

ROCKY MOUNTAIN GEO-ENGINEERING CORP.
(970) 243-3044

OPERATOR: NORTHWEST NATURAL GAS COMPANY LOCATION: SECTION 22, T6N, R5W
WELL: O/M 12-22-65 COUNTY: COLUMBIA COUNTY
PRINT DATE: Fri Sep 12 1997 19:01:30 STATE: OREGON

LITHOLOGY DESCRIPTIONS

CORE DESCRIPTIONS ARE FROM SAMPLE CHIPS
TAKEN FROM EXPOSED ENDS OF THREE FOOT CUT
AND IN-SLEEVE 3" CORES

CORE #1
1415'-1438'
RECOVERED 14.5'
1423.4'

MUDSTONE: Light brown & gray, firm dense blocky, very thin laminated/varved, unevenly micro-micaceous w/ some scattered biotite books, carb/lignitic mottled & streaked in part, trace microfossils, silty to granular texture throughout.

CORE #2
1438'-1467'
RECOVERED 27.4'
1438'

MUDSTONE: Gray brown, firm, dense silty to slightly granular texture, very thin uneven laminae, carb streaks & nodules, very finely micaceous throughout.

CORE #3
1467'-1490'
RECOVERED 4.5'
1471.3

SILTY MUDSTONE: Light gray brown mottled, firm, very thin & unevenly laminated/varved throughout, increasing to abundant micaceous w/ rare biotite books, increasing carb/lignitic streaks along bedding & some carb stain, small evenly dissem feldspars.

CORE #4
1490'-1519'
RECOVERED 20.0'
1505

SHALEY SILTSTONE: Pred aa, increasingly granular in part, moderately compacted, lignitic stain & fossils aa

CORE #4
1508.5

SANDSTONE: Light gray light gray brown mottled, very fine-fine-occ med grain, ang, mod sorted, scattered-abundant mica & biot books, larry & lig nodules, tr subhedral quartz, occ glauconitic grains/chlorite, grain supported-slag infill, rare pyrite cist

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CORE #5
1519'-1549'
RECOVERED 30'
1519'

SANDSTONE-MUDSTONE LAMINAE: Brown graybrown, finely silty-granular, compacted, very fine micro-micaceous, decreasing lignitic/carb inclusions, trace tuffaceous material, occ floating sand grains, non-calcareous

CORE #6
1549'-1579'
RECOVERED 11.8'
1551

SANDSTONE: opaque and light gray offwh s&p in part, subangular to angular, minor clay infill, thinly scattered carb grains, increasingly compacted-grain supported, some mica, trace glauc grains, occ tuffaceous mat, good visible por.

CORE #7
1579'-1609'
RECOVERED 27.6'
1579'

SANDSTONE: Increasing med brown mottled opaque s&p, very fine to fine grain, med sorted, angular subangular in part, silty in part, abundant dark carb grains, occ tarry/lignitic inclusions, occ intergranular micro-pyrite, abnt mica, fri throughout

CORE #8
1609'-1639'
RECOVERED 5.0'
1609

SANDSTONE: S&p offwh light gray, very fine-fine grain, angular, mod sorted, increasing feldspars, abundant dark carb grain-- well sorted, increasing to abundant micromicropyrite, tuffaceous mat, trace xifaces, friable throughout

CORE #9
1639'-1665'
RECOVERED 25.5'
1664.5

SANDSTONE: Offwh & light gray, fine & very fine grain, angular, mod sorted, increasing feldsper, abundant mica & biot books, increasing chlorite & occ glauc, intergranular micropyrite in part, increasingly compacted w/ some white clay infill

CORE #10
1665'-1695'
RECOVERED 17.8'
1682.8

SANDSTONE: Light gray s&p in part opaque, very fine to fine grain, silty in part, mod sorted, subangular to angular, thinly bedded silt and silty shale laminae, abundant mica, some micropyrite, occasional lignite streaks along bedding, trace carb grains

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CORE #11
1695'-1725'
RECOVERED 30.0'
1724.5

SANDSTONE: Pred aa, abundant mica, some clay infill, non calcareous

CORE #12
1725'-1755'
RECOVERED 20'
1745.0

SANDSTONE: Light gray olive in part, very fine to mfine grain & mod sorted, angular, decreasing carb grains, decreasing mica, scattered pyrite clusters, some tuffaceous mat, tr chlorite, slight intergranular clay, friable throughout

CORE #13
1755'-1785'
RECOVERED 20.0'
1766.0

SANDSTONE: Light gray opaque, pred fine grain & well sorted, angular subangular in part, micromicaceous in part, decreasing clay, trace dark carb inclusions, rare lignitic streaks, non bedded, poorly compacted, friable, clean

CORE #14
1785'-1815'
RECOVERED 24.5'

1815

SANDSTONE/MUDSTONE: Opaque gray dark gray, pred very fine to fine grain ss w/ dk brngy interbeds/laminae-- some thicker, part grading to light dark siltstone on contacts, abundant mica, increasing carb grains & lignite laminae