STATEWIDE MATERIAL SITE INVENTORY

MATERIAL SITE INSPECTION REPORT

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

ELLIOTT HIGHWAY

MS 680-105-2
Rosebud Creek Pit

December 2, 2009

CONTENTS PAGE

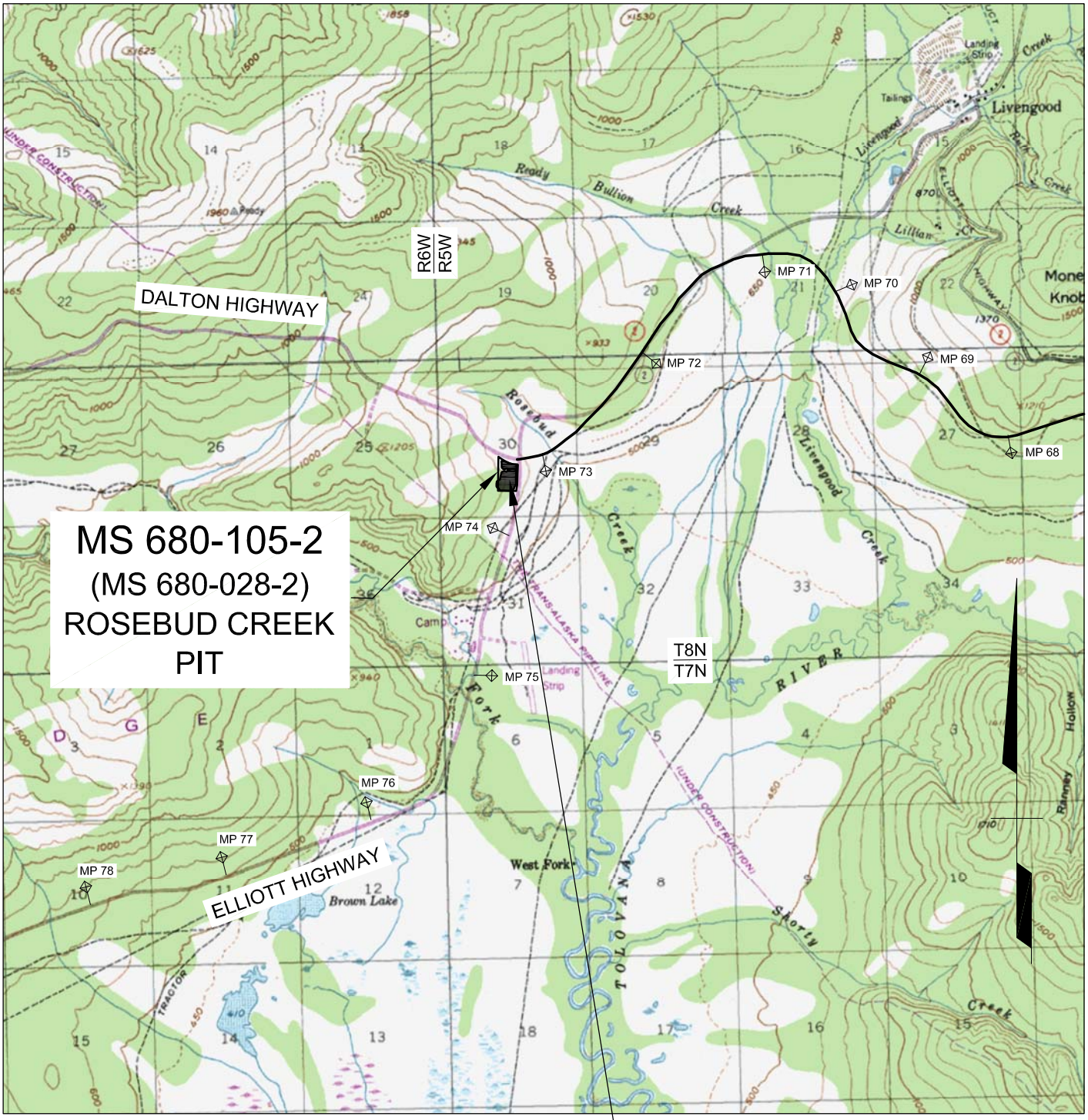
CATEGORY:

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 DNR. The site was originally developed for the construction of the Dalton Highway to the Yukon River in 1969. The site was originally a BLM right-of-way grant, MS 680-028-2 (F-26017). It was renamed when the site limits were expanded in1979. It was also used for construction of the Alyeska Pipeline in the mid-1970's (MS 70-0.0). It is presently a joint-use site, used by Alyeska operations and maintenance for storage (OMS-70-0.0) and for DOT&PF Dalton/Elliott Highway maintenance and reconstruction (MS 680-105-2). The Alyeska material sale contract (ADL 416941) expired on December 31, 2007. Alyeska presently has a stockpiling and equipment storage permit for the site (LAS 27195) that presently expires June 23, 2014. DOT&PF is currently operating under a negotiated material sale contract (ADL 416019) that expires on December 31, 2009.

DOT&PF applied for the “Livengood Solid Waste Disposal Site” in the pit (ADL 412317, FF-83657) and was surveyed (USS 12925). It has also been known as Alyeska SWDA DS 70-0.0. The current status of the SWDS is unknown, although it does not appear to still be in use. An existing access road connects the site to the Elliott Highway. The Elliott Highway right-of-way abuts the site limits. The site appears to contain significant quantities of rock and should be retained by DOT&PF for future use.

LOCATION MAP



U.S.G.S. QUADRANGLE: LIVENGOOD (B–3), (B–4), (C–3), (C–4)

GPS COORDINATES FROM GOOGLE EARTH

UTM (WGS84–METERS)
ZONE 6: N7,263,897 E423,267
AK STATE PLANE (NAD83–US SURVEY FT)
ZONE 4: N4,200,818 E1,844,343

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 680–105–2

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

Plotted 2/3/2010 2:20 PM by Will Rhodes

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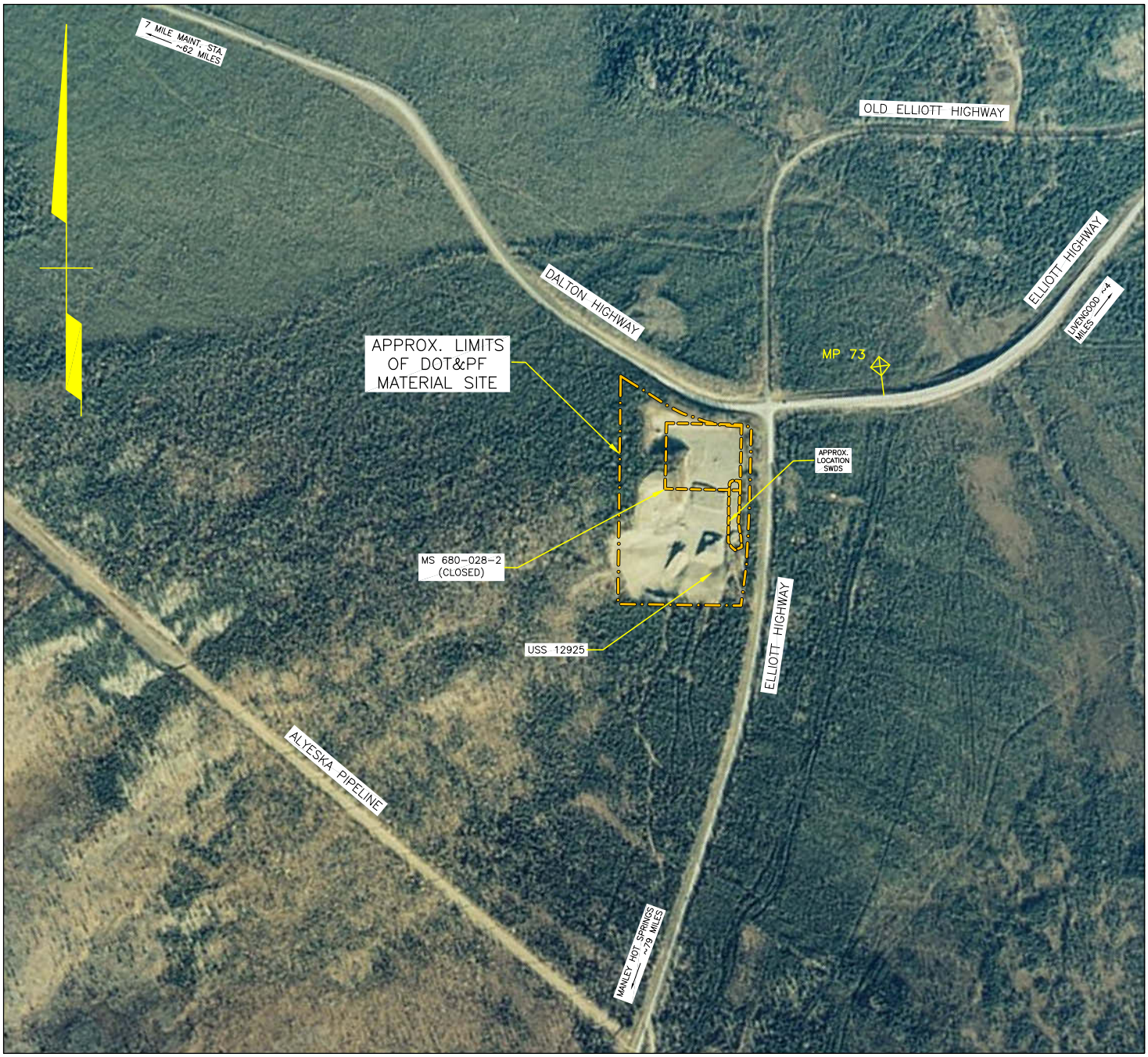
SITE MAP



BASE MAP IS 2008 AERIAL PHOTOGRAPHY.
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 AERIAL PHOTOS DATED 9/23/08

Prepared By:
R&M CONSULTANTS, INC.

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

STATEWIDE MATERIAL SITE INVENTORY

MS 680-105-2

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

Plotted 2/3/2010 2:21 PM by Will Rhodes
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SITE MAP

BASE MAP IS 2008 AERIAL PHOTOGRAPHY.
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

BASE MAP FROM AERIAL PHOTOS DATED 9/23/08

Prepared By:
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STATEWIDE MATERIAL SITE INVENTORY

MS 680-105-2

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

Plotted 2/3/2010 2:22 PM by Will Rhodes
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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** **680-105-2**
   Enter the full material site number e.g.. 65-9-045-2
2. **DATE_INSPECT** 8/24/2009
   Date of field inspection
3. **FLD INSPEC_ORG** WILL RHODES / R&M CONSULTANTS
   Name of inspector / Organization or Company

4. **REGION** NORTHERN
5. **LOCATION** ELLIOTT HIGHWAY
   Name of Highway
   Enter Name of Facility or Secondary Route Name (i.e. Kotzebue Airport, Nash Road, etc.)
6. **MILEPOST** 73
   List the closest main highway milepost
7. **NAME** ROSEBUD CREEK PIT, PIT NO. 3
   Enter commonly used name (s), e.g. Hess pit, Gobblers Knob, Midway. List all that apply separated by commas.
8. **MAINT_DIST/STAT** District INTERIOR/FAIRBANKS Station LIVENGOOD
   Highway Maintenance District and Station, for locations not on highways select other.
9. **QUAD** LIVENGOOD B-4
   U.S.G.S. Quad. Map
10. **TOWNSHIP /RANGE** T#S R#E T8N R5W Meridian FM
    Section 30
11. **COOR_UTM**
    ZONE 6
    NORTHING 7,263,897
    EASTING 423,267
    UTM WGS84 - Meters
12. **COOR_STATE_PLANE**
    ZONE 4
    NORTHING 4,200,818
    EASTING 1,844,343
    Alaska State Plane NAD83 - Survey Feet
13. **BOROUGH** UNORGANIZED **TAX ID NO.**
14. **DNR_LAND_USE_PLAN** YUKON - TANANA 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** ALYESKA

18. **PERMITTED _ACREAGE** 16

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

19. **DEVELOPED_ACREAGE** 13

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

Includes all of existing pit.

20. **ACREAGE_COMP_METHOD** FROM MAP/PHOTO

Method used to determine developed acreage.

21. **EST_QUAN_AVAIL** 450,000 ROUGH ESTIMATE

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

If the existing pit is deepened it will no longer daylight to the east and drainage may become a problem. Assuming that the remaining areas within the existing pit had an average of 2.5 feet of overburden and a 52.5-foot average working depth, there was approx. 130,000 c.y. of material remaining (2.6 acres x 50 feet x 1,000 c.y. per acre-foot). Test borings indieated the site can be expanded uphill within the old Alyeska site limits at least 250 feet. Assuming that the expansion area had an average of 2.5 feet of overburden and a 52.5-foot average working depth, there was approx. 315,000 c.y. of additional material available (6.3 acres x 50 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** 100
Approx. length from edge of pit to highway/secondary route (ft.)

24. **VEGETATION**

Vegetation in the undeveloped portion of the site consisted of birch and spruce trees to 8 in. diameter spaced 5 to 15 ft apart, scattered alder brush and low ground cover. The edges of the existing pit were sparsely vegetated with low brush.

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

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** COLLUVIUM 30. **OB_TYPE_2** OTHER

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** WEATHER. BEDROCK
Dominant type

32. **MAT_TYPE_2** BEDROCK
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 NO 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**

Groundwater was not noted in test holes advanced to 29 ft. during October, 1986.

STATEWIDE MATERIAL SITE INVENTORY
MATERIAL SITE INSPECTION FORM

36. **LITHOLOGY_1** CHERT — 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.		38c.		38e.		38g.	
38b.		38d.		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.		(Est. From Visual Observations)
39c.	MAX. SIZE (in.)		(Observed Size)

40. AGG_TEST_RESULTS

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

40a. SG APP COARSE	1977- 2.66, 2.69
40b. SG APP FINE	1977- 2.65, 2.64, 2.62, 2.70, 2.72
40c. ABSORPTION CRSE	
40d. ABSORPTION FINE	1977- 1.4, 1.9, 1.0, 3.0
40e. NORDIC ABRASION	
40f. L.A. ABRASION	1997- 31, 2, 6 / 1986- 23, 37
40g. DEGRADATION (T-13)	1997- 35 / 1986-53, 23, 1, 42, 11
40h. NASO4 LOSS COARSE	
40i. NASO4 LOSS FINE	

41. POTENTIAL_USABILITY — TYPE C MATERIAL AVAILABLE

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.

17c. Alyeska was storing material in the site. Their material site contract had expired in 2009. Alyeska stockpiles and working areas were in the southwest portion of the pit. DOT&PF was stockpiling and mining in the central and western portion of the pit.

28/30. Vegetated spoil berms were present along the north and southeast margins of the existing pit. Additionally, a portion of the existing pit near the eastern pit boundary was used to establish a solid waste disposal site (see site map, page 3B). Material was stockpiled over much of the designated solid waste disposal site as of August, 2009.

43. The highly fractured appearance of the material and low degradation test results would appear to preclude riprap production.