

## STATE OF ALASKA 45678 DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND & WATER Alaska Hydrologic Survey

## WATER WELL LOG Revised 08/18/2016

| Drilling Started: <u>9 / 16 / 2010</u> Completed: <u>9 / 18 / 2010</u> Pump Install: //  |                     |                   |           |                                  |  |  |  |  |
|--|---------------------|-------------------|-----------|----------------------------------|--|--|--|--|
| City/Borough   | Subdivis            | Subdivision Block |           | Lot                              | Property Owner Name & Address  |  |  |  |
| Southeast Island REAA  | NA                  | 4                 |           | NA                               | Manokotak AK,  |  |  |  |
| Well location: Latitude<br>Meridian _S Townsl  | nip <u>014S</u> Rar | nge _058W         | / Section | <b>Longituc</b><br>n <u>14</u> , | de<br>1/4 of 1/4 of 1/4 of 1/4   |  |  |  |
| BOREHOLE DATA: (from ground surface)<br>Suggest T.M. Hanna's hydrogeologic classification system*<br>https://my.ngwa.org/NC Product?id=a18500000BYub3AAD<br>Depth<br>From To                 |                     |                   |           | Well use:                        | thod: Air rotary, Cable tool, Other<br>Public supply, Domestic, Reinjection, Hydrofracking<br>cial, Observation/Monitoring, Test/Exploratory, Cooling,<br>/Agriculture, Grounding, Recharge/Aquifer Storage, |  |  |  |
| PEAT 0   |                     | 0                 | 5         |                                  | Geothermal Exploration, Other  |  |  |  |
| ORGANIC CLAY PEAT  |                     | 5                 | 9         | Fluids used                      | d:   |  |  |  |
| GRAVELLY CLAY  |                     | 9                 | 14        | Depth of he                      | d:ft Casing stickup:ft   |  |  |  |
| CLAYEY SAND AND GRAVEL   |                     | 14                | 20        | <ul> <li>Casing type</li> </ul>  | e: Casing thickness: inches  |  |  |  |
| BEDROCK DARK GR  |                     | 20                | 200       |                                  | meter: inches Casing depth: <u>200</u> ft<br>Depth: ft Diameter: inches  |  |  |  |
|  |                     | 20                | 200       | Note:                            |  |  |  |  |
|  |                     |                   |           | Well intake                      | e opening type: Open end, Open hole, Other other   |  |  |  |
|  |                     |                   |           |                                  | e:, Screen mesh size:  |  |  |  |
|  |                     |                   |           |                                  | rt: ft, Screen stop: ft, Perforated ☐Yes I No  |  |  |  |
|  |                     | -                 |           |                                  | description: Perf from: ft, Perf   |  |  |  |
|  |                     |                   |           |                                  | _ft, Perf from: ft, Perf to: ft  |  |  |  |
|  |                     |                   |           | - Note:                          | ked  |  |  |  |
|  |                     |                   |           |                                  | er (from top of casing): <u>16.3</u> ft on <u>9 / 19 / 2010</u> Artesian well  |  |  |  |
|  |                     |                   |           |                                  | evel & yield: feet after hours at gpm  |  |  |  |
|  |                     |                   |           |                                  | testing: Duration:   |  |  |  |
|  |                     |                   |           | Developme                        | ent method: Duration:  |  |  |  |
|  |                     |                   |           |                                  | ate: gpm<br>: <u>BENTONITE</u> Volume  |  |  |  |
|  |                     |                   |           |                                  | m <u>0</u> ft, To <u>10</u> ft   |  |  |  |
| Include description or sketch of   | well location (in   | clude roa         | d names,  |                                  | o intake depth: ft Model:  |  |  |  |
| buildings, etc.):  |                     |                   |           |                                  | : hp Brand name:   |  |  |  |
|  |                     |                   |           | Was well d                       | lisinfected upon completion? Yes INO   |  |  |  |
|  |                     |                   |           | Method of                        | disinfection:  |  |  |  |
|  |                     |                   |           | Was water                        | quality tested? Yes No   |  |  |  |
|  |                     |                   |           | Water qual                       | lity parameters tested:  |  |  |  |
|  |                     |                   |           | well armer                       | name: Steve Thomas<br>name: JOHNSON DRILLING CO  |  |  |  |
|  |                     |                   |           |                                  | dress: 3705 ARCTIC BLVD  |  |  |  |
|  |                     |                   | 1         | City: ANCH                       | IORAGE State: AK Zip: 99503  |  |  |  |
| Nath   |                     |                   |           | Phone num                        | HORAGEState: <u>AK</u> Zip: <u>99503</u><br>nber: ()   |  |  |  |
| AS 41.08.020(b)(4) and AAC 11 AAC 93.140(a) require that a copy of the well log be submitted to the Department of Natural Resources within <b>45 days of well completion</b> . Well logs may |                     |                   |           |                                  | Inature:   |  |  |  |
|  |                     |                   |           |                                  |  |  |  |  |
| be submitted using the online well log reporting system<br>available at:   |                     |                   |           | Anchorage N                      | //<br>Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require  |  |  |  |
|  |                     |                   |           |                                  | of this well log be submitted to the Development Services Department/City<br>ys of well completion.  |  |  |  |
| https://dnr.alaska.gov/welts/  |                     |                   |           |                                  |  |  |  |  |
| OR email electronic well logs to   |                     |                   |           | City Permit I<br>Date of Issu    | Number:<br>e:/   |  |  |  |
| dnr.water.reports@alaska.gov   |                     |                   |           | Parcel Ident                     | ification Number:  |  |  |  |

\*Guide for Using the Hydrogeologic Classification System for Logging Water Well Boreholes by Thomas M. Hanna NGWA Press

15678

## STATE OF ALASKA DEPARTMENT OF NATURAL RESOURCES DIVISION OF MINING, LAND & WATER WATER WELL LOG

Drilling Started: 09 / 16 / 2010 Completed: 09 / 18 / 2010

| Manokotak       Old Manokotak, Manokotak, Alaska (OMPW9)         Meridian Seward       Township 145       Range 58W       Section 15       1/4 of       1/4 of       1/4 of         BOREHOLE DATA: (from ground surface)       Depth       Diffing method: # Air rotary, D Cable tool D Other       Well use: # Public supply, D Domestic, D Other         Paat       0.0       S       Depth of hole 200       ft, Casing stickup:       Inches Depth;         Organic clasy/peat       5       9       Casing glameter:       inches Casing depth;       Inches Depth;         Clayey sand and gravel       14       20       Note:       Demth of hole 200       ft, Casing stickup:       gpth;         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 2011         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 2011         Well trake copening type:       Open hole approximation of the copening type:       Duration:       Use trake copening type:       Duration:         Well trake copening type:       0 Open hole 0.       Other       Screen type:       Slottmesh size       Deport hole, Other         Well trake copening type:       0 Stati.       ft, Stopped       Gravel packed o Yes s No From       ft to <th><u></u></th> <th><b>`</b></th> <th>1</th> <th>· · · · · · · · · · · · · · · · · · ·</th> <th>Completed: 05 7 2010</th> | <u></u>  | <b>`</b>         | 1        | · · · · · · · · · · · · · · · · · · · | Completed: 05 7 2010   |
|--|--|------------------|----------|---------------------------------------|--|
| Meridian Seward       Township 145       Range 58W       Section 15       1/4 of       1/4 of       1/4 of         BORENOLE DATA; (from ground surface)       Depth       Defiling method: % Air rotary, a Cable tool D Other         Peat       0.0       S       Depth of hole: 200       th, Casing slickup:         Organic clay/peat       5       9       Casing dimeter:       inches       Casing dimeter:       inches       Casing dimeter:       inches       Casing dimeter:       inches       Depth.         Chayey sand and gravel       1/4       20       Note:       Dimethod:       Duration:       Wet         BEDROCK, dask gray competent       20       200       Pumping level & yield:       fee after       hours at       gept         BEDROCK, dask gray competent       20       200       Pumping level & yield:       fee after       hours at       gept         WelL ABANDONED       Screenel type:       Soldmash size       Distremed; Start:       ft, Stopped         Start:       ft, Stopped       Screenel type:       Soldmash size       Solfmash size       Differe comments; Stev: Thomas         Cont type: bentosite       Volume       Depth; from ground surface       ft, to baptox 10       Pump intake depth;       ft         Method of disinfector  | City/Borough:  | Subdivision:     | BLOCK    | LOT                                   | Property Owner Name & Address:   |
| BOREHOLE DATA: (from ground surface) Depth<br>Material: Type, Color & wetness       Defining method: % Air rotary, D Cable tool D Other         Paat       0.0       5       Depth of hole: 200       ft, Casing stickup:         Organic clay/peat       5       9       Casing dimeter:       inches       Casing dimeter:       inches       Depth of hole: 200       ft, Casing stickup:       inches       Depth         Gravely clay       9       14       Liner type: ione       Diameter:       inches       Depth       Depth of hole: 200       ft, Casing stickup:       inches       Depth;       Note:       inches       Depth;       Note:       inches       Depth;       Note:       inches       Depth;       Note:       inches       Depth;       During tevel & yield:       feet after       hours at       gpm       gpm       Method of testing:       Development method:       Ours at       gpm       Gpm hole, Other       State:       stat:       ft, Stopped       State:       State:       State:       State:       stat:       ft, Stopped       Gravel packed or Yes       No       No       State:       state:       ft       Method of disinfector       Method of disinfector       No       State:       state:       state:       state:       ft       State       State:       State:<  | Manokotak  | · · · · · ·      |          |                                       | Old Manokotak, Manokotak, Alaska (OMPW9)   |
| BORENOLE DATA:         (from ground surface)         Depth           Material:         Type, Color & wetness         from         To         Well use:         K Public supply, D Domestic, D Other           Poat         0.0         S         Depth of hole:         200         ft, Casing diget           Organic clay/peat         S         9         14         Liner type:         Inches         Casing diget           Chayey sand and gravel         14         20         Stafte water (from top of casing):         16.3         ft on .09. / 19. / 201           Pumping level & yield:         feet after         hours at         gp           BEDROCK, dark gray competent         20         200         Stafte water (from top of casing):         16.3         ft on .09. / 19. / 201           Pumping level & yield:         feet after         hours at         gp           Recovery rate:         glowenent method:         Duration:         Well intake opening type: 0 Open end a Open hole, Other         Screen type:         SloWmesh aize           Perforated:         Start:         ft, Stopped         Start:         ft, Stopped         Screen type:         SloWmesh aize         Depth from ground surface         to type: bentonite         Volume         Depth from ground surface         to type: bentonite         Volume  | Meridian Seward  | Township 14S     | Range 58 | 8W 5                                  | Section 13 1/4 of 1/4 of 1/4 of 1/4  |
| Peat       0.0       s       Depth of hole: 200ft, Casing slickup:   | BOREHOLE DATA: (from ground surface) Depth   |                  |          |                                       | Drilling method: # Air rotary, D Cable tool D Other  |
| Organic clay/pent       5       9       Casing diperimeter.       Inches Casing depth         Clayey sand and gravel       14       20       Note:       Inches Depth         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 201         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 201         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 201         BEDROCK, dark gray competent       20       200       Static water (from top of casing): 16.3       ft on 09 / 19 / 201         BEDROCK, dark gray competent       20       200       Pumping level & yield:       feet after hours at gping         BEDROCK, dark gray competent       20       200       Pumping level & yield:       feet after hours at gping         Well Intake opening type:       0       Derorated; Start:       ft, Stopped       Screen type:       Stopped         Gravel packed of Yes a No From  | Pcat   |                  | ).0 5    |                                       |  |
| Olderty Oldy       9       14       Liner type: none       Diameter:inches Depth:  | Organic clay/peat  |                  | 5.9      | •                                     | Casing type: Thickness inches  |
| Clayey sand and gravel       14       20       Note:       Mote:       Mote: <td colspan="2">Gravely clay</td> <td>) 1</td> <td>4</td> <td>Casing diameter: inches Casing depth ft</td>  | Gravely clay   |                  | ) 1      | 4                                     | Casing diameter: inches Casing depth ft  |
| Pumping level & yield:       feet after hours at gpr         Recovery rate:  |  |                  | 4 2      | 0                                     | Note:  |
| Well intake opening type:       D Open hole,       Other         WELL ABANDONED       D Screened; Start:       f,       Stopped         D Perforated; Start:       f,       Stopped         Start:       ft,       Stopped         D Perforated; Start:       ft,       Stopped         D Parter Start:       ft,       Stopped         D Pump Intake depth:       ft       ft         Pump size       hp       Brand name         D Pump intake depth:       ft       ft         Pump size       hp       Brand name         D Piller comments/ disclaimers:       Well driller name: Stave: Thomas         Company name:       Johnson Drilling Company         Mailing address:       3705 Arotic Bivd., Unit 412         City: Anchorage       State: AK Zlp 99503         Phone number :  | BEDROCK, dark  | gray competent 2 | .0 2     | 00                                    | Static water (from top of casing): 16.3       ft on 09 / 19 / 2010         Pumping level & yield:feet afterhours atgpm         Recovery rate:gpm, Method of testing:         Development method:       Duration:   |
| City: Anchorage       State: AK Zlp 99503         City: Anchorage       State: AK Zlp 99503         Phone number : ()2505051       Drillers signature:         Date:/       Date:/         Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.       If the well is within city limits, the City of Anchorage requires that a copy of this well log be forwarded to the city within 60 days and another copy of this log be forwarded to the owner of the property, on which the well is located, within 30 days.         Alaska DNR, Division of Mining, Land and Water, 550 W 7 <sup>th</sup> Avenue, Suite 1020       City Permit Number:  | WELL ABANDO  | NED              |          |                                       | Well intake opening type:       □ Open end       □ Open hole,       Other x         □ Screened; Start:      ft, Stoppedft         Screen type:      ft, Stoppedft         □ Perforated; Start:      ft, Stoppedft         □ Perforated; Start:      ft, Stoppedft         Gravel packed □ Yes       ∞ No         Fromft toft      ft         Orout type:       bentonite       Volume         Depth; from ground surface       ft, to approx 10       ft         Pump Intake depth:      ft       prime size         Was well disinfected upon completion?       □ Yes       x0 No         Mathod of disinfection: |
| Alaska state law requires that a copy of this well log be forwarded to the Department of Natural Resources within 45 days (AK statutes 38.05.020, 38.05.035, 41.08.020, 46.15.020 and AK regulations 11 AAC 93.140). Faxes are acceptable.       If the well is within city limits, the City of Anchorage requires that a copy of this well log be forwarded to the city within 60 days and another copy of this log be forwarded to the owner of the property, on which the well is located, within 30 days.         Alaska DNR, Division of Mining, Land and Water, 550 W 7 <sup>th</sup> Avenue, Suite 1020       City Permit Number:   | amaanya ayayaa ayaa ayaa ayaa ayaa ayaa  |                  |          |                                       | City:         Anchorage         State:         AK         Zlp         99503           Phone number :         ()         250         - 5051   |
| Alaska DNR, Division of Mining, Land and Water, 550 W 7 <sup>th</sup> Avenue, Suite 1020       copy of this well log be forwarded to the city within 60 days and another copy of this log be forwarded to the owner of the property, on which the well is located, within 30 days.   |  |                  | <u> </u> |                                       |  |
| Alaska DNR, Division of Mining, Land and Water,<br>550 W 7 <sup>th</sup> Avenue, Suite 1020  | forwarded to the Department of Natural Resources within<br>45 days (AK statutes 38.05,020, 38.05.035, 41.08.020,<br>46.15.020 and AK regulations 11 AAC 93.140). Faxes |                  |          |                                       | another copy of this log be forwarded to the owner of the property,<br>on which the well is located, within 30 days.   |
|  | 550 W 7 <sup>th</sup> Avenue, Suite 1020   |                  |          |                                       | Date of Issue: / /   |
| Phone (907)269-8639 and fax (907)269-8947 Is well located at approved permit location? Yes D or No   |  | •                | )47      |                                       | Is well located at approved permit location? Yes ] or No   |