BHL; 260' S & 99' W from surface location	
Wildcat:	(or) Field Name: Calvin Creek Storage Field	County: Columbia
Date: 12/15/00	Signature:	
	Position: Construction Manager	

Use this form in reporting the daily operations at the well. (Operator may use his own forms, but heading of this form must also be completed and submitted.) Please submit a complete history of the well. Include such information as bit sizes, mud weights, casing sizes and depths set, amount of cement used, drilling depths, fishing, logging, perforating, and plugging procedures, and anything else pertinent to the operation. Do not include lithology.

Date	
5/24/00	Rig up, make up bit, fill pits with mud. Drill 12.25" surface hole to 422' K.B. Mud density= 8.5, viscosity= 42.
5/25/00	Drill 12.25" hole to 444' K.B. Run surface casing, 10 joints 8 8/5" 32 lb. Casing. Cement surface casing. Transfer drilling mud to storage tanks. Fill pits with used under ream fluid. Cut off conductor barrel and casing. Weld on 9" X 3000 psi casing bowl. Test weld to 1000 psi, ok. Nipple up BOP stack and equipment. Change rams And clean. Mud density= 8.4, visc.= 30.
5/26/00	Test blind rams, choke manifold and check valve. Trip in hole to 370', tag cement. Test kelly cock dart valve Annular and pipe rams. Baffle plate did not drill like normal. Drill out surface casing. Drill 3' new hole. Pull back into casing, change drilling fluid. Displace hole with stored mud, fill with clean stored mud. Lay 6.5" collars. Directionally drill and single shot survey. Mud density= 8.9, visc.= 41. MD=649', TVD=648', 8° AZM 199
5/27/00	Drill and survey. Having to work and circulate each single several times to keep hole clean. Hole stopped cleaning at approx. 1350'. Drill to 1441'. Hole not cleaning. Directional hand lined up on target. Mud density= 8.7, visc.= 41. MD=963', TVD=953', 16.75° AZM 204; MD=1243', TVD=1220', 19° AZM 201; MD=1370', TVD=1340', 19° AZM 208
5/28/00	Make up stiff BHA. Ream stiff string to bottom. Drill to 1535' K.B. Circulate. Pick up core barrel. Trip in hole safety wash and clean 60' to BTM. Drop ball and cut core no. 1 from 1535 to 1558'. Recover core barrel no.1. Make up core barrel no. 2. Slip and cut drill line. Mud density= 8.8, visc.= 42.
5/29/00	Cutting cores no.s 3-4-5-6. Core no.2 1558' to 1588'. Cut 30'. Recover 15.5'. Core #3 1588' to 1619'. Cut 30'. Recover 24'. Core #4 1619' to 1649'. Cut 30'. Recover 30'. Core #5 1619' to 1679'. Cut 30'. Recover 30'. Core # 6 1679' to 1709'. Cut 30'. Mud density= 8.8, visc.= 42.
5/30/00	Build fishing tool. Run in hole. Tag top of fish at 1741' K.B. Fish at 1763' K.B. Moves easily. Made 2 runs. Fishing tools on location. Make up tools. Spear bumper sub and jars 2 3/4" grapple. Unable to latch fish. Mud density= 8.8, visc.= 38.
6/1/00	Fish for core bbl. Fish to surface, no damage. Caught fish with an internal spear dressed with a 2.482" grapple. Make up drilling BHA. Stiff hook up. Clean 30' to BTM. Hole good. Rig sevice and check BOPE. Drill ahead with stiff hook up, 0800 depth 2195'. Mud density= 8.7, visc.= 36.
6/2/00	Drill with stiff hook up to 2317' T.D. Circulate and condition hole and mud. Dummy trip to casing. Circulate and work hole. Dummy trip 8 stands. Hole slick. Circulate. Mud density= 8.8, visc.= 38.

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Date	
6/3/00	Rig up and log hole as per program. Lay down drill string and BHA. Prepare to run casing. Mud density= 8.8, visc.= 38.
6/4/00	Run 5.5" casing. Circulate casing on BTM. Cement casing with Halliburton. Set casing slips with 40,000lbs. Nipple down stack. Wash and flush BOPE. Haul off drill mud to storage tanks. Clean mud pits. Haul off excess cement (15 barrels clean cement). Install wellhead. Lay down kelly and tear out rig. Rig released. Mud density= 8.8, visc.= 38.