NOTICE

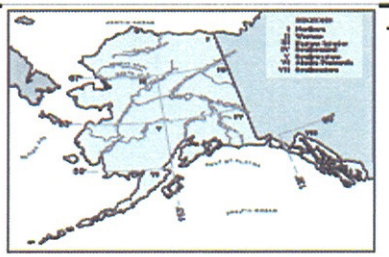
The Materials Source data and information included in this file has been gathered and compiled for the express purpose of assisting in The Alaska Department of Transportation and Public Facilities during the design process of various projects. It does not signify that the source is available or suitable for use during the construction of any specific current or future project. The included data and information does not determine that this Materials Source will provide suitable materials in the required quantities for any construction project.

The included data and information is suitable for use *by experienced and qualified experts in the fields of geology, geological engineering, and geotechnical engineering* to make reasonable estimates regarding the quantity, quality, and suitability for construction purposes of material that can be produced from the source.

Sources intended for use for any specific construction project will be referenced in the appropriate section of the Plans and Specifications of the Contract Documents for that construction project.

2011 MATERIAL PRODUCTION REPORT	Agency:	DOT&PF				By:	Joe Sullivan, R/W Agent
PRODUCER (needed to avoid duplication)	LOCATION - place name, lat./long., Region (I - VII) other.	PRODUCTION DATA - enter material as rock, sand & gravel, &/or peat. Volume in appropriate Units (Cu.yds or tons), and total value of product				MAN-DAYS of production, if known	COMMENTS
		MAT'L	VOLUME	UNITS	VALUE		
DOT&PF	MP 22		80cy				Ahtna, A-067627
							MS 46-1-017-5
DOT&PF	MP 88 Tok Cutoff		10,000cy				Ahtna, F-031377
							MS 46-2-023-5
DOT&PF	MP 101 Tok Cutoff		5,025cy				Ahtna, F-025372
							MS 46-2-033-5
DOT&PF	MP 117 Denali Hwy		3,850cy				Ahtna, F-026069
							MS 52-2-032-2
DOT&PF	MP 132 Denali Hwy / Drashner Pit		450cy				Ahtna, F-026125
							MS 52-2-040-2
DOT&PF	MP 35 McCarthy Rd		3,000cy				Ahtna, AA-2868
							MS 850-004-5
DOT&PF	MP 127 Richardson Hwy / Ringling Pit		13,500cy				DOT&PG
							MS 71-2-020-5
DOT&PF	MP 5 Edgerton Hwy		2,705cy				ILMA, 81254
							MS 850-036-5

Your contribution is greatly appreciated.



Region		Description
I	Northern	North of 67° latitude
II	Western	Between 63° and 67° degrees north and west of 153° longitude
III	Eastern Interior	Between 63° and 67° degrees north and east of 153° longitude
IV	Southcentral	Between 138° and 153° longitude and south of 63° latitude
V	Southwestern	Between 59° and 63° latitude and west of 153° longitude
VI	Peninusla	South of 59° latitude and west of 153° longitude
VII	Southeastern	South of 60° latitude and east of 138° longitude

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

NORTHERN REGION, DESIGN AND CONSTRUCTION

2301 PEGER ROAD
FAIRBANKS, ALASKA 99709-5399
PHONE: (907) 451-2274
TDD: (907) 451-2363

March 20, 1997

Re: Evaluation of Gulkana Materials Source

Roy Ewan, President
Ahtna, Inc.
PO Box 649
Glennallen, AK 99588

Dear Mr. Ewan:

Our engineering geologists have been working on an evaluation of the Gulkana Village materials source as part of our ongoing investigation for construction and maintenance gravel. You will recall that we discussed exchanging materials from this site for the gravel at the Ringling Pit. Ms. Sue Sherman of the Ahtna Land and Resource Department was very helpful in locating the proposed site. We appreciate the spirit of cooperation from Ahtna in our investigations.

In late September and early October 1996, we conducted a reconnaissance level geotechnical investigation of the Gulkana site. The purpose of this work was to characterize the materials available and determine the feasibility of using the site as a materials source. We had hoped that the site would produce materials of sufficient quality and quantity to replace our use of the Ringling site. Unfortunately, the geotechnical information we developed shows that the Gulkana site has only limited quantities of gravel and that mining it would require working in frozen ground and/or in subsurface water.

The proposed materials site is roughly a 600 meter by 1585 meter area located on the floodplain of the Copper River. The site is a terraced area between the Gulkana townsite and the river. The terraces are located in the northwest part of the site.

A track mounted drill was used to drill 38 test holes. Samples were collected from 37 of the holes for further analysis. On the terrace of the Gulkana site the gravel layer was 1.2 to 5.5 meters thick with an average of 3.7 meters. On the terrace of the Gulkana site the gravel layer was 1.0 to 4.4 meters thick with an average of 2.9 meters. Ground-water was noted in most of the test holes. The average depth to ground-water was 2.7 meters on the terraces and 2.1 meters on the floodplain. Frozen ground was encountered in all of the terrace holes and 9 of 24 holes on the floodplain.

Based on this investigation we find that the Gulkana site does not have the quality and quantity needed for long term use as a source for highway construction and maintenance comparable to Ringling Pit.

Therefore, we are still interested in finding gravel in the Gulkana area. The material in Ringling Pit will one day be exhausted but our need for gravel will go on.

We are unaware of any other known sources near Gulkana Village and there is not funding available for materials investigation. If Ahtna knows of any source or can locate more gravel and provide the geotechnical information on those sites, the Department of Transportation and Public Facilities remains interested in a long term supply.

I want to thank you and Ms. Sherman and the other folks at Ahtna and Gulkana who helped in our investigation.

Sincerely,

David L. McCaleb

David L. McCaleb, P.E.
Regional Pre-Construction Engineer

MT/lmc
Attachments: Laboratory Testing Reports
Field Notes

TONY KNOWLES, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
NORTHERN REGION, DESIGN AND CONSTRUCTION

2301 PEGER ROAD
FAIRBANKS, ALASKA 99709-5399
PHONE: (907) 451-2271
TDD: (907) 451-2363

June 8, 1995

Re: Ringling Pit Inquiry

Sue Sherman, Manager
Land & Resource Department
Ahtna, Incorporated
P.O. Box 649
Glennallen, Alaska 99588

Dear Ms. Sherman:

I am responding to your letter to Mr. Rod Platzke, Acting Regional Director for the Northern Region, concerning the archeological work planned for the Ringling Pit (GUL-077). We recognize your interest in the site and welcome your participation in our project.

We feel that you may have made some assumptions regarding the status of the work that are inaccurate. Our discussions with the Office of History and Archeology (OHA) revealed that the language in their letter to you may have been misleading with regard to the objectives of the work planned for 1995. To be specific, we do not intend a "total excavation" of the remaining areas in Ringling Pit in 1995. The work in progress is re-establishing the location of some features found in previous surveys, describing, and mapping those features. There are some areas of the property that have not been adequately surveyed for cultural resources and we intend to complete that work also. The following paragraph was prepared for the department by the OHA as a description of their activities:

> "Current research plans propose that archaeological work at the Ringling Pit be phased over a 2-3 year period. While it is anticipated that large scale archaeological excavation might eventually be the preferred alternative to mitigate damages to the site, work to be carried out during 1995 will consist of intensive testing, mapping and evaluation of the remaining deposits. The site was determined eligible for the National Register of Historic Places in 1983, after a portion of the site was archaeologically excavated by the Alyeska Pipeline Co. and Dr. Workman but prior to substantial quarrying by the Department of Transportation and Public Facilities (DOT&PF). As part of the identification and evaluation phase, OHA hopes to establish the range, character, extent, and data potential of archaeological deposits and features through the systematic testing over remaining areas of the site. This will allow a current evaluation of the site's potential to yield data. It will also allow an assessment of effects on the site which would occur as a result of DOT&PF's plans to expand the quarry."

The answer to your question on a Determination of Effect. then, is that there is insufficient data at the present time to move to that step of the Section 106 process. Since no formal consultation has begun. assessment of effect has not been started. Informally, we assume that if the DOT&PF continues to extract the gravel resources in Ringling Pit there will be an adverse effect on the remaining cultural resources.

Formal consultation on the effects of mining additional gravel from the Ringling site is not contemplated until the survey information is in hand. However, at this time we would like to extend an invitation to Ahtna and Gulkana Village to be involved earlier than the formal consultation. You are welcome to visit the work in progress, but because the site has a locked gate, advance notice is recommended. The OHA is preparing the research plan and we will have it available in draft form for your review at our meeting on the 14th of June.

Unlike many materials sources, the Department of Transportation and Public Facilities has a fee simple title to the Ringling property. It was purchased for the purposes of providing gravel for maintenance and construction projects in the vicinity. We are willing to discuss the concept of exchanging materials sites or perhaps restricting further mining in the Ringling Pit if a replacement of comparable value can be obtained from Ahtna. Enclosed is a map of the Ringling Pit showing the general locations of previous mining and undisturbed areas which contain in-situ cultural material..

Our understanding of the purpose of the May 10th meeting between OHA and Ahtna was the issue of developing a protocol for use in the event of discovery of human remains during the survey. We felt that the OHA was representing the department at that meeting. We look forward to discussing all of the issues with Ahtna and Gulkana Village on June 14th.

Sincerely,

Ronald W Tanner
for
David L. McCaleb, P.E.
Pre-Construction Engineer

MT/lm

Enclosures

DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

Right of Way Section

Re: Sale of part of the Ringling Pit   Date: 8/31/92

Please comment on the attached, FORWARD and return to Right of Way

RIGHT OF WAY: If there is material here and with the scarcity of material in the Glennallen / Gulkana area, it would seem that eventually it would be economically feasible to do an arch. clearance to use the material.   Date:

TECHNICAL SERVICES: Environmental: Brian -   Date: 9-3-92

Do you know this pit? What would clearing the area in question cost? The parcel in question contains about 1/2 million yards of gravel (material) – one of the few areas available for material in the area. The parcel also contains significant archaeological resources which have not been dealt with (cleared). However, cost of purchase would be: $1.5 m (gravel @ $3.00/yd) + $150K for archaeological clearance (+ $408 for real estate) ≈ $1,650,000 (profit not included)

DESIGN: (HIGHWAY/AVIATION) Materials: Hal   Date: 9-21-92

Hal - is there material in this area?

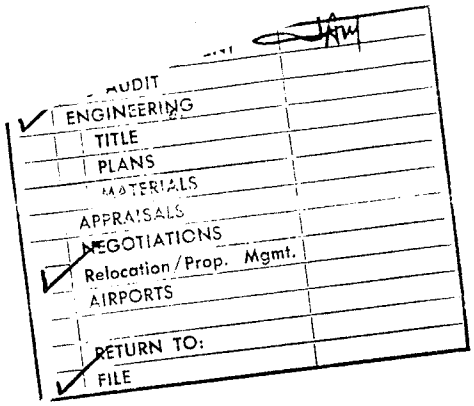
There is a goodly amount of useable gravel in this parcel. Under no circumstances should it be sold before that gravel is used. Tell this gentleman to talk to us 20 years from now - maybe then

~~M&O:~~   Date:

~~CONSTRUCTION:~~   Date:

~~PLANNING:~~   Date:

~~AIRPORT LEASING~~:   Date:



David W. King
PO Box 111
Glennallen, AK 99588
907-822-5532

August 23, 1992

Dan Baum
Alaska Dept. of Transportation
2301 Pegger Rd.
Fairbanks, AK 99709

RE: State held property, Gulkana, Alaska

Dear Mr. Baum,

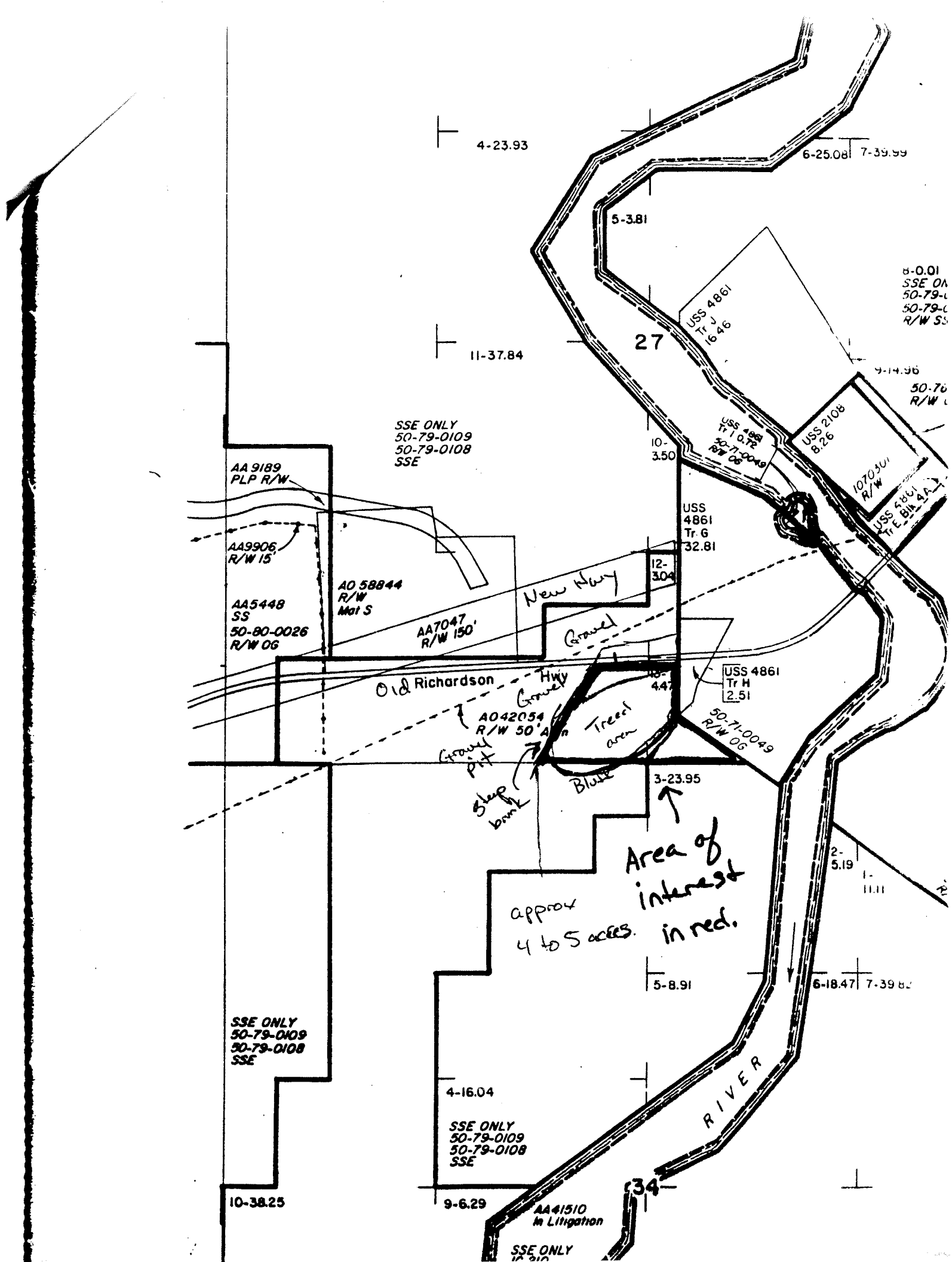
I am writing you in regard to a piece of property in Gulkana that has been purchased by the D.O.T. from a homesteader. The homesteader's name was Clayton Ringling and the purpose of the land purchase was for the gravel it contained. The gravel was needed for the relocation of the highway through the Gulkana area. There is still a piece of this property that has not been used for gravel and is still treed. It is located on the north side of the old Ringling homestead and is situated with the gravel pit on one side and a bluff around the other.

Several weeks ago I was flying with George Herman, the Supervisor at the D.O.T. here in Tazlina. We looked at this area which encompasses about 4 acres on top of the bluff adjacent to the gravel pit. He speculated that this area was not used due to the possibility that it had not been archaeologically cleared and may not have been feasible to use. I also spoke to Mr. John Bennet at D.O.T. Fairbanks, who also thought that may be a possibility.

I am interested in looking into and pursuing the possibility of purchasing this part of the old Ringling homestead from the D.O.T. or State of Alaska for the purpose of a homesite. Mr. Bennett gave me your address as the one to contact and I am hoping that you might be able to help with this. I realize that sometimes these pursuits are impossible but since I don't believe this one to be, I am interested in going through the process that would be involved. Enclosed is a legal description and a survey of the area. I will contact you soon. Thank you very much.

Sincerely,

David W. King


4-23.93
6-25.08
7-39.99
5-3.81
USS 4861 Tr J 16.46
27
11-37.84
9-14.96
USS 2108 8.26
USS 4861 Tr I 0.72
50-71-0049 R/W OG
10-3.50
SSE ONLY 50-79-0109 50-79-0108 SSE
AA 9189 PLP R/W
AA9906 R/W 15'
AA5448 SS 50-80-0026 R/W OG
AO 58844 R/W Mat S
AA7047 R/W 150'
New Hwy
Gravel
USS 4861 Tr G 32.81
12-3.04
Old Richardson Hwy
Gravel
AO42054 R/W 50'
Treed area
Gravel Pit
Bluff
USS 4861 Tr H 2.51
50-71-0049 R/W OG
3-23.95
Area of interest approx 4 to 5 acres. in red.
2-5.19
1-11.11
5-8.91
6-18.47
7-39.82
SSE ONLY 50-79-0109 50-79-0108 SSE
4-16.04
SSE ONLY 50-79-0109 50-79-0108 SSE
RIVER
10-38.25
9-6.29
AA41510 In Litigation
SSE ONLY
34

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION

AND PUBLIC FACILITIES

25D-174
(5/83)

PROOF OF USE FOR MATERIAL SOURCES,
MAINTENANCE & STOCKPILE SITES, & ROADSIDE & LANDSCAPE DEVELOPMENT AREAS

James A. Elieff states that he is the Resident Engineer for the State of Alaska, Department of Transportation and Public Facilities; that M. S. 71-2-020-5 (Ringling Pit) has been utilized under his supervision as a material source on Project No(s). F-071-3(5); that the material source, as aforesaid, conforms to the plat which received the approval of the (agency) _____ on the following date: BLM/ADL/M.S.# _____, on _____, 19___.

The attached map of the Materials Source shows the amount(s) and type(s) of materials used.

Signature of Resident Engineer

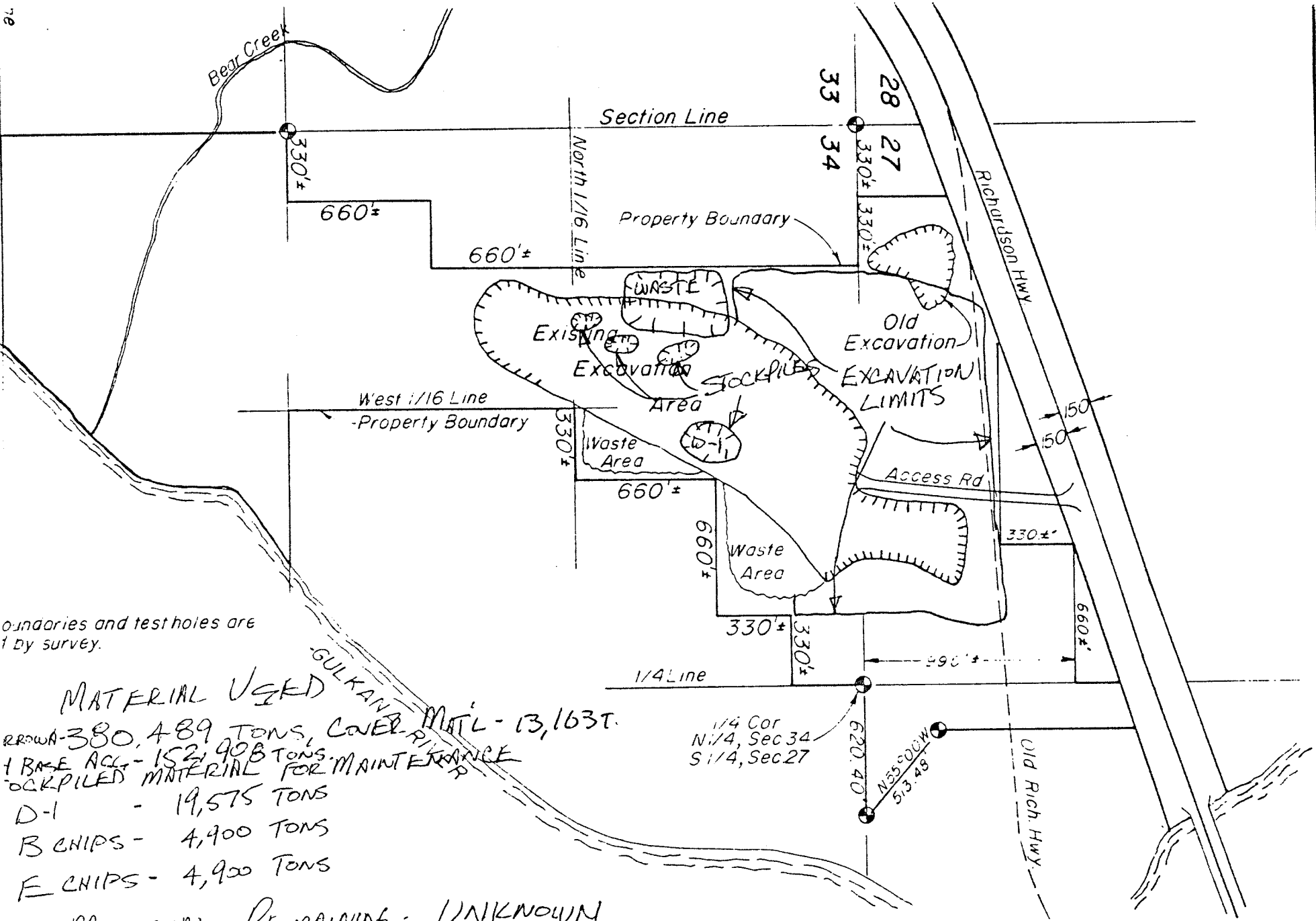
Date: 1-3-89

(THIS SECTION TO BE COMPLETED FOR BLM GRANTS ONLY, AS NEEDED, AFTER RECEIVED IN RIGHT-OF-WAY.)

I, _____, certify that I am the _____ of the Alaska Department of Transportation and Public Facilities; that _____ was actually utilized as set forth in the accompanying statement of _____, the _____ Engineer, and the project was constructed in compliance with the conditions of the grant.

Regional Director
State of Alaska
Department of Transportation
and Public Facilities

Attest: _____



oundaries and test holes are
d by survey.

MATERIAL USED

RROW - 380,489 TONS, COVER MAT'L - 13,163T.
BASE AGG - 152,908 TONS. MAINTENANCE
OCKPILED MATERIAL FOR MAINTENANCE

D-1 - 19,575 TONS
B CHIPS - 4,900 TONS
E CHIPS - 4,900 TONS

MATERIAL REMAINING - UNKNOWN

RINGLING PIT

MC 71-2-020-5 MP 126

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

SOUTH CENTRAL REGION

STEVE COWPER, GOVERNOR

P.O. BOX 507
VALDEZ, ALASKA 99686
PHONE: (907) 822-3696

August 19, 1987

RE: Project F-071-3(5)
Richardson Hwy., Mile 129-148
M.S. 71-2-020-5
Modified Mining Plan

ENSERCH Alaska Construction, Inc.
P.O. Box 283
Gakona, Alaska 99586

Attention: Mr. Tom Hendrix, Project Manager

Gentlemen:

The modified mining plan as submitted August 17, 1987 is approved.

Sincerely,

Dennis R. Destrampe

DRD/sj

Attachment

cc: Valdez Construction
Paul Misterek, Regional Materials Engineer
David L. McCaleb, P.E., Chief Construction Engineer

ENSERCH
Alaska Construction, Inc.

EC 3618

Reply to: Post Office Box 155
Gakona, Alaska 99586

August 17, 1987

State of Alaska
Department of Transportation & Public Facilities
Post Office Box 155
Gakona, Alaska 99586

Attention: Mr. Dennis Destrampe
Resident Engineer

Reference: Richardson Highway, Mile 129-148
Project No. F-071-3(5)/60250

SUBJECT: BORROW "A" SHORTAGE

Gentlemen:

Transmitted for approval is a mining plan for M. S. 71-2-020-5, Ringling Pit, which has been modified to accommodate removal of Borrow "A".

Sincerely,

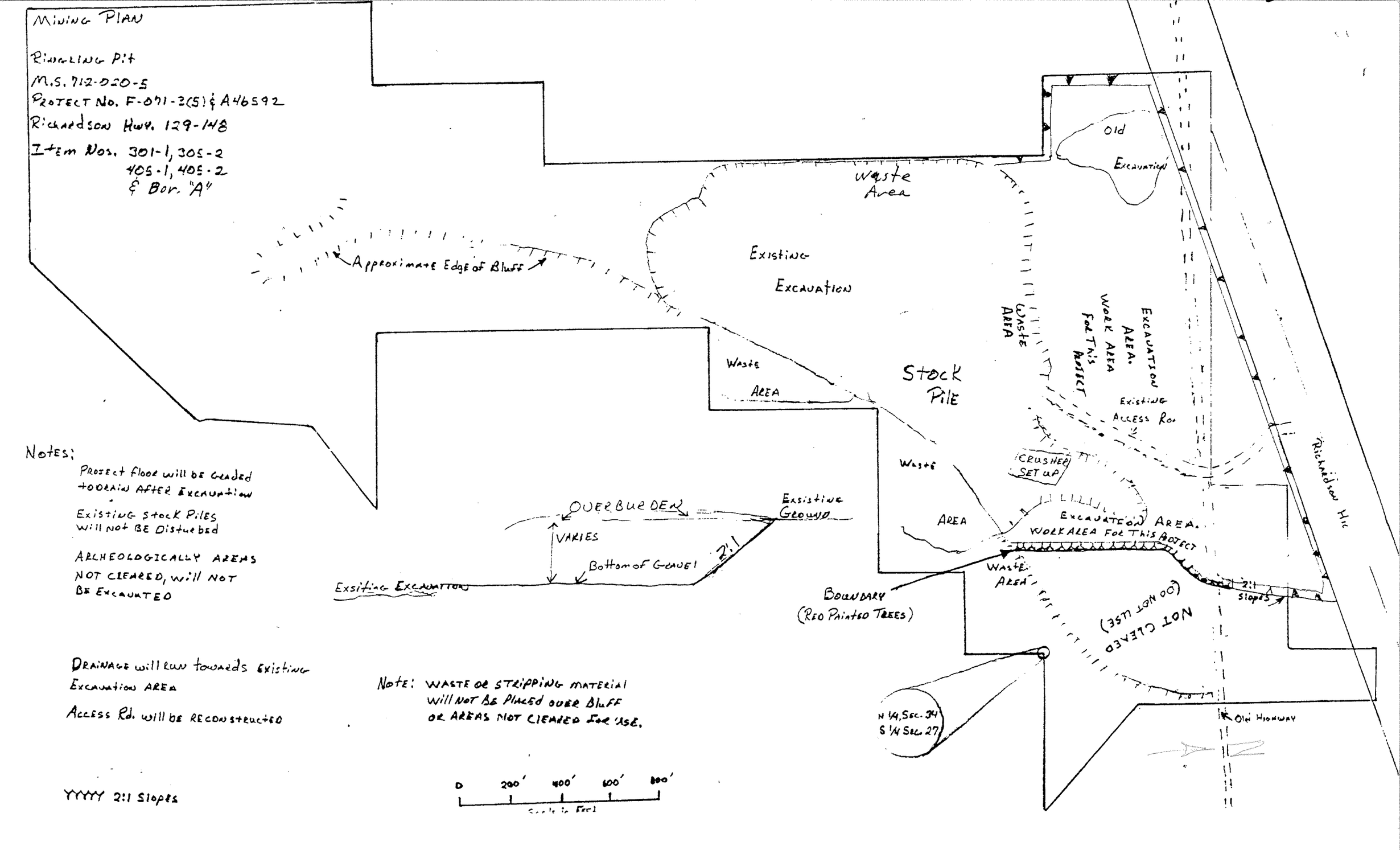
ENSERCH Alaska Construction, Inc.

Tom Hendrix
Project Manager

Attachment: As stated

MINING PLAN

RINGLING PIT
M.S. 712-020-5
PROJECT No. F-071-3(5) & A46592
Richardson Hwy. 129-148
Item Nos. 301-1, 305-2
405-1, 405-2
& Bor. "A"



Notes;

PROJECT floor will be graded to drain after excavation

Existing stock piles will not be disturbed

ARCHEOLOGICALLY AREAS NOT CLEARED, will not be excavated

DRAINAGE will run towards existing Excavation AREA

ACCESS Rd. will be RECONSTRUCTED

Note: WASTE OR STRIPPING MATERIAL will not be placed over bluff or areas not cleared for use.

YYYYY 2:1 Slopes

AHTNA LANDS

T.6N. R.1W.
C.R.M.

GULKANA RIVER

RICHARDSON HIGHWAY

LOT 8
TRACT G
BLOCK 1
USS 4861

OLD RICHARDSON HIGHWAY

U.S.S.
4861

OLD
EXCAVATION

28 | 27
33 | 34

RINGLING PIT

WASTE
AREA

WASTE
AREA

AHTNA LANDS

AHTNA LANDS

1500
1450
1400
1350
1400
1450
1500

GULKANA RIVER

BEAR CREEK

NOTE: PIT LOCATION BASED ON
1985 DOT&PF MAPPING

GULKANA RIVER WAYSIDE STUDY AREA

0 200 400 600 800 1000
SCALE 1"=200'

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS AND OUTDOOR RECREATION

BILL SHEFFIELD, GOVERNOR

225A CORDOVA STREET
ANCHORAGE, ALASKA 99501
PHONE: (907) 276-2653

MAILING ADDRESS:
POUCH 7001
ANCHORAGE, ALASKA 99510

September 10, 1985

Re: 3130-2 (DOT/PF)

Subject: Ringling Site

Brian Gannon
Environmental Section
Department of Transportation and
Public Facilities
2301 Peger Road
Fairbanks, Alaska 99701

Dear Brian:

The Department of Transportation and Public Facilities is cleared to procede with use of portions of the "Ringling Pit" (MS 71-2-020-5) found to be free of significant cultural resources. These cleared portions are described as Areas 1 through 4 on page 38 of Gibson and Mishler's 1984 report titled "Cultural Resources Survey: Northwestern Portion of the Ringling Site (49-GUL-077), Gulkana, Alaska."

Sincerely,

Neil C. Johannsen
Director

By: Tim Smith, Deputy
Judith E. Bittner
State Historic Preservation Officer

cc: Wayne Wiersum

TAS:tls

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

NORTHERN REGION, DESIGN AND CONSTRUCTION

BILL SHEFFIELD, GOVERNOR

2301 PEGER ROAD
FAIRBANKS, ALASKA 99701
PHONE: (907) 452-1911

August 23, 1985

Chuck Holmes
Alaska Dept. of Natural Resources
Division of Geological and Geophysical Surveys
Pouch 7-028
Anchorage, AK 99510

Re: Ringling Pit
archeological survey

TECHNICAL SERVICES

	Chief, Technical Services	
	Contracts	
	Environment	
/	Materials	
	Review	
	Utilities	
M	File	

Dear Chuck:

Enclosed is a map of the state-owned Materials Site No. 71-2-020-5 (the "Ringling" Pit), showing an area of about 15 acres at the northeast end that needs to be archeologically surveyed. There are approximately 500,000 yd of material here that needs to be made available for upcoming projects. Also enclosed are a few extra 'blank' maps.

This area needs to be surveyed before freeze-up this year so that it can either be cleared for mining or else a mitigation plan developed and effected as soon as possible; probably next spring.

What is needed now from you are estimates of the time, personnel and cost to do this work so that the RSA's can be drawn up.

There are a few specifics to be considered:

1. The exact map configuration of the mining (pit) is approximate, as are the materials test holes and acheological "features" (F). The nature of these 'features' is uncertain, and some may no longer even exist.

2. The area with the graves is to be avoided.

3. There is a smaller pit between the old and new highways, between the graves and the access road.

4. As the area is fairly heavily wooded, much of any archeological manifestations will be subsurface. However, cache pits, etc., have been noted elsewhere in the vicinity.

Hopefully this is enough to get started on. If you have any questions, call Brian Gannon at 452-1911, extension 282. If we can receive these estimates by next week, it would be very helpful.

Sincerely,

Mike Tinker
Environmental Coordinator
Northern Region

Enclosures: as stated.

cc: Wayne Wiersum, DOT/PF, Juneau

25A-T61LH

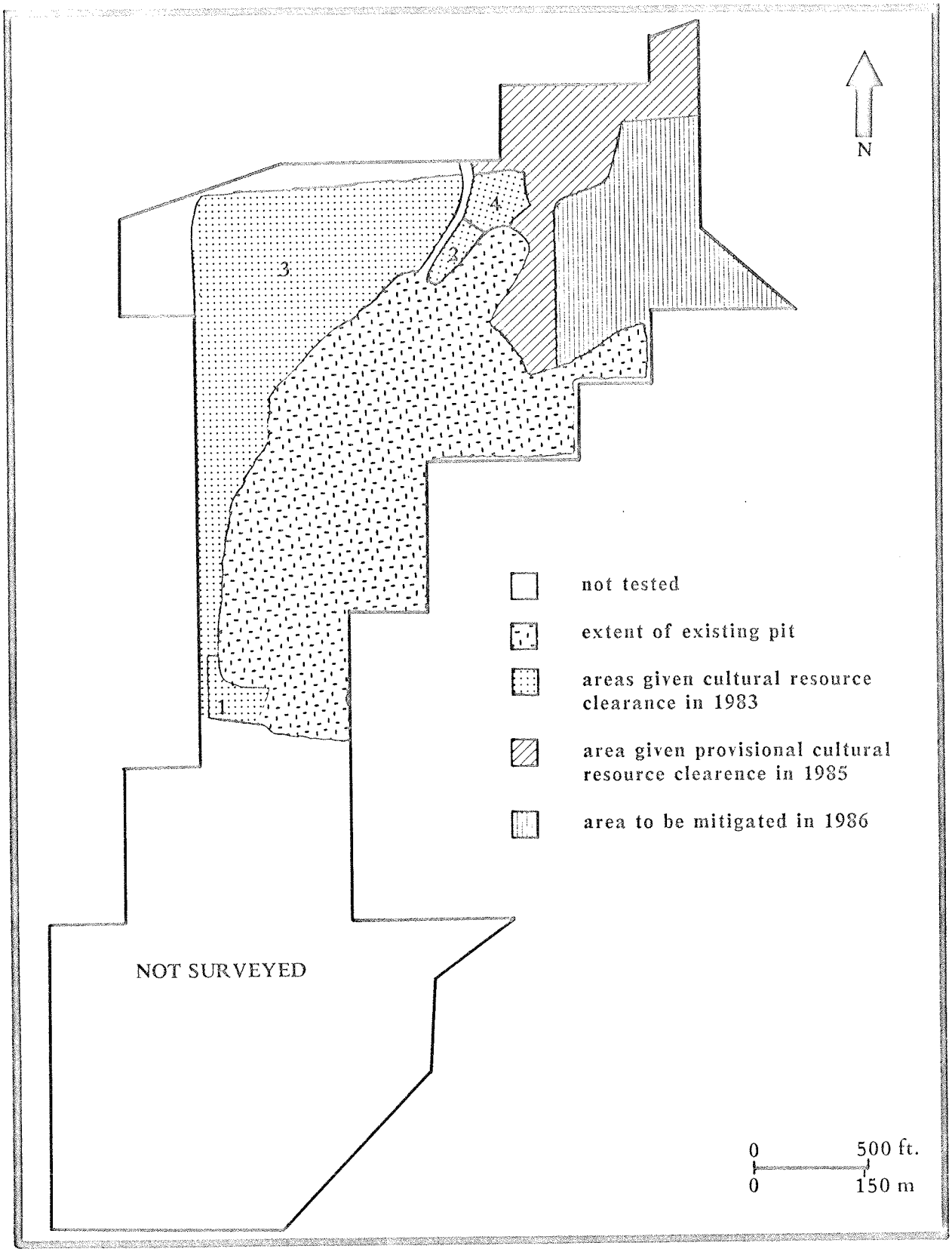


Figure 2. Map depicting areas that have been given cultural resources clearances and those areas that need further survey and mitigation.

From Gibson & Mishler's March '84 Archeological survey Report. Ringling pit

its original furnishings. Its design and setting are essentially undisturbed, and even the vegetation, except for some tall grass, has not obscured or affected its appearance. The cabin could also be eligible through its association with the life of Charlie Ewan, an important ancestor of the people living in the new Gulkana Village. Finally, the cabin and cache appear to have a high potential for yielding additional architectural and artifactual information important to Gulkana Village history. Because this cabin lies on private property at a considerable distance and at a lower elevation from the State land being developed as a borrow pit, it should not be affected directly or indirectly by the proposed construction.

Stern reported earlier that Areas 1 and 2 appear to be free of any materials that are on or eligible for the National Register of Historic Places. He recommended that the two areas be considered free of cultural resources, and that DOT/PF should be granted a clearance to excavate gravels from within the limits of these two areas (Stern 1983: 4).

RECOMMENDATIONS

The portion of the Ringling Material Site investigated during this survey appears to be clear of any cultural materials on or eligible for the National Register of Historic Places under guidelines set forth in 36 CFR 60. We therefore recommend that areas 1, 2, 3, and 4 (Figure 9) of the Ringling Material Site be given full clearance for gravel extraction. However, if any presently unknown cultural resources,

either historic or prehistoric, are discovered during the course of gravel extraction, the project engineer should halt all work which may disturb or destroy those resources and immediately contact the Office of History and Archaeology, Alaska Division of Parks, for additional review purposes.

As proposed in a letter written by Mike Tinker on July 14, 1983 (Appendix A), Environmental Coordinator at DOT/PF to Ty Dilliplane, the State Historic Preservation Officer, a comprehensive mitigation plan is needed for the entire material site. It is our recommendation that such a plan take into account the concern that Gulkana Village residents have over public access to their private lands and to possible future disturbances to their family graves.

It is our recommendation that the State reduce the chances of accidental destruction or disturbance to all these grave sites by setting aside at least a 100 foot buffer zone along the eastern edge of the State's property, that edge which borders Tract H of U.S. Survey 4861. Such a buffer zone should be designated off limits to future gravel mining and other intensive development and be well marked on the ground to guide any work crews in the area. Although no Indian graves were found on State land during our survey, there is a definite possibility that some other old graves, undetectable by surface inspection and unknown even to Gulkana residents, would be disturbed by large scale gravel extraction.

It is to be emphasized that this evaluation applies only to those portions of the material source as described in this report and identified in Figure 9. Other areas of the material source (M.S. 712-020-5) contain numerous cache and possible house pits, but these have never been examined, mapped, or tested by a cultural resource specialist.

Finally, we recommend that the State Historic Preservation Officer, Mr. Ty Dilliplane, be given an opportunity to review this report and to comment upon its contents and conclusions. All field notes, photographs, and related materials used in this report are on file with the Alaska Division of Geological and Geophysical Surveys and are available for inspection by request.

Gibson & Mishler Areas
Archeologically cleared:
I
II, IV
III
Surveyed fall 1985;
Report pending.

33 28
34 27

BEAR CREEK

GULKANA RIVER

RICHARDSON HIGHWAY

DISTURBED AREA I

EXISTING EXCAVATION AREA

OLD EXCAVATION

III

MS BOUNDARY

WASTE AREA

WASTE AREA

Access Road (Approximate)

DISTURBED AREA II IV

OLD HIGHWAY

1500
1450
1400
1350

0 200 400 600 800
SCALE IN FEET

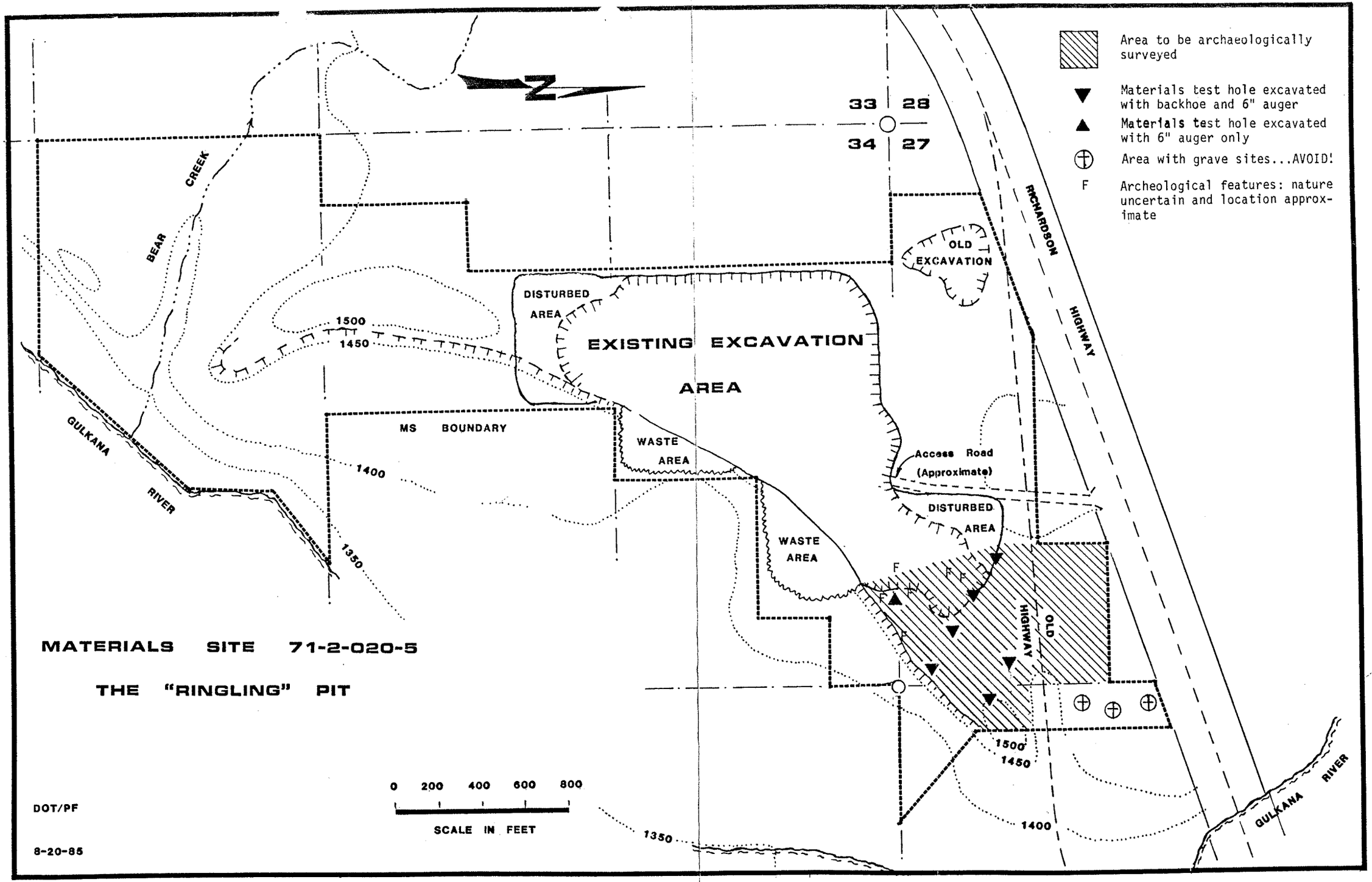
MATERIALS SITE 71-2-020-5

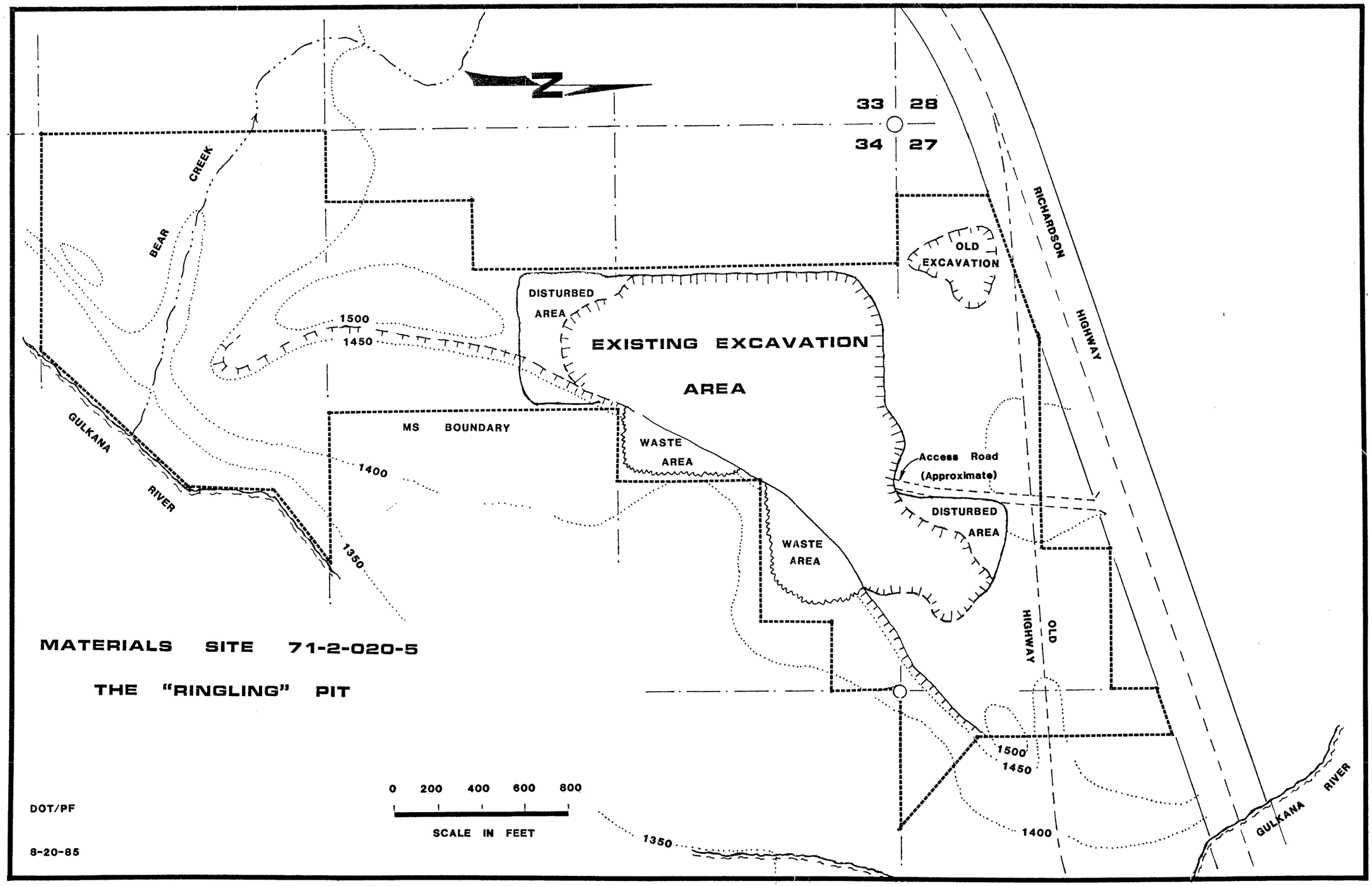
THE "RINGLING" PIT

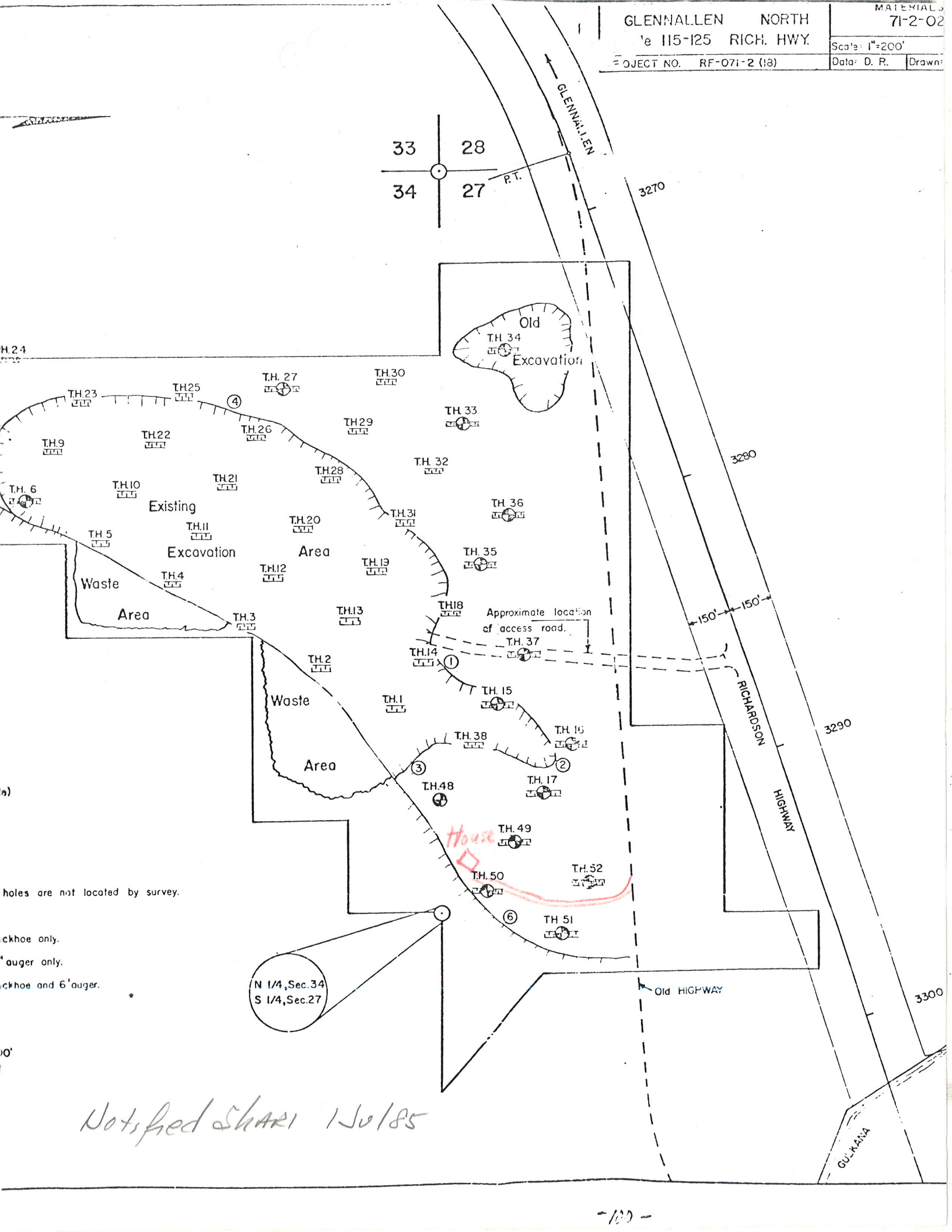
Archeological Surveys
10-1-85
Blg

DOT/PF

8-20-85


Area to be archaeologically surveyed
Materials test hole excavated with backhoe and 6" auger
Materials test hole excavated with 6" auger only
Area with grave sites...AVOID!
F Archeological features: nature uncertain and location approximate
33 28
34 27
BEAR CREEK
GULKANA RIVER
RICHARDSON HIGHWAY
OLD EXCAVATION
DISTURBED AREA
EXISTING EXCAVATION AREA
MS BOUNDARY
WASTE AREA
WASTE AREA
Access Road (Approximate)
DISTURBED AREA
OLD HIGHWAY
1500
1450
1400
1350
MATERIALS SITE 71-2-020-5
THE "RINGLING" PIT
0 200 400 600 800
SCALE IN FEET
DOT/PF
8-20-85


N
33
28
34
27
BEAR CREEK
GULKANA RIVER
RICHARDSON HIGHWAY
OLD EXCAVATION
DISTURBED AREA
EXISTING EXCAVATION AREA
1500
1450
1400
1350
MS BOUNDARY
WASTE AREA
WASTE AREA
Access Road (Approximate)
DISTURBED AREA
OLD HIGHWAY
MATERIALS SITE 71-2-020-5
THE "RINGLING" PIT
0 200 400 600 800
SCALE IN FEET
DOT/PF
8-20-85


GLENNALLEN NORTH
'e 115-125 RICH. HWY.
MATERIALS
71-2-02
Scale: 1"=200'
OJECT NO. RF-071-2 (18)
Data: D. R.
Drawn:
GLENNALLEN
33
28
34
27
P.T.
3270
3280
3290
3300
Old
T.H. 34
Excavation
T.H. 27
T.H.30
T.H.23
T.H.25
T.H.29
T.H. 33
T.H.9
T.H.22
T.H.26
T.H. 32
T.H.28
T.H.21
T.H.10
T.H. 6
Existing
T.H. 36
T.H.31
T.H.20
T.H.11
T.H. 5
Excavation
Area
T.H. 35
T.H.19
T.H.12
Waste
T.H.4
Area
T.H.18
T.H.13
T.H.3
Approximate location
of access road.
T.H. 37
T.H.14
T.H.2
T.H. 15
Waste
T.H.1
Area
T.H. 16
T.H. 38
T.H. 17
T.H.48
T.H. 49
House
T.H. 50
T.H. 52
TH 51
150'
150'
RICHARDSON
HIGHWAY
Old HIGHWAY
GULKANA
holes are not located by survey.
ckhoe only.
auger only.
ckhoe and 6'auger.
N 1/4, Sec. 34
S 1/4, Sec. 27
Notified Shari 1Jul85

STATE OF ALASKA

DEPARTMENT OF TRANSPORTATION

AND PUBLIC FACILITIES

25D-174
(5/83)

PROOF OF USE FOR MATERIAL SOURCES,
MAINTENANCE & STOCKPILE SITES, & ROADSIDE & LANDSCAPE DEVELOPMENT AREAS

T.J. Niemiec states that he is the Resident Engineer for the State of Alaska, Department of Transportation and Public Facilities; that M.S. 712-020-5 has been utilized under his supervision as a material source on Project No(s). F-RS-SR-071-3(8); that the material source, as aforesaid, conforms to the plat which received the approval of the (agency) _____ on the following date: BLM/ADL/M.S.# D.O.T. Warranty Deed, on Dec. 1, 19 81.

The attached map of the Materials Source shows the amount(s) and type(s) of materials used.

T. J. Niemiec
Signature of _____ Engineer

Date: 12-16-84

(THIS SECTION TO BE COMPLETED FOR BLM GRANTS ONLY, AS NEEDED, AFTER RECEIVED IN RIGHT-OF-WAY.)

I, _____, certify that I am the _____ of the Alaska Department of Transportation and Public Facilities; that _____ was actually utilized as set forth in the accompanying statement of _____, the _____ Engineer, and the project was constructed in compliance with the conditions of the grant.

_____
Regional Director
State of Alaska
Department of Transportation
and Public Facilities

Attest: _____

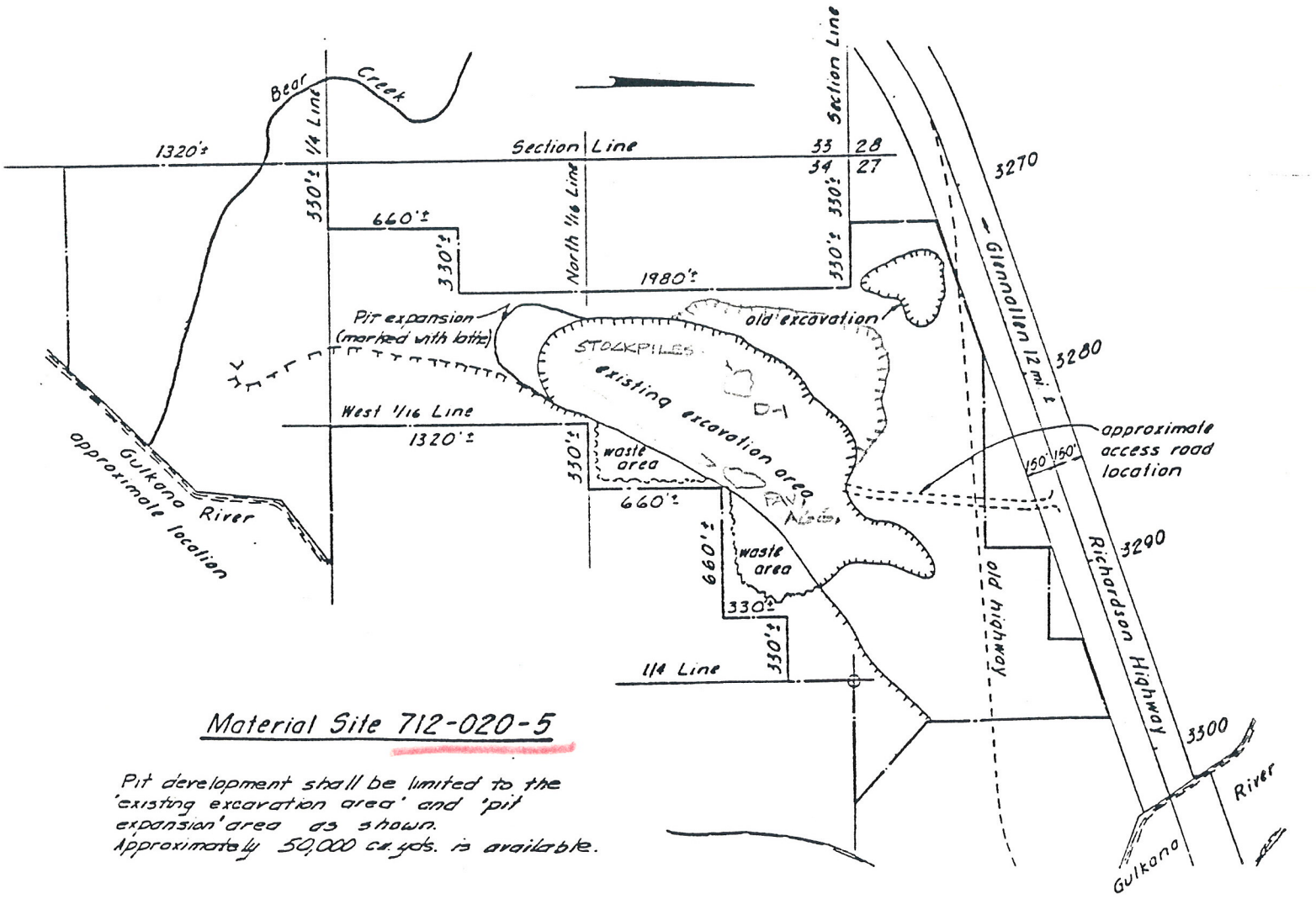
4/83

PROJECT:

F-RS-SR-071-3(8)

RICHARDSON HIGHWAY

MILE 125-207



Material Site 712-020-5

Pit development shall be limited to the 'existing excavation area' and 'pit expansion' area as shown. Approximately 50,000 cu. yds. is available.

MATERIAL USED THIS PROJECT:		STOCKPILED MATERIAL
BORROW, TYPE "A":	43,000 C.Y.	
CRUSHED AGG. BASE (D-1):	8,000 C.Y.	300 C.Y.
SUBBASE "E":	10,000 C.Y.	
ASPH. CONC. AGG.:	6,000 C.Y.	300 C.Y.

12/16/84

March 17, 1983

Re: Material Site No.
71-2-020-5
(Gulkana-077)

Mr. Ty Dilliplane
State Historic Preservation Officer
619 Warehouse Drive, Suite 210
Anchorage, Alaska 99501

Dear Ty:

Enclosed is our 1983 project mining plan as we discussed on March 15. I have added site #3. I would like to deepen the existing old pit without going outside the existing clearing. I have asked Richard Stern for an estimate for survey work for 1983 to include the on site inspection stipulated. It is imperative that we coordinate on this materials source one step at a time.

Please keep the map for your file. I have a copy. Our Maintenance and Operations section has been informed of the restrictions. I would appreciate your approval to use the site as stipulated for the 1983 season.

Sincerely,

Mike Tinker

Mike Tinker
Environmental Coordinator

Enclosures: as stated

MT/dj

MEMORANDUM

State of Alaska
Department of Transportation & Public Facilities

TO: Jack Morrow
M&O Director
Valdez

DATE: March 17, 1983

FILE NO:

TELEPHONE NO: 452-1911, ext. 282

SUBJECT: Restrictions Material
Site No. 71-2-020-5

Thru: John D. Horn
Acting Deputy Commissioner
Interior Region

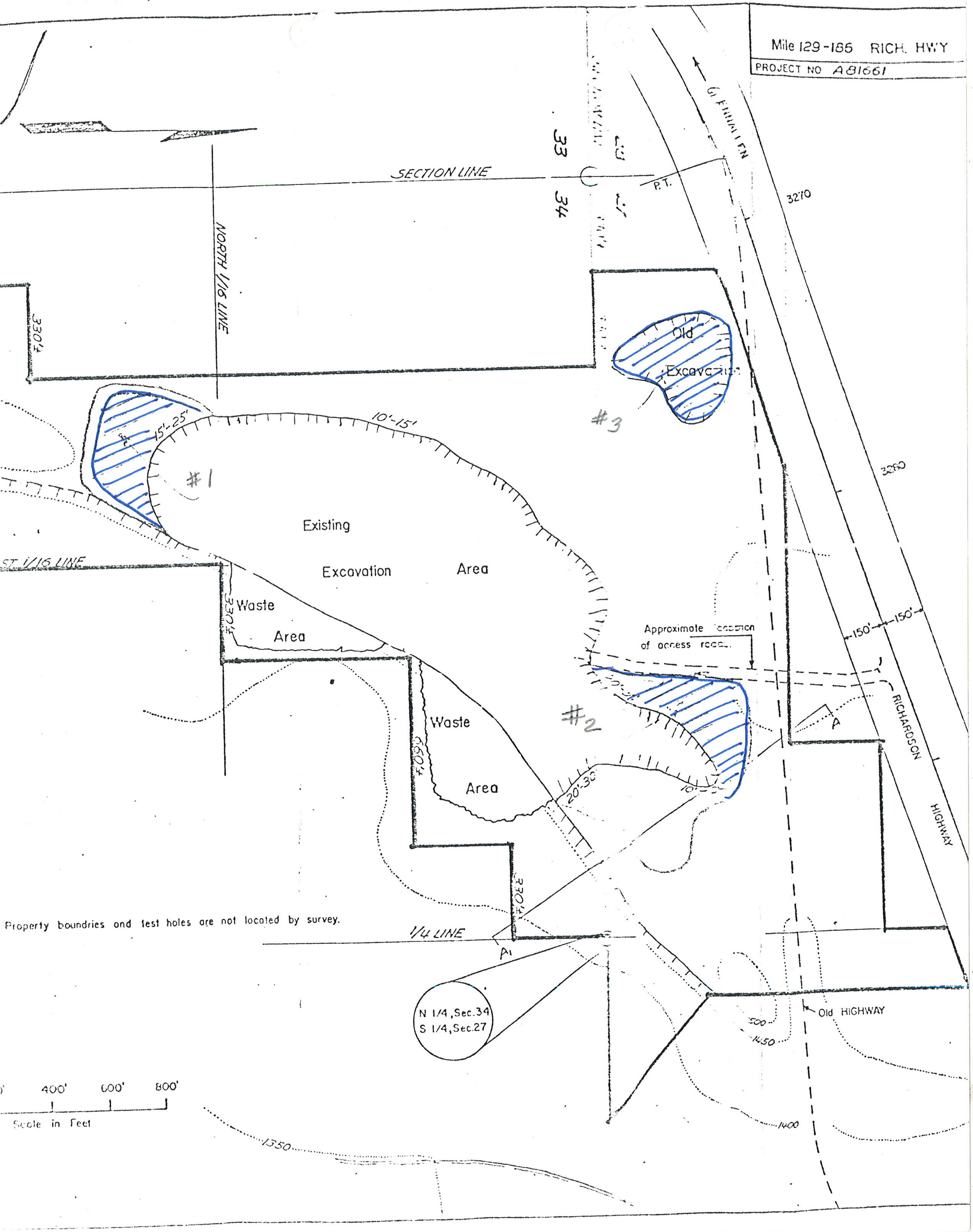
FROM: Mike Tinker
Environmental Coordinator
Interior Region

Attached is a map of the subject materials source. Please note that effective immediately the site is not available for your use until an on-site inspection by the State Historic Preservation Office has been completed. Estimated date is May 15, 1983. The areas shown cross hatched in blue (marked #1 and #2) will be available for mining. In an emergency minor amounts of gravel can be obtained from the floor of the Alyeska Pit also.

We are working toward clearing the site for your use in the future. Please call if there are any questions.

Attachments: as stated

MT/dj



Mile 129-165 RICH. HWY
PROJECT NO A81661
SECTION LINE
33
34
P.T.
3270
NORTH 1/16 LINE
330'±
Old Excavation
#3
15'-25'
10'-15'
#1
Existing Excavation Area
Waste Area
330'±
3280
Approximate
of access
150'
150'
Waste Area
660'±
#2
20'-30'
A
RICHARDSON HIGHWAY
Property boundries and test holes are not located by survey.
330'±
1/4 LINE
A1
N 1/4, Sec.34
S 1/4, Sec.27
Old HIGHWAY
1450
1400
1350
400' 600' 800'
Scale in Feet

STATE OF ALASKA

Interdepartmental Routing Slip

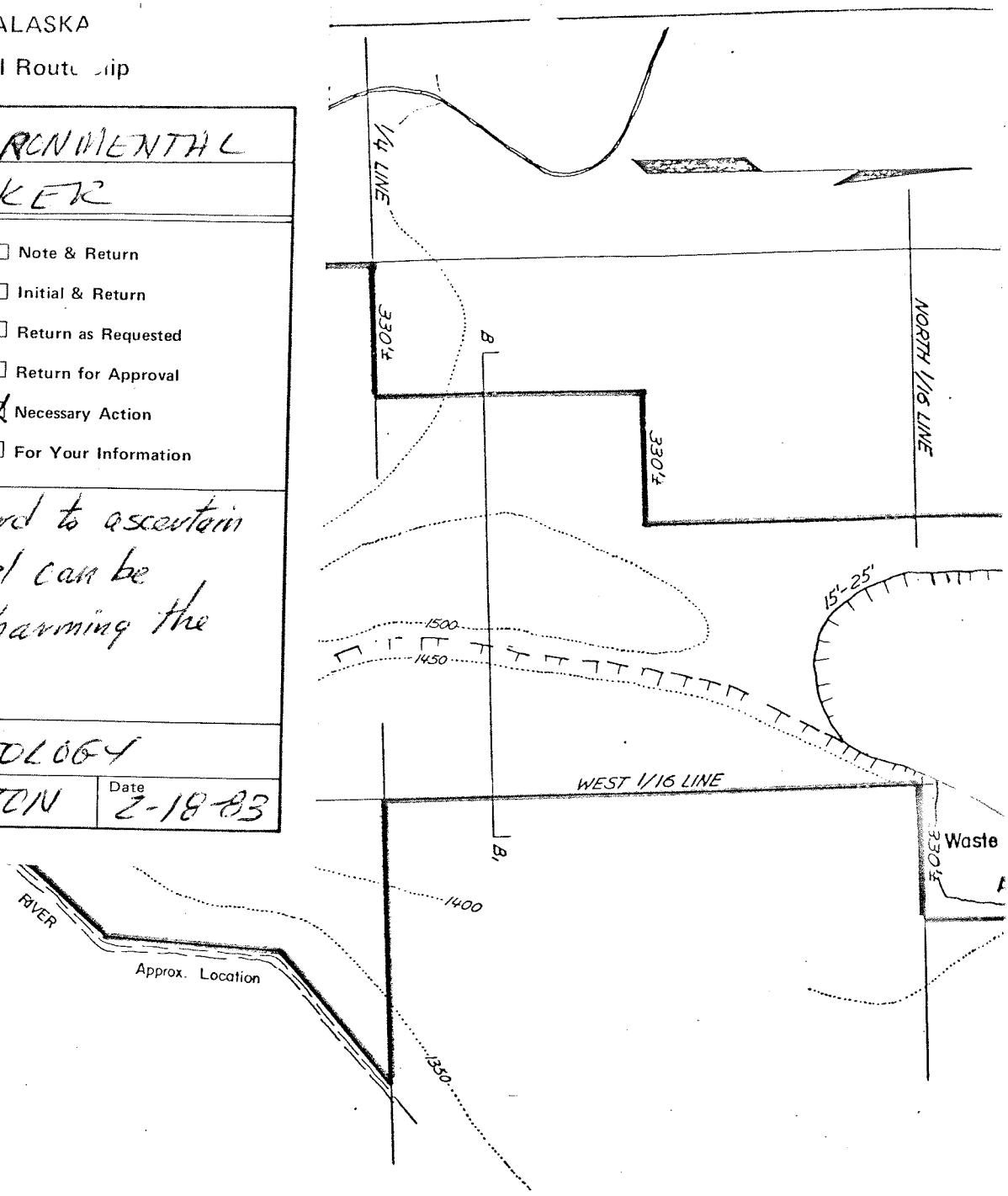
TO: Mail Station	Department
2550	ENVIRONMENTAL
Attention: MIKE TINKER	

- ☐ Approval
- ☐ Signature
- ☐ Comment
- ☐ Contact Me
- ☐ Prepare Reply
- ☐ For Your File
- ☐ Note & Return
- ☐ Initial & Return
- ☐ Return as Requested
- ☐ Return for Approval
- ☒ Necessary Action
- ☐ For Your Information

Remarks: Please forward to ascertain areas where gravel can be extracted without harming the storage pits.

FROM: Mail Station	Department	By	Date
2550	GEOL064	HAL LIVINGSTON	2-18-83

02-002(Rev. 2/80)



NOTE: Property boundries and test holes are not located

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS

619 WAREHOUSE DR., SUITE 210
ANCHORAGE, ALASKA 99501

PHONE: 274-4676

Ringling Pit

February 15, 1983

Re: 1120-10

RECEIVED
Interior Region

FEB 17 1983

TECHNICAL SERVICES

	Chief, Technical Services	
/	Environment	
	Materials	
	Contracts and Review	
	Consultant Coordinator	
	File	

Mr. Mike Tinker
Environmental Coordinator
Alaska Department of Transportation
and Public Facilities
2301 Peger Road
Fairbanks, Alaska 99701

Dear Mr. Tinker:

We have reviewed the Richardson Highway Resurfacing Project Mile 125-207 (A-81661). We have no records of the highway being surveyed between Mile 185.5 and 207, but as the project is resurfacing and will stay within the existing right-of-way, we feel that no cultural resources should be impacted. As always, should any cultural resources be found during contruction, we request that the project engineer halt all work that would disturb such resources and contact us immediately.

The material sites, however, present a problem. MS 714-003-5 (Phelan Creek) is in a gravel wash area and does not need an archaeological survey. MS 712-020-5 is an existing material source, but is also a site on the AHRS (GUL-077).

This site is a prehistoric cache pit site and is quite extensive. Pits extended from the highway along the terrace to Bear Creek where it flows into the Gulkana River. Dr. William Workman estimated the date of the site at 1400 A.D. The artifacts recovered from Workman's 1975 excavation include native copper, birchbark baskets, digging sticks, and flaked stone and bone artifacts. Workman considered this site to be quite important as one of four sites in the area that provided a continuum of information about Athna settlement patterns.

As you can see from the enclosed map, the extent of the 1975 excavation corresponds to the existing excavation area. The site was excavated so that Alyeska could use the material source in construction of the pipeline. Any excavation to the northeast of the existing pit would impact features left undisturbed by Workman. The same is true of any excavation to the south. Excavation to the northwest of the existing pit should not affect any features of site GUL-077.

A determination of eligibility to the National Register of Historic Places for this site is necessary at this time. Should DOT determine the site eligible, determination of effect and a mitigation plan would need to be worked out. In order to facilitate the determination process we will provide DOT our determination at this time.

The site is eligible to the National Register for the following reasons:

Approximately half of the site remains undisturbed, and although the site is no longer entirely intact, it still possesses integrity of location, setting and association. It is also quite likely to yield (and has yielded) information important in prehistory. The following excerpts from Dr. Workman's 1976 report provide information on the significance of the previous work. It is not unreasonable to assume that an equal amount of information can be obtained from testing and excavation of the rest of this site.

> Here we summarize briefly some of the foregoing discussion, adding without further comments certain other interpretations that we believe to be sound but which space limitations have prevented us from discussing in detail.
>
> 1. A significant body of material having temporal integrity has been recovered from a very poorly known area. We could not ask for a more useful site to fit into our growing understanding of Copper River archaeology. The three other fairly extensively excavated sites in the area date to the early and late 19th Century and the early-mid Second Millennium A.D. GUL-077 should thus neatly bridge a temporal gap as well as fill a void in our archaeological understanding of Athna settlement patterns since of the other three sites, two are winter villages and one a summer habitation.
>
> 2. A large and rich collection (by local standards) has been recovered. Three hundred and fifty-nine artifacts does not seem like a rich return, but this is one of the larger available from interior northwest North America, and the contextual data are better than for many sites. The 74 native copper artifacts constitute one of the largest collections extant. They provide a useful basis for the study of the technology of production of native copper artifacts.
>
> 3. A large crew was able to investigate intensively the structural details of a series of poorly known storage pits, including several virtually unique multicellular ones.
>
> 4. A small but valuable series of usually perishable items (birch-bark baskets, a wooden digging stick) were recovered, allowing us to flesh out our knowledge of prehistoric inventories which usually lack data on such materials.

5. A modest body of faunal information was recovered and analyzed, joining a select series of such studies from interior northwestern North America which at present can be counted on the fingers of one hand.

6. Evidence suggestive of the pre-Russian antiquity of the sweatbath and circumstantial evidence strongly suggestive of an inflation in the value of native copper at the time of European contact was recovered. In addition, a variety of traditional material culture traits vaguely recalled by living Ahtna were documented and extended into late prehistoric times. Certain more esoteric practices and beliefs such as the ritual destruction of the bones of food animals and the cremation of the dead were also given additional time depth. One discrepancy between ethnographic Ahtna and protoAhtna practice was noted. The ethnographic Ahtna believed that beaver bones should be returned to the water lest dogs get access to them, bringing the hunter into a supernaturally dangerous situation (de Laguna & McClellan nd:19a). Beaver bones were among the most common identified elements at GUL-077, suggesting either a serious discrepancy between belief and practice or a recent advent for this ritual practice.

Once a Determination of Eligibility is made, a Determination of Effect must be made. We look forward to consulting with you about this at your convenience.

We shall look forward to receiving your Determination of Eligibility opinion. Please contact us if we can be of any additional assistance.

Sincerely,

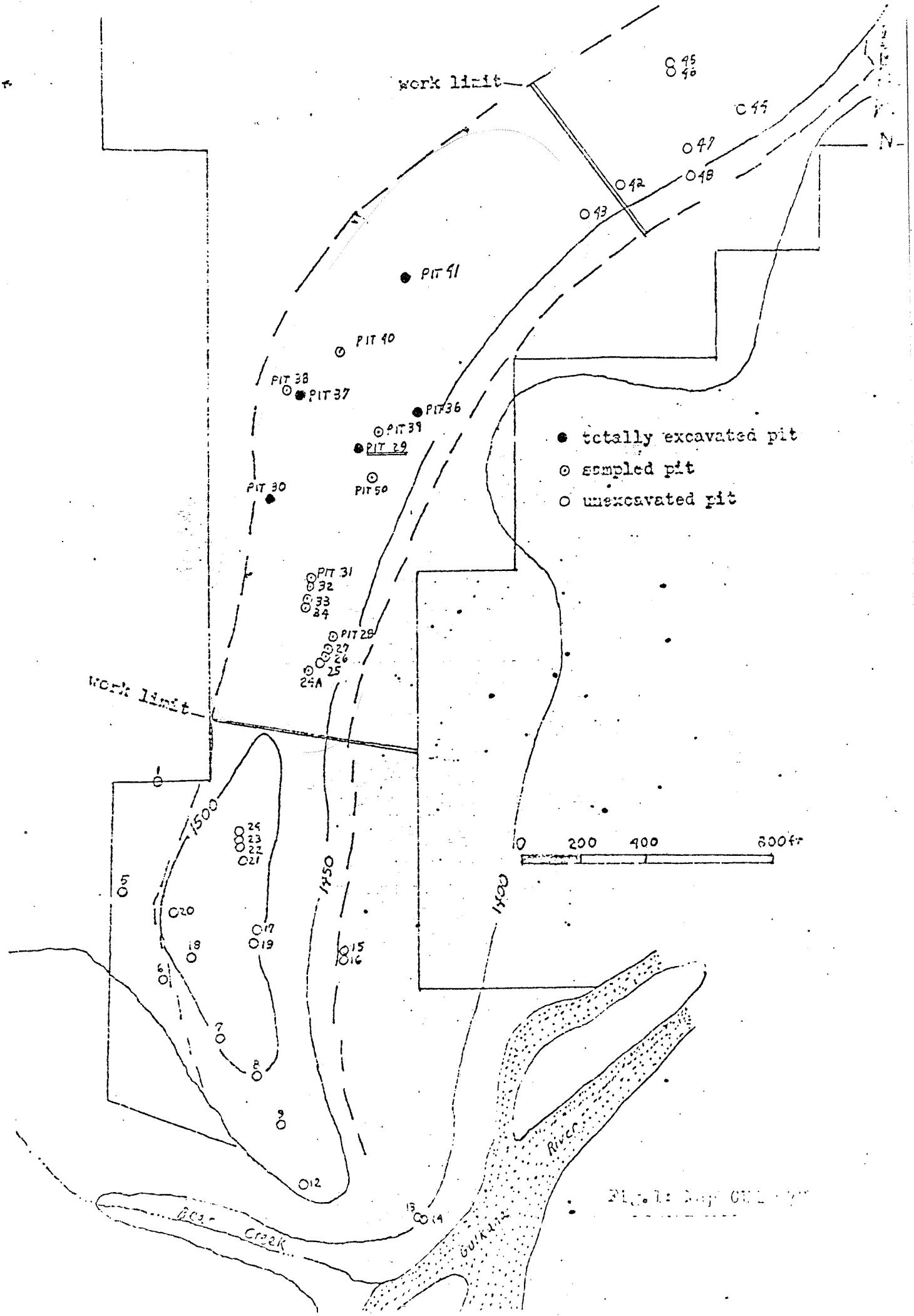
Neil C. Johannsen
Director

By: Ty L. Dilliplane
State Historic Preservation Officer

enclosures

cc: Wayne Wiersum
Lou Wall

DR:clk


work limit
work limit
PIT 41
PIT 40
PIT 38
PIT 37
PIT 36
PIT 39
PIT 29
PIT 30
PIT 50
PIT 31
32
33
34
PIT 28
27
26
25
24A
totally excavated pit
sampled pit
unexcavated pit
1500
1450
1400
0 200 400 800ft
Bear Creek
Gulkana River

ORANDUM (Brief Communications)

State of Alaska

APR 5 1982

(To) Name: Dallas Rasmussen & Joanne LaRue	Dept./Div./Sect.: DOT/PF - Valdez	Mail Stop:
(From) Name: Walter J. Werner	Dept./Div./Sect.: DOT/PF, D & C, Right of Way, Fairbanks	Telephone: 452-1911
SUBJ.: MS-712-020-5		Date: 3/31/82

Attached is a copy of a Warranty Deed and Letter of Acceptance from Commissioner Ward for the Ringling property. We've incorporated this info in M.S. 712-020-5. The only other information we have on this is some purchase vouchers and an Memorandum of Agreement.

ww
WW/cmk

	Chief Engineer	
	Construction	
	Design	
	Consultant Coordinator	
	Technical Services	
	Review	
	Materials	
✓	Material Lab Sup. Copy sent	
	Geologist	
	Traffic	
	Utilities/Permits	
	Design Squad	
	Accounting	
	Maintenance/Operations	
✓	R/W J. LaRue	
	Return to Main File	

02-001C(12/80)

January 20, 1982

RE: Richardson Highway,
Mile 129-186
Project No. A8166
M.S. 71-2-020-5

Mr. Clayton N. Ringling
Route 2, Box 5
Roseau, Minnesota 56751

Dear Mr. Ringling:

Please find enclosed your copy of the recorded warranty deed you signed as grantor to the State of Alaska, Department of Transportation and Public Facilities. Thank you for your cooperation with the Department in its acquisition of the material source for the building of highways in the State of Alaska.

Sincerely,

Stephen C. Sisk
Director
Design and Construction

Paul J. Wild
Interior Regional
Right of Way Agent

Enclosure:
as stated
PJW/cmk

cc: Juneau R/W
Materials

MEMORANDUM

State of Alaska

TO Hal Livingston
Regional Geologist
DOT/PF - Fairbanks

DATE April 12, 1982

FILE NO.

TELEPHONE NO: 835-4322

FROM Dallas Rasmussen
Resident Geologist
DOT/PF - Valdez

SUBJECT: Quantity Estimates,
Richardson Highway
Mile 129-186

The following is a list of the estimated quantities available in the pits listed in the subject report.

M.S. 71-3-002-5
Area = 610,000 sq. ft.
Ave. Depth = 17'
Quantity = 384,000 c.y.
-15% for backslopes & safety factor = 325,000 c.y. usable
(60% gravelly soils, 40% sands)

M.S. 71-3-008-5
Area = 900,000 sq. ft. (Area A) + 660,000 sq. ft. (Area B) =
1,560,000 sq. ft.
Ave. depth = 19'
Quantity = 1,097,000 c.y.
-15% for backslopes & safety factor = 933,000 c.y. usable

M.S. 71-4-033-5
Area = 420,000 sq. ft.
Ave. Depth = 18'
Quantity = 280,000 c.y.
-15% for backslopes & safety factor = 238,000 c.y. usable
(22% above water table)

M.S. 71-3-003-5
Area = 160,000 sq. ft.
Ave. Depth = 5'
Quantity = 29,000 c.y.
-15% for backslopes & safety factor = 25,000 c.y. usable
(60% above water table)

M.S. 71-3-015-5
Area = 1,000,000 sq. ft.
Ave. Depth = 30'
Quantity = 1,100,000 c.y.
-10% safety factor = 1,000,000 c.y. usable

M.S. 71-2-020-5

Area - South = 966,500 sq. ft.
North = 1,725,000 sq. ft.
Total 2,691,500 sq. ft.

Ave. Depth - South = 27'
North = 14'

Quantity - South = 966,000 c.y.
North = 894,000 c.y.
Total 1,860,000 c.y.

-15% for backslopes & safety factor = 1,580,000 c.y.

M.S. 52-1-001-5

Area = 350,000 sq. ft.
Ave. Depth = 6'
Quantity = 77,000 c.y.
-15% for backslopes & safety factor = 65,000 c.y. usable

M.S. 71-3-005-5

Area = 480,000 sq. ft.
Ave. Depth = 30'
Quantity = 530,000 c.y.

DR/mmw

BOOK 15 PAGE 133
Of the Recording District

ACKNOWLEDGEMENT OF GRANTOR

STATE OF ~~ALASKA~~ Minnesota
County of Roseau

ON THIS 1st day of December, 1981, before me the undersigned, a Notary Public in and for the State, personally appeared CLAYTON N. RINGLING the Grantor, known to me to be the identical person who executed the foregoing instrument and he acknowledged to me that he signed the same as his free and voluntary act and deed, with full knowledge of its contents, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this day and year above written.

My Commission Expires:

PHYLLIS ODEGAARD
NOTARY PUBLIC - MINNESOTA
ROSEAU COUNTY
My Commission Expires JULY 26, 1988

Phyllis Odegaard
Notary Public

ACKNOWLEDGEMENT OF GRANTOR

STATE OF ALASKA

ON THIS _____ day of _____, 19___, before me, the undersigned, a Notary Public in and for the said State, personally appeared _____ the Grantor, known to me to be the identical person who executed the foregoing instrument and he acknowledged to me that he signed the same as _____ free and voluntary act and deed, with full knowledge of its contents, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year above written.

My Commission Expires:

_____
Notary Public

CERTIFICATE OF ACCEPTANCE

THIS IS TO CERTIFY that the STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, Grantee herein, acting by and through its Commissioner, hereby accepts for public purposes the real property, or interest therein, described in this instrument and consents to the recordation thereof:

IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of December 1981.

DEPARTMENT OF TRANSPORTATION
and PUBLIC FACILITIES

By: Jackie Bothuz
For the Commissioner

No. 81-1069
RECORDED-FILED
CHITINA REC.
DEC 21 2 03 PM '81
REQUESTED BY ST. OF AK DOT
ADDRESS 2301 PEGER RD. FAIRBANKS AK 99701-6394

BC < 13 PAGE 132
Ch a Recording District

WARRANTY DEED

THE GRANTOR Clayton N. Ringling

for and in consideration of Three Hundred and Seventy Thousand ($370,000.00)---
---DOLLARS in hand paid, conveys and warrants to the STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, P.O. BOX 1467, Juneau, Alaska, the following described tract of land located in the State of Alaska, to wit:

All of Lots 12 and 13, E½ SW¼ SW¼ SW¼, SE¼ SW¼ SW¼, S½ NE¼ SE¼ SW¼ and the S½ SE¼ SW¼ of Section 27, T.6N., R.1W., C.R. Meridian and all of Lots 9 and 10, N½ NE¼ NE¼ NW¼, SW¼ NE¼ NE¼ NW¼, NW¼ NE¼ NW¼, W½ SW¼ NE¼ NW¼, E½ NW¼ NW¼, E½ SW¼ SW¼ NW¼ and the E½ SW¼ NW¼ of Section 34, T.6N., R.1W, C.R. Meridian.

Containing 159.55 acres, more or less, according to U.S. Land Patent No. 50-74-0023.

Dated this 1st day of December 19 81.

Clayton N. Ringling

Project No A8166

25A-104 (R. 10/78)

Parcel No. M.S. 71-2-020-5

BC 13 PAGE 132
C Recording District

WARRANTY DEED

THE GRANTOR Clayton N. Ringling

for and in consideration of Three Hundred and Seventy Thousand ($370,000.00)---
----------DOLLARS in hand paid, conveys and warrants to the STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, P.O. BOX 1467, Juneau, Alaska, the following described tract of land located in the State of Alaska, to wit:

All of Lots 12 and 13, E½ SW¼ SW¼ SW¼, SE¼ SW¼ SW¼, S½ NE¼ SE¼ SW¼ and the S½ SE¼ SW¼ of Section 27, T.6N., R.1W., C.R. Meridian and all of Lots 9 and 10, N½ NE¼ NE¼ NW¼, SW¼ NE¼ NE¼ NW¼, NW¼ NE¼ NW¼, W½ SW¼ NE¼ NW¼, E½ NW¼ NW¼, E½ SW¼ SW¼ NW¼ and the E½ SW¼ NW¼ of Section 34, T.6N., R.1W, C.R. Meridian.

Containing 159.55 acres, more or less, according to U.S. Land Patent No. 50-74-0023.

Dated this 1st day of December 19 81.

Clayton N. Ringling

Project No A8166

25A-104 (R. 10/78)

Parcel No. M.S. 71-2-020-5

BOOK 75 PAGE 755
Ch. ... Recording District

ACKNOWLEDGEMENT OF GRANTOR

STATE OF ~~ALASKA~~ Minnesota
County of Roseau

ON THIS 1st day of December, 1981, before me the undersigned, a Notary Public in and for the State, personally appeared CLAYTON N. RINGLING the Grantor, known to me to be the identical person who executed the foregoing instrument and he acknowledged to me that he signed the same as his free and voluntary act and deed, with full knowledge of its contents, for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this day and year above written.

My Commission Expires:

PHYLLIS ODEGAARD
NOTARY PUBLIC - MINNESOTA
ROSEAU COUNTY
My Commission Expires JULY 26, 1988

Phyllis Odegaard
Notary Public

ACKNOWLEDGEMENT OF GRANTOR

STATE OF ALASKA

ON THIS _____ day of _____, 19__, before me, the undersigned, a Notary Public in and for the said State, personally appeared _____ the Grantor, known to me to be the identical person who executed the foregoing instrument and he acknowledged to me that he signed the same as _____ free and voluntary act and deed, with full knowledge of its contents, for the uses and purposes therein mentioned.

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Notary Public

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IN WITNESS WHEREOF, I have hereunto set my hand this 8th day of December 1981.

DEPARTMENT OF TRANSPORTATION
and PUBLIC FACILITIES

By: _____
For the Commissioner

N.C.
81-1069
RECORDED-FILED
CHENA REC.
DEC 21 2 03 PM '81
REQUESTED BY ST. OF AK. DOT
ADDRESS 2301 PEGER RD. FAIRBANKS AK. 99701-6394

Form 1860–9
(March 1965)
(formerly 4–1043)
Anchorage 062705

The United States of America

To all to whom these presents shall come, Greeting:

JUN 2 0 1980

WHEREAS

Clayton N. Ringling

is entitled to a Land Patent pursuant to the Homestead Laws, Revised Statute 2291, as amended and supplemented; 43 U.S.C. 164 (1970), for the following described land:

Copper River Meridian, Alaska.

T. 6 N., R. 1 W.,

Sec. 27, Lots 12 and 13, E½SW¼SW¼SW¼, SE¼SW¼SW¼, S½NE¼SE¼SW¼, S½SE¼SW¼;

Sec. 34, Lots 9 and 10, N½NE¼NE¼NW¼, SW¼NE¼NE¼NW¼, NW¼NE¼NW¼, W½SW¼NE¼NW¼, E½NW¼NW¼, E½SW¼SW¼NW¼, E½SW¼NW¼.

Containing 159.55 acres:

NOW KNOW YE, that there is, therefore, granted by the UNITED STATES, unto the above named claimant the land above described; TO HAVE AND TO HOLD the said land with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said claimant, his successors and assigns, forever;

EXCEPTING AND RESERVING TO THE UNITED STATES

1. A right-of-way thereon for ditches and canals constructed by the authority of the United States. Act of August 30, 1890, 26 Stat. 391; 43 U.S.C. 945.

2. A right-of-way thereon for the construction of railroads, telegraph, and telephone lines, as prescribed and directed by the Act of March 12, 1914, 38 Stat. 305.

3. A right-of-way, Anchorage 058844, for a material site and a Federal Aid Highway, and a right-of-way, AA-7047, for a Federal Aid Highway. Act of August 27, 1958, as amended, 23 U.S.C. 317.

Patent Number 50-71-0023

Form 1860–10
(March 1965)
(formerly 4–1044)
Anchorage 062705

4. All the oil and gas in the land so patented, and to it, or persons authorized by it, the right to prospect for, mine, and remove such deposits from the same upon compliance with the conditions and subject to the provisions and limitations of the Act of March 8, 1922, 42 Stat. 415, as amended and supplemented.

Subject to the easement as established by Public Land Order 1613 (23 F.R. 2376), pursuant to the Act of August 1, 1956 (70 Stat. 898), for highway purposes, including appurtenant protective, scenic and service areas.

There is excepted and reserved any element of ownership from the lands hereby conveyed, including but not restricted to any estate or interest in property, or permit, or other right, transferred by the United States pursuant to the Alaska Communications Disposal Act approved November 14, 1967 (81 Stat. 441-444)(40 U.S.C. 771-792).

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

[SEAL]

GIVEN under my hand, in Anchorage, Alaska the FOURTEENTH day of AUGUST in the year of our Lord one thousand nine hundred and SEVENTY-THREE and of the Independence of the United States the one hundred and NINETY-EIGHTH.

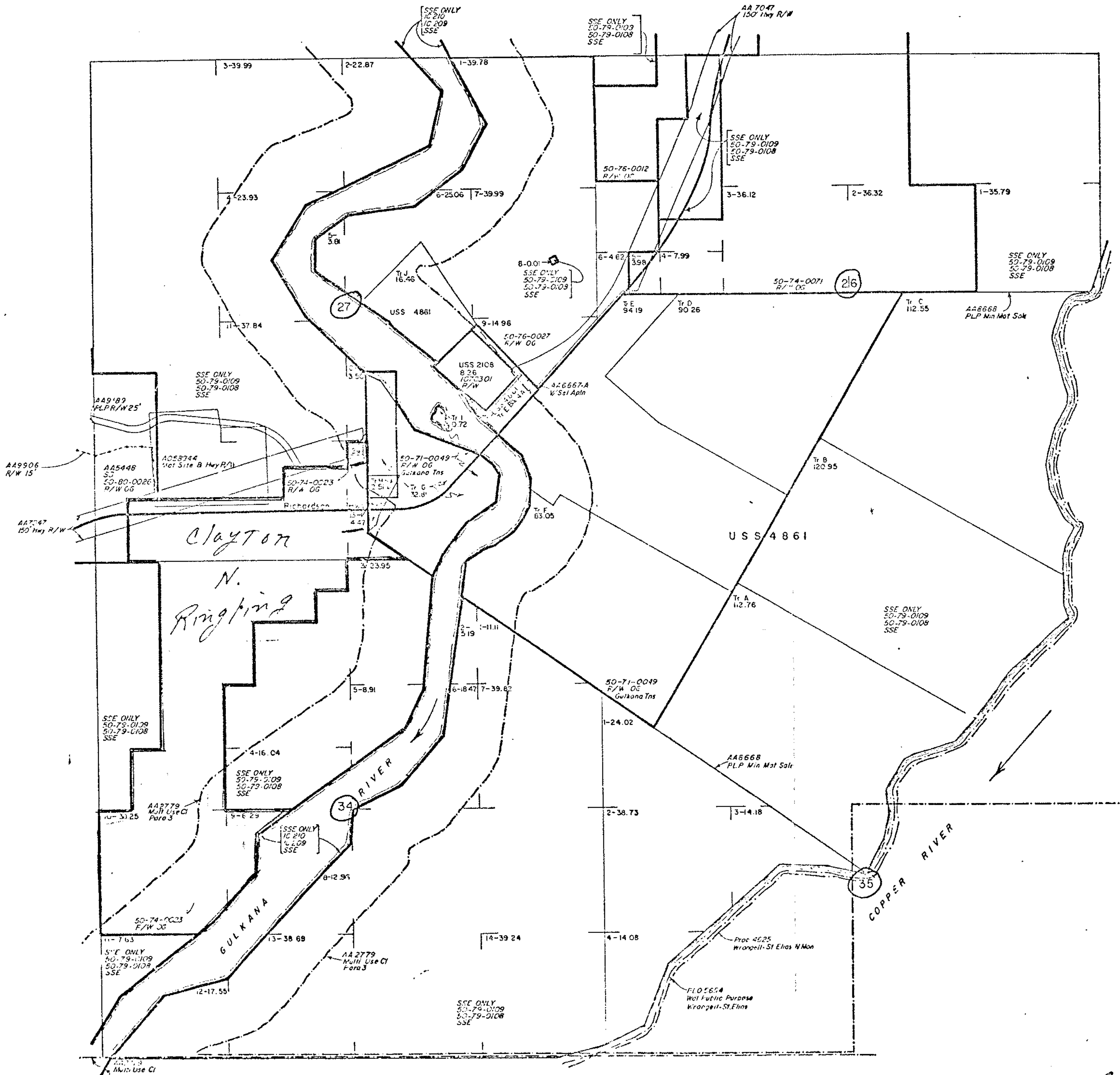
By J. A. O'Hagan
Chief Adjudicator

Patent Number 50-74-0023

SURVEYED TOWNSHIP 6 NORTH, RANGE 1 WEST OF THE COPPER RIVER MERIDIAN, ALASKA

MTP SUPPL. SEC 26, 27, 34, Portion 35

INDEX TO SEGREGATED TRACTS



FOR ORDERS EFFECTING DISPOSAL OR USE OF UNIDENTIFIED LANDS WITHDRAWN FOR CLASSIFICATION, MINERALS, WATER AND/OR OTHER PUBLIC PURPOSES REFER TO INDEX OF MISCELLANEOUS DOCUMENTS

Subj to 150' C/L Easement (Richardson Hwy)
Act of 8/1/1956 (70 Stat 898, 48 USC 420-420c)
& PLO 1613 dated 4/7/1958 (23 FR 2376)

AA 2779 Multi Use Cl Entire Tp

Patent 50-71-0049 Incl Tr D, Tr E, Blks 1,2,3,4,5,6,7,
8,9,10, Tr F,G,H & I of USS 4861

AA6188 easement deed RCA 25' C/L (81 Stat 441-444)
as to the follo g Sec 26: NW1/4SW1/4, NW1/4, Sec 27:
S1/2SW1/4, SE1/4, SE1/4NE1/4, Sec 34: N1/2NW1/4

Entire Tp withdrawn by PL 92-203 12/18/1971
AA6666, AA6667

PLO 5184 3/9/1972 Wd Entire Tp Cl

AA6667-EE Esmt pursuant to Sec 17(b)(3) PL92-203
12/18/1971 - (Sta-Keh)

CAUTION

THE TITLE AND LAND STATUS RECORDS OF THIS OFFICE ARE NOT CURRENT DUE TO MASSIVE WITHDRAWAL ACTIONS BY THE SECRETARIES OF THE INTERIOR AND AGRICULTURE, WITHDRAWALS BY THE PRESIDENT AND SELECTIONS BY THE STATE OF ALASKA FOR 41,000,000 ACRES OF LAND.

NOTICE

TO DETERMINE COMPLETE LAND STATUS, REFER TO MISCELLANEOUS DOCUMENTS INDEX

MAY 21 1980

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

Department of Transportation and Public Facilities

OFFICE OF THE COMMISSIONER

Pouch Z
Juneau, Alaska 99811
(907) 465-3900
(Telex 45-328)

Certified Mail: 209497
Special Delivery

RECEIVED NOV 25 1981 DEP. COMM./DC JUNEAU, ALASKA

November 25, 1981

Mr. Clayton N. Ringling
Route 2, Box 5
Roseau, Minnesota 56751

Dear Mr. Ringling:

The offer as outlined in your letter dated October 26, 1981, is accepted. We agree to purchase your homestead at about Mile 126 on the Richardson, consisting of a wood frame house, a shed and 160 acres of land for a total sum of $370,000 to be paid in the amounts and at the times you requested.

INTERIOR REGION DIRECTOR D&C D.O.T.P.F. NOV 27 8 30 AM '81

Enclosed is a Memorandum of Agreement for the signatures of you and your wife. If it is agreeable, please sign and return. The goldenrod copy (incorrectly marked Regional Engineer) may be kept for your records, if you wish.

Also enclosed is a warranty deed for your signature(s). As you will note, this document must be notarized. We will very much appreciate it if you will return two copies with original signatures and notarization. The enclosed vouchers are made up in the amounts you requested. Please sign them and return them along with the deed and Memorandum of Agreement. The State will act as its own escrow agent in this instance and the appropriate checks will be ordered upon receipt of the executed deed.

In the interest of time we will prepare a title report while this correspondence is en route. If there are any outstanding mortgages or liens on this property, you could help us speed things along by forwarding copies.

If you or your attorney have any questions about any of this, please call collect - Jack Bodine, Area Code 907-789-0841.

I want to thank you very much for extending this offer. We appreciate your assistance in building a better transportation system in Alaska.

Very truly yours,

Robert W. Ward
Commissioner

Enclosures
cc: Jack Bodine, Lands, DOT/PF
Ray Shumway, Deputy Commissioner, DOT/PF

Roach

MEMORANDUM State of Alaska

TO: Hugh Williams
Right-of-Way
DOT/PF--Juneau

DATE: February 4, 1981

FILE NO:

TELEPHONE NO:

FROM: Jerry S. Roach JSR
Regional Materials Engineer
DOT/PF--Valdez

SUBJECT: RINGLING PROPERTY
MILE 127 RICHARDSON HIGHWAY
MATERIAL SITE NO. 71-2-020-5

The material site diagram, boring log diagrams, test results and narrative for this site are attached.

An estimated 1,500,000 cubic yards of useable material is present in this site. A portion of this material could be used on the Glennallen North project, which is scheduled this spring for advertising.

The reconnaissance work has just been completed for the upper Richardson Highway from Mile 129 to Mile 186. Material from this site may be used on the section from Mile 129 to Mile 148. As you know, the Richardson Highway from the Edgerton Cutoff to Paxson is now a senic highway as a result of the D-2 legislation. If new gravel sites are not allowed on public domain, then I would estimate 12 to 15 miles of road north of Mile 129 being constructed from borrow from the Ringling Pit.

The Department presently has a royalty agreement for 750,000 cubic yards of material at $0.55 per cubic yard. The price per cubic yard has been at a reduced rate for large quantities for other royalty agreements.

As per your question for the savings by using the Ringling Pit and the time frame of use, it depends on several variables that I can't answer. It may be 10 to 15 years before actual construction begins on the upper Richardson. The quantity of material available between the Junction of the Richardson/Tok Highways and Sourdough is not known. As stated above, the political situation may prohibit location of any new sites. If this occurs, material would have to be hauled from the quarry site located near Mile 156 and from the gravel site located at Mile 137. The quantity of material available in the Mile 137 pit is not known. The price of gravel is not expected to decrease.

In reguards to your question of culverts disposed of on the Ringling property, I cannot find any information regarding this subject.

JSR/jp

cc: Bill Boyd, R/W - Valdez
Ted Richards, R/W - Anchorage

M.S. 71-2-020-5

Jim: Please coordinate with Valdez and furnish to this office information on:

→ 1. Re-analyse the comps
2. Ask Valdez to give us some kind of a cost saving analysis to justify an increased offer, from a design/construction standpoint, if there is any savings by using the pit.
3. Also need answer to the culvert problem & copy of Rasmussen's results that were promised Ringling.
4. Anything else you can think of!

Need the info in this office by Feb. 5, 1981

Hugh

RECEIVED
JAN 28 1981
D.O.T. & P.F.
RIGHT OF WAY
ANCHORAGE
FEB 3 1981

✓	Chief Engineer
	Asst. Chief Engineer
	Review
	Technical Services
	Consultant Coordinator
	LSR&T
	Design
✓	Right of Way
✓	Materials
	Engineering Services
	EIS/Permits
	Traffic
	Utilities/Permits
	Road Design
	Construction
	Return To Main File

WCB
Jan

ANS	COPY	Central Region RIGHT OF WAY "Hwys"-"Aviation"	DATE RCVD: JAN 28 1981
		RICHARDS, TED	
		SCRATTON, DAN	
		DAVIS, SHIRL	
		APPRAISALS	
		NEGOTIATIONS	
		ENGR/PLANS	
		RELOCATION	
		PREAUDIT	
	✓	RECORDS: "Hwys"	
		RECORDS: "Aviation"	
		OTHER:	

Remarks:

11.845

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES
HIGHWAY DESIGN & CONSTRUCTION

_____Deputy Commissioner	(2500)	_____Claims	(2504)
_____Proj. Coordinator	(2500)	_____Finance	(2504)
_____E.E.O.	(2503)	_____Payroll	(2505)
_____Internal Review	(2504)	_____Personnel	(2505)
_____Materials	(2526)	_____Supply	(2505)

ATTN: _____

_____Director, Highway Design & Construction

_____Deputy H.Q. Operations
_____Engineering Services
_____Traffic Safety
_____Utilities
_____ _____

Route A	Init.	Date
Chief		
Asst. Chief		
C & SC Area		
I & W Area		
SP & SE Area		
Appraisal		
R/W Admin.		
Fac. Site Acq.		
File		
C I SE ~~SC~~ W		

_____Deputy Regional Oper.
_____Project Development
_____Bridge Design
_____Right-of-Way
_____Environ. Coordinator
_____LSR&T

ATTN: Bodine / Williams

1. Direct Reply
2. Draft Reply
3. Comments
4. For Your Info.
5. For Your File
6. Signature
7. Action
8. Circulate

by 2-7 (for Comm. Sig.)
Also, if we need to, draft memo to Comm. thru Shumway with our recommendations —
Work with Region on this & send them cc of Ringling's letter - but, so there is no duplication, tell them you are handling the draft response

From: Charles S. Matlock, Director
Highway Design and Construction

Date: 1/26

DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

COMMISSIONER'S OFFICE
- ____ Commissioner
- ____ Information Officer
- ____ Internal Review

ADMINISTRATION
- ____ Deputy Commissioner
- ____ Financial Management
- ____ State Equipment Fleet
- ____ Marine Highway System
- ____ Support Services
  - ____ Supply
  - ____ Personnel
  - ____ Payroll
  - ____ EEO/MBE
  - ____ Safety
  - ____ Contracts Admin.

DESIGN & CONSTRUCTION
- ____ Deputy Commissioner
- ____ Aviation D. & C.
- _1_ Highway D. & C.
- ____ General D. & C.
- ____ Harbor D. & C.

PLANNING & PROGRAMMING
- ____ Deputy Commissioner
- ____ Regional Director
- ____ Mgr. Unit Support
- ____ Staff Asst. Unit Op.

MAINTENANCE & OPERATIONS
- ____ Deputy Commissioner
- ____ Regional Director
- ____ Communications

JUNEAU - HQ & S.E. REGION
- ____ 2500 Sommers Bldg.
- ____ 2501 Simpson Bldg.
- ____ 2502 Goldstein Bldg/Hbr D&C
- ____ 2503 Goldstein Bldg/EEO & Contr. Admin.
- ____ 2504 Douglas Island Bldg.
- ____ 2505 Glacier Ave. Bldg.
- ____ 2506 7 Mi., S.E. Region
- ____ 2507 Subport Warehouse
- ____ 2508 5 Mi., Communications
- ____ 2509 Reynolds Bldg/P&P SE Reg.
- ____ 2510 Sommers Bldg/P&P Support

ANCHORAGE - CENTRAL REGION
- ____ 2525 Aviation Bldg.
- ____ 2526 Tudor Rd/Materials
- ____ 2527 Tudor Rd/Communications
- ____ 2528 Anchorage Int'l Airport
- ____ 2529 Tudor Rd/Bldg Mtnce
- ____ 2530 Nikiski Bldg/Supply
- ____ 2531 Tudor Rd/M & O
- ____ 2532 Tudor Rd/Traffic Oper.
- ____ 2533 Tudor Rd/Equipment
- ____ 2534 Tudor Rd/Optics Lab

FAIRBANKS - INTERIOR REGION
- ____ 2550 Peger Rd. Bldg.
- ____ 2551 Fairbanks Int'l Airport
- ____ 2552 University Plaza/P&P
- ____ 2553 University Plaza/GD&C
- ____ 2554 Duckering Bldg/P&P
- ____ 2555 University Plaza/P&P

____ VALDEZ - S.C. REGION

____ NOME - WESTERN REGION

ATTN: Chas Matlock

SECTION:

FROM: Jon S

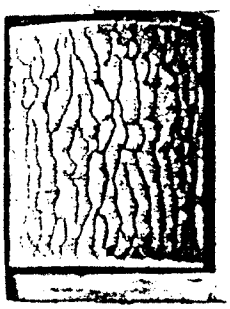
DATE: 1/26/81

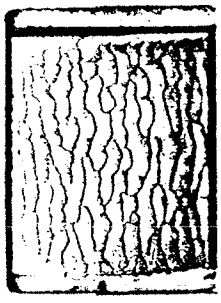
A. Action
B. Circulate
C. Comments
D. Contact Me
E. Direct Reply
F. Draft Reply. for Bob W. Sig by 2/10
G. For Your Files
H. For Your Information
I. Per Our Conversation
J. Per Your Request
K. Return to Me
L. Signature

COMMENTS:

I understand previous drafts were done by Row. Herb should probly get a copy also, as part of it involves his opn. Maybe the draft should indicate commission will turn it over to a staff member to follow them & finalize negotiations. Compared to other sources in the area - Nortvics @ $0.55/cy & U of A @ $0.65/cy this may prone to be least costly if can agree on a price.

25-A-008





M-S. 71-2-020-5

RECEIVE
HIGHWAY DESIGN & CONSTRUCTION

JAN 26 1981

January 10, 1981

RECEIVED
JAN 19 1981
DOT/PF
COMMISSIONER'S OFFICE

DIRECTOR'S OFFICE
RECEIVED
JAN 22 1981
DOT/PF
DEP. COMM./DC
JUNEAU, ALASKA

Mr. Robert W. Ward, Commissioner
Dept. of Trans. & Public Facilities
Pouch Z
Juneau, Alaska 99811

Dear Mr. Ward:

This is in answer to your letters of May 2, 1980, and June 25, 1980. I wrote a letter to Governor Hammond on April 5, 1980, and sent material pertaining to 160 acres of land with 2 million yards of gravel, with the pit open and roads in, on the highway, with good drainage in the pit and no water problems as there are on other places in that area. This comprises the bulk of the gravel in the Gakona area. I understand there is considerable highway work to be done both north and south in this area.

It seems that the material I sent went to Valdez. I received a phone call from someone who said his name was Dallas Rasmussen, geologist for the Highway Department in that area, asking permission to go onto this property and core drill to determine the amount of gravel. Although I had sent the material estimates done by Alyeska, together with their figures on what had been removed by them, I then received a letter from Mr. Rasmussen asking permission to go on the property to do this work. I, in turn, did agree with the understanding that I was to receive the results. I did not receive any results, but in your letter of June 25, 1980, you mentioned an estimate of 1½ million yards. After this letter and before the snow last fall, I had 4 people on the property. They drove into the pit and looked around the whole area and reported no sign of any recent work having been done on the land. Also, I later had two more in there. They also saw no sign of any recent activity. It would seem that this permission may have been used only to diminish the estimated volume of gravel on this 160 acres of land from 2 million to 1½ million yards.

send →

Regarding land value per acre, you mention a study you have made and that comparable land is $1000 per acre. In the first place, there is no comparable land in this area; and, if anyone knows of any that is accessible, gravel-based and with a good view and water, I would like to know where and who is selling it. Further, we have done some checking to confirm what we knew before--that is, that gravel-based, stable land has sold in the past for $3-4,000 an acre without a view, hence my evaluation of $4-5,000 an acre for this particular land at this time. I was attempting to sell only the land at a fair market value and the gravel, of course, would go with it. I thought this would be of importance to the State for immediate and future use as this is a gravel-depleted area, and I would give you the first chance now to purchase it before advertising it for sale. This may take some time when some may wish to diminish the value of other's property to their own advantage; but even at that, say 50¢ a yard for gravel, 2 million yards is $1,000,000 and 160 acres at $1,000 is $160,000, a total of $1,160,000, and I am not even asking that much for the property. I would start this season to advertise and continue every season thereafter or until it is sold with increases in price to compensate for inflation and gravel depletion in the area.

e/w e/c appraisal info

RECEIVED
JAN 27 1981
RIGHT OF WAY

As to the price of gravel, I would think this would be up to the owner of the property, whoever may buy it, and they may charge much more and your offer of $.50 per yard as, as I understand it, besides the Highway work in this area, Alyeska is holding a considerable amount for maintenance and operations of the pipeline. I think this may be the 696,000 yards mentioned at auction. Also, I think the liquified gas line to be built to tidewater for a petrochemical plant will go through this corridor, probably requiring a substantial amount of gravel. There is some gravel being used in this area for access roads to drill sites for oil and I understand that the State has sold some land in the area with no access roads and anyone on the land must get in and out by snow machine or swamp buggies. Also, there may be other uses, such as lengthening the runway at the airport, other pipelines' and individuals' uses.

For all these reasons, it is hard to comprehend your reply and extremely low offer for this property, as it would seem the gravel that is available now is all there is for all time. Crushing rock, as Alyeska did to the north when they built the pipeline, is expensive and is the alternative when all gravel has been utilized.

Of course, there may be those who believe that homesteading is not a valid means of obtaining property, but the Homestead Act was in existence long before any of us were born. We did homestead to have a place of our own to live on at the time, and for no other reasons; and it was our right and privilege to do so. Finally, eight years later, we received a patent to the land from the U. S. Government that states it is patented to me forever.

For health reasons, I have decided to put it up for sale because I can no longer live on it. If for any reason it is not sold by advertising in season during my lifetime, it will go to my heirs. In this case, there are certain instructions as to price, protection and sale of the property. If the State is serious about purchasing this property, I would suggest they do so at this time as prices tend to rise, not decline. Thinking otherwise I believe is only wishful thinking.

It is not my intention to sign any contract for gravel and tie up all this land and gravel for ten years, leaving it in control of others without any quantity of use mentioned. It is my intention to sell the entire property. I was hoping you would appreciate the fact that I was not asking $1.00 a yard or more for gravel, plus $5000 per acre for the land. I asked only a fair price for the land. I can leave the gravel price to any future owner who may ask $2.00 or more per yard now or after the highway work has been completed in one direction with other gravel in the area, if there would be enough available to do so.

Check

An permission previously given to enter the property is, of course, now void. Also, I would like the old culverts removed from the property that were left there by the Highway Department, if this has not been done. I hear

there has been some trespassing onto the property, but very little, by individuals despite the fact that it has been posted several times. This is hard to control when some will take signs down and others will ignore them when one can't be there, and I have given permission to some people to enter the property. There are people who watch the land and will let me know what goes on but are not living in the area.

Also, I would like you to know I am writing these letters without benefit of legal counsel. I am not an educated person, just another one of those homesteaders.

If you are seriously interested in this property, I can be reached through the below address.

Sincerely yours,

Clayton N. Ringling

Route 2, Box 5
Roseau, Mn. 56751

		DATE SENT
ALL DEPUTIES		
DEPUTY - ADMIN.		
DEPUTY - P & P		
DEPUTY - D & C		
DEPUTY - M & O		

RECEIVED
JAN 16 1981
DOT & PF
SUPPORT SERVICES

Design + Construction

June 25, 1980

(907) 465-3900

Re: Clayton N. Ringling
Property, Mile 126
Richardson Highway
000H

Mr. and Mrs. Clayton N. Ringling
Route 2, Box 8
Roseau, Minnesota 56751

Dear Mrs. Ringling:

This letter is to confirm our recent telephone conversation regarding our offer to purchase your property at Mile 126 on the Richardson Highway. We have made an investigation of the sale of property in the area similar to yours and find they are selling for approximately $1,000 per acre rather than the $4,000-$5,000 mentioned in your letter. However, we are still interested in purchasing your property and hereby make a compromise offer of $2,000 per acre for the 160+ acres, or a total of $320,000.

As an alternative to the purchase of the property, we also make you an offer to enter into a royalty agreement to pay for materials removed on a yardage basis. We are willing to pay $0.50 per yard under this type of agreement and would ask that the period of the agreement be five years with right of renewal for an additional five years. We estimate that there are approximately 1,500,000 yards of material on the property. However, at this time we do not know when or how much of the material will be needed. The State would pay the royalty as the material is removed.

We would appreciate your giving our offers serious consideration and advising us of your decision. We will then prepare the appropriate documents for your signature.

Thank you again for allowing us this opportunity.

Sincerely yours,

Robert W. Ward

Robert W. Ward
Commissioner

cc: Ray Shumway
bcc: Headquarters Right of Way

Ray –

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

CC, CSM, [illegible], R/W

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

OFFICE OF THE COMMISSIONER

POUCH Z JUNEAU 99811
TELEX 45 328
(907) 465-3900

RECEIVED
JUN 25 1980
JUNEAU, ALASKA

June 25, 1980

Re: Clayton N. Ringling
Property, Mile 126
Richardson Highway
000H

JUN 30 1980

✓ Regional Engineer	
Pre-Construction Engr.	
Design	
Utilities	
Environ./Traffic	
Right of Way	
Construction Engineer	
✓ Materials Engineer	
[illegible] Engineer	
Maintenance & Operations	
Return to Mail File	

Mr. and Mrs. Clayton N. Ringling
Route 2, Box 8
Roseau, Minnesota 56751

Dear Mrs. Ringling:

This letter is to confirm our recent telephone conversation regarding our offer to purchase your property at Mile 126 on the Richardson Highway. We have made an investigation of the sale of property in the area similar to yours and find they are selling for approximately $1,000 per acre rather than the $4,000-$5,000 mentioned in your letter. However, we are still interested in purchasing your property and hereby make a compromise offer of $2,000 per acre for the 160+ acres, or a total of $320,000.

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Thank you again for allowing us this opportunity.

Sincerely yours,

Robert W. Ward
Commissioner

cc: Ray Shumway ✓

25A-T1LH

MAY 12 1980

STATE OF ALASKA

JAY S. HAMMOND, GOVERNOR

DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

OFFICE OF THE COMMISSIONER

POUCH Z JUNEAU 99811
(TELEX 45 378)

Route A	Init. Date
Chief	
Asst. Chief	
C & SC Area	
I & W Area	
SP & SE Area	
Appraisal	
R/W Admin.	
Fac. Site Acq.	
File	

C	I	SE	SC	W	OTH

May 2, 1980
000H

RECEIVED
MAY 7 1980
D.O.T. & P.F.
RIGHT OF WAY
ANCHORAGE

Mr. & Mrs. Clayton N. Ringling
Route 2, Box 8
Roseau, Minnesota 56751

Dear Mrs. Ringling:

This letter will confirm my telephone call to you this date concerning the acquisition of your property near Gulkana.

The Department of Transportation and Public Facilities is interested in obtaining a material site in that area and would like to pursue the proposal offered by you in your letter of April 5, 1980.

Recognizing that the "wheels" of state government sometimes turn slowly, I would like to confirm by this letter your verbal agreement to allow us until June 1, 1980 to come up with a definative response to your proposal. This time will allow us to complete an on-site inspection, and appraisal and hopefully a legislative determination as to available funding.

Thank you for the opportunity to consider your land as a potential material source for the state.

You will hear from us again on or before June 1.

Sincerely,

Robert W. Ward
Commissioner

cc: Jessie Dodson, Governors Office
Ray Shumway, Deputy Commissioner, DOT/PF
Jack Bodine, Right-of-Way, DOT/PF

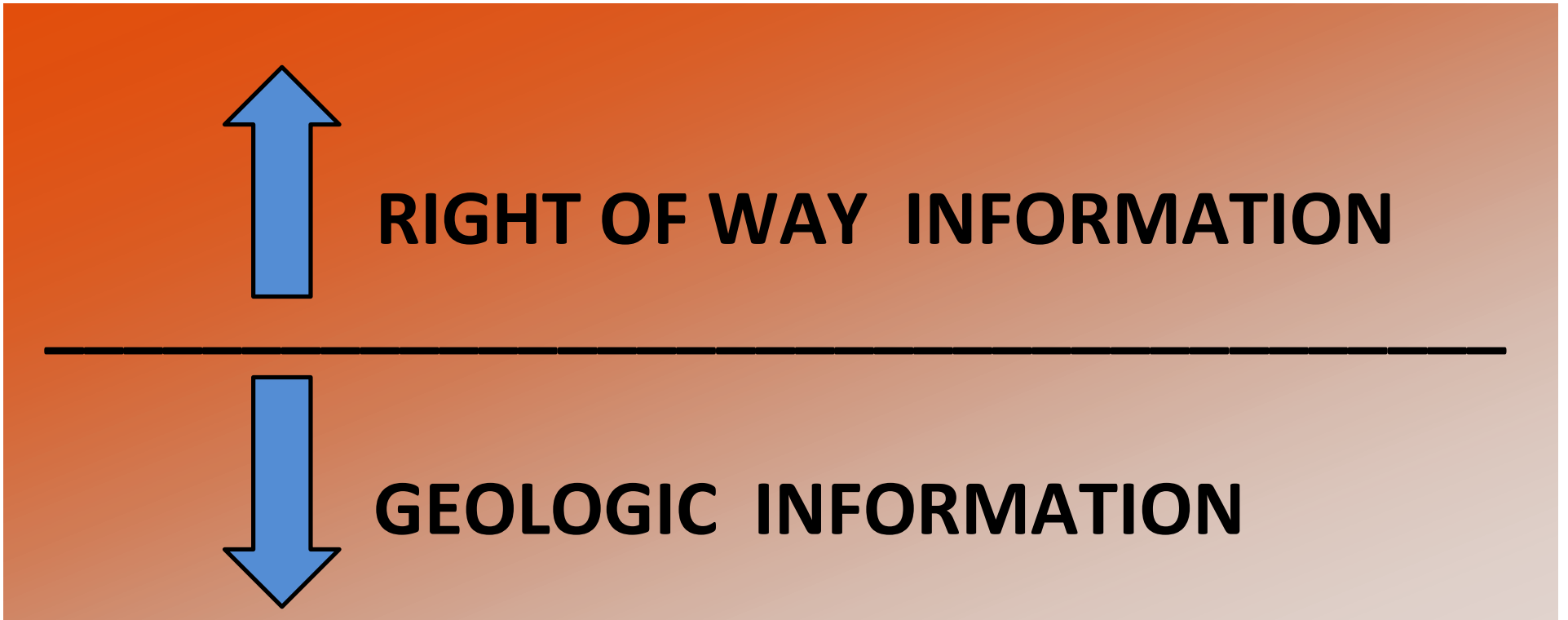
RECEIVED
MAY 5 1980
RIGHT OF WAY

ANS	COPY	Central Region RIGHT OF WAY "Hwys"-"Aviation"	DATE RCVD: MAY 7 - 1980
	✓	RICHARDS, TED	
		SCRATTON, DAN	
		DAVIS, SHIRL	
		APPRAISALS	
		NEGOTIATIONS	
		ENGR/PLANS	
		RELOCATION	
		PREAUDIT	
		RECORDS: "Hwys"	
		RECORDS: "Aviation"	
		OTHER:	

Remarks:
✓ - Sandberg

May 13-80

✓ Regional Engineer	✓ Copy for record
Design	
Utilities	
Environ./Traffic	
✓ Right of Way	
Construction Engineer	
Materials Engineer	
Review Engineer	
Maintenance & Operations	
Add to Central Files	


RIGHT OF WAY INFORMATION
GEOLOGIC INFORMATION

STATEWIDE MATERIAL SITE INVENTORY

MATERIAL SITE INSPECTION REPORT

Federal Project No. STP-000S(530)
AKSAS Project No. 76174

RICHARDSON HIGHWAY

MS 71-2-020-5
Ringling Pit

February 4, 2010

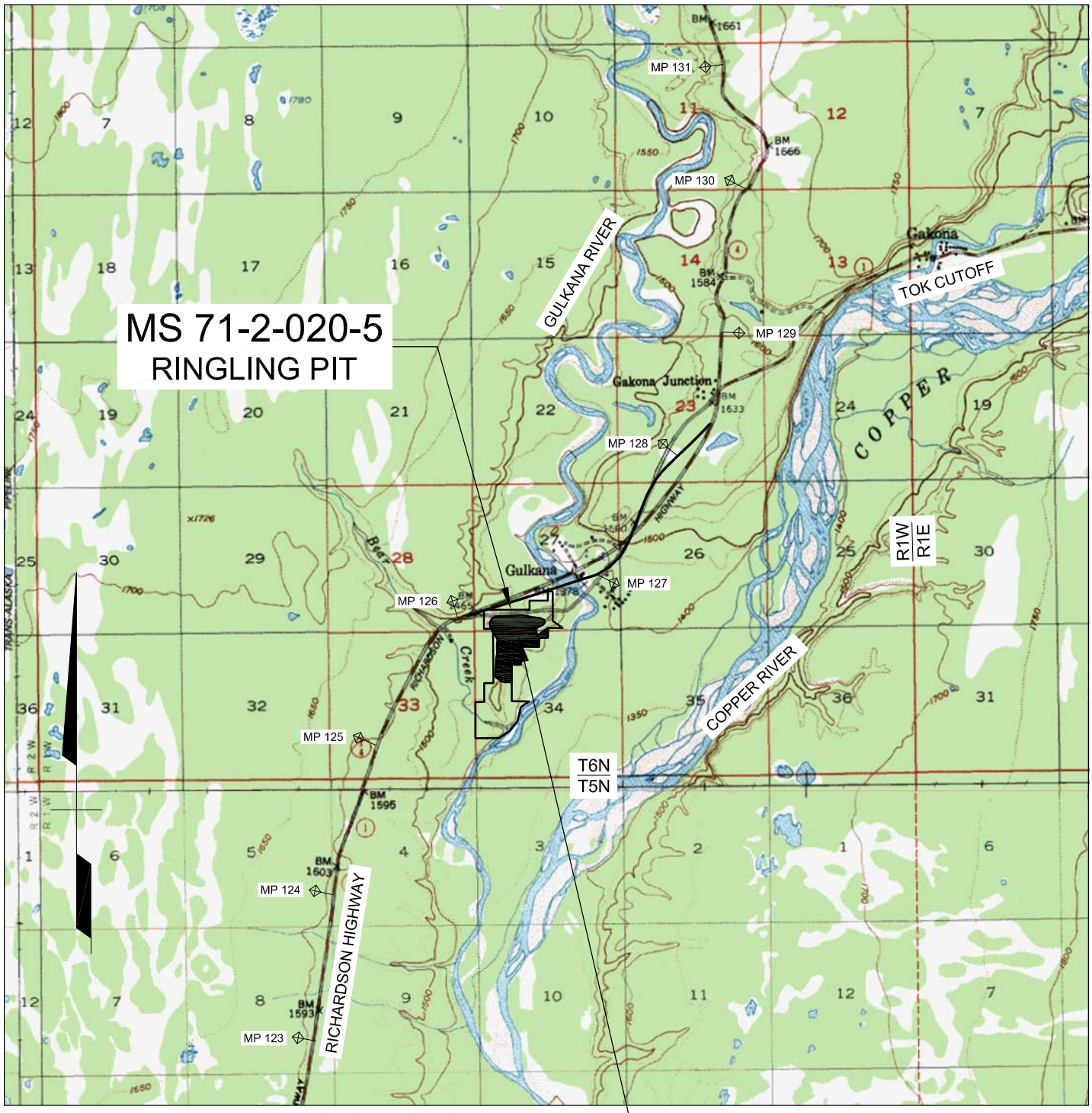
CONTENTS PAGE

CATEGORY:

ACTIVE – OPEN

According to information found in the DOT&PF EDMS system in January 2009 and DNR case file abstracts, this site lies on State of Alaska lands managed by DOT&PF. The property was originally a homestead owned by Clayton Ringling. Alyeska developed a material site here during construction of the pipeline. The State of Alaska purchased the property in 1981. DOT&PF has management rights to the site (ADL 412692). There is an existing access road, part of which may lie outside the Richardson Highway right-of-way and pit limits. There is a large archeological site on the property. The site appears to contain significant quantities of sand and gravel and should be retained by DOT&PF for future use. It is the last large gravel source going north until one reaches Meiers Lake, a distance of 43 miles.

LOCATION MAP



U.S.G.S. QUADRANGLE: GULKANA (A–3) & (B–3)

GPS COORDINATES FROM GOOGLE EARTH

UTM (WGS84–METERS)
ZONE 6: N6,904,718 E583,251
AK STATE PLANE (NAD83–US SURVEY FT)
ZONE 3: N3,020,295 E1,743,251

ACTIVE - OPEN

0 0.5 1 2 3

GRAPHIC SCALE IN MILES

BASE MAP CREATED WITH TERRAIN NAVIGATOR PRO

Prepared By:
R&M CONSULTANTS, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

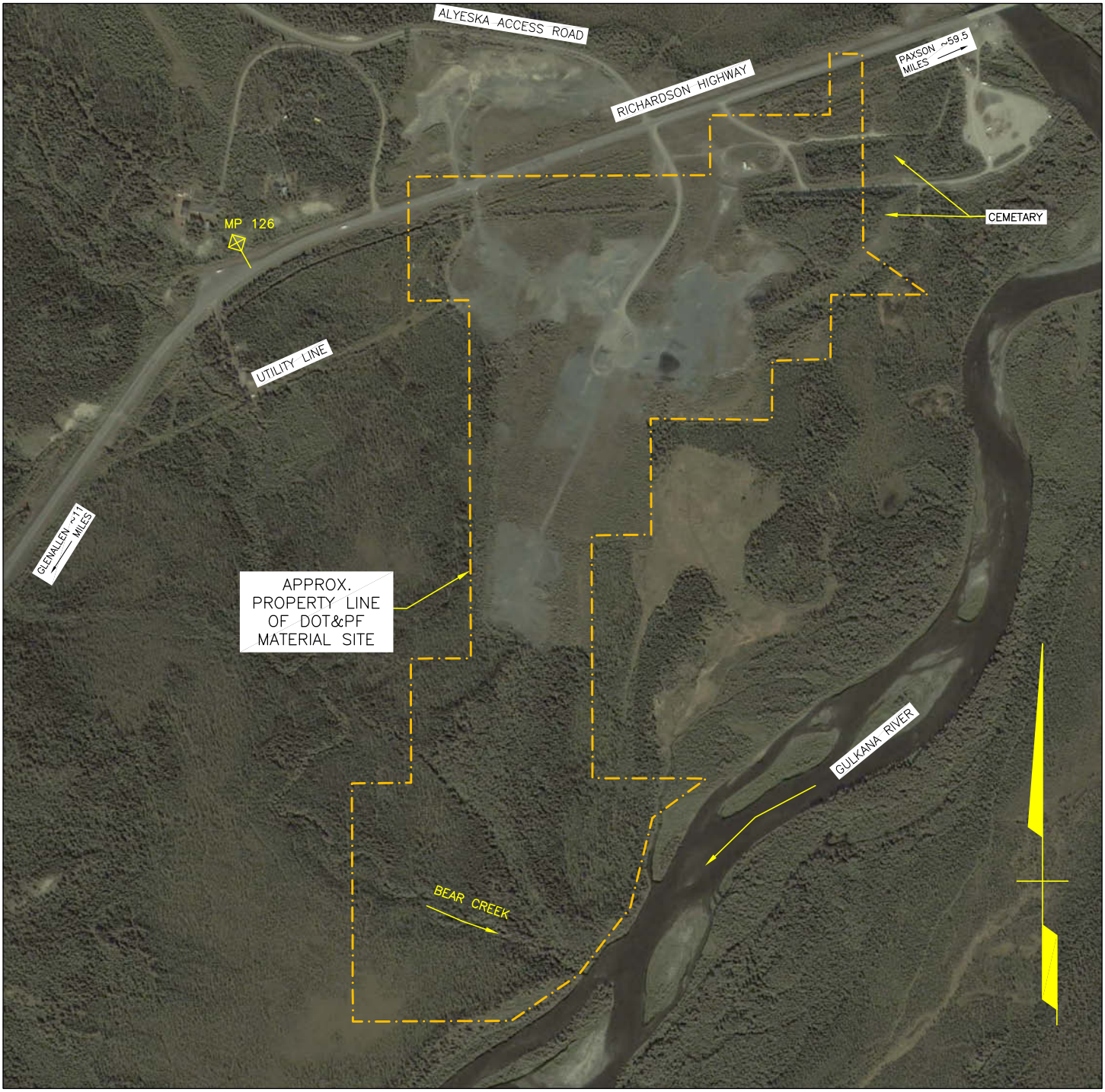
STATEWIDE MATERIAL SITE INVENTORY

MS 71–2–020–5

SCALE	DESIGNED	DRAWN	PAGE
AS SHOWN	P.K.H.	P.K.H.	2
	CHECKED C.H.R.	DATE JULY 2009	

Plotted 3/22/2010 12:55 PM by Pete Hardcastle
Z:\project\1443.03\71_Richardson_Highway\MS 71-2-020-5\acad\geo\acad\MS_Topo_Map 71-2-020-5.dwg

SITE MAP



BASE MAP IS JULY 2, 2008 DIGITALGLOBE SATELLITE IMAGERY.
THIS IS A PLANNING DOCUMENT ONLY. THE MATERIAL SITE BOUNDARIES SHOWN ON THIS DRAWING ARE APPROXIMATE. OWNERSHIP OF THE LANDS ADJACENT TO THIS SITE ARE UNKNOWN. THE ACCESS ROW SHOULD BE VERIFIED.

ACTIVE - OPEN

0 400 800 1600 2400

GRAPHIC SCALE IN FEET

BASE MAP FROM GOOGLE EARTHPRO DATED 7/02/08

Prepared By:
R&M CONSULTANTS, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

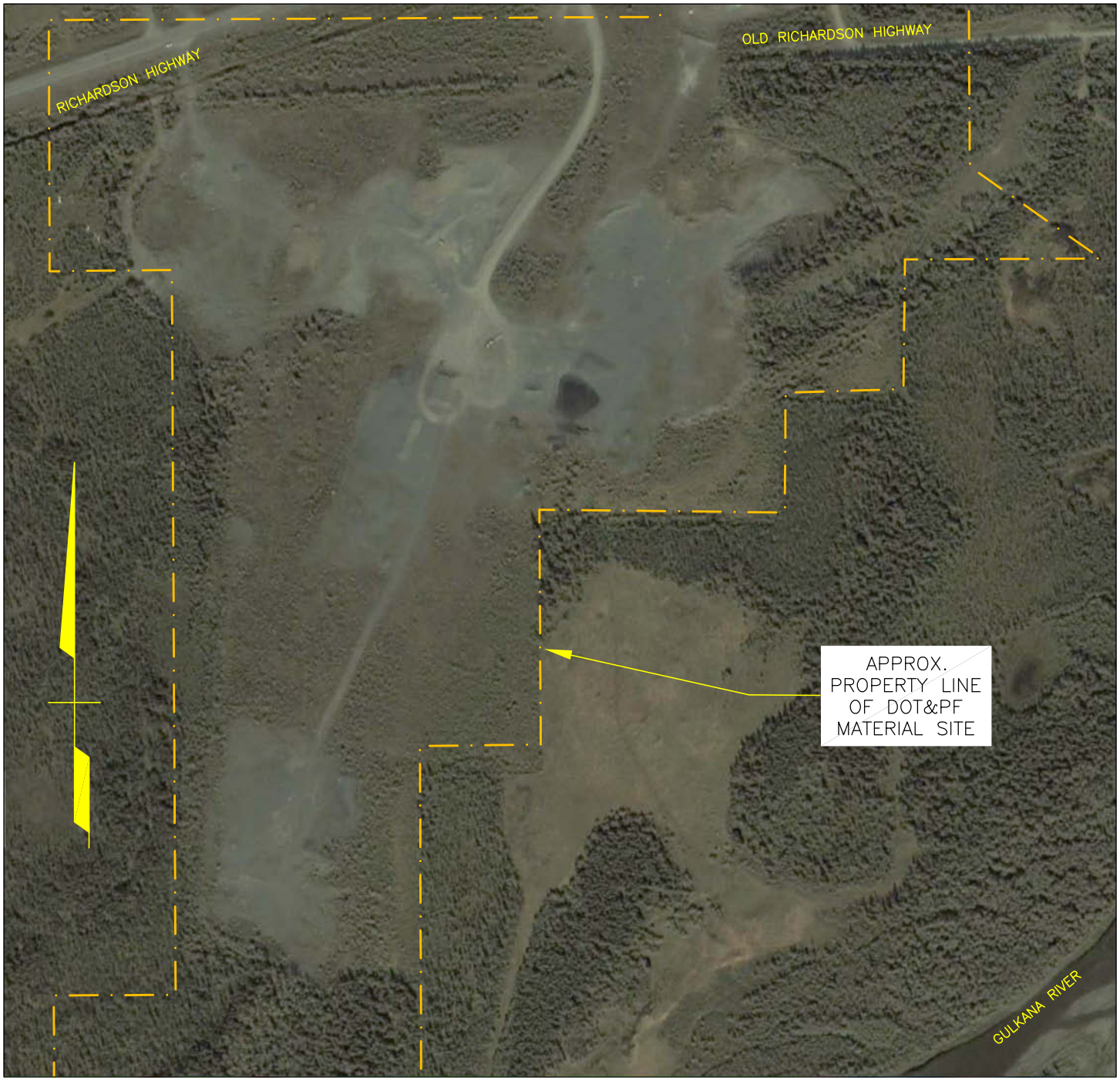
STATEWIDE MATERIAL SITE INVENTORY

MS 71-2-020-5

SCALE	DESIGNED	DRAWN	PAGE
AS SHOWN	P.K.H.	P.K.H.	3A
	CHECKED C.H.R.	DATE AUG. 2009	

Plotted 3/22/2010 1:07 PM by Pete Hardcastle Z:\project\1443.03\71_Richardson_Highway\MS 71-2-020-5\acad\geo\acad\MS_Site_Map_71-2-020-5.dwg

SITE MAP



BASE MAP IS JULY 2, 2008 DIGITALGLOBE SATELLITE IMAGERY.
THIS IS A PLANNING DOCUMENT ONLY. THE MATERIAL SITE BOUNDARIES SHOWN ON THIS DRAWING ARE APPROXIMATE. OWNERSHIP OF THE LANDS ADJACENT TO THIS SITE ARE UNKNOWN. THE ACCESS ROW SHOULD BE VERIFIED.

ACTIVE - OPEN

0 200 400 800 1200

GRAPHIC SCALE IN FEET

BASE MAP FROM GOOGLE EARTHPRO DATED 7/02/08

Prepared By:
R&M CONSULTANTS, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

STATEWIDE MATERIAL SITE INVENTORY

MS 71-2-020-5

SCALE	DESIGNED	DRAWN	PAGE
AS SHOWN	P.K.H.	P.K.H.	3B
	CHECKED C.H.R.	DATE AUG. 2009	

Plotted 3/22/2010 1:02 PM by Pete Hardcastle
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STATEWIDE MATERIAL SITE INVENTORY
MATERIAL SITE INSPECTION FORM

THIS REPORT IS BASED ON A REVIEW OF EXISTING DATA AND BRIEF FIELD INSPECTIONS. THUS THE DATA CONTAINED HEREIN SHOULD BE CONSIDERED PRELIMINARY AND USED FOR PLANNING PURPOSES ONLY. USERS OF THIS DATA SHOULD VERIFY THE INFORMATION PRIOR TO USING IT FOR DESIGN OR CONSTRUCTION PURPOSES.

IF OTHER IS SELECTED FOR A SECTION, EXPLAIN IT IN SECTION 44. NOTES.
IF AN ANSWER IS UNKNOWN SELECT "UNKNOWN" OR LEAVE BLANK

1. **MS_ID** **71-2-020-5**
   Enter the full material site number e.g.. 71-3-045-2
2. **DATE_INSPECT** 9/18/2009
   Date of field inspection
3. **FLD INSPEC_ORG** WILL RHODES / R&M CONSULTANTS
   Name of inspector / Organization or Company
4. **REGION** NORTHERN
5. **LOCATION** RICHARDSON HIGHWAY
   Name of Highway
   Enter Name of Facility or Secondary Route Name (i.e. Kotzebue Airport, Nash Road, etc.)
6. **MILEPOST** 126
   List the closest main highway milepost
7. **NAME** RINGLING PIT
   Enter commonly used name (s), e.g. Hess pit, Gobblers Knob, Midway. List all that apply separated by commas.
8. **MAINT_DIST/STAT** District SOUTH CENTRAL/TAZLINA Station TAZLINA
   Highway Maintenance District and Station, for locations not on highways select other.
9. **QUAD** GULKANA B-3
   U.S.G.S. Quad. Map
10. **TOWNSHIP /RANGE** T#S R#E T6N R1W Meridian CRM
    Section 27 & 34
11. **COOR_UTM**
    ZONE 6
    NORTHING 6,904,718
    EASTING 583,251
    UTM WGS84 - Meters
12. **COOR_STATE_PLANE**
    ZONE 3
    NORTHING 3,020,295
    EASTING 1,743,251
    Alaska State Plane NAD83 - Survey Feet
13. **BOROUGH/CITY** UNORGANIZED **TAX ID NO.**
14. **DNR_LAND_USE_PLAN** COPPER RIVER BASIN AREA PLAN
15. **CATEGORY** (To be filled in the office)
15a. **CLASSIFICATION** ACTIVE
15b. **STATUS** OPEN

STATEWIDE MATERIAL SITE INVENTORY
MATERIAL SITE INSPECTION FORM

16. **POTENTIAL_STATUS** SIGNIFICANT

Estimated quantity of material in the site at the time of inspection.

NONE	There appeared to be no useable material in the site.
LIMITED	There appeared to be less than 25,000 c.y. available within the developed site.
SIGNIFICANT	There appeared to be greater than 25,000 c.y. available within the developed site.
EXPANDABLE	There was limited material within the developed site, but there appeared to be significant material outside existing site limits.
UNDEVELOPED	The pit has not been mined/explored (used only for proposed sites).
CLOSED	There may be useable material left in the pit but it is not available.
UNKNOWN	
OTHER	The site does not fit any of the categories above. Explain in Section 44, Notes.

17. **PRESENT_USERS**

17a. **PRESENT_USER_1** DOT&PF MAINTENANCE

17b. **PRESENT_USER_2** DOT&PF CONSTRUCTION

17c. **PRESENT_USER_3**

18. **PERMITTED _ACREAGE** 160

Area within site permit or R.O.W. boundaries, from permit application or property plat.

19. **DEVELOPED_ACREAGE** 65

Area within an existing pit, excluding spoil berms lying outside the pit, access roads etc. Explain below.

Includes existing pit and cleared areas around the pit.

20. **ACREAGE_COMP_METHOD** FROM MAP/PHOTO

Method used to determine developed acreage.

21. **EST_QUAN_AVAIL** 800,000 ROUGH ESTIMATE

Estimated quantity available (b.c.y.), may be based on acreage computed above plus expansion area. Explain computation assumptions and calculations below.

Assuming an average of 3 feet of overburden and a 26-foot working depth, there was approx. 170,000 c.y. of material left in the northeast corner of the site (7.4 acres x 23 feet x 1,000 c.y. per acre-foot). Assuming an average of 3 feet of overburden and a 30 -foot working depth, there was approx. 640,000 c.y. of material left in the southern end of the site (23.7 acres x 27 feet x 1,000 c.y. per acre-foot).

STATEWIDE MATERIAL SITE INVENTORY
MATERIAL SITE INSPECTION FORM

22. **ACCESS_TYPE** EXISTING ROAD / OPEN

NONE	No access road has been built.
EXISTING ROAD / OPEN	Drivable. May have gate.
EXISTING ROAD / REVEG	Can be reopened with little effort.
EXISTING ROAD / CLOSED W/BERMS	Can be reopened with little effort.
EXISTING ACCESS / REMOVED	Can be reopened with much effort.
SNOW ROAD	Can only be accessed during winter.
ICE ROAD	Requires crossing river or lake ice in the winter.
BARGE	Material can only be moved by barge.
OTHER	The site does not fit any of the categories above. Describe in Section 44, Notes.

23. **ACCESS_LENGTH** 400
Approx. length from edge of pit to highway/secondary route (ft.)

24. **VEGETATION**

Vegetation in the undeveloped portion of the site consisted of spruce and aspen trees to 12 in. diameter spaced 3 to 10 ft. apart, willow brush and grasses. Inactive portions of the existing pit were vegetated with sparse to moderately dense aspen and spruce saplings, willow brush, and grasses.

25. **TYPE_1** BORROW PIT 26. **TYPE_2**

Dominant type Subordinate type

General Types of Materials Available Enter data in Type_2 only if two types of material site available

QUARRY	Bedrock sources requiring blasting
BORROW PIT	Soils or soft bedrock (rippable), above water table
BAILING	Requires production below the water table
RIVER BAR	Sand/gravel bars in active channels

27. **OB_CLASS_1** <3 FT. 28. **OB_CLASS_2** OTHER

New Site or expansion Area Existing Pit (Spoil)

A site may have both. Data should be based on actual subsurface exploration, otherwise unknown.

Estimated average depth over the area.

NONE	3 TO 6 FT.	UNKNOWN
<3 FT.	>6 FT.	OTHER

29. **OB_TYPE_1** SILT 30. **OB_TYPE_2** SPOIL

New Site or expansion Area Existing Pit (Spoil)

A site may have both.

SILT	PEAT	SOLID WASTE	OTHER
COLLUVIUM	SPOIL	UNKNOWN	

STATEWIDE MATERIAL SITE INVENTORY
MATERIAL SITE INSPECTION FORM

31. **MAT_TYPE_1** FLUVIAL — Dominant type

32. **MAT_TYPE_2** — Subordinate type

BEDROCK	Bedrock sources requiring blasting
WEATHER. BEDROCK	Bedrock sources requiring ripping
FLUVIAL	Water deposited sand and gravel, includes glaciofluvial
GLACIAL	Glacial till
COLLUVIAL	Talus slopes, etc.
EOLIAN	Sand Dunes, etc.
SILT	Silt deposits, loess, fluvial, etc.

33. **PERMAFROST_1** DETECTED IN MOST TEST HOLES OR PITS
New Site or Expansion Area

34. **PERMAFROST_2** DATA OUTDATED
Existing Site

DETECTED IN MOST TEST HOLES
DETECTED IN SOME TEST HOLES
DETECTED IN IMMEDIATE VICINITY
DETECTED IN NO TEST HOLES
DATA OUTDATED
UNKNOWN
OTHER

35. **GROUNDWATER**

A water table was noted in 5 of 61 test holes or trenches, drilled or excavated in May/June, 1980 and August, 1995. The depth to groundwater was generally 9 to 12 ft. below the ground surface, and occurred only in holes and trenches excavated in the existing pit. No water table was noted in the undeveloped (south) portion of the site in test holes advanced up to 50 ft. below the ground surface.

36. **LITHOLOGY_1** FLUVIAL — Dominant type

37. **LITHOLOGY_2** _____ — Subordinate type

IGNEOUS ROCK	Undifferentiated Igneous Rocks
GRANITIC	Granite/Monzonite/Granodiorite
DIORITE/GABBRO	Diorite/Gabbro
BASALT	Dark colored fine-grained Igneous Rocks
GREENSTONE	Altered Volcanic Rocks w/green tint
METAMORPHIC ROCK	Undifferentiated Metamorphic Rocks
SCHIST/PHYLLITE	Includes rocks ranging from slate to schist
GNEISS	Includes hard schistose rocks
MARBLE	
CATACLASTIC	Incl. Valdez Formation Rocks, Kenai Penn.
MÉLANGE	Incl. McHugh Formation Rocks, Kenai Penn.
SEDIMENTARY ROCK	Undifferentiated Sedimentary Rocks
CONGLOMERATE	
SANDSTONE	Includes greywacke, etc.
SHALE/MUDSTONE	
LIMESTONE	
FLUVIAL	River and stream deposits (floodplain), includes outwash.
ALLUVIAL	Alluvial / Debris Fan deposits
GLACIOFLUVIAL	Eskers, kames, etc.
GLACIAL	Till
COLLUVIAL	Talus, etc.
EOLIAN	Sand Dunes, etc.
SILT	Loess, fluvial silts, etc.
OTHER	Explain in Section 44.

38. **MATERIAL_CLASSIFICATION**

ASTM Classification, generally they should range from coarse to fine.

38a.	GW	38c.	GW-GM	38e.	GM	38g.	
38b.	GP	38d.	GP-GM	38f.		38h.	

39. COBBLES_AND_BOULDERS

Test Boring Callout / ASTM Classification, either a. or b. and c. (Can use ranges i.e. 0 to 20)

39a.	CONTAINS		
39b.	Est. % by VOL.	15	(Est. From Visual Observations)
39c.	MAX. SIZE (in.)	24	(Observed Size)

40. AGG_TEST_RESULTS

Year of test or report- Test result / Year of test or report- Test Results

40a.	SG APP COARSE	1980- 2.87, 2.8 / 1987- 2.86 / 1995- 2.78
40b.	SG APP FINE	1980- 2.81, 2.76, 2.73, 2.74, 2.73, 2.68, 2.74, 2.78, 2.76, 2.8, 2.76, 2.77, 2.77, 2.76 / 1987- 2.76 / 1995- 2.75, 2.79, 2.75 / 1998- 2.74
40c.	ABSORPTION CRSE	
40d.	ABSORPTION FINE	
40e.	NORDIC ABRASION	
40f.	L.A. ABRASION	1980- 14, 18 / 1998- 17
40g.	DEGRADATION (T-13)	1980- 88, 80 / 1995- 62 / 1998- 77
40h.	NASO4 LOSS COARSE	1980- 0.5, 0.2 / 1998- 2.2
40i.	NASO4 LOSS FINE	1980- 2.5, 2.3 / 1998-9.1

41. POTENTIAL_USABILITY — PAVING AGGREGATE PRODUCED

Best known potential use of the material, based on records, exploration and laboratory data.

CONCRETE AGGREGATE PRODUCED	The site has produced concrete aggregate
PAVING AGGREGATE PRODUCED	The site has produced paving aggregate
CRUSHED PRODUCTS PRODUCED	Base, Surface Coarse, Subbase, etc. has been produced.
TYPE A AND B MATERIAL AVAILABLE	0 to 10 percent passing 200
TYPE C AVAILABLE	Compactable material
TYPE C NOT AVAILABLE	Uncompactable material (Lower Kuskokwim and Yukon River, etc.)
UNKNOWN	
OTHER	Explain in Section 44.

42. SPECIAL_PROBLEMS

Special problems encountered or anticipated with use of the material, based on records, exploration and laboratory data.

ORGANIC CONTENT	The material is very difficult to compact.
HIGHLY WEATHERED GRAVEL	The gravel is highly weathered and may break down when handled.
BREAKS DOWN UNDER USE	Material breaks down on grade.
SENSITIVE TO WATER CONTENT	Material is sensitive to water content, i.e.. some glacial tills, soft bedrock.
VARIABLE MATERIAL	Deposit contains mixture of suitable and unsuitable material.
POSSIBLE CONTAMINATION	Site may be contaminated by petroleum products or hazardous materials.
CONTAINS ASBESTOS	Site contains naturally occurring asbestos.
POTENTIAL ASBESTOS	Site in area where naturally occurring asbestos is mapped.
ACID ROCK DRAINAGE	Site contains rock susceptible to producing acid rock drainage.
OTHER	Explain in Section 44, Notes.

43. **RIPRAP** NOT POSSIBLE

Class II or larger. Does not include production for erosion control riprap for ditches or culverts.

PREVIOUS PRODUCTION	There is a record of production.
POSSIBLE FURTHER INVESTIGATION NEEDED	The site is a bedrock quarry containing hard rock
NOT POSSIBLE	The site has soft rock or soil.
UNKNOWN	
OTHER	Explain in Section 44, Notes.

44. **NOTES**

Note number of item being discussed.

28. Vegetated spoil berms were present along the edges of the existing pit.

of gravel and silt, and is of glacial origin. A locked gate controls access along the existing haul road to the material site, which contains an established working area. The existing pit is screened from the road. An area of waste asphalt pavement is located near the entrance of the site. Maintenance and Operations (M&O) uses this site for their sand-screening operation, and a large sand stockpile was located in the northern portion of the worked area in May 2006.

MS 42-3-011-5 (Fisher pit), Glenn Highway, MP 182

This is a 240-acre source administered by AHTNA, Incorporated. The site generally contains sand and gravel with cobbles and boulders, which overlie lacustrine clayey silt or silty clay. During a 1998 investigation, a substance with an unidentified smell was encountered in the northern portion of the pit. It is advised that this portion of the pit not be disturbed until the odor is identified and any necessary remediation completed (Solie, 1998). An existing chained haul road provides access into both the northern pit and additional southern pits. A swampy area in the center of the material site separates the existing pits. In 2003, it was noted that most of the usable sand and gravel had been removed down to the underlying silty material in most of the developed pits, and it was suggested that this site would need to be expanded in order to produce large quantities of material.

MS 71-2-004-5 (Simpson Hill), Richardson Highway, Mile ~111.8

This material site is located on land administered by AHTNA, Incorporated. It was once part of a larger site, with additional acreage to the south. However, the portion of the site south of the Copperville Road has been relinquished. The DOT&PF holds an indefinite free use permit for the remaining northern 15 acres. This site is excavated very near its permitted limits, with backslopes of 1.5H:1V to 2H:1V. Depending on rainfall, the water table is at or above the pit floor.

MS 71-2-020-5 (Ringling pit), Richardson Highway, MP 126

This is a 160-acre source owned by the Alaska DOT&PF. It contains alluvial sandy gravel with cobbles and boulders. The majority of the material site was investigated last in 1980, with some drilling occurring in 1995; since that time, the material site has received extensive use. It is unknown how much of the material described in 1980 and 1995 remains in the material site. There are ongoing unresolved cultural issues associated with this site, for which we do not anticipate a resolution in time for this current project.

MS 71-3-015-5 (South Hogan's Hill Quarry), Richardson Highway, Mile ~155.4

This is an existing 20-acre source administered by BLM. A free use permit for this site expires on December 31, 2015, and stipulates the removal of 250,000 cubic yards. This site is a source of greenstone (i.e., metamorphosed basalt and related volcanic rock types) that is variable in nature. In the past, Alyeska has used this quarry to produce riprap and crushed pipeline bedding material. Drilling and blasting will be required to mine this quarry site.

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: SOUTHCENTRAL LEVELING - PHASE I
PROJECT NUMBER: IM-OOOS(252)
AKSAS NUMBER: 67388
SOURCE: M S 71-2-020-5 (RINGLING PIT)
SAMPLED BY: SOLIE, BENNETT, CASTLE

DEPTH (feet)		0.0-0.3	0.0-0.3	0.0-0.3	0.0-0.3	0.0-0.3	0.0-0.3	0.0-0.3
STATION (LOCATION)		STOCKPI	STOCKPI	STOCKPI	STOCKPI	STOCKPI	STOCKPI	STOCKPI
		98-2023	98-2025	98-2026	98-2029	98-2030	98-2031	98-2032
LAB NO.		98-2024						
DATE SAMPLED		13-Feb-98	13-Feb-98	13-Feb-98	25-Feb-98	25-Feb-98	25-Feb-98	25-Feb-98
% Passing	**3"**							
	2"							
	1"	100	100	100	100	100		
Gravel	**3/4"**	95	96	97	96	94		
	1/2"	74	76	80	55	50	100	100
	3/8"	63	65	69	21	18	94	94
	#4	41	44	49	4	2	32	27
	#10	26	29	32	3	1	4	3
Sand	**#16**	20	20	26	3	1	3	2
	#30	14	15	19	2	1	3	2
	#100	5	7	7	2	1	2	1
Silt/Clay	**#200**	3.9	5.2	4.9	1.2	1.1	1.4	1.1
Hydro	**0.02 mm**		4.2					
	0.005		2.7					
	0.002		2.3					
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP
CLASSIFICATION		A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
SOIL DESCRIPTION		SaGr	SaGr	SaGr	Gr	Gr	Gr	Gr
NATURAL MOISTURE		3.4						
ORGANICS								
SP.GR. (FINE)			2.74					
SP.GR. (COARSE)								
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION				17				
NORDIC ABRASION								
DEGRADATION FACTOR				77				
SODIUM SULF. (CRSE)				2.2				
SODIUM SULF. (FINE)				9.1				

REMARKS:

Gradation is based on material passing the 3" sieve, according to Alaska Test Method T-7.

ring1

M.S. 71-2-020-5 (Ringling Pit)

While this site was investigated for this project, large portions of the site are currently being investigated for Archeological Clearance. At the time of publication this material site is not available for use on the project. The following information is presented to document the work that was originally done for the project.

This site was originally investigated for the project Richardson Highway, Glennallen North, RF-071-2(18). Information has been gleaned from pages 29-40 of a geotechnical report for that project entitled Supplemental Centerline Soils and Materials Sites Investigation, Glennallen North, Richardson Highway, Mile 115 to Mile 124.6, RF-071-2(18), A3613, March 1981. This site has been extensively used since the original report was issued and remaining quantities are not known.

LOCATION AND ACCESS

This site is located south of the Richardson Highway about 1.1 kilometers east of Mile 126 and west of the Richardson Highway crossing of the Gulkana River. Access is provided by an existing haul road that is secured with a locked gate. Another road that leaves the main access and follows an easterly bearing provides access to the old highway and an old cemetery located outside the material site limits.

DESCRIPTION

This site is used by DOT&PF as a gravel source for maintenance work on the Richardson and Tok Highways. It was originally developed by Alyeska Pipeline Service Company during the construction of the Trans-Alaska pipeline.

The deposit is located on an old river terrace at the confluence of the Copper and Gulkana Rivers and rests on glaciolacustrine deposits primarily composed of silty clay. The useable material consists of alluvial sandy gravel with cobbles and boulders. In the unexcavated portions of the Ringling Pit the gravel layer is 3.1 to 14.0 meters thick with an average thickness of 7.5 meters. In just under half of the test holes (10 of 21) the gravel extended to the depths drilled which ranged from 2.1 to 15.2 meters. Visual estimates of oversize material indicate the amount of 75 to 254 millimeter diameter material ranged from 1 to 20 percent. Rocks greater than 254 millimeters in diameter constituted less than 10 percent of the material viewed. However, in past years in other pits located on terraces of the Copper River, large quantities of nested boulders and/or boulder layers have been observed. The possibility of exposing boulder deposits also exists in this pit. During the 1995 geotechnical investigation the percentage of cobbles and boulders was approximated by field weighing, with a 500-pound-capacity spring scale, a representative quantity of material from the total depth of a test trench next to Test Hole 95-7. The cobbles and boulders were hand-sorted and weighed separately to determine the percentage by weight. Using this method it was established that cobbles (75mm to 305 mm) comprised about 27 percent and boulders (>305mm) 18 percent, by

1997 JDB

weight, of the sampled material. Six boulders were excavated with the largest being 0.8 meter in diameter.

The terrain in the undeveloped north end of the pit ranges from flat on the west side to a steep-sided bank on the east side. The central area of the site has been essentially worked out and contains no appreciable amount of useable material.

The undeveloped south end consists of a ridge along the east side of the site. The ridge or terrace edge drops off sharply to the east and moderately to the west. This part of the site is currently being investigated for archaeological interests.

CLEARING AND STRIPPING

Vegetation includes mixed stands of spruce and aspen trees to 200 millimeters in diameter, spaced from 0.6 to 3.0 meters apart. The test holes drilled in 1995 showed an organic mat that was generally less than 0.1 meter thick resting on a 0.5 to 0.9 meter thick layer of brown organic silt .

WATER TABLE

Ground water was noted in only 5 of the 61 test holes that have been drilled in all areas of the Ringling Pit. Ground water was not noted in the unexcavated portions of the pit. Groundwater was noted in Test Hole 80-16 at 6.3 meters beneath the surface (May 30, 1980). During the 1995 investigation groundwater was noted in one test hole (Test Trench 95-8) at 2.1 meters beneath the surface (October 11, 1995). Test Trench 95-8 was dug in a previously excavated portion of the site. Surface drainage is good in the site area. Bear Creek flows southeast through the south edge of the site.

FROZEN CONDITION

This site is located in an area of discontinuous permafrost and frozen ground may be found in any portion of the site, especially in the uncleared areas. During the last maintenance crushing contract hard frozen ground was encountered in areas where it was not expected. Frozen ground was not noted in test holes drilled in the vicinity of the excavation.

Frozen ground was noted in 8 of the 21 test holes located in unexcavated areas of the Ringling Pit. Where frozen ground was noted, excavation and drilling was extremely difficult. During the investigation conducted on October 11, 1995, frozen material was not noted in the test holes but extrapolation between holes should be done with extreme caution.

LAND STATUS

The State of Alaska, DOT/PF owns this site.

QUALITY OF MATERIALS

Sample results indicate that the granular alluvial material generally meets the quality specification for crushed products and the gradation requirements for Selected material, types A, B, & C. Degradation test results ranged from 62 to 88, while L.A. losses ranged from 14 to 18 percent. Gradation tests show that the fines (-0.075mm) content ranged from 1 to 17 percent. Material from this site should be useable as borrow, subbase, base course, bituminous pavement aggregate and Portland cement concrete aggregate. The user is cautioned concerning the rather spotty distribution of the materials in this source and close attention should be given to the depth and character of the materials shown in the drill holes logs.

MINING PLAN GUIDELINES

As stated above, this site is not currently available for use on this project. If the site becomes available for use on future projects, review permits for fees, royalties, and stipulations. Prior to beginning extraction present a mining plan for the specific area to be mined. Locate, brush, and mark with flagging and/or stakes, the property boundaries prior to beginning of mining activities. Maintain the access road during construction and leave it in good condition upon completion of extraction operations.

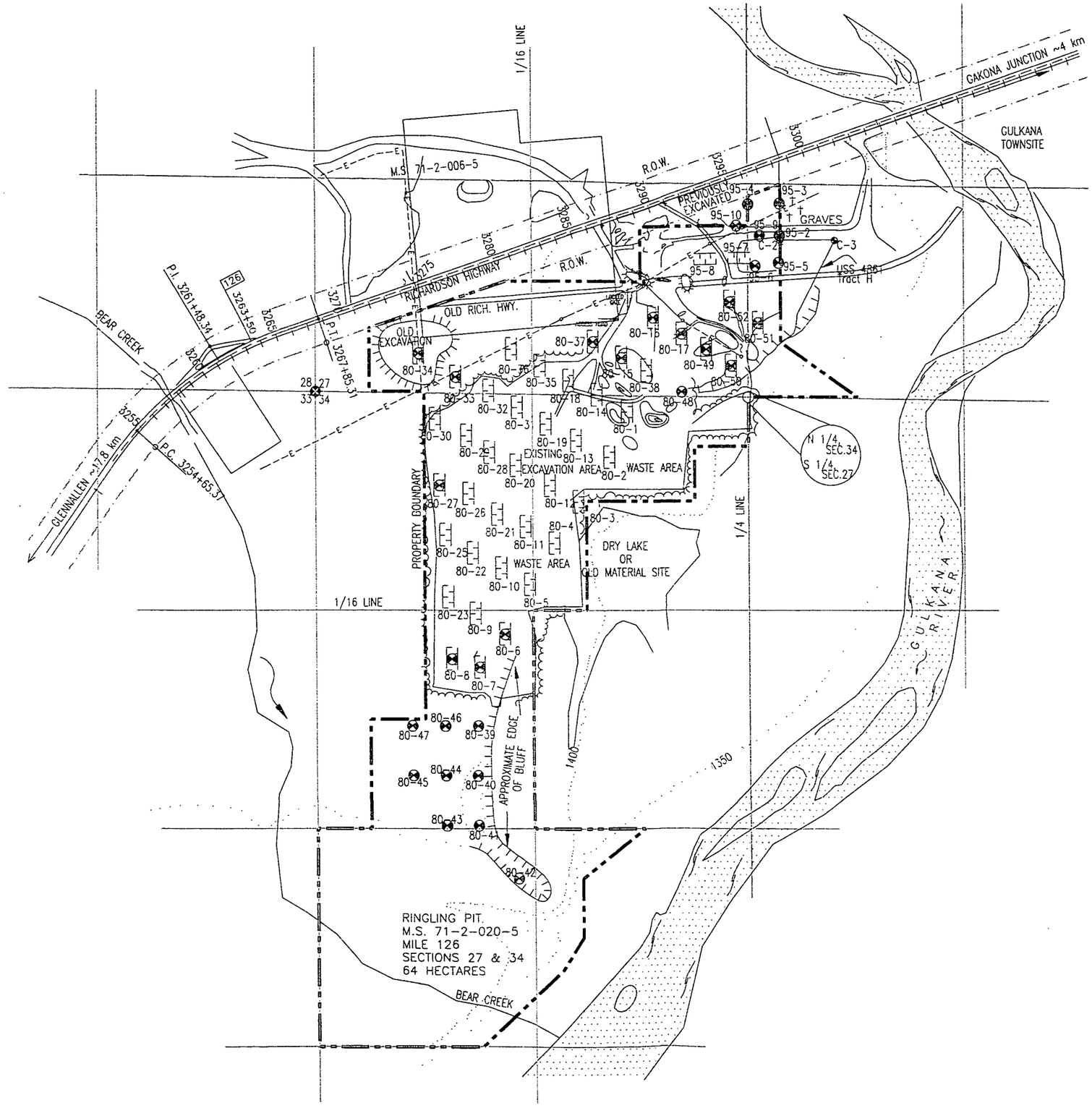
Clearing debris should not be placed in the highway ROW but on the periphery of the site. Place waste material along the eastern side of the site in a manner similar to the existing waste areas. Backslopes should be no steeper than 1v:1.5h for safety and stability.

Because this site is underlain by wet, fine-grained, thixotropic, soils, the lower 0.6 to 1.5 m of alluvial materials must be left when worked with heavy scrapers. When shaken or disturbed thixotropic material weakens when clay, silt, or fine sand particles become suspended in fluid. These materials strengthen upon standing or when left undisturbed. Contractors should be contractually required to work sites such as this with backhoe or shovel type equipment in the lower levels to maximize extraction of these materials.

Expand the existing excavation northward and eastward. After all usable material has been taken from the north end of the site, extend the existing excavation southward. Preserve the access road to facilitate removal of all gravel from this site

The minimum requirement for rehabilitation shall include contouring and grading the area to facilitate drainage and prevent ponding. Slope the pit floor to drain south. Leave the site in a neat and orderly condition with access for future use. Seed and fertilize waste piles to prevent erosion.

Upon completion of mining activities supply the Materials Section with a detailed site sketch that includes: area excavated, stockpile types and locations, and waste areas. Include a written narration of quantities of each material produced, waste percentages, and a description of any problems experienced during excavation.



NOTE: PROPERTY BOUNDARIES AND TEST HOLES ARE NOT LOCATED BY SURVEY.

TEST HOLES EXCAVATED WITH BACKHOE ONLY

TEST HOLES EXCAVATED WITH 6" AUGER ONLY

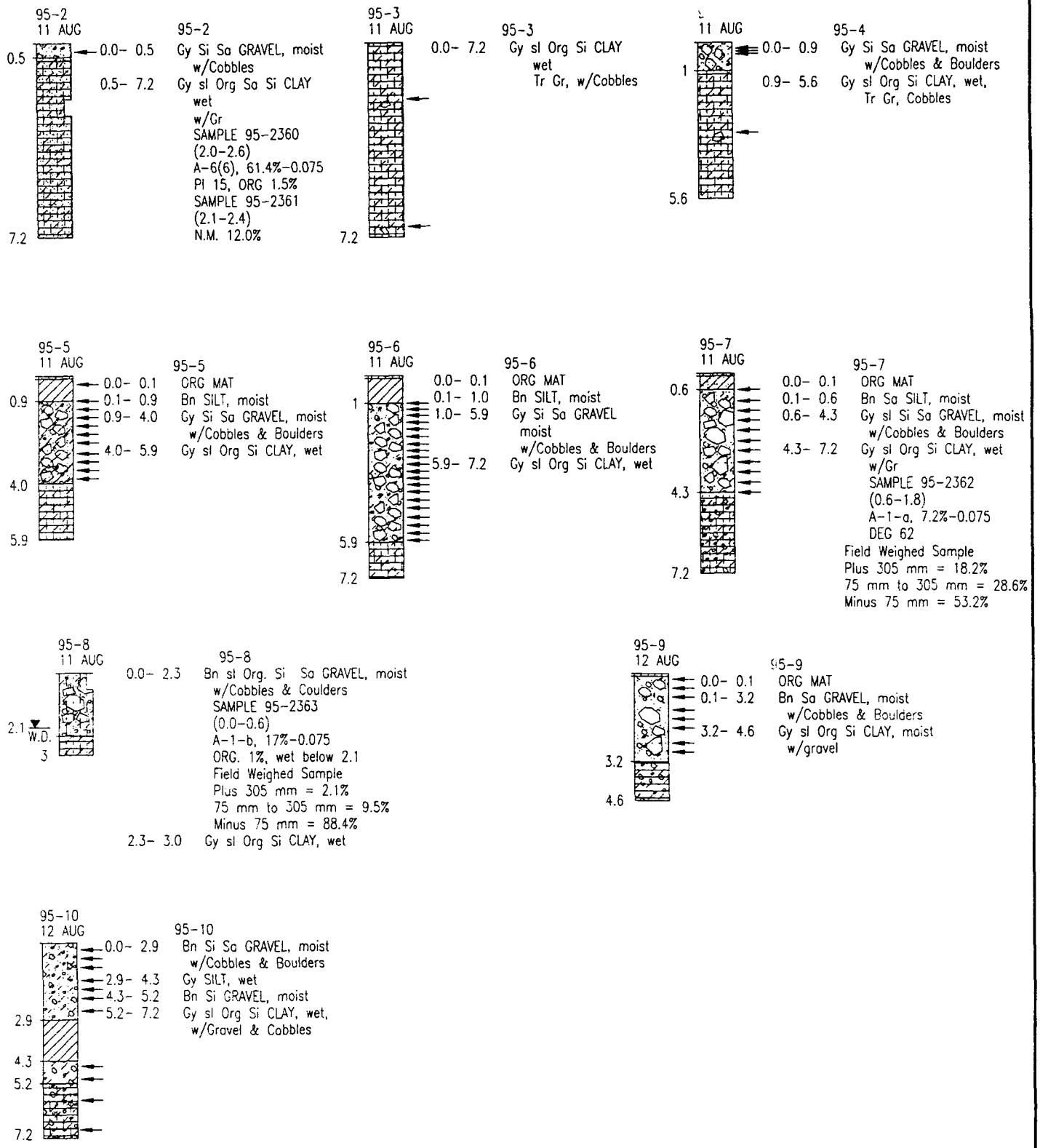
TEST HOLES EXCAVATED WITH BACKHOE AND 6" AUGER

0 meter 100

SCALE

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

DATA: JDR/JDB	RICHARDSON HIGHWAY 129-148 M.S. 71-2-020-5 RINGLING PIT
DRAWN: RA	
APPROVED: TJW	PROJ. NO.: STP-TE-071-3(11)
DATE: JAN 97	PATH: geo\66444\66444Z12



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

DATA: JDR/JDB	RICHARDSON HIGHWAY M.S. 71-2-020-5 RINGLING PIT
DRAWN: LLL/RA	
APPROVED: TJW	PROJ. NO.: STP-TE-071-3(11)
DATE: JULY 96	PATH: GEO/66444/66444Z17

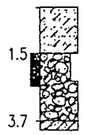
80-1
27 MAY

80-1

0.0 – 0.9 Sa GRAVEL, w/Cobbles & Boulders

0.9 – 2.4 Sa SILT, moist to wet, dense

80-2
27 MAY



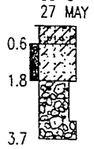
80-2

0.0 – 1.5 Si SAND, moist, dense

1.5 – 3.7 Si Sa GRAVEL, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D-82 (1.5–2.4) A–1–b, 14%–0.075

3.7 – 4.0 Gy Sa SILT, moist dense

80-3
27 MAY



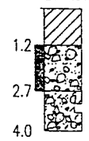
80-3

0.0 – 0.6 Org SILT, SAND & GRAVEL (Stripping)

0.6 – 1.8 Si SAND, fine, very dense

1.8 – 3.7 Sa GRAVEL, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia. SAMPLE 80D-90 (1.8–3.1) A–1–b, 5%–0.075

80-4
27 MAY



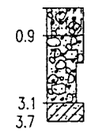
80-4

0.0 – 1.2 Org. SILT, SAND & GRAVEL STRIPPING BACKFILL, w/Cobbles & Boulders

1.2 – 2.7 Sa GRAVEL, (Stripping) w/sticks & roots, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia.

2.7 – 4.0 Si Sa GRAVEL, moist, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia. SAMPLE 80D-91 (3.1–3.4) A–1–b, 15%–0.075

80-5
28 MAY



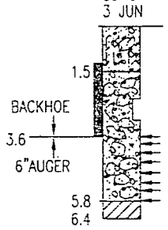
80-5

0.0 – 0.9 Org. Si Sa GRAVEL, (Strippings) w/Cobbles & Boulders

0.9 – 3.1 Sa GRAVEL, moist, dense w/Cobbles & Boulders 15–25% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D-93 (1.8–3.1) A–1–a, 2%–0.075

3.1 – 3.7 Sa SILT, moist dense

80-6
3 JUN



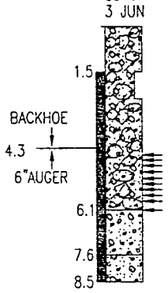
80-6

0.0 – 1.5 Org. Si Sa GRAVEL, moist to 1.2, (Strippings), w/Cobbles & Boulders, dense

1.5 – 5.8 Sa GRAVEL, moist, dense w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia. SAMPLE 80D-95 (2.4–3.1) A–1–a, 5%–0.075

5.8 – 6.4 SILT, moist, dense dense

80-7
3 JUN



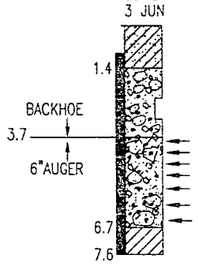
80-7

0.0 – 6.1 Si Sa GRAVEL, moist to 1.5, dense, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–10% >250 mm dia., SAMPLE 80D-83 (1.5–2.4) A–1–a, 1%–0.075

6.1 – 7.6 SAND/Gr SAND, dense

7.6 – 8.5 Sa Grovel, Very hard @ 8.5 REFUSAL

80-8
3 JUN



80-8

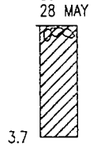
0.0 – 1.4 Sa SILT/ Si SAND

1.4 – 3.7 Sa GRAVEL, dense, w/Cobbles & Boulders 5–15% 75–250 mm dia. 1–5% >250 mm dia. very hard @ 3.7 SAMPLE 80D-84 (2.4–3.1) A–1–a, 3%–0.075

3.7 – 6.7 Si Sa GRAVEL, w/Cobbles & Boulders, 10–20% 75–250 mm dia. 1–5% >250 mm dia.

6.7 – 7.6 SILT, dense

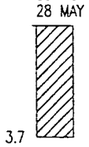
80-9
28 MAY



80-9

0.0 – 3.7 SILT, moist to wet dense, w/Cobbles to 0.5

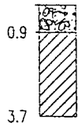
80-10
28 MAY



80-10

0.0 – 3.7 SILT, moist, dense to very dense

80-11
28 MAY

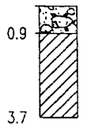


80-11

0.0 – 0.9 Sa GRAVEL, moist, dense w/Cobbles & Boulders, 5–15% 75–250 mm dia. 1–10% >250 mm dia.

0.9 – 3.7 SILT, moist, dense

80-12
28 MAY

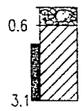


80-12

0.0 – 0.9 Sa GRAVEL, moist, dense w/Cobbles & Boulders

0.9 – 3.7 SILT, moist, dense

80-13
28 MAY

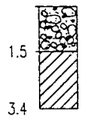


80-13

0.0 – 0.6 Sa GRAVEL, moist, dense w/Cobbles & Boulders, 10–20% 75–250 mm dia. 1–5% >250 mm dia.

0.6 – 3.1 SILT, moist to 1.2, dense

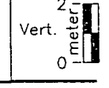
80-14
28 MAY



80-14

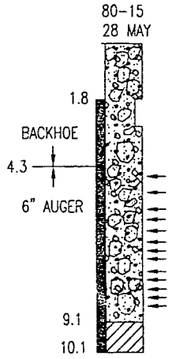
0.0 – 1.5 Sa GRAVEL, moist, dense w/Cobbles & Boulders,

1.5 – 3.4 SILT, moist, dense



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

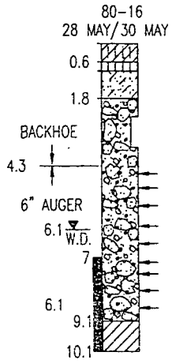
DATA: JDR/JDB	RICHARDSON HIGHWAY M.S. 71–2–020–5 RINGLING PIT
DRAWN: LLL	
APPROVED: TJW	PROJ. NO.: STP–TE–071–3(11)
DATE: JULY '96	PATH: GEO\66444\66444Z13



80-15

0.0 – 9.1 Sa GRAVEL, moist to 1.8, dense, w/ roots & grass to 0.3 w/Cobbles & Boulders, 10–20% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D–85 (1.8–2.7) A–1–a, 1%–0.075

9.1 –10.1 SILT, very dense



80-16

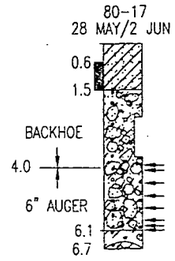
0.0 – 0.6 Org. SILT & SAND, (Strippings),

0.6 – 0.9 ORG MAT

0.9 – 1.8 Si SAND, moist, dense

1.8 – 9.1 Sa GRAVEL, moist, dense w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D–102 (2.4–3.4) A–1–a, 6%–0.075 finer below 4.6

9.1 –10.1 SILT, dense to very dense dense

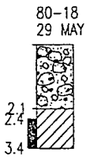


80-17

0.0 – 1.5 Sa SILT/ Si SAND, moist to 0.6 dense

1.5 – 6.1 sl Si Sa GRAVEL, moist, dense, w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia. very hard @ 3.7 SAMPLE 80D–94 (2.4–3.7) A–1–a, 7%–0.075

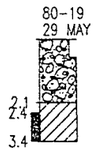
6.1 – 6.7 Si GRAVEL, w/Cobbles & Boulders REFUSAL



80-18

0.0 – 2.1 Sa GRAVEL, moist, dense w/org. to 0.3, w/Cobbles & Boulders, 5–15% 75–250 mm dia. 1–5% >250 mm dia.

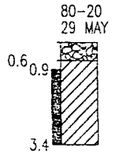
2.1 – 3.4 SILT, very dense, w/visible ice



80-19

0.0 – 2.1 Sa GRAVEL, moist, dense w/org. to 0.3, w/Cobbles & Boulders, 10–20% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D–97 (0.0–0.6) A–1–a, 1%–0.075

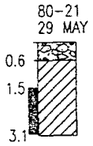
2.1 – 3.4 SILT, moist to 2.4, dense



80-20

0.0 – 0.6 Sa GRAVEL, moist, dense, w/org. to 0.3 w/Cobbles & Boulders, 5–15% 75–250 mm dia. 1–5% >250 mm dia.

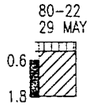
0.6 – 3.4 SILT, moist to 0.9, dense, w/visible ice 0.9–3.4



80-21

0.0 – 0.6 Sa GRAVEL, moist, med. dense w/Org to 0.3

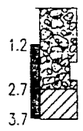
0.6 – 3.1 SILT, dense to very dense



80-22

0.0 – 0.3 ORG MAT

0.3 – 1.8 SILT, moist to 0.6, very dense



80-23

0.0 – 2.7 sl Si Sa GRAVEL, moist, dense w/org. to 0.3, w/Cobbles & Boulders, 5–15% 75–250 mm dia. 1–5% >250 mm dia. SAMPLE 80D–86 (1.8–2.4) A–1–a, 9%–0.075

2.7 – 3.7 SILT, very dense

80-24

0.0 – 0.3 ORG MAT

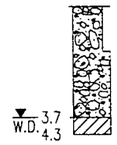
0.3 – 0.6 Si SAND/Sa SILT, dense

0.6 – 1.5 Sa GRAVEL, dense w/Cobbles & Boulders 10–20% 75–250 mm dia. 1–5% >250 mm dia. SAMPLE 80D–87 (0.9–1.5) A–1–a, 4%–0.075

80-25

0.0 – 0.6 ORG MAT, w/Boulders

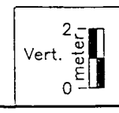
0.6 – 1.5 SILT, w/Gravel & Cobbles, very dense



80-26

0.0 – 3.7 Sa GRAVEL, moist, dense w/org. to 0.3, w/Cobbles & Boulders, 10–20% 75–250 mm dia. 1–10% >250 mm dia. SAMPLE 80D–103 (0.0–1.5) A–1–a, 5%–0.075

3.7 – 3.7 SILT, wet, dense

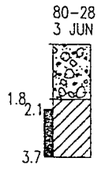


STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

DATA: JDR/JDB	RICHARDSON HIGHWAY M.S. 71–2–020–5 RINGLING PIT
DRAWN: LLL	
APPROVED: TJW	PROJ. NO.: STP–TE–071–3(11)
DATE: JULY '96	PATH: GEO\66444\66444Z14

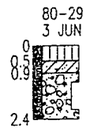
80-27

0.0 – 0.6 ORG MAT & Org SILT
0.6 – 3.1 GRAVEL, w/Sand, Cobbles & Boulders, dense
10–20% 75–250 mm dia.
1–10% >250 mm dia.
SAMPLE 80D–92
(1.5–3.1)
A–1–a, 2%–0.075
very hard below 2.7



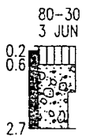
80-28

0.0 – 1.8 Sa GRAVEL, moist, dense, w/Org to 0.3, w/Cobbles & Boulders
5–15% 75–250 mm dia.
1–5% >250 mm dia.
1.8 – 3.7 SILT, moist to 2.1, dense



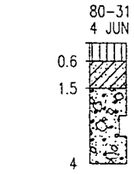
80-29

0.0 – 0.5 ORG MAT
0.5 – 0.9 Tn Sa SILT, dense to very dense
0.9 – 2.4 Sa GRAVEL, dense to very dense, w/Cobbles & Boulders
5–15% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–96
(1.2–2.1)
A–1–a, 5%–0.075
REFUSAL



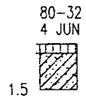
80-30

0.0 – 0.6 ORG MAT
0.6 – 2.7 Sa GRAVEL, very dense, w/Cobbles & Boulders
5–15% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–88
(1.5–2.7)
A–1–a, 2%–0.075



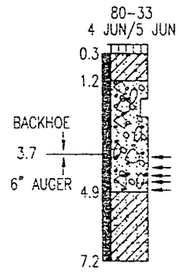
80-31

0.0 – 0.6 ORG MAT
0.6 – 1.5 Tn Sa SILT, moist, medium dense
1.5 – 4.0 Sa GRAVEL, moist, medium dense, w/Cobbles & Boulders
5–10% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–89
(2.4–3.1)
A–1–a, 6%–0.075



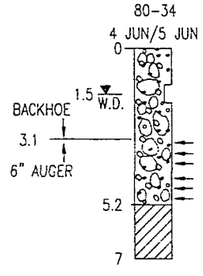
80-32

0.0 – 0.3 ORG MAT
0.3 – 1.5 Tn Sa SILT, dense to very dense



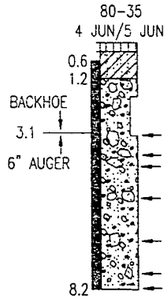
80-33

0.0 – 0.3 ORG MAT
0.3 – 1.2 Tn Sa SILT, dense
1.2 – 4.9 Sa GRAVEL, dense, w/Cobbles & Boulders
10–20% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–100
(1.8–2.4)
A–1–a, 2%–0.075
Sandy 4.3–4.9
4.9 – 7.2 Sa SILT/ SILT, moist, dense



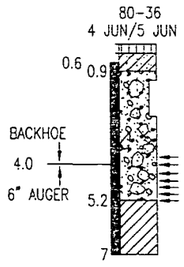
80-34

0.0 – 5.2 GRAVEL, moist, wet
1.5 to 5.2, dense w/Cobbles & Boulders,
10–20% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–101
(1.2–1.8)
A–1–a, 1%–0.075
5.2 – 7.0 SILT, moist, dense



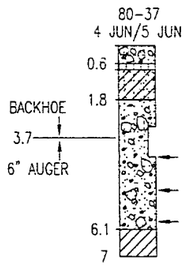
80-35

0.0 – 0.3 ORG MAT
0.3 – 1.2 Tn Sa SILT, moist dense to very dense
1.2 – 8.2 Sa GRAVEL, dense, w/Cobbles & Boulders
5–15% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–99
(1.8–3.1)
A–1–a, 2%–0.075



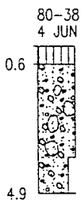
80-36

0.0 – 0.3 ORG MAT
0.3 – 0.9 Tn Sa SILT, dense
0.9 – 5.2 Sa GRAVEL, very dense, w/Cobbles & Boulders
10–20% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D–98
(1.2–2.4)
A–1–a, 1%–0.075
5.2 – 7.0 SILT, dense



80-37

0.0 – 0.6 Sa GRAVEL, moist (fill) dense, w/Cobbles & Boulders
0.6 – 0.8 ORG MAT
0.8 – 1.8 Sa SILT, dense
1.8 – 6.1 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
SAMPLE 80D–81
(2.7–3.7)
A–1–a, 4%–0.075
5.2 – 7.0 SILT, moist, dense

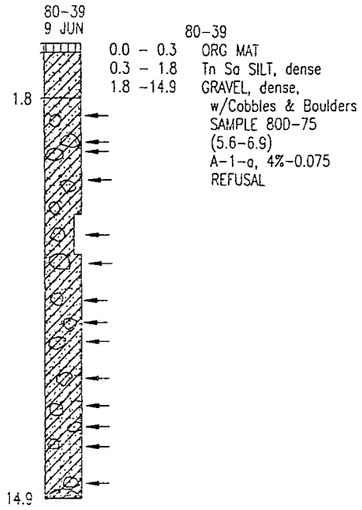


80-38

0.0 – 0.6 ORG MAT & Org. Sa SILT
0.6 – 4.9 Sa GRAVEL, dense, w/Cobbles & Boulders
SAMPLE 80D–119
(3.7–4.9)
A–1–a, 3%–0.075

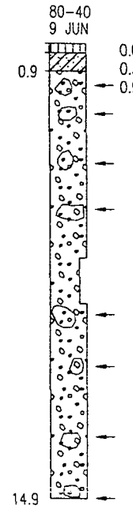
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

DATA: JDR/JDB	RICHARDSON HIGHWAY M.S. 71–2–020–5 RINGLING PIT
DRAWN: LLL	
APPROVED: TJW	PROJ. NO.: STP–TE–071–3(11)
DATE: JULY '96	PATH: GEO\66444\66444Z15



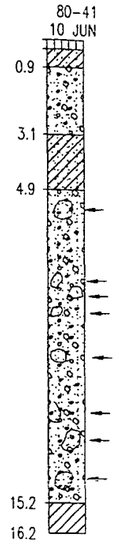
80-39

0.0 – 0.3 ORG MAT
0.3 – 1.8 Tn Sa SILT, dense
1.8 –14.9 GRAVEL, dense, w/Cobbles & Boulders
SAMPLE 80D-75
(5.6–6.9)
A-1-a, 4%-0.075
REFUSAL



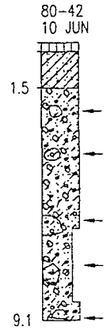
80-40

0.0 – 0.3 ORG MAT
0.3 – 0.9 Tn Sa SILT
0.9 –14.9 GRAVEL, moist, dense, w/Sand, Cobbles & Boulders
SAMPLE 80D-77
(7.0–8.5)
A-1-a, 3%-0.075
wet & finer below 9.1



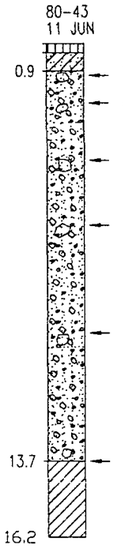
80-41

0.0 – 0.3 ORG MAT
0.3 – 0.9 Tn Sa SILT, moist, medium dense
0.9 – 3.1 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
3.1 – 4.9 Sa SILT, medium dense
4.9 –15.2 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
15.2–16.2 Gy SILT, moist, dense



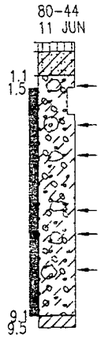
80-42

0.0 – 0.3 ORG MAT
0.3 – 1.5 Tn Sa SILT, medium dense
1.5 – 9.1 sl Si Sa GRAVEL, moist, dense, w/Cobbles & Boulders
SAMPLE 80D-76
(6.1–8.5)
A-1-a, 7%-0.075



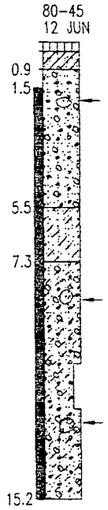
80-43

0.0 – 0.3 ORG MAT
0.3 – 0.9 Tn Sa SILT, moist, medium dense
0.9 –13.7 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
13.7–16.2 Gy SILT, moist, dense



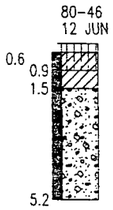
80-44

0.0 – 0.3 ORG MAT
0.3 – 1.1 Tn Sa SILT, moist, dense
1.1 – 9.1 sl. Si GRAVEL, moist to 1.5, dense, w/Sand, Cobbles & Boulders
SAMPLE 80D-78
(1.5–2.4)
A-1-a, 8%-0.075
9.1 – 9.5 SILT, moist, very dense



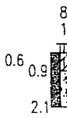
80-45

0.0 – 0.3 ORG MAT
0.3 – 0.9 Tn Sa SILT, medium dense
0.9 – 5.5 Sa GRAVEL, very dense, fine, w/occasional Cobble
5.5 – 7.3 Si SAND ,wet, very dense
7.3 –15.2 Si Sa GRAVEL, wet, very dense, w/occasional Cobbles
SAMPLE 80D-79
(10.7–12.2)
A-1-b, 17%-0.075



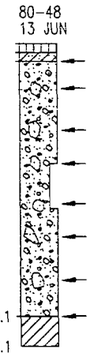
80-46

0.0 – 0.3 ORG MAT
0.3 – 0.9 Org SILT
0.9 – 1.5 SILT, wet, very dense
1.5 – 5.2 Sa GRAVEL, very dense



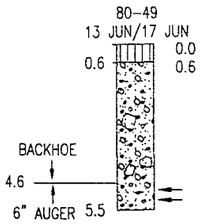
80-47

0.0 – 0.3 ORG MAT
0.3 – 0.9 Org SILT, very dense
0.9 – 2.1 Sa GRAVEL, very dense



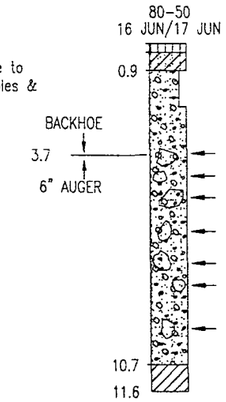
80-48

0.0 – 0.3 ORG MAT
0.3 – 0.6 Tn Sa SILT
0.6 – 9.1 Sa GRAVEL, moist, medium dense, w/Cobbles
SAMPLE 80D-80
(4.0–5.5)
A-1-a, 3%-0.075
9.1 –10.1 SILT, moist, medium dense



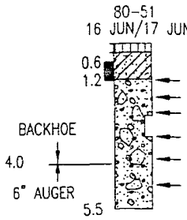
80-49

0.0 – 0.6 ORG MAT
0.6 – 5.5 Sa GRAVEL, moist, dense to medium dense, w/Cobbles & Boulders below 2.4



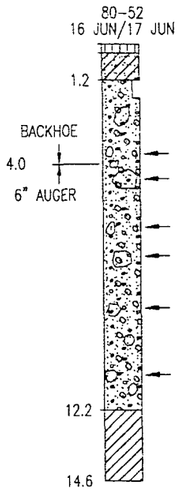
80-50

0.0 – 0.3 ORG MAT
0.3 – 0.9 Sa SILT, dry, medium dense
0.9 –10.7 Sa GRAVEL, dry to moist, medium dense, w/Cobbles & Boulders
5–15% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D-112
(0.9–2.1)
A-1-a, 2%-0.075
10.7–11.6 SILT, medium dense



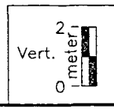
80-51

0.0 – 0.3 ORG MAT
0.3 – 1.2 Sa SILT, medium dense to very dense
1.2 – 5.5 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
SAMPLE 80D-109
(2.4–3.1)
A-1-a, 3%-0.075
REFUSAL



80-52

0.0 – 0.3 ORG MAT
0.3 – 1.2 Sa SILT, moist, dense
0.9 –12.2 Sa GRAVEL, moist, dense, w/Cobbles & Boulders
1–15% 75–250 mm dia.
1–5% >250 mm dia.
SAMPLE 80D-111
(1.2–1.8)
A-1-a, 3%-0.075
12.2–14.6 SILT, medium dense



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
ENGINEERING GEOLOGY UNIT

DATA: JDR/JDB	RICHARDSON HIGHWAY M.S. 71-2-020-5 RINGLING PIT
DRAWN: LLL	
APPROVED: TJW	PROJ. NO.: STP-TE-071-3(11)
DATE: JULY '96	PATH: GEO\66444\66444Z16

STATE OF ALASKA-NORTHERN REGION
DEPARTMENT OF TRANSPORTATION
LABORATORY TESTING REPORT

PROJECT NAME: RICHARDSON HWY MP 129-148
PROJECT NUMBER: STPTE-071-3(11)/66444
SOURCE: M.S. 71-2-020-5, Ringling Pit
SAMPLED BY: J.D. Rasmussen

TEST HOLE NO.		80-2	80-3	80-4	80-5	80-6	80-7	80-8
DEPTH (meters)		1.5-2.4	1.8-3.1	3.1-3.4	1.8-3.1	2.4-3.1	1.5-2.4	2.4-3.1
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-82	80D-90	80D-91	80D-93	80D-95	80D83	80D-84
DATE SAMPLED		5-27-80	5-27-80	5-27-80	6-3-80	6-3-80	6-3-80*	6-3-80*
PERCENT PASSING-	mm							
	75	100	100		100	100	100	
	50	94	93	100	83	91	88	100
	25.0	79	79	85	69	74	65	86
Gravel	**19.0**	74	73	77	63	65	56	78
	12.5	66	66	70	54	53	46	65
	9.5	60	62	64	49	46	42	56
	4.75	50	57	52	37	34	32	40
	2.00	42	51	43	28	26	24	26
Sand	**0.425**	33	36	30	18	15	12	10
	0.30	30	20	26	12	11	6	8
	0.150							
Silt\Clay	**0.075**	14.0	5.0	15.0	2.0	5.0	1.0	3.0
	0.02	9	2	4		9		
	0.005							
Clay	**0.002**							
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP
CLASSIFICATION		A-1-b	A-1-b	A-1-b	A-1-a	A-1-a	A-1-a	A-1-a
SOIL DESCRIPTION		SiSaGr	SaGr	SiSaGr	SaGr	SaGr	SaGr	SaGr
NATURAL MOISTURE								
SP.GR. (FINE)		2.81	2.76	2.73				
SP.GR. (COARSE)								
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION								
DEGRADATION FACTOR								
SODIUM SULF. (CRSE)								
SODIUM SULF. (FINE)								
ORGANICS								

REMARKS *Extended Trench w/Test Hole on 6-3-80

The units have been converted to SI units (metric) from the original English report. See Pavement Construction.

- Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.
See graphic logs for amount of +75 mm material, if any. rich32

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: RICH HWY 129-148 REHAB
PROJECT NUMBER: STPTE-O71-3(11)
AKSAS NUMBER: 66444
SOURCE: M S 71-2-020-5, Ringling Pit
SAMPLED BY: J D Rasmussen

TEST HOLE NO.		80-15	80-16	80-17	80-19	80-23	80-24	80-26
DEPTH (meters)		1.8-2.7	2.4-3.4	2.4-3.7	0.0-0.6	1.8-2.4	0.9-1.5	0.0-1.5
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-85	80D-102	80D-94	80D-97	80D-86	80D-87	80D-103
DATE SAMPLED		28-May-80	28-May-80*	28-May-80**	29-May-80	29-May-80	29-May-80	03-Jun-80
% Passing	**75 mm**	100	100	100	100	100		100
	50	87	92	78	92	91	100	96
	25.0	71	79	68	65	68	84	74
Gravel	**19.0**	65	72	62	59	62	71	68
	12.5	56	62	54	48	53	59	59
	9.5	50	57	49	42	47	53	52
	4.75	38	44	39	35	37	41	42
	2.00	30	30	28	24	32	31	31
Sand	**0.425**	13	15	19	9	23	14	19
	0.300	8	13	17	5	20	10	15
	0.150							
Silt/Clay	**0.075**	1.0	6.0	7.0	1.0	9.0	4.0	5.0
	0.02		2	2		9		2
Hydro	**0.005**							
	0.002							
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP
CLASSIFICATION		A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
SOIL DESCRIPTION		SaGr	SaGr	slSiSaGr	SaGr	sl.SiSaGr	SaGr	SaGr
NATURAL MOISTURE								
ORGANICS								
SP.GR. (FINE)			2.74	2.73		2.68		2.74
SP.GR. (COARSE)								
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION								
NORDIC ABRASION								
DEGRADATION FACTOR								
SODIUM SULF. (CRSE)								
SODIUM SULF. (FINE)								

REMARKS: *Extended Trench w/Test Hole on 5-30-80.

**Extended Trench w/Test Hole on 6-2-80.

Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.

129rich08

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: RICH HWY 129-148 REHAB
PROJECT NUMBER: STPTE-O71-3(11)
AKSAS NUMBER: 66444
SOURCE: M S 71-2-020-5, Ringling Pit
SAMPLED BY: J D Rasmussen

TEST HOLE NO.		80-27	80-29	80-30	80-31	80-33	80-34	80-35
DEPTH (meters)		1.5-3.1	1.2-2.1	1.5-2.7	2.4-3.1	1.8-2.4	1.2-1.8	1.8-3.1
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-92	80D-96	80D-88	80D-89	80D-100	80D-101	80D-99
DATE SAMPLED		03-Jun-80	03-Jun-80	03-Jun-80	04-Jun-80	04-Jun-80*	04-Jun-80*	04-Jun-80*
% Passing	**75 mm**	100	100	100	100	100	100	
	50	92	92	95	84	91	88	100
	25.0	78	81	73	71	71	68	78
Gravel	**19.0**	68	74	66	66	61	62	67
	12.5	55	64	55	59	52	50	55
	9.5	46	58	49	55	46	43	49
	4.75	30	49	37	47	34	31	38
	2.00	20	39	27	39	25	18	27
Sand	**0.425**	8	23	13	28	14	9	9
	0.300	7	19	9	24	9	6	6
	0.150							
Silt/Clay	**0.075**	2.0	5.0	2.0	6.0	2.0	1.0	2.0
	0.02		1		2			
Hydro	**0.005**							
	0.002							
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP
CLASSIFICATION		A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
SOIL DESCRIPTION		Gr	SaGr	SaGr	SaGr	SaGr	Gr	SaGr
NATURAL MOISTURE								
ORGANICS								
SP.GR. (FINE)			2.78		2.76			
SP.GR. (COARSE)								
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION								
NORDIC ABRASION								
DEGRADATION FACTOR								
SODIUM SULF. (CRSE)								
SODIUM SULF. (FINE)								

REMARKS: *Extended Trench w/Test Hole on 6-05-9-80.

Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.

129nch09

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: RICH HWY 129-148 REHAB
PROJECT NUMBER: STPTE-071-3(11)
AKSAS NUMBER: 66444
SOURCE: M S 71-2-020-5, Ringling Pit
SAMPLED BY: J D Rasmussen

TEST HOLE NO.		80-36	80-37	80-38				
DEPTH (meters)		1.2-2.4	2.7-3.7	3.7-4.9				
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-98	80D-81	80D-119				
DATE SAMPLED		04-Jun-80*	04-Jun-80*	04-Jun-80				
% Passing	**75 mm**	100		100				
	50	87	100	88				
	25.0	69	81	72				
Gravel	**19.0**	62	70	65				
	12.5	55	60	56				
	9.5	49	53	50				
	4.75	38	42	40				
	2.00	26	30	31				
Sand	**0.425**	10	14	19				
	0.300	6	11	13				
	0.150							
Silt/Clay	**0.075**	1.0	4.0	3.0				
	0.02							
Hydro	**0.005**							
	0.002							
LIQUID LIMIT		NV	NV	NV				
PLASTIC INDEX		NP	NP	NP				
CLASSIFICATION		A-1-a	A-1-a	A-1-a				
SOIL DESCRIPTION		SaGr	SaGr	SaGr				
NATURAL MOISTURE								
ORGANICS								
SP.GR. (FINE)				2.8				
SP.GR. (COARSE)				2.87				
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION				14				
NORDIC ABRASION								
DEGRADATION FACTOR				88				
SODIUM SULF. (CRSE)				0.5				
SODIUM SULF. (FINE)				2.5				

REMARKS: *Extended Trench w/Test Hole on 6-05-80.

Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.

129nch10

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: RICH HWY 129-148 REHAB
PROJECT NUMBER: STPTE-O71-3(11)
AKSAS NUMBER: 66444
SOURCE: M S 71-2-020-5, Ringling Pit
SAMPLED BY: J D Rasmussen

TEST HOLE NO.		80-39	80-40	80-42	80-44	80-45	80-48	80-50
DEPTH (meters)		5.6-6.9	7.0-8.5	6.1-8.5	1.5-2.4	10.7-12.2	4.0-5.5	0.9-2.1
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-75	80D-77	80D-76	80D-78	80D-79	80D-80	80D-112
DATE SAMPLED		09-Jun-80	09-Jun-80	10-Jun-80	11-Jun-80	12-Jun-80	13-Jun-80	16-Jun-80*
% Passing	**75 mm**			100	100		100	100
	50	100	100	98	98	100	94	82
	25.0	87	83	81	87	97	85	71
Gravel	**19.0**	78	68	71	80	93	74	63
	12.5	59	47	59	64	84	57	54
	9.5	45	37	51	51	76	46	47
	4.75	22	22	40	34	58	33	38
	2.00	13	17	32	24	45	26	32
Sand	**0.425**	9	11	22	17	30	14	18
	0.300	8	9	17	15	26	9	12
	0.150							
Silt/Clay	**0.075**	4.0	3.0	7.0	8.0	17.0	3.0	2.0
	0.02			2	3	10		
Hydro	**0.005**							
	0.002							
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP
CLASSIFICATION		A-1-a	A-1-a	A-1-a	A-1-a	A-1-b	A-1-a	A-1-a
SOIL DESCRIPTION		Gr	Gr	sl.SiSaGr	sl.SiGr	SiSaGr	SaGr	SaGr
NATURAL MOISTURE								
ORGANICS								
SP.GR. (FINE)				2.76	2.77	2.77		
SP.GR. (COARSE)								
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION								
NORDIC ABRASION								
DEGRADATION FACTOR								
SODIUM SULF. (CRSE)								
SODIUM SULF. (FINE)								

REMARKS: *Extended Trench w/Test Hole on 6-17-80 .

Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.

129rich11

STATE OF ALASKA DEPARTMENT OF TRANSPORTATION - NORTHERN REGION
LABORATORY TESTING REPORT

PROJECT NAME: RICH HWY 129-148 REHAB
PROJECT NUMBER: STPTE-O71-3(11)
AKSAS NUMBER: 66444
SOURCE: M S 71-2-020-5, Ringling Pit
SAMPLED BY: J D Rasmussen

TEST HOLE NO.		80-51	80-52					
DEPTH (meters)		2.4-3.1	1.2-1.8					
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		80D-109	80D-111	80D-591**				
DATE SAMPLED		16-Jun-80*	16-Jun-80*.					
% Passing	**75 mm**	100	100	100				
	50	93	97	96				
	25.0	83	77	77				
Gravel	**19.0**	78	66	67				
	12.5	70	55	50				
	9.5	64	48	41				
	4.75	50	35	23				
	2.00	39	25	16				
Sand	**0.425**	16	13	10				
	0.300	10	10	8				
	0.150							
Silt/Clay	**0.075**	3.0	3.0	4.0				
	0.02							
Hydro	**0.005**							
	0.002							
LIQUID LIMIT		NV	NV	NV				
PLASTIC INDEX		NP	NP	NP				
CLASSIFICATION		A-1-a	A-1-a	A-1-a				
SOIL DESCRIPTION		SaGr	SaGr	Gr				
NATURAL MOISTURE								
ORGANICS								
SP.GR. (FINE)				2.76				
SP.GR. (COARSE)				2.8				
MAX DRY DENSITY								
OPTIMUM MOISTURE								
L.A. ABRASION				18				
NORDIC ABRASION								
DEGRADATION FACTOR				80				
SODIUM SULF. (CRSE)				0.2				
SODIUM SULF. (FINE)				2.3				

REMARKS: *Extended Trench w/Test Hole on 6/17/89.

**Represents a composite of several smaller samples.

Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.

129rich12

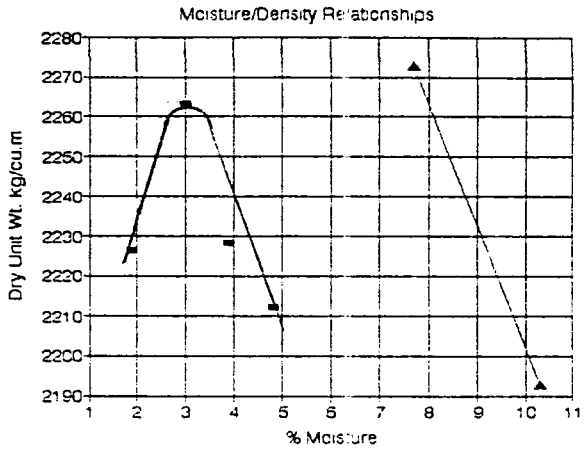
State of Alaska Department of Transportation
Northern Region Materials Lab
SOIL and AGGREGATE REPORT

Project Name:	RICH HWY 129-148 REHAB	***Lab Number:***	87-501
Ledger Code:	30847322		
Project Number:	STPTE-071-3(11)/66444		
Sampled By:	J D BENNETT		
Source:	M.S. 71-2-020-5(RINGLING PIT) ***Test Hole:***	***Depth:***	
Date Sampled:	8-7-87 ***Offset:***	***Station:***	PIT

ATM T-7 *SIEVES*	*% PASS*	*FIELD BX-SD-14*
+75	19	14
75	100	
50	95	
37.5	87	
25.0	76	64
19.0	69	57
12.5	60	50
9.5	55	46
4.75	45	37
2.36	36	31
2.00	35	
1.18		25
0.850	27	
0.600		
0.425	22	18
	16	14
0.250		
0.180	9	
0.150	7	6
0.075	4.0	3
ATM T-1		
.02mm		
.005mm		
.002mm		

TEST No.	*TEST*	*RESULTS*
AASHTO T-89	LL	NV
AASHTO T-90	PI	NP
	SpG's	
AASHTO T-85	Coarse	2.86
ATM T-2	Fine	2.76
ATM T-6	ORGANIC	
AASHTO T-21	ORG PPM	
ATM T-5	MOISTURE	
AASHTO T-104	SODIUM	
	Coarse	
	Fine	
AASHTO T-96	LA	
ATM T-13	DEG	

MOISTURE / DENSITY PLOT ASTM D-1557



Opt. Moisture: 2.8 Field 140.0

Max. Density: 2264.9 kg/m³ 141.4 lb/cu.ft. 4.4

Sample	*Dry Unit Wt.*	*% Moist.*	*Free Moist*
1	2226.6	1.9	
2	2263.5	3.0	
3	2228.2	3.9	
4	2212.2	4.8	
5			

ZAV 2192.6 @ 10.3
ZAV 2272.6 @ 7.7

AASHTO CLASS:
SOIL DESCRIPTION:
UNIFIED CLASS:

Signature: *Maureen E. Lee*
REGIONAL LAB SUPERVISOR

PRECONSTUCTION ROUTING: Geologist, Regional Lab

STATE OF ALASKA-NORTHERN REGION
DEPARTMENT OF TRANSPORTATION
LABORATORY TESTING REPORT

PROJECT NAME: RICHARDSON HWY MP 129-148
PROJECT NUMBER: STPTE-071-3(11)/66444
SOURCE: M.S. 71-2-020-5, Ringling Pit
SAMPLED BY: J.D. Bennett

TEST HOLE NO.		95-2	95-2	95-7	95-8			
DEPTH (meters)		2.0-2.6	2.1-2.4	0.6-1.8	0.0-0.6			
STATION (LOCATION)								
OFFSET (meters)								
LAB NO.		95-2360	95-2361	95-2362	95-2363			
DATE SAMPLED		10-11-95	10-11-95	10-11-95	10-11-95			
PERCENT PASSING-	**mm**							
	75			100	100			
	50	100		85	94			
	25.0	97		64	84			
Gravel	**19.0**	96		60	80			
	12.5	93		54	74			
	9.5	92		51	70			
	4.75	88		45	62			
	2.00	82		36	55			
Sand	**0.425**	74		23	42			
	0.30	72		20	39			
	0.150	67		12	29			
Silt\Clay	**0.075**	61.4		7.2	17.0			
	0.02	46		3				
	0.005	32		2				
Clay	**0.002**	22		2				
LIQUID LIMIT		32		NV	NV			
PLASTIC INDEX		15		NP	NP			
CLASSIFICATION		A-6(6)		A-1-a	A-1-b			
SOIL DESCRIPTION		slOrgSaSiC	slOrgSaSiC	sl.SiSaGr	slOrgSiSaG			
NATURAL MOISTURE			12					
SP.GR. (FINE)		2.75		2.79	2.75			
SP.GR. (COARSE)					2.78			
MAX DRY DENSITY					2189			
OPTIMUM MOISTURE					6.8			
L.A. ABRASION								
DEGRADATION FACTOR				62				
SODIUM SULF. (CRSE)								
SODIUM SULF. (FINE)								
ORGANICS		1.5			1			

REMARKS

The units have been converted to SI units (metric) from the original English report. See Pavement Construction.

- Gradation is based on material passing the 75 mm sieve, according to Alaska Test Method T-7.
See graphic logs for amount of +75 mm material, if any.

rich05

467.PDF

M.S. 71-2-020-5

RINGLING PIT

LOCATION AND ACCESS

This site is located east of the Richardson Highway near Mile 126.7. Access is provided by an existing haul road. This site was investigated by utilizing a track-mounted backhoe and a CME-45B drill with 6 inch diameter continuous flight auger.

DESCRIPTION

This is an existing borrow site opened up and used by Alyeska on the trans-Alaska pipeline. The deposit is located on an old terrace at the confluence of the Copper and Gulkana Rivers. The useable material consists of alluvial sandy gravel with cobbles and boulders. By visual estimate, the percentage of 3 to 10 inch diameter material ranged from 1 to 20. Rocks greater than 10 inches in diameter constituted less than 10 percent of the material viewed. However, in past years in other pits located on terraces of the Copper River, large quantities of nested boulders and/or boulder layers have been observed. The possibility of exposing these types of boulder deposits exists in this pit. The terrain in the undeveloped north end of the pit ranges from flat on the west side to a steep-sided ridge on the east side. The central area of the site has been essentially worked out and contains no appreciable amount of useable material. The south end, also undeveloped, consists of a ridge along the east side. The ridge or terrace edge drops off sharply to the east and moderately to the west.

CLEARING AND STRIPPING

The vegetal cover in the unused portions of the site consists of a medium to heavy stand of spruce and poplar trees with brush. The overburden ranges from nothing in the previously-used areas to 4 to 5 feet of organics and silty soils in the unused areas.

FROST CONDITIONS

Permafrost was noted at locations through the area. Frozen ground might be observed in excavations in any portion of the site and especially in the uncleared areas. Where frozen ground was noted, excavation and drilling was extremely difficult.

95

1985 1/2

GROUNDWATER

Groundwater was noted in one test hole (Test Hole #16) at a depth of 20 feet (May 30, 1980).

APPARENT OWNER

The State of Alaska, DOT/PF owns this site.

Note: This site was originally investigated for the project Richardson Highway, Glennallen North, RF-071-2(18)

Information has been taken from pages 29-40 of a report on that project entitled Supplemental Centerline Soils and Materials Sites Investigation, Glennallen North, Richardson Highway, Mile 115 to Mile 124.6, RF-071-2(18), A3613, March 1981.

This site has been used since the original report was issued.

DRAINAGE

Surface drainage is good in the site area. Bear Creek flows through the south edge of the site.

QUALITY

Material from this site should be useable as borrow, subbase, base, bituminous pavement aggregate and Portland cement concrete aggregate. The user should be cautioned concerning the rather spotty distribution of the materials in this source. Close attention should be paid to the depth and character of the materials shown in the drill holes.

Usage Restrictions Only portions of this site have an Archeological Clearance and are available for excavation at this time. The Northern Region Environmental Coordinator for DOT&PF has available the latest information concerning which areas may be disturbed or excavated.

MINING PLAN GUIDI NES

M.S. 71-2-020-5

PRESENT USE

This site is used by state highway crews as a gravel source for maintenance work on the Richardson and Tok Highways. It was originally developed by Alyeska Pipeline Service Company during the construction of the Trans-Alaska pipeline.

FUTURE USE

The rebuilding of the upper Richardson from Mile 129 north will require a source of gravel for borrow and crushed material. This site is the only state-owned site near the south end of this road section that contains large quantities of the necessary materials. Maintenance of the existing facilities in the area will also require a constant source of good quality gravel for at least 50 years in the future.

DEVELOPMENT AND REHABILITATION

During future development, a 100 foot wide vegetated strip along the south side of the old Richardson Highway should be left undisturbed as a screen for the pit work. The existing excavation should be continued northward until it reaches this screen line. After all usable material has been taken from the north end of the site, the existing excavation should be extended southward. Development should preserve the access road to facilitate removal of all gravel from this site. Waste material should be deposited along the eastern side of the site in a manner similar to the existing waste areas.

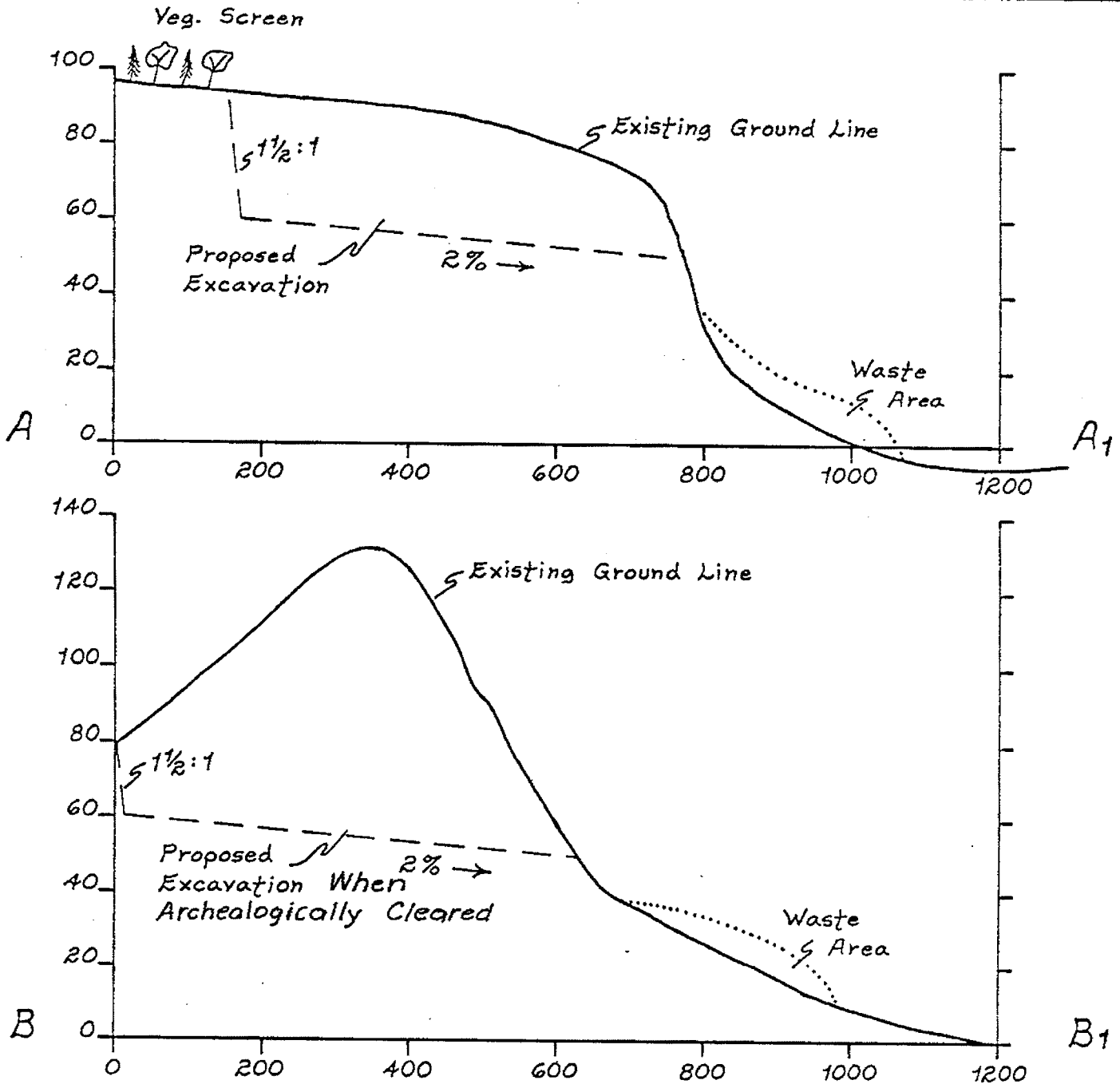
Rehabilitation will consist of smoothing the remaining pit floor and slopes to facilitate drainage and prevent ponding. The waste piles will be allowed to revegetate naturally to provide wildlife habitat.

MINING PLAN

The field investigation performed by DOT&PF personnel was general in nature and is considered sufficient only to determine the general character of the materials present and to establish their suitability for use on the project. The information presented in this report is not considered detailed enough to be used as the sole basis for formulation of a mining plan for any specific area of the site.

It is recommended the construction contractor perform his own investigation of each specific area he intends to mine. His investigation should be detailed enough to assure him that the required quantity of material from which the specified quality can be produced is actually present in the area he intends to mine.

The contractor should be contracturally required to use the information obtained in his field investigation to formulate a detailed mining plan of the specific area he intends to mine. This mining plan should be approved by the project engineer and by the Regional Materials Engineer's staff prior to any excavation.


Veg. Screen
100
80
60
40
20
0
1½:1
Existing Ground Line
Proposed Excavation
2% →
Waste Area
A
A1
0
200
400
600
800
1000
1200
140
120
100
80
60
40
20
0
Existing Ground Line
1½:1
Proposed Excavation When Archealogically Cleared
2% →
Waste Area
B
B1
0
200
400
600
800
1000
1200

M.S. 71-2-020-5

ALASKA DEPARTMENT OF TRANSPORTATION & PUBLIC FACILITIES

MATERIAL SITE DATA COLLECTION FORM

Collected by: SHANK

Date: 110724

I. GENERAL SITE DATA

1. Material Site No.: 71-2-020-5
2. Site Name: CDS-RICHARDSON 9 131.0 M.P. 126.0
3. Community: GLENNALLEN-PAXSON
4. Owner/Agency: STATE OF ALASKA
5. Permit No.: DOT&PF
6. Permit Type: 11B
7. Expiration Date: 00
8. Contact:
9. Lat/Long: 62°16'01"N 145°23'46"W
10. Quad Map: GULKANA B3
11. Legal Description: SEC27&34T6NR1W CRM
12. Acreage: 160
13. Reference Data: 010206
14. Maps & Photos: 02030406
15. Special Considerations: 07
16. History:
17. Remarks:

II. LAB DATA

18. Date:
19. Soil Class: SILTY SANDY GRAVEL
20. Test Values:
21. Remarks:

III. USE DATA

22. Present Status: HWY STK
23. Recommended Use: BOR MTN WA-RSTK
24. Quantities - Indicated: cubic yards Date:
Removed: cubic yards Date:
25. Remarks: BOR-TYPE A

CODES

6. PERMIT TYPE
- 00 None
- Grants
- 01 Grant
- 02 Rt. of Way Grant
- Deeds
- 11 Deed
- 12 Quit Claim Deed
- Permits
- 21 Permit
- 22 PUP
- 23 FUP
- 24 SLUP
- 25 Prospect Permit
- 26 Mat'l Site Permit
- 27 Rt. of Entry Permit
- 28 Rt. of Way Permit
- 29 PTTB
- Other
- 41 ILMT
- 42 ILMA
- 43 Lease
- 44 Agreement
- 45 Waste Area Agreemt.
- 46 Easement
- 47 Rt. of Way Easemt.
- 48 Court Award
- 49 Withdrawal
- 50 Release
- 51 Material Sales
- A Applied for
- B Issued

13. REFERENCE DATA
- 00 None available
- 01 Published M.S. rpt.
- 02 Lab analyses of mat'l
- 03 Design study/loc. rpt.
- 04 Construction use data
- 05 Environmental data
- 06 TH Loc. Map & Logs
- 07 Memo (ref. to file)
- 99 Other (Remarks)

14. MAPS & PHOTOS
- 00 None available
- 01 Sketch map
- 02 Location map
- 03 Site plat
- 04 Vert. air photos
- 05 Obl. air photos
- 06 Ground photos
- 99 Other (Remarks)

15. SPECIAL CONSIDERATIONS
- 00 None
- 01 Pit obligated
- 02 Royalty Payments
- 03 Proof of Use (incl. yr.)
- 04 3rd Party Encumbr.
- 05 Environmental Restr.
- 06 Historical Site
- 07 Archeological Site
- 08 Paleontological Site
- 09 Quantity Restr. (Remarks)
- 99 Other (Remarks)

20. TEST VALUES
- LA Los Angeles Abrasion
- DG Degradation
- FV Frost Suscept. Value
- P2 % passing #200 screen
- SS Sulfate Soundness
- SG Specific Gravity
- LL Liquid Limit
- PI Plastic Index
- OR Organic Content
- PH pH of Organics

22. PRESENT STATUS
- ACT Active mining
- INA Inactive site
- DPL Depleted
- STK Stockpile site
- HWY Highway M & O Use
- AVI Aviation M & O Use
- STA Maintenance Station
- PRV Private Pit
- SQU Squatters
- DMP Dump site
- JNT Joint Use (Remarks)
- ZZZ Other (Remarks)

23. RECOMMENDED USE
- BOR Borrow
- RRP Riprap
- AGR Crushed Aggr.
- SND Sand Source
- BIN Binder Mat'l
- TOP Topsoil
- STK Stkp./Warehsing.
- MTN Maintenance Use
- STA Maintenance Station
- TST Further Testing Rec.
- FTR Future Use
- REL Relinquish Permits
- WPA Waste Disposal Area
- ZZZ Other

MATERIAL SITE DATA COLLECTION FORM

Material Site No.: 71-2-020-5 Date: 11078Y

Collected by: SRAHER

IV. SURFACE SITE DATA

26. Date: 11078Y 27. Investigation: FT01 28. Drainage: F

29. Geomorphic Description: TERRACE

30. Vegetation: SPD ø % ALPD ø % D ø %

31. Topography: NOL % % 32. Debris: OO % % %

33. Rock Outcrops: NO % 34. Water Bodies: NO 35. Access: 01

36. Boundary Markers: NO 37. Utility Corridors: OO

38. Site Improvements: PIT, SNR, STK, SCR

39. Remarks: VL LARGE PIT

VG FROM ACCESS @ NO. END OF PIT

19-21 FROM STK @ MID EAST SIDE, 22-24 FR. SO. END of PIT

CODES

27. & 41. INVESTIGATION
- BK Backhoe
- WA Wheel-mount Auger
- TA Track-mount Auger
- PD Portable Drill
- FT Foot Recon.
- AR Aerial Recon.
- SM Seismic Survey
- CD Conductivity Survey
- RV Resistivity Survey
- ZZ Other (Remarks)

- 01 Recon, sparse coverage
- 02 Part coverage, random
- 03 Part coverage, specific
- 04 High-density TH invest.
- 05 Special Survey

26. DRAINAGE
- P Poor - standing water
- F Fair
- G Good - establ. drainage

30. VEGETATION
- 000 None - bare soil
- BIR Birch
- COT Cottonwood
- ASP Aspen
- WIL Willow species
- ALD Alder species
- WSP White Spruce
- BSP Black Spruce
- SSP Sitka Spruce
- HEM Hemlock
- TAM Tamarack
- CED Cedar
- CON Misc coniferous
- DEC Misc deciduous
- GRD Low ground cover
- BOG Bog mosses, etc.
- ZZZ Other (unknown)

- 0 None
- 1 Scattered
- 2 Low (> 10' sep)
- 3 Moderate
- 4 High (< 3' sep)

30. VEGETATION (cont'd)
- SH Shrub
- ST Small Tree (< 5" ø)
- MT Med Tree (5"-12" ø)
- LT Lg Tree (12"-30" ø)
- HT Huge Tree (> 30" ø)

% of site covered

31. TOPOGRAPHY
- FLT Flat and level
- ROL Rolling
- MOD Moderate hillside
- STP Steep hillside
- CLF Cliffside

% of site, each category

32. DEBRIS
- WO Woody debris
- CW Const. waste mat'ls
- TR Dump mat'l, trash
- HA Abnd. habitations
- ZZ Other (Remarks)

% of site, each category

33. ROCK OUTCROPS
- A 1'-10' height
- B 10'-25'
- C 25'-50'
- D 50'-100'
- E > 100'

% of site covered

34. WATER BODIES
- 00 None
- 01 River
- 02 Stream
- 03 Creek
- 04 Intermit. Stream
- 05 Lake
- 06 Pond
- 07 Impoundment
- 08 Bog/Swamp
- 09 Marine
- 99 Other

% of site covered

35. ACCESS
- 00 > 1 mile from nearest rd
- 01 Adj to unimproved rd
- 02 Adj to secondary grl rd
- 03 Adj to secondary pvd rd
- 04 Adj to primary pvd rd
- 05 Access by water
- 99 Other (Remarks)

36. BOUNDARY MARKERS
- 00 None found
- 01 One corner found
- xx Number corners found

- RB Rebar
- IP Iron Pipe
- WP Witness Post
- BZ Blaze Marks on trees
- BR Brush Line
- LM Landmark (Remarks)
- SM Survey Monument
- ZZ Other (Remarks)

37. UTILITY CORRIDORS
- EL Electric
- WA Water
- TL Telephone
- GS Gas
- PT Petroleum
- SW Sewer
- RR Railroad
- ZZ Other (Remarks)

38. SITE IMPROVEMENTS
- FNC Fencing
- SCR Screening
- BDG Bridge (Remarks)
- SCL Scales
- RMP Loading Ramps
- SWA Solid Waste Area
- GAT Locked Gate on access
- PIT Opened Pit
- TRL Trailhead
- EHR Existing Haul Road
- HAB Habitations
- BLD Buildings
- ZZZ Other (Remarks)

% of site occupied

V. SUBSURFACE SITE DATA

40. Date: 41. Investigation: 42. Drainage: F

43. Water Table: NO 44. Permafrost: Y 45. Overburden: FC<5 An

46. Soil Description: CRA An An An 47. %+3": <20 48. %+10": <1

49. Quantity Estimate: cubic yards An

50. Remarks: BOTTOM CW SILT

CODES

42. DRAINAGE
- P Poor - fine-grn, saturated
- F Fair
- G Good - coarse-grn, well-drn

44. PERMAFROST
- Y Yes
- P Probable
- N Not likely

45. OVERBURDEN
- Soil Type (see Item 46)
- Thickness (ft.)
- Moisture (see Item 46)
- Method of Analysis

49. QUANTITY ESTIMATE
- Cubic Yards (Visual Est.)
- Soil Desc: ion, primary product
- Method c. /sis

46. SOIL DESCRIPTION
- A Gravel
- B Sand
- C Silt
- D Clay
- E Ash
- F Organic
- G Bedrock
- Z Other

- 0 Undetermined
- 1 Dry
- 2 Damp
- 3 Free Moisture

Method of Analysis

METHOD OF ANALYSIS
- A Cutbank exposure
- B Shovel pit
- C Soil auger
- D Soil probe
- E Prev. rpts.
- Z Other


8-28-84 1" = 1000'
N-2-020-5

Glennallen North
Rich Hwy
MP 115-124.6
RF-071-1(18)

M.S. 71-2-020-5

RINGLING PIT

LOCATION AND ACCESS

This site is located right of the Richardson Highway near Mile 126.7. Access is provided by an existing haul road. This site was investigated by utilizing a track-mounted backhoe and a CME-45B drill with 6-inch continuous flight auger.

DESCRIPTION

This is an existing borrow site opened up and used by Alyeska on the trans-Alaska pipeline. The deposit is located on an old terrace of the Copper and Gulkana Rivers. The usable material consists of alluvial sandy gravel with cobbles and boulders. By visual estimate, the percentage of 3-inch to 10-inch diameter material varied from 1 to 20. Rocks greater than 10-inches in diameter constituted less than 10 percent of the material viewed, however, in past years in other pits located on terraces of the Copper River large quantities of nested boulders and/or boulder layers have been encountered. The possibility of encountering these types of boulder deposits exists in this pit. The terrain in the undeveloped north end of the pit varies from flat on the west side to a steep sided ridge on the east side. The central area of the site has been essentially worked out and contains no appreciable amount of usable material. The south end, also undeveloped, consists of a ridge along the east side. The ridge or terrace edge drops off sharply to the east and moderately to the west.

CLEARING AND STRIPPING

The vegetal cover in the unused portions of the site consist of a medium to heavy stand of spruce and poplar with brush. The overburden varies from nothing in the previously used areas to 4 to 5 feet of organics and silty soils in the unused areas.

1981

FROST AND GROUNDWATER CONDITIONS

Permafrost was encountered at locations throughout the area. Frozen ground might be encountered in excavations in any portion of the site and especially in the uncleared areas. Where frozen ground was encountered excavation and drilling was extremely difficult.

Groundwater was encountered in one test hole (test hole # 16) at a depth of 20-feet (May 30, 1980).

APPARENT OWNER

Clayton Ringling owns this site at present.

SOILS TESTING REPORT

PROJECT NAME GLENNALLEN NORTH RINGLING PIT PROJECT NO. A36132 , RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71-2-020-5

STATION								
OFFSET (FEET)								
DEPTH (FEET)	5'-8'	6'-10'	10'-11'	6'-10'	8'-10'	5'-8'	8'-10'	6'-9'
TEST HOLE NO.	2	3	4	5	6	7	8	15
FIELD NO.	1	2	3	4	5	6	7	8
LAB NO.	80D-82	80D-90	80D-91	80D-93	80D-95	80D-83	80D-84	80D-85
ESTIMATED %+10"	1-10	1-5	1-5	1-10	1-5	1-10	1-5	1-10
+ 3"	10-20	10-20	10-20	15-25	10-20	10-20	5-15	10-20
PERCENT PASSING -31- 3"	100	100		100	100	100		100
2"	94	93	100	83	91	88	100	87
1"	79	79	85	69	74	65	86	71
3/4"	74	73	77	63	65	56	78	65
1/2"	66	66	70	54	53	46	65	56
3/8"	60	62	64	49	46	42	56	50
# 4	50	57	52	37	34	32	40	38
# 10	42	51	43	28	26	24	26	30
# 40	33	36	30	18	15	12	10	13
# 50	30	20	26	12	11	6	8	8
# 200	14	5	15	2	5	1	3	1
.02 mm	9	2	4		9			
.005mm								
LIQUID LIMIT	NV	NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX	NP	NP	NP	NP	NP	NP	NP	NP
AASHO CLASS	A-1-b	A-1-b	A-1-b	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
F.S.V.	F-1	NFS	F-1	NFS	NFS	NFS	NFS	NFS
Sp. G., FINE	2.81	2.76	2.73		2.74			
NAT. MOISTURE								

SOILS TESTING REPORT

PROJECT NAME GLENNALLEN NORTH RINGLING PIT PROJECT NO. A36132 , RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71-2-020-5

STATION								
OFFSET (FEET)								
DEPTH (FEET)	8'-11'	8'-12'	0-2'	6'-8'	3'-5'	0-5'	5'-10'	4'-7'
TEST HOLE NO.	16	17	19	23	24	26	27	29
FIELD NO.	9	10	11	12	13	14	15	16
LAB NO.	80D-102	80D-94	80D-97	80D-86	80D-87	80D-103	80D-92	80D-96
ESTIMATED %+10"	1-10	1-5	1-10	1-5	1-10	1-10	1-10	1-5
+ 3"	10-20	10-20	10-20	5-15	10-20	10-20	10-20	5-15
PERCENT PASSING -32- 3"	100	100	100	100		100	100	100
2"	92	78	92	91	100	96	92	92
1"	79	68	65	68	84	74	78	81
3/4"	72	62	59	62	71	68	68	74
1/2"	62	54	48	53	59	59	55	64
3/8"	57	49	42	47	53	52	46	58
# 4	44	39	35	37	41	42	30	49
# 10	30	28	24	32	31	31	20	39
# 40	15	19	9	23	14	19	8	23
# 50	13	17	5	20	10	15	7	19
# 200	6	7	1	9	4	5	2	5
.02 mm	2	2		9		2		1
.005mm								
LIQUID LIMIT	NV	NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX	NP	NP	NP	NP	NP	NP	NP	NP
AASHO CLASS	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
F.S.V.	NFS	NFS	NFS	F-1	NFS	NFS	NFS	NFS
Sp. G., FINE	2.74	2.73		2.68		2.74		2.78
NAT. MOISTURE								

SOILS TESTING REPORT

PROJECT NAME GLENNALLEN NORTH RINGLING PIT PROJECT NO. A36132 , RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71-2-020-5

STATION								
OFFSET (FEET)								
DEPTH (FEET)	5'-9'	8'-10'	6'-8'	4'-6'	6'-10'	4'-8'	9'-12'	12'-16'
TEST HOLE NO.	30	31	33	34	35	36	37	38
FIELD NO.	17	18	19	20	21	22	23	24
LAB NO.	80D-88	80D-89	80D-100	80D-101	80D-99	80D-98	80D-81	80D-119
ESTIMATED %+10"	1-5	1-5	1-5	1-5	1-5	1-5		
+ 3"	5-15	5-10	10-20	10-20	5-15	10-20		
PERCENT PASSING -3" 3"	100	100	100	100		100		100
2"	95	84	91	88	100	87	100	88
1"	73	71	71	68	78	69	81	72
3/4"	66	66	61	62	67	62	70	65
1/2"	55	59	52	50	55	55	60	56
3/8"	49	55	46	43	49	49	53	50
# 4	37	47	34	31	38	38	42	40
# 10	27	39	25	18	27	26	30	31
# 40	13	28	14	9	9	10	14	19
# 50	9	24	9	6	6	6	11	13
# 200	2	6	2	1	2	1	4	3
.02 mm		2						
.005mm								
LIQUID LIMIT	NV	NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX	NP	NP	NP	NP	NP	NP	NP	NP
AASHO CLASS	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a	A-1-a
F.S.V.	NFS	NFS	NFS	NFS	NFS	NFS	NFS	NFS
Sp. G., FINE		2.76						2.80
NAT. MOISTURE								
Sp. G., COARSE								2.87
BULK SP.G.COARSE								2.81
BULK SP.G. FINE(SSD)								2.65
APP.+3/4" COARSE								2.86
L.A. ABRASION LOSS								14%
DEGRADATION VALUE								88
SODIUM SUL.COARSE								.5%
SODIUM SUL.FINE								2.5%

SOILS TESTING REPORT

GLENNALLEN NORTH

PROJECT NAME RINGLING PIT PROJECT NO. A36132, RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71-2-020-5

STATION									
OFFSET (FEET)									
DEPTH (FEET)		18'-23'	23'-28'	20'-28'	5'-8'	35'-40'	13'-18'	3'-7'	8'-10'
TEST HOLE NO.		39	40	42	44	45	48	50	51
FIELD NO.		25	26	27	28	29	30	32	33
LAB NO.		80D-75	80D-77	80D-76	80D-79	80D-78	80D-80	80D-112	80D-109
ESTIMATED %+10"								1-5	
+ 3"								5-15	
PERCENT PASSING -34-	3"			100	100		100	100	100
	2"	100	100	98	98	100	94	82	93
	1"	87	83	81	87	97	85	71	83
	3/4"	78	68	71	80	93	74	63	78
	1/2"	59	47	59	64	84	57	54	70
	3/8"	45	37	51	51	76	46	47	64
	# 4	22	22	40	34	58	33	38	50
	# 10	13	17	32	24	45	26	32	39
	# 40	9	11	22	17	30	14	18	16
	# 50	8	9	17	15	26	9	12	10
	# 200	4	3	7	8	17	3	2	3
	.02 mm			2	3	10			
	.005mm								
LIQUID LIMIT		NV	NV	NV	NV	NV	NV	NV	NV
PLASTIC INDEX		NP	NP	NP	NP	NP	NP	NP	NP
AASHO CLASS		A-1-a	A-1-a	A-1-a	A-1-a	A-1-b	A-1-a	A-1-a	A-1-a
F.S.V.		NFS	NFS	NFS	NFS	F-2	NFS	NFS	NFS
Sp. G., FINE				2.76	2.77	2.77			
NAT. MOISTURE									

SOILS TESTING REPORT

GLENNALLEN NORTH

PROJECT NAME RINGLING PIT PROJECT NO. A36132, RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71--2-020-5

STATION									
OFFSET (FEET)									
DEPTH (FEET)	4'-6'								
TEST HOLE NO.	52								
FIELD NO.	34								
LAB NO.	80D-111								
ESTIMATED %+10"	1-5								
+ 3"	1-15								
PERCENT PASSING -35- 3"	100								
2"	97								
1"	77								
3/4"	66								
1/2"	55								
3/8"	48								
# 4	35								
# 10	-5								
# 40	13								
# 50	10								
# 200	3								
.02 mm									
.005mm									
LIQUID LIMIT	NV								
PLASTIC INDEX	NP								
AASHO CLASS	A-1-a								
F.S.V.	NFS								
Sp. G., FINE									
NAT. MOISTURE									

SOILS TESTING REPORT

PROJECT NAME GLENNALLEN NORTH PROJECT NO. A36132, RF-071-2(18) SAMPLED BY D. RASMUSSEN

MATERIAL SITE 71-2-020-5

STATION									
OFFSET (FEET)									
DEPTH (FEET)									
TEST HOLE NO.									
FIELD NO.									
LAB NO.	80D-591 *								
ESTIMATED %+10"									
+ 3"									
PERCENT PASSING -36-	3"	100							
	2"	96							
	1"	77							
	3/4"	67							
	1/2"	50							
	3/8"	41							
	# 4	23							
	# 10	16							
	# 40	10							
	# 50	8							
	# 200	4							
	.02 mm								
	.005mm								
LIQUID LIMIT		NV							
PLASTIC INDEX		NP							
AASHO CLASS		A-1-a							
F.S.V.		NFS							
Sp. G., FINE		2.76							
NAT. MOISTURE									
Sp. G., COURSE		2.80							
Sodium Snd., FINE		2.3							
Sodium Snd., COURSE		0.2							
L.A. Abrasion		18.							
Degradation		80.							

* This represents a composite of several smaller samples.

GLENNALLEN NORTH Mile 115-125 RICH. HWY.	MATERIALS SITE NO. 71-2-020-5		
	Scale: 1"=200'	Date: Jan. 1981	
PROJECT NO. RF-071-2 (18)	Data: D. R.	Drawn: B. D.	Approved:

33 28 34 27 P.T.

GLENNALLEN

3270 3280 3290 3300

150' 150'

RICHARDSON HIGHWAY

Old HIGHWAY

GULKANA RIVER

Approx. Location

Approximate edge of bluff.

Old Excavation

Existing Excavation Area

Waste Area

Waste Area

Approximate location of access road.

N 1/4, Sec. 34
S 1/4, Sec. 27

T.H. 1, T.H. 2, T.H. 3, T.H. 4, T.H. 5, T.H. 6, T.H. 7, T.H. 8, T.H. 9, T.H. 10, T.H. 11, T.H. 12, T.H. 13, T.H. 14, T.H. 15, T.H. 16, T.H. 17, T.H. 18, T.H. 19, T.H. 20, T.H. 21, T.H. 22, T.H. 23, T.H. 24, T.H. 25, T.H. 26, T.H. 27, T.H. 28, T.H. 29, T.H. 30, T.H. 31, T.H. 32, T.H. 33, T.H. 34, T.H. 35, T.H. 36, T.H. 37, T.H. 38, T.H. 39, T.H. 40, T.H. 41, T.H. 42, T.H. 43, T.H. 44, T.H. 45, T.H. 46, T.H. 47, T.H. 48, T.H. 49, T.H. 50, T.H. 51, T.H. 52

CUT BANK HEIGHTS

① 26'
② 10'
③ 30'
④ 13.5' (All of West side)
⑤ 20'
⑥ 50'-70'

NOTE: Property boundries and test holes are not located by survey.

Test holes excavated with backhoe only.
Test holes excavated with 6" auger only.
Test holes excavated with backhoe and 6" auger.

0 200' 400' 600' 800'
Scale in Feet

Test Hole #1
5-27-80

Backhoe

0'-3', Sandy Gravel W/Cobbles & Boulders
A-1, F-1

3'-8', Sandy Silt; Dense, Damp - Wet
A-4, F-4

Test Hole #2
5-27-80

Backhoe

S#1

0'-5' Silty Sand; Med Dense; Damp
A-2, F-2 To F-3

5'-12' Silty Sandy Gravel w/Cobbles & Boulders;
Frozen; 3"-10"=10-20%; +10"=1-10%;
S#1= A-1-b; F-1, N.P.

12'-13' Gray Sandy Silt; Dense; Damp
A-4, F-4

Dry Hole

Test Hole #3
5-27-80

Backhoe

S#2

0-2' Stripping; Organic Silt; Sand & Gravel

2'-6' Fine Silty Sand Or Sandy Silt, V/ Dense;
Frozen 2'-6'; A-2 To A4, F-4

6'-12' Sandy Gravel W/Cobbles & Boulders
3"-10"= 10-20 %, +10"=1-5%

Dry Hole; S#2 = A-1-b, N.F.S., N.P.

Test Hole #4
5-27-80

Backhoe

S#3

0-4' Organic Silt, Sand & Gravel; Stripping Backfill,
W/Cobbles & Boulders

4'-9' Sandy Gravel Frozen 4'-9', Cobbles & Boulders
3"-10"- 10-20%, +10"=1-5%; Organic (Sticks & Rocks), Strippings

9'-13' Silty Sandy Gravel w/Cobbles & Boulders; Dense; Damp; 3"-10"=10-20%;
+10"=1-5%
S#3 = A-1-b, F-1, N.P.

Test Hole #5
5-28-80

Backhoe

S#4

0-3' Organic Silty Sandy Gravel W/Cobbles & Boulders; Strippings

3'-10' Sandy Gravel w/Cobbles & Boulders; Dense; Damp; 3"-10"=15-25%;
+10"=1-10%; S#4 = A-1-a, N.F.S., N.P.

10'-12' Sandy Silt; Dense; Damp; A-4, F-4

Dry Hole

Test Hole #6
5-28-80, Extended 6/3/80

Backhoe

6" Auger

S#5

0-5' Organic Silty Sandy Gravel; Dense; Damp; Strippings; Many
Cobbles & Boulders, Frozen 4' To 12'

5-12' Sandy Gravel W/Cobbles & Boulders; Dense; 3"-10"= 10-20 %
+10"= 1-5%
S#5 = A-1-a, N.F.S., N.P.

12-19' Same As 5'-12'

19'-21' Silt; Dense; Damp
A-4, F-4; Dry Hole.

Test Hole #7
5-28-80, Extended 6/3/80

Backhoe

6" Auger

S#6

0-14' Sandy Gravel W/ Cobbles & Boulders; Dense;
Damp; 3"-10"= 10-20 %, +10"= 1-10 %
Frozen 5'-12'
S#6 = A-1-a, N.F.S., N.P.

14-20' Same As 0'-14' Frozen

20'-25' Sand Or Gravelly Sand Dense; Damp, Frozen

25-28' Same As 0'-14'; Frozen; V/Hard @ 28'; Could
Not Penetrate W/ Auger

Test Hole #8
5-28-80, Extended 6/3/80

Backhoe

6" Auger

S#7

0-45' Silty Sand or Sandy Silt; Dense; Damp
A-2 To A-4, F-4 (Frozen 3' To 25')

45'-12' Sandy Gravel W/ Cobbles & Boulders; Dense
3" To 10" = 5'-15% +10"= 1-5% V/Hard @ 12'
S#7 = A-1-a, N.F.S., N.P.

12'-22' Same As 45'-12'; Silty

22-25' Silt; Dense
A-4, F-4

Dry Hole

Test Hole #9
5-28-80

Backhoe

0-12' Silt, Dense; Damp - Wet, Cobbles In Top 15'
A-4, F-4

Test Hole #10
5-28-80

Backhoe

0-12' Silt; Dense - V/Dense; Damp
A-4, F-4

Test Hole #11
5-28-80

Backhoe

0-3' Sandy Gravel W/ Cobbles & Boulders; Dense; Damp
3"-10"= 5'-15%, +10"= 1-10 %; A-1, N.F.S.

3-12' Silt; Dense; Damp; A-4, F-4

Dry Hole

Test Hole #12
5-28-80

Backhoe

0-3' Sandy Gravel W/ Cobbles & Boulders; Dense; Damp

3'-12' Silt; Dense; Damp; A-4, F-4

Test Hole #13
5-28-80

Backhoe

0-2' Sandy Gravel W/Cobbles & Boulders; Dense; Damp
3"-10"= 10-20 %; +10"= 1-5 %

2'-10' Silt; Dense; Damp
A-4, F-4 Frozen 4'-10'

Test Hole #14
5-28-80

Backhoe

0-5' Sandy Gravel W/ Cobbles & Boulders; Dense; Damp

5'-11' Silt; Dense; Damp
A-4, F-4

Test Hole #15
5-28-80, Extened 5-28-80

Backhoe

6" Auger

S#8

0-14' Sandy Gravel W/Cobbles & Boulders; Dense; Damp
3"-10"= 10-20 %; +10"= 1-10%
Org. (Grass, Roots Top 1')
S#8 = A-1-a, N.F.S, N.P.

14'-30' Sandy Gravel As 0'-14'

30'-33' Silt; V/Dense;
A-4, F-4
Frozen 6'-33'

Test Hole #16
5-28-80, Extended 5/30/80

Backhoe

6" Auger

S#9

0-2' Organic Silt & Sand Strippings
2'-3' Organic
3'-6' Silty Sand; Dense Damp
A-2, F-3 To F-4

6-14' Sandy Gravel W/Cobbles & Boulders, Dense; Damp
3"-10"= 10-20 %, +10"= 1-10 %
S#9 = A-1-a, N.F.S., N.P.

14'-30' Same As 6'-14'; Finer Below 15'

30-33' Silt; Dense; V/Dense
A-4, F-4
Water 20'
Frozen 23'-33'

Test Hole #17
5-28-80, Extended 6/2/80

Backhoe

6" Auger

S#10

0-5' Sandy, Silt & Silty Sand; Dense; Damp
A-2 To A-4, F-3 To F-4

5'-13' Slightly Silty Sandy Gravel w/Cobbles & Boulders; Dense; Damp;
3"-10"=10-20 %, +10"=1-5 %
S#10 = A-1-a, N.F.S., N.P.

13'-20' Same As 5'-13'

20'-22' Silty Gravel, Stopped 22' By Boulder
A-2, F-2 To F-3
Frozen 2'-5'

SCALE
0
10'
20'
30'
40'
in FEET

MATERIALS SITE NO. 71-2-020-5

GLENNALLEN NORTH

Mile 115-125 RICHARDSON HIGHWAY

PROJECT NO. RF-071-2 (18)

Scale: 1"=10'

Date: Jan. 1981

Drawn: B. D.

Approved:

Data: D. R.

Test Hole #18
5-29-80

Backhoe

0-7' Sandy Gravel W/Cobbles & Boulders; Dense; Damp; 3"-10"= 5-15%; +10"= 1-5%; Organic Top 1' A-1, NFS To F-1

7'-11' Silt; V/Dense; Frozen - Visible Ice A-4, F-4

Test Hole #19
5-29-80

Backhoe

S #11

0-6' Sandy Gravel W/Cobbles & Boulders; Dense; Damp; 3"-10"= 10-20%, +10"= 1-10% S #11=A-1-a, N.F.S., N.P.

6'-12' Silt; Dense; Damp; Frozen 8'-12' A-4, F-4

Test Hole #21
5-29-80

Backhoe

0-2' Sandy Gravel W/Cobbles & Boulders; Med. Dense; Damp; Organic Top 1'; A-1, F-1 To N.F.S.

2'-10' Silt; Dense-V/Dense; Frozen 5'-10'; A-4, F-4

Test Hole #22
5-29-80

Backhoe

0-6' Silt; Dense; Organic Top 1'; Damp V/Dense @ 6'; Frozen 2'-6' A-4, F-4

Test Hole #23
5-29-80

Backhoe

S #12

0-9' Slightly Silty Sandy Gravel w/Cobbles & Boulders; Dense; Damp; Organic Top 1'; 3"-10"= 5-15%, +10"= 1-5% S #12 = A-1-a, F-1, N.P.

9'-12' Silt; V/Dense; Frozen 4'-12' A-4, F-4

Test Hole #24
5-29-80

Backhoe

S #13

0-1' Organic

1'-2' Silty Sand or Sandy Silt; Dense; A-2 To A-4, F-3 To F-4

2'-5' Sandy Gravel W/Cobbles & Boulders; Dense; 3"-10"= 10-20%, +10"= 1-5%; Frozen 2'-5' S #13 = A-1-a, N.F.S, N.P.

Test Hole #25
5-29-80

Backhoe

0-2' Organic W/Boulders

2'-5' Silt W/Cobbles & Gravel; V/Dense A-4, F-4; Frozen 4'-5'

Test Hole #26
6-3-80

Backhoe

S #14

0-12' Sandy Gravel W/Cobbles & Boulders; Dense; Damp; 3"-10"= 10-20%, +10"= 1-10%; Organic Top 1' S #14 = A-1-a, N.F.S., N.P.

12'-14' Silt; Dense; Damp A-4, F-4 Water 12'

Test Hole #27
6-3-80

Backhoe

S #15

0-2' Organic & Organic Silt

2'-10' Gravel w/Sand Cobbles & Boulders; Dense; 3"-10"= 10-20%, +10"= 1-10%; Frozen; V/Hard Below 9'; Water 9' S #15 = A-1-a, N.F.S., N.P.

Test Hole #28
6-3-80

Backhoe

0-6' Sandy Gravel W/Cobbles & Boulders; Dense; Damp; 3"-10"= 5-15%, +10"= 1-5%; Organic Top 1' A-1, N.F.S.

6'-12' Silt; Dense; Damp; Frozen 7'-12' A-4, F-4

Test Hole #29
6-3-80

Backhoe

S #16

0-1½' Organic

1½'-3' Tan Sandy Silt; Dense-V/Dense A-4, F-4

3'-8' Sandy Gravel W/Cobbles & Boulders Dense-V/Dense 3"-10"= 5-15%, +10"= 1-5%, Stopped By Boulders Frozen In S #16 = A-1-a, N.F.S., N.P.

Test Hole #30
6-3-80

Backhoe

S #17

0-2' Organics & Organic Silt

2'-9' Sandy Gravel W/Cobbles & Occ Boulders; V/Dense 3"-10"= 5-15%, +10"= 1-5%, Frozen ½'-9' S #17 = A-1-a, N.F.S., N.P.

Test Hole #31
6-4-80

Backhoe

S #18

0-2' Organics & Organic Silt & Sand

2'-5' Tan Sandy Silt, Med. Dense; Damp; A-4, F-4

5'-13' Sandy Gravel W/Cobbles & Boulders; Med. Dense; Damp; 3"-10"= 5-10%, +10"= 1-5% S #18 = A-1-a, N.F.S., N.P.

Test Hole #32
6-4-80

Backhoe

0-1' Organic

1'-5' Tan Sandy Silt; Dense-V/Dense; A-4, F-4;

Test Hole #33
6-4-80, Extended 6-5-80

Backhoe

S #19

6" Auger

0-1' Organics

1'-4' Tan Sandy Silt; Dense A-4, F-4

4'-12' Sandy Gravel W/Cobbles & Boulders; Dense 3"-10"= 10-20%, +10"= 1-5% S #19 = A-1-a, N.F.S., N.P.

12'-16' As 4'-12'; Sandy 14'-16'

16'-23' Sandy Silt & Silt, Dense; Damp; A-4, F-4

Test Hole #34
6-4-80, Extened 6-5-80

Backhoe

S #20

6" Auger

0-17' Gravel w/Sand Cobbles & Boulders; Dense; Damp; Saturated; 3"-8"= 10-20%, +10"= 1-5% S #20 = A-1-a, N.F.S., N.P.

17'-23' Silt; Dense; Damp A-4, F-4 Water 5'

Test Hole #35
6-4-80, Extended 6-5-80

Backhoe

S #21

6" Auger

0-1' Organics

1'-4' Tan Sandy Silt; Dense-V/Dense; Damp; A-4, F-4

4'-27' Sandy Gravel W/Cobbles & Boulders; Dense; Damp; 3"-10"= 5-15%, +10"= 1-5% Frozen 2'-27' S #21 = A-1-a, N.F.S, N.P.

Test Hole #36
6-4-80, Extended 6-5-80

Backhoe

S #22

6" Auger

0-1' Organics

1-3 Tan Sandy Silt, Dense A-4, F-4

3'-17' Sandy Gravel W/Cobbles & Boulders, V/Dense 3"-10"= 10-20%, +10"= 1-5% S #22 = A-1-a, N.F.S., N.P.

17'-23' Silt, Dense; Damp; A-4, F-4 Frozen 2'-23'

Test Hole #37
6-4-80, Extended 6-5-80

Backhoe

S #23

6" Auger

0-2' Sandy Gravel W/Cobbles & Boulders; Fill; Dense; Damp; A-1, N.F.S.

2-26' Organics

26'-6' Sandy Silt; Dense; Damp; A-4, F-4

6'-20' Sandy Gravel W/Cobbles & Boulders; Dense; Damp S #23 = A-1-a, N.F.S., N.P.

20'-23' Silt; Dense; Damp A-4, F-4

Test Hole #38
6-4-80

Backhoe

S #24

0-2' Organics & Organic Sandy Silt

2'-16' Sandy Gravel W/Cobbles & Boulders; Dense S #24 = A-1-a, N.F.S., N.P.

SCALE
0
10'
20'
30'
40'
in FEET

Test Hole #20
5-29-80

Backhoe

0-2' Sandy Gravel w/Cobbles & Boulders; Dense; Damp; 3"-10"=5-15%; +10"=1-5%; Organic top 1'; A-1, N.F.S to F-1

2'-11' Silt; Dense; Damp; Frozen 3'-11'; Visible Ice; A-4, F-4.

39

GLENNALLEN NORTH Mile 115-125 RICHARDSON HIGHWAY		MATERIALS SITE NO. 71-2-020-5
		Scale: 1"= 10' / Date: Jan. 1981
PROJECT NO. RF-071-2 (18)	Data: D. R. / Drawn: B. D.	Approved: S.R.

Test Hole #39
6-9-80
0-1 Organics
1-6 Tan Sandy Silt; Dense

6" Auger

S#25

6'-99' Gravel W/Cobbles & Boulders; Dense.
S.#25 = A-1-a, N.F.S., N.P.; Stopped by boulder.

Test Hole #41
6-10-80
0-1' Organics
1-3' Tan Sandy Silt; Med. Dense; Damp; A-4, F-4
3-10' Sandy Gravel W/ Cobbles & Boulders; Dense; Damp; A-1, F-1
10'-16' Sandy Silt; Med. Dense; A-4, F-4
16-30' Same As 3'-10'
30'-33' Grey Silt; Dense; Damp; A-4, F-4

6" Auger

Test Hole #42
6-10-80
0-1' Organics
1-5' Tan Sandy Silt; Med. Dense; A-4, F-4
5'-30' Slightly Silty Sandy Gravel w/Cobbles & Boulders; Dense; Damp
S#27 = A-1-a, N.F.S., N.P.

6" Auger

S#27

Test Hole #43
6-11-80
0-1' Organics
1-3' Tan Sandy Silt; Med. Dense; Damp; A-4, F-4
3-45' Sandy Gravel W/ Cobbles & Boulders; Dense; Damp; A-1, N.F.S. To F-1
45'-58' Silt; Dense, Damp; A-4, F-4

6" Auger

Test Hole #45
6-12-80
0-1' Organics
1-3' Sandy Silt; Med Dense, A-4, F-4
3-18' Fine Sandy Gravel W/ Occ. Cobbles; V/ Dense; A-1, N.F.S. To F-1
18'-28' Silty Sand; Wet; V/ Dense A-2, F-2 To F-3
28'-46' Silty Sandy Gravel w/occ. Cobbles V/ Dense; Wet S.#29 = A-1-b, F-2, N.P. Frozen 5'-46'

6" Auger

S#29

Test Hole #46
6-12-80
0-1' Organics
1-3' Organic Silt
3-5' Silt, V/ Dense, Saturated A-4, F-4
5-17' Sandy Gravel; V/ Dense. A-1, F-1
Frozen 1'-17'

6" Auger

Test Hole #47
6-12-80
0-1' Organics
1-3' Organic Silt; V/ Dense. A-4, F-4
3-7' Sandy Gravel; V/ Dense. A-1, F-1
Frozen 1'-7'

6" Auger

Test Hole #48
6-13-80
0-1' Organics
1-2' Tan Sandy Silt A-4, F-4
2'-30' Sandy Gravel W/ Cobbles; Finer Below 12'; Med. Dense; Damp
S.#30 = A-1-a, N.F.S, N.P.
30'-33' Silt; Med. Dense; Damp; A-4, F-4

6" Auger

S#30

Test Hole #49
6-13-80, Extended 6-17-80
0-2' Organics
2'-18' Sandy Gravel W/ Cobbles & Boulders Below 8'; Med. Dense; Dense

6" Auger

Backhoe

Test Hole #50
6-16-80, Extened 6-17-80
0-1' Organics
1-3' Sandy Silt; Med. Dense; Dry; A-4, F-4
3-12' Sandy Gravel W/ Cobbles & Boulders; Med. Dense; Dry - Damp; 3"-10" = 5-15%, +10" = 1-5%; S#32 = A-1-a, N.F.S., N.P.
12'-35' As 3'-12'
35'-38' Silt; med. Dense; A-4, F-4. Dry Hole.

Backhoe

6" Auger

S#32

Test Hole #51
6-16-80, Extended 6-17-80
0-1' Organics
1'-4' Sandy Silt; med. Dense- v/Dense; Frozen 2'-4'; A-4, F-4.
4'-13' Sandy Gravel w/Cobbles & Boulders; Dense; Damp; 3"-10" = ; +10" = S#33 = A-1-a, N.F.S., N.P.
13'-18' As 4'-13' too Cobbly to Penetrate below 18'; Dry Hole.

Backhoe

6" Auger

S#33

Test Hole #40
6-9-80
0-1' Organics
1'-3' Tan Sandy Silt
3'-49' Gravel w/Sand Cobbles & Boulders; Dense; Damp; finer below 30'; wet below 30'; S#26 = A-1-a, N.F.S., N.P.

6" Auger

S#26

Test Hole #44
6-11-80
0-1' Organics
1'-3½' Tan Sandy Silt; Dense; Damp; A-4, F-4.
3½'-30' Slightly Silty Gravel w/Sand, Cobbles & Boulders; Dense; Damp; Frozen 5'-30'; S#28 = A-1-a, N.F.S., N.P.
30'-31' Silt; v/Dense; Damp; A-4, F-4.

6" Auger

Test Hole #52
6-16-80, Extended 6-17-80
0-1' Organics
1'-4' Sandy Silt; Dense; Damp; A-4, F-4.
4'-13' Sandy Gravel w/Cobbles & Boulders; Dense; Damp; 3"-10" = 1-15%; +10" = 1-5%; S#34 = A-1-a, N.F.S., N.P.
13'-40' As 4'-13'
40'-48' Silt; med. Dense; A-4, F-4.

Backhoe

6" Auger

S#34

SCALE
0
10'
20'
30'
40'
in FEET

40

GLENNALLEN NORTH
Mile 115-125 RICHARDSON HIGHWAY
PROJECT NO. RF-071-2 (18)

MATERIALS SITE NO.
71-2-020-5
Scale: 1"=10' | Date: Jan. 1981
Data: D. R. | Drawn: B. D. | Approved: MR


2009/ 9/18
W:145°23'34.11"
N:062°15'56.12"


2009/ 9/18
W:145°23'34.11"
N:062°15'56.12"


2009/ 9/18
W:145°23'34.11"
N:062°15'56.12"


2009/ 9/18
W:145°23'33.64"
N:062°15'56.29"

U.S. CADASTRAL SURVEY

250 FOR

S 4861

C 1

GTS

1965

BUREAU OF LAND MANAGEMENT

2009/ 9/18

W:145°23'20.65"
N:062°15'57.67"


2009/ 9/18
W:145°23'20.89"
N:062°15'57.54"

U.S. DEPT. OF THE INTERIOR
UNLAWFUL TO DISTURB

S 4861

S 27

T R G

S 34

T 6 N R 1 W

1969

CADASTRAL SURVEY

BLM

BUREAU OF LAND MANAGEMENT

2009/ 9/18

W:145°23' 12.07"
N:062° 15' 54.48"


U.S. DEPT. OF THE INTERIOR
UNLAWFUL TO DISTURB
T 6 N R 1 W
1/4
S 27
S 34
1969
CADASTRAL SURVEY
BUR. OF LAND MANAGEMENT
2009/ 9/18
W:145°23'24.84"
N:062°15'54.42"

STATE OF ALASKA
M S
71-2-0205
DOT/PF

2009/ 9/18
W:145° 24' 06.84"
N:062° 15' 54.60"

U.S. DEPT. OF THE INTERIOR
UNLAWFUL TO DISTURB

T 6 N R 1 W

S 28 | S 27

S 33 | S 34

1969

CADASTRAL SURVEY

BUR. OF LAND MANAGEMENT

2009/ 9/18

W:145°24'20.69"
N:062°15'54.51"


STATE OF ALASKA
MS
2007
6898
71-2-020-5S
DOT/PF
2009/ 9/18
W:145°24' 13.74"
N:062°15' 54.70"


2009/ 9/18
W:145°23'56.04"
N:062°15'55.54"


2009/ 9/18
W:145°23'56.04"
N:062°15'55.54"


2009/ 9/18
W:145° 23' 45.57"
N:062° 15' 34.68"


2009/ 9/18
W:145°23'54.76"
N:062°15'18.80"


2009/ 9/18
W:145°23'54.76"
N:062°15'18.80"


2009/ 9/18
W:145°23'45.92"
N:062°15'41.58"


2009/ 9/18
W:145°23'33.85"
N:062°15'54.47"


2009/ 9/18
W:145°23'33.75"
N:062°15'54.61"


2009/ 9/18


2009/ 9/18
W:145°24'00.23"
N:062°15'42.86"


2009/ 9/18
W:145°24'00.23"
N:062°15'42.86"


2009/ 9/18
W:145°23'58.35"
N:062°15'53.85"


2009/ 9/18
W:145°23'58.36"
N:062°15'53.85"


2009/ 9/18
W:145°24'06.43"
N:062°15'58.84"


2009/ 9/18
W:145°23'42.95"
N:062°15'55.48"


1987


1987


Nov 1985


11 July 1984

11 July 1984


11 July 1984


11 July 1984