APPENDIX 4-G

PRELIMINARY VISUAL IMPACT ANALYSIS

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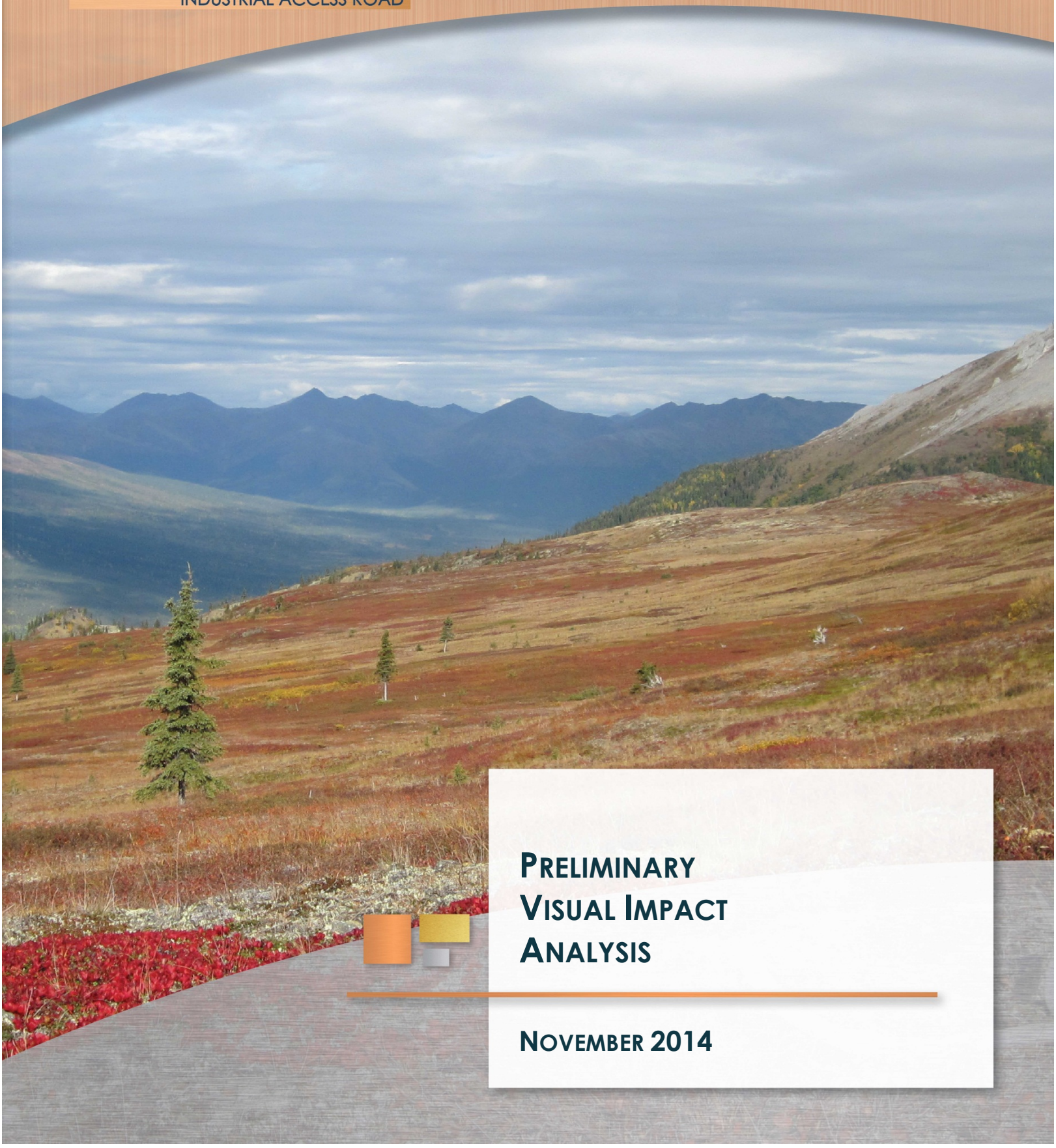
AMBLER MINING DISTRICT

INDUSTRIAL ACCESS ROAD

AIDEA

Alaska Industrial Development and Export Authority



Preliminary Visual Impact Analysis

November 2014

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AMBLER MINING DISTRICT INDUSTRIAL ACCESS ROAD
PRELIMINARY VISUAL IMPACT ANALYSIS

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November 2014

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LIST OF ACRONYMS

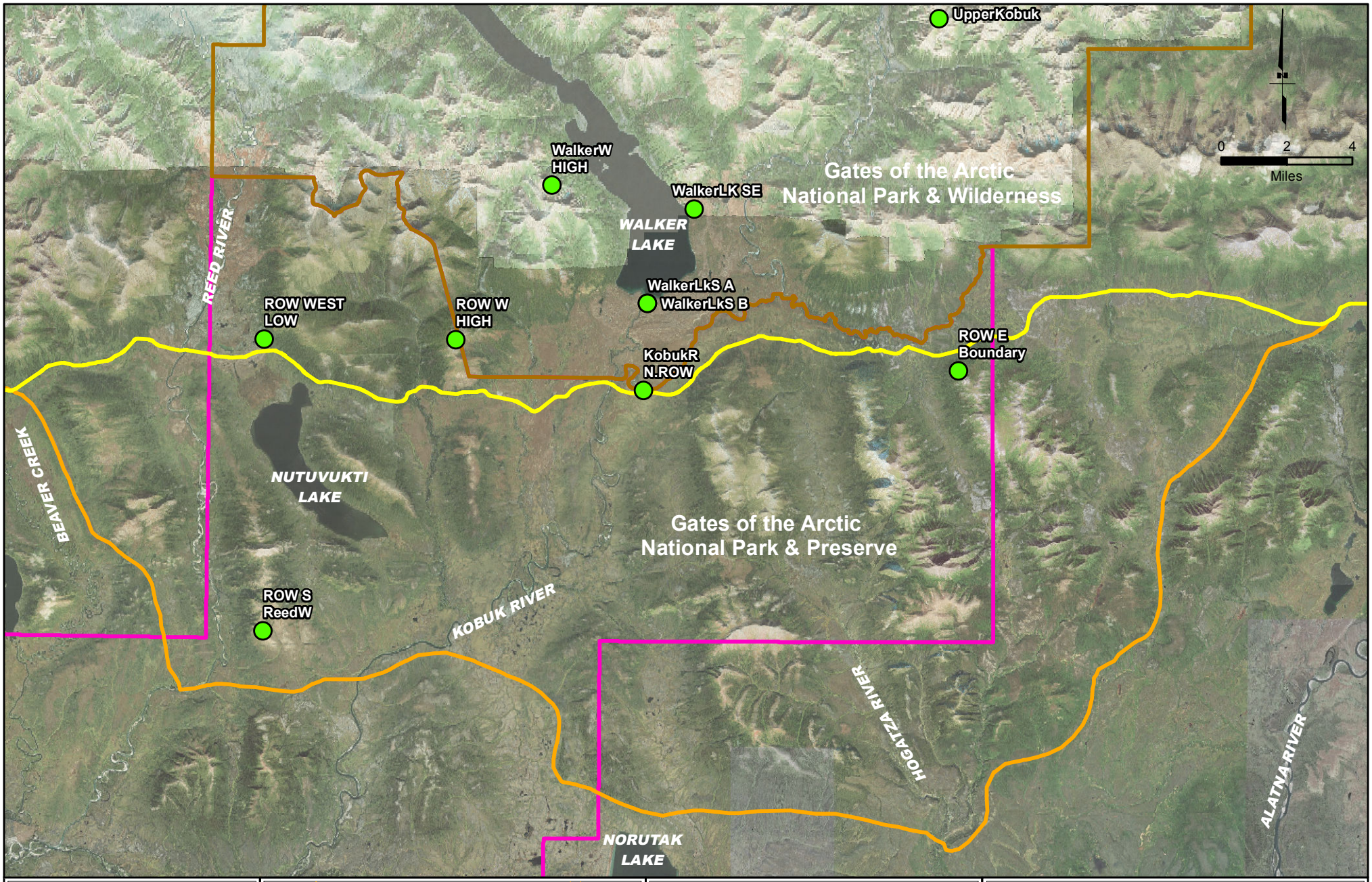
AIDEA ..... Alaska Industrial Development and Export Authority
AMDIAR ..... Ambler Mining District Industrial Access Road
GAAR .....Gates of the Arctic National Park and Preserve
KOP.....Key Observation Point
NPS ..... National Park Service

1.0 INTRODUCTION

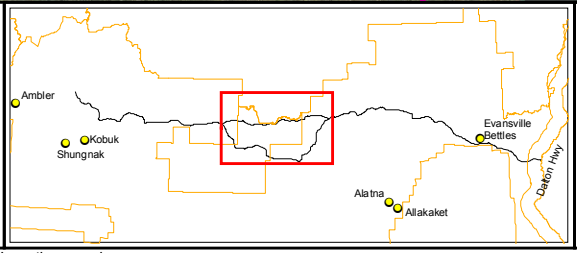
The Alaska Industrial Development and Export Authority (AIDEA) is evaluating construction of a controlled-access industrial access road to the Ambler Mining District located along the southern base of the Brooks Range in Interior Alaska. The proposed Ambler Mining District Industrial Access Road (AMDIAR) project would provide a controlled-access industrial transportation corridor from the Ambler Mining District to the Dalton Highway.

The proposed alignment crosses through Gates of the Arctic National Park and Preserve (GAAR) near the boundary between the park and preserve (Figure 1). An alternative southern route is included in the analysis at the request of the National Park Service (NPS). While the proposed route through GAAR results in a shorter corridor overall (203 miles), it requires a longer traverse through GAAR than the southern option (26 vs 17.5 miles). The corridor overall from the Dalton Highway to the Ambler Mining District is 214 miles if the southern route through GAAR is used.

This report is a preliminary visual impact analysis for the proposed road corridor through GAAR along the two potential routes. The preliminary visual impact analysis simulates the footprint associated with the construction of a 32’ wide crushed aggregate road, and illustrates its potential effect on the scenic quality of the landscape. It is intended to act as a tool for informing decisions regarding the selection of a route and mitigation measures. In support of this analysis, a scenic quality evaluation was conducted at 20 different observation points by NPS and DOWL HKM staff; the evaluation is included as an appendix to this report.



- NPS Observation Points
- Preferred (Northern) Alignment
- Alternative (Southern) Alignment
- Gates of the Arctic NP & Wilderness
- Gates of the Arctic NP & Preserve



AMBLER MINING DISTRICT
INDUSTRIAL ACCESS ROAD

DOWL HKM

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GAAR Visual Impact Analysis
NPS Observation Point Locations

Ambler Mining District
Industrial Access Road

November 07, 2014

Figure 1

Q:\24\60693\GIS\Landscape\NPS Observation Point Locations.mxd

2.0 BACKGROUND

The NPS has requested potential visual impacts be addressed as part of the SF-299 application for a right-of-way for AMDIAR. NPS staff completed scenic quality evaluations in July, 2014 of nine observation points sited primarily along the proposed northern route (Figure 1). The NPS provided observation points and photographs to DOWL HKM. The NPS's Scenery Conservation Program has created a protocol for the inventory of landscape views. It involves a series of evaluations and rankings concerning scenic quality and view importance which culminates in a scenic inventory composite score. Scenic quality is rated on a scale of A through E with A being the highest quality and E being the lowest. View importance is rated 1 through 5 with 1 being the highest importance and 5 being the lowest. During a teleconference, NPS staff instructed DOWL HKM staff on this procedure. Observation point selection rationale was also discussed during the meeting and additional sites were agreed upon for further investigation.

3.0 ESTABLISH OBSERVATION POINTS

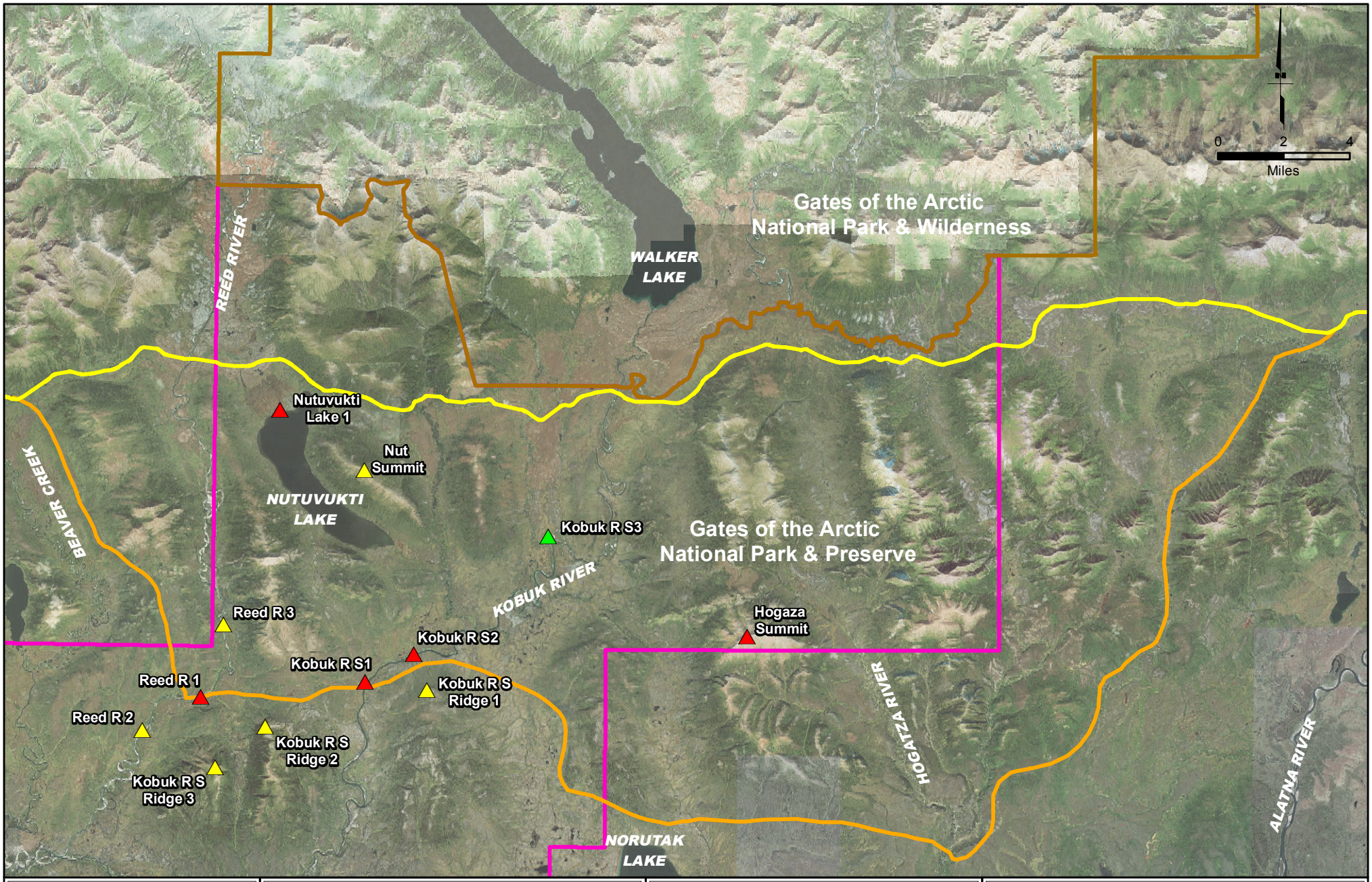
The first step of the visual analysis was to identify representative observation points to be documented during a site visit. As discussed above, the NPS selected nine observation points (Figure 1) based on proximity to the proposed AMDIAR corridors, the likelihood of a user visit and the potential visibility of the road. A majority of visitors to GAAR travel by river and/or arrive via plane. As there are no established viewpoints, trails, visitor centers, roads or other infrastructure along which user visits can reliably be determined, NPS based the likelihood of a user visit to a point by its proximity to a river or lake. For this study Walker Lake, Nutuvukti Lake, Kobuk River and Reed River were determined to be the most likely places that visitors might see the proposed road. NPS used GIS functions based on topography and line of sight to determine the potential visibility of the road from the surrounding landscape. The NPS established eight points that address the northern route and one point that addresses the southern route. NPS personnel visited these nine points on July 26 and 27, 2014. Their team documented views, recorded data and completed scenic quality ratings. View importance ratings were completed by a NPS team on August 28, 2014. Scenic quality and view importance forms completed by NPS can be found in Appendix A.

DOWL HKM selected twelve new observation points (Figure 2) to examine based on criteria discussed with NPS. Because NPS had primarily addressed the northern route, the DOWL HKM team selected more points to address the southern route to ensure both routes were equally covered. Observation points were ranked as high, medium and low value prior to commencing field work. Rankings were based on potential visitor frequency and proximity to the proposed routes, and were established to ensure that the highest priority points would be documented during DOWL HKM's one-day field effort.

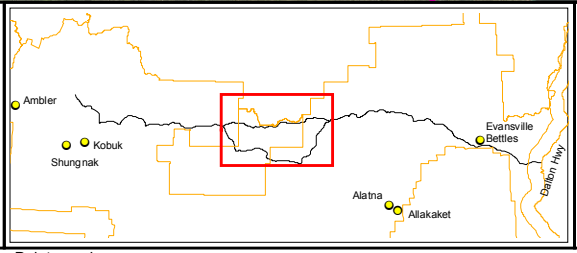
A team from DOWL HKM visited ten of the twelve observation points via helicopter on September 18, 2014. The team documented views, recorded data and completed scenic quality ratings at the ten observation points. Two observation points were not visited as it became evident in the field that one point would not have a clear line of sight to the proposed road and the other point was very similar to two previously visited points and subsequently deemed redundant. View importance ratings for the DOWL HKM sites were completed by a team of NPS and DOWL HKM personnel on November 4, 2014. Scenic quality and view importance forms completed for the DOWL HKM sites can be found in Appendix B.

4.0 IDENTIFICATION OF KEY OBSERVATION POINTS (KOPS)

The second step of the analysis was to select eight to ten Key Observation Points (KOPs) from the 19 observation points that NPS and DOWL HKM visited in the field. The KOPs were deemed critical viewpoints of the road or represented typical views of the road. The team evaluated photographs taken at the nine NPS and twelve DOWL HKM observation points alongside maps of the road corridors, aerial photographs, and Google Earth models with the road alignments. By comparing the images, mapping and models DOWL HKM was able to determine which sites would have views of the proposed road and how extensive those views would be. Sites that did not have views, had minimal views and/or had extremely distant views of the AMDIAR were eliminated from consideration as a KOP.



High Value Observation Point
Medium Value Observation Point
Low Value Observation Point
Preferred (Northern) Alignment
Alternative (Southern) Alignment
Gates of the Arctic NP & Wilderness
Gates of the Arctic NP & Preserve



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GAAR Visual Impact Analysis
DOWL HKM Observation Points

Ambler Mining District
Industrial Access Road

November 07, 2014

Figure 2

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Four of the original NPS points and six of the DOWL HKM locations were chosen as KOPs because they had extensive or close proximity views of the roads. The ten KOPs are:

- KOP 1 - ROW West Low (north route)
- KOP 2 - Walker Lake High West (north route)
- KOP 3 - ROW West High (north route)
- KOP 4 - ROW East Boundary (north route)
- KOP 5 - Nutuvukti Summit (north route)
- KOP 6 - Reed River 1 (south route)
- KOP 7 - Kobuk RS 1 (south route)
- KOP 8 - Nutuvukti Lake (north route)
- KOP 9 - Kobuk RS Ridge 3 (south route)
- KOP 10 - Kobuk RS Ridge 1 (south route)

Figure 3 depicts the locations of the KOPS and the direction/angle of view from each.

5.0 PREPARATION OF VISUAL SIMULATIONS

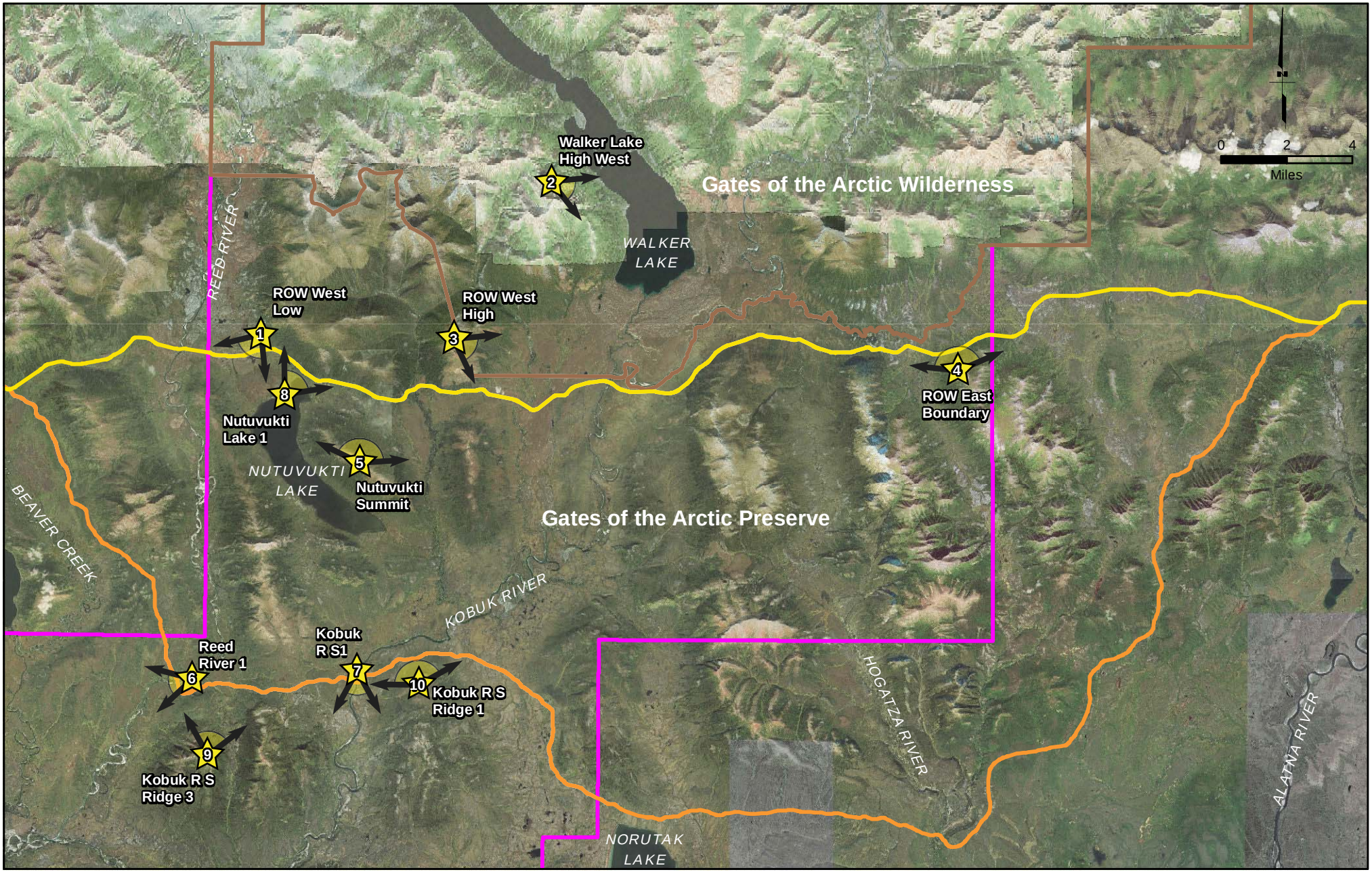
The final step in the process was to prepare visual simulations for each KOP to illustrate the effects of the AMDIAR project on the landscape and visual resources of GAAR.

Photographs taken from each of the KOPs were first assembled into panoramas using Adobe Photoshop CC. Next, the location of the road as it would appear in each panorama was determined. DOWL HKM used design drawings, LIDAR contour maps, high resolution aerial photography and GIS data exported to Google Earth to determine the alignment and location of the road in each panorama with as much accuracy as possible. By carefully examining vegetation, landforms, water bodies, patterns, slopes, etc., DOWL HKM was able to determine points of reference within each of the panoramic images.

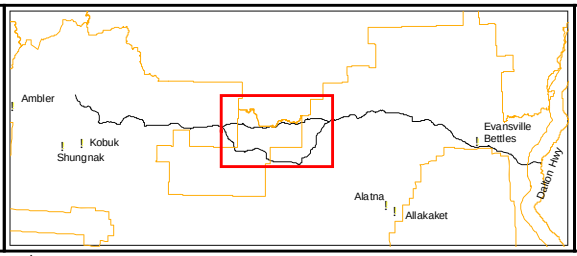
Once these points of reference were determined, lines representing the road were added in Photoshop. The lines were drawn in a very light color to ensure the alignment would be visible.

This color does not necessarily represent the actual color of the road after construction but represents a worst case scenario. Road colors are expected to range from light gray to tan to reddish brown depending on the materials available at the various materials sites. Adjustments were made to refine the road layout and consideration was given to existing vegetation, changes in topography and distance from the viewer to determine the road's visibility.

DOWL HKM scaled the road in the same manner as locating the road; by finding points of reference and comparing them to the design footprint. The width of the road was estimated using professional judgment since there were no objects, manmade or otherwise, of established size or exact location to use for comparison to the road size. Professional judgment was used depict the level of screening, or lack thereof, provided by existing vegetation in each of the KOPs.



Key Observation Point (KOP)
Gates of the Arctic NP & Wilderness
Gates of the Arctic NP & Preserve
Preferred (Northern) Alignment
Alternative (Southern) Alignment
View Cone



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GAAR Visual Impact Analysis
Key Observation Points

Ambler Mining District
Industrial Access Road

November 07, 2014

Figure 3

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6.0 KOPS

6.1 KOP 1 - ROW West Low (North Route) – Looking South/Southwest

This location is near the western boundary of the Preserve. The observation point is looking south in an open spruce forest with low shrubs and has a distant view of Nutuvukti Lake two miles away. This is a wilderness location with no man made elements visible and no trail access. The Reed River is 2.1 miles to the west. Figure 4 shows the existing view from KOP 1.

AMDIAR traverses from the right side of the view down slope and across a moraine near a small lake. The road then disappears from view behind a rise in the foreground topography. As the road reappears in the center right of the view it crosses through lower ground and is largely screened by vegetation before again disappearing behind a slope on the viewer's left. The road footprint in this area averages 80' wide with fill slopes 8' high. Figure 4 shows the view from KOP 1 with the simulated road.

6.2 KOP 2 – Walker Lake High West (North Route) – Looking East/Southeast

High on a mountain ridge above Walker Lake, this observation point has a clear view from northwest to southeast. The location is difficult to access as it requires an off-trail climb up steep mountain slopes. At least three cabin structures are visible around Walker Lake. Figure 5 shows the existing view from KOP 2 toward the east and southeast. Expansive views continue around to the northwest capturing the Arrigetch Peaks, Walker Lake and Mount Igikpak. These additional images were not included as the road would not be visible in this portion of the view and also the resulting panorama would have been too large to fit without significantly shrinking the image for reproduction in this report.

KOP 1 - ROW West Low Existing - Looking South / Southwest (North Route)

KOP 1 - ROW West Low After Construction - Looking South / Southwest (North Route)

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GAAR Visual Impact Analysis KOP 1 - ROW West Low	
Ambler Mining District Industrial Access Road	
November 07, 2014	Figure 4

KOP 2 - Walker Lake High West Existing - Looking East / Southeast (North Route)

KOP 2 - Walker Lake High West After Construction - Looking East / Southeast (North Route)

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DOWL HKM

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GAAR Visual Impact Analysis
KOP 2 - Walker Lake High West

Ambler Mining District
Industrial Access Road

November 07, 2014

Figure 5

From KOP 2 the AMDIAR northern route lays approximately 7.25 miles at its closest visible point where it comes into view beyond a mountain buttress at viewer's right at a southeast orientation. The road travels away from KOP 2 as it makes its way to the east, from right to left, along the northern edge of the Helpmejack Hills. The road extends beyond 15 miles from the KOP before a mountain blocks it from view. It is difficult to determine at what point the road moving away from the KOP would no longer be visible to the naked eye. No attempt was made to incorporate the effect of vegetative screening for this distant view of the road, though photos taken from KOP 4 indicate the presence, of dense, mature spruce forest. This suggests a high probability of vegetation providing a substantial amount of screening for large segments of the road. Figure 5 shows the view from KOP 2 with the simulated road.

6.3 KOP 3 – ROW West High (North Route) – Looking Southeast

This observation point is located on a high hilltop looking southeast over the Kobuk River valley. The southern tip of Walker Lake is visible 5 miles to the west at viewer's left and the Kobuk River is 4.75 miles at its nearest point. There are no trails or roads to KOP 3 and no manmade structures are visible. Figure 6 shows the existing view from KOP 3 to the east and south.

The visual simulation for KOP 3 demonstrates that the AMDIAR northern route would be more visible than at the previous two KOPs. KOP 3 has an elevated view as does KOP 2, but it is much closer to the road being 2.2 miles from the nearest visible point. From this near point the road moves away to the east (from right to left) passing through lowlands and crossing the Kobuk River. The lowlands are primarily vegetated with shrubs that would likely provide only minimal screening of the road. The road does not reach vegetation large enough to aid screening of the view until it reaches the base of the Helpmejack Hills approximately 6.75 miles from KOP 3. Figure 6 shows the view from KOP 3 with the simulated road.

KOP 3 - ROW West High Existing - Looking Southeast (North Route)

KOP 3 - ROW West High After Construction- Looking Southeast (North Route)

AMBLER MINING DISTRICT INDUSTRIAL ACCESS ROAD DOWL HKM AIDEA	GAAR Visual Impact Analysis KOP 3 - ROW West High
	Ambler Mining District Industrial Access Road
	November 07, 2014 / Figure 6

6.4 KOP 4 – ROW East Boundary (North Route) – Looking North

Another elevated observation point looking north with expansive views from east to west, KOP 4 is located 0.9 miles inside the eastern boundary of the Preserve and 1.4 miles south of the Kichaiakaka Creek, which forms the boundary between the park (wilderness) and preserve. The Kobuk River is 6 miles to the west, making KOP 4 further from a major water course than any of the other KOPs. Figure 7 shows the existing view from KOP 4.

The visual simulation indicates that the road would likely be visible alongside Kichaiakaka Creek on the left side of the scene. This section is populated by sections of sparse and dense forests that reside on the north side of the Helpmejack Hills. Despite the presence of dense, mature spruce forest, vegetative screening is likely to be minimal because the road is oriented toward the KOP, meaning that a viewer is looking down the length of the alignment in a fairly direct manner. As the road passes in front of the KOP at the center of the scene, vegetation and topography block any view to the road. The road emerges right of center as line of sight is reestablished. This next segment of road would likely be partially screened by tall spruce trees before disappearing behind another terrain feature. Next, the road crosses from the south side of the valley to the north and again becomes visible while traversing a slope that faces the KOP. Once on the north side of the valley the road turns east once again and travels through dense spruce forest. At this point the road is beyond 3 miles from the KOP and the level of vegetative screening is difficult to determine and accurately portray. It is likely that this portion of the road would be substantially or completely screened from view. Figure 7 shows the view from KOP 4 with the simulated road.

6.5 KOP 5 – Nutuvukti Summit (North Route) – Looking North

There are 360 degree views of the surrounding landscape from Nutuvukti Summit, but KOP 5 is oriented to the view north. Only 1,740’ below, Nutuvukti Lake is prominent and provides visitor access via float plane. A cairn had been constructed near this observation point, which reinforced the thought that this may be a site used by visitors and supported its selection as a KOP. There is also a cabin on the north shore of Nutuvukti Lake but it is difficult to see and doesn’t impact the natural view. This is likely the most accessible of all the elevated observation points visited. Walker Lake can be glimpsed 9.5 miles to the east. Figure 8 shows the existing view from KOP 5.

The AMDIAR is likely to be visible for a substantial distance from this viewpoint. The road traverses low on a broad south facing slope, elevating it above the valley floor. The road is primarily in a fill along the entire length of the traverse and has an average fill slope height of 18 feet. This embankment would create a larger visual impact than if constructed on flat terrain. Sections of large spruce forest along the hillside would mitigate some of the visual disturbance, but from the elevated KOP the line of sight would not be screened as much as at a lower angle view from the valley floor.

Re-vegetation of fill slopes with native seed, trees and/or shrubs on topsoil could be used as a mitigation technique to reduce the contrast between the gravel road and the existing forest. Additionally, realigning the road from where it contours along the side of hill in an extended traverse to the toe of the slope and closer to the valley floor would reduce the prominence of the road. Figure 8 shows the view from KOP 5 with the simulated road.

KOP 4 - ROW East Boundary Existing - Looking North (North Route)

KOP 4 - ROW East Boundary After Construction - Looking North (North Route)

AMBLER MINING DISTRICT INDUSTRIAL ACCESS ROAD DOWL HKM AIDEA	GAAR Visual Impact Analysis KOP 4 - ROW East Boundary
	Ambler Mining District Industrial Access Road
	November 07, 2014 / Figure 7

KOP 5 - Nutuvukti Summit Existing - Looking North (North Route)

KOP 5 - Nutuvukti Summit After Construction - Looking North (North Route)

AMBLER MINING DISTRICT INDUSTRIAL ACCESS ROAD DOWL HKM AIDEA	GAAR Visual Impact Analysis KOP 5 - Nutuvukti Summit
	Ambler Mining District Industrial Access Road
	November 07, 2014 / Figure 8

6.6 KOP 6 – Reed River 1 (South Route) – Looking West

Recreational users float the Reed River within GAAR, but the Reed River does not get as much recreational use as the Kobuk. KOP 6 can be expected to have visitors travel past it at a minimum, and has the potential to be used as a rest spot or campsite. This observation point was originally selected for is proximity to a bridge crossing for the AMDIAR southern route and is oriented to the west. Figure 9 shows the existing view from KOP 6.

Traveling along the river, it would be impossible to not see the bridge crossing, but as demonstrated in the visual simulation, the road on either side of the bridge will not be perceived by users from the KOP. Large spruce trees on the southern side of the river, and a mature mixed forest on the north side are successful vegetative screens. Time of day and the season play a part in mitigating the visual impact of the bridge crossing. The simulation shows the bridge blending in with a dark background due to the angle of the sun, cloud cover and a backlit condition. A photograph of on existing bridge taken from a similar orientation was used in this simulation therefore; we believe that this simulation is an accurate portrayal for the conditions present at the time of the site visit. Bridge color and texture could be considered for mitigation of future designs. Figure 9 shows the view from KOP 6 with the simulated road.

KOP 6 - Reed River 1 Existing - Looking West (South Route)

KOP 6 - Reed River 1 After Construction - Looking West (South Route)

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DOWL HKM

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GAAR Visual Impact Analysis KOP 6 - Reed River 1	
Ambler Mining District Industrial Access Road	
November 07, 2014	Figure 9

6.7 KOP 7 – Kobuk RS 1 (South Route) – Looking South

The Kobuk River is one of the most frequented water courses by users in GAAR. This observation point looks south from a sandbar in the river located 0.3 miles upstream of a bridge crossing for the AMDIAR southern route. At 0.3 miles, it is the closest potential campsite upstream of the crossing. No indication of human presence, such as footprints or fire ring was observed at this site. Figure 10 shows the existing view from KOP 7.

The visual simulation depicts a 480' long bridge from 0.3 miles upstream. The bridge would likely come into view for travelers on the Kobuk River at approximately 0.45 miles upstream. Similar to KOP 6, only the bridge is visible from KOP 7 except for a small portion of the road on the west side of the river. The road gradually rises up an embankment from the bridge but is heavily screened by vegetation. Time of day and sunlight again played a part in minimizing the visibility of the bridge in this simulation as it is in a backlit condition here. Again, a photograph of an existing bridge taken from a similar orientation was used in this simulation therefore; we believe that this simulation is an accurate portrayal for the conditions present at the time of the site visit. It can be expected that under different conditions, such as the side of the bridge in direct sunlight, the bridge would be more prominent. Consideration of coloring and texture of the bridge could mitigate the visual impact. Figure 10 shows the view from KOP 7 with the simulated road.

KOP 7 - Kobuk RS 1 Existing - Looking South (South Route)

KOP 7 - Kobuk RS 1 After Construction - Looking South (South Route)

AMBLER MINING DISTRICT INDUSTRIAL ACCESS ROAD DOWL HKM AIDEA	GAAR Visual Impact Analysis KOP 7 - Kobuk RS 1
	Ambler Mining District Industrial Access Road
	November 07, 2014 | Figure 10

6.8 KOP 8 – Nutuvukti Lake (North Route) – Looking Northeast

The observation point at Nutuvukti Lake is on a small rise within an open spruce forest which provided a partially obstructed view to the north across the lake. A small cabin is located 0.3 miles from the site and an old survey marker was found nearby. Figure 11 shows the existing view from KOP 8.

From KOP 8 the AMDIAR northern route would likely be visible as it traverses a broad hillside above Nutuvukti Lake. The profile of the road along the traverse averages 18 feet in height. The fill slope created will likely be visible. Sections of mature spruce forest along the slopes will provide substantial screening along portions of the road. Other areas support shorter vegetation and would not be expected to provide as much screening. Not knowing the exact height of the trees, best efforts were made to accurately portray the visual impact of the road and vegetative screening. The simulation also demonstrates a potential color contrast between the road fill slope and the existing forest if the embankment material is of a high albedo.

Re-vegetation of fill slopes with native seed, trees and/or shrubs on topsoil could be used as a mitigation technique to reduce the contrast between the gravel road and the existing forest. Additionally, realigning the road from where it contours along the side of hill in an extended traverse to the toe of the slope and closer to the valley floor would reduce the prominence of the road. Figure 11 shows the view from KOP 8 with the simulated road.

KOP 8 - Nutuvukti Lake Existing - Looking North (North Route)

KOP 8 - Nutuvukti Lake After Construction - Looking North (North Route)

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GAAR Visual Impact Analysis KOP 8 - Nutuvukti Lake	
Ambler Mining District Industrial Access Road	
November 07, 2014	Figure 11

6.9 KOP 9 – Kobuk RS Ridge 3 (South Route) – Looking North

The scenic quality for this north looking observation point was ranked very high as it has an elevated view over an expansive and scenic panorama. One of the main features at KOP 9 is the view up the Reed River drainage, a U-shaped glacially carved valley. The site could be accessed by foot from the Reed River and KOP 6 which lies 2.2 miles to the north. The Kobuk River is visible 5.1 miles to the east northeast. Figure 12 shows the existing view from KOP 9.

From KOP 9 the visual simulation depicts the southern route of AMDIAR approaching the Reed River from the north, passing through a large double-sided road cut, and bridging the Reed River before making a 90 degree turn to the east where it passes through the landscape in front of the viewpoint. Finally, the road disappears from view behind a hill prior to reaching the Kobuk River. Best efforts were made to accurately convey the effects of vegetative screening where it appeared probable. Figure 12 shows the view from KOP 9 with the simulated road.

6.10 KOP 10 – Kobuk RS Ridge 1 (South Route) – Looking North

This observation point lies approximately 6.8 miles northeast of KOP 9 and 1.9 miles east of KOP 7. It is located on a low hill looking north above the Kobuk River with tundra vegetation and sporadic spruce trees 15’-25’ in height. Although the river is 1.1 miles away, there are only a few glimpses of the water and the impression of the far riverbank as it crosses the view from east to west. No major lakes or other rivers are visible for KOP 10 Figure 13 shows the existing view from KOP 10.

In the visual simulation the AMDIAR southern route is visible as it cuts through the view from east to west, between the Kobuk River and KOP 10. The road passes within 1 mile of KOP 10, through dense spruce forest. It is probable that the road in the valley would be less visible than depicted due to the density of the vegetation on the valley floor. A bridge crossing of the Kobuk would be located two miles to the west, but it is not visible from KOP 10 as terrain blocks the line of sight to the river crossing. Figure 13 shows the view from KOP 9 with the simulated road.

KOP 9 - Kobuk RS Ridge 3 Existing - Looking North (South Route)

KOP 9 - Kobuk RS Ridge 3 After Construction - Looking North (South Route)

AMBLER MINING DISTRICT
INDUSTRIAL ACCESS ROAD

DOWL HKM

AIDEA

GAAR Visual Impact Analysis KOP 9 - Kobuk RS Ridge 3	
Ambler Mining District Industrial Access Road	
November 07, 2014	Figure 12

KOP 10 - Kobuk RS Ridge 1 Existing - Looking North (South Route)

KOP 10 - Kobuk RS Ridge 1 After Construction - Looking North (South Route)

AMBLER MINING DISTRICT
INDUSTRIAL ACCESS ROAD

DOWL HKM

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GAAR Visual Impact Analysis
KOP 10 - Kobuk RS Ridge 1

Ambler Mining District
Industrial Access Road

November 07, 2014

Figure 13

7.0 CONCLUSIONS

The potential visual impacts would be higher from higher elevation viewpoints in proximity to the road corridor. In addition, visitors traveling down the Reed and Kobuk rivers would be able to see the AMDIAR bridges as they traveled down the rivers. Also apparent is the potential contrast of color and line that the road would create. A mitigation technique to soften the potential contrast between the road and the existing landscape would be to apply topsoil to embankment slopes and re-vegetate them with native seed mixes, trees and shrubs. Mitigating bridge impacts could include minimizing piers and using dark earth-tone colors on the structures.

DOWL HKM ranked the relative visual impact in the visual simulations as high, medium or low. The KOPs were ranked in relation to one another using professional judgment and not based on any designated criteria.

Table 1 below lists the visual impact ranking of the simulated road construction at each site as well as the associated scenic quality rating competed prior to the simulations.

Table 1: KOP Conclusions

KOP No.	Site Name	Associated Route	Scenic Quality Rating	Relative Visual Impact Rank
1	ROW West Low	North	A	Low
2	Walker Lake High West	North	A	Low
3	ROW West High	North	A	High
4	ROW East Boundary	North	A	High
5	Nutuvukti Summit	North	A	High
6	Reed River 1	South	B	Medium
7	Kobuk RS 1	South	B	Medium
8	Nutuvukti Lake	North	B	High
9	Kobuk RS Ridge 3	South	A	Medium
10	Kobuk RS Ridge 1	South	A	Medium

APPENDIX A

NPS Data Forms

(Field Data Sheets Intentionally Not Included)

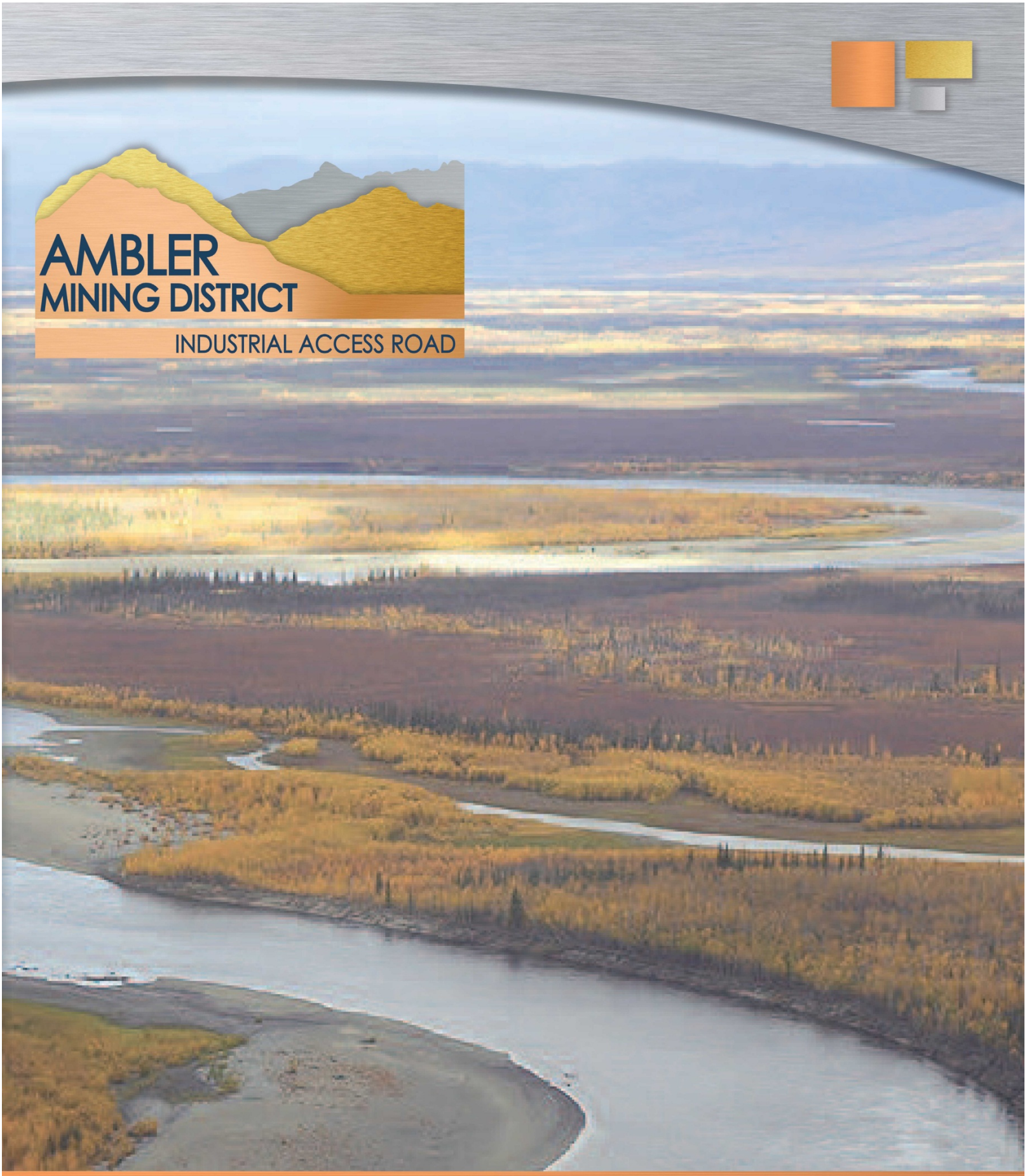
APPENDIX B

DOWL HKM Data Forms

(Field Data Sheets Intentionally Not Included)

AMBLER MINING DISTRICT

INDUSTRIAL ACCESS ROAD



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