

STATE OF OREGON
DEPARTMENT OF GEOLOGY AND MINERAL INDUSTRIES
910 State Office Building Portland, OR 97201

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

Northwest Natural Gas Co. (Company or Operator)	Northwest Natural Gas Co. (Lease)	IW 13b-11 (Well No.)
Sec. 11 T: 6N R: 5W Surveyed Coordinate (if directional, BHL & SHL): Surface: 272' N & 344'E from the West 1/4 corner Sec. 11, T6N; R5W BHL: 368'S & 101' W at 2214'		
Wildcat:	(or Field Name): Mist Storage County: Columbia	
Date:	13-Dec-93	Signature: <u>[Signature]</u> Position: Senior Operations Superintendent

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	
9/1/93	Rig up and pump out circulating valve with 2500 psi (850 psi on tubing) Circulate and kill well with 8.5 ppg CaCl water. Losing circulation. Shut in well and build volume. Circulate gas from well. Shut in for night.
9/2/93	SITP=850, SICP=800 Circulate well. Pump approx. 60 bbls before returns. Shut in and mix HEC-10 mud, 8.5 ppg. Circulate well with slight loss of fluid. Shut down until 9/7/93.
9/7/93	SITP=680 psi Circulate hole. Slight loss of returns. Shut in well. Rig down floor. Circulate 30 minutes. Nipple down tree and nipple up BOPE. Test pipe rams, Hydril, and choke to 700 psi. Function test blind rams. Witnessed by DOGAMI Rig up to pull tubing. Unseat tubing with 44,000# (11,000# over string wt.). POH laying down tubing. Rig up to test blind rams and test same to 750 psi. Make up mill and BHA and RIH.
9/8/93	Pick up drill pipe and RIH with washover mill. Tag packer at 2147'. Condition mud. Wt.=8.5, vis=40. Pick up Kelly and wash over packer. Mill f/ 2150'-2150.5'. POH and L/D washover mill. P/U 4 DC's and new washover mill. RIH and mill packer f/ 2150.5'
9/9/93	Mill packer. Push string to 2157'. Circulate and wt. up to 8.6+. POH and L/D milling tools. P/U overshot and jars and RIH. Tag packer at 2098' and run to bottom. Set 20,000# on fish. POH with fish. L/D fish and overshot tools. P/U 5 jts of 2 3/8" tubing and mule shoe. RIH to 2242' and wash to bottom at 2331'. Circulate.

1993

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Date	
9/10/93	POH and L/D tools. P/U mechanical cutter and RIH to 2163'. Run inside of liner and set slips at 2173'. Circulate and increase wt. to 8.8 ppg. POH and L/D cutter. P/U spear and BHA and RIH. Stab in to fish and POH. Check for swab. L/D fish and tools. Strap and P/U wash pipe.
9/11/93	RIH with washpipe and jars. Wash over liner. Circulate and condition mud. POH with 3 stds and circulate. RIH to 2209' and wash over f/ 2209' to 2333'. Circulate hole clean. POH slowly with wash pipe.
9/14/93	POH for liner. Pick up 4 jts. (165.33' total, 144.5' of screen) of 5 1/2" O.D. liner wrapped with .012" screen. RIH to bottom. Rig up Otis to gravel pack.
9/15/93	Gravel pack liner with 190 cu. ft. (132 cu. ft. theoretical) of 20/40 sand. Pressure up pack to 500 psi. Reverse circualte 17 cu. ft. Wait on pack 1 hour. Pressure up on pack to 590 psi. Circulate tool. POH slowly. Swabbing. Fill drill pipe. L/D gravel pack tools (drop medium sized screwdriver down hole). Attempt to rig up lead seal assembly. Tools won't make up. Wait on new assembly. L/D drill collars RIH and circ. above top of liner. Wait on tools. POH and P/U lead seal assembly.
9/16/93	RIH and set lead seal. Top of liner at 2164'. POH and L/D running tools. Pick up 8 5/8" packer, pup jt., no go nipple with plug installed, and bell collar. RIH. Rig up pump and set packer at 2144'. Pressure test packer to 1000 psi. POH laying down drill pipe and running tools. Clean and fill mud pits. Rig up to run production string and run overshot assy, 1 jt of 4 1/2" tubing, redressed sliding sleeve, 1 jt of 4 1/2" tubing, side pocket mandrel, 47 jts of 4 1/2", 11.6#, K-55, 8 RD tubing, 1 X/O (4 1/2" 8 RD X 4 1/2" EUE) and donut. Space out tubing.
9/17/93	Land donut and pressure test packer to 450 psi. Nipple down BOPE. Nipple up production tree. Rig up Halliburton slick line and RIH to open sliding sleeve. Open sleeve and displace hole with corrosion inhibitor. Close sliding sleeve. Test annulus to 400 psi. RIH and retrieve plug from no go nipple. Rig up well to choke and blow down well. Release Taylor Drilling Rig #5.