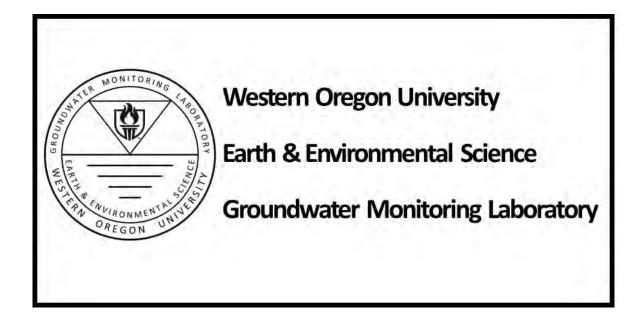
Groundwater Monitoring Laboratory Field Trip Guide Western Oregon University

May 4-5, 2023



WOU Campus Groundwater Laboratory Prospectus (*Draft 3 May 3, 2022*) Steve Taylor, PhD, Professor of Geology Earth and Environmental Science Department Western Oregon University

Water is an essential resource that forms the crux of numerous environmental conservation issues in the Pacific Northwest. Recent examples in the news media include dam breaching, salmon habitat, Portland Harbor superfund designation, water contamination, seasonal impacts to hydroelectric production, and water rights issues in the Klamath Basin. The ability to understand and analyze hydrologic systems is critical to the State of Oregon, and forms an important component of the Earth and Environmental Science program at Western Oregon University.

Proposed project action items include:

- (1) Installation of well field at the northwest corner of campus, adjacent to Ash Creek drainage, near the existing disc golf course and cross-country track. WOU facilities has been contacted and the field site was visited, with tentative approval to proceed. There are no known underground utilities at the proposed site, and no plans for future building development.
- (2) Drilling and installation of three (3) groundwater monitoring wells and three (3) piezometers in shallow alluvial aquifers on campus (anticipated total depths <30 m; inter-well spacing ~50 m) (Figure 2).
- (3) Purchase of well materials and field equipment in support of undergraduate training, General Education, community outreach, and research in aquifer systems analysis.

Budget Request

The following is an itemized list of equipment needs to establish the proposed groundwater laboratory:

A. Oregon Water Resources Dept. Well Permit Fees	\$ 900.00
B. Campus Well-Field Construction Materials	
3 Wells x 100 ft x \$20 / ft materials cost (approximate)	\$6000.00
Total Estimate	\$6900.00

Based on a preliminary project feasibility assessment, drilling services (mobilization, rig time, drilling technician time ~\$20,000) will be donated gratis via an alumni donation project being spearheaded by Matt Buche (B.S. Earth Science, 2009), president of the WOU Earth Science Alumni Society (https://wou.edu/alumni/affiliates/earth-science-affinity-group/). Matt is a Senior Project Geologist with Gannet Fleming, Inc. based in California. In addition to the donated drilling costs, WOU match funds are needed to purchase well construction materials. Well construction materials include PVC riser, screen, sand pack, cement/grout supplies, and flush-mount security covers. The Well Field Laboratory will be extensively utilized in support of the following courses: ES202 Principles of Geology, ES302 Quantitative Methods, ES322 Geomorphology, ES473/573 Environmental Geology, and ES476/576 Hydrology. The proposed investments will greatly advance our curricular infrastructure and provide student access to state-of-the-art training facilities. The total annual number of students impacted by this project (all courses) will average ~50-60. In addition to training future geoscience professionals and providing liberal arts education, the groundwater laboratory will also be used for community outreach events, professional development training opportunities and collaboration with local water resource professionals. In addition, faculty from the Division of Natural Science and Mathematics are long-term active community service partners with the Ash Creek Water Control District and Luckiamute Watershed Council. The close proximity of the WOU campus well field to the Ash Creek drainage will be leveraged for water resource evaluation and water quality monitoring in the Monmouth-Independence area. The project will provide valuable applied student training, research, and community internship experience in water resources management.

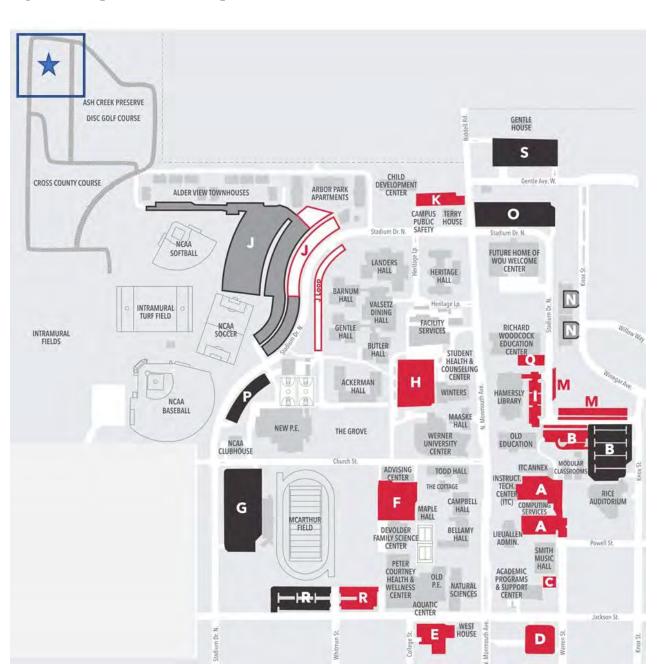
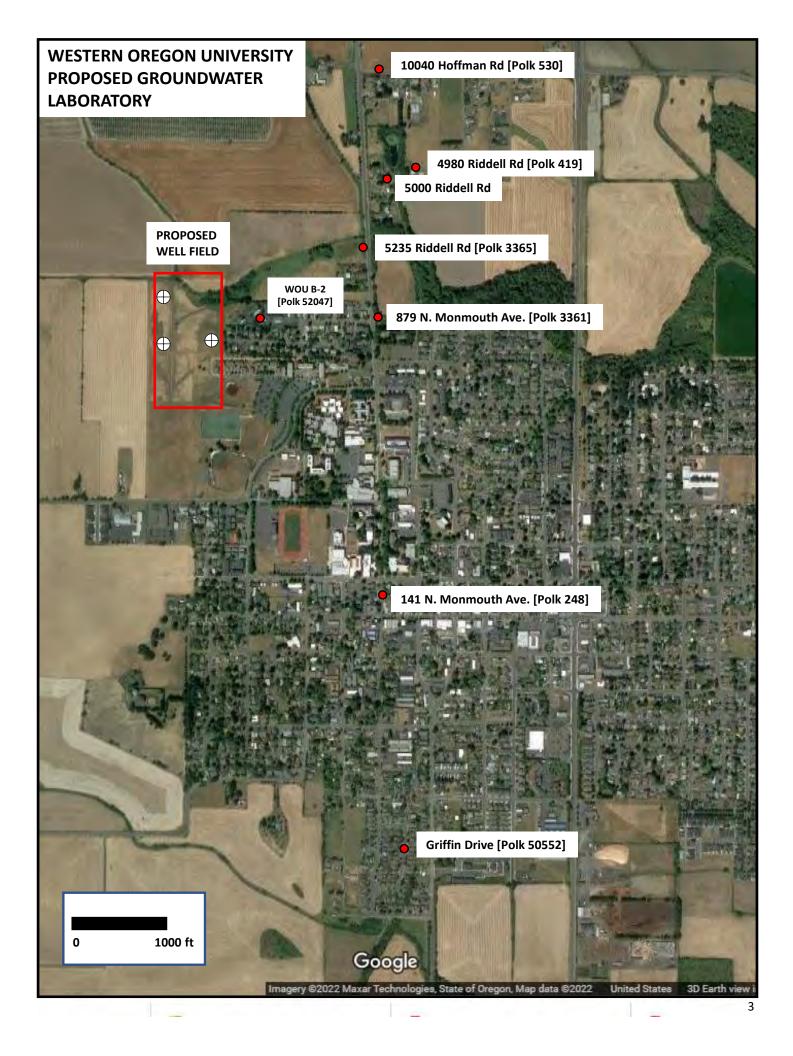
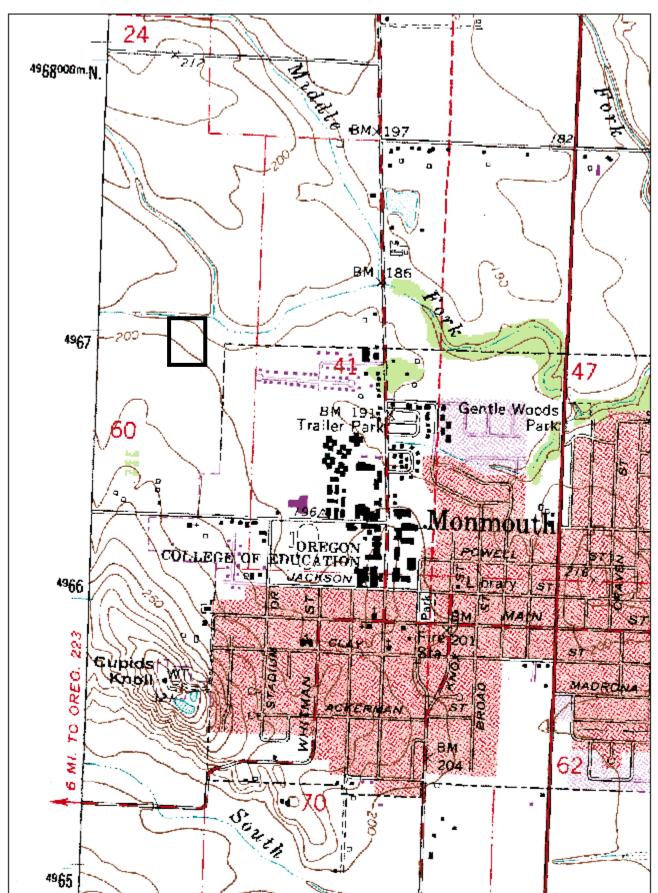
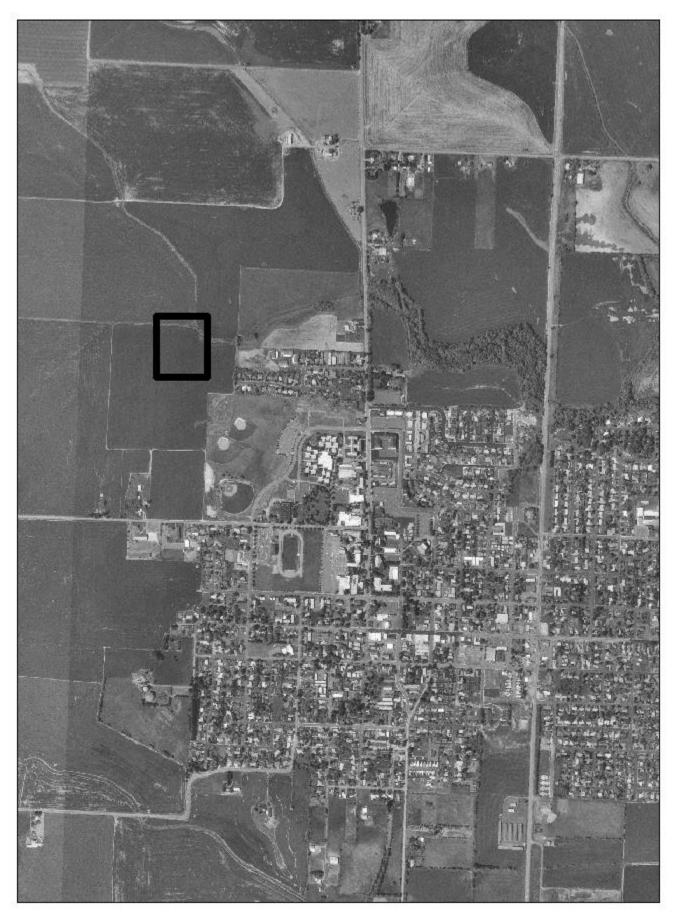


Figure 1. Proposed WOU Campus Well Field Location (Starred Location - TBD).



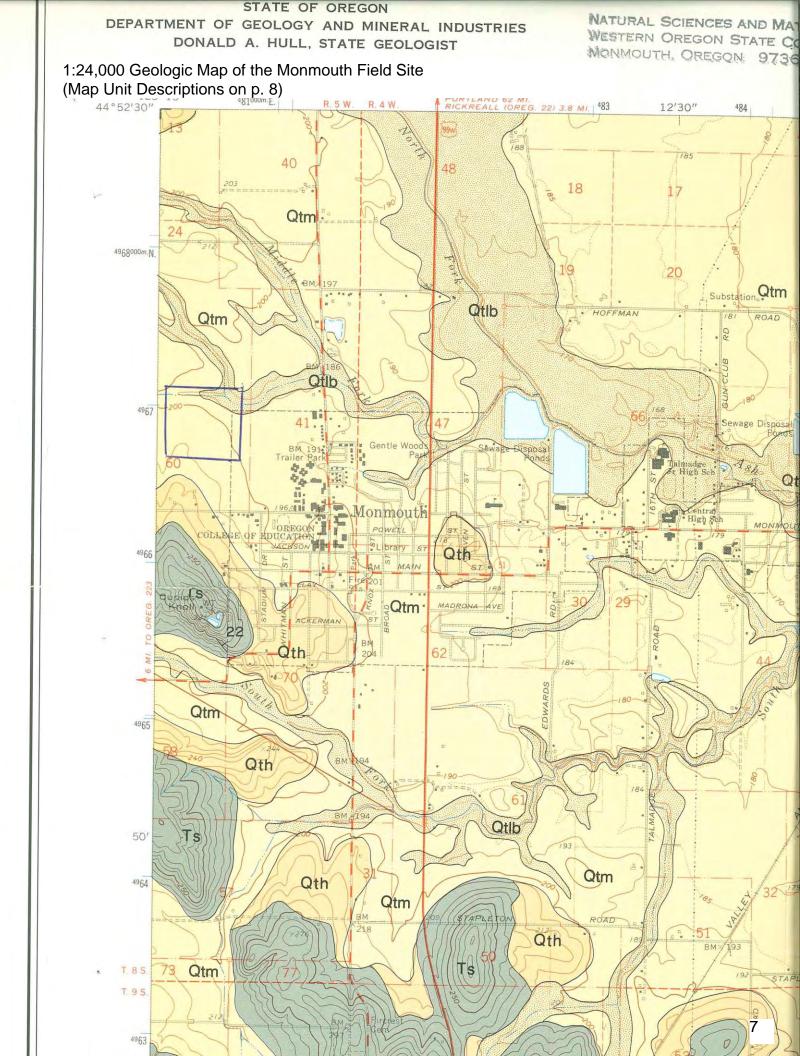


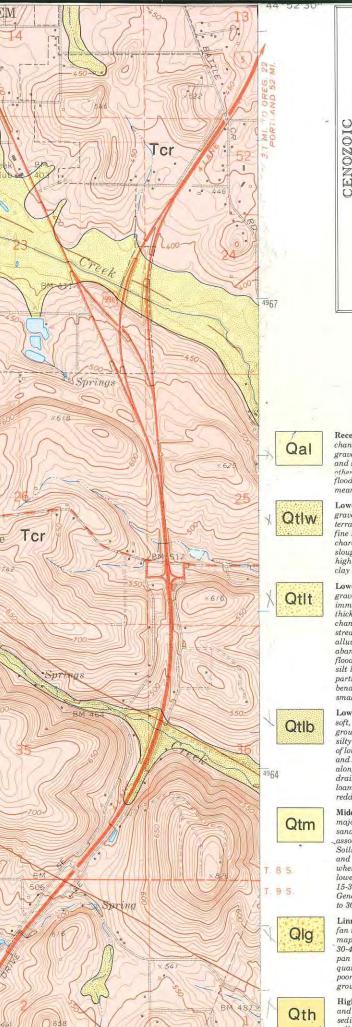
Monmouth 7.5-minute Quadrangle Topographic Map of the Field Area

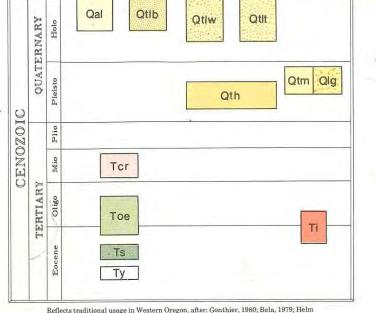


LiDAR-Based Hillshade Model of the WOU Field Site (1-m resolution)









Reflects traditional usage in Western Oregon, after: Gonthier, 1980; Bela, 1979; Helm and Leonard, 1977; Beaulieu, 1974; Hickman, 1969; Baldwin and others, 1955; Vokes and others, 1954.

EXPLANATION

SURFICIAL GEOLOGIC UNITS

Recent river alluvium: Unconsolidated cobbles, coarse gravel, sand, and some silt and clay within active channels of Willamette River. Generally 15-45 ft thick, consisting of stratified sands and well-rounded pebbles, gravels, and cobbles of primarily basaltic and andesitic composition; often overlain by 3-15 ft of light-brown sand and silt overburden. Characterized by low relief, point-bar and channel-bar deposits; many areas unvegetated, others cupport dense stands of brush and phreatophytes, such as willows and cottonwoods. Subject to major flooding, critical stream-bank erosion, and lateralchannel migration; includes many areas located between 1852 meander line and present channel that illustrate possible extent of future changes

Lower terrace deposits of the Willamette River (Quaternary): Unconsolidated to semiconsolidated cobbles, gravel, sand, silt, clay, muck, and organic matter of variable thickness (30-50 ft) on the flood plain and louland terraces immediately above the Recent river alluvium (Qal); typically 5-20 ft of light-brown silt and clay or very fine sand overlying 10-45 ft of moderately well-sorted sand and locally cemented gravel. Surface topography characterized by a low, undulating, fluvial surface with abandoned channels, meander scrolls, oxbow lakes, and sloughs; subject to major and local flooding, some catastrophic channel migration of major scale, ponding, and high ground water. Flood-plain soils are predominantly well drained and somewhat excessively drained silty clay loams, silt loams, and kandy loams; good ground-water yields generally of 100-500 gallons per minute

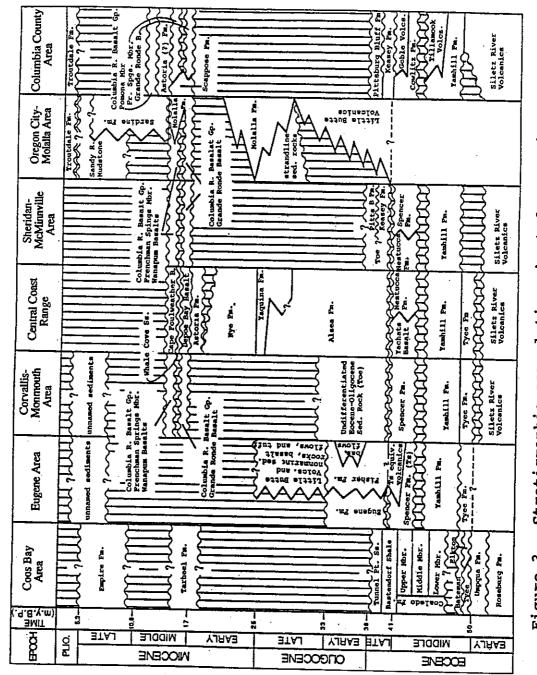
Lower terrace deposits of tributary rivers and streams (Quaternary): Unconsolidated to semiconsolidated gravel, sand, silt, clay, and organic matter generally 15-30 ft thick on lowland terraces and flood plains immediately above major tributary rivers of the Willamette River. Gravel deposits are very thin to variable in thickness, according to tributary drainage source, generally limited to active stream beds or former meander channels, and located at or near bed rock beneath 20-30 ft of sand, silt, and clay. Somewhat tortuous meandering streams entrenched 15-45 ft, often flowing on Tertiary sedimentary bed rock or semiconsolidated older valley-fill alluvium. Surface topography characterized by a low, undulating fluvial surface of swell and swale relief, abandoned meander loops, and oxbou lakes; subject to high ground water and ponding and major and local flooding; flood-plain soils are predominantly well drained and somewhat excessively drained silty clay loams, silt loams, and slandoned channels and oxbows. Major stream-bank erosion commonly occurs at outer bends of meander loops by shallow earthflow and slump due to undercutting. Ground-water yields generally small

Lower terrace deposits of alluvial bottomlands (Quaternary): Flat, moderately to poorly drained areas with soft, organic compressible soils of low shear strength locally; characterized by low relief, ponding, and high ground water. Deposits typically consist of somewhat straified very fine sands, silty sandy clays, silty clays, and silty clay loams, with slight to moderate plasticity (ML-CL); 4-12 ft thick along bottomlands of interior drainages of low, rolling sedimentary bedrock units. Deposits locally may represent somewhat thicker accumulations of silt and silty clay materials of fluviatile and/or loessal origin derived in part from Willamette Silts. Similar deposits along creeks are associated with deposits of units Qum and Qth and are often modified by ditching and field drainage for agriculture; typical examples are deep (more than 60 in.) clay (CH), silty clay (CH), and silty clay loam (CL or ML) black Bashaw clay soils of Baskett Slough (Rickreall quadrangle). Similar thicknesses of reddish-brown sandy silty material (ML-CH) in basallic terrain (Ter)

Middle terrace deposits (Quaternary): Šemiconsolidated gravel, sand, silt, and clay forming very flat terraces of major extent along the Willamette River. Generally 10-30 ft of light-brown silty clay and interbedded very fine sand and silt (ML or CL-CH) surficial material; believed primarily related to Willamette Silts, including associated glacial erratics consisting of tiny fragments and pebbles up to boulders greater than 4 ft in diameter. Soils somewhat poorly drained and poorly drained silt loams and silty clay loams to moderately well-drained and well-drained silt loams subject to seasonal high ground water and ponding. Sand and gravel (GP, SM), where present, usually occur below 30 ft depth; locally more abundant near Monmouth-Independence and in the lower part of Ash Creek. Total thickness 0-85 ft, but often only 40-50 ft; within Rickreall 7½-minute quadrangle, 15-35 ft of brown clay or silt generally occurs above several to 30 ft of gravelly clay, black sands, and gravels. Generally small ground-water yields, except near Monmouth-Independence, where sand and gravel may yield up to 300 gallons per minute

Linn gravel (Quaternary-upper Pleistocene): Stratified fine to coarse fluvial gravels deposited as an alluvial fan in the Stayton-Turner-Salem areas during an early stage of the Santiam River; of limited extent within the map area; uppermost few feet of gravels extensively oxidized and weathered, often chalky; thickness ranges from 30-40 ft to possibly as much as 300 ft. Regionally, the upper foot or so of gravel is eemented by an impermeable clay pan locally, which restricts drainage. Composition of gravels (mostly basalt, but also andesite, dacite, rhyolite, quartz, and diorite) essentially uniform. Within map area near Salem, soils are well drained and somewhat poorly drained gravelly silt loam and gravelly loam. Extensively utilized as source of sand and gravel. Good ground-water yields greater than 100 gallons per minute

Higher terrace deposits (Quaternary-middle Pleistocene): Generally semiconsolidated light-brown sand, silt, and clay of variable thickness (3-15 ft) on higher terraces and remnants of old higher terraces adjacent to sedimentary bedrock foothills; mantled by moderately well-drained and well-drained silt loam soils. Includes colluvium, slope wash, and alluvial fan deposits near sedimentary bedrock foothills; deposits thin where transitional with pediments. Material generally similar to unit Qtm, particularly in West Salem, containing glacial erratics related to Willamette Silt but also some gravelly alluvium. Some higher terrace deposits on west

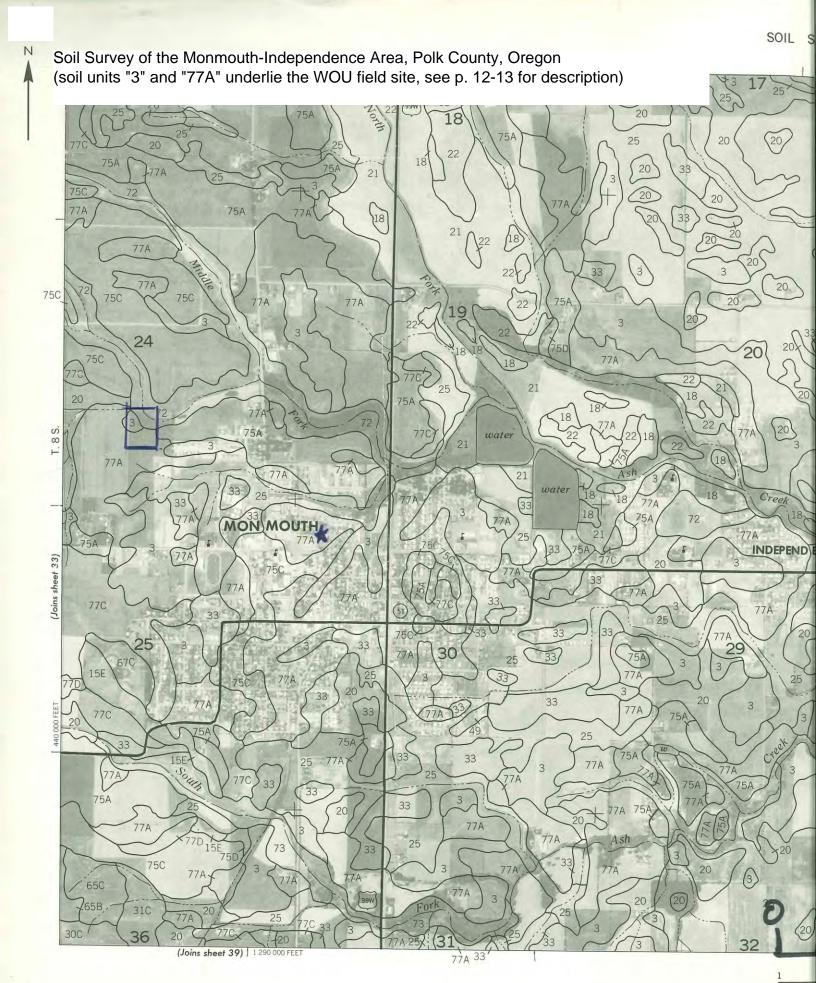


rocks of western Oregon (modified from Yeats and others, Stratigraphic correlation chart for Tertiary Figure 3. 1991)

TABLE I

MINERALOGY OF THE BEDROCK UNITS

	MINERALOGY	REFERENCES
Columbia River Basalt (Tcr)	Primary: Ca-Na plagioclase, augite, magnetite, ilmenite	Beaulieu (1971)
Intrusive Rocks	Secondary: chlorophaeite	
(Ti)	Primary: plagioclase (varied), magnetite, olivine, augite, apatite, biotite, quartz Secondary: chlorite, calcite, zeolites, nontronitic clay minerals	Brownfield (1982), Bela (1981), MacLeod (1981)
Undif. Eocene- Olig. Sed. Rock (Toe)	No analysis	
Spencer Fm. (Ts)	Primary: plagioclase (oligoclase to calc- andesine), quartz, Kfeldspar (orthoclase, with minor microcline and perthite), with lesser amounts of muscovite, biotite, green homblende, magnetite, pyroxene, chert, zircon, sphene, glauconite Secondary: smectite, zeolites, calcite, quartz, chlorite, Kfeldspar, Fe-oxides	Gandera (1977), Cunderla (1986), Al—Azzaby (1980)
Yamhill Fm. (Ty)	Primary: plagioclase (oligoclase and andesine), homblende, quartz, glauconite, chlorite, limonite, biotite, muscovite Secondary: calcite, glauconite	Baldwin and others (1955), Al Azzaby (1980)
Rickreall Limestone Mbr.	Primany: calcite, quartz, augite, mica, feldspar Secondary: heulandite, chert, quartz, pyrite, mixed layer clays	Boggs and others, (1973)
Гуее Fm. Tt)	Primary: plagioclase, quartz, biotite, muscovite, chert Secondary: calcite	Baldwin (1964)
Siletz River /okcs. (Tsr)	Primary: plagioclase (mostly labradorite), augite, magnetite, olivine Secondary: smectite, pyrite, palagonite, thomsonite, calcite, chlorite, natrolite, analcime, scolecite, mesolite, heulandite, apophyllite, chabazite, mordenite, stilbite, laumonite, amethystine quartz	Baldwin (1964), Snavely and others, (1968), Beaulieu (1971), Keith and Staples (1985)



areas that are close to water. Grouse, band-tailed pigeons, and mountain quail are not common. Gophers, ground squirrels, moles, nutria, and opossum are common pests. Planting along roadways, using grassed waterways, and preserving fence row, woodlots, and brushy areas improve the cover and food for wildlife.

This soil is limited for use as homesites and commercial buildings because of low strength and shrink-swell potential. It is limited for septic tank absorption fields because of the moderately slow permeability. Local roads and streets are limited by low strength. Some areas of this soil are connected to community water and sewage systems. The hazard of flooding is a major limitation.

This soil is in capability subclass Ilw.

3—Amity silt loam. This somewhat poorly drained soil is on terraces of the Willamette River and its major tributaries. It formed in mixed silty alluvium. Slopes are 0 to 3 percent and average about 2 percent. Elevation is 170 to 300 feet. The average annual precipitation is 40 to 45 inches, the average annual air temperature is 52 to 54 degrees F, and the frost-free period is 165 to 210 days.

In a representative profile, the surface layer is dark brown silt loam about 16 inches thick. The subsurface layer is dark grayish brown, mottled heavy silt loam about 9 inches thick. The subsoil is brown and dark grayish brown, mottled silty clay loam about 23 inches thick. The substratum is olive brown, mottled silty clay loam that extends to a depth of 63 inches or more. Included with this soil in mapping are areas of Woodburn, Holcomb, Concord, and Dayton soils, which make up about 15 percent of this map unit.

Permeability is moderately slow. Effective rooting depth is 60 inches or more. Available water capacity is 9 to 12 inches, and the water-supplying capacity is 20 to 26 inches. Runoff is slow, and the hazard of erosion is slight. A seasonal high water table is at a depth of 6 to 18 inches in winter and spring.

This soil is used for small grain, hay, pasture, and grass seed. Drained areas are suited to a wider range of crops. Irrigated areas are used for pole beans, corn, and other row crops. Returning all crop residues to the soil and using a cropping system in which grasses, legumes, or grass and legume mixtures are grown at least 25 percent of the time help to maintain fertility and tilth. Small grain and grasses respond to nitrogen; row crops commonly respond to nitrogen; and phosphorus and legumes respond to phosphorus, sulfur, and lime.

The soil is irrigated by sprinkler, furrow, or border irrigation, and sprinklers mainly are used. Irrigation water needs to be applied carefully at rates low enough to prevent runoff. Adequate water for irrigation can generally be obtained from wells.

Drainage is the major concern, but if outlets are available the soil responds readily to open or closed drainage

systems. The soil generally requires improved outlets to increase the subsurface drainage and lower the seasonal high water table. For maximum use and production, the soil needs a drainage pattern.

This soil is poorly suited to commercial timber production.

The natural vegetation is grass, shrubs, and scattered Oregon white oak. A seasonal high water table limits the use of this soil to ducks and geese late in fall, in winter, and early in spring. Seeds and tubers from water plants and crop residues are food for waterfowl. The rest of the year, ring-necked pheasant, valley quail, bobwhite quail, mourning doves, and black-tailed deer move into this area for food and cover. This soil is used by some furbearing animals.

This soil has some limitations for roads and streets and major limitations for homesites, commercial buildings, and other community uses because of the seasonal high water table.

This soil is in capability subclass IIw.

4D—Apt silty clay loam, 3 to 25 percent slopes. This well drained soil is on mountainous, lower side slopes of the Coast Range. It formed in residuum and colluvium weathered from sedimentary rock. Slopes average about 15 percent. Elevation is 700 to 1,400 feet. The average annual precipitation is 60 to 120 inches, the average annual air temperature is 48 to 52 degrees F, and the frost-free period is 160 to 190 days.

In a representative profile, the surface layer is very dark grayish brown silty clay loam about 8 inches thick. The subsoil is dark yellowish brown silty clay about 58 inches thick. Fractured siltstone is at a depth of 66 inches.

Included with this soil in mapping are areas of Honeygrove, Peavine, Cumley, and Astoria soils, which make up about 15 percent of this map unit.

Permeability is moderately slow. Effective rooting depth is 60 inches or more. Available water capacity is 7.5 to 10 inches, and the water-supplying capacity is 20 to 26 inches. Runoff is medium, and the hazard of erosion is moderate.

Most areas of this soil are used for timber production. Other uses are water supply and wildlife habitat. The soil is well suited to the production of Douglas-fir. Red alder is common. The site index for Douglas-fir on this soil ranges from 155 to 180, and the average site index is about 165. Based on the average site index, this soil is capable of producing about 13,300 cubic feet, or 74,200 board feet (International rule, one-fourth inch kerf), of merchantable timber from a fully stocked, even-aged stand of 80-year old trees.

Limitations to the use of equipment are major. When wet, this soil is sticky and plastic; this limits trafficability. It is severely compacted by equipment. Cable logging is desirable because tractor logging causes excessive disturbance. Roads and landings may need to be protected mingled with cultivated soils. In wooded areas of Douglas-fir, Oregon white oak, snowberry, poison-oak, and grass, common birds include ruffed grouse, mountain quail, and band-tailed pigeons. These birds feed on the fruit and seeds of trees and shrubs. Black-tailed deer are common. Planting along roadsides, using grassed waterways, and maintaining fence rows and brushy areas improve the cover and food supply for wildlife.

This soil has major limitations for all community uses because of the shallow depth to bedrock and the slope.

This soil is in capability subclass VIIs.

77A—Woodburn silt loam, 0 to 3 percent slopes. This moderately well drained soil is on broad terraces above the flood plain in the Willamette Valley. It formed in silty alluvial deposit. Slopes average about 2 percent. Elevation is 150 to 300 feet. The average annual precipitation is 40 to 45 inches, the average annual air temperature is 52 to 54 degrees F, and the frost-free period is 165 to 210 days.

In a representative profile, the surface layer is very dark grayish brown and dark brown silt loam about 17 inches thick. The upper 6 inches of the subsoil is dark brown silt loam, and the lower part is dark brown and brown silty clay loam that extends to a depth of 65 inches or more. Mottles are common in the lower part of the subsoil.

Included with this soil in mapping are areas of Willamette soils, which make up about 10 percent of this map unit, and Amity soils, which make up 5 percent.

Permeability is slow. Effective rooting depth is greater than 60 inches. Available water capacity is 11 to 13 inches, and the water-supplying capacity is 20 to 26 inches. Runoff is slow, and the hazard of erosion is none to slight. A seasonal high water table is at a depth of 24 to 36 inches in winter and spring.

This soil is well suited to pasture, hay, small grain, grass seed, and vegetable crops. Long-lived, deeprooted deciduous fruit and nut trees, strawberries, caneberries, and alfalfa are adversely affected by the seasonal high water table unless the soil is drained. Properly managing crop residue and using a cropping system in which grasses and legumes or a grass and legume mixture are grown at least 25 percent of the time help to maintain fertility and workability.

Small grains and grasses respond to nitrogen; row crops respond to nitrogen and phosphorus; and legumes respond to phosphorus, sulfur, and, in many places, to lime. If residues are used, additional nitrogen generally is needed to prevent a decrease in yields.

The soil may be irrigated by sprinkler, furrow, or border irrigation; sprinkler irrigation is the most common and is very satisfactory. Irrigation water should be applied carefully at rates low enough to prevent runoff. Water for irrigation may be from reservoirs or streams.

The soil has moderate drainage concerns which respond to pattern drainage. Drainage is needed for maximum use and production. Seepage from higher soils can be controlled by interception and random drains. Runoff may be controlled by grassed waterways and vegetative cover.

No commercial stands of timber grow on this soil. It is well suited to Christmas tree production.

Native vegetation is grass, hazel, poison-oak, wild blackberry, Douglas-fir, and Oregon white oak, which furnish good food and cover for ring-necked pheasant, California quail, bobwhite quail, and mourning dove. Blacktailed deer are permanent residents, and ducks and geese also feed in areas that are near water. Gopher, ground squirrel, mole, nutria, and opossum are common pests. Planting along streambanks and roadways, using grassed waterways, and preserving fence rows, woodlots, and brushy areas improve cover for wildlife.

This soil has some limitations for homesites, commercial buildings, and local roads and streets because of wetness. It has major limitations for septic tank absorption fields because of slow permeability and the high seasonal water table.

This soil is in capability subclass IIw.

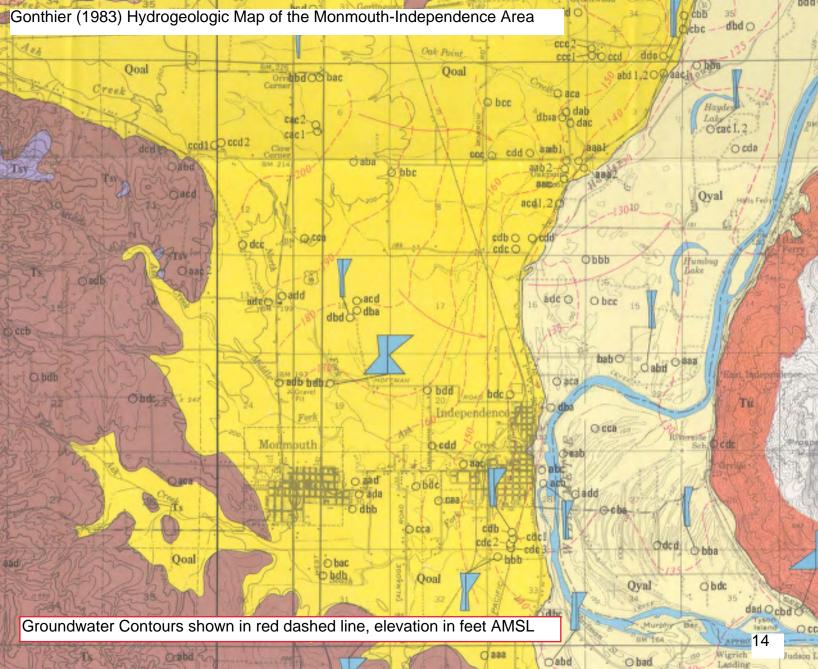
77C—Woodburn silt loam, 3 to 12 percent slopes. This moderately well drained soil is on broad terraces above the flood plain in the Willamette Valley. It formed in silty alluvial deposits. Slopes average about 7 percent. Elevation is 170 to 300 feet. The average annual precipitation is 40 to 45 inches, the average annual air temperature is 52 to 54 degrees F, and the frost-free period is 165 to 210 days.

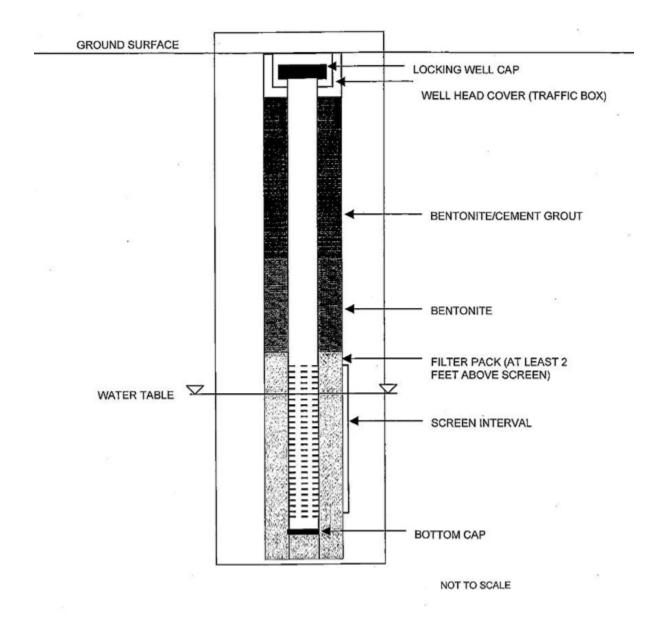
In a representative profile, the surface layer is very dark grayish brown and dark brown silt loam about 17 inches thick. The upper 6 inches of the subsoil is dark brown silt loam, and the lower part is dark brown silty clay loam that extends to a depth of 60 inches or more. Mottles are common in the lower part of the subsoil.

Included with this soil are areas of Willamette soils, which make up 10 percent of this map unit, and Amity soils, which make up 5 percent.

Permeability is slow. Effective rooting depth is restricted by the seasonal high water table. Available water capacity is 11 to 13 inches, and the water-supplying capacity is 20 to 26 inches. Runoff is medium, and the hazard of erosion is moderate (fig. 14). A seasonal high water table is at a depth of 24 to 36 inches in winter and spring.

This soil is best suited to small grain, grass seed, hay, and pasture. Long-lived, deep-rooted deciduous fruit and nut trees, strawberries, raspberries, and alfalfa may be adversely affected by the seasonal high water table unless this soil is drained. Properly managing crop residue and using a cropping system in which grasses and legumes or a grass and legume mixture are grown at least 50 percent of the time help to reduce runoff and erosion and to maintain fertility and workability.





Proposed monitoring well design, WOU Campus Groundwater Laboratory.

STATE OF OREGON WATER WELL REPORT		Ŭ.	$\frac{3}{2}$	$\frac{1}{2}$	2	Z
(as required by ORS 537.765)		(START CARD) #	270	279		
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City D _A //As State Ore Zip 97338	Section <u>24</u>	NW	4 54	ہ	4 _	
(2) TYPE OF WORK:	Tax Lot	LotBlock	<	Subdi	vision	
Recondition Abandon	Street Address of W	Vell (or nearest address)	in Al	0.	77
(3) DRILL METHOD:	(10) STATIC WAT		11.04	Date	61	<u>-</u> /92
(4) PROPOSED USE:		lb. per s	quare inch			
Domestic Community Industrial Irrigation Thermal Injection Other	(11) WATER BEA		<u>.</u>			
(5) BORE HOLE CONSTRUCTION:	Depth at which water	was first found <u>2</u>	7'		- 84	
Special Construction approval Yes YNO Depth of Completed Well 113 ft		· · · · ·				
Explosives used Yes 4No Type Amount	From	To		ated Floy	w Rate	
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(6) CASING/LINER:	- light brown Gray Clay			23	33	+-
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5 82' 113 i hr.	used and information	reported above are true 6 2.3- 2.664	e to my be	st knowle	edge and	. beli
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		Constructor Certific				
Temperature of Water <u>53°</u> Depth Artesian Flow Found		ility for the constructio ring the construction de				
Was a water analysis done? Yes By whom	during this time is in c	ompliance with Oregon	well const			
Did any strata contain water not suitable for intended use? Too little Salty Muddy Odor Colored Other		my knowledge and bel	lef.	WWC	Number	r_/£
Depth of strata;	Signed William	A. Blan			9/2/9	
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l log locatior	ns shown oi	n site map, p.	3)			15.1	71/1
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	by ORS \$37,765)	VATER R	ESOURCES D	EPT-419	(START CARD) #	26337	
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	MOUTH	State OR.	Zip 97361	Section 24	N or S. Range	<u>s n</u> f 4 <u></u> f	or W. WM.
$\frac{c_{R}}{(2) \text{ TYPE OF}}$					LotBlock_		
• •		Recondition	Abandon	Street Address of W	ell (or nearest address)	4980	0n
(3) DRILL M				Rieb	EL RO		
Rotary Air	Rotary Mud	Cable		(10) STATIC WAT		~	11
Other	·			ft. be	low land surface.	Date 3	14/92_
(4) PROPOSE	D USE:				ib. per squ	uare inch. Date	
	Community		igation	(11) WATER BEA	RING ZONES:		
Thermal [Injection	Other				85'	
	DLE CONSTRU		40	Depth at which water w	as first found	83	·····
•		No Depth of Com		From	To	Estimated Flow F	ate SWL
Explosives used L	⊥ Yes ∟‴ No Tỵ	уре А	Amount		· <u>76</u>	260m	
HOLE	To j Materi	SEAL al From To	Amount , sacks or pounds		· · · · · · · · · · · · · · · · · · ·		
Diameter From	48 CEMEN		24 SACKS				
6" 48							-
				(12) WELL LOG:			• • • •
					Ground elevati	ion	
How was seal place	ed: Method 🗌 A	Пв СС	d 🗌 e				
Other					Material	From	To SWL
Backfill placed from	m ft. to	ft. Material			HALE		35
Gravel placed from	1ft.to	ft. Size of grave	1		HALE W/SEA	ms internet	
(6) CASING/L					STONE		79' 11
Diameter		Gauge Steel Plastic	Weided Threaded	- GRAY S	ANDY SHAL	<u>= 99'/</u>	07'
Casing: 6"	·+) 53'						
······							
Liner: 4 1/2 "	-Z' 107'						
Lindi							
Final location of sl	hoe(s)	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>					
	TIONS/SCRE						
Perforatio	ons Method	<u>SKIL S</u>	AN				
Screens	Туре	Mater	rial				
	Slot	Tele/pipe					
From To	size Number	Diameter size	Casing Liner				
<u>B2' 106'</u>	116 1 200	<u> </u>					
<u></u>	7" 35				<u></u>		·····
	+						
	1 1						
		· · · · · · · · · · · · · · · · · · ·	. <u>L</u> LJ				
(8) WELL TE	515: Minimun	n testing time is 1		Date started FEB.	22 92-Con	pleted MARU	12, 192
Ритр	Bailer	🗆 Air	Flowing Artesian	(unbonded) Water Wel			
	Drawdown	Drill stem at	Time		ork I performed on the		
Yield gal/min				ment of this well is in co used and information re			
ZGAM	69'		the lines .	eses and miornation it	Portional monore and that the		
						WWC Nun	nber
				Signed		Date	
	~ 40		Proved	(bonded) Water Well (
Temperature of Wa		Depth Artesian Flow	round	formed on this well duri	ity for the construction, ng the construction date:		
	sis done? L Yes	By whom	Too little	during this time is in cor	npliance with Oregon we	ell construction stands	ards. This repor
Salty Mar	ddy Odor 🖻	Colored \square Other	RESUMED	is true to the best of my	y knowledge and belief.	- WWC Nu	mber 633
Depth of strata:	37 -4	<u>//</u>	CONTAMINATED	Signed // ichthe	Walkoo	2_ Date MA	RCH. 14.19
•	ST COPY - WATE	R RESOURCES DEPA	RTMENT SECO	ND COPY - CONSTRUC	TOR THIRD CO	PY - CUSTOMER	9809C 10/9
							_17

		- (Po	$ K \rangle$	λ.			Ş	sta	- l-	vl: a	1
	OF OREGON ELL REPOR'	т З	52-)			Q	25	WE	<u>4 0</u>	ι_{C}
	by ORS 537.765)		رحست	02	P & I		START CARD) #	26	33		
(1) OWNER		A 64 -	Well Num	ber: A Meter		(S) LOGATION	OF WELL by I	egal de	script	tion:	
Name		hilson				1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Latitude			le	
· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	RD. OR.	7:- 9	<u>Р</u> 11 7361	IJJ] _{ownship}	Nor_S. Range	<u>5 w</u>		_Eor_W.	, WI
	<u>MONTIA</u>	State				RCES DEP	<u>+NE_</u> %				
(2) TYPE O		Recondition	т. П л	SAL	EM, O	REGONAddress of W	Lot Blo	* 49	Subc	livision	71
(3) DRILL I		Recondition		Januon		- Grever Address of M	en (or nearest autress).		•**		
Rotary Air	Rotary Mud	Cable				(10) STATIC W	ATERLEVEL	.:		······································	
Other						· · · · · · · · · · · · · · · · · · ·	below land surface,		Date	6/20	é/
(4) PROPOS						Artesian pressure _		uare inch.	Date		<u>s'.'-</u>
	Community		🗌 Irriga	tion .		(11) WATER B	EARING ZON	ES:		··········	
	Injection	••••••	τ.			Depth at which water wa	s first found	<u>37'</u>			*':-
(5) BORE H	OLE CONST	0 . Denth	of Comple	ted Well	76 n.	From	То	Estin	nated Flow	v Rate	Ţ
				-		37'	41	10	GPM		1
Explosives used	Type		Amount _							.ar	
HOLE Diameter From	To i Materi	SEAL iah From	То	Amo Lisacks or	ount pounds						+
10" 0	M.S BENto	WITE O	19.5	sacks or	SACKS	(12) WELL LO	<u> </u>	:			
6" 12.5	46						Ground eleva	tion			
			-			- BROWNI CL	Material		From	то 61	
How was seal placed	h Method DA			 □ E		- BROWN SI	*****		<u>e</u>	18'	╋
Diher	JRY PACH	K			-	BLUE CLAY			18'	30'	
	nft, to	ft, Mate	rial		[- BUIE CLAN		1	30'	37'	1
Gravel placed from .		ft. Size	of gravel _				EDIUM GRA				I.
(6) CASING	<i>l/LINER</i> :		/	/			OARSE BLAC		37'	381	1
Diameter N	From Tor	Gauge Steel	Plastic	Welded T	hreaded	- CRAVEL	and the second	1+	501		+
Casing:	1112 11					- BLACK	<u>sand</u>		38' 41'	41'	4
		·					"		<u> </u>	76	+
Liner:										<u> </u>	_
		<u>41</u>									
Final location of sho	(lets)									<u> </u>	+
	RATIONS/SC	MILLS	KNI	c=						+	+
Perforatio	ons Method Type	1411142			'						
	Slot		ele/pipe			+					
From To, 38' 42'	3 size Number	Diameter	size	Casing	Liner						
	1/4"								+	+	╋
							-		1	1	+
											T
		ļ		. 🗆		Date started6~	21-91_co	mpleted	6-	Zlor	91
						(unbonded) Water	Well Constructor C	ertificat	ion:		
(8) WELL 7	TESTS: Minin	num testing	time is	1 hour Flowing	đ	I certify that the	e work I performed	on the c	onstruct		
Pump	🛛 Bailer	🔲 Air		Artesia		abandonment of this standards. Materials					
Yield gal/min	Drawdown	Drill ster	n at	Tim	le	knowledge and belief.		•			
104PM	141			નોનેસ	. 18HRS,				VWC Nu Date '	umber	
						Signed					
					<u> </u>	(bonded) Water We	Il Constructor Cer ibility for the constr			or above	nda
Temperature of war	_	-	tesian Flow	Found	<u> </u>	work performed on the	his well during the co	nstructio	n dates i	eported	abo
Was a water analys	is done? 🛛 Yes ain water not suitable	By whom		1:443-		work performed du construction standar	ring this time is the time is the true of the time of the true of	in compl e to the l	iance w	ith Ore	egoi zleda
	ain water not suitable Idy 🔲 Odor 🔲 Co			oo nttle		belief.				imber	
							a VII MILLO	" <i>–</i>	Date	1100 -	30
Depth of strata:		•				Signed A IVA		<u>4</u> 1	Jate 🟒		<u> </u>

The original and first copy of this report are to be filed with the WATER RESOURCES DEPARTMENT, SALEM, ORGON 9730 within 30 days from the date of well completion. (1) OWNER: Name MR 4 [M25 JAmes Gardon Address 53:35 Riddle_R.d.g. Mon MOUTH (2) TYPE OF WORK (check): New Well & Deepening Reconditioning Abandon I If abandonment, describe material and procedure in Item 12 (3) TYPE OF WELL: (4) PROPOSED USE (check): Rotary Driven Bored Trigation Test Well Other (5) CASING INSTALLED: Threaded Welded & (6) CASING INSTALLED: Threaded Welded & (7) WELL LOG: Diameter of well below casing 6	gon Water Resources Department Well Log Recor	rd for WOU	Campus	Vicinity			
(1) OWNER: Name NA ± NR3 Name NA ± NR3 Jahren MA ± NR3 Jahren HA ± NR3	are to be filed with the WATER RESOURCES DEPARTMENT , STATE OF SALEM, OREGON 97310 (Please type within 30 days from the date	OREGON or print)	polic z365		8\$/5	(v - 2	4
Answer ML21 N23 Termes: Gradon Answer ML21 N23 Rickell R.S. Hun muther (2) TYPE OF WORK (check): Second R.S. School R.S. Muther M. S. School R.S. Schol R.S. Schoo	of well completion (Do not write go	ove this line;	<u> </u>				
and/weie 23:35 Riddle Roy Han Multi H (2) TYPE OF WORK (check): (3) TYPE OF WORK (check): (4) TYPE OF WORK (check): (5) CASING INSTALLED: (6) CASING INSTALLED: (7) SCREENS: (8) extended of the state of	(1) OWNER:			VELL:			
(2) TYPE OF WORK (check): (2) TYPE OF WORK (check): (3) TYPE OF WORK (check): (3) TYPE OF WELL: (4) PROPOSED USE (check): (5) CASING INSTALLED: (6) CASING INSTALLED: (7) SCREENS: (7) SCREENS: (8) WELL TESTS: (9) ONSTRUCTION: (1) WATER INSTALLED: (1) WATER LEVEL: (2) Origination of the total of the	Name MR & NRS JAMES Gordon	County Poll			•	-	,
(2) TYPE OF WORK (check): (3) TYPE OF WELL (4) PROPOSED USE (check): (4) WELL LOG: Dameter d' welch (4) PROPOSED USE (check): (5) CASING INSTALLED: Tragged (1) welched S: (6) VERDORATIONS: (7) SCREENS: Well scale (1) Yes (1) NO. (7) SCREENS: Well scale (1) Yes (2) NO. (7) SCREENS: Well scale (1) Yes (2) NO. (7) SCREENS: Well scale (1) Yes (2) NO. (8) WELL TESTS: (9) WELL TESTS: Well scale (1) Yes (2) NO. (9) WELL TESTS: Well scale (1) Yes (2) NO. (2) Well tell made (2) Yes (2) NO. (2) Well tell made (2) Yes (2) NO. (3) TYPE OF WORK (1) Yes (2) NO. (4) Well scale made (2) Yes (2) NO. (5) CREENS: Well scale (2) Yes (2) NO. (6) WELL TESTS: Well scale (2) Yes (2) NO. (7) SCREENS: Well scale (2) Yes (2) NO. (6) WELL TESTS: Provedown ht scale (2) Yes (2) NO. (7) SCREENS: Well scale (2) Yes (2) NO. (8) Real made (2) Yes (2) NO. (9) WELL TESTS: (9) Torm teat (2) Yes (2) NO. (9) WELL TES	Address 5235 KIDDLE KOg MONMONATI	3/4					W.M.
New Weit K. December of the material and procedure in them II. If abandament, describe material and procedure in them II. (3) TYPE OF WELL: (4) PROPOSED USE (check): Relaxy Driven Barted II. Demostic K, inductival II. (5) CASING INSYALLED: Treation II. (6) CASING INSYALLED: Treated II. (7) SCREENS: Performed II. (8) WELL TESTS: Developer II. (9) CONSTRUCTIONS: Performed II. (10) SCREENS: Well scenes lastificities II. (11) SCREENS: Well scenes lastification II. (12) SCREENS: Well scenes lastification II. (13) SCREENS: Well scenes lastification II. (14) WATER RESOURCES DEPT Diam. (15) SCREENS: Proved press lastification II. (16) WELL TESTS: Developer lastification II. (17) SCREENS: Well scenes lastification II. (18) WELL TESTS: Developer lastification II. (10) WOSTRUCTIONS: Performantion if the II. (11) WATER RESOURCES DEPT SALEM. OREGON (12) ONSTRUCTIONS: Performantion if the II. (13) CONSTRUCTIONS: Perfore and information r	(2) TYPE OF WORK (check):	Bearing and dis	stance from se	ction of subdivisio	on corne	<u> </u>	
(3) TYPE OF WELL (4) PROPOSED USE (check): Densetic Kind International Control (1)			••	· · ·		-	
Driven Donnestic M, industrial D Municipal D Tregator. Data tevel / 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind surfact. Data 9/11/5 Strate level // 5 ft. below ind suffact. Strate 9/11/5 Strate level // 5 ft. below ind suffact. Strate 9/11/5 Strate level // 5 ft. below ind suffact. Strate 9/11/5 Strate level // 5 ft. below ind suffact. Strate 9/11/5 Strate // 5 // 5 ft. below ind suffact. Strate 9/11/5 Strate // 5 // 5 ft. below ind suffac	If abandonment, describe material and procedure in Item 12.	(11) WATE	R LEVEL:	Completed w	ell.		
Brited Treigation	(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which	water was fir				t ft.
(i) CASING INSTALLED: Threaded I Weided S. (ii) CASING INSTALLED: Threaded I Weided S. (iii) Casing a Dural from 1 at to 1 b ft Gage A Soo Dark dilled 78 ft Dural for moment of the Dural for Gage Dural for moment of the Dural for the Dural for moment of the Dural for	Jetted	Static level	/5				8
	Bored 🗍 Irrigation 🗌 Test Well 🗋 Other	Artesian pressu	re	lbs, per squar	e inch.	Date	
4 * Diam. from 6. 7. 6. 6. 6. 7. 6. 6. 7. 6. 7. 6. 7.		(12) WELI	L LOG։ յ	Diameter of well 1	elow ca	_{ing} 6	
	biam. from + 2 ft. to -492 ft. Gage & 2.50	Depth drilled	78 1	. Depth of compl	eted wel	78	ft.
(6) PERFORATIONS: Perforated? (b) Yes [] No. Type of perforator used (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c							
(10) FEAR ORATIONS. Perfore the productions from many field of strate productions from many field strated for well constructed under my jurisdiction and this report is formed to many field strated for many strated strated for many field strated for man	" Diam, from ft. to ft. Gage						
Type of perforations 1/0 in. by 7 in. BO perforations 1/0 it. by 7 in. BO perforations 1/0 it. by 7 it. BO perforations 1/0 it. by 7 it. BO perforations 1/0 it. by 7 it. BO perforations it. by 7 it. it. Perforations it. by 7 it. it. it. Perforations it. by 7 it. it. it. Image: State of perforations from it. by 7 it. it. it. Image: State of perforations from it. by 7 it. it. it. Image: State of perforations from it. by 7 it. it. it. Image: State of perforations from it. by 7 it. it. it. it. it. it. Image: State of perforations from it. it. it. it. it. it. it. it. Image: State of perforations from it. it. it. it. it. it. it. it. Image: State of perforatitons from it. it. it. it	(6) PERFORATIONS: Perforated? Dres DNo.	position of Stat	tic Water Leve	l and indicate priv	icipal wa	ter-bearir	ig strata.
Bill of performance in the interval of the inte	Type of perforator used SAW		* /	- 4			SWL
perforations from ft. to ft. perforations from ft. to ft. (7) SCREENS: Well screen installed? Ves ft. to Manufacturer's Name Model Nc. ft. ft. ft. ft. Type Model Nc. ft. ft			- 1 -	·····	0	30-	
image: construction from		Stic	K. RI	e CIAN	14	33	
(1) SCREENS: Well screen installed: Ves (f) NO Manufacturer's Name Model No. Type Model No. Diam. Slot size Set from Slot size Set from ft. to Manufacturer's Name ft. to ft. Diam. Slot size Set from ft. to Slot size Set from ft. to ft. (6) WELL TESTS: Drawdown is amount water level is lowered betwee static level or libowered betwee		Brou	in ClA	W.	33	43	
Manufacturer's Name Type Model No. Type Slot size Slot size Set from All plan. Slot size Slot size Set from All pump test made? Yes by whon? Yid: gal/min. with fit. dt awdown after " "		HArd	Grey Si	instone	43	78	
Type Model No. Diam. Slot size Set from ft. to ft. Diam. Slot size Set from ft. ft. Slot size Set from ft. ft. ft. Slot size Set from ft. ft. ft. Slot size Set from ft. ft. ft. Site itex Stot size Set proved balow static lavel ft. " " " " ft. " " " " " " " " " " Set proved balow " " " " " Set proved balow " " " " " Set proved balow " " " " " Set proved balow Set proved balow Set proved balow <	.,						
Diam. Slot size Set from ft. to ft. Diam. Slot size Set from ft. to ft. Slot size Set from ft. to ft. (8) WELL TESTS: Drawdown is amount water level is lowered below static level SEP 2.21980 ************************************							
(8) WELL TESTS: Drawdown is amount water level is lowered below static level (8) WELL TESTS: Drawdown is amount water level is lowered below static level (8) WELL TESTS: Drawdown is amount water level is lowered below static level (8) WELL TESTS: Drawdown is amount water level is lowered below static level (9) CONSTRUCTION: (9) CONSTRUCTION: (10) SROther and level and lower and level and lower an							
(a) WELL FISSE: Iowered below static level (a) pump test made? Vest E No. If yes, by whom? (a) pump test made? Vest E No. If yes, by whom? (b) Construction (b) Construction (c) Construction: (c)	Diam Slot size Set from ft. to ft.				<u> </u>		
Nuid: gal/min. with ft. drawdown after hrs. """"""""""""""""""""""""""""""""""""		<u> </u>	ECE	VED			
""""""""""""""""""""""""""""""""""""	a pump test made? Yes No If yes, by whom?		SEP22	1980		1	
""""""""""""""""""""""""""""""""""""	- Beed,	WATE	ER RESOU	RCES DEPT			
micr test gal/min. with 57 ft. drawdown after A hrs. Arresian flow g.p.m. Temperature of water Depth artesian flow encountered ft. (9) CONSTRUCTION: Work started 9/8 19 80 Completed 9/11 19 9 Weil seal-Material used Compared GROUT This well was constructed under my direct supervision Weil seale from land surface to In. Drilling Machine Operator's Certification: Diameter of weil bore bolow seal in. Diameter of seal point in. Number of sacks of cement used in woll seal in. More starte of the woll operator's Certification: This well was constructed under my direct supervision Materials used and information reported above are true to m bise knowledge and pelief. Optilling Machine Operator's License No. 13%. Diameter of well bore bolow seal in. Dist well contractor's Certification: The was cancer of sacks of cement used in woll seal in. Signed] Water Well Contractor's Certification: Was a drive shoe used? (LYes No Plugs Size: location ft. Did any strata contain unusable water? Yes gf No Type of water? depth of strata							
Arresian flow g.p.m. Temperature of water Depth artesian flow encountered ft. (9) CONSTRUCTION:				k	-	_	
Temperature of water Depth artesian flow encounteredft. (9) CONSTRUCTION:			<u> </u>	······································			
(9) CONSTRUCTION: Well seal-Material used Cement GROUT Well sealed from land surface to 18 Diameter of well bore to bottom of seal 10 Diameter of well bore below seal 10 Diameter of well bore below seal 10 Number of sacks of coment used in well seal 10 Yew material used in well water? 100 Yew material unusable water? Yew gene Yew seal drive shoe used? 10 Yew seal 10 Yew seal 10 Yew seal 10 Yew seal 10		Wank started	0/2	19 80 Comple	tert Q	,,	19 8
 (3) CONSTRUCTION: Well seal_Material used Cement GROUT Well sealed from land surface to 18							
Well sealed from land surface to 18 ft. Diameter of well bore to bottom of seal 0 in. Diameter of well bore below seal in. 0 Number of sacks of cement used in well seal 0 sacks How was cement grout placed? 100 sacks Mater Well Contractor's Certification: 1326 Was a drive shoe used? 100 Size: location Mater Well contractor's Certification: This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief. Name AQMA-TECH Well Method of sealing strata off (Person, firm or corporation) (Type or print) Method of sealing strata off (Water Well Contractor) (Water Well Contractor) Gravel placed from ft. to ft. Contractor's License No. (o Gla. Date Seef 17, 192	(9) CONSTRUCTION:					1	
Diameter of well bore to bottom of seal in. Diameter of well bore below seal in. Number of sacks of cement used in well seal in. Number of sacks of cement used in well seal in. How was cement grout placed? IVM PCO Type of water? Cortactor's Certification: Method of sealing strata off Size of gravel: Was well gravel packed? Yes MAN Size of gravel: Gravel placed from Gravel placed from ft.	Well seal-Material used CEINERI CIEDO	This we	ll was consta	ructed under my	/ direc	t supe:	rvision
Diameter of well bore below seal in. Number of sacks of cement used in well seal Sacks How was cement grout placed? MADE O HOO II How was cement grout placed? HOO HOO II Was a drive shoe used? WI Yes No Plugs Size: location ft. Did any strata contain unusable water? Yes & No Type of water? depth of strata Method of sealing strata off Was well gravel packed? Yes & No Size of gravel: Gravel placed from ft. to ft. Diameter of well contractor's License No (Signed] Multified under my jurisdiction and this report is true to the best of my knowledge and belief. Name AQUATECH Well Construction IA (Person, firm or corporation) (Type or print) Address & Os A Deltru Dr. N.E (Water Well Contractor) (Water Well Contractor) (Water Well Contractor) (Water Well Contractor) (Water Well Contractor) (Water Well Contractor) (Nater We	177				Jabove	are tru	e to m;
Number of sacks of cement used in well seal 10	1		Muan	1 D Korll	Bate	415	, 1980
from ine from bot thom of GANNULGS to LG.A.D. SUCHACE Was a drive shoe used? Was a drive shoe used? Was a drive shoe used? Was a drive shoe used? Was a drive shoe used? Was a drive shoe used? Did any strata contain unusable water? Yes SNO Type of water? depth of strata Method of sealing strata off (Person, firm or corporation) Was well gravel packed? Yes SNO Gravel placed from ft. to		Drilling Mar	Drilling Mac hine Operate	hine Operator) or's License No.	13	Ĭ6	
CANNULCS to LCA.D. Surface Water Well Contractor's Certification: This well was drilled under my jurisdiction and this report in the best of my knowledge and belief. Was a drive shoe used? (LYes Do Plugs Size: location ft. Did any strata contain unusable water? Yes Stoo Type of water? depth of strata Method of sealing strata off (Person, firm or corporation) Was well gravel packed? Yes Stoo Gravel placed from ft.					•		
Was a drive shoe used? (I Yes No Plugs						• ··· -	
Was a drive shoe used? (I Yes D No Plugs		This we	ll was drilled pest of my k	under my juris nowledge and be	diction a	and this	report i
Did any strata contain unusable water? Yes & No (Type of water? (Type of print) Type of water? depth of strata Address & & Deltu Dr. N.E. Salem Method of sealing strata off [Signed] Network (Water Weil Contractor) Was well gravel packed? Yes & No Size of gravel; (Water Weil Contractor) Gravel placed from ft. to ft. Contractor's License No. 6.916. Date Sect. 17 192	Was a drive shoe used? 🕅 Yes 🗆 No Plugs		NA-TECI	+ Well Co	ustru	ction	Lnc
Type of water? depth of strata Method of sealing strata off [Signed] Was well gravel packed? Yes K.No Size of gravel; (Water Well Contractor) Gravel placed from ft. Contractor's License No. 696. Date Seept 17., 198.	Did any strata contain unusable water? 🔲 Yes 💇 No			r corporation)	*		rint)
Was well gravel packed? Yes K. No Size of gravel; (Water Well Contractor) Gravel placed fromft. toft. Contractor's License No. <u>696</u> . Date <u>Sept</u> <u>17</u> , 192	Type of water? depth of strata	Address 였	$\frac{2}{1}$	$\int \partial c_{\rm e} N L_{\rm e}$			
Gravel placed from			Navi	1 Deach	tractor		
			Timera Ma			. (7	105
							104-1
							10

Dregon Water Resources Department Well Log Record for WOU Campus Vicinity	
*Well log locations shown on site map, p. 3)	

97361

(4) **PROPOSED USE** (check):

Irrigation 🗋 Test Well 🔲 Other

· · · · ·

Domestic 🕅 Industrial 🗌 Municipal 🗆

Threaded 🗌 Welded 🕅

Perforated? KiXyesx

Reconditioning 📋

THE OLIGHNAL AND THES CODA OF PHE LEDOLP are to be filed with the

WATER WELL REPORT STATE OF OREGON

WATER RESOURCES DEPARTMENT, SALEM, OREGON 97310 within 30 days from the date of well completion.

Mr. James Gordon

Monmouth, Oregon

(2) TYPE OF WORK (check): Deepening 📋

Bored

5) CASING INSTALLED:

(3) TYPE OF WELL:

6) PERFORATIONS:

Rotary XX Driven Cable Jetted

ō

5235 Riddell Road

If abandonment, describe material and procedure in Item 12,

(1) OWNER:

Name

Dug

Address

New Well K

	(Ple	ase t	уре	or j	orint)
(Do	not	write	ab.	ove	this	line

Abandon 🗖

C State Well No. 85/5W-24

(10) L	OCAI	TION OF V	VEL I	L:				
County	Po	1 k	Dril	ler's	well r	umber		
	14	1/4 Section	24	т.	8	R.	5	W.M.

State Permit No.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was	first	found	160 <i>f</i> t.
Static level	10	ft. below land surface.	Date 8-8-79
Artesian pressure		lbs, per square inch.	Date

(10)		LOO .]	Diameter	of	well	below	casing	<u>Q</u>
Depth	drilled	180 f	: Depth	of	comp	leted	well	180‡

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated. with at least one entry for each change of formation. Report each change in position of Static Water Level and Indicate principal water-bearing strata,

Type of perforator used Cutting torch	MATERIAL	From	То	SWL
Size of perforations in, by 8 in,				
66 xxxxxxxxxxx in linent. to	Top soil	0	4	
perforations from52ft. to178. ft.	<u>Brown clay</u>	4'	36	
perforations from	Blue Clay	36'	48	
(7) SCREENS: Well screen installed?	Blue shale	48'	140	
	<u>Blue sand stone</u>	140'	180	
Manufacturer'a Name	(water_bearing)			······································
Type Model No Diam Slot size Set from ft. to ft.	· · · · · · · · · · · · · · · · · · ·			,
Diam, Slot size Set from ft, to ft,	۰			
(8) WELL TESTS: Drawdown is amount water level is lowered below static level		i i		
Was a pump test made? 🗌 Yes 🕱 No If yes, by whom?				<u> </u>
	AUGISO	379		· · ·
Id: gal./min. with ft. drawdown after hrs.	WATER RECOUR			
			11	· •
	GALEN, OF	1-13N		
Air test 20 gal./min. with 166tt. drawdown after 1 hrs.				
Artesian flow g.p.m.				
nperature of water 52 [°] Depth artesian flow encountered ft.	Work started July 31, 1979 Complete	a Aug	ust]	01979
(9) CONSTRUCTION:	Date well drilling machine moved off of well	Augu	st 12	1979
Well seal-Material used	Drilling Machine Operator's Certification:			•
Well sealed from land surface to	This well was constructed under my	direct	super	vision.
Diameter of well bore to bottom of seal	Materials used and information reported best knowledge and belief			
Diameter of well bore below seal	in a list ave the	Date A	uq.14	1,19 79
Number of sacks of cement used in well seal sacks		. .		,
How was cement grout placed?	Drilling Machine Operator's License No.	3.4		
.Grout pump	Water Well Contractor's Certification:	-		
nonna an		intion or	س مقطة ال	-
ana and an	This well was drilled under my jurisdi true to the best of my knowledge and bel			
Was a drive shoe used? I Yes X No Plugs	Name <u>CLINTON WELL DRILL</u> I (Person, firm or corporation)	NG	*****	
Did any strata contain unusable water? 🗌 Yes XXNo	(Person, firm or corporation)	(T)	pe or prin	nt)
Type of water? depth of strate	Address 6165 Corvallis Road	- 07	351	• • • • • • • • •
Method of sealing strata off	Independence Oregon		ĴĴΤ	
Was well gravel packed? Yes XX No Size of gravel: XXXXXXX.	[Signed]	actor)		*********
Gravel placed from .XXXXXXXXft. to XXXXXXX ft.	Contractor's License No. 14 Date?		14,	., 197.9
(USE ADDITIONAL S	IEETS IF NECESSARY)		SI	P*45656-119

(USE ADDITIONAL SHEETS IF NECESSARY)

Vell log locations shown on site map, p. 3)	ord for WOU Campus Vicinity			
	L REPORT			
of this report are to be filed with the STATE OF C		85 5	in -	24
STATE ENGINEER, SALEM, OREGON 97310	or print)			
within 30 days from the date of well completion. (Do not write abo	or print) STATE ENGINEERtate Permit No ove this lines SALEM. OREGON			
	SALEM, OREGON			
(1) OWNER:	(10) LOCATION OF WELL:			
Name Mr. W. C. Kester	County Polk Driller's well nu	mber		
Address 141 N. Monmouth		я. 5		W.M.
Monmouth, Oregon 97361	Bearing and distance from section or subdivision	on corner		
(2) TYPE OF WORK (check):				
New Well XX Deepening Reconditioning Abandon				
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w	ell.		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	-	U.I.I.		58 rt.
	Depth at which water was first found			
Rotary Driven D Cable XXX Jetted D	Static level 6 ft. below land s			20-73
Dug 🔲 Bored 🗍 Irrigation 🗌 Test Well 🗍 Other 📃	Artesian pressure lbs. per squar	einch. I	Date	
CASING INSTALLED: Threaded D Welded	(12) WELL LOG: Diameter of well b		6	41
"Diam, from				
6 " Diam. from 1 new above the surface	Depth drilled 100 ft. Depth of comple			<u>100 m</u>
" Diam. trom to	Formation: Describe color, texture, grain size and show thickness and nature of each stratur	and struct	ure of m uifer pe	naterials; netrated
	with at least one entry for each change of format	tion. Repo	rt each c	:hange ir
PERFORATIONS: Perforated? Yes X 2000.	position of Static Water Level and indicate prin	cipai wate	r-Dearin	ly strata
Lype of perforator used	MATERIAL	From	To	SWL
Size of perforations in. by in.				
perforations from ft. to ft. to				
perforations from		ļļ		
perforations from ft. to ft.	<u> </u>		3'	
	Brown clay	3	32'	
(7) SCREENS: Well screen instelled? Yes X No	<u>Blue clay</u>	32	<u> 38 '</u>	
Manufacturer's Name	Brown clay &			
Type Model No.	Med. gravel	38	<u>40 '</u>	
Diam, Slot size Set from ft. to ft.	<u>Blue_shale</u>	40	58'	
Diam Slot size Set from ft. to ft.	Sandstone			
(8) WELL TESTS: Drawdown is amount water level is	(water bearing)	58	96'	
10M6LER DEIOM BRATIC TEAST	<u>Blue_shale</u>	96	100'	
Was a pump test made? [] Yes Y No If yes, by whom?				
Yield: gal./min. with ft. drawdown after hrs.				
н н н		┼──┤		
# " " "		{}		
Bailer test] Ogal./min. with 79 ft. drawdown after] hrs.		1 1		
				,
Artesian flow g.p.m.	The stated Table 2.4 in 75 division	ad 17 al	<u>,</u> ,,	7. 1.67
persture of water 52 Bepth artesian flow encountered ft.	Work started Feb. 24, 19 75 Complet			<u>, 1975</u> 7 . 7 5
(9) CONSTRUCTION:	Date well drilling machine moved off of well	Fel	J . 21	7, 1975
Concrete	Drilling Machine Operator's Certification:	:		
20	This well was constructed under my	direct	super	visio
Well Better How while burlet to an approximately the	Materials used and information reported best knowledge and belief,			
Diameter of well bore to bottom of seal	Last all's The	Date	3-20-	- 1975
Diameter of well bore below sealb in. Number of sacks of cement used in well seal	[Signed]			
Number of sacks of cement used in well seal	Drilling Machine Operator's License No.	54		
Brand name of bentonite used in wen seal				
	Water Well Contractor's Certification:			
	This well was drilled under my jurisd true to the best of my knowledge and be	liction an lief	nd this	report i
Number of pounds of bentonite per 100 gallons			Co.	
of water lbs./100 gals.			pe or pr	int)
of water	Name ART CLINTON WELL DRI	(*)		~~~
of water lbs./100 gals. Was a drive shoe used XXXYes [] No Plugs Size: location ft. Did any strata contain unusable water? [] YeXX No	(Person, firm or corporation)	• •	Ore	1011
of water	(Person, firm or corporation) Addres Rt. 1. Box 2. Independ	ence,	97:	351
of water	(Person, firm or corporation) AddresRts1.Box 2, Independe	ence,	97:	351
of water	(Person, firm or corporation) Address t.a.l., BOX 2, Independe [Signed]	ence,	97:	351
of water	(Person, firm or corporation) AddresRts1.Box 2, Independe	ence,	97: 20,	351

(85	ER WELL		201		SEP - 9 1) 2 / (START CARD) #	396 5 3	-40
(1) OW.	NER:		Well N	WAT	SALEM. ORF	ES DEPT. GOV LOCATION	OF WELL by lega		
Name	Dow Pit	k				County Polk	Latitude	Longitude	
Address	123,80	Mayer	l.	9rc	a. 42154	Township D	N of Range	<u>S</u> B or	@ ₩M
City	PE OF WO	/ DIZ.	State /	~~ <u>~</u>	Zip 27338	Section	4 NE	14 <u></u>	
			econdition	At	andon				
	ILL METH	-				Monmoni	L Monselon	A. Ore 9731	1.
C Rotar		Rotary Mud	Cable			(10) STATIC WA		,	1
Other	ODOCED II	ота					below land surface.	_ Date	7/9
	OPOSED U	SE: mmunity 🗆 I	- J 1	 ¥===1		Artesian pressure	ARING ZONES:	quare inch. Date	
Them		ection			1011		ARING ZORES;		
		CONSTRUC				Depth at which water	was first found		····
					ted Well			1	
Explosive	s used 🗌 Yer			Am	ount	From	To	Estimated Flow Rate	SV
	HOLE		SEAL	~	Amount				_
	From To	Material Cenent	From	То //Д	sacks or pounds				
. <u> </u>						(12) WELL LOO	j:		
<u></u>	<u> </u>						Ground eleva	tion	
How was	seal placed: M r <u> </u>		BUC		LIE .	br	Material	From To	S
		ft. to	ft Mater	riai	ent to Ano	1		· · · · · · · · · · · · · · · · · · ·	
		ftto			to perforeting	, concul	- Clering for		
	SING/LINE			ί					
;	Diameter Fra	E . I	ige Steel	Plastic V	Velded Threaded	I ERT			
Casing:	67 0	-1 44				1			
							-		
				· 🗖 ·			_		
I inar:				. 🗋 .					
Liner:		1 3		-		1-+			
<u> </u>		ll				1 7/18			
Final loca	ation of shoe(s)		IC.						<u> </u>
Final loca (7) PEI	RFORATIO	NS/SCREEN	IS:		· _, ī	ETTY-	· · · ·		
Final loca (7) PEI	RFORATIO Perforations	NS/SCREEN	IS:	Material	· _, =		· · · · · · · · · · · · · · · · · · ·		
Final loca (7) PEI	RFORATIO	NS / SCREEN Method Type		Material le/pipe	· _, · · · · · · · · · · · · · · · · · ·		· · · ·		
Final loca (7) PEI	RFORATIO Perforations Screens	NS / SCREEN Method Type		le/pipe	Casing Liner				
Final loca (7) PEI	RFORATIO Perforations Screens SI	NS / SCREEN Method Type	 Te	le/pipe		coment a	and dinaft	lower pulling	-
Final loca (7) PEI	RFORATIO Perforations Screens SI	NS / SCREEN Method Type	 Te	le/pipe		coment a	fortel faco	lowed pulli: 14 4 44 Ja	
Final loca (7) PEI	RFORATIO Perforations Screens SI	NS / SCREEN Method Type	 Te	le/pipe		coment a fata (of 1	Jostel faor 176 putor faor 176 putor fue	wed pulling	
Final loca (7) PEI	RFORATIO Perforations Screens SI	NS / SCREEN Method Type	 Te	le/pipe		coment a fatal of fatal of fatal of fatal of	of discher forthe faco the provide the free o.	lowed pulle: 14 + 44 Ja 25 + they wie from the	
From	RFORATIO Perforations Screens To si	NS/SCREEN Method Type ot Number I	ijameter	le/pipe size (Casing Liner	coment a fata of f coment to to of f coment to the to	al dinalle Montel faor 176 perforter Ara free 5.	lowed pulles: 141 + 44 Ja in the for the	
From From (7) PEI From From (8) WE	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method Type ot se Number I Minimum t	iameter To	le/pipe size (Casing Liner	to to a for the top Date started		$\frac{1}{1} \frac{1}{4} \frac{1}$	
From	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method Type ot Number I	ijameter	le/pipe size (Casing Liner	Date started 9/	Well Constructor Certifi	cation:	
From From (7) PEI From From (8) WE	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method Type ot se Number I Minimum t	iameter To	e is 1 h	Casing Liner	$\frac{32}{4\pi} \frac{1}{4\pi} $	Well Constructor Certifi work I performed on the compliance with Oregon	cation: construction, alteration, well construction standar	ds. Mat
From (7) PEI (8) WE (7) PEI (8) WE	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method	esting tim	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information	Well Constructor Certifi work I performed on the compliance with Oregon reported above are true	cation: construction, alteration, well construction standar to my best knowledge ar	ds. Mat
From (7) PEI (8) WE (7) PEI (8) WE	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method	esting tim	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information	Well Constructor Certifi work I performed on the compliance with Oregon	cation: construction, alteration, well construction standar to my best knowledge ar	ds. Mat id belie
From (7) PEI (8) WE (7) PEI (8) WE	RFORATIO Perforations Screens To si CLL TESTS	NS/SCREEN Method	esting tim	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information	Well Constructor Certifi work I performed on the compliance with Oregon reported above are true	cation: e construction, alteration, well construction standar to my best knowledge ar	ds. Mat id belie
From From (7) PEI From From (8) WE Vield g	RFORATIO Perforations Screens To si CLL TESTS ump gal/min D	NS/SCREEN Method	esting tim	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information Signed (bonded) Water Wel	Well Constructor Certifi work I performed on the control above are true the 623-2669 woon Well full I Constructor Certificat	cation: construction, alteration, well construction standar to my best knowledge ar WWC Numbe WWC Numbe Date ton:	ds. Mat id belier r
From From (7) PEI From From (8) WE (8) WE From Temperature	RFORATIO Perforations Screens To si CLL TESTS ump al/min D	NS/SCREEN Method	esting tim Drill-stem	e is 1 h	Casing Liner	Date started (unbonded) Water We is gined (unbonded) Water We is certify that the ment of this well is in used and information Signed (bonded) Water We I accept responsi	Well Constructor Certifi work I performed on the control above are true (23-2669) www.well.fuit I Constructor Certificat bility for the construction	cation: construction, alteration, well construction standar to my best knowledge ar WWC Numbe WWC Numbe WWC Numbe hon: , alteration, or abandonme	ds. Mate id belief r ent work
From From (7) PEI From (8) WE (8) WE Fro Yleld g Temperatu Was a wa	RFORATIO Perforations Screens To si To si CLL TESTS ump gal/min D ure of Water ater analysis do	NS/SCREEN Method	esting tim Drill-stem	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information Signed (bonded) Water Wel I accept responsi formed on this well d during this time is in	Well Constructor Certifi work I performed on the reported above are true by 23-2669 work field to be a set of the la Constructor Certificat bility for the construction uring the construction dat compliance with Oregon	cation: e construction, alteration, well construction standar to my best knowledge ar WWC Numbe WWC Numbe MOR: , alteration, or abandonma tes reported above. All wo well construction standard	ds. Mate d belief r ent work rk perfo
From From (7) PEI From (8) WE (8) WE Fro Yleid g Temperatu Was a wa Did any s	RFORATIO Perforations Screens To si To si CLL TESTS ump gal/min D ure of Water ater analysis do: strata contain w	NS/SCREEN Method	esting tim Drill-stem Depth Artesia By whom for intended	e is 1 h	Casing Liner	Date started (unbonded) Water V I certify that the ment of this well is in used and information Signed (bonded) Water Wel I accept responsi formed on this well d during this time is in	Well Constructor Certifi work I performed on the control above are true (23-2669) well full I Constructor Certifican bility for the construction uring the construction dat	cation: e construction, alteration, well construction standar to my best knowledge ar WWC Numbe WWC Numbe MOR: , alteration, or abandonma tes reported above. All wo well construction standard	ds. Mat d belief r ent work rk perfo s. This r

		5055	LH	EU	, GIV	GV							
STATE	OF ORE			DE C	- 8 19	97							
GEOTEC	HNICA	L HOLE RE	PORT	υĽΫ	- 13								
(as required	d by OAR 6	GON L HOLE RE 90-240-035)	WAT	ER RE	SOURC	es dept.	,						
(1) OWNER	APOIE	Ст.	Ţ	SALE	M, OREC		(9) LOCATIO	N OF HOLF	hy legal d	econtratio	n:		
		11: هم به (45					County Fehr			-	n. Longitud	-	
		mmercu				# 302							A WM.
	LEM		State DR			97031	Section 25					2	
(2) TYPE O							Tax Lot					sion	
• •		ing 🗌 Alteratio	on (repair/	reconditi	ion) 🕅 Abi	andonment	Street Address of						D. (1,00
(3) CONSTR							South of	EWIN	N ST.	- we	ي آي	SIDE	/
Rotary Air	🗍 Han	d Auger 🛛 🔀 H	Iollow Sta	m Auger			Man u	vith location i	adaptified	muet he	attache	A	
 Rotary Mud	∣ <mark>∏</mark> Cab	le Tool 👘 🔲 I	Push Prob	: 0	her		-						
(4) TYPE OI							(10) STATIC						_
Uncased Ter	-	Cased Pe		_			5'2"	ft. below land					3-97
Uncased Pe			bility [Artesian press		lb. per s	quare incl	n. Da		
(5) USE OF	HOLE	ERDTECH					(11) SUBSURI		_	لعم			
		SPT	SAM	1012	•		1	Ground Elevati	ion <u>~ 1</u>	7 .			
. <u> </u>					· · · · · · · · · · · · · · · · · · ·		N	rial Description		I ,	From	То	CU/T
(6) BODE H	IOLE CO	DNSTRUCTI	ON:				Intates	nat Description		<u>-</u> +-'		10	SWL
		roval 🗌 Yes 🚺		th of Cor	nuleted Ho		BROWN	CLAYLY	SILT		0	25	5'2"
] .				FREEN		SAND		2.5	31.5	
HOL	E		SEAL				BROWN				11.5	355	
Diameter Fro	m To	Material	From	To	Sacks or	pounds	WEATHE			3		36-0	
6" 0	351	· NH	4				FRey	FINE	لا به به ک		36.0	36.5	
<u>a" 34</u>	5 36.5	•					· · · ·						
							l		_				
							Date Started _/	1-13-9	Date	Complete	.d _// ·	-/	17
Recipiti elesso	from	fl, to	Ĥ	Mater	ial		(12) ABAND						
-		ft, to			of pack				00:				
							Mate	rial Description	ļ	From	To	Sacks c	r Pounds
(7) CASING	S/SCREE	EN: N/	14				BENT	TONITE C	HIPS	0	36:5	10	SHEKS
Diame	ter Fro	ana To Gai	uge _. Steel	Plastic	: Welded	Threaded							
Casing:													
							[
			<u> </u>	Ц			I		•				
Screen:				L L				· · · · · · · · · · · · · · · · · · ·		<u> </u>		+	
Slot size	<u> </u>	<u>II</u>		Ц			Date started 11	-13-97		Complete	 d _/	17-9	7
510t al20							Law sea ton 11			Compien	~	<u> (</u>	
(8) WELLT	TEST:	NA						ha i - '					
Pump	Ba] Air		Flowing A	urtesian	Professional (
Permeability			_ eld	_			(to be signed by a geologist or civil)		supply or m	onitoring	well const	tructor, or	registered
Conductivity		P	н н					•		·			1 .
Temperature of	f water	•F/0	C Depth :	artesian f	flow found	ft.	I accept responsib performed during						
Was water anal	lysis done'	? 🗌 Yes 🗌 א	o				during this time is	in compliance	with Oregon	¹ e geotech	mical hole		tion
By whom?						*****	standards. This re	pon is the to t	ie oest of m	y knowied			
Depth of strata	analyzed.	From		ft. to		ft.			License or	Registrat	ion Numb	Μώς . xer	10074
Remarks:		<u></u>						70 . 1	-//				
_						······	Signed	K W.	Sto	5]	Date	<u>2-63-9</u> ,
_							´	<u>د</u>	11				
							Affiliation	SHUN I	NTER	Tec			

THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER 23

61 78 -4 7	re ot	ORE	CON				PO	LK 52047	-			
GEOTI	ECHN	IICAI	L HOLE REF 20-240-035)	ORT			N	6V JEJAN	s Bon	r IV	6	
) OWN	ER/PI	ROJE	CT:	F	lole Nur	nber B-2		(9) LOCATION OF HOLE by	legal descript	tion:		
			GON UNIVERS	11						Longiu		
dress 34								Township 8 S	Range 5		W	₩М.
y MON			the state of the s	ate OR	EGON	Zip	97361		1/4 NE			
) TYPE New			ng 🔲 Alteration	(manual st	maanadit		ndonment	Tax Lot 1800 Lot	Block	Subdi	V18100	
) CONS				(repair)	recondit			PRESS VOOLESS OF MCT (OF TESTER SY				
Rotary				llow Ste	m Auge	r						
Rotary I	Mud		ie Tool 📋 Pu	sh Prob	ະ 🗌 ິດເ	her		Map with location ind	ientmed must		làg	
) TYPE	OF F	IOLE:						(10) STATIC WATER LEVEL	L:			
Uncased	-			sed Pern				10 ft. below land su)ate 9/15/	04
Uncased					ility 🗌	Other		Artesian pressure	b. per square i	ach. I	Date	
) USE	OFH	ULE:	GEOTECHNIC			·		(11) SUBSURFACE LOG:				
							·	Ground Elevation	l			
						<u> </u>		Material Description		From	To	SWL
) BOR	E HO	LE CO	DISTRUCTIO	N:			<u></u>	BROWN SILT		0	10	10
•			roval 🗌 Yes 🚺		th of Co.	mpleted Ho	le 60 ft.	BROWN CLAY		10	35	
			i					GREY GRAVELLY SAND		35	50	
	OLE			SEAL				GREY CLAY		50	60	
	From	To	Material	From	To	Sacks or	perade				<u> </u>	
	0	60	BENT GROUT	60	30	30 GAL 8 SKS					+	
			DENI UNIFA	30		9 ana					1	
			<u> </u>		+						1	-
		L					·····	Date Started 9/15/04		Date Com	pleted 9/1	5/04
ackfill pl ilter Pack			ft. to ft. to	ftft.	Mater Size	dal e of pack		(12) ABANDONMENT LO	G:			•
								Material Description	Fro			or Pounds
) CAS	ING/S	CREE	EN:					BENT GROUT	60	30	30 G/	
	lameter	₽n	om To Gueg	e Steel	Plast	c Welded	Threaded	BENT CHIPS	30	0	6 SK	5
asing: N	A	_		ᅯ님	님	Ц	H			REC	;⊭IV	EV.
										5	0-1	001
						H				-929	271	
reen:					H				v	VATERR	ESPURC	ESDEPT
							Ē			SAL	EMORE	GON
ot size								Date started 9/15/04	Date Co	ompleted	9/15/04	
) WE	LLTE							Duofessional Contification	<u> </u>			
] Pump	•	Ba	- <u></u>	Air	Ľ] Flowing A		(to be signed by a licensed water su	pply or monitori	ng well co	nstructor,	or registere
ermeabil				id		GPM		geologist or civil engineer).				
Conductiv emneratu					artesian	flow found	(ft .	I accept responsibility for the const performed on during the construction				
-			? 🗌 Yes 🗹 No	-			· ***	during this time is in compliance w	ith Oregon geote	chnical ho	le constru	ction
y whom	?							standards. This report is true to the	best of my know	viedge and	belief.	
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