

PACIFIC groundwater **GROUP**

**SAN JUAN COUNTY
GROUNDWATER MONITORING REPORT
JULY 2011 TO JUNE 2013**

June 2013

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GROUNDWATER MONITORING REPORT
JULY 2011 TO JUNE 2013**

Prepared for:

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JS1304

SanJuanGroundwaterMonitoringReport2013

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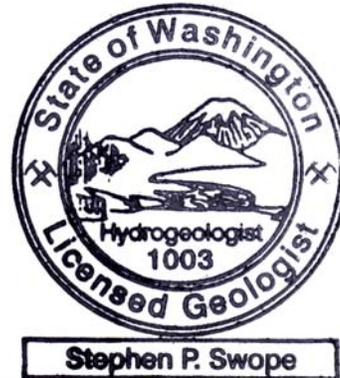
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SIGNATURE

This report, and Pacific Groundwater Group's work contributing to this report, were reviewed by the undersigned and approved for release.



Stephen Swope
Principal Hydrogeologist
Washington State Hydrogeologist No. 1003



1.0 SUMMARY OF FINDINGS

San Juan County has established a network of wells to monitor groundwater quality and elevation. The network currently focuses on the Eastsound and Lopez Village areas.

The monitoring network currently includes 34 groundwater quality and groundwater elevation monitoring wells on Lopez Island and the Eastsound area of Orcas Island (Table 1). Data loggers were initially installed on January 29 and 30, 2008. Since 2008, additional wells have been added to the network. Water level data is typically downloaded during groundwater quality sampling events.

For the current period, groundwater quality samples and hand measured water levels were collected from the Lopez Island wells on November 14, 2012 and June 6, 2013 and from the Eastsound wells on November 10, 2011 and May 2, 2012. Eastsound data loggers were downloaded in June 2013 and Lopez Island data-loggers were downloaded in November 2012 and June 2013.

The following findings may be drawn from this report:

- In the Eastsound region, groundwater generally flows towards town from the bedrock uplands to the east and west. Groundwater discharges to the Sound towards Ship Bay to the south and Orcas airport to the north.
- All groundwater concentrations were below their respective GWCLs in the Eastsound and Lopez Island monitoring network except for the following:
 1. Sodium concentrations were above the GWQC of 20 mg/L in all Lopez Island wells (sodium was not analyzed in the Eastsound wells). The GWQC for sodium is a recommended level established by EPA as a level of concern for those consumers requiring a restricted sodium intake in their diet. Sodium was

also slightly above background concentrations (generally less than 50 mg/L) in the Greene well (85.2 and 77.1 mg/L during the November 2012 and June 2013 sampling events respectively). The source of the slightly elevated sodium concentration in the Greene well is likely saltwater intrusion since this well is also elevated in chloride.

2. Electrical conductivity (a measure of total dissolved constituents) was also slightly above the GWCL (700 umhos/cm) in several Lopez Island wells (electrical conductivity was not analyzed in the Eastsound wells). The source of the elevated electrical conductivity is due to natural aquifer mineralization and naturally elevated chloride levels.

- No long-term groundwater level declines were noted in the groundwater elevation monitoring data.

2.0 INTRODUCTION

San Juan County's water resources are provided by local rainfall only and are characterized by the rain shadow created by the Olympic Mountains to the south and Vancouver Island to the west, by predominantly steep terrain and bedrock geology, by small watershed catchment areas, and by extensive shoreline. These conditions result in low rainfall, limited groundwater storage, and extensive runoff and discharge to the sea. Key issues for San Juan County include:

- Very low recharge to aquifers,
- Seawater intrusion,
- Water right allocations by the state that exceed water available,
- Areas where current use of water exceeds aquifer capacity,
- Water development that is occurring primarily via exempt wells,

- Failure of many individual and community wells during summer months,
- Lack of capacity to serve areas designated by the county's GMA process for growth,
- A gap in responsibility and authority between state and county agencies,
- Lack of comprehensive monitoring and assessment of water resource capacity, and
- Lack of coordinated, cooperative resource management.

Recommendations in the San Juan County Water Resources Management Plan include a program to develop local management of the water resource. Future management of water resources in San Juan County will require careful, ongoing assessment of the availability of fresh water; groundwater monitoring is an essential component of this effort.

Sound Hydrogeology produced a Quality Assurance Project Plan in December 2007 that outlines procedures to be used in the monitoring program.

2.1 MONITORING SYSTEM DESCRIPTION

San Juan County has developed a groundwater monitoring network to collect groundwater elevation and quality data. These data are used in management of the County's groundwater resources. Specific technical uses of the data are diverse and include:

- Seawater intrusion evaluation
- Groundwater elevation trend analysis
- Groundwater flow model calibration
- Water quality sampling

The monitoring network currently includes 29 groundwater quality groundwater elevation monitoring wells in the vicinity of Lopez Village on Lopez Island and the Eastsound area of Orcas Island. An additional five wells are also moni-

tored in the Eastsound area for water quality parameters (Table 1). These two study areas were selected because they are currently experiencing the most population growth and associated water quantity and quality issues. Network wells are presented in Table 1 and Figures 1 and 2.

All wells are screened in the primary aquifer. The monitoring locations were selected based on availability, access, spatial distribution, and availability of prior sampling data. Additional well areas will be selected as part of this program based on the same criteria.

Each monitoring location records a time-series of water level and, on Lopez Island, water quality measurements with dedicated transducers (Table 1). Monitoring wells in the Eastsound network have Solinst Levellogger transducers which record water level and temperature on an hourly basis. All monitored wells on Lopez Island except for the DNR well are outfitted with CTD Divers which also measure electrical conductivity. Barometric dataloggers (Barologger) are installed in the Village Park well on Lopez Island and EWUA #5 on Orcas for barometric compensation of transducer water level measurements.

It is anticipated that the network will gradually be expanded to cover more of the County, with an emphasis on areas experiencing higher rates and/or densities of growth, and areas experiencing groundwater quality and/or quantity issues. The network will utilize domestic water wells as sampling locations for collection of water level and groundwater quality data.

2.2 WELLHEAD SURVEY SOURCES

Most measuring point elevations for monitoring wells were surveyed by the County. Elevations for wells not surveyed by the County were estimated from Digital Elevation Model (DEM) or LIDAR data of the County (Table 1). Mean Sea Level is approximately 0.1 feet above the surveyed 0 elevation.

3.0 MONITORING RESULTS

Groundwater elevation and quality data were collected for the Eastsound and Lopez Village monitoring network. Results for each network are described below.

3.1 EASTSOUND WELLS

Groundwater elevation contours for the Eastsound monitoring system on May 2, 2012 are presented in Figure 1. This date was selected because the greatest number of hand measured data points was available. Groundwater generally flows from the three bedrock uplands to the north, south east and west towards Ship Bay to the south and Orcas airport to the north.

Figures 3-5 present time series plots of groundwater elevations for the Eastsound wells. The influence of pumping can be seen in the School, NAPA, Curtis, EWUA#1R, EWUA#4, and EWUA#5 wells. Short term variability seen in other wells is likely due to barometric variation.

No long-term groundwater level declines are noted in any of the wells.

Groundwater concentration results for November 10, 2011 and May 2, 2012 are presented in Tables 2 and 3. Groundwater concentrations were compared to their respective GWCLs from Washington State Groundwater Quality Standards (Chapter 173-200 WAC). All concentrations were below their respective GWCL.

Nitrate (Tables 3 and 4 and Figure 6) was detected in the following wells:

November 10, 2011:

- Curtis (6.43 mg/L)
- EWUA #1R (1.9 mg/L)
- EWUA #2/8 (1.79 mg/L)
- Mazarella (0.4 mg/L)
- NAPA (1.92 mg/L)

- Patty (0.1 mg/L)
- Wolff (0.13 mg/L)

May 2, 2012:

- Curtis (5.54 mg/L)
- EWUA #1R (1.5 mg/L)
- EWUA #2/8 (0.18 mg/L)
- Mazarella (0.18 mg/L)
- NAPA (2.12 mg/L)
- Wolff (0.13 mg/L)

Nitrate was not detected in the Patty well on May 2, 2012 (Table 3).

All of the detections are below the groundwater quality criteria (GWQC) of 10 mg/L. The nitrate detections are not likely from the same source given their locations relative to the groundwater flow directions (Figure 6). Sources of nitrate contamination are discussed in more detail in PGG, 2008.

Chloride concentrations presented in Figure 7 for the May 2, 2012 sampling event did not indicate any spatial correlation. Chloride concentrations in the Eastsound wells are not indicative of saltwater intrusion.

3.2 LOPEZ ISLAND WELLS

Figure 2 presents groundwater elevations in the Lopez wells measured on November 14, 2012. The elevations are not contoured because measuring point elevation errors appears to be greater than variations in groundwater elevations. Therefore groundwater elevations do not present a coherent picture of groundwater flow.

Figure 8 presents a groundwater elevation time series plot for monitored wells on Lopez Island. Groundwater elevation data for the Aiken well are clearly tidally influenced. The absolute elevation appears low but likely indicates a survey anomaly. Village Park is the closest well to the shore and also indicates tidal influence.

No long-term groundwater level declines are noted in any of the wells.

There are many anomalies in the Lopez groundwater elevation record, most notably in the Grant Greene, and Village Park wells. Many of the transducers have been in place since 2008. The loggers should be removed and returned to the manufacturer for maintenance or replaced as soon as possible.

Groundwater concentration results for November 14, 2012 and June 6, 2013 are presented in Tables 4 and 5. Figure 9 presents a chloride concentration map for the November 14, 2012 sampling event. All concentrations were below their respective GWCLs; however the concentration of sodium was above EPA recommended levels (20 mg/L) in all wells. Sodium was above background concentrations (generally less than 50 mg/L) in the Greene well (85.2 and 77.1 mg/L during the November 2012 and June 2013 sampling event respectively).

Elevated chloride due to saltwater intrusion is apparent in the DNR and Greene well. Chloride concentrations in these wells during the November 2012 and June 2013 sampling events were:

- Greene Well (191 mg/L and 182 mg/L respectively)
- DNR Well (93 mg/L and 100 mg/L respectively)

Chloride concentrations in these wells have been elevated since they were first monitored.

Electrical conductivity (a measure of total dissolved constituents) was also slightly above the GWCL (700 umhos/cm) in several Lopez Island wells (Tables 4 and 5). The source of the elevated electrical conductivity is due to natural aquifer mineralization and naturally elevated chloride levels.

Trilinear diagrams are useful in evaluating the degree of salt water intrusion in wells. Figures 10 and 11 present trilinear diagrams for the November 14, 2012 and June 6, 2013 sampling events at Lopez Island. In general, the effect of

seawater intrusion is to move the plotted location of the datapoint in the upper diamond of the Trilinear diagram from the background water quality location. The Greene well which has the highest chloride concentrations shows a distinct shift from the other wells. The Grant well also shows a shift, but this is due mainly to elevated sulfate concentrations and not saltwater intrusion.

4.0 PRECIPITATION

Precipitation for July 2011 to May 2013 is presented for three monitoring stations in Figure 12:

- Orcas-Eastsound (KORS)
- Lopez Village at 818 Cross Road by Scott Rozenbaum
- Lopez Island at 1412 Bakerview Road by Jack Giard

The data show Eastsound precipitation is consistently lower than the Lopez Island stations.

5.0 RECOMMENDATIONS

The following recommendations are made based on the findings of this report:

Replace pressure transducers that have stopped working. Many of the transducers have been in place since 2008. The loggers should be removed and returned to the manufacturer for maintenance or replaced as soon as possible.

- Expand the Eastsound groundwater monitoring network towards north to include wells east of Beemer-Minus.
- Expand the Lopez groundwater monitoring network by adding previously surveyed monitoring points including Stephens, Duncan, Carter, Bennett, Marsh, Erisman, Horn, Arnold, Normandy Heights, Mariner Hill, Galle, Cormorant, and Harbor. Also add wells in the Islandale area which is experiencing some salt water intrusion.

- Survey the measuring point elevations of the Aiken, DNR, Odlin, Greene, and Lopez Village wells on Lopez Island. Unsurveyed Eastsound wells are less problematic because the higher groundwater elevation differentials allow for more error. However, Fisher should be resurveyed since it has changed and a consistent elevation record is dependent on consistent measuring points.
- Collect groundwater samples and download data loggers a minimum of twice a year in the wet and dry seasons.

6.0 REFERENCES

Sound Hydrogeologic, 2008. *Quality Assurance Project Plan, Ambient Groundwater Monitoring, San Juan County, Washington*. Consultants report prepared for San Juan County Community Planning Services.

Pacific Groundwater Group, 2008. *Interim Aquifer Protection Report, Eastsound, San Juan County, Washington*. Consultant's Report to the San Juan County Department of Health and Community Services.

Pacific Groundwater Group, 2009. *San Juan County Annual Groundwater Monitoring Report*. Consultant's Report to the San Juan County Department of Health and Community Services.

Pacific Groundwater Group, 2011. *San Juan County Annual Groundwater Monitoring Report*. Consultant's Report to the San Juan County Department of Health and Community Services.

Table 1. Groundwater Monitoring Network Configuration

San Juan County, Washington

Well	Ecology ID	Transducer	Measuring Point Elevation	Elevation Source	Data Logger	Groundwater Sample Collected
<i>Eastsound</i>						
Beemer-Minus	AAH 572	23915	43.4	DEM	Levellogger	X
Brandt		85131			Levellogger	X
Clark	ALQ 041	24080	85.7	DEM	Levellogger	X
Coleman						X
Curtis	AGQ 153	20775	51.4	DEM	Levellogger	X
Eagan		1020911				X
EWUA #13						X
EWUA #1R	AER 014	23835	38.6	Survey	Levellogger	X
EWUA #2/8						X
EWUA #4	AER 004	24575	12.5	Survey	Levellogger	
EWUA #5	Not Listed	20774	101.1	Survey	Levellogger	X
Fisher	AEC 764	24568	86.5	DEM	Levellogger	X
Greer	AGA 330	23841	98.3	DEM	Levellogger	X
Griot		1023850	34.5	DEM	Levellogger	
Harlow			172	DEM	Levellogger	
Klein	AFR 934	1020776	132.81	Survey	Levellogger	X
Laursen		1023909	106.9	DEM	Levellogger	X
Mazarella						X
McCoy		1024066	157.2	DEM	Levellogger	
NAPA	ACW 193	23827	80.1	DEM	Levellogger	X
Patty	AKY 639	1024573	33	DEM	Levellogger	X
Pearson	AHH 533	20769	30.8	DEM	Levellogger	
School	ALQ 042	31023847	66.1	Survey	Levellogger	
Wolff						X
<i>Lopez Island</i>						
Aiken	AFJ 405	62083/20779	16.4	DEM	CTD Diver	X
DNR		85160	42.59	DEM	Levellogger	X
Grant	AEC 760	62086/23909	93.69	Survey	CTD Diver	X
Greene	ABO 736	85138/24574	127.33	Survey	CTD Diver	X
Langenbach		85176/23850	128.11	Survey		
Lopez Village Park	AAB 776	85170/24573	25.33	Survey	CTD Diver/Baro	
Mengs Arena	ABO 733	85173	145.66	Survey	CTD Diver	X
Odlin			26.2	Lidar		
Roberts	AAE 786	85137/20911	112.23	Survey	CTD Diver	X
Woodman Hall			105.75	Survey		X

All wells sampled for water quality were sampled without transducers in well
Survey Datum = NGVD 29

Table 2. Eastsound Groundwater Concentrations, November 10, 2011

San Juan County, Washington

	Nitrate mg/l	Chloride mg/l
GWCL	10	250
Bemmer	0.01U	31
Brandt	0.01U	30
Coleman	0.01U	56
Curtis	6.43	25
Eagan	0.01U	43
EWUA #13	0.01U	32
EWUA #1R	1.9	18
EWUA #2/8	1.79	16
EWUA #5	0.01U	32
Greer	0.01U	34
Laursen	0.01U	21
Mazarella	0.4	37
NAPA	1.92	21
Patty	0.1	9.6
Wolff	0.13	25

U = Compound not detected

¹ Ground water quality criteria (GWQC) as reported in WAC 173-200, also includes maximum contaminant levels reported in WAC 246-290-310.

Table 3. Eastsound Groundwater Concentrations, May 2, 2012

San Juan County, Washington

	Nitrate mg/l	Chloride mg/l
GWCL	10	250
Bemmer	0.01U	30
Brandt	0.01U	31
Coleman	0.01U	51
Curtis	5.54	22
Eagan	0.01U	41
EWUA #13	0.01U	28
EWUA #1R	1.5	16
EWUA #2/8	0.18	15
EWUA #5	0.01U	30
Fisher	0.01U	31
Greer	0.01U	35
Laursen	0.01U	20
Mazarella	0.18	32
Clark	0.01U	25
NAPA	2.12	20
Patty	0.01U	8.1
Klein	0.01U	21
Wolff	0.13	21

U = Compound not detected

GWCL: Groundwater Contaminant Level

Table 4. Lopez Island Groundwater Concentrations, November 14, 2012

San Juan County, Washington

Constituent	Units	GWCL	Aiken	DNR	Grant	Greene	Mengs		
							Arena	Roberts	Woodman
Electrical Conductivity	umhos/cm	700	494	968	793	1416	771	951	540
Alkalinity	mg/L CaCO ₃		202	373	210	400	324	390	189
Calcium	mg/L		52.1	80.4	44.6	95.4	82.3	86.6	49.6
Chloride	mg/L	250	28	93	67	191	40	42	43
Fluoride	mg/L	2	0.11	0.16	0.12	0.16	0.13	0.19	0.13
Magnesium	mg/L		19.9	54.7	51.3	81.9	38.7	59.3	20.8
Nitrate as N	mg/L as N	10	U 0.1	U 0.1	U 0.1	0.19	U 0.1	U 0.1	1.61
Potassium	mg/L		2.8	7.6	5.8	12.6	6.7	8.4	4.2
Sodium	mg/L	See Footnote	24.1	53.6	48.1	85.2	32.1	36.7	36.5
Sulfate	mg/L	250	15	13	108	83	37	74	22

The EPA has established a recommended level of 20 mg/L for sodium as a level of concern for those consumers that may be restricted for daily sodium intake in their diets.

U = Compound not detected

All metals samples unfiltered

GWCL: Groundwater Contaminant Level

Table 5. Lopez Island Groundwater Concentrations, June 6, 2013

San Juan County, Washington

Constituent	Units	GWCL	Aiken	DNR	Greene	Mengs		
						Arena	Roberts	Woodman
Electrical Conductivity	umhos/cm	700	508	1089	1423	793	967	521
Alkalinity as CaCO ₃ , Total	mg/L CaCO ₃		208	436	417	336	406	196
Calcium	mg/L		50.7	87.6	86.3	76.3	80.5	45.6
Chloride	mg/L	250	34	100	182	41	43	34
Magnesium	mg/L		18.4	52.2	71.2	34.4	53.5	18.6
Nitrate as N	mg/L as N	10	U 0.1	U 0.1	0.18	0.11	U 0.1	1.81
Potassium	mg/L		2.9	7.6	11.9	6.9	8.4	4
Sodium	mg/L	See Footnote	23.1	52.4	77.1	30.2	34.7	28
Sulfate	mg/L	250	16	21	86	38	78	22

The EPA has established a recommended level of 20 mg/L for sodium as a level of concern for those consumers that may be restricted for daily sodium intake in their diets.

U = Compound not detected

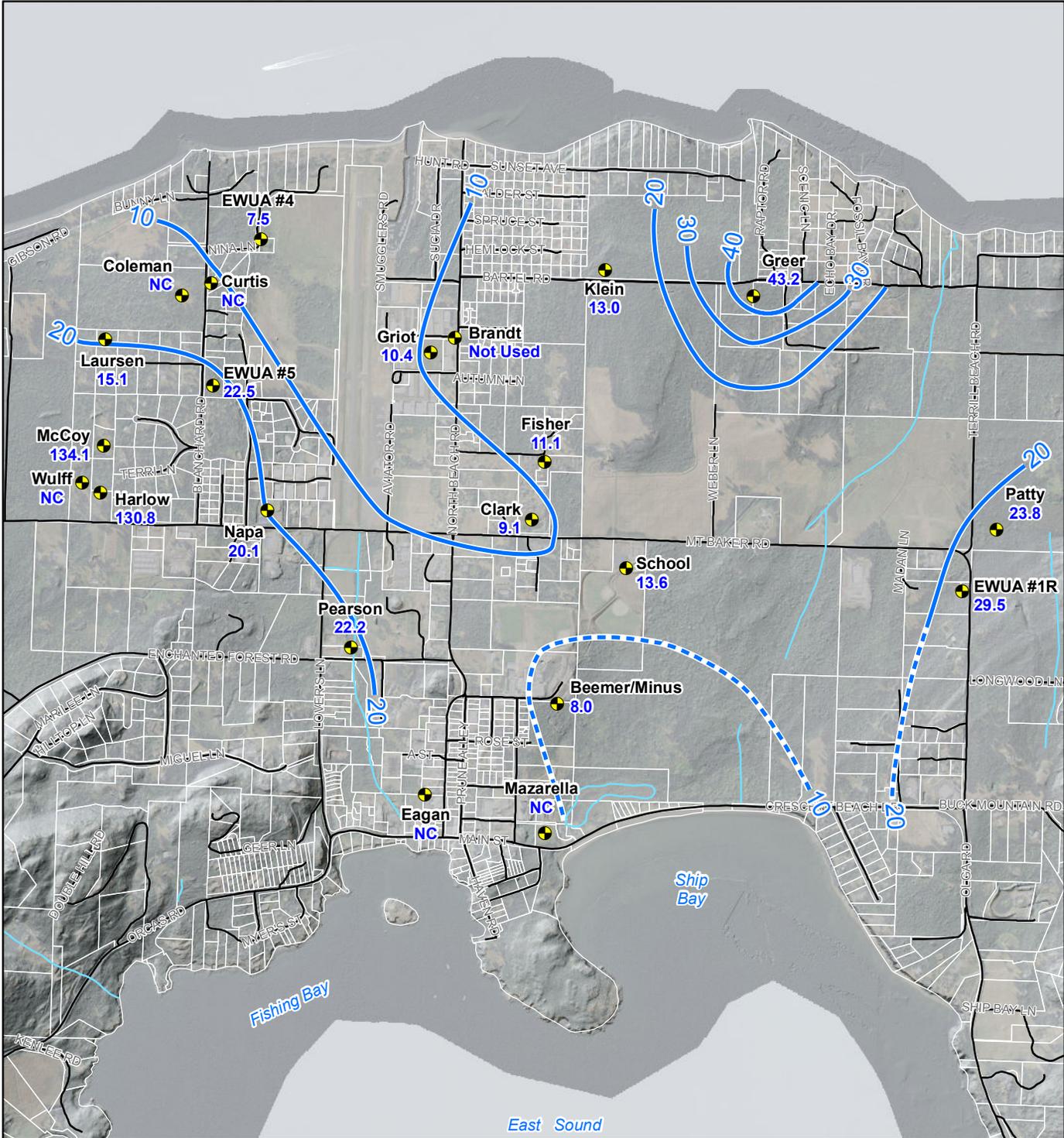
All metals samples unfiltered

GWCL: Groundwater Contaminant Level

Figure 1
 Eastsound Monitoring Well
 Locations and
 Groundwater Elevations,
 May 2, 2012



JS1303

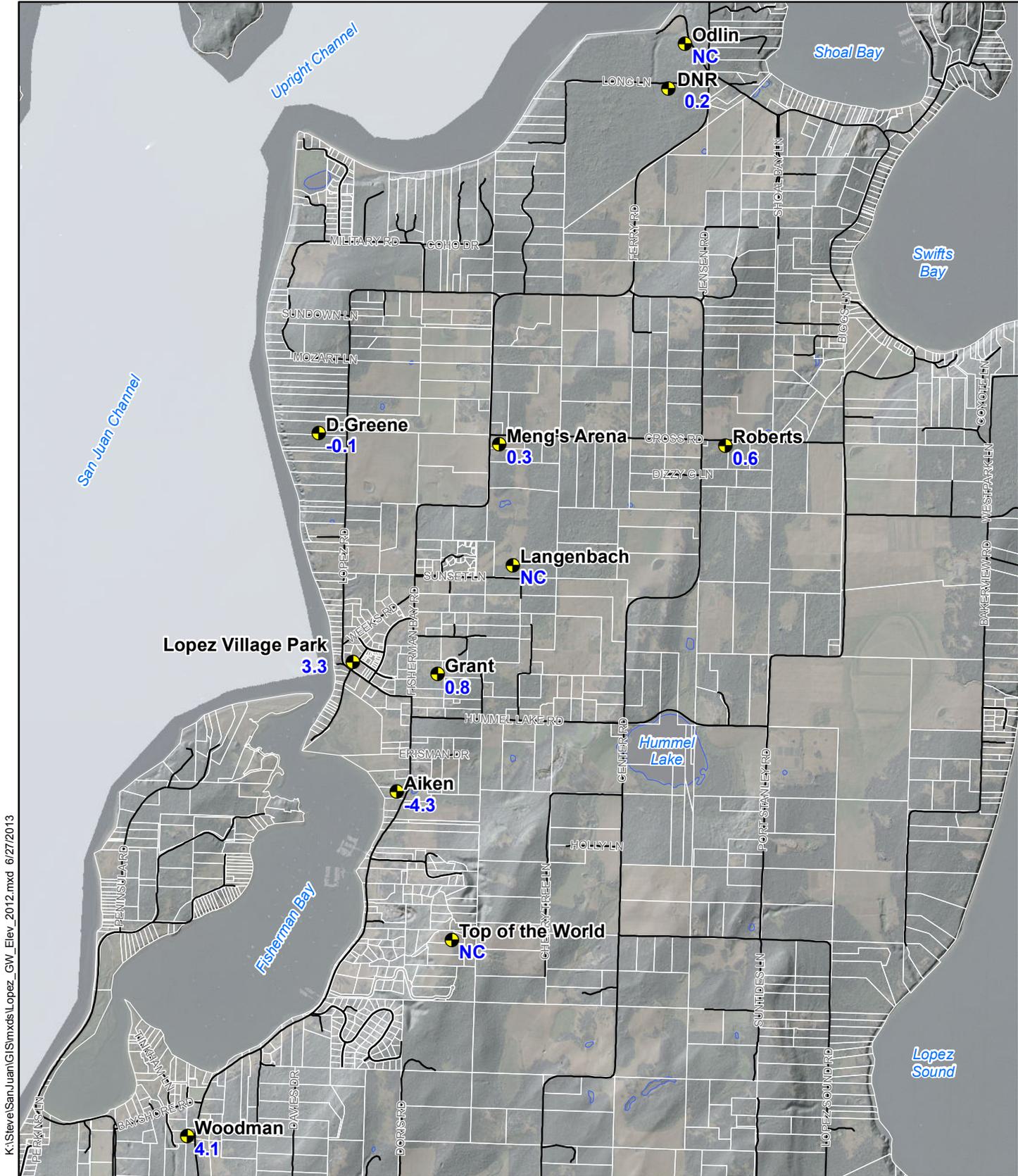


- Greer 43.1 ● Current Monitoring Well Locations
- Groundwater Elevation Contours (Dashed where inferred)
- (Not Used): Value not used for contouring
- NC: Groundwater elevation data not collected

Elevations in NGVD29



2011 NRCS Orthophoto



K:\Steve\SanJuanGIS\mxd\Lopez_GW_Elev_2012.mxd 6/27/2013

Roberts
1.03 ● Current Monitoring Well Locations

NC: Groundwater elevation data not collected

Elevations in NGVD29

0 Feet 2,500



2011 NRCS Orthophoto

Figure 2
Lopez Island
Monitoring Well Locations and
Groundwater Elevations,
November 14, 2012

JS1303



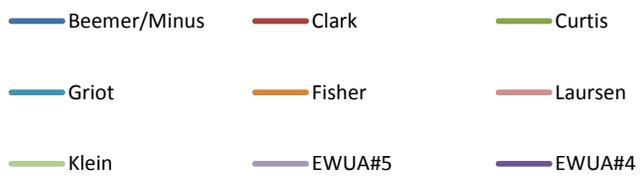
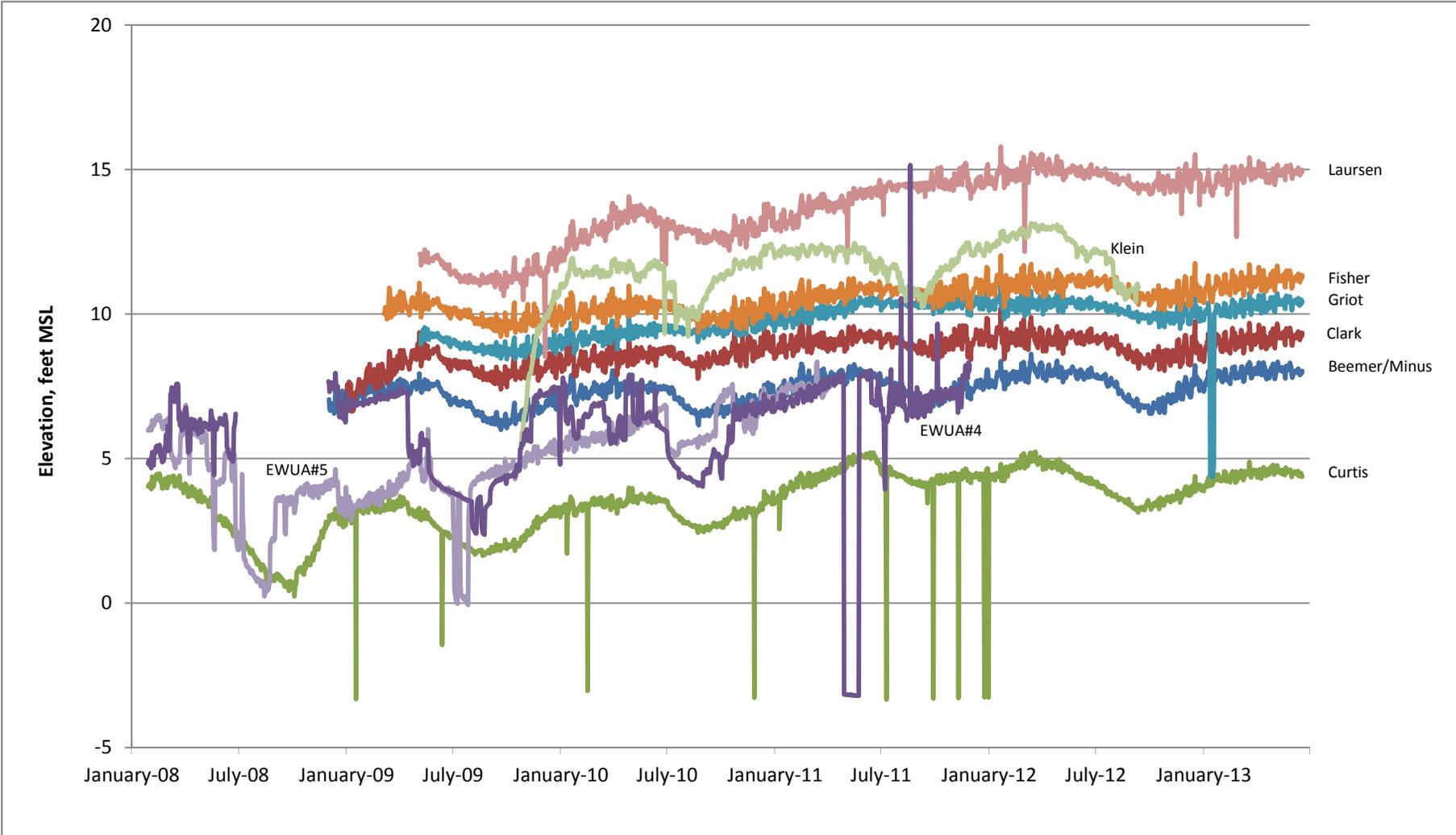


Figure 3. Eastsound Groundwater Elevation Time Series Plot



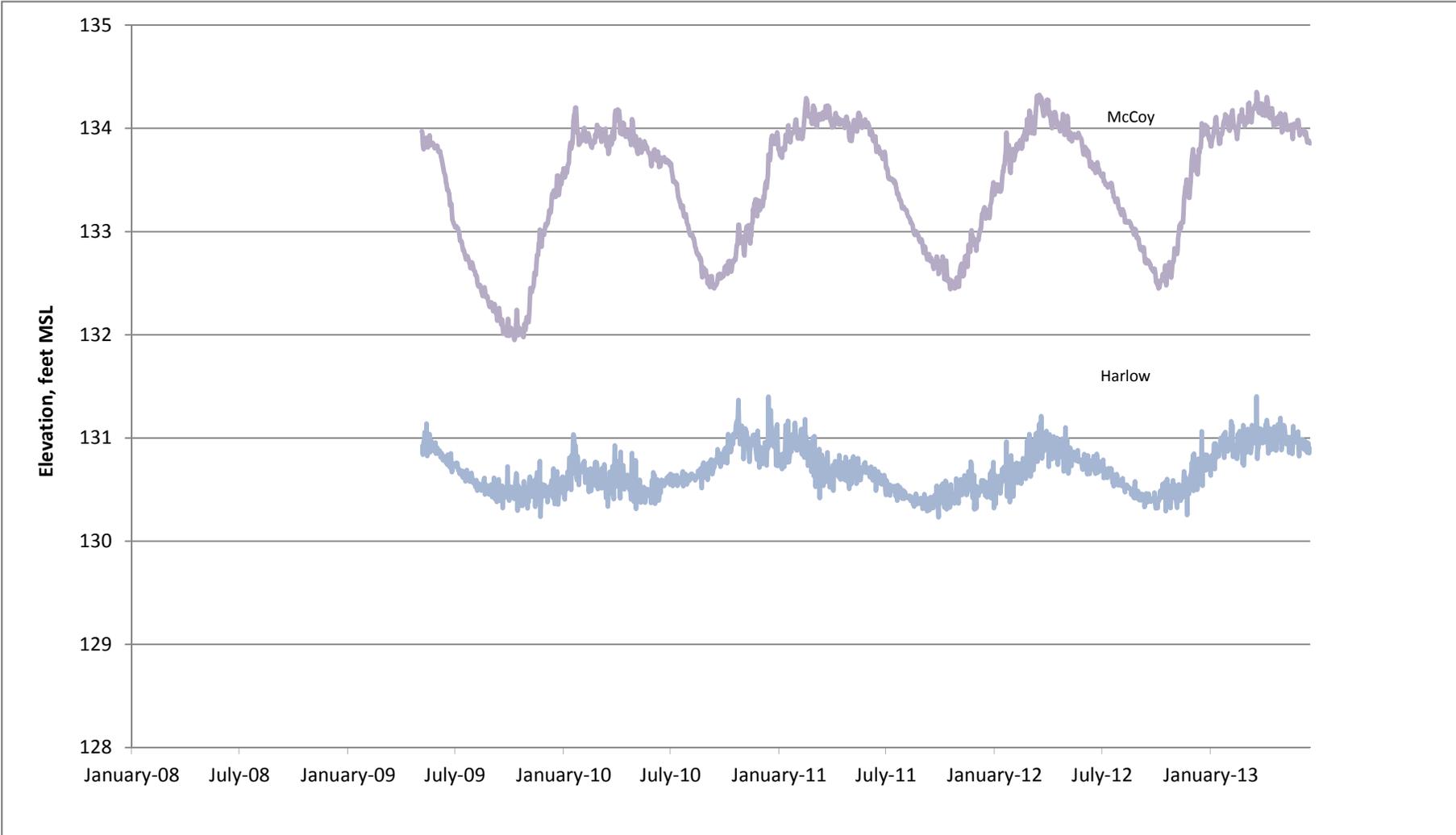


Figure 4. Eastsound Groundwater Elevation Time Series Plot

— Harlow — McCoy



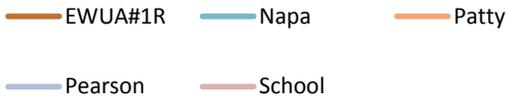
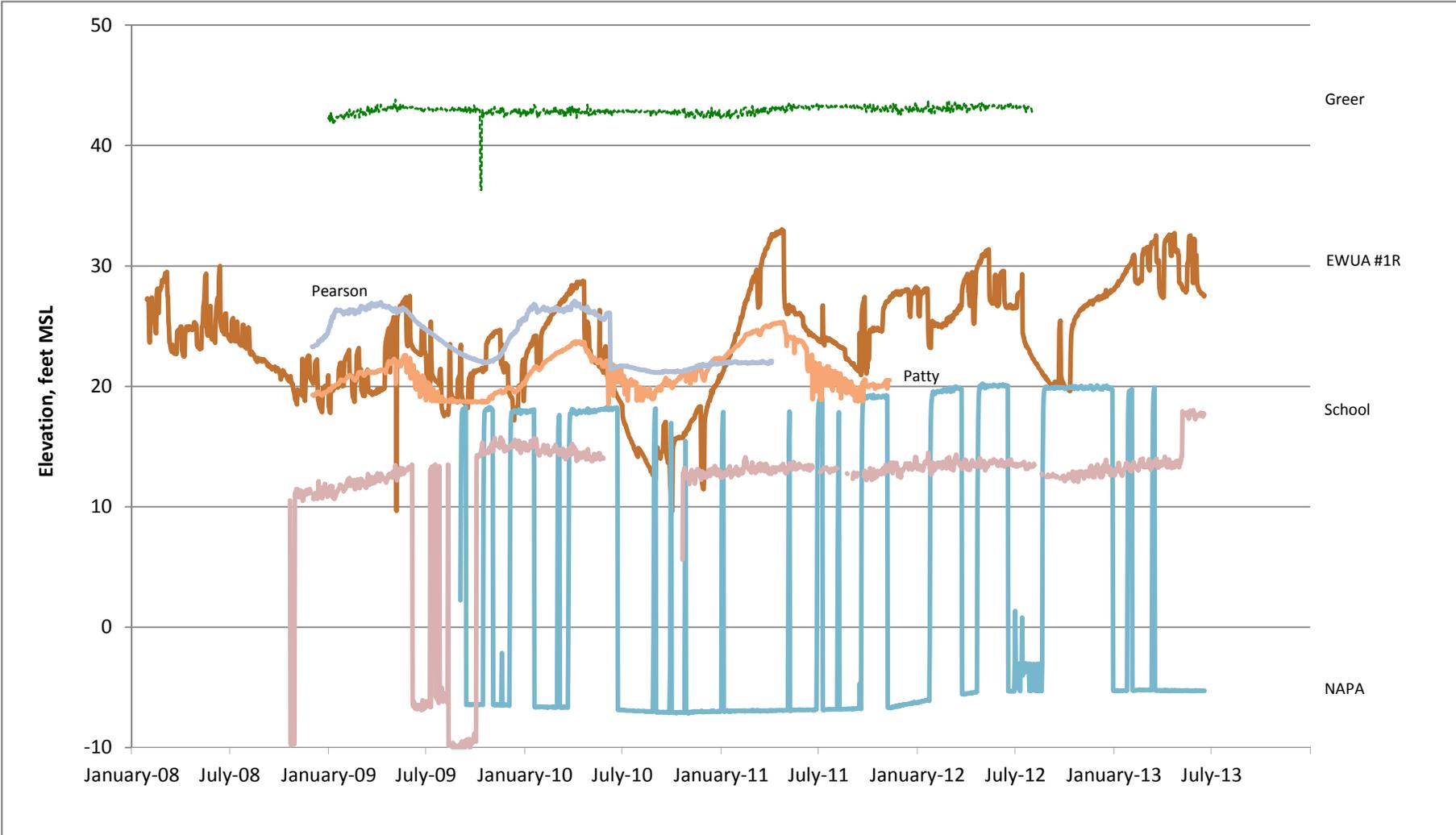
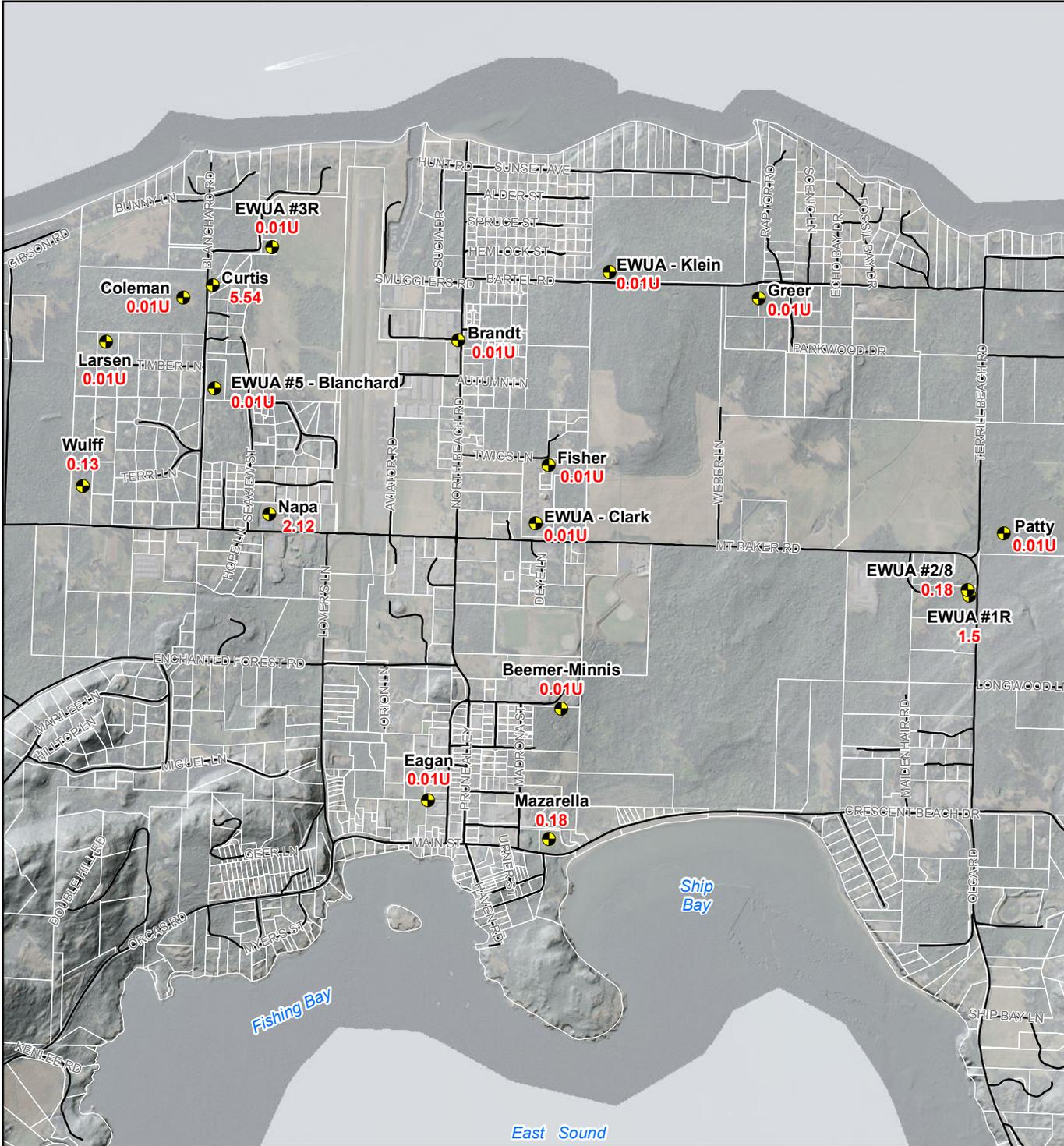


Figure 5. Eastsound Groundwater Elevation Time Series Plot



Figure 6
 Eastsound
 Nitrate Concentrations,
 May 2, 2012

JS1303



 Current Monitoring Well Locations
 Nitrate Concentration in mg/L



2011 NRCS Orthophoto



East Sound

Figure 7
 Eastsound
 Chloride Concentrations,
 May 2, 2012

JS1303



 Current Monitoring Well Locations
 Chloride Concentration in mg/L

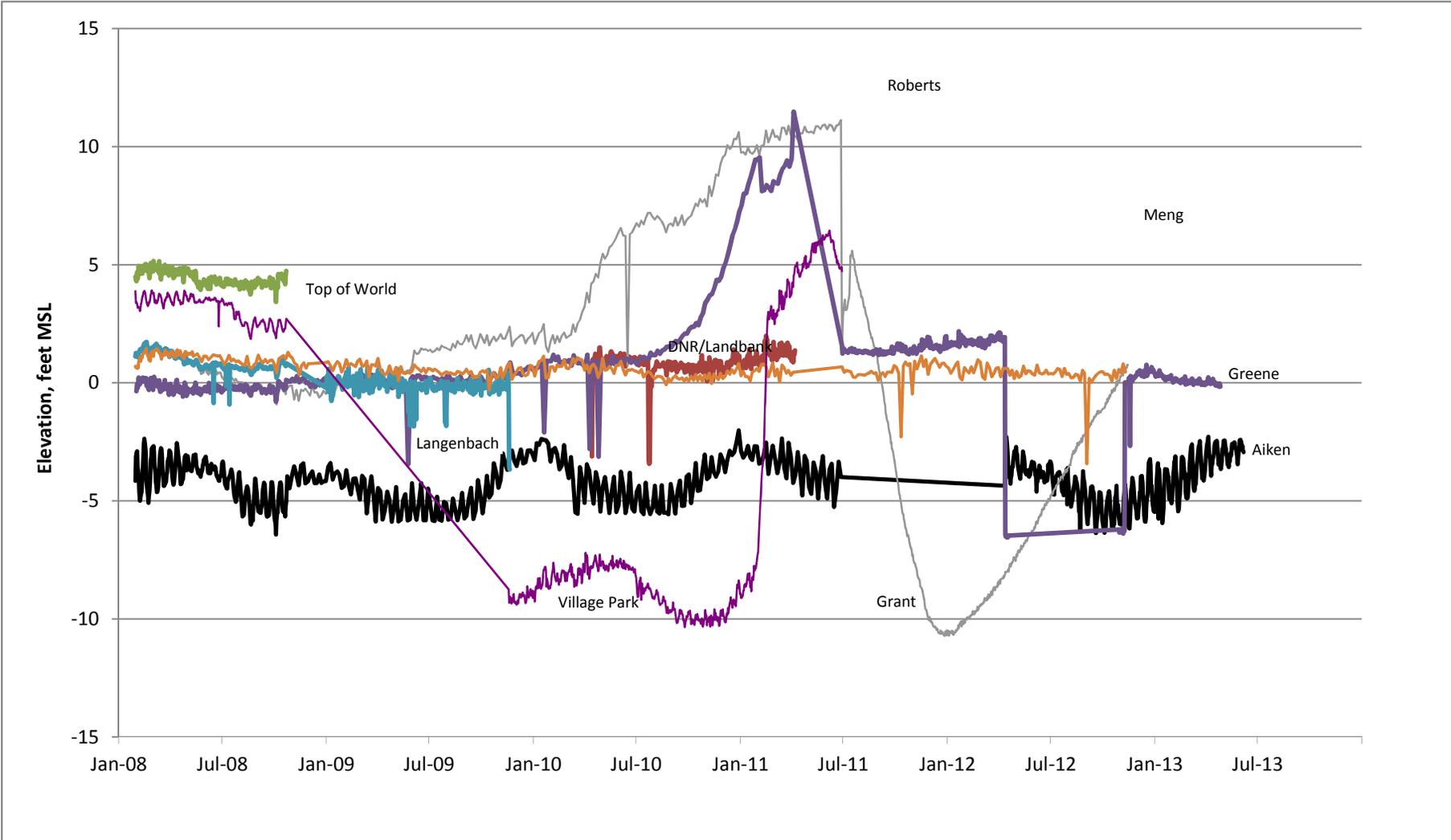
0 Feet 2,000



2011 NRCS Orthophoto



East Sound

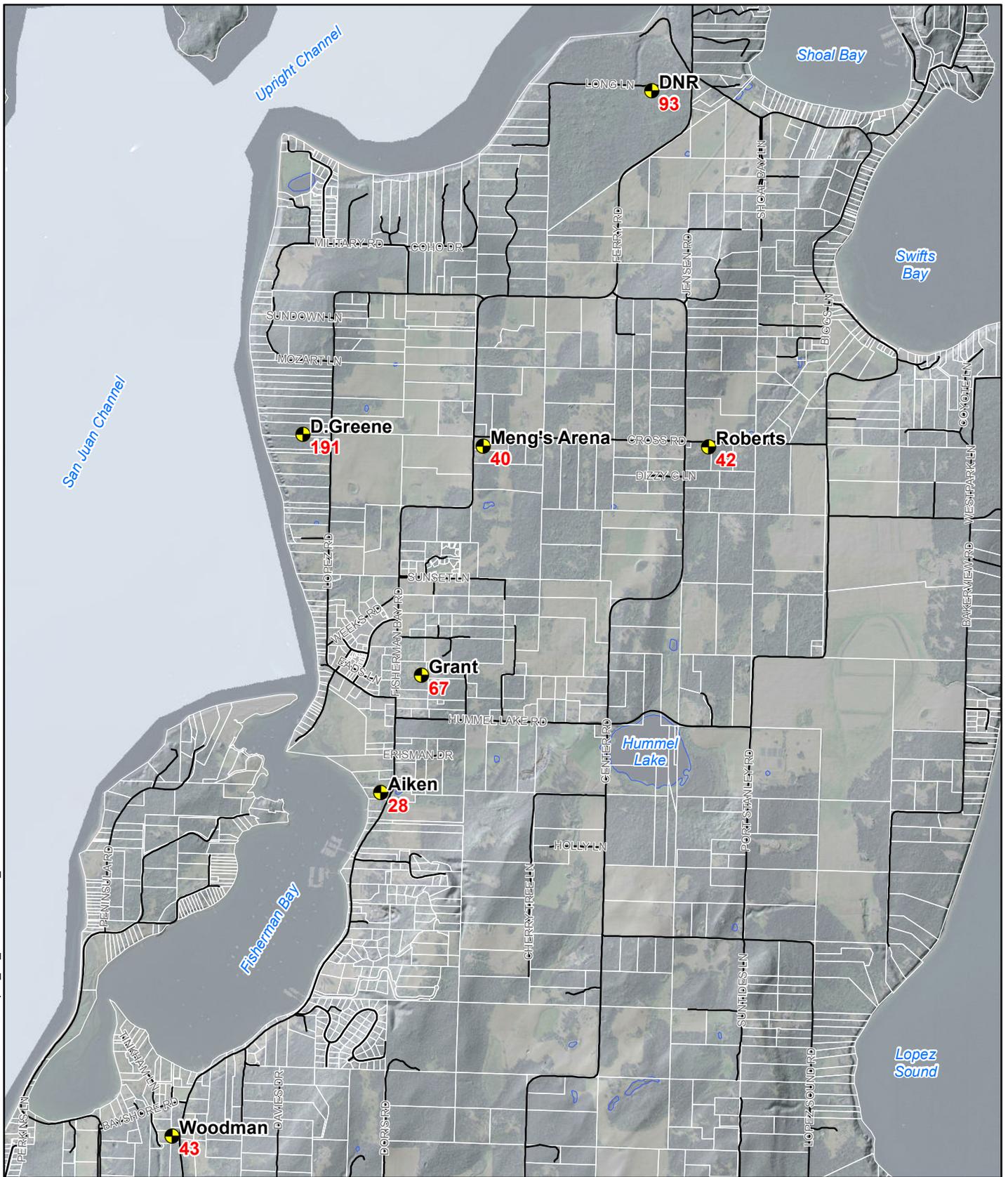


- Lopez - Aiken
- Lopez - Grant
- Lopez - Langenbach
- Lopez - Village Park
- Lopez - DNR/Land Bank
- Lopez - Greene
- Lopez - Meng
- Lopez - Top of World

Figure 8. Lopez Groundwater Elevation Time Series Plot



K:\Steve\SanJuanGIS\mxd\Lopez_CL_Concentrations_2012.mxd 6/27/2013



Roberts
42 ● Current Monitoring Well Locations
← Chloride Concentration in mg/L

0 Feet 2,500
2011 NRCS Orthophoto



Figure 9
Lopez Island
Chloride Concentrations,
November 14, 2012

JS1303



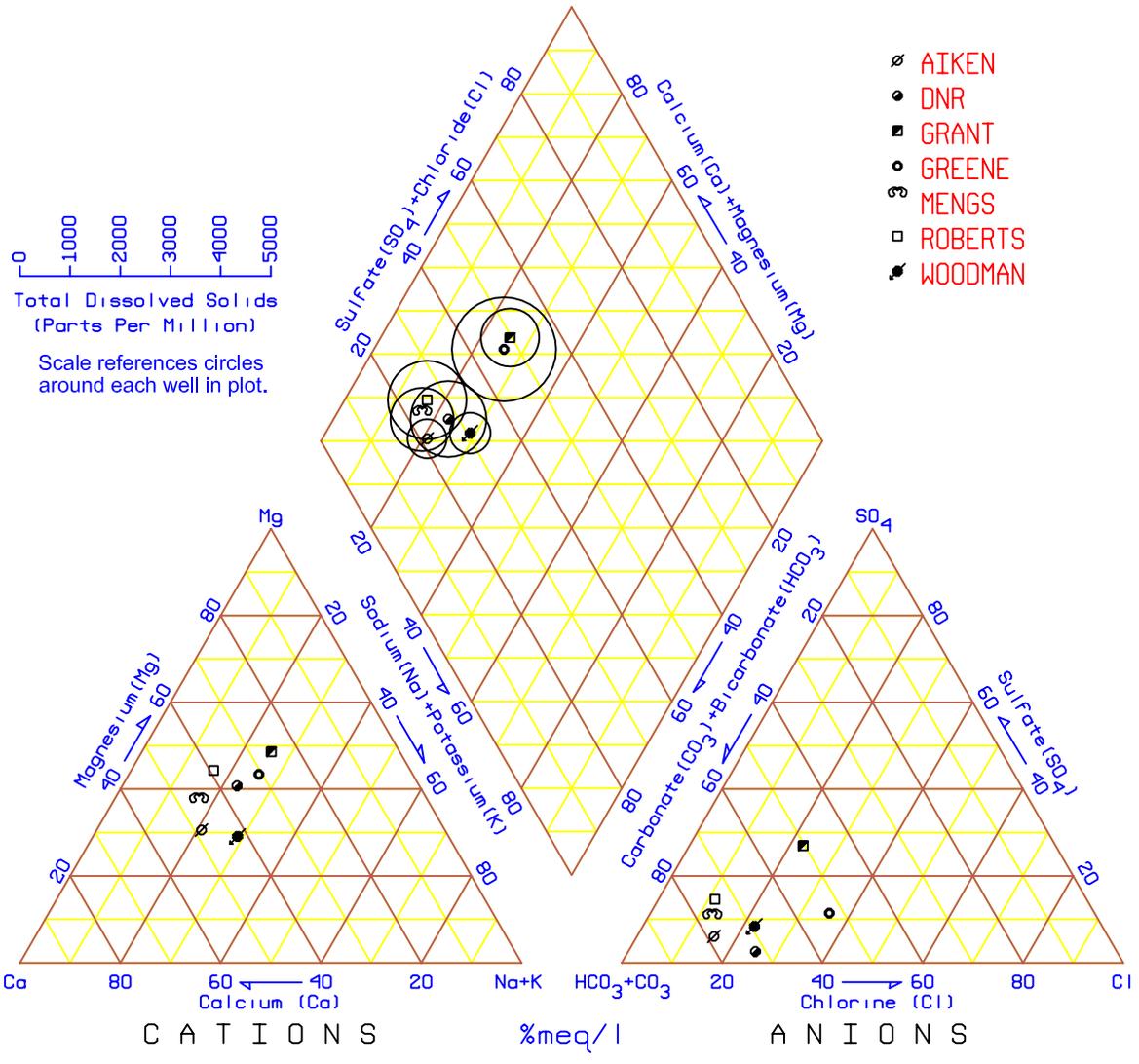


Figure 10
Lopez Island Trilinear Diagram
November 14, 2012

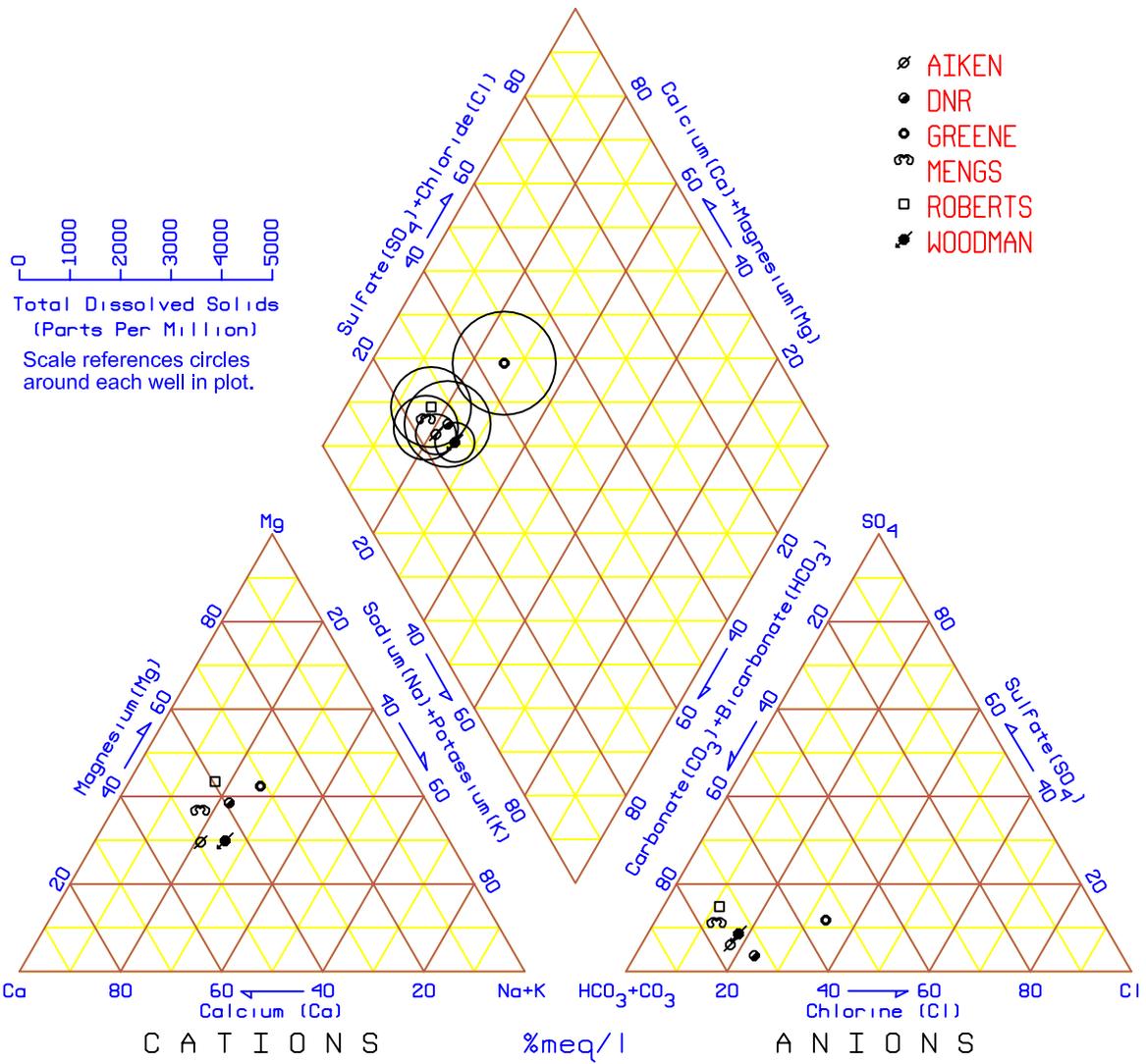


Figure 11
Lopez Island Trilinear Diagram
June 6, 2013

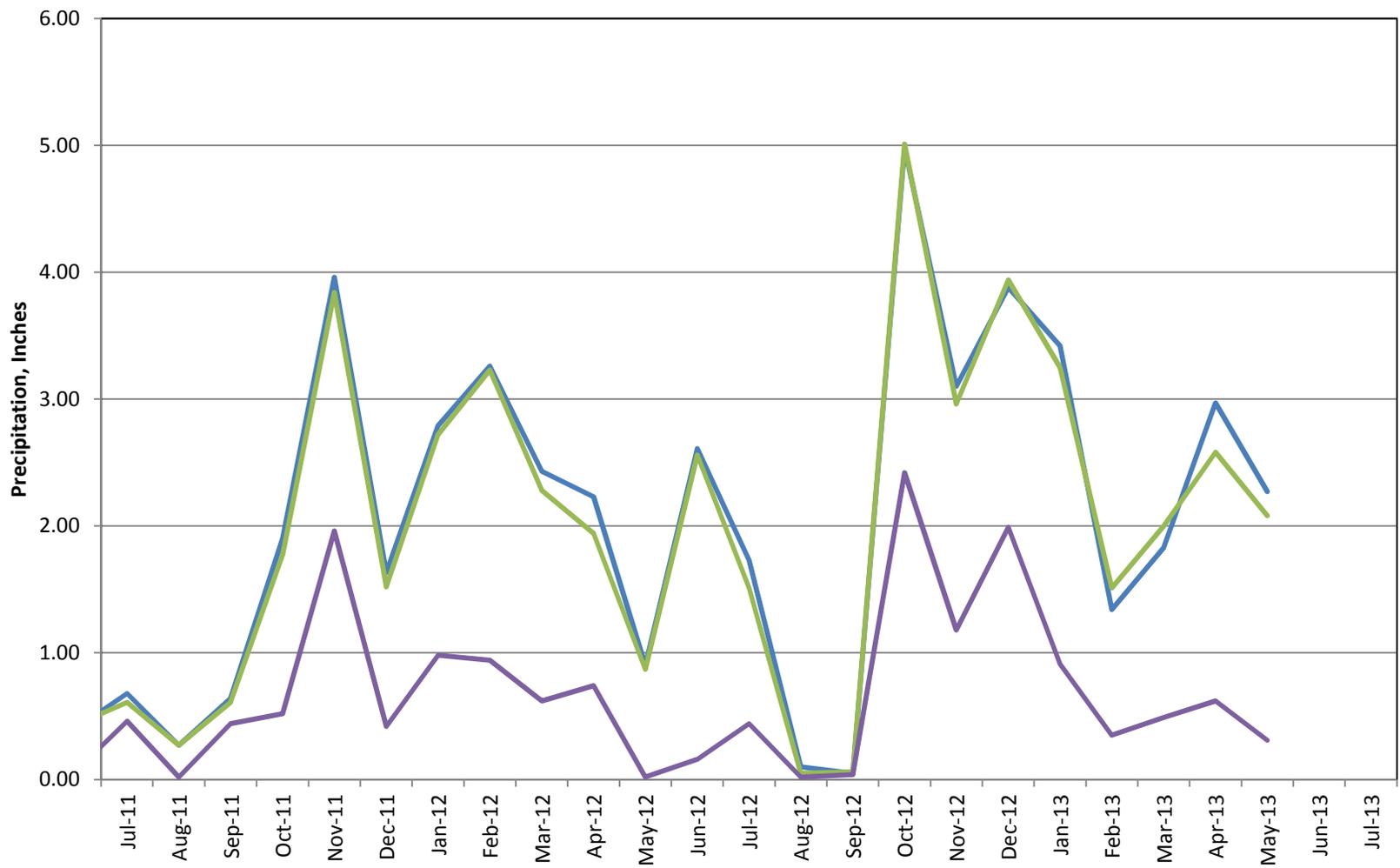


Figure 12.
Lopez and Eastsound Monthly Precipitation Comparison,
July 2011 to May 2013

- Lopez- Giard
- Lopez- Cross Rd
- Orcas- Eastsound (KORS)

APPENDIX A
EASTSOUND MONITORING NETWORK WELL LOGS

The Dep. The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

37-2W-14 #

Please print, sign and return to the Department of Ecology



Water Well Report

Original - Ecology, 1st copy - owner, 2nd copy - driller

Construction/Decommission
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number 172910

Current Notice of Intent No. W 182465
Unique Ecology Well ID Tag No. AHH 572
Water Right Permit No. _____
Property Owner Name Beemu & Minnie's
Well Street Address _____
City East Sound County San Juan
Location SE 1/4-1/4 NE 1/4 Sec 14 Twn 37R Z 2 EWM WWM one
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
still REQUIRED) Long Deg _____ Long Min/Sec _____
Tax Parcel No. _____

PROPOSED USE: DeWater Domestic Irrigation Industrial Test Well Municipal Other _____
TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Reconditioned Method: Dug Bored Driven Deepened Cable Rotary Jetted
DIMENSIONS: Diameter of well 6 inches, drilled 113 ft.
Depth of completed well 113 ft.

CONSTRUCTION DETAILS
Casing Welded 6" Diam. from +1 ft. to 98 ft.
Installed: Liner installed _____" Diam. from _____ ft. to _____ ft.
 Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perfs _____ in. by _____ in. and no. of perfs from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location _____
Manufacturer's Name Johnson
Type Telescoping Model No. _____
Diam. 6 Slot size 6 from 98 ft. to 103 ft.
Diam. 6 Slot size 8 from 103 ft. to 113 ft.

Gravel/Filter packed: Yes No Size of gravel/sand _____ ft. to _____ ft.
Materials placed from _____ ft. to _____ ft.

Surface Seal: Yes No To what depth? 3823
Material used in seal Bentonite
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacturer's Name _____ H.P. _____
Type: _____

WATER LEVELS: Land-surface elevation above mean sea level 60 ft.
Static level 35 ft. below top of well Date 3-11-05
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Bailer test 30+ gal./min. with 15 ft. drawdown after 2 hrs.
Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
light brown clayey gravel	0	3
Tan silt sand, gravel and cobble till	3	13
Gray clayey silt sand & gravel	13	84
Gray silty sand w/ clay lenses	84	87
Gray fine sand	87	111
Gray clayey silt, sand & gravel	111	113

RECEIVED
MAY 25 2005
DEPT OF ECOLOGY
Start Date 3-1-05 Completed Date 3-11-05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Engineer/Trainee Name (Print) Ken Engle
Driller/Engineer/Trainee Signature Ken Engle
Driller or trainee License No. 1390

Drilling Company M. Sawyer Drilling & Pump Service
Address 77 EJ Young Rd
City, State, Zip Olya WA 98279

If TRAINEE, Driller's Licensed No. _____
Driller's Signature _____

Contractor's Registration No. MSAW405055N13 Date 4-25-05
Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev 2/03)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

37-2W-11R



185345 WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission ("x" in circle)
 Construction
 Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

CURRENT
Notice of Intent No. W2189956
Unique Ecology Well ID Tag No. ALQ041
Water Right Permit No. Supplemental to all EWUA GW Rights
Property Owner Name Gary Clark
Well Street Address Mt Baker Road & Deye Ln
City Eastsound County San Juan
Location SE 1/4-1/4 SE 1/4 Sec 11 Twn 37 R 2 EWM or WWM circle one
Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____
Still REQUIRED) Long Deg _____ Long Min/Sec _____
Tax Parcel No. 271144004

PROPOSED USE: DeWater Domestic Irrigation Industrial Test Well Municipal Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Reconditioned Method: Dug Bored Driven
 Deepened Cable Rotary Jetted

DIMENSIONS: Diameter of well 12 inches, drilled 234 ft.
 Depth of completed well 230 ft.

CONSTRUCTION DETAILS
 Casing Welded 12 " Diam. from +5 ft. to 130 ft.
 Installed: Liner installed 8 " Diam. from +2 ft. to 140 ft.
 Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perfs _____ in. by _____ in. and no. of perfs from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location _____
 Manufacturer's Name Johnson
 Type 304 SS Model No. _____
 Diam. 8-inch Slot size 30 from See Attached ft. to _____ ft.
 Diam. _____ Slot size _____ from Comp. Design ft. to _____ ft.

Gravel/Filter packed: Yes No Size of gravel/sand _____
 Materials placed from 230 ft. to 86 ft.

Surface Seal: Yes No To what depth? 18 ft.
 Material used in seal Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level approx 80 ft.
 Static level 73.80 ft. below top of well Date 5/14/05
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? CR Hydrogeo.
 Yield: 87 gal./min. with 17.35 ft. drawdown after 24 hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
1	78.80	15	76.35	120	74.35
5	77.20	30	75.60	180	74.06
10	76.84	00	74.88	1445	73.76

Date of test 5/15/05 - 5/16/05
 Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water 51 F Was a chemical analysis made? Yes No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Topsoil	0	1
Brn Silty Sand, some Gravel	1	3
Glacial Till (hardpan)	3	112
Gry. Sandy Silt	112	126
v. fine Gry. Sand, WB (dirty)	126	136
v. fine Gry. Sand with cemented layers	136	149
v. fine - fine Gry. Sand, WB	149	156
Gry. Silty Sand, WB, (tight)	156	163
v. fine to fine Gry. Sand, WB	163	213
fine to med Gry. Sand with Shell Fragments, WB	213	227
Gry. Silt	227	234

LOG FOR EWUA - Clark Production Well
 Prepared by CR Hydrogeologic Consulting

RECEIVED
 JUL 28 2005
 DEPT OF ECOLOGY

Start Date 4/19/05 Completed Date 5/16/05

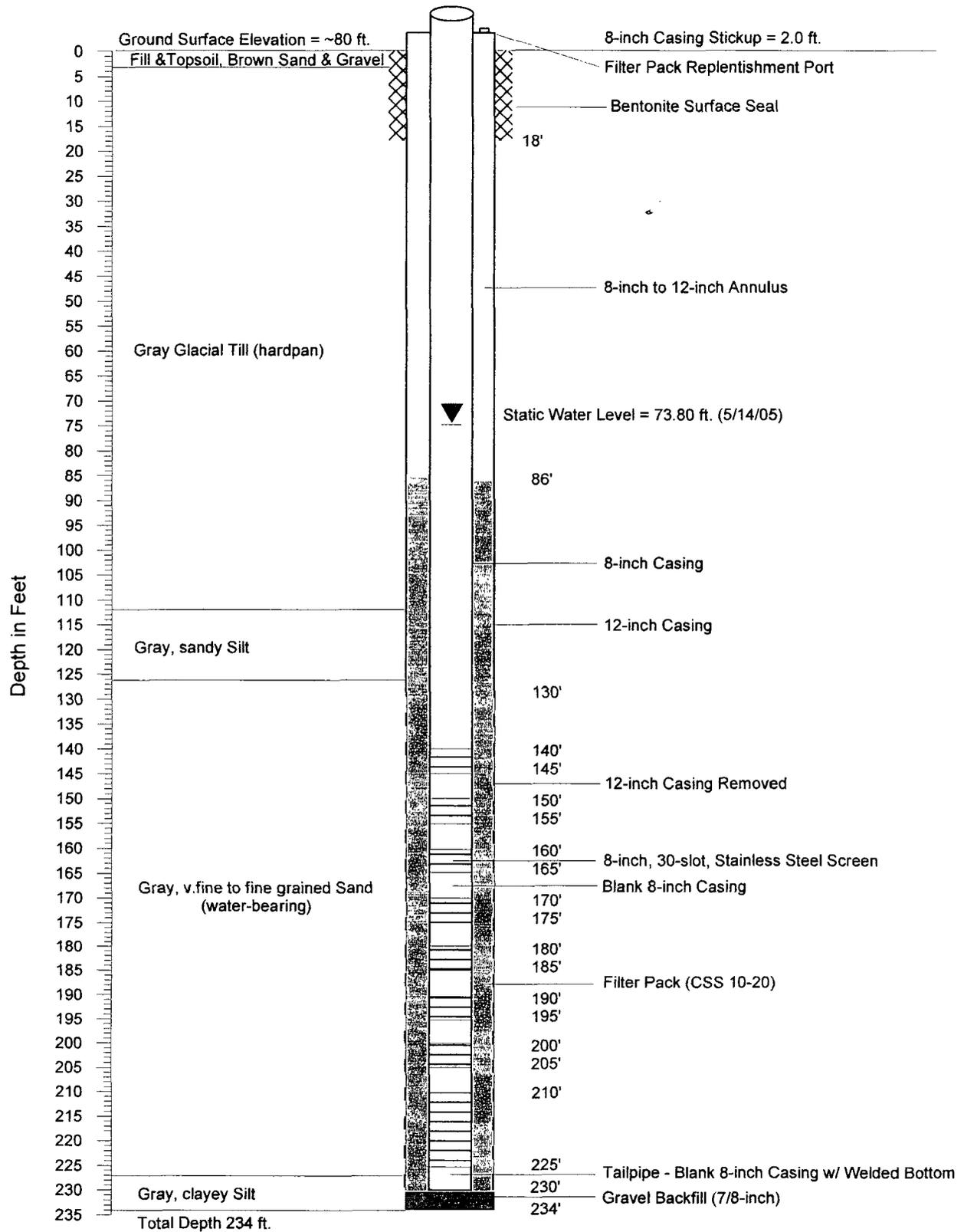
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Boart Holt
 Driller/Engineer/Trainee Signature [Signature] Drilling Company Holt Drilling / Boart Longyear
 Driller or trainee License No. 1099 Address Po Box 1890
 City, State, Zip Milton WA 98354

If TRAINEE,
 Driller's Licensed No. _____ Contractor's
 Driller's Signature _____ Registration No. BoartLC05SPZ Date 7-20-05
 Ecology is an Equal Opportunity Employer.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

EWUA - Clark Production Well Lithologic Log and Completion Design



CR

EWUA
 Clark Production Well
 c:\clark\clarklog&design\grf

EWUA - Clark Production Well
 Lithologic Log and Completion Design

Figure 2

File Original and First Copy with Department of Ecology
Second Copy- Owner's Copy
Third Copy- Driller's Copy

121665

WATER WELL REPORT

STATE OF WASHINGTON

37-2W-112

Start Card No WE00536
Well ID No AGQ153
Water Permit No _____
Tax Parcel No 271157004

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

1 OWNER Name BARTON & SHELLEY CURTIS Address 125 SEAVIEW STREET, EASTSOUND, WA 98245
2 LOCATION OF WELL County SAN JUAN NE 1/4 SW 1/4 Sec 11 T 37 N, R 2 W M
2a STREET ADDRESS OF WELL (or nearest address) BLANCHARD ROAD, EASTSOUND, WA 98245

3 PROPOSED USE Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

10 WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formation Describe color, character, size of material and structure and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information

4 TYPE OF WORK Owner's number of well _____ (if more than one)
Abandoned New Well Method Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

MATERIAL	FROM	TO
BROWN SILTY SAND & PEBBLES	0	5
BROWN SANDY SILT	5	28
BROWN FINE SAND	28	43
BROWN CLAYEY SAND	43	61
BROWN FINE SAND (WATER BEARING)	61	72
BROWN FINE TO MEDIUM SAND (H2O BEARING)	72	84
BROWN CLAY	84	-

5 DIMENSIONS Diameter of Well 6 inches
Drilled 84 feet Depth of completed well 84 ft

6 CONSTRUCTION DETAILS
Casing installed 6" Diam from +1 ft to 69 ft
Welded _____" Diam from _____ ft to _____ ft
Liner installed _____" Diam from _____ ft to _____ ft
Threaded _____" Diam from _____ ft to _____ ft

Perforations Yes No
Type of perforator used _____
SIZE of perforations _____ in by _____ in
_____ perforation from _____ ft to _____ ft
_____ perforation from _____ ft to _____ ft
_____ perforation from _____ ft to _____ ft

Screens Yes No
Manufacturer's Name JOHNSON
Type STAINLESS Model No _____
Diam 6 Slot size 0 008 from 69 ft to 74 ft
Diam 6 Slot size 0 010 from 74 ft to 84 ft

Gravel packed Yes No Size of gravel _____
Gravel placed from _____ ft to _____ ft

Surface Seal Yes No To what depth? 18 ft
Material used in seal BENTONITE CHIPS
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

7 PUMP Manufacturer's Name _____
Type _____ HP

8 WATER LEVELS Land surface elevation _____
above mean sea level 60 ft
Static level 47 ft below top of well Date 8/16/02
Artesian pressure _____ lbs Per square inch Date _____
Artesian water is controlled by _____ (cap. valve, etc.)

9 WELL TESTS Drawdown is amount water level is lowered below static level Was a pump test made? Yes No
If yes, by whom? _____
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Bailer test _____ gal /min with 10 ft drawdown after 15 hrs
Airtest 90 gal /min with stem set at _____ ft for _____ hrs
Artesian flow _____ g p m Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

RECEIVED
OCT 21 2002
DEPT OF ECOLOGY

Work Started 8/3/02 Completed 8/16/02

WELL CONSTRUCTION CERTIFICATION
I constructed and/or accept responsibility for construction of this well and it's compliance with all Washington Well construction standards Materials used and the information reported above are true to my best knowledge and belief
NAME MARTEL WELL DRILLING
(Person, Firm, or Corporation) (Type or Print)
Address P O BOX 905, FRIDAY HARBOR, WA 98250
(Signed) David Yester License No 2438
Contractor's Registration Number MARTEWD044PA Date 8/23/02

(USE ADDITIONAL SHEETS IF NECESSARY)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original with
Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent W10Z548
UNIQUE WELL I.D.# AER 014
Water Right Permit No. G1 * 03683C

(1) OWNER: Name East sound water users Assoc Address P.O. Box 115 East Sound wa. 98245

(2) LOCATION OF WELL: County San Juan NW 1/4 NE 1/4 Sec 13 T 37 N.R. 2W WM

(2a) STREET ADDRESS OF WELL: (or nearest address) Corner of terril Beach Rd & Mt Bahr Rd.
TAX PARCEL NO.: 271350025 37-2W-13B

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) 1R
 New Well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted
 Decommission

(5) DIMENSIONS: Diameter of well 12 x 8 inches
Drilled 55 feet. Depth of completed well 55 feet.

(6) CONSTRUCTION DETAILS
Casing Installed: Welded 12 : Diam. from 1.5 ft. to 36 ft.
 Liner installed 8 : Diam. from 3 ft. to 36 ft.
 Threaded : Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
perforations from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location welded to pipe
Manufacturer's Name Johnson
Type _____ Model No. _____
Diam. 7 Slot Size .20 from 31 ft. to 36 ft.
Diam. _____ Slot Size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: Yes No Size of gravel/sand .10-20
Material placed from 54 ft. to 24 ft.

Surface seal: Yes No To what depth? 35 ft.
Material used in seal Went cement 50% Benbrink
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation above mean sea level 39 ft.
Static level 1 ft. below top of well Date 7-14-2000
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level
Date of test _____
Bailer test 36 gal./min. with 22 ft. drawdown after 20 min
Airtest _____ gal./min. with _____ ft. drawdown after _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered.

MATERIAL	FROM	TO
Sand, Brn, med.	0	5
Tan clay Rocks & Gravel	5	15
Blue clay, 1316 Rocks	15	36
Silty Sand - Brn.		
Becoming slight by coarse with Deftn -	36	49
Sand coarse Gravel,		
Small Rocks - Gray	49	55
Silt Band or cemented		

RECEIVED

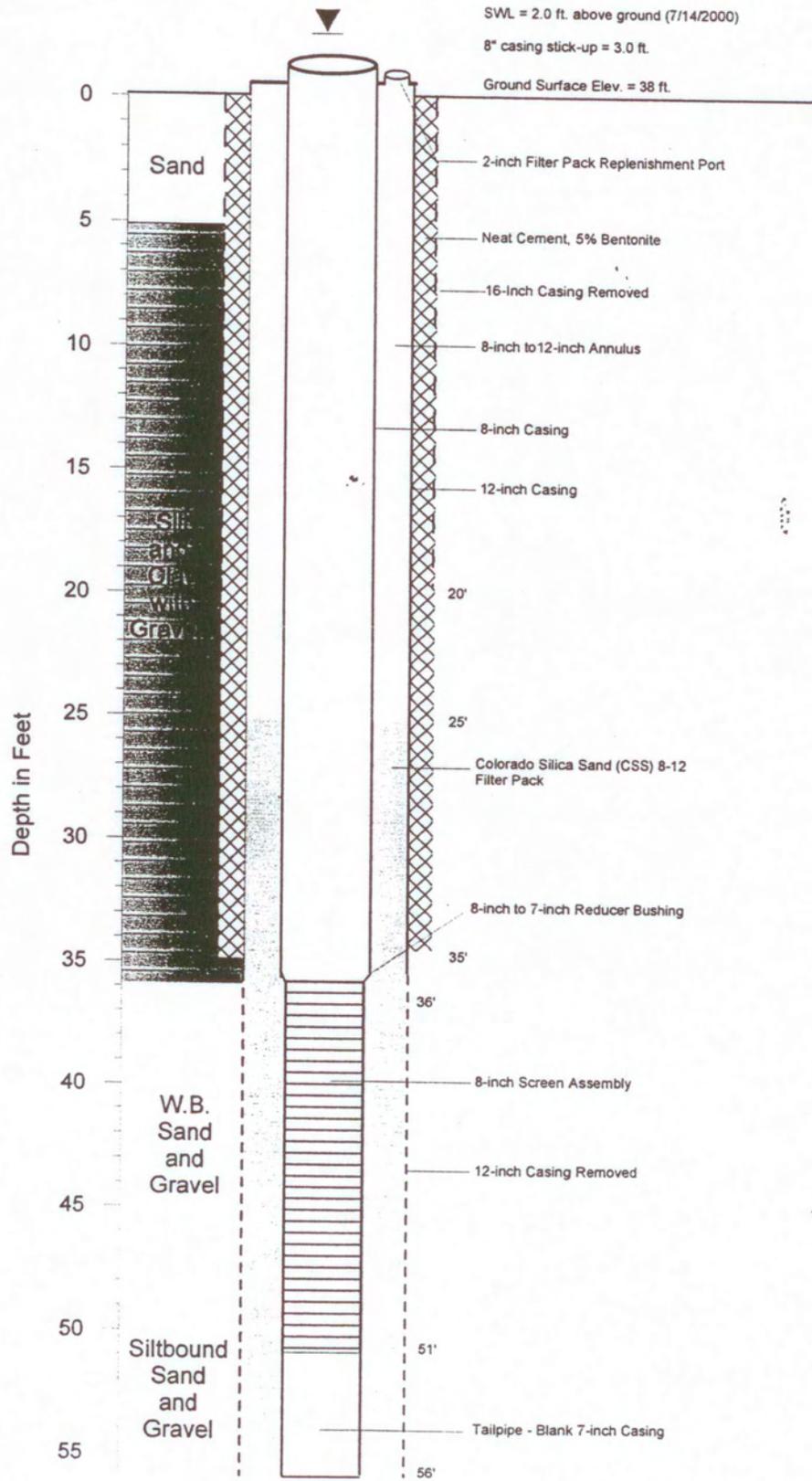
JUL 20 2000

Department of Ecology

Work Started 8-16-99 Completed 7-16-2000

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.
Type or Print Name Mark Sawyer License No. 2461
(Licensed Driller/Engineer)
Trainee Name _____ License No. _____
Drilling Company M. Sawyer Drilling & Pump Serv Inc
(Signed) Mark Sawyer License No. 2461
(Licensed Driller/Engineer)
Address 621 abstraction pass Rd Olga wa.
Contractor's Registration No. MSAWYD5655NB Date 7-17-2000
(USE ADDITIONAL SHEETS IF NECESSARY)

Well 1R



WATER WELL REPORT

STATE OF WASHINGTON

Applic. filed: 10780
Permit No: 10570

(1) OWNER: Name EAST SOUND WATER USER Address EAST SOUND WOOD 9824

(2) LOCATION OF WELL: County SAN JUAN - SE 1/4 N 1/2 Sec 11 T 37 N. R 26 W M

Bearing and distance from section or subdivision corner 240' NORTH AND 500 FEET EAST FROM CORNER OF SEC 11

(3) PROPOSED USE: Domestic Industrial Municipal
Irrigation Test Well Other

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
New well Method: Dig Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 8 inches.
Drilled 250 ft. Depth of completed well 35 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 8" diam. from 0 ft. to 63 ft.
Threaded " diam. from _____ ft. to _____ ft.
Welded " diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations 1 in. by 1/4 in.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.
perforations from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name Johnson
Type Stainless Steel Model No _____
Diam. 8 Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel: _____
Gravel placed from _____ ft. to _____ ft.

Surface seal: Yes No To what depth? _____ ft.
Material used in seal _____
Did any strata contain unconsolidated water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
Type _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation _____ ft.
Static level 6 ft. below top of well Date April 1972
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? Yes No If yes, by whom? _____
Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
Pump test 25 gal./min. with 11 ft. drawdown after 4 hrs.
Artesian flow _____ g.p.m. Date March 20 1972
Temperature of water _____ Was a chemical analysis made? Yes No

OK MWH
E.F. No. 714-05 (Rev. 4-71)

(USE ADDITIONAL SHEETS IF NECESSARY)

(10) WELL LOG: See it center of

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.

MATERIAL	FROM	TO
Sand Gravel	0	5
Clay	5	63
Rock	63	187
No Water in Bank	63	250

Well was pulled back to 63 feet and perforated at 35 feet in sand. Used Gravel Rock Hole was filled with sand and gravel.

SWL = 6

Work started March 15 1972 completed April 1 1972

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

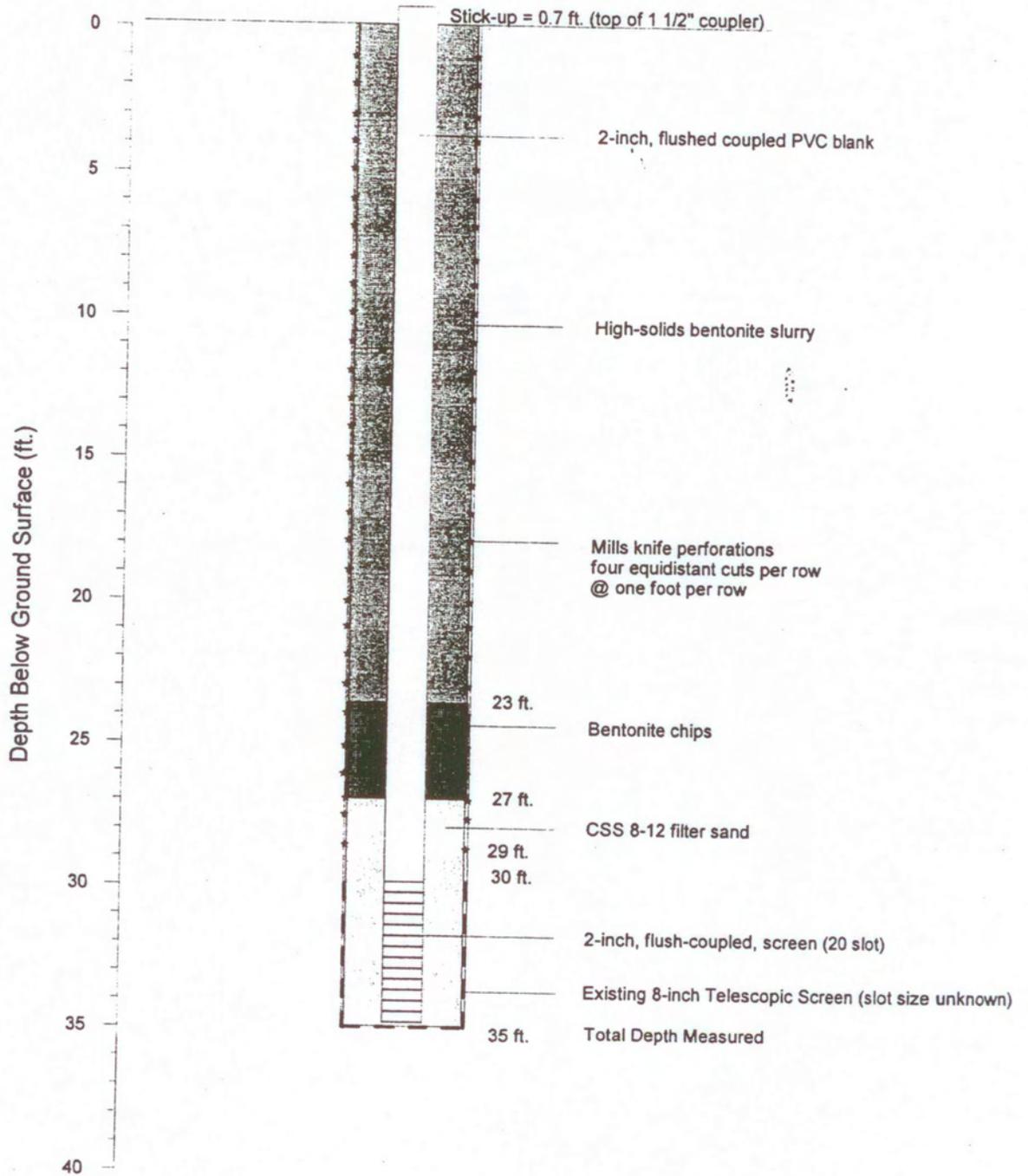
GEORGE H. BROWN
Well Drilling
NAME (Person) _____ (Type or print)

Address _____

[Signed] George H. Brown
(Well Driller)

License No. _____ Date Mar 25 1972

EWUA Well 4 Conversion Construction Details



ENTERED

WATER WELL REPORT

UNIQUE WELL I.D. # REC 764

STATE OF WASHINGTON

Water Right Permit No. 37-2W-11R

File Original and First Copy with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy

(1) OWNER: Name Ed Sullivan Address P.O. Box 1018 East Sound wa 98245

(2) LOCATION OF WELL: County SAN Juan SWE 1/4 S4E 1/4 Sec 11 T. 37 N. R. 2W W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Mt Baker Hwy. SE SE

(3) PROPOSED USE: [X] Domestic [] Irrigation [] DeWater [] Industrial [] Test Well [] Other [] Municipal []

(4) TYPE OF WORK: Owner's number of well (if more than one)
Abandoned [] New well [X] Method: Dug [] Bored []
Deepened [] Cable [] Driven []
Reconditioned [] Rotary [X] Jetted []

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 130 feet. Depth of completed well 127 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6" diam. from +1.5 ft. to 120 ft.
Welded [X]
Liner installed []
Threaded []

Perforations: Yes [] No [X]
Type of perforator used
SIZE of perforations in. by in.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

Screens: Yes [X] No []
Manufacturer's Name Johnson
Type Model No.
Diam. 5 Slot size .04 from 117 ft. to 127 ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes [] No [X] Size of gravel
Gravel placed from ft. to ft.

Surface seal: Yes [X] No [] To what depth? 18 ft.
Material used in seal Bentonite
Did any strata contain unusable water? Yes [] No [X]
Type of water? Depth of strata
Method of sealing strata of

(7) PUMP: Manufacturer's Name Arco meter
Type: T5-12 H.P. 1/2

(8) WATER LEVELS: Land-surface elevation above mean sea level 90
Static level 80 ft. below top of well Date 11-12-98
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap. valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes [] No [X] if yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Bailer test gal./min. with ft. drawdown after hrs.
Airtest 15 gal./min. with stem set at 126 ft. for 2 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes [] No [X]

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

Table with columns: MATERIAL, FROM, TO. Entries include: TOP Soil (0-2), Sand & Gravel (2-6), Tan clay (6-17), Blue clay (17-62), Silty Blue clay (62-75), Fine Grey Sand (75-130).

RECEIVED

FEB 23 1999

DEPT OF ECOLOGY

Work Started 11-6 19. Completed 11-9 19 89

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME M. Sawyer Drilling & Pump Service Inc
Address HL Box 160 Olga wa 98279
(Signed) Mark Sawyer License No. 24161

Contractor's Registration No. MSAW4DSOSSND Date 12-20 19 98

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (206) 407-6600. The TDD number is (206) 407-8008.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT 37/2/125

File Original and First Copy
with Department of Ecology
Second Copy-Owner's Copy
Third Copy-Drillier's Copy

STATE OF WASHINGTON

Start Card No: 00490
Water Permit No: _____

1. OWNER : Name: HARRY GREER Address: P.O. BOX 136, EASTSOUND, WA 98245.

2. LOCATION OF WELL : County SAN JUAN NE 1/4 SE 1/4 Sec 12 T 37 N., R 2 W.M.

2a. STREET ADDRESS OF WELL (or nearest address) ANDERSEN ROAD

3. PROPOSED USE: Domestic Industrial Municipal Other
 Irrigation Test Well DeWater

4. TYPE OF WORK: Owner's number of well (if more than one) _____
Abandoned New Well Method: Dug Cable Driven
Deepened Rotary Jetted
Reconditioned

5. DIMENSIONS: Diameter of well 6 inches.
Drilled 101 feet. Depth of completed well 101 ft.

6. CONSTRUCTION DETAILS:
Casing installed: 5" Dia. from +1 ft. to 91 ft.
Welded " Dia. from _____ ft. to _____ ft.
Liner installed _____ " Dia. from _____ ft. to _____ ft.
Threaded _____ " Dia. from _____ ft. to _____ ft.

Perforations: Yes _____ No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforation from _____ ft to _____ ft.
_____ perforation from _____ ft to _____ ft.
_____ perforation from _____ ft to _____ ft.

Screens: Yes No _____
Manufacturer's Name JOHNSON
Type STAINLESS Model No _____
Diam 6 Slot size 18 from 91 ft. to 101 ft.
Diam _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: yes _____ No Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface Seal: Yes No _____ To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes _____ No
Type of water _____ Depth of strata _____
Method of sealing strata off _____

7. PUMP : Manufacturer's Name _____
Type : _____ H.P.

8. WATER LEVELS: Land surface elevation _____
above mean sea level 60 ft
Static level 56 ft below top of well Date _____
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap. valve, etc)

9. WELL TESTS: Drawdown is amount water level is lowered below static level. Was a pump test made? Yes _____ No _____
If yes, by whom? _____
Yield: _____ gal/min with _____ ft drawdown after _____ hrs

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____

Flow test 12.0 gal./min. with 2 ft. drawdown after 1 hrs
Airstest _____ gal./min. with stem set at _____ ft. for _____ hrs
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes _____ No _____

RECEIVED
JUN 18 1993

DEPT. OF ECOLOGY

10. WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
LIGHT BROWN SAND	0	1
LIGHT BROWN CLAYEY SILTY GRAVEL	1	36
GREY SILT	36	90
GREY MEDIUM SAND & SMALL GRAVEL	90	101

Work started : MAY 16, 1993. Completed : MAY 19, 1993.

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME : MARTEL WELL DRILLING INC.
(Person, Firm, Or Corporation) (Type Or Print)

Address : P.O. BOX 905, FRIDAY HARBOR, WA 98250.

(Signed) Al Martel License No. : 0541
(Well Driller)

Contractor's Registration Number : MARTEWD12102 Date : MAY 19, 1993

(USE ADDITIONAL SHEETS IF NECESSARY)

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

WATER WELL REPORT

37/2/12J

File Original and First Copy with Department of Ecology Second Copy-Owner's Copy Third Copy-Driller's Copy

STATE OF WASHINGTON

Start Card No. Water Permit No.

1. OWNER : Name: HARRY GREER Address: P.O. BOX 136, EASTSOUND, WA 98245.

2. LOCATION OF WELL : County SJ, NE 1/4 SE 1/4 Sec 12 T 37 N., R 2 W.M.

2a. STREET ADDRESS OF WELL (or nearest address) NORTH BEACH, ORCAS ISLAND.

3. PROPOSED USE: X Domestic Industrial Municipal Irrigation Test Well Other DeWater

4. TYPE OF WORK: Owner's number of well (if more than one) Abandoned New Well X Method: Dug Bored Deepened Cable X Driven Reconditioned Rotary Jetted

5. DIMENSIONS: Diameter of well 6 inches. Drilled 89 feet. Depth of completed well 89 ft

6. CONSTRUCTION DETAILS: Casing installed: 6" Diam. from +1 ft. to 84 ft. Welded X 8" Diam. from 84 ft. to 89 ft. Liner installed 8" Diam. from 84 ft. to 89 ft. Threaded 8" Diam. from 89 ft. to 89 ft.

Perforations: Yes No X Type of perforator used SIZE of perforations in. by in. perforation from ft to ft. perforation from ft to ft. perforation from ft to ft.

Screens: Yes X No Manufacturer's Name SMITH Type STAINLESS Model No Diam 6 Slot size 20 from 84 ft. to 89 ft. Diam Slot size from ft. to ft.

Gravel packed: Yes No X Size of gravel Gravel placed from ft. to ft.

Surface Seal: Yes X No To what depth? 18 ft. Material used in seal BENTONITE Did any strata contain unusable water? Yes No Type of water? Depth of strata Method of sealing strata off

7. PUMP : Manufacturer's Name Type : H.P.

8. WATER LEVELS: Land surface elevation above mean sea level 70 ft Static level 52 ft below top of well Date Artesian pressure lbs. per square inch Date Artesian water is controlled by (cap, valve, etc)

9. WELL TESTS: Drawdown is amount water level is lowered below static level. Was a pump test made? Yes No If yes, by whom? Yield: gal/min with ft drawdown after hrs

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) Time Water Level Time Water Level Time Water Level Date of test

Bailer test 12.0 gal./min. with 1 ft. drawdown after 2 hrs Airtest gal./min. with stem set at ft. for hrs Artesian flow g.p.m. Date Temperature of water Was a chemical analysis made? Yes No

10. WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION Formation: Describe by color, character, size of material and structure and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

Table with columns MATERIAL, FROM, TO. Rows: BROWN SILTY SAND & GRAVEL (0-8), BROWN CLAYEY SAND & GRAVEL (8-38), GREY CLAYEY SILT (38-82), GREY COARSE SAND & SMALL GRAVEL (82-89)

RECEIVED DEC 21 1992 DEPT. OF ECOLOGY

Work started : NOVEMBER 29, 1992. Completed : DECEMBER 4, 1992.

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME : MARTEL WELL DRILLING INC. (Person, Firm, Or Corporation) (Type Or Print)

Address : P.O. BOX 905, FRIDAY HARBOR, WA 98250.

(Signed) Al Mauldi License No. : 1923 (Well Driller)

Contractor's Registration Number : MARTEWD1210Z Date : DECEMBER 4, 1992.

(USE ADDITIONAL SHEETS IF NECESSARY)

File Original and First Copy
with Department of Ecology
Second Copy- Owner's Copy
Third Copy- Driller's Copy

WATER WELL REPORT

ENTERED

Start Card No. W106233
Well ID No. ACW193
Water Permit No. _____
Tax Parcel No. _____

1. OWNER: Name: PERRY & MARY PUGH Address: P.O. BOX 92, EASTSOUND, WA 98245
2. LOCATION OF WELL: County SAN JUAN SE 1/4 SW 1/4 Sec 11 T 37 N., R 2 W.M.

37-2E-11P

2a. STREET ADDRESS OF WELL (or nearest address) MT BAKER RD
3. PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

10. WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe color, character, size of material and structure and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

4. TYPE OF WORK: Owner's number of well _____ (if more than one)
Abandoned New Well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

MATERIAL	FROM	TO
BROWN SILTY CLAYEY SAND & GRAVEL	0	6
BROWN SILTY SAND	6	14
GRAY SANDY CLAY	14	39
GRAY TILL	39	65
GRAY SILTY SAND (SMALL AMT H2O)	65	92
GRAY ROCK	92	97

5. DIMENSIONS: Diameter of Well 6 inches.
Drilled 97 feet. Depth of completed well 91 ft.

(HOLE BACKFILLED TO 91 FT WITH BENTONITE CHIPS)

6. CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from +1 ft. to 86 ft.
Welded " Diam. from _____ ft. to _____ ft.
Liner installed _____ " Diam. from _____ ft. to _____ ft.
Threaded _____ " Diam. from _____ ft. to _____ ft.

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JUN 14 1999

DEPT OF ECOLOGY

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforation from _____ ft. to _____ ft.
_____ perforation from _____ ft. to _____ ft.
_____ perforation from _____ ft. to _____ ft.

Screens: Yes No
Manufacturer's Name JOHNSON
Type STAINLESS Model No. _____
Diam. 6 Slot size 12 from 86 ft. to 91 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surface Seal: Yes No To what depth? 18 ft.
Material used in seal NEAT CEMENT
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

7. PUMP : Manufacturer's Name _____
Type : _____ H.P. _____

SALINITY TEST _____ PPM

8. WATER LEVELS: Land surface elevation _____
above mean sea level 82 ft.
Static level 60 ft. below top of well Date: 3/23/99
Artesian pressure _____ lbs. Per square inch Date: _____
Artesian water is controlled by _____
(cap, valve, etc.)

Work Started: 3/11/99 Completed: 3/23/99

9. WELL TESTS: Drawdown is amount water level is lowered below static level. Was a pump test made? Yes No
If yes, by whom? _____
Yield: _____ gal/min with _____ ft. drawdown after _____ hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well and it's compliance with all Washington Well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME : MARTEL WELL DRILLING
(Person, Firm, or Corporation) (Type or Print)

Address : P.O. BOX 905, FRIDAY HARBOR, WA 98250

(Signed) *Dave Spinto* License No. : 2483
Contractor's

Registration Number : MARTEWD044PA Date: _____

(USE ADDITIONAL SHEETS IF NECESSARY)

Bailer test 1500 gal./DAY. with 25 ft. drawdown after 2 hrs.
Airstest _____ gal./min. with stem set at _____ ft. for _____ hrs.
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

37-2W-14A

WATER WELL REPORT

Original & 1st copy Ecology 2nd copy owner, 3rd copy driller

Construction/Decommission (circle)

149033

Construction

Decommission ORIGINAL CONSTRUCTION Notice of Intent Number _____

CURRENT

Notice of Intent No W175758

Unique Ecology Well ID Tag No AHH 533

Water Right Permit No _____

Property Owner Name Steve Pearson

Well Street Address Enchanted Forest Rd

City Eastsound County San Juan

Location NE 1/4 1/4 NW 1/4 Sec 14 Twn 37 R 2 EWM circle one

Lat/Long (s, r still REQUIRED) Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No 271412007

PROPOSED USE Domestic Industrial Municipal
 DeWater Irrigation Test Well Other _____

TYPE OF WORK Owner's number of well (if more than one) _____
 New Well Reconditioned Method Dug Bored Driven
 Deepened Cable Rotary Jetted

DIMENSIONS Diameter of well 6 inches drilled 380 ft
Depth of completed well 62 ft

CONSTRUCTION DETAILS
Casing Welded 6 Diam from +2 ft to 102 ft
Installed Liner installed Diam from _____ ft to _____ ft
 Threaded PVC 4 Diam from +1 ft to 62 ft

Perforations Yes No
Type of perforator used _____
SIZE of perfs _____ in by _____ in and no of perfs _____ from _____ ft to _____ ft

Screens Yes No K Pac Location _____
Manufacturer's Name _____
Type _____ Model No _____
Diam 4 Slot Size 10 from 52 ft to 42 ft
Diam _____ Slot Size _____ from _____ ft to _____ ft

Gravel/Filter packed Yes No Size of gravel/sand 10-20
Materials placed from 25 ft to 62 ft

Surface Seal Yes No To what depth? 20 ft
Materials used in seal Bentonite
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

PUMP Manufacturer's Name _____
Type _____ HP _____

WATER LEVELS Land-surface elevation above mean sea level 54 ft
Static level 0 ft below top of well Date _____
Artesian pressure _____ lbs per square inch Date _____
Artesian water is controlled by CAP
(cap valve etc)

WELL TESTS Drawdown is amount water level is lowered below static level
Was a pump test made? Yes No If yes, by whom? _____
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Yield _____ gal/min with _____ ft drawdown after _____ hrs

Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____

Bailer test _____ gal/min with _____ ft drawdown after _____ hrs
Artest 1.4 gal/min with stem set at _____ ft for _____ hrs
Artesian flow 0.3 g p m Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

WELL CONSTRUCTION CERTIFICATION I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief

Driller Engineer Trainee Name (Print) Mark Sawyer
Driller/Engineer/Trainee Signature Mark Sawyer
Driller or Trainee License No 2461

Drilling Company M Sawyer Drilling & Pump Service
Address 621 obstruction Pass Rd
City, State, Zip Olga wa 98279
Contractor's Registration No WASAWYD0505 Date 5-11-04

If trainee, licensed driller's Signature and License no _____

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation Describe by color character size of material and structure and the kind and nature of the material in each stratum penetrated with at least one entry for each change of information. Indicate all water encountered (USE ADDITIONAL SHEETS IF NECESSARY)

MATERIAL	FROM	TO
Fill	0	1
Pete	1	3
Blue clay	3	48
Self & Blue clay	48	52
Rock soft	52	160
Caving -		
Sand stone	160	380

Hydrofractured & well cased in 2 days
later casing cut at 63' ~~bottom of hole~~ bottom of hole abandoned with Bentonite - 4" PVC installed with 10 ft of screen & gravel packed - steel casing pulled to 25'

RECEIVED

MAY 13 2004

DEPT OF ECOLOGY

Start Date 2-5-04 Completed Date 4-12-04

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

37-2W-13D



WATER WELL REPORT

Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

181460

Construction/Decommission ("x" in circle)

- Construction
- Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

PROPOSED USE: DeWater Domestic Irrigation Industrial Test Well Municipal Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Reconditioned Deepened **Method:** Dug Cable Bored Rotary Driven Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 158 ft.
 Depth of completed well 146 ft.

CONSTRUCTION DETAILS
 Casing Welded 6 " Diam. from +2 ft. to 110 ft.
 Installed: Liner installed _____ " Diam. from _____ ft. to _____ ft.
 Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perfs _____ in. by _____ in. and no. of perfs from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location _____
 Manufacturer's Name Johnson
 Type 304 SS Model No. _____
 Diam. 6" PS Slot size 6 from 110 ft. to 120 ft.
 Diam. 6" PS Slot size 4 from 120 ft. to 140 ft.

Gravel/Filter packed: Yes No Size of gravel/sand _____ ft.
 Materials placed from _____ ft. to _____ ft.

Surface Seal: Yes No To what depth? 18 ft.
 Material used in seal Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

WATER LEVELS: Land-surface elevation above mean sea level approx 60 ft.
 Static level 53.63 ft. below top of well Date 6/14/05
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? CR Hydrogeo.
 Yield: 73 gal./min. with 26.98 ft. drawdown after 24 hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level
1	78.80	15	76.35	120	74.35
5	77.20	30	75.60	180	74.06
10	76.84	00	74.88	1445	73.76

Date of test 6/14/05 - 6/15/05
 Bailer test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water 51 F Was a chemical analysis made? Yes No

CURRENT

Notice of Intent No. WEO3427

Unique Ecology Well ID Tag No. ALQ042

Water Right Permit No. Supplemental to all EWUA GW Rights

Property Owner Name Eastsound School District

Well Street Address Mt Baker Road @ Buck Park

City Eastsound County San Juan

Location NW1/4-1/4 NW1/4 Sec 13 Twn 37 R 2 EWM circle or WWM one

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____

Still **REQUIRED** Long Deg _____ Long Min/Sec _____

Tax Parcel No. P271322002

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Brn. Silty Clay	0	17
Brn. Silty Sand	17	75
Brn. fine to med. Sand	75	118
Gry. v. fine to fine Sand	118	158

LOG FOR EWUA - Eastsound School Well

Prepared by CR Hydrogeologic Consulting

RECEIVED

JUL 28 2005

DEPT OF ECOLOGY

Start Date 5/10/05

Completed Date 6/15/05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller Engineer Trainee Name (Print) Bryan Holt
 Driller/Engineer/Trainee Signature [Signature]
 Driller or trainee License No. 1099

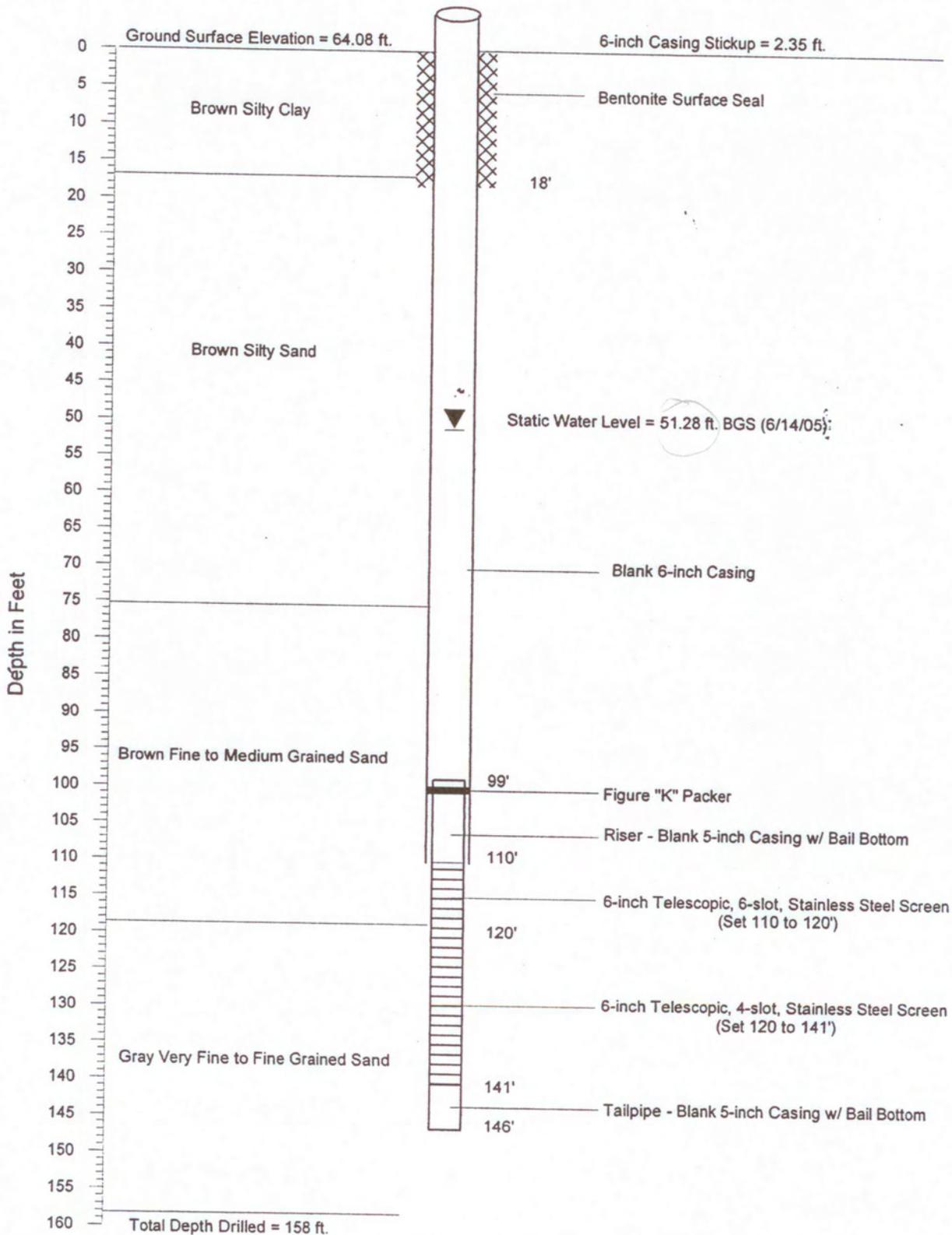
Drilling Company Holt Drilling / Boart Longyear
 Address Po Box 1890
 City, State, Zip Milton WA 98354

IF TRAINEE,
 Driller's Licensed No. _____
 Driller's Signature _____

Contractor's
 Registration No. BOARTL2055PZ Date 7-20-05
 Ecology is an Equal Opportunity Employer.

School Well
ALB ody

Eastsound School Well Lithologic Log and Completion Design



WATER WELL REPORT

File Original and First Copy
with Department of Ecology
Second Copy- Owner's Copy
Third Copy- Driller's Copy

137862

STATE OF WASHINGTON

Start Card No WE00631
Well ID No AKY639
Water Permit No _____
Tax Parcel No 271244001

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

1 **OWNER:** Name ALEXANDRINA PATTY Address P O BOX 1661, EASTSOUND, WA 98245
2 **LOCATION OF WELL:** County SAN JUAN SE 1/4 SE 1/4 Sec 12 T 37 N , R 2 W M
2a **STREET ADDRESS OF WELL** (or nearest address) TERRILL BEACH ROAD, EASTSOUND, WA 98245

3 **PROPOSED USE:** Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

4 **TYPE OF WORK:** Owner's number of well _____
(if more than one)
Abandoned New Well Method. Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

5. **DIMENSIONS:** Diameter of Well 6 inches
Drilled 43 feet Depth of completed well 43 ft

6. **CONSTRUCTION DETAILS:**
Casing installed: 6 " Diam from +1 ft. to 38 ft
Welded " Diam from _____ ft to _____ ft
Liner Installed _____ " Diam from _____ ft to _____ ft
Threaded _____ " Diam from _____ ft to _____ ft

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in by _____ in
_____ perforation from _____ ft to _____ ft
_____ perforation from _____ ft to _____ ft
_____ perforation from _____ ft to _____ ft

Screens: Yes No
Manufacturer's Name JOHNSON
Type STAINLESS Model No _____
Diam 6 Slot size 12 from 38 ft to 43 ft
Diam _____ Slot size _____ from _____ ft to _____ ft

Gravel packed: Yes No Size of gravel _____
Gravel placed from _____ ft. to _____ ft

Surface Seal: Yes No To what depth? 18 ft
Material used in seal BENTONITE CHIPS
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

7. **PUMP :** Manufacturer's Name _____
Type _____ HP _____

8. **WATER LEVELS:** Land surface elevation _____
above mean sea level 40 ft
Static level 8 ft below top of well Date 8/14/03
Artesian pressure _____ lbs Per square inch Date _____
Artesian water is controlled by _____
(cap. valve, etc)

9. **WELL TESTS:** Drawdown is amount water level is lowered below static level. Was a pump test made? Yes No
If yes, by whom? _____
Yield _____ gal/min with _____ ft drawdown after _____ hrs
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____
Bailer test 4 gal /min with 22 ft drawdown after 15 hrs
Airtest _____ gal /min with stem set at _____ ft for _____ hrs
Artesian flow _____ g p m Date _____
Temperature of water _____ Was a chemical analysis made? Yes
No

10 **WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION**
Formation Describe color, character, size of material and structure and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information

MATERIAL	FROM	TO
DARK BROWN SANDY LOAM	0	1
LIGHT BROWN SILTY SAND	1	5
LIGHT BOOWN SILTY CLAY	5	16
GRAY SILTY CLAY	16	37
GRAY MEDIUM SAND & SMALL GRAVEL	37	43
GRAY TILL	43	-

RECEIVED
AUG 25 2003
DEPT OF ECOLOGY

Work Started 8/2/03 Completed 8/14/03

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well and it's compliance with all Washington Well construction standards Materials used and the information reported above are true to my best knowledge and belief

NAME MARTEL WELL DRILLING
(Person, Firm, or Corporation) (Type or Print)
Address P O BOX 905, FRIDAY HARBOR, WA 98250
(Signed) [Signature] License No 2438
Contractor's
Registration
Number MARTEWD044PA Date 8/20/03

(USE ADDITIONAL SHEETS IF NECESSARY)

Please print, sign and return to the Department of Ecology



Water Well Report

Original - Ecology, 1st copy - owner, 2nd copy - driller

Construction/Decommission

172920

Construction

Decommission ORIGINAL INSTALLATION Notice of Intent Number _____

PROPOSED USE: Domestic Industrial Municipal
 DeWater Irrigation Test Well Other _____

TYPE OF WORK: Owner's number of well (if more than one) _____
 New well Reconditioned Deepened Method: Dug Bored Driven
 Cable Rotary Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 85 ft.
 Depth of completed well 85 ft.

CONSTRUCTION DETAILS
 Casing: Welded 6 " Diam. from 11.5 ft. to 75 ft.
 Installed: Liner installed " Diam. from " ft. to " ft.
 Threaded " Diam. from " ft. to " ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: Yes No K-Pac Location 74'
 Manufacturer's Name John
 Type Stainless Steel Model No. _____
 Diam. 5 Slot size 70 from 30 ft. to 85 ft.
 Diam. 5 Slot size 16 from 75 ft. to 80 ft.

Gravel/Filter packed: Yes No Size of gravel/sand _____ ft. to _____ ft.
 Materials placed from _____ ft. to _____ ft.

Surface Seal: Yes No To what depth? 23 ft.
 Material used in seal Bentonite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacturer's Name _____ H.P. _____
 Type: _____

WATER LEVELS: Land-surface elevation above mean sea level 185 ft.
 Static level 40 ft. below top of well Date 5-5-05
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

 Date of test _____
 Bailer test 20 gal./min. with 15 ft. drawdown after 3 hrs.
 Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

Current

Notice of Intent No. W182485

Unique Ecology Well ID Tag No. AH14580

Water Right Permit No. _____

Property Owner Name Rob Harlow

Well Street Address 1725 Mt Baker Rd

City East Sound County San Juan

Location NW 1/4-1/4 NW 1/4 Sec 14 Twn 37 R 2 EWM circle one
 WWM

Lat/Long (s, t, r) Lat Deg _____ Lat Min/Sec _____

still REQUIRED) Long Deg _____ Long Min/Sec _____

Tax Parcel No. 271422008002

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Sandy loam	0	2
Tan Gravel w/ Sand	2	6
Tan Silty Clay w/ sands	6	16
Gravel		
Grey Gravelly Clay	16	56
Grey Gravelly Clay w/ lenses of med coarse Sand	56	60
Grey Gravelly clay	60	68
Grey Gravelly tight clay	68	77
Gravel med coarse Sand	77	84
grey med-coarse silty sand w/ clay lenses	84	85

RECEIVED

MAY 25 2005

DEPT OF ECOLOGY

Start Date 4-29-05 Completed Date 5-5-05

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Driller/Engineer/Trainee Name (Print) Ken Engle

Driller/Engineer/Trainee Signature Ken Engle

Driller or trainee License No. 1390

Drilling Company M. Sawyer Drilling & Pump Service

Address 7761 Young Rd

City, State, Zip Olga WA 98279

Contractor's Registration No. MSAW4U5055NB Date 5-17-05

Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev 2/03)

IF TRAINEE.
 Driller's Licensed No. _____
 Driller's Signature _____

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

APPENDIX B
LOPEZ ISLAND MONITORING NETWORK WELL LOGS

The Department of Ecology does NOT Warranty the Data and/or the Information on this Well Report.

File Original and First Copy with Department of Ecology
Second Copy-Owner's Copy
Third Copy-Driller's Copy

WATER WELL REPORT

ENTERED

STATE OF WASHINGTON 35-2^W-15/B

Start Card No : W054185
Well IP No _____
Water Permit No _____

1. OWNER : Name: RON & JENNIFER MENG Address: P.O. BOX 88, LOPEZ, WA 98261

2. LOCATION OF WELL : County SAN JUAN NW 1/4 NE 1/4 Sec 15 T 35 N. R 2 W.M.

2a. STREET ADDRESS OF WELL (or nearest address) _____

3. PROPOSED USE: Domestic Industrial Municipal Irrigation Test Well Other DeWater

4. TYPE OF WORK: Owner's number of well _____ (if more than one) _____
Abandoned New Well Method: Dug Bored
Deepened Cable Driven
Reconditioned Rotary Jetted

5. DIMENSIONS: Diameter of well 6 inches.
Drilled 150 feet. Depth of completed well 150 ft

6. CONSTRUCTION DETAILS:
Casing installed: 6" Diam. from +1 ft. to 150 ft.
Welded " Diam. from _____ ft. to _____ ft.
Liner installed _____ " Diam. from _____ ft. to _____ ft.
Threaded _____ " Diam. from _____ ft. to _____ ft.

Perforations: Yes No
Type of perforator used _____
SIZE of perforations _____ in. by _____ in.
_____ perforation from _____ ft to _____ ft.
_____ perforation from _____ ft to _____ ft.
_____ perforation from _____ ft to _____ ft.

Screens: Yes No
Manufacturer's Name _____
Type _____ Model No _____
Diam _____ Slot size _____ from _____ ft. to _____ ft.
Diam _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel _____
Gravel placed from _____ ft. to _____ ft.

Surfact Seal: Yes No To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? Yes No
Type of water? _____ Depth of strata _____
Method of sealing strata off _____

7. PUMP : Manufacturer's Name _____
Type : _____ H.P. _____

8. WATER LEVELS: Land surface elevation _____
above mean sea level 120 ft
Static level 113 ft below top of well Date 9/21/95
Artesian pressure _____ lbs. per square inch Date _____
Artesian water is controlled by _____ (cap.valve,etc)

9. WELL TESTS: Drawdown is amount water level is lowered below static level. Was a pump test made? Yes No
If yes, by whom? _____
Yield: _____ gal/min with _____ ft drawdown after _____ hrs

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Date of test _____

Bailer test 7 gal./min. with 17 ft. drawdown after 1 hrs
Airstest _____ gal./min. with stem set at _____ ft. for _____ hrs
Artesian flow _____ g.p.m. Date _____
Temperature of water _____ Was a chemical analysis made? Yes No

10. WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure and show thickness of aquifers and the kind and nature of of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
BROWN SANDY LOAM	0	1
BROWN SANDY GRAVEL	1	4
BROWN SANDY SILT	4	38
BROWNISH GRAY TILL	38	137
BROWNISH GRAY TILL (MORE GRAVEL)	137	147
BROWN MEDIUM GRAVEL (H2O)	147	150

RECEIVED
OCT 05 1995
DEPT. OF ECOLOGY

Work started : SEPTEMBER 15, 1995. Completed : SEPTEMBER 21, 1995

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME : MARTEL WELL DRILLING INC.
(Person, Firm, Or Corporation) (Type Or Print)

Address : P.O. BOX 905, FRIDAY HARBOR, WA 98250.

(Signed) [Signature] License No. : 2153
(Well Driller)

Contractor's Registration Number : MARTRWD12107 Date : SEPTEMBER 26, 1995.

(USE ADDITIONAL SHEETS IF NECESSARY)

File Original and First Copy with
 Department of Ecology
 Second Copy — Owner's Copy
 Third Copy — Driller's Copy

WATER WELL REPORT

Barbara Grant STATE OF WASHINGTON
 Water Right Permit No. _____

OWNER: Name LARRY MORROW Address P.O. Box 446 Lopez wa. 98261-0446

LOCATION OF WELL: County SAN JUAN SW 1/4 SW 1/4 Sec 14 T. 35N N. R. 2W W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Fishermans Bay Rd. 2514

(3) PROPOSED USE: Domestic Industrial Municipal
 Irrigation Test Well Other
 DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) _____
 Abandoned New well Method: Dug Bored
 Deepened Cable Driven
 Reconditioned Rotary Jetted

(5) DIMENSIONS: Diameter of well 6" inches.
 Drilled 125' feet. Depth of completed well 125 ft.

(6) CONSTRUCTION DETAILS:
 Casing installed: 6" Diam. from +2 ft. to -120 ft.
 Welded Liner installed Diam. from _____ ft. to _____ ft.
 Threaded Diam. from _____ ft. to _____ ft.

Perforations: Yes No
 Type of perforator used _____
 SIZE of perforations _____ in. by _____ in.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.
 _____ perforations from _____ ft. to _____ ft.

Screens: Yes No
 Manufacturer's Name Johnson
 Type _____ Model No. _____
 Diam. 5 Slot size 12 from 120 ft. to 125 ft.
 Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel packed: Yes No Size of gravel _____
 Gravel placed from _____ ft. to _____ ft.
 Surface seal: Yes No To what depth? 18 ft.
 Material used in seal Bentolite
 Did any strata contain unusable water? Yes No
 Type of water? _____ Depth of strata _____
 Method of sealing strata off _____

(7) PUMP: Manufacturer's Name _____
 Type: _____ H.P. _____

(8) WATER LEVELS: Land-surface elevation 96 ft. above mean sea level
 Static level 90 ft. below top of well Date 7-10-98
 Artesian pressure _____ lbs. per square inch Date _____
 Artesian water is controlled by _____ (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
 Was a pump test made? Yes No If yes, by whom? _____
 Yield: _____ gal./min. with _____ ft. drawdown after _____ hrs.

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test _____
 Bailor test _____ gal./min. with _____ ft. drawdown after _____ hrs.
 Airstest 5+ gal./min. with stem set at 124 ft. for 2 hrs.
 Artesian flow _____ g.p.m. Date _____
 Temperature of water _____ Was a chemical analysis made? Yes No

(10) WELL LOG or ABANDONMENT PROCEDURE DESCRIPTION

Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information.

MATERIAL	FROM	TO
SANDY loam	1	-2
Tan clay	2	45
BRW sand	45	47
Blue clay	47	51
Blue sand	51	52
Blue clay	52	69
Blue clay (blue)	69	83
Blue sand	83	87
Blue clay	87	120
Water bearing coarse gravel	120	125

Work Started July 6, 19. Completed July 10, 1998

WELL CONSTRUCTOR CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

NAME M. Sawyer Drilling & Pump Service
 (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address HC1 Box 160 Olja wa 98279

(Signed) M. Sawyer License No. 2305
 (WELL DRILLER)

Contractor's Registration No. MSAW4DSC55NB Date 8-2, 1998

(USE ADDITIONAL SHEETS IF NECESSARY)

APPENDIX C
WATER QUALITY DATA



Burlington WA

Corporate Office

1620 S Walnut St - 98233
800.755.9295 • 360.757.1400

Bellingham WA

Microbiology

805 Orchard Dr Ste 4 - 98225
360.671.0688

Portland OR

Microbiology/Chemistry

9150 SW Pioneer Ct Ste W- 97070
503.682.7802

June 18, 2013

Page 1 of 1

Ms. Vickie Heater
San Juan County Health Dept.
PO BOX 607
Friday Harbor, WA 98250

RE: 13-10015 - Lopez Monitoring Network

Dear Ms. Vickie Heater,

Your project: Lopez Monitoring Network, was received on Monday June 10, 2013.

The following comments are reported for your project:

The samples were received past holding time for the Nitrate testing. Per Vicki Heater, the Nitrate analyses were still performed.

If you have questions phone us at 800 755-9295.

Respectfully Submitted,

Lawrence J Henderson, PhD
Director of Laboratories

Enclosures Data Report



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9150 SW Pioneer Ct Ste W- 97070
503.682.7802

Data Report

Client Name: San Juan County Health Dept.
PO BOX 607
Friday Harbor, WA 98250

Reference Number: **13-10015**
Project: Lopez Monitoring Network

Report Date: 6/18/13
Date Received: 6/10/13
Reviewed by:

Sample Description: Greene - Lopez Monitoring Network										Sample Date: 6/6/13			
Lab Number: 23044		Sample Comment:								Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment	
7440-70-2	CALCIUM	86.3	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7439-95-4	MAGNESIUM	71.2	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7440-09-7	POTASSIUM	11.9	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7440-23-5	SODIUM	77.1	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
16887-00-6	CHLORIDE	182	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A		
14797-55-8	NITRATE-N	0.18	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time	
E-14506	ALKALINITY	417	10	10		mg CaCO3/L		310.2	6/13/13	SPL	310.2_130613		
E-10184	ELECTRICAL CONDUCTIVITY	1423	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611		
14808-79-8	SULFATE	86	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A		

Sample Description: DNR - Lopez Monitoring Network										Sample Date: 6/6/13			
Lab Number: 23045		Sample Comment:								Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment	
7440-70-2	CALCIUM	87.6	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7439-95-4	MAGNESIUM	52.2	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7440-09-7	POTASSIUM	7.6	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7440-23-5	SODIUM	52.4	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
16887-00-6	CHLORIDE	100	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A		
14797-55-8	NITRATE-N	ND	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time	
E-14506	ALKALINITY	436	10	10		mg CaCO3/L		310.2	6/13/13	SPL	310.2_130613		
E-10184	ELECTRICAL CONDUCTIVITY	1089	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611		
14808-79-8	SULFATE	21	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A		

Sample Description: Mengs - Lopez Monitoring Network										Sample Date: 6/6/13			
Lab Number: 23046		Sample Comment:								Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment	
7440-70-2	CALCIUM	76.3	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7439-95-4	MAGNESIUM	34.4	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		
7440-09-7	POTASSIUM	6.9	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A		

Notes:

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Data Report

7440-23-5	SODIUM	30.2	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
16887-00-6	CHLORIDE	41	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A	
14797-55-8	NITRATE-N	0.11	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time
E-14506	ALKALINITY	336	10	10		mg CaCO3/L00		310.2	6/13/13	SPL	310.2_130613	
E-10184	ELECTRICAL CONDUCTIVITY	793	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611	
14808-79-8	SULFATE	38	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A	

Sample Description: Woodman - Lopez Monitoring Network									Sample Date: 6/6/13			
Lab Number: 23047			Sample Comment:						Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	45.6	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7439-95-4	MAGNESIUM	18.6	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-09-7	POTASSIUM	4.0	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-23-5	SODIUM	28.0	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
16887-00-6	CHLORIDE	34	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A	
14797-55-8	NITRATE-N	1.81	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time
E-14506	ALKALINITY	196	10	10		mg CaCO3/L00		310.2	6/13/13	SPL	310.2_130613	
E-10184	ELECTRICAL CONDUCTIVITY	521	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611	
14808-79-8	SULFATE	22	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A	

Sample Description: Aiken - Lopez Monitoring Network									Sample Date: 6/6/13			
Lab Number: 23048			Sample Comment:						Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	50.7	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7439-95-4	MAGNESIUM	18.4	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-09-7	POTASSIUM	2.9	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-23-5	SODIUM	23.1	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
16887-00-6	CHLORIDE	34	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time
E-14506	ALKALINITY	208	10	10		mg CaCO3/L00		310.2	6/13/13	SPL	310.2_130613	
E-10184	ELECTRICAL CONDUCTIVITY	508	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611	
14808-79-8	SULFATE	16	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A	

Sample Description: Roberts - Lopez Monitoring Network									Sample Date: 6/6/13			
Lab Number: 23049			Sample Comment:						Collected By: Unknown			
CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	80.5	0.500	0.500	0.02	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7439-95-4	MAGNESIUM	53.5	0.500	0.500	0.003	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-09-7	POTASSIUM	8.4	0.500	0.500	0.1	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	
7440-23-5	SODIUM	34.7	1.0	1.0	0.04	mg/L	1.00	200.7	6/14/13	BJ	200.7-130614A	

Notes: _____

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 D.F. - Dilution Factor

Data Report

16887-00-6	CHLORIDE	43	0.1	0.1	0.014	mg/L	1.00	300.0	6/11/13	BJ	I130610A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.011	mg/L	1.00	300.0	6/11/13	BJ	I130610A	Run out of hold time
E-14506	ALKALINITY	406	10	10		mg CaCO ₃ /L	1.00	310.2	6/13/13	SPL	310.2_130613	
E-10184	ELECTRICAL CONDUCTIVITY	967	10	10		uS/cm	1.00	SM2510 B	6/11/13	SRF	EC_130611	
14808-79-8	SULFATE	78	0.2	1	0.016	mg/L	1.00	300.0	6/11/13	BJ	I130610A	

Notes: _____

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PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

D.F. - Dilution Factor



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503.682.7802

Data Report

Client Name: San Juan County Health Dept.
PO BOX 607
Friday Harbor, WA 98250

Reference Number: **12-19933**
Project: Monitoring Wells

Report Date: 11/29/12

Date Received: 11/14/12

Reviewed by: *pr*

Sample Description: Roberts - Monitoring Wells
Lab Number: 45548

Sample Date: 11/14/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	86.6	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7439-95-4	MAGNESIUM	59.3	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-09-7	POTASSIUM	8.4	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-23-5	SODIUM	36.7	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
16887-00-6	CHLORIDE	42	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
16984-48-8	FLUORIDE	0.19	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14808-79-8	SULFATE	74	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
E-14506	ALKALINITY	390	1.00	1.00		mg CaCO ₃ /L	1.00	SM2320 B	11/19/12	SPL	ALK_121119	
E-10184	ELECTRICAL CONDUCTIVITY	951	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120	

Sample Description: Mengers - Monitoring Wells
Lab Number: 45549

Sample Date: 11/14/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	82.3	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7439-95-4	MAGNESIUM	38.7	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-09-7	POTASSIUM	6.7	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-23-5	SODIUM	32.1	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
16887-00-6	CHLORIDE	40	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
16984-48-8	FLUORIDE	0.13	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14808-79-8	SULFATE	37	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
E-14506	ALKALINITY	324	1.00	1.00		mg CaCO ₃ /L	1.00	SM2320 B	11/19/12	SPL	ALK_121119	
E-10184	ELECTRICAL CONDUCTIVITY	771	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120	

Sample Description: Grant - Monitoring Wells
Lab Number: 45550

Sample Date: 11/14/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	44.6	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	

Notes:

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D.F. - Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Data Report

7439-95-4	MAGNESIUM	51.3	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
7440-09-7	POTASSIUM	5.8	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
7440-23-5	SODIUM	48.1	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
16887-00-6	CHLORIDE	67	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	1121114A
16984-48-8	FLUORIDE	0.12	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	1121114A
14797-55-8	NITRATE-N	ND	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	1121114A
14808-79-8	SULFATE	108	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	1121114A
E-14506	ALKALINITY	210	1.00	1.00		mg CaCO3/L00		SM2320 B	11/19/12	SPL	ALK_121119
E-10184	ELECTRICAL CONDUCTIVITY	793	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120

Sample Description: Aiken - Monitoring Wells
 Lab Number: 45551

Sample Date: 11/14/12
 Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	52.1	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7439-95-4	MAGNESIUM	19.9	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-09-7	POTASSIUM	2.8	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-23-5	SODIUM	24.1	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
16887-00-6	CHLORIDE	28	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
16984-48-8	FLUORIDE	0.11	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
14808-79-8	SULFATE	15	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
E-14506	ALKALINITY	202	1.00	1.00		mg CaCO3/L00		SM2320 B	11/19/12	SPL	ALK_121119	
E-10184	ELECTRICAL CONDUCTIVITY	494	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120	

Sample Description: Woodman - Monitoring Wells
 Lab Number: 45552

Sample Date: 11/14/12
 Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	49.6	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7439-95-4	MAGNESIUM	20.8	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-09-7	POTASSIUM	4.2	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-23-5	SODIUM	36.5	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
16887-00-6	CHLORIDE	43	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
16984-48-8	FLUORIDE	0.13	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
14797-55-8	NITRATE-N	1.61	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
14808-79-8	SULFATE	22	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	1121114A	
E-14506	ALKALINITY	189	1.00	1.00		mg CaCO3/L00		SM2320 B	11/19/12	SPL	ALK_121119	
E-10184	ELECTRICAL CONDUCTIVITY	540	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120	

Sample Description: Green - Monitoring Wells
 Lab Number: 45553

Sample Date: 11/14/12
 Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
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Notes:

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 D.F. - Dilution Factor

Data Report

7440-70-2	CALCIUM	95.4	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
7439-95-4	MAGNESIUM	81.9	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
7440-09-7	POTASSIUM	12.6	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
7440-23-5	SODIUM	85.2	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A
16887-00-6	CHLORIDE	191	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	I121114A
16984-48-8	FLUORIDE	0.16	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	I121114A
14797-55-8	NITRATE-N	0.19	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	I121114A
14808-79-8	SULFATE	83	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	I121114A
E-14506	ALKALINITY	400	1.00	1.00		mg CaCO3/L.00		SM2320 B	11/19/12	SPL	ALK_121119
E-10184	ELECTRICAL CONDUCTIVITY	1416	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120

Sample Description: DNR - Monitoring Wells
 Lab Number: 45554

Sample Date: 11/14/12
 Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	80.4	0.500	0.500	0.02	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7439-95-4	MAGNESIUM	54.7	0.500	0.500	0.003	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-09-7	POTASSIUM	7.6	0.500	0.500	0.1	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
7440-23-5	SODIUM	53.6	1.0	1.0	0.04	mg/L	1.00	200.7	11/28/12	BJ	200.7-121128A	
16887-00-6	CHLORIDE	93	0.1	0.1	0.017	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
16984-48-8	FLUORIDE	0.16	0.5	0.1	0.004	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.014	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
14808-79-8	SULFATE	13	0.2	1	0.009	mg/L	1.00	300.0	11/15/12	BJ	I121114A	
E-14506	ALKALINITY	373	1.00	1.00		mg CaCO3/L.00		SM2320 B	11/19/12	SPL	ALK_121119	
E-10184	ELECTRICAL CONDUCTIVITY	968	10	10		uS/cm	1.00	SM2510 B	11/20/12	SRF	ec_121120	

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 D.F. - Dilution Factor



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Data Report

Client Name: San Juan County Health Dept.
PO BOX 607
Friday Harbor, WA 98250

RECEIVED
APR 25 2012
HEALTH & COMMUNITY SERVICES

Reference Number: **12-05519**
Project: April Sampling

Report Date: 4/20/12
Date Received: 4/11/12
Reviewed by: *JN*

Sample Description: Mengo	Sample Date: 4/11/12
Lab Number: 12901	Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	79.2	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7439-95-4	MAGNESIUM	35.8	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-09-7	POTASSIUM	5.6	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-23-5	SODIUM	29.2	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
16887-00-6	CHLORIDE	41	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
16984-48-8	FLUORIDE	0.13	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14808-79-8	SULFATE	36	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
E-14506	ALKALINITY	336	5.0	5.0		mg CaCO3/L00		SM2320 B	4/12/12	SPL	ALK_120412	
E-10184	ELECTRICAL CONDUCTIVITY	794	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413	

Sample Description: Grant	Sample Date: 4/11/12
Lab Number: 12902	Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	5.8	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7439-95-4	MAGNESIUM	28.4	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-09-7	POTASSIUM	4.8	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-23-5	SODIUM	41.4	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
16887-00-6	CHLORIDE	70	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
16984-48-8	FLUORIDE	ND	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14808-79-8	SULFATE	44	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
E-14506	ALKALINITY	81.5	5.0	5.0		mg CaCO3/L00		SM2320 B	4/12/12	SPL	ALK_120412	
E-10184	ELECTRICAL CONDUCTIVITY	521	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413	

Sample Description: Aiken	Sample Date: 4/11/12
Lab Number: 12903	Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	51.1	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	

Notes:
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 PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
 D.F. - Dilution Factor

If you have any questions concerning this report contact Lawrence Henderson at the above phone number.

Data Report

7439-95-4	MAGNESIUM	18.4	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
7440-09-7	POTASSIUM	2.4	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
7440-23-5	SODIUM	21.7	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
16887-00-6	CHLORIDE	28	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A
16984-48-8	FLUORIDE	0.11	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A
14797-55-8	NITRATE-N	ND	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A
14808-79-8	SULFATE	15	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A
E-14506	ALKALINITY	209	5.0	5.0		mg CaCO ₃ /L00		SM2320 B	4/12/12	SPL	ALK_120412
E-10184	ELECTRICAL CONDUCTIVITY	506	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413

Sample Description: Woodman
Lab Number: 12904

Sample Date: 4/11/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	48.0	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7439-95-4	MAGNESIUM	19.3	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-09-7	POTASSIUM	3.6	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-23-5	SODIUM	31.3	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
16887-00-6	CHLORIDE	39	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
16984-48-8	FLUORIDE	0.12	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14797-55-8	NITRATE-N	1.32	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14808-79-8	SULFATE	21	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
E-14506	ALKALINITY	197	5.0	5.0		mg CaCO ₃ /L00		SM2320 B	4/12/12	SPL	ALK_120412	
E-10184	ELECTRICAL CONDUCTIVITY	541	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413	

Sample Description: DNR
Lab Number: 12905

Sample Date: 4/11/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	76.7	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7439-95-4	MAGNESIUM	46.4	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-09-7	POTASSIUM	6.4	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-23-5	SODIUM	44.4	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
16887-00-6	CHLORIDE	79	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
16984-48-8	FLUORIDE	0.19	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14797-55-8	NITRATE-N	ND	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14808-79-8	SULFATE	16	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
E-14506	ALKALINITY	383	5.0	5.0		mg CaCO ₃ /L00		SM2320 B	4/12/12	SPL	ALK_120412	
E-10184	ELECTRICAL CONDUCTIVITY	944	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413	

Sample Description: Roberts
Lab Number: 12906

Sample Date: 4/11/12
Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
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Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
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D.F. - Dilution Factor

Data Report

7440-70-2	CALCIUM	84.4	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
7439-95-4	MAGNESIUM	56.4	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
7440-09-7	POTASSIUM	7.7	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
7440-23-5	SODIUM	34.9	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A
16887-00-6	CHLORIDE	43	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A
16984-48-8	FLUORIDE	0.2	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A
14797-55-8	NITRATE-N	ND	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A
14808-79-8	SULFATE	73	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A
E-14506	ALKALINITY	404	5.0	5.0		mg CaCO ₃ /L.00		SM2320 B	4/12/12	SPL	ALK_120412
E-10184	ELECTRICAL CONDUCTIVITY	960	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413

Sample Description: Green	Sample Date: 4/11/12
Lab Number: 12907	Collected By: Unknown

CAS ID#	Parameter	Result	PQL	MRL	MDL	Units	DF	Method	Analyzed	Analyst	Batch	Comment
7440-70-2	CALCIUM	90.4	0.500	0.500	0.03	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7439-95-4	MAGNESIUM	75.5	0.500	0.500	0.002	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-09-7	POTASSIUM	11.6	0.500	0.500	0.08	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
7440-23-5	SODIUM	77.2	1.0	1.0	0.04	mg/L	1.00	200.7	4/18/12	BJ	200.7-120418A	
16887-00-6	CHLORIDE	187	0.1	0.1	0.015	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
16984-48-8	FLUORIDE	0.18	0.1	0.1	0.013	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14797-55-8	NITRATE-N	0.18	0.100	0.100	0.009	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
14808-79-8	SULFATE	82	0.2	1	0.017	mg/L	1.00	300.0	4/12/12	BJ	1120411A	
E-14506	ALKALINITY	417	5.0	5.0		mg CaCO ₃ /L.00		SM2320 B	4/12/12	SPL	ALK_120412	
E-10184	ELECTRICAL CONDUCTIVITY	1457	10	10		uS/cm	1.00	SM2510 B	4/13/12	SRF	ec_120413	

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 D.F. - Dilution Factor