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)

Oregon Natural Gas Development Corporation (Company or operator) ONGDC (Lease) 1W 22d-10 (Well No.)

Sec. 10, T. 6N, R. S.W. W.B.&M. Surveyed Coordinates: From the West 1/4 corner of Sec. 10; North 285' and East 2516'.

Wildcat: _____ (or) Field Name: Mist Underground Storage County: Columbia

Signature: Todd Thomas
Position: Supt. Drilling & Production

Date: October 5, 1988

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	
8-13-88	Mix spud mud. Unload and strap 13 3/8" casing. Spud with 17 1/2" bit. Drilling to 365'. Losing circulation. POH and build volume.
8-14	Drilling to 460'. Wipe hole to surface. RIH. Ream 26' to bottom. Circulate hole clean. POH to run casing. Rig up and run 11 jts. (437') of 13 3/8", 54.5#, k-55 casing to 452'. Cement with 600 sx class G cement mixed with 2% $CaCl_2$ and 1/4#/sx cellophane. Good cement returns.
8-15	WOC. Cut off casing. Weld on wellhead. Pressure test head to 1500 psi for 15 minutes. Nipple up BOPE. Function test blind rams. Make up BHA. Test blind and pipe rams. Test hydril with state representative witnessing. Drill plug, float and cement.
8-16	Drilling cement and shoe. Drilling 12 1/4" hole to 724'. Survey every 90'. Wipe hole to shoe. Drilling to 906'. Circulate and survey. POH and pick up mud motor. Drilling to 955'.
8-17	Drilling to 1198'. Circulate and survey every 60'. Wipe hole 3 stds. Drilling to 1228'. Circulate and survey. Trip for new BHA. RIH with rotating assembly. Drilling to 1288'. Circulate and survey. Drilling to 1441'.
8-18	Circulate and survey at 1441'. Drilling to 1504'. Wipe hole to shoe. Drilling to 1719'. Survey at 1595' and 1719'. Wipe hole to shoe (tight from 1719'-1415'). Ream bridges from 1415'-1719'. Drilling to 1843'. Circulate and survey. Wipe hole to 1460'. Drilling to 1846' with balled bit. POH to clean BHA.
8-19	RIH. Ream bridges from 1494'-1771'. Drilling to 1871'. POH. (tight from 1871'-1750') Clean BHA. RIH. Wash 60' to bottom. Drilling to 1990'.
8-20	Drilling to 1997'. Circulate and survey. 4 std.wiper trip. Ream to bottom. POH for core barrel. Pickup core barrel, run in hole, drop ball and core with 9 7/8" core bit from 1997'-2026'. POH and laydown core #1. 29 3/4' recovery. Make up core barrel. RIH and drop ball. Core from 2026'-2056'. POH and laydown core #2. 28' recovery. Make up core barrel and RIH. Drop ball. Coring from 2056'-2070'.

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Date	
8-21	Coring from 2070'-2087'. POH and lay down core #3. 29 1/2' of recovery. RIH. Drop ball and core from 2087'-2217'. POH and lay down core #4. 31' of recovery. Pick monel, and 12 1/4" tools. Ream from 1940'-1997'. Open hole from 9 7/8" to 12 1/4" from 1997'-2117'.
8-22	Ream to 2117'. Wipe hole. POH for logs. Run DIFL, Acoustic, Neutron density and dipmeter logs. RIH and circulate. POH for casing.
8-23	Rig up to run casing. Run and hydrotest 48 jts. (2110') of 8 5/8", 32#, k-55 casing. Set at 2106'. Cement with 300 sx 1:1 perlite lead slurry and 710 sx premium tail slurry. Set casing slips. WOC.
8-24	WOC. Cut off casing. Nipple up tubing spool. Test to 1500 psi for 10 minutes. Nipple up BOP. Slip and cut drilling line. Test blind rams to 1000 psi. Test pipe rams and Hydril with state representative witnessing. Drill float, cement to 2100'. POH. Pick up casing scraper. RIH. Work scraper through float joint. POH for logs.
8-25	Rig up Atlas and run bond log and vertilog. RIH and drill out cement to 2117'. POH and pick up core barrel. RIH and core from 2117'-2147'. Chain out of hole. Lay down core barrel. Recover core #5, 29 1/2' of core. RIH with core barrel. Circulate. Core from 2147'-2155'.
8-26	Coring from 2155'-2177-. Chain out of hole. Lay down core barrel. Recover 8 1/2' of core #6. RIH with core barrel. Circulate. Core from 2177'-2207'. POH with core #7. Lay down core barrel. Recover 28'. RIH with core barrel. Core from 2207'-2237'. POH with core #8. Recover 22 1/2'. RIH with core barrel. RIH with core barrel. Core from 2237'-2267'. Chain out of hole.
8-27	Lay down #9. 17 1/2' of recovery. RIH. Core from 2267'-2297'. POH with core #10. Lay down core barrel. Recover 29' of core. RIH. Core from 2297'-2327'. POH with core #11. Recover 21'. Make up 7 5/8" drilling assembly. Drilling to 2525'.
8-28	Drilling to 2739'. Survey. Broke survey line. POH to retrieve survey tool. RIH. Drilling to 2770' on TD. Circulate. POH for logs. Rig up Atlas and run DIFL, BCH, CAL, FDC-CNL, Dipmeter logs. RIH with cement diverter to 2221'. Set 100' cement plug.
8-29	WOC. RIH and tag cement at 2140'. Strap out of hole. RIH with bit and drill cement from 2140'-2153'. Pull into casing. Mix HEC-10 mud. Trip to bottom and displace hole. POH and pick up under reamer. RIH and under ream from 2107'-2110'.
8-30	Under ream from 2110'-2153'. Pull into casing. Wait 30 minutes. Run to bottom and check for fill. POH for log. Run caliper log. RIH. Wash to bottom. Dump and clean mud pits. Mix HEC-10 mud. Displace hole. POH. Make 2 joints of 5 1/2" wire wrapped liner (77') and 1 joint of 5'6" blank (32'). RIH with liner and gravel packing tools to 2153'.

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Date	
9-1	Make up overshot, sleeve, mandrel. Run and Hydrotest 58 joints (1863') of 5 1/2", 17#, K-55 tubing, rig up Atlas and run Vertilog, space out tubing. Make up donut and land tubing. Nipple up tree and test to 3000 psi for 10 minutes. Rig up Otis and RIH to open sleeve. Rig up nitrogen and displace tubing. RIH and close sleeve. RIH with Otis and remove plug, blow well to atmosphere. Shut in to build pressure.
9-2	Rig down, blow well to atmosphere. 250 psi build up. Load out rental equipment. Released rig.

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