Water Right Self-Assessment Form for Water System Plan Mouse-over any link for more information. Click on any link for more detailed instructions.

<u>Water Right</u> <u>Permit,</u> <u>Certificate, or</u> <u>Claim #</u> *If water right is	WFI Source # If a source has multiple water rights, list each water right on	Existing Water Rights Qi= Instantaneous Flow Rate Allowed (GPM or CFS) Qa= Annual Volume Allowed (Acre-Feet/Year) This includes wholesale water sold				Current Source Production – Most RecentCalendar YearQi = Max Instantaneous Flow Rate Withdrawn (GPM or CFS)Qa = Annual Volume Withdrawn (Acre-Feet/Year)This includes wholesale water sold				<u>10-Year Forecasted Source Production</u> (determined from WSP) This includes wholesale water sold				20-Year Forecasted Source Production (determined from WSP) This includes wholesale water sold				
interruptible,	separate line	Primary	Non-Additive	Primary	Non-	Total Qi	Current	Total Qa	Current	<u>Total Qi</u>	<u>10-Year</u>	Total Qa	10-Year	<u>Total Qi</u>	20-Year	Total Qa	20-Year	
identify limitation		Qi	Qi	Qa	Additive Qa	Maximum	Excess or	Maximum	Excess or	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	Maximum	Forecasted	
in yellow section		Maximum	Maximum	Maximum	Maximum	Instantaneous	(Deficiency)	Annual	(Deficiency)	Instantaneous	Excess or	Annual	Excess or	Instantaneous	Excess or	Annual	Excess or	
below		Rate Allowed	Rate	Volume	Volume	Flow Rate	Qi	Volume	Qa	Flow Rate	(Deficiency)	Volume	(Deficiency)	Flow Rate	(Deficiency)	Volume	(Deficiency)	
		and the second second	Allowed	Allowed	Allowed	Withdrawn		Withdrawn		in 10 Years	Qi	in 10 Years	Qa	in 20 Years	Qi	in 20 Years	Qa	
1 G2-26623P	Up to 9 wells	1,060 gpm	0 gpm	48 ac-ft	0 ac-ft	655 gpm	405 gpm	48 ac-ft	0 ac-ft	930 gpm	130 gpm	48 ac-ft	0	1,060 gpm	0	48 ac-ft	0	
2 G2-26623P	Up to 9 wells	0 gpm	0 gpm	450 ac-ft	0 ac-ft													
3 G2-26251C	4 wells	416 gpm	0 gpm	242.5 ac-ft	0 ac-ft		416 gpm	118 ac-ft	124.5 ac-ft		416 gpm	228 ac-ft	14.5 ac-ft	416 gpm	. 0	242.5 ac-ft	0	
4 G2-26251C	4 wells	0 gpm	0 gpm	207.5 ac-ft	0 ac-ft	1												
5 G2-24972C	2 wells	179 gpm	0 gpm	207.5 ac-ft	0 ac-ft		179 gpm	49 ac-ft	158.5 ac-ft		179 gpm	49 ac-ft	158.5 ac-ft	179 gpm	0	188.5 ac-ft	19 ac-ft	
6																		
	TOTALS =	1,655 gpm		498 ac-ft		655 gpm	1,000 gpm	215 ac-ft	283 ac-ft	930 gpm	725 gpm	325 ac-ft	173 ac-ft	1,655 gpm	0	479 ac-ft	19 ac-ft	
Column Ident	tifiers for Calculations	s: A		В		C	=A-	C D	=B-D) E	= A-E	F	=B-F	G	=A-G	Н	=B-H	

IGHT APPLICATIONS: Id	entify any water right ap	plications that have b	een submitted to Ecology.							
Application New or Change Data Submitted Quantities Requested										
Application?	Date Submitted	Primary Qi	Non-Additive Qi	Primary Qa	Non-Additive Qa					
	GHT APPLICATIONS: Id New or Change Application?	GHT APPLICATIONS: Identify any water right ap New or Change Date Submitted Application?	CHT APPLICATIONS: Identify any water right applications that have be New or Change Date Submitted Application? Primary Qi	GHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology. New or Change Application? Quantities Date Submitted Primary Qi Non-Additive Qi	GHT APPLICATIONS: Identify any water right applications that have been submitted to Ecology. New or Change Application? Date Submitted Quantities Requested 0 Primary Qi Non-Additive Qi Primary Qa					

INTERTIES: Systems receiving	NTERTIES: Systems receiving wholesale water complete this section. Wholesaling systems must include water sold through intertie in the current and forecasted source production columns above.															
Name of Wholesaling System Providing Water	of Wholesaling Quantities Allowed Exp Providing Water In Contract D			Currently Purchased of Current quantity purchased through intertie					10-Year Forecasted Purchase Forecasted quantity purchased through intertie				20-Year Forecasted Purchase Forecasted quantity purchased through intertie			
	<u>Maximum</u>	Maximum	Contract	Maximum	Current	Maximum	Current	Maximum	Future Excess	<u>Maximum</u>	Future	Maximum	<u>Future</u>	Maximum	Future	
	Qi	Qa		Qi	Excess or	Qa	Excess or	Qi	or	Qa	Excess or	Qi	Excess or	Qa	Excess or	
	Instantaneous	Annual		Instantaneous	(Deficiency)	Annual	(Deficiency)	10-Year	(Deficiency)	10-Year	(Deficiency)	20-Year	(Deficiency)	20-Year	(Deficiency)	
	Flow Rate	Volume		Flow Rate	Qi	Volume	Qa	Forecast	Qi	Forecast	Qa	Forecast	Qi	Forecast	Qa	
1																
2																
TOTALS =												Anna an Anna an Anna			•	
ADDITIONAL COMMEN	TS:															

INTERRUPTIBLE WATER RIGHTS : Identify limitations on any water rights listed above that are interruptible.										
Water Right #	Conditions of Interruption	Time Period of Interruption								
1										
2										
3										

O.U. (Place) O.W. (Point)	TO API	PROPRIATE PU	STATE OF W EPARTMENT AMENDE JBLIC WATER	VASHINGTON T OF ECOLOG D PERMIT S OF THE STATE	y Sof Washington		
	Surface Water	(issued in accordance amendments thereto	ee with the provisions of , and the rules and regul	f Chapter 117, Laws of Was lations of the Department of	hington for 1917, and Ecology.)		
\boxtimes	Ground Water	(Issued in accordance amendments thereto	ce with the provisions of and the prices and read	f Chapter 263, Laws of Was	hington for 1945, and Feelogy.)		
RIORITY DATE	A	PPLICATION NUMBER	R	PERMIT NUMBER	CERT	IFICATE NUMBER	
AME	1						
H and R. Waterworks	5	(CITY)		(5	STATE)	(ZIP	CODE)
PO Box 3 e applicant is pursuant i	o the Report of Examin	East nation which has be	Olympia een accepted by th	ne applicant, hereby g	Washington granted a permit to appropria	985 Ite the following	540-0003 public waters of
ate of Washington, subjec	t Io existing rights and	l to the limitations	and provisions se	t herein.			
Aunan		PUBL	IC WATERS 1	FO BE APPROPH	RIATED		
Wells	WATERS				· ····		
AXIMUM CUBIC FEET PER	SECOND	MAX	IMUM GALLONS PER	R MINUTE	MAXIMUM ACRE FE	ET PER YEAR	
UANTITY, TYPE OF USE, PE	NOD OF USE	106	50		498		
48 Acre-feet per yea 450 Acre-feet per yea	r ar (supplemental)	Comu	nunity domesti	c supply	Year-round,	as needed	
	DIMENCION AUGUNITAN	LOCAT	ION OF DIVE	RSION/WITHDR	AWAL		
outhwest quarter of ection 24, both with	Section 18, T. 18 I in T. 18 N., R. 1 V	N., R. 1 E.W.M V.W.M.	1., the East hal	f of Section 13, a	and the Northeast quarte	er Northeast	quarter of
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							COUNTY
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ocated within (smalles See above	T LEGAL SUBDIVISION)		SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A. 11	Thurston
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DESCRIPTION OF PROPOSED WORKS

Nine interconnected wells discharging to 6" and 8" pvc distribution system. Multiple reservoir locations totaling approximately 300,000 gallons.

	DEVELOPMENT SCHE	DULE	
DEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:	
Started	February 1, 2006	February 1, 2010	
	Series .	2019	
	PROVISIONS		

"The total withdrawal under this filing and existing water rights for the Meadows Water System LLC shall not exceed 1655 gallons per minute, 498 acre-feet per year."

Installation and maintenance of an access port as described in Chapter 173-160 is required. An air line and gauge may be installed in addition to the access port.

An approved measuring device shall be installed and maintained for each of the sources identified by this water right in accordance with the rule "Requirements for Measuring and Reporting Water Use", Chapter 173-173 WAC.

Water use data shall be recorded annually and maintained by the property owner for a minimum of five years, and shall be promptly submitted to Ecology upon request.

All wells constructed in the State shall meet the construction requirements of Chapter 173-160 WAC entitled "Minimum Standards for the Construction and Maintenance of Wells" and Chapter 18-104 RCW entitled "Water Well Construction, Act (1971)."

In accordance with the recommendations of the Department of Fish and Wildlife, no dam shall be constructed in connection with this diversion.

In accordance with Chapter 173-160 WAC, wells shall not be located within certain minimum distances of potential sources of contamination. These minimum distances shall comply with local health regulations, as appropriate. In general, wells shall be located at least 100 feet from sources of contamination. Wells shall not be located within 1,000 feet of a solid waste landfill.

In order to maintain a sustainable supply of water, pumping must be managed so that static water levels do not progressively decline from year to year. Water levels shall be measured and recorded monthly, using a consistent methodology. The length of the pumping period or recovery period prior to each measurement shall be constant, and shall be included in the record. Data shall be submitted annually, in the month of February, to the Department of Ecology.

The <u>applicant</u> is advised that notice of <u>Proof of Appropriation</u> of water (under which the final certificate of water right is issued) should not be filed until the permanent distribution system has been constructed <u>and</u> that quantity of water allocated by the permit to the extent water is required, has been put to full beneficial use.

Issuance of this water right is subject to the implementation of the minimum requirements established in the <u>Conservation Planning</u> <u>Requirements, Guideline and Requirements for Public Water Systems Regarding Water Use Reporting, Demand Forecasting</u> <u>Methodology, and Conservation Programs</u>, July 1994, and as revised.

Under RCW 90.03.005 and 90.54.020(6), conservation and improved water use efficiency must be emphasized in the management of the states water resources, and must be considered as a potential new source of water. Accordingly, as part of the terms of this water right, the applicant shall prepare and implement a water conservation plan approved by Department of Health. The standards for such a plan may be obtained from either the Department of Health or the Department of Ecology.

This permit shall be subject to cancellation should the permittee fail to comply with the above development schedule and/or to give notice to the Department of Ecology on forms provided by that Department documenting such compliance.

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Given under my hand and the seal of this office at Olympid, Washington,

2007.

OK

Department of Ecology £κ Thomas Loranger, Section Manage

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No. G2-26623A

Area served by The Meadows Water System.	LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED	Quarter Corner of Sec. 13 being within the NEWSER of Sec. 13, All being within LOCK Township H. Same F. OR WJEAN W.L.A. COUNTY LOCK RECORDED FLATED PROFERTY LOCK OF HAVE OF PLAT OR ADDITIONY	Wells No. 1 and 2: 600 feet South and 200 feet West of the Northeast Corner of Sec. 24 being within the NEARE's of Sec. 24; Wells No. 3 and 4: 430 feet West and 60 feet South of East	LOCATION OF DIVERSION-WITHDRAWAL	207,5 acre-feet per year (supplemental)	(900 services)	242.5 acre-feet per year (primary) community domestic supply continuously	INAXIMUM CUBIC FEET PER SECOND NAXIMUM GALLORS PER MINUTE NAXIMUM ACIE-FEET PER YEAR 450	TRISUTARY OF (IF SURFACE WATERS)	SUNCE PUBLIC WATER TO BE APPROPRIATED	This is to certify that the herein named applicant has made proof to the satisfaction of the Department of Ecology of a right to the use of the public waters of the State of Washington as herein defined, and under and specifically subject to the provisions contained in the Permit issued by the Department of Ecology, and that said right to the use of said waters has been perfected in accordance with the laws of the State of Washington, and is hereby con- firmed by the Department of Ecology and entered of record as shown.	ADDRESS STREET) (to) 2312 Pacific: Avenue 01ympia Rashington 98501	GRAYS HARBOR ENERPRISES, INC.		Ground Walter insure an extrement with the provisions of cooper 255, Luns of Washington for 1945, and PRIORITY DATE Application Number Application Number C 2-26251 PERMIT NUMBER C 2-26251 C 2-26251 C 2-26251	Surface Watter literad in accordance with the provisions of Chapter 117, Lanes of Washington for 1917, and an antimetry thereto, and the rules and regulations of the Department of Ecology.)	CERTIFICATE OF WATER RIGHT	DEPARTMENT OF ECOLOGY
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STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

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CERTIFICATE OF WATER RIGHT

Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Feology 1

PRIORITY DATE	APPLICATION	AN MAREN	location	is of the Depin unent of	CC01084-1	
July 27: 1978	C 2-2/0	73	PERMIT NU	MBER	CERTIFI	CATE NUMBER
, , ,	G 2-249	12	<u> </u>	172 P	<u> </u>	24972_C
NAME						
GRAYS HARBOR ENTERP	RISES, INC.	dba Mud Bav C	onstructio	n Company		
ADDRESS (STREET)		ICITY		(STATE)	······	IZIP CODEL
2312 Pacific Ave	01	ympia	Wa	shington	98	3501
This is to certify that the of a right to the use of subject to the provisions use of said waters has be firmed by the Department	e herein named the public wate contained in t en perfected in at of Ecology ar	applicant has m rs of the State of he Permit issued a accordance will ad entered of rec	ade proof to of Washingto l by the Dep th the laws o ord as shown	the satisfaction of m as herein define artment of Ecolo of the State of Wo	f the Dep d, and un gy, and t ushington	artment of Ecolog der and specifical hat said right to th , and is hereby con
	P	UBLIC WATER TO	BE APPROPRI	ATED		
SOURCE			- rar not tu			
two wells						
TRIBUTARY OF (IF SURFACE WATE	RS)					
BAVILLING CLIDIC FEETING COOL						
ACCIMUM COBIC FEET FER SECON	D NA	XIMUM GALLONS PER	MINUTE	MAXIMUM A	CRE-FEET PE	RYEAR
QUANTITY, TYPE OF LISE PERIOD	OF USE	1/9			20	17.5
207.5 acre-feet per	Vear co	munity domes	tic gunnly			
		doutes	cic suppry	Continue	DUSTY	
				·····		
	L0	CATION OF DIVE	RSION/WITHD	RAWAL		
APPROXIMATE LOCATION OF	DIVERSION-WITH	DRAWAL	_			
JOJ TEEL BOULH AND	COU TEEL WEST	t from the No	rtheast co	mmer of Section	m 24.	
LOCATED WITHIN ISMALLEST LEG	L SUBDIVISION	ISECTION	TOWNENIBA	DANCE IS DOMININ		
NEWNEW		24	18	1 57	32	Thursday
		RECORDED P	ATTED PPOP	EDTY		Inurston
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	1				11014)	
ſ	FGAL DESCRIPT	NON OF PROPER	TY ON WINO	1 11 4 7 5 9 10 7 9		

The SEXNEX and all of the SEX of Section 13, and the NEXNEX and that part of the SEXNEX, Section 24, T. 18 N., R. 1 W.W.M., lying northerly of Secondary State Highway No. 5-1; EXCEPTING therefrom the SWXSWXSEX, Section 13, the west 5 acres of said NEXNEX, Section 24, tract conveyed to Malcolm B. Bray and wife by deed dated April 23, 1963 and recorded under File No. 679431, tract sold to John W. Brown and wife by contract dated July 14, 1965 and recorded under File No. 721147, the east 430 feet of the portion in said SEXNEX, of Section 24, that part of said NEXNEX, Section 24, described as beginning at a point 354.98 feet west of a point on the east line of said Section 24, 1190.41 feet south of its northeast corner and running thence west 225.01 feet, south 53.81 feet east 150 feet and south 70.32 feet more or less to the south line of said NEXNEX; thence easterly along said south line 75 feet more or less; thence north 125 feet more or less to the point of beginning and EXCEPTING also said Secondary State Highway No. 5-I and county road known as State Aid Road No. 30, in Thurston County, Washington.

CCY 040 1-2 (Rev. 4-77)

(SEE REVERSE SIDE)

CERTIFICATE

The access port shall be maintained at all times on the well (s).

All water wells constructed within the state shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells.)

The right to the use of the water aforesaid hereby confirmed is restricted to the lands or place of use herein described, except as provided in RCW 90.03.380, 90.03.390, and 90.44.020.

This certificate of water right is specifically subject to relinguishment for nonuse of water as provided in RCW 90.14.180.

Given under my hand and the seal of this office at Olympia

Washington, this _____17th_day

ENGINEERING DATA

Department of Ecology

DONALD W. MOOS, Director

Regional Manager Ϊ. Glenn, an

FOR COUNTY USE ONLY

APPENDIX J – Susceptibility Assessment and Time of Travel Maps

MEADOWS WATER SYSTEM ID 87784Q

03.12.2018

APPENDIX J – Susceptibility Assessment and Time of Travel Maps



HGP # 07-010B (E:\dgn\07-000\07-010\Water System Planning Phase\2018 WS Map Update)



50-1

RECEIVED

JUN 1 5 1994

DEPARTMENT OF HEALTH DIVISION OF DRINKING WATER

Ground Water Contamination Susceptibility Assessment Survey Form Version 2.1b

IMPORTANT!

Please complete one form for each ground water source (well, wellfield, spring) used in your water system. Photocopy as necessary.

PART I: System Information

Well owner/manager :SHAWNA	Hodges
Water system name : The Meadows War	ter Company
County: Thurston	, F ¥
Water system number: <u>87784</u>	Source number: $\underline{SO^{\#}I}$
Well depth: (ft.) (From	WFI form)
Source name:	
WA well identification tag number:	
well not tagged	
Number of connections: <u>900</u>	Population served: 2700
Township:18N	Range: <i>I W</i>
Section: 2 4	1/4 1/4 Section: <u>NE NE</u>
Latitude/longitude (if available):	/
How was lat./long. determined?	
global positioning device	survey topographic map
other: * Please refer to Assistance Packet for detail	ils and explanations of all questions in Parts II t

PART II: Well Construction and Source Information

1) Date well originally constructed: <u>1/101/79</u> month/day/year last reconstruction: <u>1/101/79</u> month/day/year

_____ information unavailable

	2) Well driller: <u>Kincey Hardware</u> , Inc.	
	V	
	well driller unknown	
	3) Type of well:	
•	Drilled: rotary bored X cable (percussion) Dug	
•	Other:spring(s)lateral collector (Ranney)	
	driven jetted other:	
	Additional comments:	
	4) Well report available? X YES (attach copy to form) NO	
	If no well log is available, please attach any other records documenting well construction; e.g. boring	
	logs, "as built" sheets, engineering reports, well reconstruction logs.	
	$1/19$ (ρM) (anti-	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min)	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u>	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined? 	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFT</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined? 	·
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	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFI</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFT</u> If not documented, how was pumping rate determined?	
	 5) Average pumping rate: <u>149 GPM</u> (gallons/min) Source of information: <u>WFT</u> If not documented, how was pumping rate determined?	

PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one]

20 ft 20-50 ft 50-100 ft 100-200 ft X > 200 ft

____ information unavailable ('<' means less than; '>' means greater than)

2) Depth to ground water (static water level):

20 ft 20-50 ft 50-100 ft \times > 100 ft

____ flowing well/spring (artesian)

How was water level determined?

well log ____ other: _____

____ depth to ground water unknown

3) If source is a flowing well or spring, what is the confining pressure:

_____ psi (pounds per square inch) or _____ feet above wellhead

4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: <u>YES</u> NO

5) Wellhead elevation (height above mean sea level): 215 (ft)

How was elevation determined? _____ topographic map ____ Drilling/Well Log _____ altimeter

X other: Water system drawing

____ information unavailable

6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.)

evidence of a confining layer in well log

____ no evidence of a confining layer in well log

If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the bottom of the lowest confining layer? XYES _____NO

_____ information unavailable

7) Sanitary setback:

< 100 ft* X 100-120 ft 120-200 ft > 200 ft * if less than 100 ft describe the site conditions:	
	<u>- 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19 </u>
8) Wellhead construction:	
X wellhead enclosed in a wellhouse	
controlled access (describe):	
no wellhead control	· .
9) Surface seal: X 18 ft	
< 18 ft (no Department of Ecology approval)	('<' means less than)
< 18 ft (Approved by Ecology, include documentation)	('<' means less than)
> 18 ft	('> ' means greater than)
depth of seal unknown	
no surface seal	
10) Annual rainfall (inches per year):	
$_{}$ < 10 in/yr $_{}$ 10–25 in/yr $X > 25$ in/y	/r
· · · ·	

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 12,3 mil (gallons)

How was this determined?

meter		Rado		
X estimated: X pumping rate (4	<u>9gpm)</u>	gal/Ho	UR	
pump capacity ()		<i>.</i>	
other: <u>Calculated</u> From Abuilt 91 = 17567.	Hour Meter K 4 HRS Meter Rend.	eadings	3yr. Ai = 4113.2	erage
/عراده/94 = عراد 80، 2) "Calculated Fixed Radius" estimate of ground (see Instruction Packet)	water movement:	$AV_5 = 10$	1= 36 7720 2.3 Million	gal/year
6 month ground water travel time :	440	(ft)	•	
1 year ground water travel time :	620	(ft)		
5 year ground water travel time:	1,390	(ft)	·. •	
10 year ground water travel time:	1,970	(ft)		
Information available on length of screene	d/open interval?		•	
XYES NO				
Length of screened/open interval:	<u>5 (ft)</u>		· .	
 3) Is there a river, lake, pond, stream, or other of boundary? <u>YES</u> <u>X</u> NO (mark an 4) Is there a stormwater and/or wastewater facility month time of travel boundary? <u>YES</u> 	bvious surface water body d identify on map). y, treatment lagoon, or he _X NO (mark and	y within the 6 m olding pond loca identify on map	onth time of travel ted within the 6	
Commente:		• -		×
Commonto,		-		
			, 	
			Andread Antonia Antonia	•
Surve	y Form Ver. 2.1b page 5		, ,	

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

Vice Color

	6 month	l year	5 year	unknown
likely pesticide application	<u> </u>	<u>_X</u>	\times	
stormwater injection wells				
other injection wells	<u></u>			
abandoned ground water well				
landfills, dumps, disposal areas				
known hazardous materials clean-up site			•	
water system(s) with known quality problems				,
population density > 1 house/acre	<u>_X</u>	X	<u> </u>	
residences commonly have septic tanks	<u> </u>	<u> </u>	<u> </u>	
Wastewater treatment lagoons			.	_
sites used for land application of waste		·		

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:

2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = 10 mg/l)	<u>YES</u>	<u>NO</u>
Results greater than MCL	\$	<u> </u>
< 2 mg/liter nitrate	X	
2-5 mg/liter nitrate		<u> </u>
> 5 mg/liter nitrate		$\underline{\times}$
Nitrate sampling records unavailable		
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)	YES	NO
Results greater than MCL or SAL		X
VOCs detected at least once		X
VOCs never detected		X
VOC sampling records unavailable		
C. EDB/DBCP:	YES	NO
(EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$, DBCP MCL = $0.2 \text{ ug/l or } 0.0002 \text{ mg/l}$)		A
EDB/DBCP detected below MCL at least once		Х
EDB/DBCP detected above MCL at least once		X
EDB/DBCP never detected	1	X
EDB/DBCP tests required but not yet completed		<u>-</u>
EDB/DBCP tests not required		
D. Other SOCs (Pesticides):	YES	NO
Other SOCs detected		$\overline{\mathbf{X}}$
(pesticides and other synthetic organic chemicals)		
Other SOC tests performed but none detected		
(list test methods in comments		
Other SOC tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

E. Bacterial contamination:

<u>YES NO</u>

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.

____ Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

YES

X no

Describe with references to map produced in Part IV:

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

YES

_Хио

NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

 $X_{\rm YES}$

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

_ YES X NO

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	•••	YES NO	unknown
< 6 month travel time		<u> </u>	
6 month-1 year travel time		X	
1-5 year travel time			_X_
5-10 year travel time			<u>`X</u>
,			· · ·

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

	· ·		YES	NO	unknown
< 1 year travel time				\mathbf{X}	
1-5 year travel time				<u> </u>	
5–10 year travel time				X	

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops?	YES	NO
Did you find it useful?	YES	NO -
Did you seek outside assistance to complete the assessment	7YE	S NO

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

2000 - 100 -	• • •	<			
File Original and First Copy with Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy.	WATER WELL REPOR		Appli	Cation No.	2
(1) OWNER: Name Mud Bay Con	struction)	Denna		11 NO	
(2) LOCATION OF WELL: County	Alern story	Address Decyptic	ver all		$\overline{}$
Bearing and distance from section or subdivision co	ener lucer Lind K	-RES ALLA	3 11 Secol	E.T. ISN. R.IL	лw.м.
(3) PROPOSED USE: Domestic Pladus		(10) WELL LOG:	a ac mart	carry ca	<u> </u>
Irrigation 📋 Test	Well Other	Formation: Describe by col	or, character, size of	material and structs	ure and
(4) TYPE OF WORK: Owner's number of	well GOIT	show thickness of aquifers stratum penetrated, with a	and the kind and nat t least one entry for	ure of the material each change of for	in each mation.
(if more than one). New weil H Method: Deepened Reconditioned	Dug Bored Cable D Driven Botary Letted	MAT	ERIAL.	FROM	TO
(5) DIMENSIONS: Diameter of well Drilledft. Depth of completed	well 797.2%				·····
(6) CONSTRUCTION DETAILS:	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			••• •
Casing installed: S. Diam. from) tt. 107681101			p	
Threaded [] "Diam. from	ft. to ft.	·····			· · · · · · · · · · · · · · · · · · ·
Development i operationent			~ nd		
Type of perforator used		<u> </u>	1 men		
SIZE of perforations in.	by in.	ADD ADL	Jui -		
perforations from	ft. to ft. ft.	alle alle			
perforations from	ft. to it.	$$ ψ	•	······································	
Screens: Yes 1 No D	· · ~				
Type Atalnelish Mo	del No			1994 - 7 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	
Diam	1'244 to 7.96" \$	RECEN	120		
Concerning and the l	ft. to ft.		······································	· · · · · · · · · · · · · · · · · · ·	
Gravel placed from ft. 1	gravel: ft.	Y - 41	979		
Surface seal: Yes No Do To what, c Material used in seal.	lepth? 19 ft.	DEPARIMENT OF	ECOLOGY NAL OFFICE		· ·
Did any strata contain unusable water? Type of water?	Yes Nov			5	
Method of sealing strata off					
(7) PUMP: Manufacturer's Name			<u> </u>		•
Туре:			- 1/		
(8) WATER LEVELS: Land-surface eleva above mean sea le	velft.				
Static level	1 Date			•	
Artesian water is controlled by			••••••••••••••••••••••••••••••••••••		
	ap, valve, etc.)		······		
Was a pump test made? Yes X No C If yee by we	e level	Work started	, 19 Complet	ed April	19.72
Yield: gal./min. with ft. drawdow	vn after hrs.	WELL DRILLER'S	STATEMENT:		
<u></u>		This well was drille	d under my jurisd	iction and this re	port i:
Recovery data (time taken as zero when pump tur	med off) (water level	true to the best of my	knowledge and b	elief.	
measured from well top to water level) Time Water Level Time Water Level	lime Water Level	NAME IMCest	firm, or corporation	(Type or prin)	t)
ADAC	······	Address 512 2	the ave.	Olympi	R)
Date of test	••••••	[Signed] KAN, Y	nelton	₽	
Bailer test	wn afterhrs.	[oigneu]	(Well Drille	±r)	••••••
Temperature of water	s made? Yes 🗋 No 🗌	License No. C-6	5. Date	4/27	19.7
OF 1671- 1-5-92	USE ADDITIONAL SH	EETS IF NECESSARY		1	

15. FORMATIONS

Material	From	То
O' A A A A A A A A A A A A A A A A A A A		<i>d</i>
pr. Candy am, araice to 4 Holders		5.1
pr. chey vauad an. grains he a watching	5.1	20
A tain the analytical	77	90
Br. partick & Wally Scolor Suc 27	99	104
Pr. Jene Stand af chang	106	123
Alle Clarg	123	175
Brickay Walka grave	125	IGR
En standy alley	168	203
Bu it had been in the second	1 203	206
B. have pana grounds, where Swind	201	244
pr. Alleta pan:	244	268
B. suit. To Jan Mand	268	297
Ma de la charge and	297	301
By GRAL AP us & GRAVELS	301	-3.26
It by said pand - gravel,	326	352
By alay angul	352	370
Br. clas. bound acoul	370	433
BI. Cla.	433	450
Gra, Very Lene, Sand-	450	454
L'an clar,	454	477
Hrd. ala, & gravel	477	486
Bluck clou	486	491
Gray, pack secto	491	536
Green clay w/small, gravel	536	541
Gray sich day w/ Strips of ap. clay	541	562
Gray new, band, gravel, water	562	563
Hranclay bound grand i gravel	563	567
Gray sandy clay	567	584
Gray pack setty sandy clay	584	635
Blue alay	635	685
Arayash fr. clay	685	690
Gray sandy clay of pla gravel.	690	710
Blueish gr. and clay	710	715
Blucish qu'. Danain clay	7:5	7.3.2
Gr. pack Kand w/ Cl'an	732	764
Blue med sand & water	744	289

50-1

....

Appendix E: Tables For Calculating The Fixed Radii Of Protective Circles 50 - 1 Around A Water Source **Bar** Description (1999)

18.1	mil. Gallons	5 15 F	+ screene	d			
SCREENED							
\cdot INTERVAL = 10 ft		TIME OF TRAVEL					
Annual Volume	6 month	1 yr	5 yrs	10 yrs			
pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)			
≤ 5,000,000	220	310	700	<u>980 ·</u>			
10,000,000	310	440	980	1,390			
20,000,000	440	620	1,390	1,970			
50,000,000	⊴700	980	2,200	3,110			
100,000,000	980	1,390	3,110	4,400			
250,000,000	1,550	2,200	4,920	6,950			
500,000.000	2,200	3,110	6,950	9,830			
SCREENED							
INTERVAL = 25 ft		TIME O	F TRAVEL				
Annual Volume	6 month	lyr	5 yrs	10 yrs			
pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)			
≤ 5,000,000	140	200	440	620			
10,000,000	200	280	620	880			
20,000,000	280	390	880	1,240			
50,000,000	440	620	1,390	1,970			
100,000,000	620	880	1,970	2,780			
250,000,000	980	1,390	3,110	4,400			
500,000,000	1,390	1,970	4,400	6,220			
			·				
SCREENED							
INTERVAL = 50 ft		TIME C	OF TRAVEL				
Annual Volume	6 month	1 vr	5 yrs	10 yrs			
' pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)			
⊴ ≤ 5,000,000	100	140	310	440			
10,000,000	140	200	440	620			
20,000,000	200	280	620	880			
50,000,000	310	440	980	1,390			
- taes 100,000,000 - ter-	440	620	1,390	1,970 ·			
	<u> </u>	- 980	2,200	3,110			
500.000.000	980	1.390	3,110	4,400			
SCREENED							
INTERVAL = $75 ft$		TIME (OF TRAVEL				
Annual Volume	6 month	l vr	5 yrs	10 yrs			
pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)			
≤ 5,000,000	80	110	250	360			
10,000,000	110	160	360	510			
20,000,000	160	230	510	720			
50,000.000	250	360	800	1,140			
100,000,000	360	510	1,140	1,610			
250,000,000	570	800	1,800	2,540			
500,000,000	800	1.140	2,540	3.590			

Appendices to Susceptibility Assessment Form 2.1b

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JUN 1 5 1994

DEPARTMENT OF HEALTH

Ground Water Contamination Susceptibility Assessment Survey Form Version 2.1b

IMPORTANT!Please complete one form for each ground water source
(well, wellfield, spring) used in your water system.
Photocopy as necessary.

PART I: System Information

Well owner/manager :	Hodges
Water system name : <u>The Meadows</u>	Water Company
County: Thurston	
Water system number: <u>87784</u>	Source number: $50^{\pm}2$
Well depth: / 03 (ft.) (From	WFI form)
Source name: Well #2	
WA well identification tag number:	
well not tagged	
Number of connections: <u>900</u>	Population served: 2700
Township:/ 8 //	Range:/ <i>W</i>
Section: 2.4	1/4 1/4 Section: <u>NE NE</u>
Latitude/longitude (if available):	
How was lat./long. determined?	
global positioning device	survey topographic map

* Please refer to Assistance Packet for details and explanations of all questions in Parts II through V.

PART II: Well Construction and Source Information

Date well originally constructed: <u>5</u> /2.6 /<u>8</u>] month/day/year
 last reconstruction: __ / __ / __ month/day/year
 _____ information unavailable

		•
2) Well driller: Kincy Hardwared Well Drilling Co.		• (
		141 W ⁴
well driller unknown		
3) Type of well:	•	
Drilled:rotaryboredcable (percussion)Dug		•
Other: spring(s) lateral collector (Ranney)		
driven jetted other:		
Additional comments: Not noted on the well log		
4) Well report available? YES (attach copy to form) NO		
If no well log is available, please attach any other records documenting well constructio logs, "as built" sheets, engineering reports, well reconstruction logs.	n; e.g. boring	
5) Average pumping rate: <u>30</u> (gallons/min)		Ć
Source of information: <u>WFI</u>		
If not documented, how was pumping rate determined?		
Pumping rate unknown		
6) Is this source treated? No		
If so, what type of treatment:		• • •
disinfection filtration carbon filter air stripper other		
Purpose of treatment (describe materials to be removed or controlled by treatment):		·
		• •
7) If source is chlorinated, is a chlorine residual maintained:YESNO		
Residual level: (At the point closest to the source.)		(
Survey Form Ver. 2.1b page 2		

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PART III: Hydrogeologic Information

1) Depth to top of open interval: [check one] 20 ft 20-50 ft X 50-100 ft 100-200 ft 200 ft____ information unavailable ('<' means less than; '>' means greater than) 2) Depth to ground water (static water level): 20 ft X 20-50 ft 50-100 ft > 100 ft____ flowing well/spring (artesian) How was water level determined? _X well log ____ other: _____ ____ depth to ground water unknown 3) If source is a flowing well or spring, what is the confining pressure: psi (pounds per square inch) feet above wellhead 4) If source is a flowing well or spring, is there a surface impoundment, reservoir, or catchment associated with this source: ____YES ____NO 5) Wellhead elevation (height above mean sea level): $\frac{215}{(ff)}$ How was elevation determined? _____ topographic map ____ Drilling/Well Log _____ altimeter _ other: _ _____ information unavailable 6) Confining layers: (This can be completed only for those sources with a drilling log, well log or geologic report describing subsurface conditions. Please refer to assistance package for example.) X evidence of a confining layer in well log no evidence of a confining layer in well log If there is evidence of a confining layer, is the depth to ground water more than 20 feet above the bottom of the lowest confining layer? X YES NO

____ information unavailable

7) Sanitary setback:

Ć

	<	100 ft* 📐 10 * if less than	00-120 ft 100 ft descrit	120–200 fi be the site c	$_$ > 200 f onditions:	ì		.1	
maaa afakadd									
		······································							***** *
		••••••••••••••••••••••••••••••••••••••					-	· · ·	
8) Wel	lhead co	nstruction:							
	X	wellhead encl	osed in a wel	lhouse					
		controlled acc	ess (describe)):	· · ·			، در چر به زیدر زیداراند دن مارست.	
					×			•	
	. <u></u>	other uses for	wellhouse (d	lescribe):					
					•	. :	-		
		no wellhead o	ontrol		-			<i>.</i> .	
9) Surl	face sea	l: I ft							
	<	18 ft (no Dep	artment of E	cology appi	oval)	('<'	means	less thar	7)
	<	18 ft (Approve	d by Ecology	, include d	ocumentation) ('<'	means	less thar	7)
Þ	_ >	18 ft	· .		• •	('> '	means	greater t	(han)
	der	oth of seal unk	nown			*			
	no	surface seal	, , , , , ,				•		
10) Ar	nnual rai	nfall (inches p	er year):	· .			۰.		
	<	10 in/yr	10-25	in/yr	X > 25 in	n/yr			
							•		
	1						-		
					· •				
						•			

PART IV: Mapping Your Ground Water Resource

1) Annual volume of water pumped: 2.9.Mil (gallons)

How was this determined?

meter	
Kestimated: K pumping rate (309pm)	1800gpH)
pump capacity ()
other: <u>Malaulated From Hour</u> 2400891= 15992, 3 HR MTK 13JUN94=20844,9 ""	Meter Readings Rag Total Ars = 4852,6 HRS B. T. Miligal Total gal = 3 =
 "Calculated Fixed Radius" estimate of ground water n (see Instruction Packet) 	novement: 2,9 Mil. gal Average
6 month ground water travel time :	22Ø (ft)
1 year ground water travel time :	<u>310 (ft)</u>
5 year ground water travel time:	<u>700 (ft)</u>
10 year ground water travel time:	<u>980</u> (ft)
Information available on length of screened/open	interval?
X YES NO	
Length of screened/open interval: 10	(ft)
3) Is there a river, lake, pond, stream, or other obvious boundary? YESNO (mark and ident	surface water body within the 6 month time of travel ify on map).
4) Is there a stormwater and/or wastewater facility, treat month time of travel boundary? YES	K NO (mark and identify on map).
Comments:	
Survey Form page	Ver. 2.1b

PART V: Assessment of Water Quality

1) Regional sources of risk to ground water:

Please indicate if any of the following are present within a circular area around your water source having a radius up to and including the five year ground water travel time:

· · · · · · · · · · · · · · · · · · ·	6 month	1 year	5 year	unknown
likely pesticide application	<u> </u>	<u> </u>	X	Bernight and and and
stormwater injection wells		: 		
other injection wells		- 		
abandoned ground water well	Sandiran dara se a s	دری محمد زر در در در		· · · · · · · · · · · · · · · · · · ·
landfills, dumps, disposal areas	· ·······		 	
known hazardous materials clean-up site	**************************************	**********	د	
water system(s) with known quality problems	• •			
population density > 1 house/acre	X	X	\underline{X}	
residences commonly have septic tanks	_X	X	$\underline{\times}$	
Wastewater treatment lagoons			.	
sites used for land application of waste				

Mark and identify on map any of the risks listed above which are located within the 6 month time of travel boundary? (Please include a map of the wellhead and time of travel areas with this form. Please locate and mark any of the following.)

If other recorded or potential sources of ground water contamination exist within the ten year time of travel circular zone around your water supply, please describe:



2) Source specific water quality records:

Please indicate the occurrence of any test results since 1986 that meet the following conditions: (Unless listed on assessment, MCLs are listed in assistance package.)

A. <u>Nitrate</u> : (Nitrate MCL = 10 mg/l)	YES	NQ
Results greater than MCL		X
< 2 mg/liter nitrate		<u>X</u>
2-5 mg/liter nitrate	×	
> 5 mg/liter nitrate		X
Nitrate sampling records unavailable		
B. VOCs: (VOC detection level 0.5 ug/l or 0.0005 mg/l.)	<u>YES</u>	<u>NO</u>
Results greater than MCL or SAL	·	_X_
VOCs detected at least once	/	X
VOCs never detected		<u> X </u>
VOC sampling records unavailable		
C. <u>EDB/DBCP</u> :	YES	<u>NO</u>
(EDB MCL = $0.05 \text{ ug/l or } 0.00005 \text{ mg/l}$. DBCP MCL = $0.2 \text{ ug/l or } 0.0002 \text{ mg/l}$.)	n ti Fri	· · ·
EDB/DBCP detected below MCL at least once		\mathbf{X}
EDB/DBCP detected above MCL at least once	<u></u>	1
EDB/DBCP never detected	\rightarrow	X
EDB/DBCP tests required but not yet completed		
EDB/DBCP tests not required		•
D. Other SOCs (Pesticides):	<u>YES</u>	NO
Other SOCs detected		X
(pesticides and other synthetic organic chemicals)		
Other SOC tests performed but none detected		
(list test methods in comments		
Other SOC tests not performed	÷.,	
Oner boe tests not performed		

If any SOCs in addition to EDB/DBCP were detected, please identify and date. If other SOC tests were performed, but no SOCs detected, list test methods here:

E. Bacterial contamination:

<u>YES</u> <u>NO</u>

Any bacterial detection(s) in the past 3 years in samples taken from the source (not distribution sampling records).

Has source (in past 3 years) had a bacteriological contamination problem found in distribution samples that was attributed to the source.

____ Source sampling records for bacteria unavailable

Part VI: Geographic or Hydrologic Factors Contributing to a Non-Circular Zone of Contribution

The following questions will help identify those ground water systems which may not be accurately represented by the calculated fixed radius (CFR) method described in Part IV. For these sources, the CFR areas should be used as a preliminary delineation of the critical time of travel zones for that source. As a system develops its Wellhead Protection Plan for theses sources, a more detailed delineation method should be considered.

1) Is there evidence of obvious hydrologic boundaries within the 10 year time of travel zone of the CFR? (Does the largest circle extend over a stream, river, lake, up a steep hillside, and/or over a mountain or ridge?)

$_$ YES $_$ NO

Describe with references to map produced in Part IV:

2) Aquifer Material:

A) Does the drilling log, well log or other geologic/engineering reports identify that the well is located in an area where the underground conditions are identified as fractured rock and/or basalt terrain?

YES

Å yes

Д NO

B) Does the drilling log, well log or other geologic/engineering reports indicate that the well is located in an area where the underground conditions are primarily identified as coarse sand and gravel?

3) Is the source located in an aquifer with a high horizontal flow rate? (These can include sources located on flood plains of large rivers, artesian wells with high water pressure, and/or shallow flowing wells and springs.)

___YES ____X NO

.

4) Are there other high capacity wells (agricultural, municipal and/or industrial) located within the CFRs?

a) Presence of ground water extraction wells removing more than approximately 500 gal/min within...

	YES NO	unknown
< 6 month travel time	<u> </u>	
6 month-1 year travel time	<u> </u>	
1-5 year travel time	<u> </u>	
5-10 year travel time		$\underline{\times}$

b) Presence of ground water recharge wells (dry wells) or heavy irrigation within...

• •			YES NO	unknowi
< 1 year travel time		· · · · ·	<u> </u>	
1-5 year travel time	· · ·		<u> </u>	· · · · · ·
5-10 year travel time			<u> </u>	• 1000000000000

Please identify or describe additional hydrologic or geographic conditions that you believe may affect the shape of the zone of contribution for this source. Where possible, reference them to locations on the map produced in Part IV.

Suggestions and Comments

Did you attend one of the susceptibility workshops?	YES	\mathbf{X}	NO	
Did you find it useful?	YES		NO	
Did you seek outside assistance to complete the assessment	7	YES		NÖ

This form and instruction packet are still in the process of development. Your comments, suggestions and questions will help us upgrade and improve this assessment form. If you found particular sections confusing or problematic please let us know. How could this susceptibility assessment be improved or made clearer? Did the instruction package help you find the information needed to complete the assessment? How much time did it take you to complete the form? Were you able to complete the assessment without additional/outside expertise? Do you feel the assessment was valuable as a learning experience? Any other comments or constructive criticisms you have would be appreciated.

Kincy Hardware and Well Drilling (

CONSTRUCTION RECORD \mathcal{C}

- devint

May 26, 1981 Total Depth _1045" 1. WELL OWNER 8. CONSTRUCTION Namo France Houbor Enterpreses Yes____ No Gravel Packed. Gravel Placed From _____ to ____ Size Address 9. WATTER LEVELS 2. LOCATION end Auss State Water Level _____ 44' DETAXNELL TISN RIW Flowing Rate ,24 10. PUMP TEST well#2 Yes_____ No_____ Bail Tested _____ 3. TYPE OF WORK 6 P. M. 20 Draw Down 20' New Well 1 Deeping _____ Bailing _____ Hours Pumped _____ Bailed ____ Setting Screen _____ Developing _____ 51/2 ms - duelaping 11. PUMPS INSTALLED 4. PROPOSED USE Domestic / Industrial Municipal Make Irrigation _____ Test Well _____ Other ___ Туре _____ Total Casing <u>94' 97/8</u> Setting GPM 5. CASING INSTALLED Above Ground 1.5" Below Ground 93.47/8 HP _____ Phase _____ Pipe Size Madows Threaded _____ Welded ____ 12. CHEMICAL ANALYSIS 8 dia. from _ O ft. to 93147/sft. ga. Iron ppm. _____ dia. from _____ ft. to _____ ft. ga. ___ Р. Н. _____ ррт. Hardness ____ dia. from _____ ft. to _____ it. ga. ___ gr. Odor - Yes____ No ____ dia. from ft. to ft. ga. 13. DRILLERS NOTES 6. PERFORATIONS Grouted No Yes _____ _____to ______x _____x From _____ to size ____ _ X ___ From From to size 7. SCREEN INSTALLED Yes 🏈 No Make whinsen _____Total Length // 3 3/8 Amount Exposed 9171/8 Fittings Metal Stainless Ext. Piece_ Dia. <u>8</u> Slot Size <u>20</u> from <u>93'4780</u> 103' Slot Size _____ from _____ to _____ Slot Size _____ from _____ to _____ Slot Size _____ from _____to _____ 14. DRILLER_ Blith Kince to Slot Size _____ from _____ (over)

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Appendix E: Tables For Calculating The Fixed Radii Of Protective Circles Around A Water Source

			/	
2	.9 mill	10' Ser	reened	
SCREENED				
\cdot INTERVAL = 10 ft		TIME OF TRAVEL		
Annual Volume	6 month	l yr	5 yrs	10 yrs
pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)
≤ 5,000,000	220	310	700	980
10,000,000	310	440	980	1,390
20,000,000	440	620	1,390	1,970
50,000,000	-700	980	2,200	3,110
100,000,000	980	1,390	3,110	4,400
250,000,000	-1,550	2,200	4,920	6,950
500,000,000	2,200	3,110	6,950	9,830
SCREENED				
INTERVAL = 25 ft		TIME C	F TRAVEL	
Annual Volume	6 month	l yr	5 yrs	10 yrs .
pumped (GAL)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)
≤ 5,000,000	140	200	440	620
10,000,000	200	280	620	880
20,000,000	280	390	880	1,240
50,000,000	440	620	1,390	1,970
100,000,000	620	880	1,970	2,780
250,000,000	980	1,390	3,110	4,400
500,000,000	1,390	1,970	4,400	6,220
	ó			
SCREENED	1			
INTERVAL - 50 G		TIME (OF TRAVEL	•
Annual Valuma	6 month	1 1 1	5 yrs	10 vrs
' numbed (GAT)	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)
5 00 000	100	140	310	440
10,000,000	140	200	440	620
20.000.000	200	280	620	880
50,000,000	310	440	980	1,390
100.000.000	440	620	1.390	1,970
250.000.000	700	980	2.200	3,110
500,000,000	980	1,390	3.110	4,400
	1	1	<u>.</u>	
SCREENED	1		9800924-442-44	
INTEDVAL 75A		TIME	OF TRAVEL	
$\frac{11 \times 11 \times 11 \times 11}{11 \times 11 \times 11}$	6 month	1	5 1/2	10 vrs
Annual Volume	(radius in feet)	(radius in feet)	(radius in feet)	(radius in feet)
		110	250	360
10,000,000	110	160	360	510
20,000,000	160	230	510	720
50,000,000	250	360	800	1.140
100,000,000	260	510	1 140	1.610
250,000,000	570	- JIU	1,140	2,540
1 ZOU,UUU,UUU	1 370	1 000	1,000	2,2.0

Appendices to Susceptibility Assessment Form 2.1b

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