43993

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

WATER WELL LOG Revised 08/18/2016

Drilling Started: 8 / 22 / 1983 Completed: 8 / 24 / 1983 Pump Install: ___/___/_____

City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Municipality of Anchorage	FORT RICHARDSON FISH HATCHERY		NONE	STATE OF ALASKA, DFG, FORT RICHARDSON AK,

Well location: Latitude 61.2451363 **Longitude** -149.709808
Meridian S Township 013N Range 002W Section 06 , NW 1/4 of NW 1/4 of NE 1/4 of SW 1/4

BOREHOLE DATA: (from ground surface)
Suggest T.**M. Hanna's hydrogeologic classification system*** https://my.ngwa.org/NC__Product?id=a185000000BYub3AAD

	Depth From	Depth To
LIGHT TAN GRAVELLY SANDY SILT	0	8
DARK TAN GRAVELLY SANDY SILT	8	10
TAN SILTY GRAVEL	10	12
CLEAN GRAVEL	12	14
TAN SILTY GRAVEL	14	16
DAMP TAN SILTY GRAVELLY SAND	16	18
DAMP LIGHT GRAY SANDY GRAVEL WITH SILT TRACE	18	22
DAMP LIGHT GRAY SILTY GRAVEL	22	24
WET TAN SILTY SANDY GRAVEL	24	28
LIGHT GRAY SANDY GRAVEL WITH SILT TRACE	28	30
CLEAN SANDY GRAVEL	30	32
LIGHT TAN SANDY GRAVEL WITH SILT TRACE	32	42
LIGHT TAN SILTY GRAVEL	42	43
LIGHT TAN SANDY GRAVEL WITH SILT TRACE	43	44
LIGHT TAN SILTY GRAVEL	44	45
LIGHT TAN SANDY GRAVEL WITH SILT TRACE	45	46
LIGHT TAN SILTY GRAVELLY SAND	46	50

Include description or sketch of well location (include road names, buildings, etc.):

North

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 **45 days of well completion**. Well logs may be submitted using the online well log reporting system available at:

https://dnr.alaska.gov/welts/

OR email electronic well logs to

dnr.water.reports@alaska.gov

Drilling method: ☒ Air rotary, ☐ Cable tool, ☐ Other _____
Well use: ☐ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking
☐ Commercial, ☒ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling,
☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage,
☐ Heating, ☐ Geothermal Exploration, ☐ Other _____
Fluids used: _____

Depth of hole: 218 ft Casing stickup: 2 ft
Casing type: STEEL Casing thickness: _____ inches
Casing diameter: 6 inches Casing depth: 218 ft
Liner type: _____ Depth: _____ ft Diameter: _____ inches
Note: Note casing depth in well log is 218 ft, but video log indicates well back-filled silted to 187.1 feet

Well intake opening type: ☐ Open end, ☐ Open hole, ☒ Other perforated
Screen type: _____, Screen mesh size: _____
Screen start: _____ ft, Screen stop: _____ ft, Perforated ☐ Yes ☒ No
Perforation description: _____ Perf from: 70 ft, Perf to: 90 ft, Perf from: _____ ft, Perf to: _____ ft
Gravel packed ☐ Yes ☒ No Gravel start: _____ ft , Gravel stop: _____ ft
Note: PERFORATED USING CASING "BOMBS" 4/4/2016 VIDEO LOG SUGGESTS PERFORATIONS MAY BEGIN AT 68 FT

Static water (from top of casing): 38.35 ft on 6 / 21 / 1984 Artesian well ☐
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Method of testing: _____
Development method: _____ Duration: _____
Recovery rate: _____ gpm

Grout type: _____ Volume _____
Depth: From _____ ft, To _____ ft

Final pump intake depth: _____ ft Model: _____
Pump size: _____ hp Brand name: _____

Was well disinfected upon completion? ☐ Yes ☒ No
Method of disinfection: _____
Was water quality tested? ☐ Yes ☒ No
Water quality parameters tested: _____

Well driller name: .....
Company name: NOT KNOWN .....
Mailing address: .....
City: _____ State: AK Zip: _____
Phone number: (_____) _____- _____
Driller's signature: _____
Date: _____/_____/_____

Anchorage Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require that a copy of this well log be submitted to the Development Services Department/City within **30 days of well completion**.

City Permit Number: _____
Date of Issue: _____/____/_____

Parcel Identification Number: _____-_____-_____

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

OTT WATER ENGINEERS

SUBJECT Fort Richardson Water Study

BY Barrett DATE 8/26/

PROJECT NO. A1029

PAGE NO. 1 OF 4

Test Well H-1

Soils Log 6 inch Exploration Hole

Location : NE corner of Fort Richardson Fish Hatchery compound

Total Depth : 218 feet below ground surface

Drilling Method : Air rotary

Drilling dates : 8/22 - 8/24/83

Interval (Ft below G.S.)	Description
0-8	light tan gravelly sandy silt
8-10	dark tan " " " "
10-12	tan silty gravel
12-14	clean gravel
14-16	tan silty gravel
16-18	damp tan silty gravelly sand
18-22	damp light gray sandy gravel with silt trac
	Water at 19 ft (1gpm)
22-24	damp light gray silty gravel
24-28	wet tan silty sandy gravel (5 gpm)
28-30	light gray sandy gravel with silt trace (5grm,
30-32	clean sandy gravel (5gpm,
32-36	light tan sandy gravel with silt trace (5gpm)
36-38	" " " " " " " " (10gpm
38-42	" " " " " " " " (5gpm,
42-43	light tan silty gravel (5gpm,

OTT WATER ENGINEERS

SUBJECT Ft Rick

BY Barrett DATE 8/26/

PROJECT NO. A1029

PAGE NO. 2 OF 4

Interval	Description	
43-44	light tan sandy gravel with silt trace	(5gpm
44-45	light tan silty gravel	(1-3gpm
45-46	light tan sandy gravel with silt trace	(5gpm
46-50	light tan silty gravelly sand	(5gpm)
50-51	Sandy gravel	(3gpm)
51-55	light tan sandy silty gravel	(1-3gpm)
55-56	clean sandy gravel	(10 gpm
56-58	light tan silty sandy gravel	(5-10 gpm
58-61	light tan gravelly silt	
61-66	gray gravelly silt	
66-72	tan silty sandy gravel	(5gpm
72-76	tan gravelly sandy silt	
76-77	tan sandy silt	
77-79	clean sandy gravel	(5-10gpm
79-85	tan silty sandy gravel	(3gpm
85-88	" " " "	
88-90	tan fine silty sand	(1gpm)
90-92	tan silty gravelly sand	(1gpm)
92-93	tan silty sandy gravel	(1gpm
93-98	tan sandy silty gravel	(1gp
98-101	tan gravelly silt	
101-103	tan silty sandy gravel	(3gpm
103-108	tan silty sandy gravel	(1gpm)
108-110	" " " "	(3gpm

OTT WATER ENGINEERS

SUBJECT Ft Rich

BY Barrett DATE 8/26/

PROJECT NO. A 1029.

PAGE NO. 3 OF 4

Interval	Description	
110 - 112	tan sandy silty gravel	(1-3 gpm)
112 - 125	tan silty sandy gravel	(10 gpm)
SAMPLE #1	120 ft (sampled material finer than actual formati	
125 - 132	tan sandy gravel with silt trace	(25+ gpm,
SAMPLE #2	130 ft (gravels loose and flowing into bor	
	hole can only drill 1 ft in advance of casing,	
132 - 136	tan sandy gravel with silt trace	(50 - 100 gpm
136 - 137	gray sandy gravel	
137 - 136	tan sandy gravel	(50 - 100 gpm
	(Driller estimates Q = 100 gpm between 120+140 foot depth	
SAMPLE #3	138 ft	
138 - 140	tan sandy gravel	(50-100 gpm
140 - 142	gray silty sandy gravel	
142 - 145	gray fine gravelly silt	(<1 gpm,
145 - 148	gray sandy silt	(<1 gpm
148 - 152	gray fine silty gravel	(<1 gpm
152 - 155	gray silty sandy gravel	(1-3 gpm
155 - 156	gray gravelly sandy silt	(1 gpm)
156 - 157	gray sandy silty gravel	(1-3 gpm,
157 - 159	gray gravelly sandy silt	(1 gpm)
159 - 162	gray sandy silty gravel	(3 gpm,
162 - 165	gray sandy silty gravel	(1-3 gpm,
165 - 167	tan silty sandy gravel	(3-5 gpm
167 - 169	" " " "	(5+ gpm

OTT WATER ENGINEERS

SUBJECT Ft Rich

BY Barrett DATE 8/24/

PROJECT NO. A1029

PAGE NO. 4 OF 4

Interval	Description	
169-171	tan silty sandy gravel	(3gpm)
SAMPLE #4	170 ft	
171-173	tan sandy gravel with silt trace	(5gpm)
173-175	" " " " " "	(10gpm
175-177	" " " " " "	(5gpm
SAMPLE #5	176 ft	
177-179	tan silty sandy gravel	(5gpm
179-186	tan sandy gravel with silt trace	(3-5gpm
186-190	tan silty gravelly sand	(3gpm
190-197	tan silty sandy gravel	(3gpm
197-203	tan gravelly silty sand	(1-3gpm
203-205	tan silty sandy gravel	(1-3gpm
205-210	tan silty gravelly sand	(5gpm)
210-212	tan silty sandy gravel	(5gpm
212-215	" " " "	(5gpm
215-217	tan silty gravelly sand	(3gpm
217-218	tan silty sandy gravel	(5gpm

Total depth 218 ft below ground surface

flow from open ended casing ≈ 30-40 gpm

Alaska Testlab

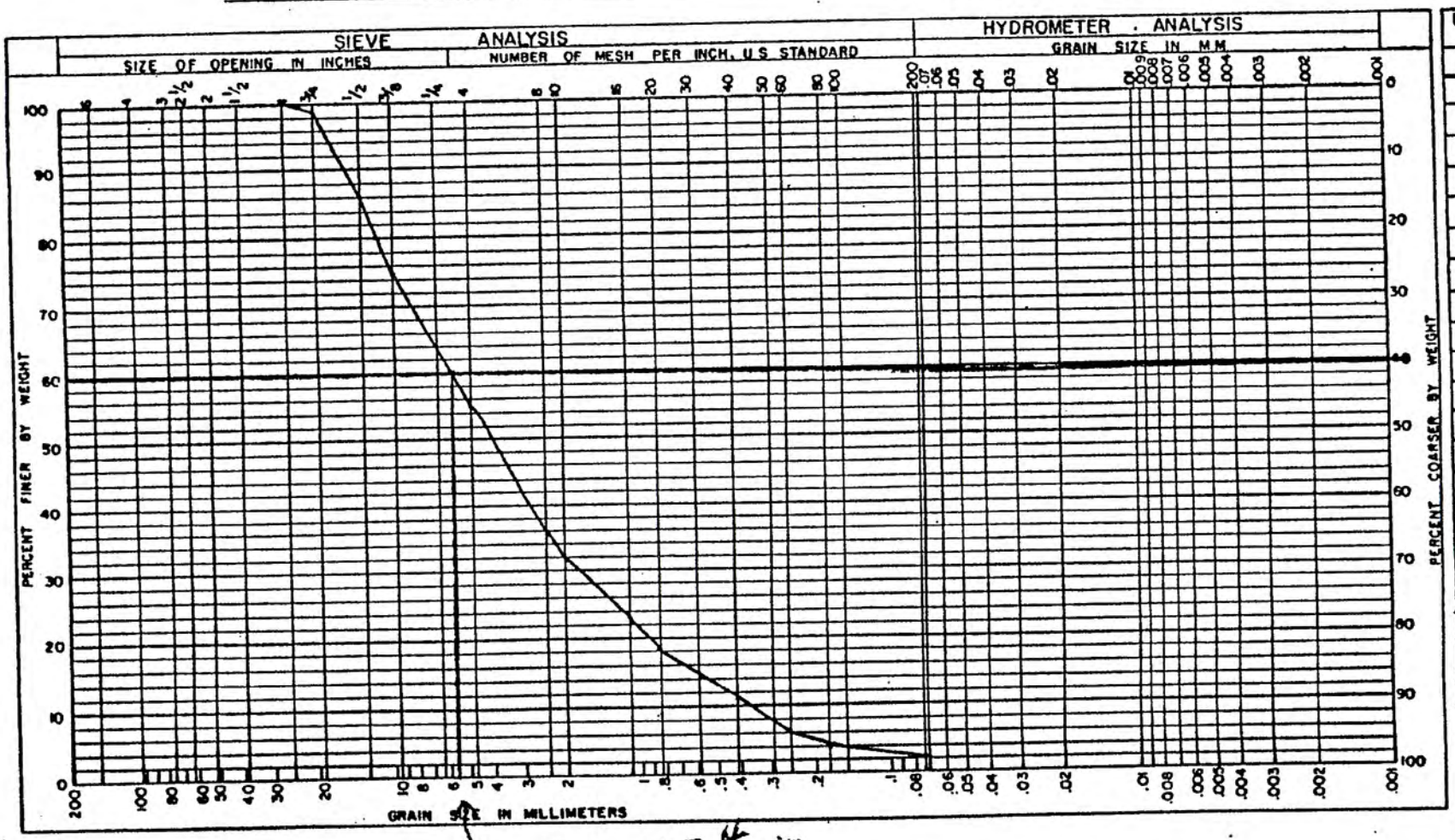
4040 "B" Street Anchorage, Alaska 99503 Phone (907) 278-1551

Sheet 1 of 3
W. O. No. A21614
Date 9-13-83
Technician

Sample #1

Textural Class
Frost Class Unified Class
Plastic Properties
Date Received

Client MW Drilling
Project Fort Richardson Fish Hatchery
Sample Number 1556
Location at 120' 6" exp. hole
Sample Taken By Client



≈ .224 in

US STD SIEVE	CUM % PASS
3	
2	
1 1/2	
1	100
3/4	99
1/2	86
3/8	75
4	55
8	36
10	32
16	23
20	18
30	15
40	11
50	8
60	6
80	4
100	4
200	2.2

3-5

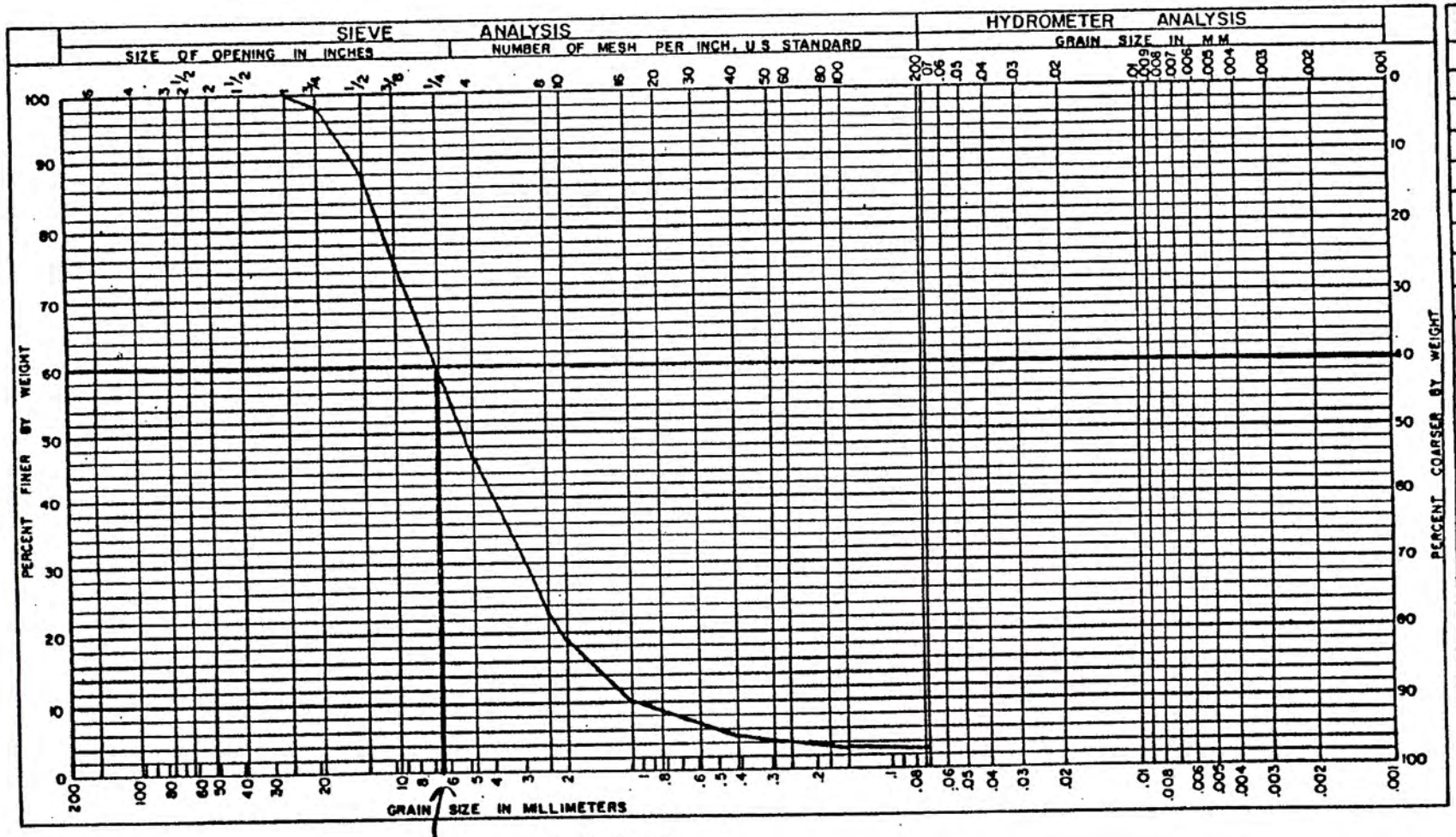
Alaska Testlab 4040 "B" Street Anchorage, Alaska 99503 Phone (907) 278-1551

Sheet 2 of 3
W. O. No. A21614
Date 9-13-83
Technician

Sample #2

Textural Class
Frost Class Unified Class
Plastic Properties
Date Received

Client MW Drilling
Project Fort Richardson Fish Hatchery
Sample Number 1557
Location Sample #2 130' depth
Sample Taken By Client



US STD SIEVE	CUM % PASS
3	
2	
1 1/2	
1	100
3/4	98
1/2	88
3/8	75
4	46
8	23
10	19
16	10
20	9
30	7
40	5
50	4
60	4
80	4
100	3
200	2.5

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Fall Kramer of MW suggested 1/4" screen I agree gg

Alaska Testlab

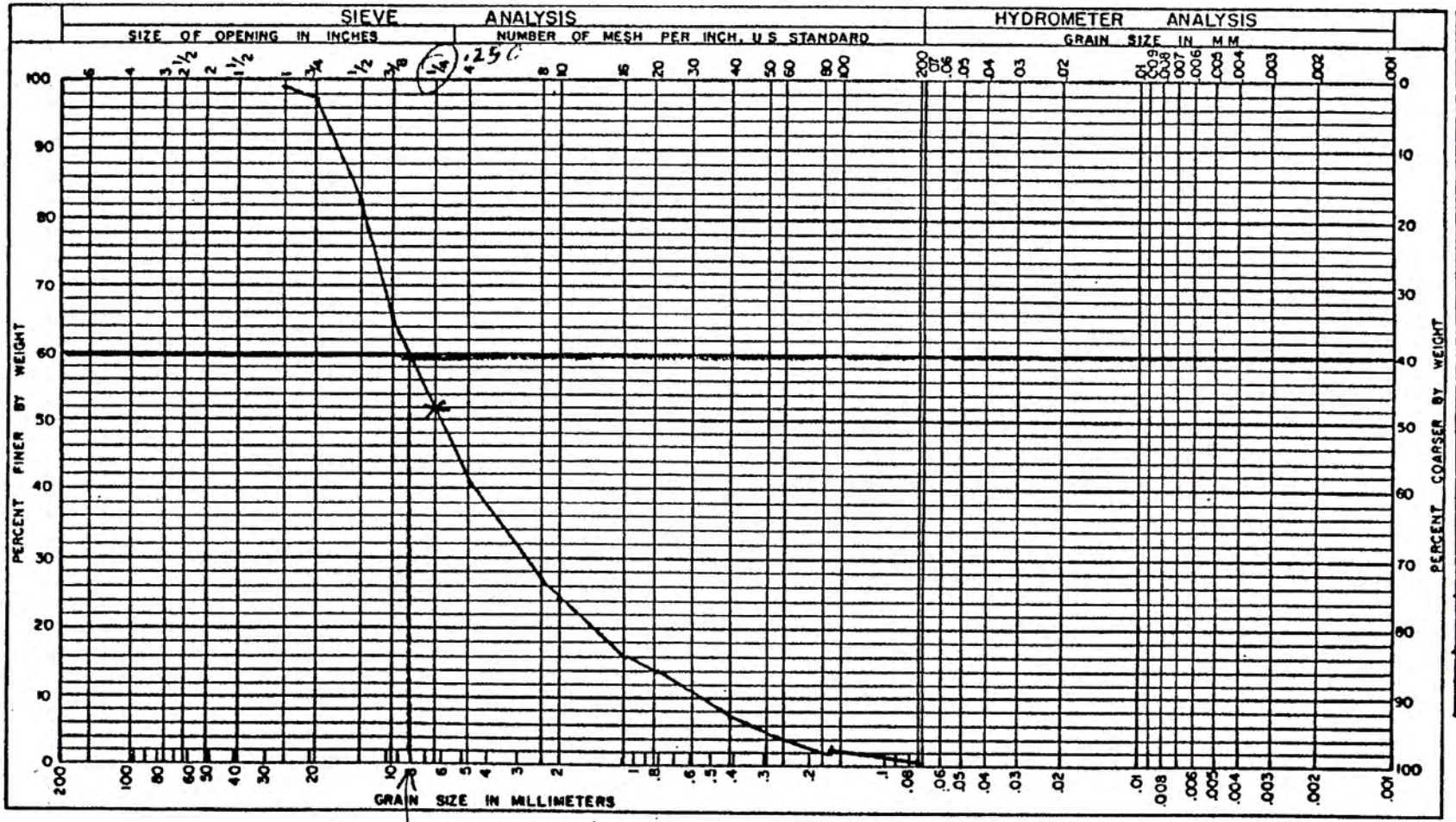
4040 "B" Street Anchorage, Alaska 99503 Phone (907) 278-1551

Sample #3

Sheet 3 of 3
W. O. No. A21614
Date 9-13-83
Technician

Textural Class
Frost Class Unified Class
Plastic Properties
Date Received

Client MW Drilling
Project Fort Richardson Fish Hatchery
Sample Number 1558
Location Sample #3 137' depth
Sample Taken By Client



.315 in

US STD SIEVE	CUM % PASS
3	
2	
1 1/2	
1	99
3/4	97
1/2	83
3/8	65
4	41
8	27
10	24
16	16
20	14
30	11
40	7
50	5
60	4
80	2
100	2
200	1.1

3-7

OTT WATER ENGINEERS

SUBJECT Fort Richardson Water Study

BY Barnett DATE 6/26/84

PROJECT NO. A10 29.2

PAGE NO. 1 OF 7

12 inch Hatchery Well Test

Date: 6/21/84

Location: near 16 inch production well at NE corner of hatchery compound

Observation Well: 6 inch slotted casing

r = 9.08 ft

Static Depth to Water:

12" Well = 49.34 ft below casing

6" observation well = 38.35 ft below casing

Construction: 10' of .250" Johnson Spiral wrap screen, ~76-86' depth

Note: this exercise was not and is not intended to serve as a aquifer test. Primary purpose is to observe water level responses to pumping hopefully to gain insight to the hydraulics of the shallow confined zone penetrated by the 12" well.