MARBLEMOUNT QUARRY
HYDROGEOLOGIC SITE ASSESSMENT
ROCKPORT CASCADE ROAD
SKAGIT COUNTY, WA
APN P45543, P128574, P120304, P45550, P45548 AND P45541

Submitted to Kiewit Infrastructure Co.
Attn: Chuck Nylund
January 16, 2019

ELEMENT solutions

Submitted By:
ELEMENT Solutions
909 Squalicum Way Suite 111
Bellingham, WA 98225
Office | (360) 671-9172
info@elementsolutions.org

(Intentionally Left Blank)

Table of Contents

Acronyms and Abbreviations

AST	Above Ground Storage Tank
bgs	Below Ground Surface
County	Skagit County
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
Element	Element Solutions
LiDAR	Light Detection And Ranging Elevation Information
NCARS	North Carolina Agricultural Research Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
Planning	Skagit County Planning and Development Services
PSLC	Puget Sound LiDAR Consortiums
RCW	Revised Code of Washington
ROW	Right of Way
SCC	Skagit County Code
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Survey
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife

1 INTRODUCTION

1.1 Purpose and Background

Element Solutions was retained by the client, Kiewit Infrastructure Co. to provide a hydrogeologic site assessment for a proposed Marblemount Quarry Project (Project) in Skagit County, Washington (Appendix A: Figure 1).

The purpose of the Proposed Project is to supply quarry rock and jetty stone for several projects of nationwide significance at the Mouth of the Columbia River (MCR) in northwestern Oregon and to provide local supply for quarry rock needs. Jetty stone requires unique physical properties that few available quarry sources along the west coast of the Unites States can provide. The previous primary source of jetty stone was the Beaver Lake Quarry which is now nearly depleted. The rock at the Marblemount Quarry meets stringent jetty stone requirements, which is why this site was selected. No other viable, ready-to-permit jetty stone sources have been identified.

A legally-established small-scale talus quarry was in operation at the site for many years but is currently inactive. The previous talus quarry and the proposed Project are within the Mineral Resource Overlay (MRO) designation in the Skagit County Comprehensive Plan. A Conditional Use Permit was previously granted for quarry rock removal at this site; however, the scale of the mining operations and footprint have expanded. These changes necessitate a modified and updated Special Use Permit, expansion of the MRO through a Skagit County Comprehensive Plan Amendment update, and Department of Natural Resources (DNR) Reclamation Plan.

The objectives of this assessment are to evaluate and describe the existing hydrogeologic conditions and processes occurring within the groundwater system in the Project Area and determine how the proposed action would impact the hydrology and groundwater in the vicinity of the Project Area to the extent feasible. Specifically, this study is to determine if the proposed quarrying operation would impact surface water, aquifer recharge areas, and/or drinking water supply sources.

This report has been developed in general conformance with the site assessment and reporting requirements specified in the MRO sections of the Skagit County Code (SCC) 14.16.440(8)(b).

No geotechnical borings were conducted during the field assessment, and no warranty regarding the subsurface hydrology or the distribution, composition, or competency of geologic strata outside of the areas and/or depths directly evaluated during this assessment is expressed or implied.

1.2 Location and Physiography

The Project is located on Rockport Cascade Road south of Marblemount, Skagit County, Washington (APNs P45543, P128574, P120304, P45550, P45548 and P45541), in the northwest ¼ of Section 24, Township 35 North, and Range 10 east of the Willamette Meridian (Figure 1, Appendix A). The location of the Project being evaluated for quarry activity is located at the interface between the Skagit River valley floor and the North Cascade mountain range complex. The site is accessed from Rockport Cascade Road via a short gravel driveway and turnaround.

1.3 Proposed Project

Brief Description

The Proposed Project includes boundary line adjustments, site clearing, site grading, road building, quarry operations, and reclamation of a bedrock quarry on Rockport Cascade Road approximately one mile south of Marblemount, WA (**Figure 1**). The Proposed Project will involve development activities on parcels P45543, P128574, P120304, P45550, and parts of P45548 and P45541. A majority of the mining would take place on P45543, which has been used as a small-scale quarry (under 3 acres) over the past several decades. The overall project limit footprint at full buildout is approximately 120 acres (**Figure 2**). At full buildout, the proposed mining footprint would encompass approximately 30 acres (20 acres proposed for Phase I); quarry operations—including roads, stockpile areas, stormwater management, and operations areas—would encompass approximately 60 acres; and approximately 30 acres would be retained vegetation areas(**Figure 2**).

Currently, stands of second-growth timber cover a majority of the site and an approximately 800-foot-high rock face dominates P45543. This rock face consists of Shuksan greenschist, which is the desired quarry stone source.

The proposed project would occur in four steps:

1. Boundary Line Adjustment, Site Clearing, Preparation, and Building Access Road for Forest Practice Conversion;
2. Mining within the MRO Overlay Area;
3. Possible Quarry Expansion, Contingent on MRO Boundary Change, and;
4. Quarry Reclamation.

Step 1 – Boundary Line Adjustment, Site Clearing, Preparation, and Building Access Road for Forest Practice Conversion would include acquiring and performing boundary line adjustments on P128574. The property line would be adjusted to encompass approximately 10.2 acres of P45541. Additionally, an approximately 20.2-acre portion of P45548 would also be boundary line adjusted to P128574. Step 1 also includes clearing, removing stumps, site grading, and road construction on Parcels P45543, P45550, P120304, P128574, and parts of P45548 and P45541. Marketable timber will be removed from the site. An approximately 6,700-foot gravel access road would be built to access the top and eastern portions of the project site. Wood mulch and top soil would be stockpiled on site for future reclamation. Access to the site would include building two new access driveways on Rockport Cascade Road and decommissioning the two existing access points. Grading and roadways for quarry operations and stormwater management will be constructed on the western portion of the project limits. The road providing access to the eastern portion of the site would be designed to meet or exceed Skagit County standards, Washington Department of Natural Resources (DNR) Forest Practice and Mining standards, and any other standards appropriate for its use. Following site clearing and preparation, the road would be used to access the top of the quarry and for hauling rocks to the bottom for processing.

Step 2 – Mining within the MRO Overlay Area would include establishing the quarry on P45543 within the current MRO boundary per the Mining Site Plan. Step 2 would also include the construction of mining operation areas and support facilities, including an armor stone staging area in the western portion of P45543. This step would also involve constructing portable

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

offices/storage structures, a truck loadout scale, a heavy equipment and employee parking area, a fueling station, maintenance shops, and storage facilities for blasting equipment. An undersized rock stockpile area would be established within the existing MRO area on P128574 and a potential future phase undersized rock stockpile area has been designated if the MRO boundary is successfully expanded (see Step 3). Rock mining would be conducted using a "top down" approach, such that rock would be transported to the stockpile or staging areas by truck, instead of being cast off the cliff face. The land use to the south, east, and west is secondary and industrial forestry and the land use to the north is rural residential. A minimum 100-foot setback would be maintained along adjacent property lines or bordering quarry activities. A 50-foot vegetative buffer would be maintained on Rockport Cascade Road.

Step 3 – Possible Quarry Expansion, Contingent on MRO Boundary Change, would include quarry and undersized rock stockpile area expansions. Step 3 is dependent upon an expansion of the MRO through the Skagit County Comprehensive Plan Amendment process. Once the MRO overlay is expanded, the quarry area would expand approximately 10 acres into P45541, and the undersized rock stockpile area described in Step 2 would expand to the south (approximately 20 acres) onto P45548 to accommodate the additional undersized rocks from the expanded quarry. The mining activities of Step 3 would be the same as those in Step 2.

Step 4 – Quarry Reclamation would include full reclamation of all the affected parcels following decommissioning of the quarry, roads, and supporting mining operations. The full lifespan of the quarry would be up to 100 years or whenever the source of rock is exhausted. The Mining Reclamation Plan is consistent with DNR surface quarry reclamation regulations. The land will be restored to forestry land use following reclamation.

2 SITE INVESTIGATION

2.1 Methods

The review of background information, desktop analysis, and field assessments presented here rely upon existing geospatial data and imagery, geologic mapping, recorded well logs, site visits, and publicly-available scientific literature generated by third-party sources; these data are then interpreted by a licensed hydrogeologist based upon the professional judgment and experience of that individual. The data sources inventoried below in Table 1 were evaluated in a manner consistent with the level and skill ordinarily exercised by members of the geologic profession.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 | info@elementsolutions.org

Table 1: Data Used for Background Evaluation and Desktop Analysis

Data	Format	Date	Source
Aerial photography (NAIP Orthophoto)	SID	2015	USDA
LiDAR	Bare earth grid	2016	PSLC
Geology	Pdf	1986, 2002, 2003, & 2009	DNR & USGS
Soils	Accessed online	Current (2018)	USDA/NRCS Web Soil Survey
Topographic Contour Map	Shapefile	2016	Generated from LiDAR
Water Well Report (Well Logs)	Pdf	Various years	Ecology
Aquifer Recharge Area Map	Pdf	2010	Skagit County
Water Well Report and Well Head Protection Areas	Digital	2018	Ecology
Stream Distributions	Digital	2018	DNR & WDFW

2.2 Geology and Soil Characteristics

The Project Area (outlined in yellow in the USGS topographic/geology map in Figure 3) is approximately one mile south of Marblemount and 0.5 miles east of the Skagit River. Ground surface elevations in the Project Area vicinity range from 310 feet along the western parcel boundary to 1,216 feet at the crest of the rock outcrop and 500 feet east of the eastern parcel boundary (all elevations NAVD 88).

The Project Area can be broken into two geologic provinces: the mountainous cliff areas that dominate the eastern roughly 65% of the Project Area (Eastern Project Area), and the flat valley floor features which occupy approximately 35% of the western area (Western Project Area). Subsurface geology was interpreted through previously conducted third party studies and surface observations. No subsurface borings were conducted and therefore lithological contacts are estimates only (Appendix B: Cross Section).

Eastern Project Area:

The mountainous Eastern Project Area primarily contains the Mesozoic-era (Jurassic/Cretaceous-Period) Shuksan Greenschist bedrock unit. The Shuksan Greenschist is a member of the Easton Metamorphic suite, which also includes Darrington Phyllite, a metasedimentary unit which stratigraphically overlies the Shuksan Greenschist (Figure 3, adapted from Dragovich et. al., 2003). The oceanic shale and sandstone protolith of the Darrington Phyllite were deposited on top of the oceanic basalt protolith of the Shuksan Greenschist, which originally formed in the Middle and Late Jurassic and was metamorphosed in the Early Cretaceous (Brown, 1987). The Shuksan Greenschist is described as follows:

"*The Shuksan Greenschist is a fine-grained but well-recrystallized metamorphic rock, commonly containing sodic amphiboles*." -Tabor et. al., 2003

"*Predominantly fine grained greenschist and (or) blueschist derived mostly from probable Jurassic ocean-floor basalt. Blueschist contains an unusual dark-blue amphibole. The crystals are typically very small and, even with a hand lens, are not easily distinguished*." -Tabor and Haugerud, 2009

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 | info@elementsolutions.org

"*Mostly well-recrystallized and strongly S1-foliated metabasaltic greenschist or blueschist; greenschist is shades of greenish gray and weathered to light olive gray; blueschist is bluish gray to bluish green; locally includes quartzite (metachert) and graphitic phyllite interlayers; commonly layered on a centimeter scale and contains conspicuous epidote and (or) quartz segregations; S1 foliation and layering are commonly folded on an outcrop scale*." -Dragovich at. al., 2003

The Shuksan Greenschist outcrops along the western flank of the North Cascades in Washington State in a fragmented, north-south trending belt roughly 111 miles long. The metamorphic facies (blueschist and/or greenschist) are consistent with low temperature, high-pressure subduction zone metamorphism (estimated 330 – 400°C and 7 – 9 kilobars) which began roughly 144 – 164 million years ago (Ma) (Brown, 1986). Emplacement occurred with uplift and imbrication due to thrust faulting and displacement along high-angle north-south trending strike-slip faults; the time of emplacement has been roughly constrained to between 75 Ma and 105 Ma. As described in Brown (1986), fault zones in the Shuksan Greenschist are "characterized by the development of mylonite, typically 1 to 2 m thick, and showing minor new crystallization of quartz, chlorite, muscovite, stilpnomelane, and calcite." Brown (1986)

Exposures of massive outcrops of the metamorphic bedrock were encountered throughout the site as well as within the talus pile at the base of the cliff face. Much of the proposed project area was mantled with thin layer of colluvial soils and contained second growth tree and shrub vegetation as a well as abundant grass, moss, and groundcover.

Western Project Area:
The Western Project Area is underlain by surficial deposits of the Holocene/Pleistocene-Epoch (Dragovich et. al., 2003; Tabor et. al., 2003). Skagit River terraces observed near the project site primarily consist of alluvial deposits laid down during past flooding events or river avulsions and meanders. The terrace that comprises the Western Project Area is isolated from modern alluvial processes. The alluvial deposits consist of loosely-consolidated moderately-sorted cobble gravel to pebbly sand, primarily deposited by fluvial process (Tabor et. al., 2003). The Skagit River alluvial deposits are the youngest deposit (Holocene), which often cut through older glacial deposits (Pleistocene). A portion of these glacial deposits are mapped as present within the Project Area near the southern project extent. This unit is mapped as a glacial recessional outwash deposit, which generally consists of stratified sand and gravels, moderately-sorted to well-sorted, and well-bedded silty sand to silty clay (Tabor, 2003). The deposit is estimated to be associated with the Vashon Stade of the Fraser glaciation (Armstrong et. al., 1965). The mapped glacial units shown in Tabor (2003), Dragovich (2003) and Figure 3 appear to match field observations. Most of the outwash deposits are located below the valley wall and on the valley floor; the outwash deposits that are found on the slopes are generally a thin layer of glacial deposits that mantle the underlying Shuksan Greenschist bedrock.

The water well reports for adjacent and nearby drinking wells generally confirmed the DNR mapped geology, as well as our surface observations, within the alluvial and glacial outwash terrace areas. A review of the existing well reports proximate to the study site revealed that no wells were found to have been drilled within the Shuksan Greenshist. The onsite and adjacent water well reports (Ecology 2018) indicate that sands and gravels can be found from the surface down to the base of the well bore holes, usually between 32 to 40-feet below ground surface

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

(bgs) (Appendix C: Well Logs). For this study, we assume that the Alluvial/Glacial Outwash deposits extend down to at least 40 feet bgs.

NRCS Soil Classification

The NRCS Web Soil Survey (accessed online December 14, 2018 at https://websoilsurvey.sc.egov.usda.gov) indicates that there are three predominant soil units in the project area: **(4)** Andic Xerochrepts, warm-Rock outcrop complex, 65 to 90 percent slopes; **(8)** Barneston very cobbly sandy loam, 0 to 8 percent slopes, and **(135)** Squires very gravelly silt loam, 30 to 65 percent slopes (Figure 4).

The *Andic Xerochrepts, warm-Rock outcrop complex, 65 to 90 percent slopes,* soil unit has two soil components. The first component, the Andic Xerochrepts is described in the Soil Survey of Skagit County, Washington as forming in canyons and valleys as colluvium from volcanic ash, glacial drift, and phyllite, argillite, or conglomerate parent material. It is somewhat well drained, although it is not described as being prone to flooding or ponding, and is classified as a Hydrologic Soil Group B. This soil is generally more than 80 inches deep to a restrictive layer. The second component is Rock Outcrops, which forms on cliff faces and steep slopes and consists of lithic bedrock. It is not considered to be a soil, and is a restrictive layer with no hydric soil rating.

The *Barneston very cobbly sandy loam, 0 to 8 percent slopes,* soil unit is described in the Soil Survey of Skagit County, Washington as forming on outwash terraces from volcanic ash and loess over glacial outwash parent material. It is somewhat excessively drained and it is not prone to flooding or ponding, and is classified as a Hydrologic Soil Group A. This soil is generally more than 80 inches deep to a restrictive layer.

The *Squires very gravelly silt loam, 30 to 65 percent slopes,* soil unit is described in the Soil Survey of Skagit County, Washington as forming on mountain slopes from volcanic ash and colluvium from glacial drift and phyllite parent material. It is well drained, is not prone to flooding or ponding, and is classified as a Hydrologic Soil Group C. This soil is generally more than 20 to 40 inches deep to a lithic bedrock restrictive layer.

2.3 Topography

Remote sensing data, specifically WA DNR LiDAR DEM data from 2016, enabled detailed representative elevation modeling of the subject area and site vicinity. This data was supplemented with high-resolution orthophoto aerial imagery from 2015 and 2017.

The elevation of the project area ranged from 310 feet to 1216 feet in the NAVD 88 vertical datum. The high point of the project area is 1,216-feet east of the proposed mining area and along the eastern property boundary. The elevations of the active mine would range from 320 feet to 1,080 feet (NAVD 88) (Figure 3 and 7).

The topography of the project area is characterized by a steep cliff and large boulder talus slopes on the valley wall; flat riverine/glacial terraces characterize the valley floor. The cliffs and slopes on the valley wall are crosscut by three prominent ravines and ridges and several more minor ravines and ridges. The prominent ridges and ravines are southwest to northeast trending. Minor

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

ravines and ridges are perpendicular to the slope face. Large boulder fields make up colluvial fans deposits that blanket the lower slopes, having fallen from the cliff face above.

2.4 Streams and Wetlands

The Project Area is located within the Skagit River drainage basin of the Upper Skagit Water Resource Inventory Area (WRIA) 4. The Project Area sits near the crest of several small sub-basins and headwaters that contribute hydrology to the groundwater via recharge within the Project Limits. Ultimately, they contribute hydrology to the Skagit River via groundwater flow paths, however it is located outside of the Skagit River 100-year flood plain. The total contributing basin area that includes the Project Area is approximately 300 acres.

The contributing basin (Drainage Sub-basin A) above the proposed Quarry Area is conservatively estimated at 47 acres with approximately 25 acres of that including the proposed quarry area footprint (Figure 5). No surface water was expressed within the basin that includes the proposed quarry footprint.

DNR maps several streams flowing across the overall Project site. The DNR mapped stream locations are inaccurate and mischaracterized. The DNR streams are listed as perennial fish bearing stream (Type F) on the valley floor and seasonal non-fish bearing (Type Ns) on the valley wall (Figure 6). DNR and WDFW hydrology maps show the streams connecting to the Skagit River approximately 2500 feet to the southwest; however, site observations and anecdotal information from the adjacent property owners indicate that these watercourses go subsurface in the extremely well-drained alluvial terrace soils and surface flow terminates prior to or at the gravel pit just to the southwest of the Project Area (Figure 5). No evidence of surface flow beyond the terminus was observed and no culverts were located indicating that these watercourses convey flow to the Skagit River. The watercourses shown by the DNR and WDFW maps and observed within the Project Limits do not have a surface connection to any DNR or WDFW Typed Waters (Ns, Np, F, or S), even during ordinary winter hydrological conditions.

Element mapped two surface water courses occurring within the Project Limits (Watercourse A and Watercourse B). Watercourse A was characterized as having seasonal and intermittent flow that has a short reach in the upper watershed with surface flow, but eventually infiltrates within the talus slope on the valley wall and does not resurface on the alluvial terrace (Figure 5). Watercourse B was characterized as having seasonal, intermittent flow on the alluvial terrace and potentially having a segment within the steeper valley wall that may have perennial flow (personal comm. K. Ashenfelter). Watercourse B goes subsurface on the alluvial terrace before Rockport Cascade Road. Neither watercourse has surface connection to any downgradient surface waters that we observed in the field and no channel forms indicating historic flows were evident in the LiDAR topography. No culverts exist under Rockport Cascade Road for either of these two water courses suggesting that surface flows do not regularly reach or pass the roadway. During high flows, temporary ponding sometimes occurs in the gravel pit at the terminus of Watercourse B. However, it is possible that during extreme high flows, surface water could possibly flow over Rockport Cascade Road (personal communication K. Ashenfelter). Both watercourses A and B start up gradient of the Project Limits and infiltrate within the proposed Project Limits.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

Other runoff from the site either joins with the described watercourses or infiltrates at the base of the talus slope similar to Watercourse 'A'. Because of the high infiltration rates on the alluvial terrace, surface water does not leave the site. Hydrological modeling and soil infiltration analysis performed by Element Solutions and PSE indicated that 100-year flows fully infiltrate within the Project Area.

DNR and WDFW mapped stream hydrology indicates that the Skagit River, four large tributaries, and 16 smaller tributaries are located within a 1-mile radius of the Project Area (Figure 6). Only the Skagit River and the two tributaries flowing through the Project Area occur down gradient of the proposed activities. However, the onsite mapped watercourses lack surface connectivity to the Skagit River.

No regulated wetlands were found on site. The site does have a man-made pond that is artificially created and maintained, but it is not a regulated feature. Wetlands were indicated directly adjacent to the Skagit River and within a historical stream meander/oxbow on public wetland map (NWI), which indicated potential wetland areas, at their closest, were 2,100-feet and 1,700-feet respectively from the Project (Figure 6).

Mean annual precipitation at the Project site is approximately 71 inches per year (in/yr) based on the 30-year period of 1981-2010 in the Parameter-Elevation Relationships on Independent Slopes Model (PRISM, Daly and others, 1994).

2.5 Hydrogeological Conditions

Hydrogeology and Groundwater Flow

The groundwater table beneath the Project Area is expected to be primarily found in the alluvium and outwash deposits located on the western side of the project area (Figure 7 and Appendix B: Cross Section). The Shuksan Greenschist bedrock that occupies the eastern portion of the Project Area is hypothesized to essentially be an aquitard that restricts groundwater movement. The Shuksan Greenschist in the area is not extensively fractured, leading the analysis to conclude that hydraulic conductivity for this groundwater system is low and de minimis for the overall recharge and groundwater flow. The groundwater table of the unconfined alluvium/outwash aquifer within the Project Area was found to be approximately **28 feet bgs**, as shown by the drinking well bore log conducted in 2000 (Appendix C: Water Well Reports; Figure 8). The regional water table appears to range between 14 to 36 feet bgs, **averaging approximately 23 feet bgs** for elevations ranging from 292 to 313 feet above sea level (NAVD 88), as shown by drinking well bore logs in the area around the Project Area. Groundwater flow direction, interpreted through the water well reports (Appendix C) and local topography, is estimated to be in the southwesterly direction (Figure 7). Some of the Ecology water well report locations where found to be somewhat inaccurate and site locations were estimated using the best available information at the time of the report. Interpreted groundwater elevation contours drainage patterns in the vicinity of the Project Area are shown in Figure 7. We hypothesize that the groundwater within the alluvium/outwash unconfined aquifer is hydrologically connected to the Skagit River, and therefore groundwater within the aquifer would discharge into the river when the base flow of the river is less than the mean groundwater level.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

Streams and Springs

There are three potential but unconfirmed springs located within 1,000 feet of the proposed project limits. All of the known springs develop into watercourses that extend onto the valley floor downgradient of the proposed mining area, or infiltrate into the talus field on the valley wall. Two of the springs/watercourses are within the Project Area; however, their drainage basins would be unaffected by the mining activity. The access road would cross both of the onsite watercourses and their basins. These crossings, however, would be engineered to meet stormwater design specifications (Figure 2: Site Plans). Run-off from the roads and a limited amount of the contributing basin will be captured by the road-side ditches and conveyed to the stormwater treatment features and infiltrated on site.

Water Supply Wells

One domestic water supply well is located within the Project Limits (Figure 7 and 8). This well would be decommissioned prior to quarrying operations. Two other water supply wells are located within 1,000 feet of the proposed project limits. These two off-site wells are hydraulically up-gradient of the Project Limits and one of them is across a bedrock divide (Figure 7, 8, and Appendix B). The approximate locations of individual domestic and public water system wells located within 1 mile of the proposed project limits are presented on the "Water Supply Wells" (Appendix B).

Aquifer Properties

Fractured metamorphic bedrock typically can have a very wide range of hydraulic conductivities based on the amount of fractures and the rocks' effective porosity. This range can be between 0.0022 to 82 ft/day in some systems (Domenico and Schwartz, 1990). The Shuksan Greenschist within the Project Area has a relatively small amount of fracturing as observed in the field. This implies that it has low hydraulic conductivity and was estimated at of **0.022 ft/day** for this site. For the scope of this project the Shuksan Greenschist bedrock is considered an aquitard and nearly impermeable.

The alluvial deposits within the valley floor were estimated to be predominantly well-graded gravel with silt and sand with a vertical unsaturated infiltration rate of approximately **8.8 in/hr or 17 ft/day** (Appendix D: Sieve Grainsize Analysis). Although vertical infiltration rates can be different than horizontal hydraulic conductivity rates, in this case they can still provide a general estimate of the deposits' overall characteristics. This approximation is consistent with other studies conducted on the alluvial and glacial outwash deposits in the lower Skagit River basin, which had hydraulic conductivities ranging from 1 to 1,000 ft/day (USGS, 2009; 2011). Assuming a 50-ft aquifer, the minimum **transmissivity** of the alluvial aquifer would be **850 ft^2/day** for this site. **Specific storage** in the aquifer is likely to range from 0.12 to 0.26 ft/ft, and it is estimated to be **0.15 ft/ft** for this site. The **porosity** of the well-graded mixture of sand and gravel in the aquifer beneath the site is approximately **25-50%** (Fetter, 1994). Given the range of estimated physical properties for the aquifer on this site (e.g. transmissivity, hydraulic conductivities, porosity, and estimated groundwater contour lines), the **groundwater velocity** for this site is estimated to be a range between **0.24 inches/hour (0.48 ft/day) to 0.49 inches/hour (0.98 ft/day).** The aquifer within the alluvial deposits and within the project limits is a **unconfined aquifer**.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

Groundwater Quantity

The proposed mining operations do not include the use of any water supply wells and the existing water supply well located onsite would be decommissioned. A majority of the groundwater recharge that occurs onsite is conveyed via surface water runoff from the bedrock slopes on the valley wall. The WWHM model predicts that approximately a 100-year recurrence flow rate of 60 cfs would leave the quarrying area via surface runoff and fully infiltrate into the bedrock aquifer. The surface water runoff is quickly infiltrated into the alluvial/outwash deposit once it reaches the valley floor where vertical infiltration rates are estimated to be **8.8 in/hr** for this site. The proposed mining operations would excavate the side of a mountain and the base grade level would be equal to or greater than the valley floor, thereby the process would not create depressions. Furthermore, the mining operation would be contained in two drainage sub-basins (Basins A and B in Figure 5). Basin A already drains to the base of the cliff face and Basin B drains toward the south but within the Project area. The net result of the slope alterations and grading would be that approximately 30 acres of Basin B would have its surface water re-routed into Basin A. This would have little impact on the groundwater aquifer other than to concentrate recharge approximately 850 feet up gradient of its current distribution.

Finally, the proposed access road would cross two identified watercourses and drainage features. Where the road intersects Watercourses A and B, the road would be designed to facilitate the continued flow of the water within their respective wetted boundaries. The exception is that Watercourse A will flow in an engineered channel downgradient of the lower road crossing; however, it will discharge to the same location and at similar flow rate. There would be some surface water capture along the general road bed that would slightly alter the natural runoff pattern along the slope. Overall, the shift in runoff patterns would not affect the groundwater aquifer because all the runoff would continue to be routed within the Project Area boundaries via stormwater facilities and infiltrated on site with no net change to the recharge of the aquifer within the project area. See the *Engineering Analysis and Drainage Plan* for details. The undersize rock stockpile area would be established such that the rock piles would not be placed within the known watercourses or their water quality buffers.

The possibility of adverse impacts to the groundwater quantity resulting from the proposed mining plan would be very low. The decommissioning of the existing onsite water supply well would create a positive impact on water table levels in the area and a net gain to groundwater recharge in the vicinity of the project.

Groundwater Quality

The proposed mining operation and grading would maintain a 20-foot buffer of natural material between the base of quarry and typical seasonal high ground water levels. The proposal is for a surface mining operation with on-site processing limited to drilling, blasting, excavation, sizing, stockpiling and loading. Standard surface mining equipment would be used to extract the material and load it on to trucks. All stormwater generated on site would be captured within the project limits and infiltrated onsite via a stormwater management facility. Stormwater management would be conducted in accordance with Ecology's National Pollutant Discharge Elimination System (NPDES) Sand and Gravel General Permit. Fueling and maintenance of all on-site equipment would be conducted using mobile services and managed with an approved Spill Control Plan. Fueling and maintenance facilities are proposed for the site, consisting of Above

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

Ground Storage Tanks (AST) that would be decommissioned and removed at the closure of the mining operations.

For the reasons given in the above paragraph, the risk of negative groundwater quality impacts under the proposed mining operations as designed would be very low.

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

The purpose of this hydrogeologic assessment was to address requirements for a mining special use permit under SCC 14.24.330 and 14.16.440(8)(b) and to provide supporting documentation for the SEPA determination process.

- Groundwater is present beneath the site at a depth of approximately 28 feet below ground surface (elevation of approximately 280 to 288 feet NAVD88).
- Groundwater beneath the site is interpreted to flow to the southwest and presumably eventually discharges to Skagit River, located approximately 2,100 feet from the proposed project limits at its closest point.
- There are no known water supply wells located within 1,000 feet down-gradient of the proposed quarry or between the quarry boundary and the Skagit River. The existing on-site domestic well will be decommissioned.
- As designed, all stormwater run-off will be infiltrated onsite.
- The proposal is for a dry surface mining operation, with limited onsite processing. Assuming that the proposed mining plan and stormwater facilities are implemented according to the Site Plan, Spill Control Plan, and Stormwater Plan, the potential for a negative impact to ground water quantity and/or quality from the proposed mining activities would be very low.

3.2 Recommendations

In order to further reduce the potential for impacts to the groundwater quantity and/or quality, we recommend the following recommendations be included in the proposed operational and reclamation plans:

- AST and maintenance facilities should have secondary containment structures to further reduce the potential for hazardous fluids from spilling and/or being released into the environment.
    - Specifications for the secondary containment should be complaint with the following code: U.S. Code 40 CFR 264.193, WAC 173-180-320, RCW 88.46.160, RCW 88.46.165, RCW 90.56, and Skagit County Code 14.16.440.(10)(e)(ii).
- At the conclusion of the mining operations, the AST and maintenance facilities should be decommissioned and removed from the site.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

3.3 Limitations and Data Gaps

This report was prepared for Kiewit Infrastructure Co. by Element Solutions to provide a hydrogeologic site assessment for a proposed Project in Skagit County, Washington. This report and the information within it was based on the research describe above, site visits, and background research. It is important to note that subsurface conditions and hydrological characteristics can change a great deal over relatively short distances.

The following data gaps were identified as limiting factors to our hydrogeological assessment:

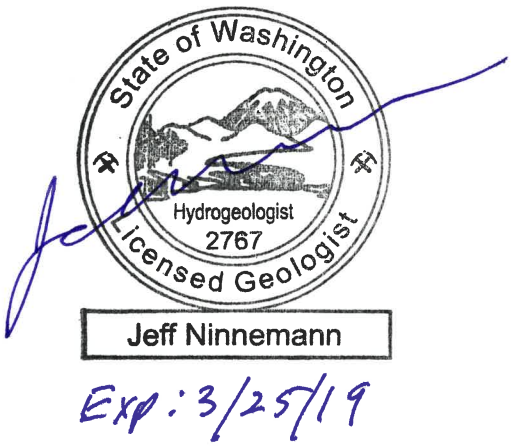
- No subsurface borings were conducted within the project limits;
    - Therefore, the subsurface geology was interrupted from surface observations, professional judgment, and past studies. The contact between geological units was estimated and not verified.
    - The groundwater level within the Shuksan Greenschist was not verified. It was assumed that the Shuksan Greenschist acts as an aquitard, given that the unit has little to no fracturing and is relatively component highly metamorphosed rock.
- The sources of recharge from Watercourse A and B were not identified. Watercourse B is purported to be a seasonal watercourse with possible extended flow durations; however, the contributing area of Watercourse B is mapped as Shuksan Greenschist, which has a low storage capacity. It was hypothesized that a shallow surface aquifer held within the soil mantling the bedrock within the relatively large contributing basin, may supply a large portion of the recharge that extends Watercourse B's flow durations.

Within the limitations of the scope, budget, and schedule, Element Solutions gave a full faith effort towards executing the requested services in accordance with generally accepted professional principles in the field of hydrogeology. No warranty, express or implied, is made.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

4 CLOSURE

This report was prepared and submitted by:



Jeff Ninnemann, LHG, PWS
Hydrogeologist/Environmental Geologist

Paul Pittman
Earth Sciences Manager – Principal

Statement of Limitations

This document has been prepared by Element Solutions for the exclusive use and benefit of the Client. No other party is entitled to rely on any of the conclusions, data, opinions, or any other information contained in this document. This document represents Element Solution's best professional judgment based on the information available at the time of its completion and as appropriate for the project scope of work. Services performed in developing the content of this document have been conducted in a manner consistent with that level and skill ordinarily exercised by members of the hydrogeology profession currently practicing under similar conditions. No warranty, expressed or implied, is made.

ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 | info@elementsolutions.org

(Intentionally Left Blank)

References

1. Brown, E. H. (1986). Geology of the Shuksan Suite, North Cascades, Washington, USA. Geological Society of America Memoirs, 164, 143-154.
2. Dragovich, J. D., R.L. Logan, H.W. Schasse, T.J. Walsh, Lingley Jr, W. S. Griesel, D.K. Norman, T.J. Lapen, J.E. Schuster, and K.D. Meyers (2002). Geologic map of Washington Northwest Quadrangle: Washington Division of Geology and Earth Resources Geologic Map GM-50.
3. Dragovich, J. D., Stanton, B. W., Lingley Jr, W. S., Griesel, G. A., & Polenz, M. (2003). Geologic map of the Mount Higgins 7.5-minute quadrangle. Skagit and Snohomish Counties, Washington: Washington Division of Geology and Earth Resources Open-File Report, 12.
4. Domenico, P.A. and F.W. Schwartz, 1990. Physical and Chemical Hydrogeology, John Wiley & Sons, New York, 824 p. Fetter, C.W., Applied Hydrogeology Third Edition. Prentice Hall Inc. Upper Saddle River, New Jersey, (1994).
5. Haugerud, R. A., & Tabor, R. W. (2009). Geologic Map of the North Cascade Range, Washington: US Geological Survey Scientific Investigations Map 2940, 2 sheets, scale 1: 200,000; 2 pamphlets, 29 p. and 23 p.
6. Natural Resources Conservation Service, Web Soil Survey, U.S. Department of Agriculture, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. (2017).
7. Tabor, R. W., Haugerud, R. A., Hildreth, W., & Brown, E. H. (2003). Geologic Map of the Mount Baker 30 by 60 Minute Quadrangle, Washington. SEA, 500, 500.
8. USGS, 2011, Numerical Simulation of the Groundwater-Flow System in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington, U.S. Geological Survey Scientific Investigations Report 2010-5184, Version 1.1, March 2011.
9. USGS, 2009, Hydrogeologic Framework, Groundwater Movement, and Water Budget in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington, U.S. Geological Survey Scientific Investigations Report 2009-5270.
10. Daly, C., Neilson, R.P., and Philips, D.L., 1994, A Statistical-topographic Model for Mapping Climatological Precipitation over Mountainous Terrain, Journal of Applied Meteorology, v. 33, pp 140-158.

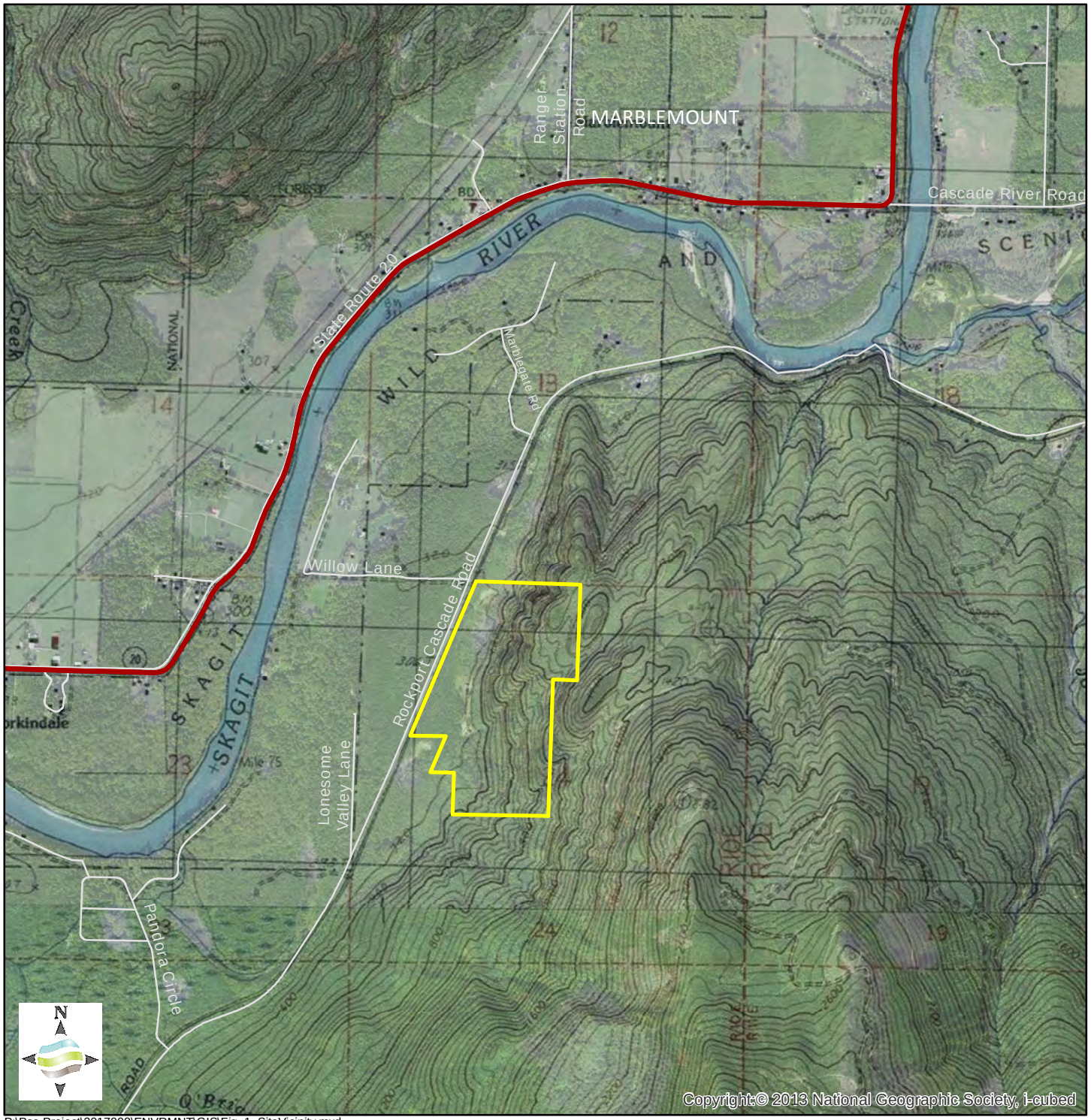
ELEMENT
909 Squalicum Way, Suite 111, Bellingham WA 98225
(360) 671-9172 |info@elementsolutions.org

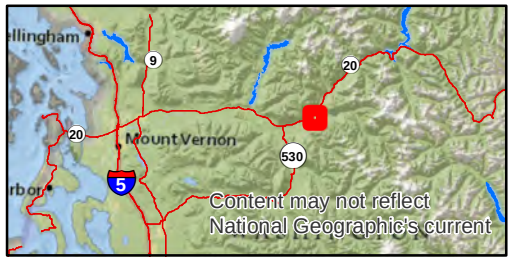
(Intentionally Left Blank)

Appendix A: Figures

1) Figure 1 – Marblemount Quarry: Site Vicinity Map
2) Figure 2 – Marblemount Quarry: Working Site Plan
3) Figure 3 – Marblemount Quarry: Topography and Geology
4) Figure 4 – Marblemount Quarry: USDA Soil Survey Soil Units
5) Figure 5– Marblemount Quarry: Mapped Streams and Sub-basins
6) Figure 6 – Marblemount Quarry: DNR Mapped Streams and NWI Mapped Wetlands
7) Figure 7: Marblemount Quarry: Groundwater Flow
8) Figure 8: Marblemount Quarry: Well Locations and Wellhead Protection Areas

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
Skagit County 2018

Project Limits
Rural Roads
State Highways

Feet
0 1,000 2,000 4,000

1:24,000

1 inch = 2,000 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

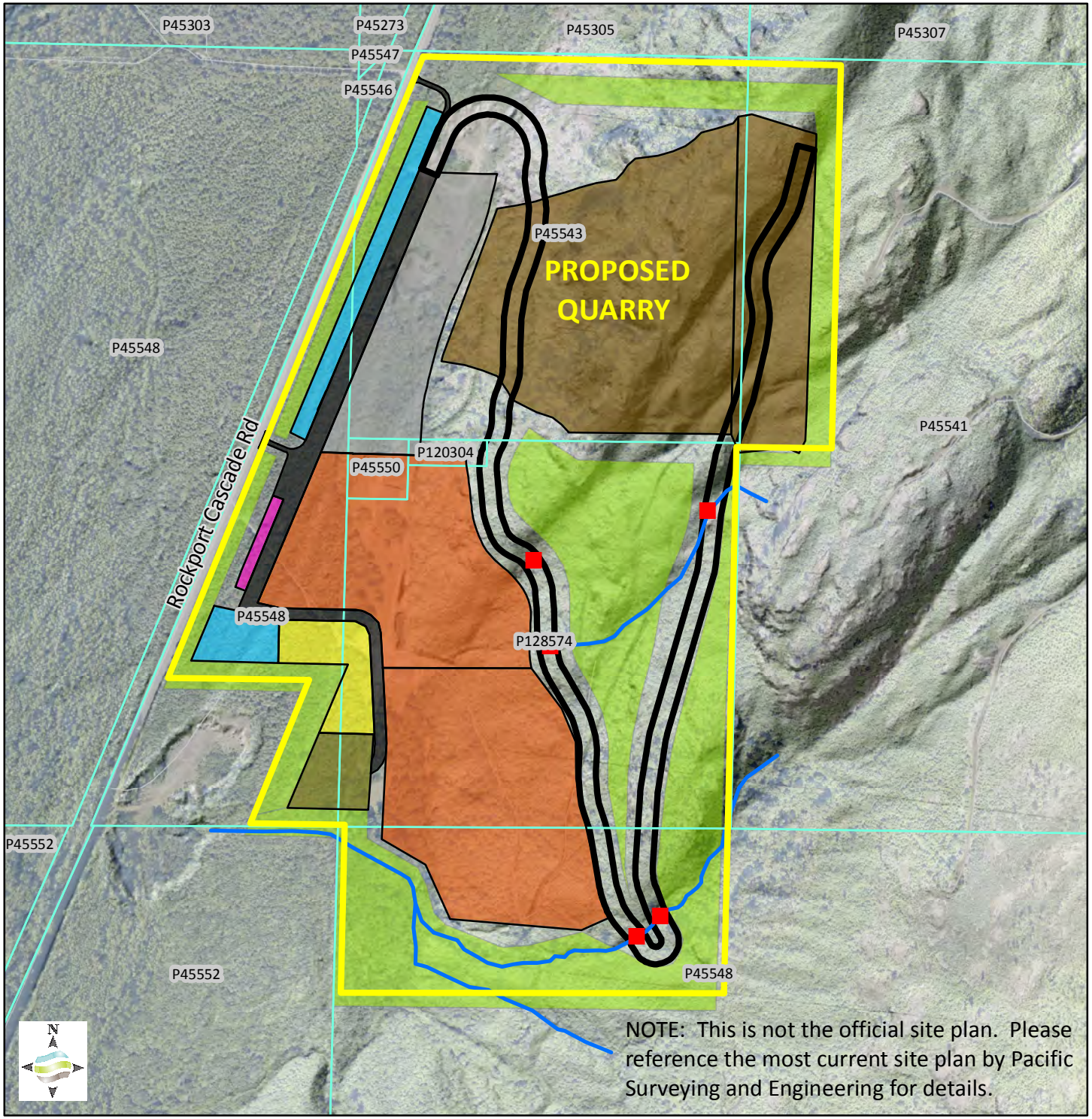
Figure 1

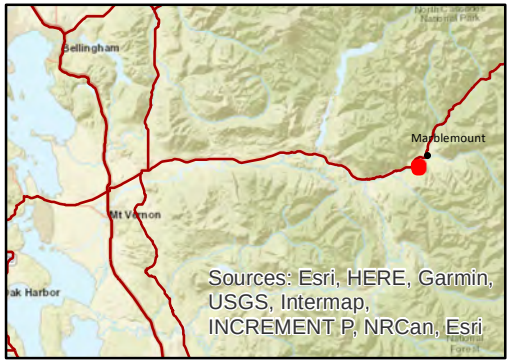
Marblemount Quarry
Site Vicinity Map

Date: 1/9/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_1_SiteVicinity.mxd

(Intentionally Left Blank)





- Project Limits
- Parcels
- Proposed Culvert
- Watercourses
- Proposed Access Road
- Clearing Limits (Trees Retained)
- Armor Stone Stockpiling and Crushing
- Access/Scale Roads
- Explosives Storage Exclusion Area
- Undersized Stockpile Area (Maximum Potential Buildout)
- Misc. Structures Footprint
- Quarry Footprint (Maxium Potential Buildout)
- Soil Stockpile
- Stormwater Facilities

0 250 500 1,000
Feet

909 Squalicum Way Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360.671.9172

ELEMENT solutions

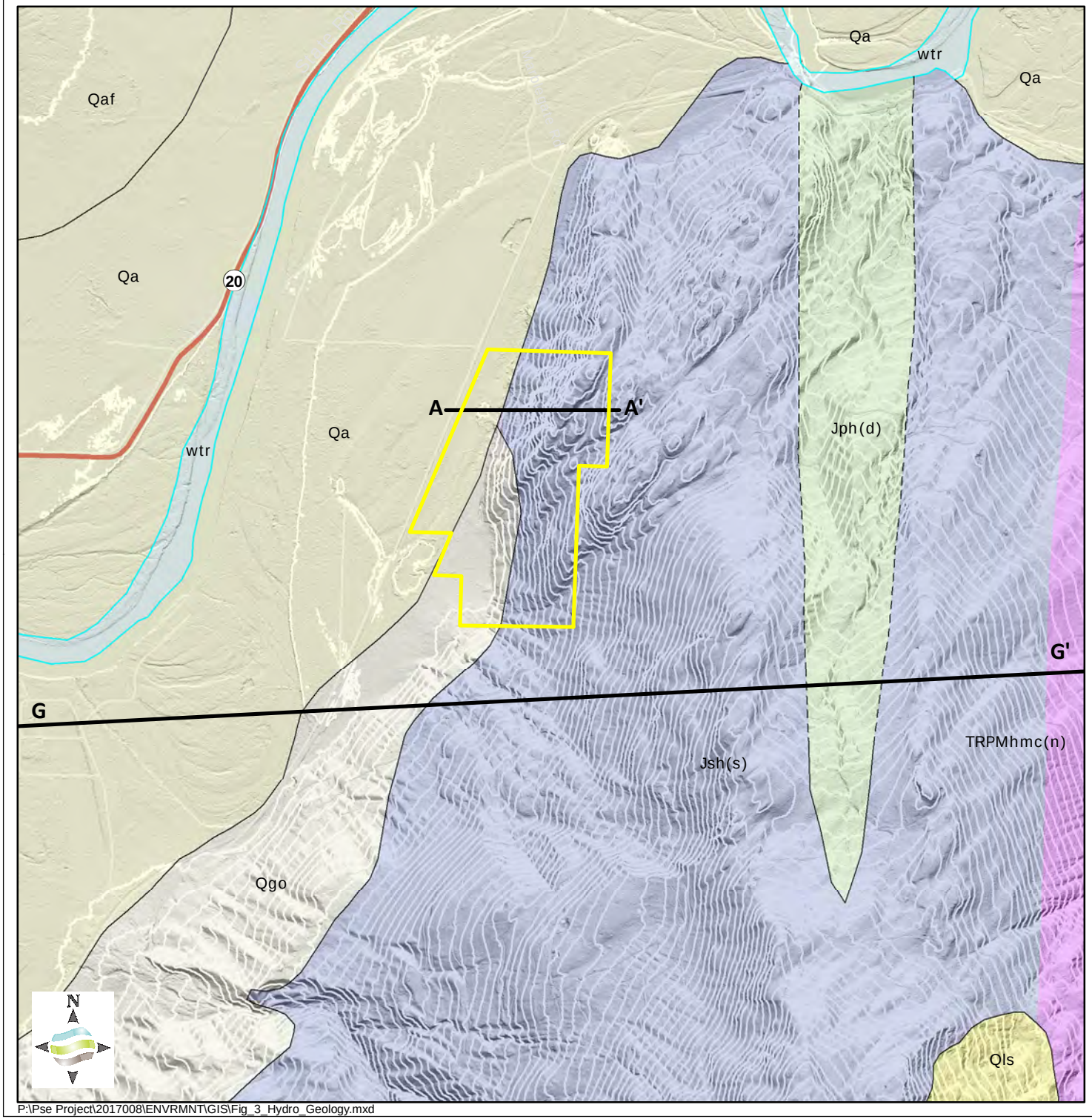
FIGURE 2

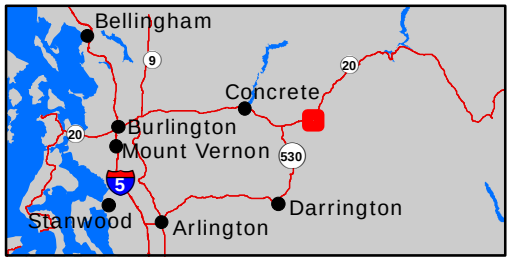
Marblemount Quarry
Proposed Project at
Full Buildout Potential

Date: 2/6/2019

Path: P:\Pse Project\2017008\ENVRMNT\GIS\OverallProject_FIGURE2_updated.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
Skagit County 2018
DNR 2005, 2018

- Project Limits
- Contact - Identity and existence certain, location accurate
- Contact - Identity and existence certain, location inferred
- Shoreline

Surficial Units 100K

- Quaternary alluvium (Qa)
- Landslide Deposits (Qls)
- Pleistocene continental glacial drift (Qgo)
- Darrington Phyllite (Jph(d))
- Shuksan Greenschist (Jsh(s))
- Napeequa Schist (TRPMhmc(n))
- Water
- Highways
- Roads
- 50ft Contours

Feet
0 850 1,700 3,400
1:20,000
1 inch = 1,667 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

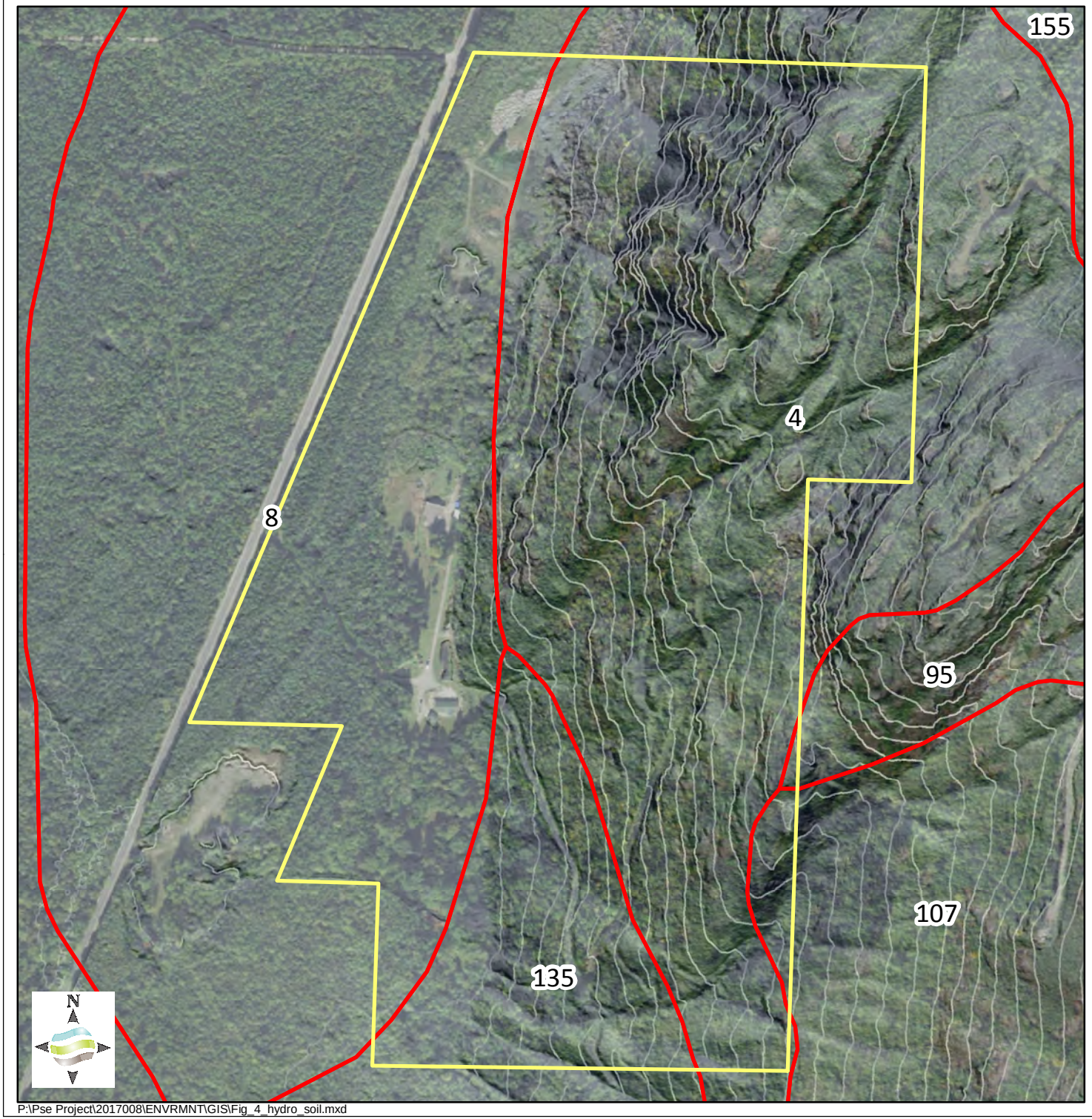
Figure 3

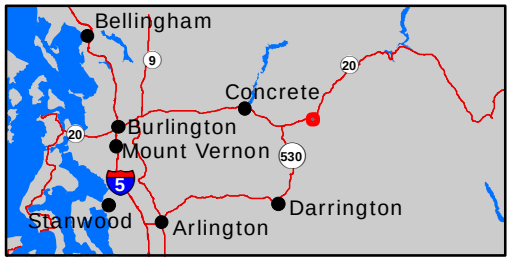
Marblemount Quarry
Topography and Geology

Date: 1/11/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_3_Hydro_Geology.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
QSI, USGS 2017

Project Limits
USDA Soil Units
50ft Contours

Feet
0 260 520 1,040

1:5,461

1 inch = 455 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

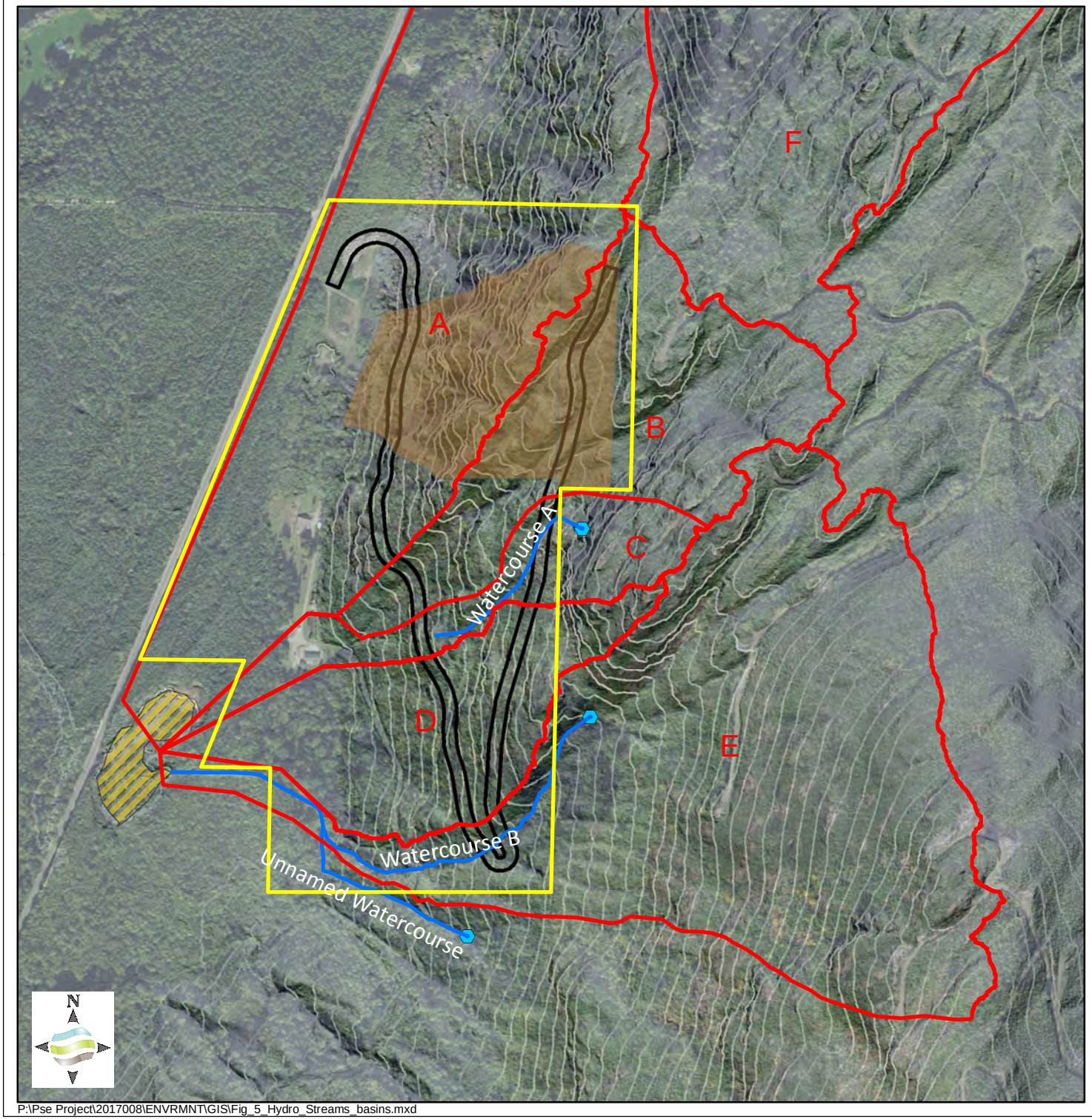
Figure 4

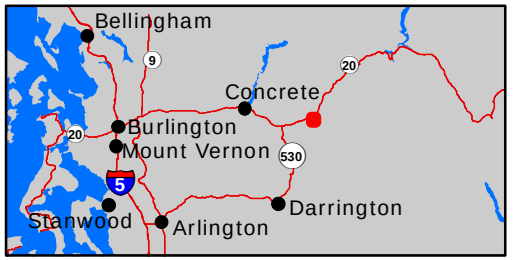
Marblemount Quarry
USDA Soil Survey Soil Units

Date: 1/9/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_4_hydro_soil.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
QSI, USGS 2017

- Project Limits
- Drainage Sub-basins
- Watercourse
- Potential Springs (unconfirmed)
- Quarry Footprint
- Gravel Pit
- Proposed Access Road
- 50ft Contours

Feet
0 375 750 1,500

1:8,000

1 inch = 667 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

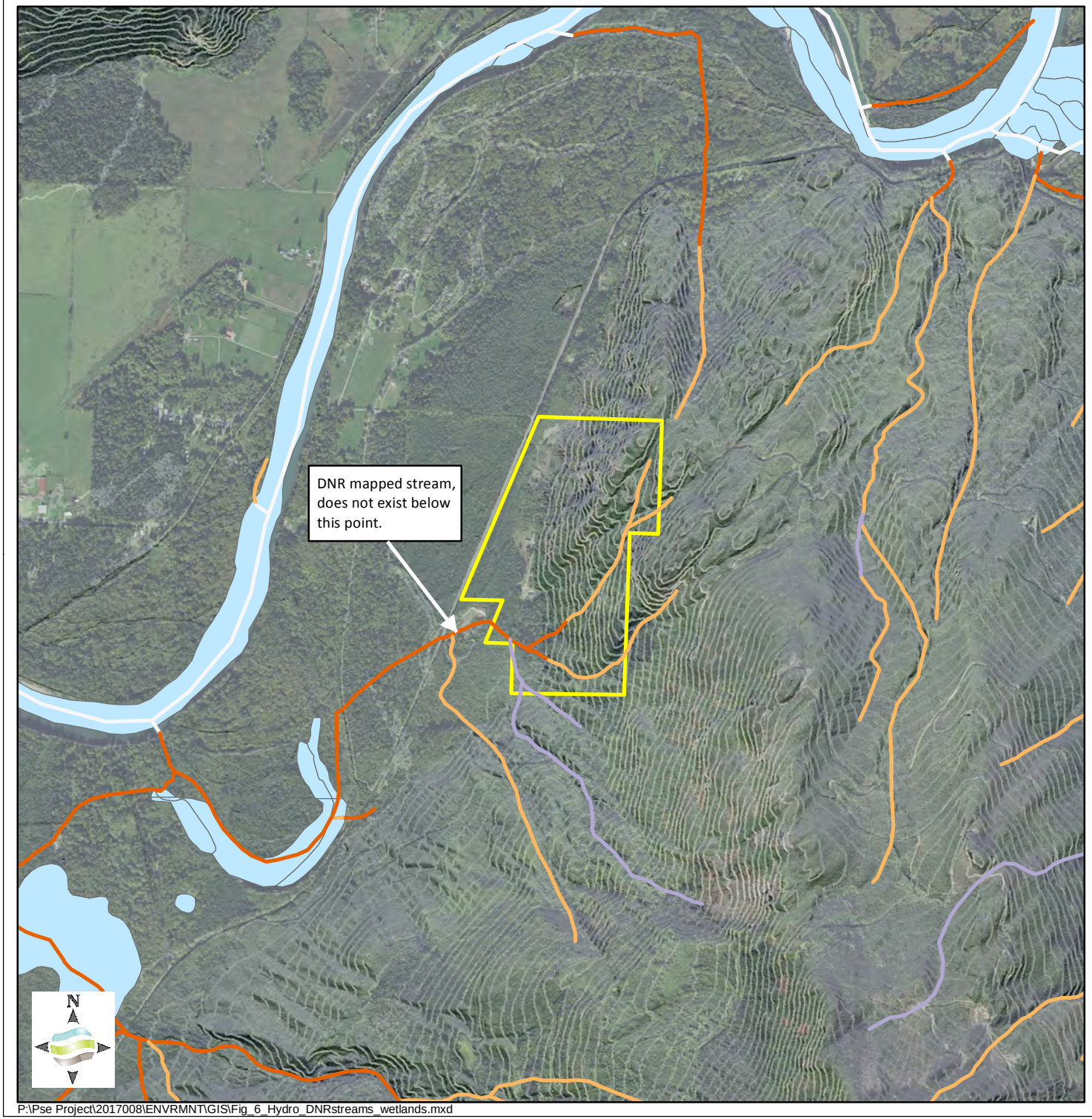
Figure 5

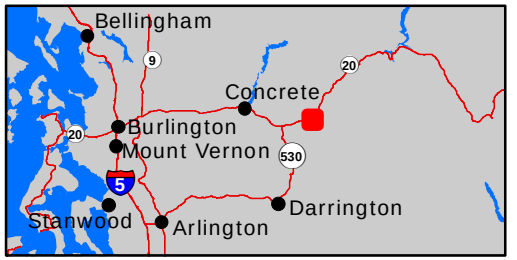
Marblemount Quarry
Mapped Streams and Sub-basins

Date: 2/6/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_5_Hydro_Streams_basins.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
QSI, USGS 2017

DNR Mapped Streams
- Fishbearing
- Non-Fishbearing
- Shoreline
- Untyped
- Various Water Features
- NWI Wetlands
- Project Limits
- 50ft Contours

Feet
0 900 1,800 3,600
1:20,000
1 inch = 1,667 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

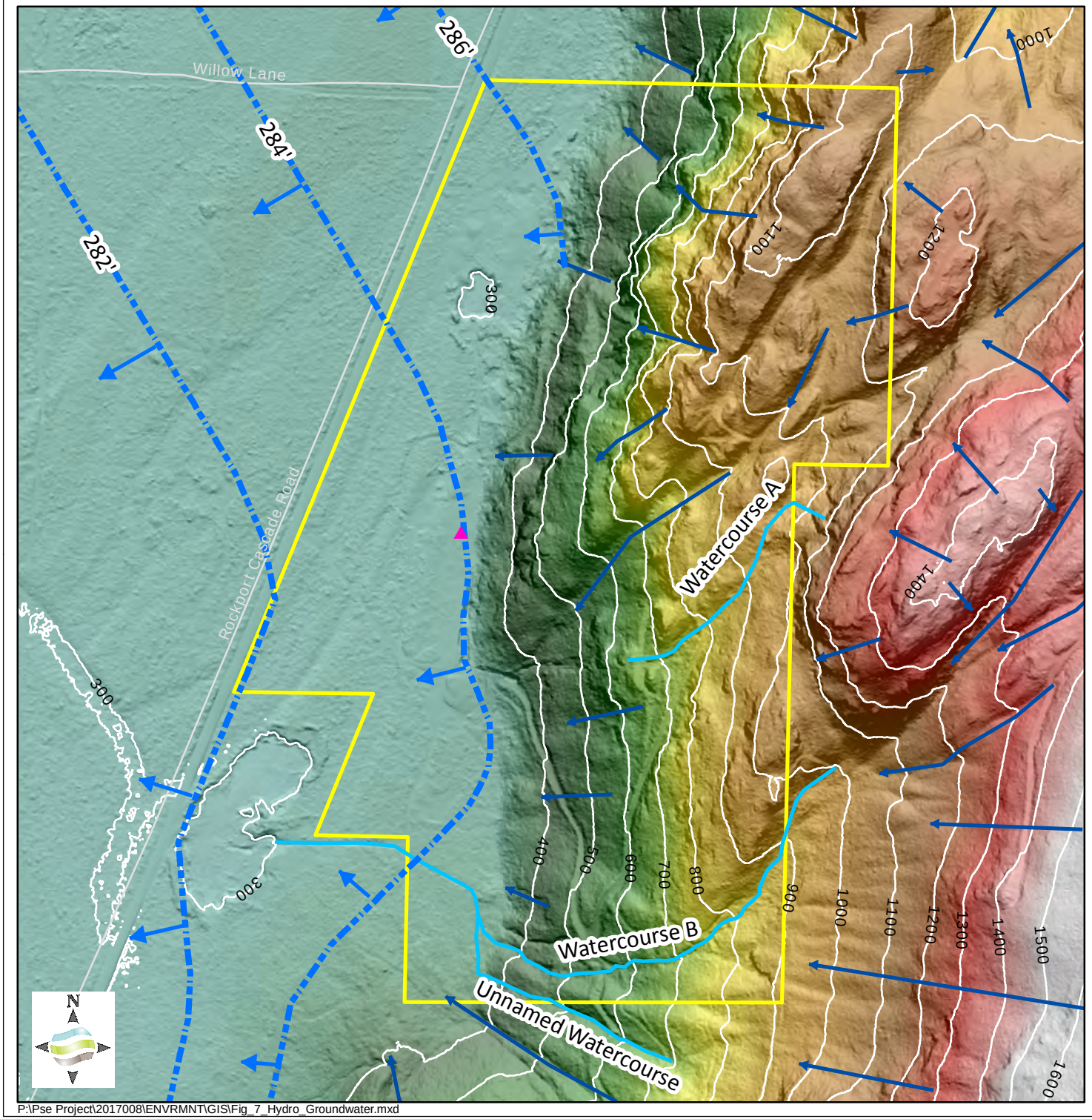
Figure 6

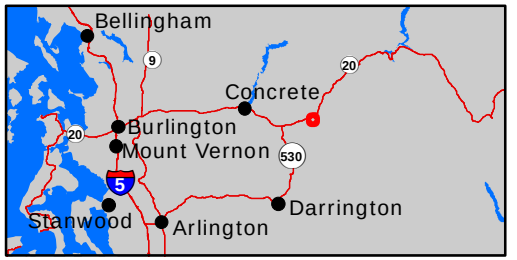
Marblemount Quarry
DNR Mapped Stream and
NWI Mapped Wetlands

Date: 1/10/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_6_Hydro_DNRstreams_wetlands.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
QSI, USGS 2017
DNR 2005

- Drinking Well Locations
- Groundwater Flow Direction
- Estimated Groundwater Contour
- Watercourse
- Surfacewater Flow Paths
- Project Limits
- Roads

Feet
0 275 550 1,100

1:6,000

1 inch = 500 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

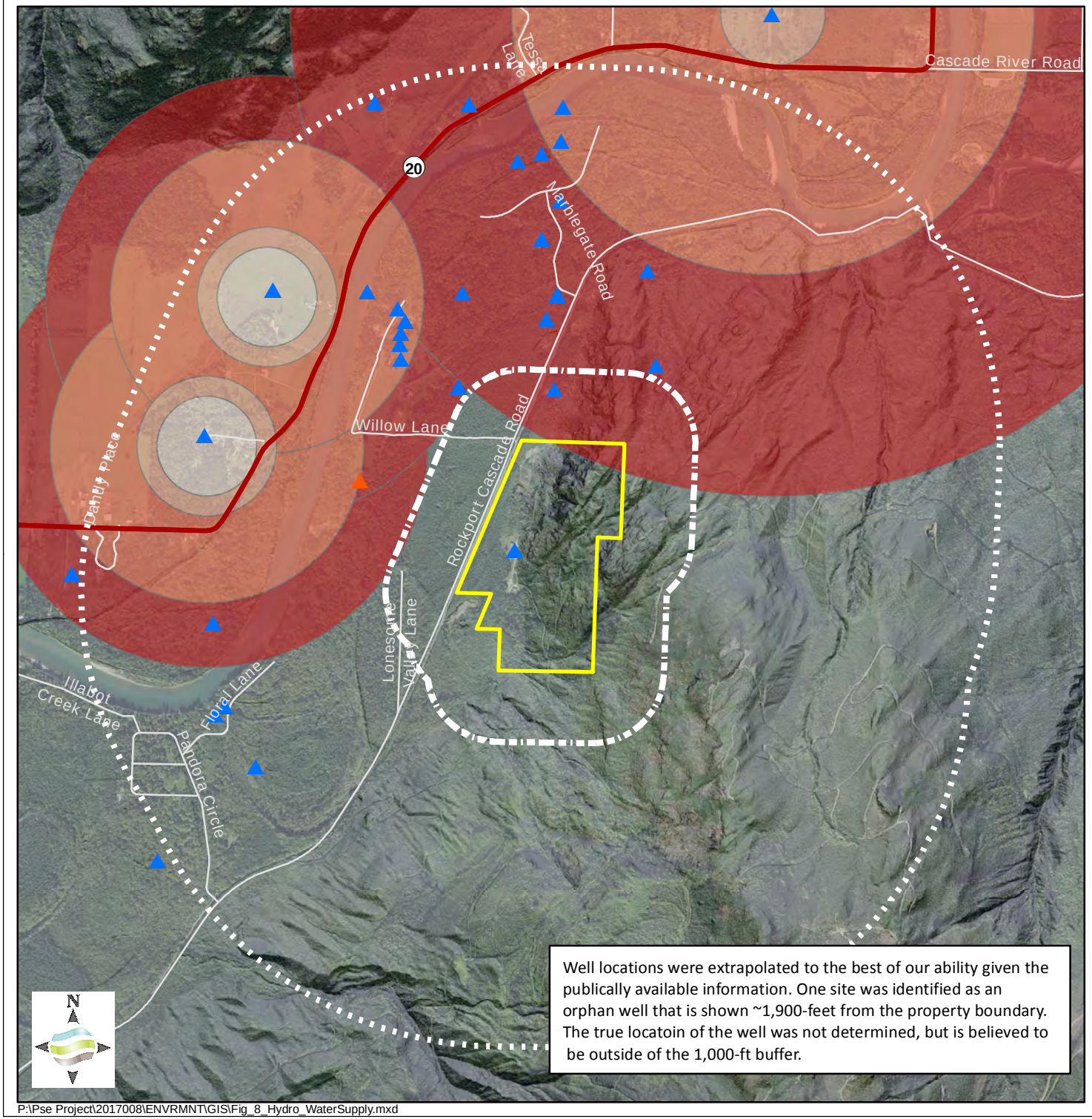
Figure 7

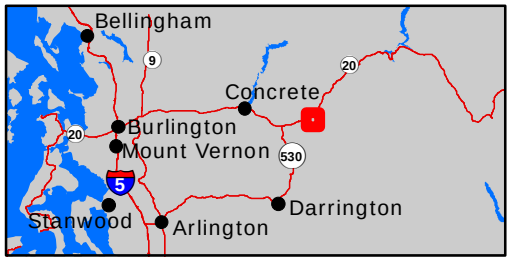
Marblemount Quarry
Groundwater Flow

Date: 2/6/2019

P:\Pse Project\2017008\ENVRMNT\GIS\Fig_7_Hydro_Groundwater.mxd

(Intentionally Left Blank)





Data Credits:
USDA NAIP 2015
WSDOT 2018
QSI, USGS 2017
DOE 2018
WA Dept of Health 2015

- Project Limits
- Wells (Aproximate Location)
- Orphan Well Location
- 1000-feet Buffer
- 1-Mile Buffer
- Highways
- Roads
- WPA 6 Months
- WPA 1 Year
- WPA 5 Years
- WPA 10 Years

Feet
0 900 1,800 3,600

1:24,000

1 inch = 2,000 feet

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

Well locations were extrapolated to the best of our ability given the publically available information. One site was identified as an orphan well that is shown ~1,900-feet from the property boundary. The true locatoin of the well was not determined, but is believed to be outside of the 1,000-ft buffer.

Figure 8

Marblemount Quarry
Well Locations and
Wellhead Protection Areas

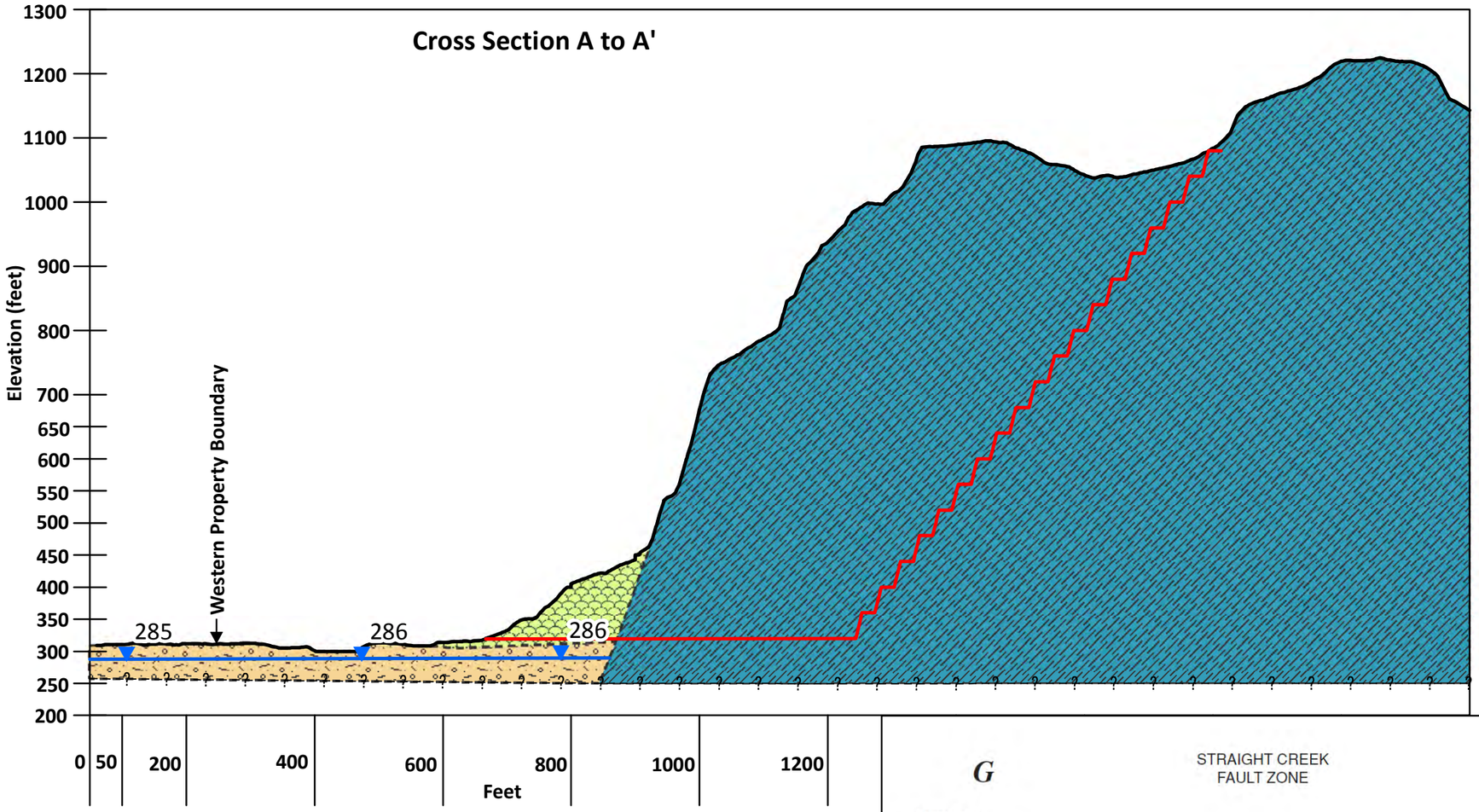
Date: 1/10/2019

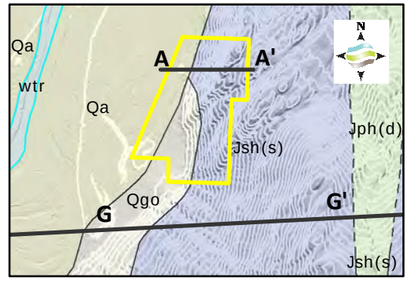
P:\Pse Project\2017008\ENVRMNT\GIS\Fig_8_Hydro_WaterSupply.mxd

(Intentionally Left Blank)

Appendix B: Geological and Groundwater Cross-section

(Intentionally Left Blank)





Existing Ground Surface

Proposed Mining Maximum Extent

Estimated Water Table Surface

Geologic Contact Estimated or Undetermined

Geological Units

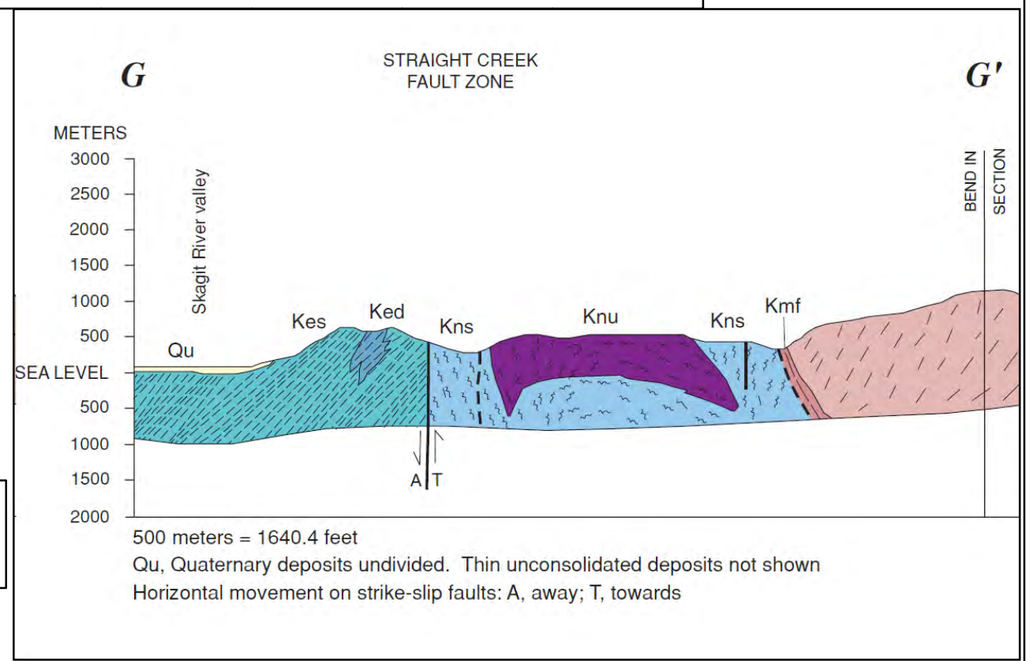
Alluvial Deposits (Qa)

Colluvium-Talus

Shuksan Greenschist (Jsh(s))

G to G' Geologic Units

Qu: Quaternary Deposits Undivided
Kes: SHuksan Greenschist
Ked: Darrington Phyllite
Kns: Napeequa Schist
Knu:Ultramafic Rocks
Kmf: Flaser Gniess Border Zone
Kmd:Marblemount Pluton



500 meters = 1640.4 feet

Qu, Quaternary deposits undivided. Thin unconsolidated deposits not shown

Horizontal movement on strike-slip faults: A, away; T, towards

Cross Section G-G' was taken from the "Geologic Map of the Mount Baker 30- by 60- Minute Quadrangle, Washington" by Tabor et. al 2003. This cross section was is located approximately 4,000-feet south of the Marblemount Quarry cross section.

909 Squalicum Wa Ste 111
Bellingham, WA 98225
info@elementsolutions.org
Phone: 360. 671. 9172

ELEMENT solutions

Appendix B:

Marblemount Quarry
Geologic and Groundwater
Cross Section

Date: 1/11/2019

(Intentionally Left Blank)

Appendix C: Washington Department of Ecology's Water Well Log and Well Information

(Intentionally Left Blank)

35/10-13L

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

WATER WELL REPORT
STATE OF WASHINGTON

Application No. .....
Permit No. .....

(1) OWNER: Name Anita Albright Address 2439 S W 306 Pl. Federal Way Wa. 98002

(2) LOCATION OF WELL: County Skagit — NE¼ ¼ SW¼ ¼ Sec 13 T. 35 N., R 10E W.M.

Bearing and distance from section or subdivision corner

(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: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☑ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 40 ft. Depth of completed well 40 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from 0 ft. to 40 ft.
Threaded ☐ ..... " Diam. from ..... ft. to ..... ft.
Welded ☑ ..... " 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 .....
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.

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 ..... ft.
Static level 24 ft. below top of well Date 4-18-84
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 20 GPM gal./min. with 10 ft. drawdown after ..... hrs.
Artesian flow ..... g.p.m. Date .....
Temperature of water ..... Was a chemical analysis made? Yes ☐ No ☑

(10) WELL LOG:

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
Top Soil	0	4
Gravel	4	34
Gravel & Water	34	40

Work started 4-18- , 19 84 Completed 4-18- , 19 84

WELL DRILLER'S STATEMENT:

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

NAME DAHLMAN PUMP & DRILLING INC.
(Person, firm, or corporation) (Type or print)

Address P O BOX 422 Burington Wa. 98233

[Signed] H Ken Fowler
(Well Driller)

License No. 1192 Date 4-18 , 19 84

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20

ENTERED

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. M39742
Water Right Permit No.

4445

(1) OWNER: Name HUGHES, JIM Address 24260 15TH PLACE SE BOTHELL, WA 98021- 35-10E-13Q

(2) LOCATION OF WELL: County SKAGIT - SW 1/4 SE 1/4 Sec 13 T 35 N., R 10E WM
(2a) STREET ADDRESS OF WELL (or nearest address) 5740 ROCKPORT CASCADE RD

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one)
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 38 ft. Depth of completed well 38 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 38 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: 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: NO
Manufacturer's Name
Type Model No.
Diam. slot size from ft. to ft.
Diam. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

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

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

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 25 ft. below top of well Date 03/14/95
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

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

Recovery data

Time	Water Level	Time	Water Level	Time	Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 50 gal/min. w/ stem set at 37 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

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 in formation.

MATERIAL	FROM	TO
BROWN COBBLES GRAVEL & SAND	0	14
BROWN GRAVEL & SAND	14	25
BROWN SAND GRAVEL & WATER	25	28
BROWN GRAVEL SAND & WATER	28	

RECEIVED
APR 06 1995
DEPT. OF ECOLOGY

Work started 03/14/95 Completed 03/14/95

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 HAYES DRILLING, INC.
(Person, firm, or corporation) (Type or print)

ADDRESS 556 ERSHIG RD. BOW, WA

[SIGNED] Ryan Williamson License No. 2190

Contractor's Registration No. HAYESDI106J5 Date 04/04/95

WELL SITE MEETS ALL SIGHTING CRITERIA UNDER S.C.C. 12.48.090 AND WAC 173-160 BASED ON INFORMATION SUPPLIED BY THE OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE.

4372

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

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. [redacted]7345

35/10/13L

Water Right Permit No. _____

(1) OWNER: Name Joe Brown Address _____

(2) LOCATION OF WELL: County Skagit NE ¼ SW ¼ Sec. 13 T. 35 N. R. 10 W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) Marble gate marblemount WA

(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 120 feet. Depth of completed well 50 ft.

(6) CONSTRUCTION DETAILS:

Casing installed: 6 " Diam from 1 ft. to 50 ft.

Welded ☐ Liner installed ☐ 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 _____

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.

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 _____ ft.

Static level 34 ft. below top of well Date June 19

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 30 gal./min with — 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.

MATERIAL	FROM	TO
Sand + gravel Brown	1	40
Water Sand + gravel	40	45
Fine Sand +	45	120
Pull Case Back +		
~~Drilled~~ Developed well at		50Ft
8"		

RECEIVED
JUL 01 1992
DEPT. OF ECOLOGY

Work started June 15, 19. Completed June 19, 19

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 Prince Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 794 NE Cape Horn Concrete WA

(Signed) Wayne C. Prince (WELL DRILLER) License No. 1898

Contractor's Registration No. PRINEWD095K4 Date June 19, 1992

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10/87) 1329

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

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. 073440
Water Right Permit No. 35/10E/23A

(1) OWNER: Name Marv.W Stewart Address Star Rt Rockport Wa.

(2) LOCATION OF WELL: County Skagit NE¼ NE¼ Sec 23 T. 35 N., R. 10 W.M.

(2a) STREET ADDDRESS OF WELL (or nearest address) Star Rt Rockport Wa.

(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 37½ feet. Depth of completed well 37½ ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 6 " Diam. from 1 ft. to 37½ ft.
Welded ☐ Liner installed ☐ Threaded ☐ " Diam. from ____ ft. to ____ ft.
" 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 ____
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.

Surface seal: Yes ☑ No ☐ To what depth? 18 ft.
Material used in seal Bent. mix
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 ____ ft.
Static level 19 ft. below top of well Date Dec 28 91
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 20 gal./min with 3 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.

MATERIAL	FROM	TO
Topsoil	1	5
Sand + Clay + Bowlder gray	5	28
Sand gravel	28	37½

RECEIVED
JAN 07 1992
DEPT. OF ECOLOGY

Work started Dec 26 19. Completed Dec 28 19 91

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 Prince Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address 794 NE Cole Horn Rd Concrete Wash
(Signed) Wayne C. Prince (WELL DRILLER) License No. 1898
Contractor's Registration No. PrinewD075K4 Date Dec 28 19 91

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (10-87) -1329

ENTERED

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. W052956
Water Right Permit No.

4011

35/10E/23-J

(1) OWNER: Name MONOHON, PAUL Address 1706 11TH ST ANACORTES, WA 98221-

(2) LOCATION OF WELL: County SKAGIT - NE 1/4 SE 1/4 Sec 23 T 35 N., R 10E WM
(2a) STREET ADDRESS OF WELL (or nearest address) CASCADE RIVER RD

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one)
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 38 ft. Depth of completed well 36.5 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Dia. from +2 ft. to 32.5 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: 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
Manufacturer's Name NAGAOKA
Type STAINLESS STEEL Model No.
Diam. 6 slot size 15 from 31.5 ft. to 36.5 ft.
Diam. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

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

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

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 18.5 ft. below top of well Date 06/01/95
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

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

Recovery data
Time Water Level Time Water Level Time Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 20 gal/min. w/ stem set at 30 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? NO

(10) WELL LOG

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 in formation.

MATERIAL	FROM	TO
BROWN SAND SILT & GRAVEL	0	3
BROWN GRAVEL & SAND	3	18
BROWN GRAVEL SAND & WATER	18	28
BROWN SAND & WATER	28	

RECEIVED
JUN 14 1995
DEPT. OF ECOLOGY

Work started 06/01/95 Completed 06/01/95

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 HAYES DRILLING, INC.
(Person, firm, or corporation) (Type or print)

ADDRESS 556 ERSHIG RD. BOW, WA

[SIGNED] Roy E. Smith Jr. License No. 2204

Contractor's Registration No. HAYESDI106J5 Date 06/09/95

WELL SITE MEETS ALL SIGHTING CRITERIA UNDER S.C.C. 12.48.090 AND WAC173-160 BASED ON INFORMATION SUPPLIED BY THE OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE.

4555

35/10E/13K

Start Card No. 02294

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

WATER WELL REPORT

STATE OF WASHINGTON

UNIQUE WELL I.D. # AAX 461

Water Right Permit No. _____

(1) **OWNER:** Name Richard Watson Address _____

(2) **LOCATION OF WELL:** County Skagit - NW 1/4 SE 1/4 Sec 13 T. 35 N., R 10 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 46 feet. Depth of completed well 46 ft.

(6) **CONSTRUCTION DETAILS:**

Casing Installed: 6 " Diam. from 1 ft. to 46 ft.
Welded ☐ _____ " Diam. from _____ ft. to _____ ft.
Liner Installed ☐
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 _____
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.

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 _____ ft.
Static level 28 ft. below top of well Date Oct 3
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 20 gal./min. with 3 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.

MATERIAL	FROM	TO
Top soil	1	4
Fine Sand	4	21
Clay Sand & gravel	21	35
Sand & gravel	35	40
Sand gravel water	40	46

RECEIVED
OCT 08 1993
DEPT. OF ECOLOGY

Well meets Standards
Set in SC 12 48 according to info provided by owner
WCG

Work Started Sept 28 19. Completed Oct 2 19 93

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 Prince Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 794 NE Cape Horn Concrete

(Signed) Wayne C Prince (WELL DRILLER) License No. 1898

Contractor's Registration No. PrinceWD095K4 Date Oct 3 19 93

(USE ADDITIONAL SHEETS IF NECESSARY)

ECL 050-1-20 (2/93)

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

115368

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. 02294

UNIQUE WELL I.D.# AAX 461

Water Right Permit No. _____

(1) **OWNER:** Name Richard Watson Address _____

(2) **LOCATION OF WELL:** County Skagit - NW 1/4 SE 1/4 Sec 13 T. 35 N., R 10 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 46 feet Depth of completed well 46 ft

(6) **CONSTRUCTION DETAILS:**

Casing Installed: 6 " Diam. from 1 ft to 46 ft
Welded ☐ _____ " Diam. from _____ ft. to _____ ft.
Liner Installed ☐
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 1 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.

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 _____ ft.
Static level 28 ft. below top of well Date Oct 3
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 20 gal./min. with 3 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

MATERIAL	FROM	TO
Top soil	1	4
F. Nc Sand	4	21
Clay Sand + gravel	21	35
Sand + gravel	35	40
Sand gravel water	40	46

RECEIVED
OCT 08 1993
DEPT. OF ECOLOGY

Well meets Standards
Set in SC 12 48 according to info provided by owner
WCG

Work Started Sept 28, 19. Completed Oct 2, 19 93

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 Prince Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)

Address 7944 NE Cape Horn Concrete

(Signed) Wayne C Prince (WELL DRILLER) License No. 1898

Contractor's Registration No. PRINCWD095K4 Date Oct 3, 19 93

(USE ADDITIONAL SHEETS IF NECESSARY)

ECL 050-1-20 (2/93) * * 1

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

WATER WELL REPORT
STATE OF WASHINGTON

Start Card No. W069025
UNIQUE WELL I.D. # ACG 787
Water Right Permit No. 35-10-13N

(1) OWNER: Name Edward Dewsmore Address Marblemount Wash

(2) LOCATION OF WELL: County Skagit SW 1/4 SW 1/4 Sec 13 T. 35 N., R 10 W.M.

(2a) STREET ADDRESS OF WELL (or nearest address) Same

(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 40 feet. Depth of completed well 40ft ft.

(6) CONSTRUCTION DETAILS:
Casing Installed: 6" Diam. from 1 ft. to 40 ft.
Welded ☑ Liner installed ☐ 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 ____
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.

Surface seal: Yes ☑ No ☐ To what depth? 18ft ft.
Material used in seal Cement + 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 Campbell
Type: Jet Submersible H.P. ½

(8) WATER LEVELS: Land-surface elevation above mean sea level ____ ft.
Static level 22 ft. below top of well Date Aug 15 96
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: 10 gal./min. with 6" ft. drawdown after 2 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.
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.

MATERIAL	FROM	TO
Sand + Big gravel	1	23
Sand + gravel + clay	23	28
Sand Gravel	28	34
Sand gravel + water	34	40

Well site meets Standard set in WAC 173-160 according to info provided by owner

RECEIVED
OCT 01 1996
DEPT. OF ECOLOGY

Work Started Aug 11 19. Completed Aug 11 19 96

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 Prince Well Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address 794 NE Cape Horn Concrete
(Signed) Wayne C Prince (WELL DRILLER) License No. 1898
Contractor's Registration No. PRINCWD053Q Date Aug 12 19 96

(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) 407-6006.

ECY 050-1-20 (9/93) * * 1

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

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W107917
UNIQUE WELL I.D. # ACS 082
Water Right Permit No. _____

(1) **OWNER:** Name [illegible] Address Marbleyate marble mount Wash

(2) **LOCATION OF WELL:** County Skagit NW 1/4 SW 1/4 Sec 13 T 35 N. R 10 W.M.

(2a) **STREET ADDRESS OF WELL** (or nearest address) Same 35-10E-13M

(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 40 feet. Depth of completed well 36 ft.

(6) **CONSTRUCTION DETAILS:**
Casing installed: 6 " Diam. from +3' ft. to 36 ft.
Welded ☐ _____ " Diam. from _____ ft. to _____ ft.
Liner installed ☐
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 _____
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.

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 _____ ft.
Static level 15 ft. below top of well Date July 28
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: 10 gal./min. with 3½ ft. drawdown after 2 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.
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.

MATERIAL	FROM	TO
Top Soil	1	8
Sand gravel	8	20
Clay Water - Mud	20	25
Clay	25	29
Sand gravel Water	29	36
Sand	36	40
Pull Casing back to	36	
Well Site meets Standard Set in SEC 12, 45 according to info provided by owner		

AUG 31 1988

Work Started July 27 19. Completed July 28 19 88

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 Princewell Drilling (PERSON, FIRM, OR CORPORATION) (TYPE OR PRINT)
Address 7940 NE Cape Horn Rd Conard
(Signed) Wayne C Prince (WELL DRILLER) License No. 1898
Contractor's Registration No. PRINCWD093AQ Date July 28 19 88

(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) 407-6006.

ECY 050-1-20 (9/93)

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

ENTERED

Notice of Intent W119214
UNIQUE WELL I.D. # ACS 084
Water Right Permit No.

(1) OWNER: Name Don Johnston Address Rt. 1415 [illegible]

(2) LOCATION OF WELL: County Skagit SW 1/4 SW 1/4 Sec 13 T 35 N.R. 10 WM

(2a) STREET ADDRESS OF WELL: (or nearest address) 35 10E 13N

TAX PARCEL NO. 351013 2200 1111 2

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

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

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 40 feet. Depth of completed well 40 ft.

(6) CONSTRUCTION DETAILS
Casing Installed:
☑ Welded 6" Diam. from +2 ft. to 40 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.
perforations from ft. to ft.

Screens: ☐ Yes ☑ No ☐ K-Pac Location
Manufacturer's Name
Type Model No.
Diam. Slot Size from ft. to ft.
Diam. Slot Size from ft. to ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand
Material 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 ft.
Static level 36 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? Wayne Prince
Yield: 10 gal./min. with 3 ft. drawdown after 2 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.
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
Top Soil	1	6
Sand + gravel	6	15
Clay	15	23
Clay sand + gravel	23	31
Sand gravel + water	31	40
well site meets standards		
Site in seizure acc[illegible]		
to site provided by [illegible]		

RECEIVED
SEP 01 1999
DEPT OF ECOLOGY

Work Started Aug 20 99. Completed Aug 21 99.

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 Wayne Prince License No. 1595
(Licensed Driller/Engineer)

Trainee Name License No.

Drilling Company Prince Well Drilling

(Signed) Wayne Prince License No. 1595
(Licensed Driller/Engineer)

Address 7940 NE Cape Horn Rd Concrete

Contractor's Registration No. PRINCWD095K4 Date Aug 29 99

(USE ADDITIONAL SHEETS IF NECESSARY)

ECY 050-1-20 (11/96)

WATER WELL REPORT

STATE OF WASHINGTON

Start Card No. W 107095
Unique Well I.D. # AEN120
Water Right Permit No.

(1) OWNER: Name ROGERS, DAVID Address 3831 KROMER AVENUE EVERETT, WA 98201-

(2) LOCATION OF WELL: County SKAGIT -NE 1/4 SE 1/4 Sec 14 T 35 N., R 10E WM
(2a) STREET ADDRESS OF WELL (or nearest address) 58752 WILLOW LANE, MARBLEMOUNT

35-10E-14

(3) PROPOSED USE: DOMESTIC

(4) TYPE OF WORK: Owner's Number of well (If more than one)
NEW WELL Method: ROTARY

(5) DIMENSIONS: Diameter of well 6 inches
Drilled 32 ft. Depth of completed well 32 ft.

(6) CONSTRUCTION DETAILS:
Casing installed; 6 " Dia. from 0 ft. to 32 ft.
WELDED " Dia. from ft. to ft.
" Dia. from ft. to ft.

Perforations: 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: NO
Manufacturer's Name
Type Model No.
Diam. slot size from ft. to ft.
Diam. slot size from ft. to ft.

Gravel packed: NO Size of gravel
Gravel placed from ft. to ft.

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

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

(8) WATER LEVELS: Land-surface elevation above mean sea level ... ft.
Static level 10.5 ft. below top of well Date 04/27/99
Artesian Pressure lbs. per square inch Date
Artesian water controlled by

(9) WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? If yes, by whom?
Yield: gal./min with ft. drawdown after hrs.

Recovery data

Time	Water Level	Time	Water Level	Time	Water Level

Date of test / /
Bailer test gal/min. ft. drawdown after hrs.
Air test 50 gal/min. w/ stem set at 30 ft. for 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made?

(10) WELL LOG

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 in formation.

MATERIAL	FROM	TO
BROWN SILTY SAND	0	6
GRAVEL COBBLES & SAND	6	10.5
WET GRAVEL COBBLES	10.5	20
& SAND	10.5	20
WATER SAND & GRAVEL	20	

WELL LOCATED ACCORDING TO SKAGIT COUNTY ORDINANCE #12.48

RECEIVED
MAY 07 1999
Department of Ecology

Work started 04/27/99 Completed 04/27/99

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 DAHLMAN PUMP & WELL DRILL
(Person, firm, or corporation) (Type or print)

ADDRESS PO BOX 422

[SIGNED] [signature] License No. 2043

Contractor's Registration No. DAHLMPW123LC Date 04/28/99

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 W119249

UNIQUE WELL I.D. # APC965

Water Right Permit No.

(1) OWNER: Name Kevin & Sue Ashenfelter Address 8599 Lusk Rd

(2) LOCATION OF WELL: County Skagit SE 1/4 NW 1/4 Sec 24 T 35 N.R. 10 WM

(2a) STREET ADDRESS OF WELL: (or nearest address) 59252 Rockport Cascade Rd Rockport

TAX PARCEL NO.: 35-10E-24F

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

(4) TYPE OF WORK: Owner's number of well (if more than one)

☑ New Well Method: ☐ Dug ☐ Bored ☐ Deepened ☐ Cable ☐ Driven ☐ Reconditioned ☑ Rotary ☐ Jetted ☐ Decommission

(5) DIMENSIONS: Diameter of well 6 inches. Drilled 43 feet. Depth of completed well 40 ft.

(6) CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 6" Diam. from +2 ft. to 40 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.

perforations from ft. to ft.

Screens: ☐ Yes ☑ No ☐ K-Pac Location

Manufacturer's Name

Type Model No.

Diam. Slot Size from ft. to ft.

Diam. Slot Size from ft. to ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand

Material 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 Gould

Type: Submer H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.

Static level 28 ft. below top of well Date May

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: 13 gal./min. with 45 ft. drawdown after 2 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 3 ft. drawdown after 3 hrs.

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
Topsoil	1	8
Sandy Loam	8	24
Sand gravel Silt	24	35
Sand gravel Water	35	40

Well Site meets Standards Set in WAC 173-160 according to info provided by owner

RECEIVED

AUG 7 2000

DEPT OF ECOLOGY

Work Started May 27 Completed May 29

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 Wayne Prince License No. 1698 (Licensed Driller/Engineer)

Trainee Name License No.

Drilling Company Prince Well Drilling

(Signed) Wayne Prince License No. 1698 (Licensed Driller/Engineer)

Address 7540 NE Cape Horn Rd Concrete

Contractor's Registration No. PRINSCWD095KF Date May

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (360) 407-6600. The TDD number is (360) 407-6006.

ECY 050-1-20 (11/98)

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

77477

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent W 128220

UNIQUE WELL I D # AFJ978

Water Right Permit No

(1) OWNER Name Gary & Sandy Boylan Address 8223 54th Drive NE, Marysville, WA 98270

(2) LOCATION OF WELL County Skagit - SE 1/4 SE 1/4 Sec 14 T 35 N,R 10E WM

(2a) STREET ADDRESS OF WELL (or nearest address) 58785 Willow Lane

TAX PARCEL NO 351014-0-005-0006

35-10E-14R

(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)
[X] New Well Method
[ ] Deepened [ ] Dug [ ] Bored
[ ] Reconditioned [ ] Cable [ ] Driven
[ ] Decommission [X] Rotary [ ] Jetted

(5) DIMENSIONS Diameter of well 6 inches
Drilled 30 feet Depth of completed well 30 ft

(6) CONSTRUCTION DETAILS
Casing Installed
[X] Welded 6 " Diam from 0 ft to 30 ft
[ ] Liner installed " Diam from ft to ft
[ ] Threaded " Diam from ft to ft

Perforations [ ] Yes [X] 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 [X] No [ ] K-Pac Location
Manufacturer's Name
Type Model No
Diam Slot size from ft to ft
Diam Slot size from ft to ft

Gravel/Filter packed [ ] Yes [X] No [ ] Size of gravel/sand
Material placed from ft to ft

Surface seal [X] Yes [ ] No To what depth? 18 ft
Material used in seal bentonite
Did any strata contain unusable water? [ ] Yes [X] 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 ft
Static level 11 5 ft below top of well Date 10/19/2000
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 gal /min with ft drawdown after hrs
Airtest 50 gal /min with stem set at 28 ft for 1 hrs
Artesian flow g p m Date
Temperature of water Was a chemical analyses 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
Brown silty sand	0	8
Gravel cobbles & brown silt	8	16
Water gravel & cobbles	16	
Well located according to Skagit County Ordinance #12 48		

RECEIVED

OCT 30 2000

DEPT OF ECOLOGY

Work Started 10/19/2000 , 19 Completed 10/19/2000 , 19

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 Ralph Riggles License No 2043
(Licensed Driller/Engineer)

Trainee Name License No

Drilling Company Dahlman Pump & Well Drilling Inc

(Signed) Ralph W. Riggles License No
(Licensed Driller/Engineer)

Address P O Box 422, Burlington, WA 98233

Contractor's Registration No DAHLMPW123LC Date 10/20/2000 , 19

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer For special accommodation needs, contact the Water Resources Program at (360) 407-6600 The TDD number is (360) 407-6006

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

77477

114084

WATER WELL REPORT

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

Construction/Decommission (x in circle)
- ○ Construction
- ○ Decommission *ORIGINAL CONSTRUCTION Notice of Intent Number* _____

CURRENT
Notice of Intent No W125881

Unique Ecology Well ID Tag No AGE037

Water Right Permit No _____

Property Owner Name Gary Johnson

Well Street Address 59456 Rockport Cascade Rd

City Rockport County Skagit

Location SE 1/4 1/4 SW 1/4 Sec 13 Twn 35 R 10 EWM or WWM (circle one)

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

Tax Parcel No _____

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 40 ft

Depth of completed well 37 ft

CONSTRUCTION DETAILS

Casing Installed ☑ Welded 6 Diam from -3 ft to 37 ft

☐ 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 _____

Type _____ Model No _____

Diam _____ Slot Size _____ from _____ ft to _____ ft

Diam _____ Slot Size _____ from _____ ft to _____ ft

Gravel/Filter packed ☐ Yes ☑ No ☐ Size of gravel/sand _____

Materials placed from _____ ft to _____ ft

Surface Seal ☑ Yes ☐ No To what depth? 18 ft

Materials used in seal Bntt

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 _____ ft

Static level 21 ft below top of well Date 2-28

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 20 gal /min with 5½ ft drawdown after 2 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

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
Topsoil	1	4
Sand + gravel	4	28
Gray Silt & Sand	28	32
Sand + gravel Wate	32	37

RECEIVED
MAY 10 2002
DEPT OF ECOLOGY

Start Date 2-26 Completed Date 2-28

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) Wayne Prince Drilling Company Prince Well Drilling

Driller/Engineer/Trainee Signature Wayne C Prince Address 7940 NE Cape Horn Rd

Driller or Trainee License No 2582 City State Zip Concrete WASH 98237

If trainee, licensed driller's Signature and License no _____ Contractor s Registration No PRINCWD095KH Date March 2002

Ecology is an Equal Opportunity Employer ECY 050 1 20 (Rev 4/01)

35-10E 13L

WATER WELL REPORT

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

Construction/Decommission ("x" in circle) 136641

- ○ Construction
- ○ Decommission *ORIGINAL CONSTRUCTION Notice of Intent Number* _____

CURRENT Notice of Intent No. W167460

Unique Ecology Well ID Tag No. AGE 084

Water Right Permit No. _____

Property Owner Name Rick Davis

Well Street Address _____

City _____ County: Skagit

Location NE 1/4- 1/4 SW 1/4 Sec 13 Twn 35 R 10 EWM or WWM (circle one)

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

Tax Parcel No. _____

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 40 ft. Depth of completed well 35 ft.

CONSTRUCTION DETAILS

Casing Installed: ☒ Welded 6" Diam. from -2 ft to 35 ft

☐ 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 _____

Type _____ Model No _____

Diam _____ Slot Size _____ from _____ ft to _____ ft

Diam _____ Slot Size _____ from _____ ft. to _____ ft

Gravel/Filter packed: ☐ Yes ☒ No ☐ Size of gravel/sand _____

Materials placed from _____ ft to _____ ft

Surface Seal: ☒ Yes ☐ No To what depth? 18 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 to Gould

Type: 10 GPM H.P 1/2

WATER LEVELS: Land-surface elevation above mean sea level _____ ft

Static level 16 ft. below top of well Date 6-20-03

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 1½ 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
Sand + silt	1	14
Sand + gravel	14	32
Sand gravel + water	32	40
well site meets standards		
Set in S.C 1248 according		
to info provided by owner		

RECEIVED
AUG 14 2003
DEPT OF ECOLOGY

Start Date 6-20-03 Completed Date 6-23-03

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) Wayne Prince

Driller/Engineer/Trainee Signature Wayne C Prince

Driller or Trainee License No. 2582

Drilling Company Prince Well Drilling

Address 7940 N.E. Capehorn RD

City, State, Zip CONCRETE, WA. 98237

Contractor's Registration No. PRINCWD095K4 Date June 24, 2003

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

Ecology is an Equal Opportunity Employer ECY 050-1-20 (Rev 4/01)

Please print, sign and return to the Department of Ecology

35-10E-13K

Water Well Report

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

Construction/Decommission 183673

☑ Construction

☐ Decommission *ORIGINAL INSTALLATION Notice of Intent Number* WE 04303

Current Notice of Intent No. WE 04303

Unique Ecology Well ID Tag No. AKK 041

Water Right Permit No.

Property Owner Name MIKE YOUNG

Well Street Address 59302 MARBLEGATE

City MARBLEMOUNT County SKAGIT

Location NW 1/4-1/4 SE 1/4 Sec 13 Twn 35 R 10 EWM ☑ or WWM ☐ circle one

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

Long Deg Long Min/Sec

Tax Parcel No. P 45285

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 40 ft.

Depth of completed well 40 ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 6 " Diam. from 6 ft. to 35 ft.

☐ 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

Type STAINLESS STEEL Model No. TELESCOPE

Diam. 6 Slot size 20 from 35 ft. to 40 ft.

Diam. Slot size from ft. to ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand

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 ft.

Static level 18.5 ft. below top of well Date 10/03/05

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 gal./min. with ft. drawdown after hrs.

Airtest 40 gal./min. with stem set at 33 ft. for 1 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
BROWN SILT	0	6
GRAVEL SAND & BROWN SILT	6	25
GRAVEL SAND & WATER	25	40
WELL LOCATED ACCORDING TO SKAGIT		
COUNTY ORDINANCE #12.48.		

RECEIVED
NOV 04 2005
DEPT OF ECOLOGY

Start Date 10/03/05 Completed Date 10/03/05

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) RALPH RIGGLES

Driller/Engineer/Trainee Signature

Driller or trainee License No. 2043

If TRAINEE,

Driller's Licensed No.

Driller's Signature

Drilling Company DAHLMAN PUMP & WELL DRILLING, INC.

Address P. O. BOX 422 800.277 4898

City, State, Zip BURLINGTON, WA 98233

Contractor's Registration No. DAHLMPW123LC Date 10/04/05

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

35-10E-4R

WATER WELL REPORT

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

Construction/Decommission *("x" in circle)* 200738

- [x] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT
Notice of Intent No. WE04850

Unique Ecology Well ID Tag No. AKK080

Water Right Permit No. _____

Property Owner Name GARY DSCHAAK

Well Street Address 5800 WILLOW LANE

City ROCKPORT County SKAGIT

Location SE 1/4-1/4 SE 1/4 Sec 14 Twn 35 R 10 EWM or WWM [x] circle [ ] one

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

Tax Parcel No. _____

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

TYPE OF WORK: Owner's number of well (if more than one) _____

[x] New well [ ] Reconditioned *Method:* [ ] Dug [ ] Bored [ ] Driven [ ] Deepened [ ] Cable [x] Rotary [ ] Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 28 ft.
Depth of completed well 28 ft.

CONSTRUCTION DETAILS

Casing Installed: [x] Welded 6 " Diam. from +5 ft. to 23 ft.
[ ] Liner installed _____ " Diam. from _____ ft. to _____ ft.
[ ] Threaded _____ " Diam. from _____ ft. to _____ ft.

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

Screens: [x] Yes [ ] No [ ] K-Pac Location _____
Manufacturer's Name _____
Type STAINLESS STEEL Model No. _____
Diam. 6 Slot size 20 from 23 ft. to 28 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

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

Surface Seal: [x] Yes [ ] No To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? [ ] Yes [x] 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 _____ ft.
Static level 13 ft. below top of well Date 6/15/06
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 _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest 50 gal./min. with stem set at 22 ft. for 1 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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SILT	0	4
GRAVEL COBBLES AND BROWN SILT	4	14
BROWN GRAVEL SAND AND WATER	14	28
WELL LOCATED ACCORDING TO SKAGIT		
COUNTY ORDINANCE 12.48		

RECEIVED
JUN 23 2006
DEPT. OF ECOLOGY

Start Date 6/15/06 Completed Date 6/15/06

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) RALPH RIGGLES
Driller/Engineer/Trainee Signature _____
Driller or trainee License No. 2043

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

Drilling Company DAHLMAN PUMP & WELL DRILLING INC.
Address P O BOX 422
City, State, Zip BURLINGTON, WA 98233
Contractor's Registration No. DAHLMPW123LC Date 6/20/06

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05)

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

35-10E-14R

WATER WELL REPORT

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

Construction/Decommission *("x" in circle)* 200740

- [x] Construction
- [ ] Decommission *ORIGINAL INSTALLATION Notice of Intent Number* _____

CURRENT
Notice of Intent No. WE04822

Unique Ecology Well ID Tag No. AKK081

Water Right Permit No. _____

Property Owner Name ROBERT & PAM HUBERT

Well Street Address 58774 WILLOW LANE

City ROCKPORT County SKAGIT

Location SE 1/4-1/4 SE 1/4 Sec 14 Twn 35 R 10 EWM [x] circle or WWM [ ] one

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

Tax Parcel No. 351014-0-003-0008

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

TYPE OF WORK: Owner's number of well (if more than one) _____

[x] New well [ ] Reconditioned *Method:* [ ] Dug [ ] Bored [ ] Driven [ ] Deepened [ ] Cable [x] Rotary [ ] Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 34.5 ft.
Depth of completed well 34.5 ft.

CONSTRUCTION DETAILS

Casing Installed: [x] Welded 6 " Diam. from 0 ft. to 29.5 ft.
[ ] Liner installed _____ " Diam. from _____ ft. to _____ ft.
[ ] Threaded _____ " Diam. from _____ ft. to _____ ft.

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

Screens: [x] Yes [ ] No [ ] K-Pac Location _____
Manufacturer's Name _____
Type STAINLESS STEEL Model No. _____
Diam. 6 Slot size 20 from 29.5 ft. to 34.5 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

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

Surface Seal: [x] Yes [ ] No To what depth? 18 ft.
Material used in seal BENTONITE
Did any strata contain unusable water? [ ] Yes [x] 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 _____ ft.
Static level 12.5 ft. below top of well Date 6/16/06
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 _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest 50 gal./min. with stem set at 28 ft. for 1 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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SILTY SAND	0	11
COBBLES GRAVEL SAND AND BROWN SILT	11	14
BROWN GRAVEL SAND AND WATER	14	35
WELL LOCATED ACCORDING TO SKAGIT		
COUNTY ORDINANCE 12.48		

RECEIVED
JUN 23 2006
DEPT. OF ECOLOGY

Start Date 6/15/06 Completed Date 6/16/06

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) RALPH RIGGLES

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2043

Drilling Company DAHLMAN PUMP & WELL DRILLING INC.
Address P O BOX 422
City, State, Zip BURLINGTON, WA 98233
Contractor's Registration No. DAHLMPW123LC Date 6/20/06

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

Ecology is an Equal Opportunity Employer.

35-10E-14R

20074J

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. WE04814

Unique Ecology Well ID Tag No. AKK082

Water Right Permit No. _____

Property Owner Name GREGG & BECKY SNYDER

Well Street Address 58817 WILLOW LANE

City ROCKPORT County SKAGIT

Location SE 1/4-1/4 SE 1/4 Sec 14 Twn 35 R 10 EWM or WWM (✓) circle ( ) one

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

Tax Parcel No. 35101400120007

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 32 ft.
Depth of completed well 32 ft.

CONSTRUCTION DETAILS

Casing Installed: (✓) Welded 6 " Diam. from 0 ft. to 27 ft.
( ) 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 _____
Type STAINLESS STEEL Model No. _____
Diam. 6 Slot size 20 from 27 ft. to 32 ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ( ) Yes (✓) No ( ) Size of gravel/sand _____
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 _____ ft.
Static level 10 ft. below top of well Date 6/16/06
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 _____ gal./min. with _____ ft. drawdown after _____ hrs.
Airtest 50 gal./min. with stem set at 26 ft. for 1 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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SILTY SAND	0	6
COBBLES GRAVEL SAND AND BROWN SILT	6	13
GRAVEL COBBLES SAND AND WATER	13	32
WELL LOCATED ACCORDING TO SKAGIT		
COUNTY ORDINANCE 12.48		

RECEIVED
JUN 23 2006
DEPT. OF ECOLOGY

Start Date 6/16/06 Completed Date 6/16/06

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) RALPH RIGGLES

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2043

Drilling Company DAHLMAN PUMP & WELL DRILLING INC.

Address P O BOX 422

City, State, Zip BURLINGTON, WA 98233

Contractor's Registration No. DAHLMPW123LC Date 6/20/06

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

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05)

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

208256

35-10E-14R

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. WE04925

Unique Ecology Well ID Tag No. AKK083

Water Right Permit No. _____

Property Owner Name CLARK & EMILY DICKSON

Well Street Address S OF 58817 WILLOW LANE

City ROCKPORT County SKAGIT

Location SE 1/4-1/4 SE 1/4 Sec 14 Twn 35 R 10 EWM or WWM (•) circle ( ) one

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

Tax Parcel No. 351014-0-010-0009

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

TYPE OF WORK: Owner's number of well (if more than one) _____

[x] New well [ ] Reconditioned *Method:* [ ] Dug [ ] Bored [ ] Driven [ ] Deepened [ ] Cable [x] Rotary [ ] Jetted

DIMENSIONS: Diameter of well 6 inches, drilled 32.5 ft.

Depth of completed well 32.5 ft.

CONSTRUCTION DETAILS

Casing Installed: [x] Welded 6" Diam. from 0 ft. to 27.5 ft.
[ ] Liner installed _____" Diam. from _____ ft. to _____ ft.
[ ] Threaded _____" Diam. from _____ ft. to _____ ft.

Perforations: [ ] Yes [x] No

Type of perforator used _____

SIZE of perfs _____ in. by _____ in. and no. of perfs _____ from _____ ft. to _____ ft.

Screens: [x] Yes [ ] No [ ] K-Pac Location _____

Manufacturer's Name _____

Type STAINLESS STEEL Model No. _____

Diam. 6 Slot size 20 from 27.5 ft. to 32.5 ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: [ ] Yes [ ] No [ ] Size of gravel/sand _____

Materials placed from _____ ft. to _____ ft.

Surface Seal: [x] Yes [ ] No To what depth? _____ ft.

Material used in seal BENTONITE

Did any strata contain unusable water? [ ] Yes [x] 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 _____ ft.

Static level 14 ft. below top of well Date 6/17/06

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 _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest 60 gal./min. with stem set at 26 ft. for 1 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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
BROWN SILTY SAND	0	7
GRAVEL COBBLES SAND AND BROWN SILT	7	16
GRAVEL BROWN SAND AND WATER	16	33
WELL LOCATED ACCORDING TO SKAGIT		
COUNTY ORDINANCE 12.48		

RECEIVED
JUL 19 2006
DEPT. OF ECOLOGY

~~RECEIVED~~
~~OCT 11 2006~~
~~DEPT. OF ECOLOGY~~

Start Date 6/16/06 Completed Date 6/16/06

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) RALPH RIGGLES

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2043

Drilling Company DAHLMAN PUMP & WELL DRILLING INC.

Address P O BOX 422

City, State, Zip BURLINGTON

Contractor's Registration No. DAHLMPWI23LC Date 6/16/06

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

Ecology is an Equal Opportunity Employer.

359603

35-10E-13L

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 _____

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 40 ft. Depth of completed well 40 ft.

CONSTRUCTION DETAILS

Casing Installed: ☒ Welded 6 " Diam. from 0 ft. to 35 ft.

☐ 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 _____

Type STAINLESS STEEL Model No. _____

Diam. 6 Slot size #20 from 35 ft. to 40 ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☒ No Size of gravel/sand _____

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 _____ ft.

Static level 16 ft. below top of well Date 5/16/07

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 _____ gal./min. with _____ ft. drawdown after _____ hrs.

Airtest 60 gal./min. with stem set at 33 ft. for 1 hrs.

Artesian flow _____ g.p.m. Date _____

Temperature of water _____ Was a chemical analysis made? ☐ Yes ☐ No

CURRENT

Notice of Intent No. WE05889

Unique Ecology Well ID Tag No. APS 870

Water Right Permit No. _____

Property Owner Name GARY CORBIN

Well Street Address 59741 ROCKPORT CASCADE RD

City MARBLEMOUNT County SKAGIT

Location NE 1/4-1/4 SW 1/4 Sec 13 Twn 35 R 10 EWM ☒ Check Or WWM ☐ One

(s, t, r Still REQUIRED)

Lat/Long Lat Deg _____ Lat Min/Sec _____

Long Deg _____ Long Min/Sec _____

Tax Parcel No. (Required) 351013-1-003-0007

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
BROWN SILT	0	11
GRAVEL SAND AND BROWN SILT	11	23
GRAVEL COARSE SAND AND WATER	23	40
WELL LOCATED TO SKAGIT COUNTY		
ORDINANCE #12.48		

RECEIVED
NOV 23 2009
Dept of Ecology
WR-NWRO

Start Date 5/16/07 Completed Date 5/16/07

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) RALPH RIGGLES

Driller/Engineer/Trainee Signature _____

Driller or trainee License No. 2043

IF TRAINEE: Driller's License No: _____

Driller's Signature: _____

Drilling Company DAHLMAN PUMP & WELL DRILLING INC

Address P O BOX 422

City, State, Zip BURLINGTON , WA , 98233

Contractor's Registration No. DAHLMPW123LC Date 5/16/07

ECY 050-1-20 (Rev 4/07)

Ecology is an Equal Opportunity Employer

431948

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. W107926

Unique Ecology Well ID Tag No. ACS065

Water Right Permit No. _____

Property Owner Name Gary Lundquist

Well Street Address _____

City Marblemount County Skagit

Location NE 1/4-1/4 SE 1/4 Sec 23 Twn 35 R 10 EWM or WWM ☐ circle one

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

Tax Parcel No. _____

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 40 ft.
Depth of completed well 40 ft.

CONSTRUCTION DETAILS
Casing Installed: ☑ Welded 6 " Diam. from 1 ft. to 40 ft.
☐ 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 _____
Type _____ Model No. _____
Diam. _____ Slot size _____ from _____ ft. to _____ ft.
Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand _____
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 _____ ft.
Static level 17 ft. below top of well Date Jan 1
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? Wayne Prince
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 25 gal./min. with 3 ft. drawdown after 1 1/2 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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
topsoil	1 ft	2 ft
sand & gravel	2 ft	36 ft
sand, gravel & water	36 ft	40 ft
Well site meets standards set in SC1248		
according to information provided by owner.		

RECEIVED DEC 07 2011 WATER RESOURCES - NWRO

Start Date Jan 1 Completed Date Jan 4, 1999

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) Wayne Prince

Driller/Engineer/Trainee Signature Wayne C Prince

Driller or trainee License No. 1898

Drilling Company Prince Well Drilling

Address 7940 NE Cape Horn Rd

City, State, Zip Concrete, Wash 98237

Contractor's Registration No. Princwd095K4 Date Jan 4, 1999

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

Ecology is an Equal Opportunity Employer.

431974

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. W246687

Unique Ecology Well ID Tag No. APA578

Water Right Permit No. _____

Property Owner Name William Griffith

Well Street Address 59390 Marblegate Road

City Marblemount County Skagit

Location ___1/4-1/4 ___1/4 Sec 13 Twn 35 R 10 EWM ☑ or WWM ☐ circle one

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

Tax Parcel No. P45279

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 40 ft. Depth of completed well 36 ft.

CONSTRUCTION DETAILS

Casing Installed: ☑ Welded 6 " Diam. from -3 ft. to 36 ft. ☐ 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 _____

Type _____ Model No. _____

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Diam. _____ Slot size _____ from _____ ft. to _____ ft.

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand _____

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 Goulds

Type: submersible H.P. 1/2

WATER LEVELS: Land-surface elevation above mean sea level _____ ft.

Static level 21 ft. below top of well Date 5/2

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? Wayne Prince

Yield: 12 gal./min. with 4 ft. drawdown after 2 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.

Airtest _____ gal./min. with stem set at _____ ft. for _____ hrs.

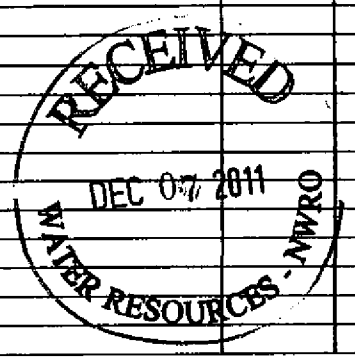
Artesian flow _____ g.p.m. Date _____

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. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Topsoil	1 ft	25 ft
Heavy silt	25 ft	28 ft
sand, gravel & water	28 ft	40 ft
Well site meets standards set in SC1248		
according to information provided by owner.		



Start Date May 2 Completed Date May 2, 2008

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) Wayne Prince

Driller/Engineer/Trainee Signature Wayne Prince

Driller or trainee License No. 2788

Drilling Company Prince Well Drilling

Address 7940 NE Cape Horn Rd

City, State, Zip Concrete, Wash 98237

Contractor's Registration No. Princwd095K4 Date May 15, 2008

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

Ecology is an Equal Opportunity Employer.

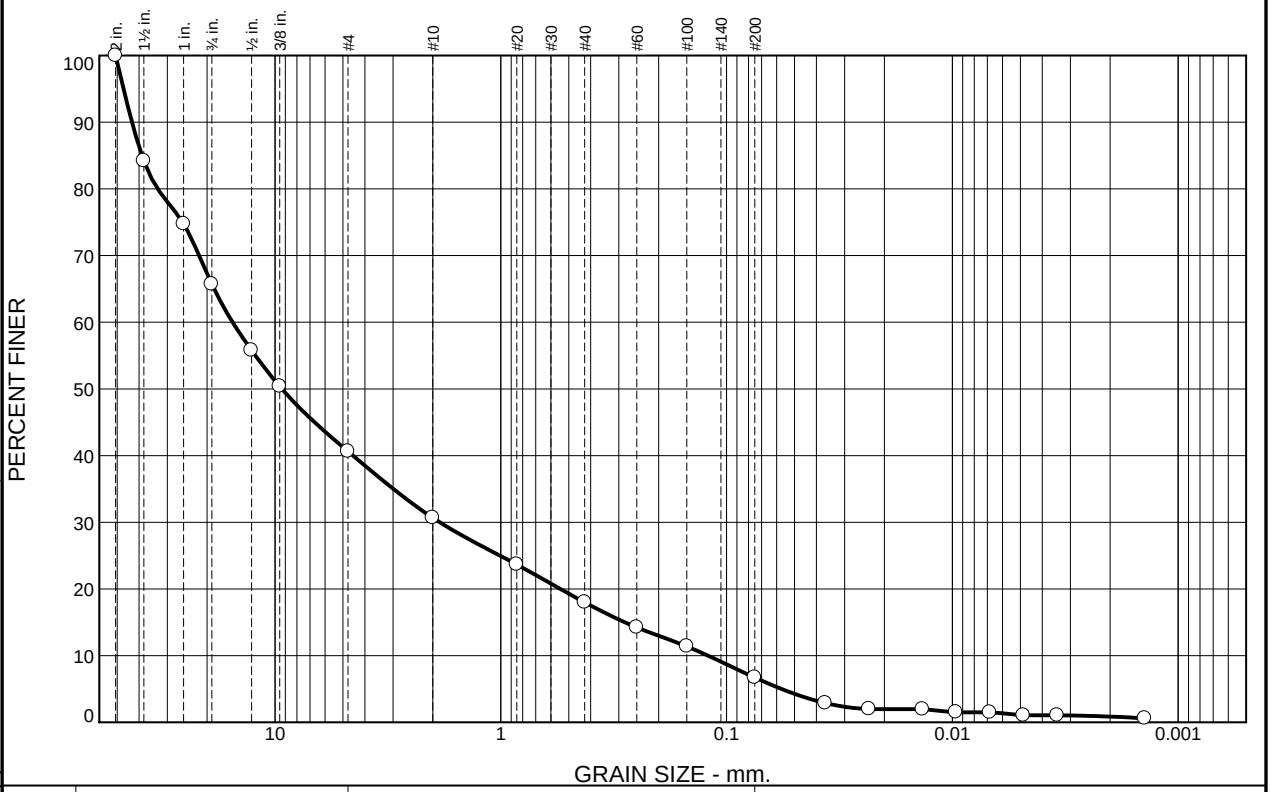
ECY 050-1-20 (Rev 3/05) **The Department of Ecology does NOT warranty the Data and/or Information on this Well Report.**

(Intentionally Left Blank)

Appendix D: Sieve Grainsize Analysis

(Intentionally Left Blank)

Sieve Analysis w/Hydrometer Test Report - ASTM D422/D1140



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0	34	25	10	13	11	6	1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2"	100		
1-1/2"	84		
1"	75		
3/4"	66		
1/2"	56		
3/8"	50		
#4	41		
#10	31		
#20	24		
#40	18		
#60	14		
#100	11		
#200	6.7		
0.0365 mm.	2.9		
0.0234 mm.	2.0		
0.0135 mm.	2.0		
0.0096 mm.	1.5		
0.0068 mm.	1.5		
0.0048 mm.	1.1		
0.0034 mm.	1.1		
0.0014 mm.	0.6		

* (no specification provided)

Soil Description

Element Solutions Job #2017008
well-graded Gravel with silt and sand

Atterberg Limits

PL= LL= PI=

Coefficients

D_{90}= 43.0163 D_{85}= 38.8503 D_{60}= 15.4200
D_{50}= 9.3169 D_{30}= 1.8630 D_{15}= 0.2823
D_{10}= 0.1208 C_u= 127.61 C_c= 1.86

Classification

USCS= GW-GM AASHTO=

Remarks

Organic Content: 1.0%

Location: Marblemount Quarry - Sampled by client
Sample Number: 9994

Date: 10-26-18

GEOTEST
741 Marine Drive
Bellingham, WA 98225
www.GeoTest-Inc.com

Client: Element Solutions
Project: Marblemount Quarry
Marblemount, WA, 98267
Project No: 18-0806 **Figure** SA001

Tested By: DK **Checked By:** DB

Northwest Agricultural Consultants

2545 W Falls Avenue
Kennewick, WA 99336
509.783.7450
www.nwag.com
lab@nwag.com

PAP-Accredited
NAPT

Element Solutions
1812 Cornwall Ave.
Bellingham, WA 98225

Report: 46651-1
Date: October 29, 2018
Project No: 2017008
Project Name: Marblemount Quarry

Sample ID	Cation Exchange Capacity
2017008	5.0 meq/100g
Method	**EPA 9081**