



# United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Great Plains Regional Office  
115 Fourth Avenue S.E., Suite 400  
Aberdeen, South Dakota 57401



IN REPLY REFER TO:  
DESCRM  
MC-208

APR 06 2012

## MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: <sup>Acting</sup> Regional Director, Great Plains Region

SUBJECT: Environmental Assessment Addendum and Finding of No Significant Impact

In compliance with the regulations of the National Environmental Policy Act (NEPA) of 1969, as amended, an Addendum has been completed and a Finding of No Significant Impact (FONSI) has been issued. The addendum authorizes land use for pipelines connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H well to the approved Kodiak Two Shields Butte Skunk Creek #2-8-17H pipeline system on the Fort Berthold Indian Reservation.

All the necessary requirements of the National Environmental Policy Act have been completed. Attached for your files is a copy of the EA Addendum, FONSI and Notice of Availability. The Council on Environmental Quality (CEQ) regulations require that there be a public notice of availability of the FONSI (40 C.F.R. Section 1506.6(b)) Please post the attached notice of availability at the Agency and Tribal buildings for 30 days.

If you have any questions, please call Marilyn Bercier, Regional Environmental Scientist, Division of Environment, Safety and Cultural Resources Management, at (605) 226-7656.

Attachment

cc: Tex Hall, Chairman, Three Affiliated Tribes (with attachment)  
Elgin Crows Breast, Tribal Historic Preservation Officer (with attachment)  
Derek Enderud, BLM, Bureau of Land Management (with attachment)  
Mike Cook, SWCA (with attachment)  
Jonathon Shelman, Corps of Engineers  
Jeff Hunt, Fort Berthold Agency

*Finding of No Significant Impact*

*Arrow Pipeline, L.L.C.*

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines  
Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved  
Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System*

*Fort Berthold Indian Reservation  
Dunn County, North Dakota*

The U.S. Bureau of Indian Affairs (BIA) has received a proposal for an addendum for the construction and installation of three pipelines including one oil pipeline, one gas pipeline, and one produced water pipeline. As proposed, the Kodiak Two Shields Butte Skunk Creek #4-8-17H pipeline system (pipelines) would transport oil, NGL, and produced water to markets and approved disposal sites. The pipelines would be located on trust land, entirely within Section 8, Township 148 North, Range 93 West, 5<sup>th</sup> Prime Meridian, Dunn County, North Dakota. The pipelines would originate near the northwest corner of the proposed Kodiak Two Shields Butte Skunk Creek #4-8-17H well pad (well pad) in the NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> then trend east-southeast toward the approved Kodiak Two Shields Butte Skunk Creek #2-8-17H pipeline system (tie-in), in the NW<sup>1</sup>/<sub>4</sub> NE<sup>1</sup>/<sub>4</sub>. Associated federal actions by BIA include determinations of impacts and effects regarding environmental resources for developments on tribal lands.

The potential of the proposed actions to impact the human environment is analyzed in the attached addendum to an existing EA, as required by the National Environmental Policy Act. Based on the recently completed addendum to the EA, I have determined that the proposed project will not significantly affect the quality of the human environment. No Environmental Impact Statement is required for any portion of the proposed activities.

This determination is based on the following factors:

1. Agency and public involvement solicited for the preceding NEPA document was sufficient to ascertain potential environmental concerns associated with the currently proposed project.
2. Protective and prudent measures were designed to minimize impacts to air, water, soil, vegetation, wetlands, wildlife, public safety, water resources, and cultural resources. The remaining potential for impacts was disclosed for both the proposed actions and the No Action alternative.
3. Guidance from the U.S. Fish and Wildlife Service has been fully considered regarding wildlife impacts, particularly in regard to threatened or endangered species. This guidance includes the Migratory Bird Treaty Act (16 U.S.C. 703 et seq.), the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, 54 Stat. 250), Executive Order 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds", and the Endangered Species Act (16 U.S.C. 1531 et seq.).
4. The proposed actions are designed to avoid adverse effects to historic, archaeological, cultural and traditional properties, sites and practices. Compliance with the procedures of the National Historic Preservation Act is complete.
5. Environmental justice was fully considered.
6. Cumulative effects to the environment are either mitigated or minimal.
7. No regulatory requirements have been waived or require compensatory mitigation measures.
8. The proposed projects will improve the socio-economic condition of the affected Indian community.

Acting

  
Regional Director

4-6-2012  
Date

**ENVIRONMENTAL ASSESSMENT  
Addendum**

**United States Bureau of Indian Affairs**

**Great Plains Regional Office  
Aberdeen, South Dakota**



**Arrow Pipeline, LLC**

**Addendum to Environmental Assessment to Authorize Land Use for Pipelines  
Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved  
Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System**

**Fort Berthold Indian Reservation**

**March 2012**

For information contact:  
Bureau of Indian Affairs, Great Plains Regional Office  
Division of Environment, Safety and Cultural Resources Management  
115 4th Avenue SE, Aberdeen, South Dakota 57401  
(605) 226-7656

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## **1. Purpose and Need for the Proposed Action**

The purpose of the proposed action is to authorize the land use by Arrow Pipeline, LLC (Arrow) for the construction and installation of three pipelines including one oil pipeline, one natural gas liquids (NGL) pipeline, and one produced water pipeline. As proposed, the Kodiak Two Shields Butte Skunk Creek #4-8-17H pipeline system (pipelines) would transport oil, NGL, and produced water to markets and approved disposal sites. A buried electrical line may be installed within the approved right-of-way (ROW) in the future.

Developments have been proposed on land held in trust by the United States in Dunn County, North Dakota, where the Bureau of Indian Affairs (BIA) is the surface management agency for potentially affected individual allotments. The economic development of available resources and associated BIA actions are consistent with BIA's general mission. Leasing and development of mineral resources offers substantial economic benefits to the Three Affiliated Tribes of the Mandan, Hidatsa, and Arikara Nations and to individual tribal members.

## **2. Authorities**

Oil and gas exploration and development activities are conducted under authority of the Indian Mineral Leasing Act of 1938 (25 United States Code [USC] 396a, et seq.), the Indian Mineral Development Act of 1982 (25 USC 2101, et seq.), and the Energy Policy Act of 2005 (42 USC 15801, et seq.).

## **3. Legal Land Description for Proposed Action**

The pipelines would be located on trust land, entirely within Section 8, Township 148 North, Range 93 West, 5<sup>th</sup> Prime Meridian, Dunn County, North Dakota. The pipelines would originate near the northwest corner of the proposed Kodiak Two Shields Butte Skunk Creek #4-8-17H well pad (well pad) in the NW $\frac{1}{4}$  NW $\frac{1}{4}$  then trend east-southeast toward the approved Kodiak Two Shields Butte Skunk Creek #2-8-17H pipeline system (tie-in), in the NW $\frac{1}{4}$  NE $\frac{1}{4}$ .

## **4. Scope of Work for Proposed Action**

Oil, NGL, and produced water pipelines would be buried in either two 2.5-foot-wide trenches, spaced 5.0 feet apart, or one 5.0-foot-wide trench. Oil and NGL pipelines would be no greater than 8 inches in diameter and constructed of new steel. The produced water pipeline would also be no greater than 8 inches in diameter and constructed of Fiberspar<sup>®</sup> or similar corrosion-resistant material. All construction disturbances would occur within a temporary construction ROW no greater than 120 feet wide and permanent surface disturbance would occur within a 50-foot-wide ROW between the well pad and the tie-in.

The pipelines would traverse an approximate total of 2,045 feet and newly disturb no greater than 5.63 acres before connecting with the approved tie-in. Pipeline plats are provided in Appendix A.

## **5. Materials Information and Corrosion Rates**

### **Steel Pipe**

Arrow proposes to construct the oil and NGL pipelines using approximately 4,090 feet of new steel pipe rated by the American Petroleum Institute (API) as 5L X52. Arrow would ensure that each steel pipe segment is coated with approximately 14 to 16 millimeters of fusion bonded epoxy coating. Further, Arrow would deploy an active cathodic protection system for all steel pipe, which further reduces the likelihood of external corrosion. Arrow would ensure that each steel pipe segment is allotted a 1/16-inch corrosion allowance; however, because of the non-corrosive nature of Bakken crude and the low concentrations of hydrogen sulfide, Arrow does not anticipate any external or internal corrosion during the operating lifetime of the pipe, which, at a minimum, is estimated to be 50 years.

### **Fiberspar® or Similar Pipe**

Arrow proposes to construct the produced water pipeline using approximately 2,045 feet of a material known as Fiberspar or one with the same corrosion-resistant characteristics as Fiberspar. This type of material is not subject to internal or external corrosion.

## **6. Spill Response Plan**

Arrow has developed a Spill Response Plan (Plan) (Middick 2011<sup>1</sup>) for the Phase 3 Southwest pipeline. The spill preventative measures and monitoring protocols, notification procedures, spill detection and on-scene spill mitigation procedures, response activities, contacts, training and drill procedures, and response plan review and update procedures, as referenced in the Plan, apply to the proposed pipelines. A copy of the Plan has been filed with the BIA and Arrow has legally committed to adhering to the procedures and requirements as defined by federal law (Title 49 Code of Federal Regulations [CFR] 194). Arrow has committed to submitting a spill response plan, specific to this proposed project, to the BIA prior to the commencement of construction activities.

## **7. Pipeline Marking Procedures**

Arrow adheres to the requirements of 49 CFR 192.707 with regard to the marking of buried pipelines. Specifically, Arrow would place pipeline markers within 1,000 feet of one another, at all public road crossings, railroad crossings, creek crossings, fence crossings, and at all points of major direction change.

## **8. Quality Control/Quality Assurance Measures**

Arrow purchases steel pipe that is rated as API 5L X52 and inspects all pipe while at the mill to ensure quality. Arrow is also present to ensure that external epoxy coating is applied to a

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<sup>1</sup> Middick, Andy. 2011. *Operations Monitoring and Spill Response Plan*. Blackshare Environmental Solutions. Oklahoma City, Oklahoma.

minimum thickness of 14 millimeters. During construction, all welds are visually inspected for quality and completeness by qualified professionals. Once welds have passed visual inspection, they are subjected to 100 percent Non-Destructive Testing. After passing these tests, the weld areas are covered for corrosion protection. After the weld areas have been covered, the external coating of the pipe is inspected using a jeepmeter to detect holes and cracks. The pipe is lowered into the trench and buried. Prior to being put into service, the steel pipe is hydrotested to approximately 1.5 times the minimum design pressure of 1,180 pounds per square inch gauge (psig). The produced water pipe is designed to sustain a minimum pressure of 750 psig and is hydrotested to approximately 900 psig prior to being approved for service.

## **9. Valve Locations**

Two valves would be installed at each end of the proposed pipelines. One valve would be installed at the well location while the second valve would be installed at the proposed tie-in. The installation of two valves would allow Arrow to isolate the proposed pipelines, if required.

## **10. Reclamation**

### **Interim Reclamation**

Reclamation would continue to occur over the life of the pipelines. Initial reclamation would be required after initial construction and then following any maintenance work or additions of infrastructure. Reclamation would be required before final abandonment of the decommissioned pipelines. Successful reclamation would at all times be the responsibility of the system's operator.

Trenches would be back-filled immediately after the pipe is installed and testing is complete, assuming frozen or saturated soils are not present. Back-fill piles would be stored opposite of the topsoil piles during construction. If construction occurs during winter, Arrow would partially fill the trench with useable, non-frozen, back-fill soil to the extent possible and cover the entire ROW including the trench with straw. The trench would be back-filled and topsoil distributed as soon as practicable after the soil has defrosted. Topsoil piles would be covered to eliminate the potential for rill erosion and subsequent loss of soil during spring snow melt and precipitation events.

Applicable short- and long-term best management practices would be used to minimize and control erosion in disturbed areas. To reduce compaction, the ROW would be plowed before the stockpiled topsoil is distributed.

The disturbed areas would be reclaimed and contoured as soon as possible after construction is complete (fall/spring). The ROW would be covered with stockpiled topsoil and seeded with a seed mixture determined by the BIA. Arrow would control noxious weeds within the ROW and other applicable facilities by approved chemical or mechanical methods. If seeding of the ROW does not occur due to growing season constraints, Arrow would deploy approved weed-

free hay across the entire ROW. The presence of hay across the ROW would reduce the potential for excessive erosion as a result of spring snow melt and precipitation.

The entire ROW would be monitored for erosion, subsidence, and noxious weeds. In areas where problems are found to occur, reclamation efforts would continue until the BIA feels the ROW is successfully reclaimed. Reclamation is considered successful when:

- seeded areas are established;
- adjacent vegetative communities spread back into the disturbed areas; and
- noxious weeds are under control.

If after two growing seasons the new seeding is not successful, the BIA may require additional efforts to establish vegetation. For noxious weeds, a survey was conducted on the ROW prior to the construction commencing. The BIA has developed a weed management plan to treat known or likely to occur noxious weed species.

### **Final Reclamation**

Final reclamation would occur when the pipelines are decommissioned. All disturbed areas would be reclaimed, reflecting the BIA's view of oil and gas exploration and production as temporary intrusions on the landscape. All facilities would be removed. Work areas would be leveled or backfilled as necessary, scarified, recontoured, and seeded. It is economically and environmentally unfeasible to excavate and remove the decommissioned pipelines. Instead, the pipelines would be purged with water of any natural gas remaining in the lines and abandoned in place.

## **11. Surveys**

SWCA Environmental Consultants (SWCA) conducted natural resource surveys for threatened and endangered habitat, migratory bird habitat, bald and golden eagles and nests, and wetlands/waterbodies on September 1, 2011. BIA Environmental Specialist Chris McLaughlin approved the location and proposed alignment of the pipelines on September 7, 2011. Migratory bird habitat is prevalent in the survey area and Arrow has committed to following one of the following three listed mitigation procedures in order to reduce the potential for impact on migratory birds and their nests: 1) conduct construction outside of the migratory bird breeding season (February 1–July 15); 2) regularly mow vegetation in the ROW prior to February 1 and maintain through July 15; or 3) conduct a field survey for nesting migratory birds within 5 days of construction commencement.

SWCA archaeologists performed an inventory of a 200-foot-wide corridor centered on the proposed pipeline alignment, as well as alternatives, using an intensive pedestrian methodology (Schleicher 2012<sup>2</sup>). On November 5, 2010, and September 1, 2011, SWCA

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<sup>2</sup> Schleicher, Jolene. 2012. *A Class I and Class III Cultural Resource Inventory of the Arrow Two Shields Butte Skunk Creek #4-8-17H Gathering Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota*. SWCA Environmental Consultants, Bismarck, North Dakota.

inventoried approximately 13.39 acres. No historic properties were located that appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register of Historic Places. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, the BIA reached a determination of **no historic properties affected** for this undertaking. This determination was communicated to the Tribal Historic Preservation Officer (THPO) on March 7, 2012; however, the THPO did not respond within the allotted 30-day comment period.

Schleicher, Jolene

(2012) A Class I and Class III Cultural Resource Inventory of the Arrow Two Shields Butte Skunk Creek #4-8-17H Gathering Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota. SWCA Environmental Consultants for Arrow Pipeline, LLC, Tulsa, OK.

## **12. Potential Effects**

Potential direct impacts to cultural resource sites would occur as a result of disturbance and/or the loss of sites eligible for the National Register of Historic Places. All potential impacts as a result of the proposed action were mitigated via field survey and subsequent avoidance of any eligible cultural resource sites within the proposed ROW.

Potential direct impacts to natural resources may include the loss of native vegetation and wildlife habitat, soil disturbance, and erosion during construction that may adversely affect air and water quality. Impacts would be mitigated by using best management practices during construction to minimize disturbance. Once construction activities are completed, reclamation would take place within 6 months and would include the return of topsoil and contouring, and seeding of native vegetation.

Potential indirect impacts include noise and other disturbances to wildlife during construction and the introduction of noxious weeds. Impacts would be mitigated through avoidance of any federally listed threatened or endangered species or wetlands, avoidance of nesting migratory birds, implementing best management practices to control the introduction of noxious weeds, and minimizing the length of time between trenching, pipeline burial, and reclamation. These mitigation measures are consistent with the approved National Environmental Policy Act (NEPA) document, which received a finding of no significant impact (FONSI) (March 2010).

## **13. Applicable NEPA Document(s)**

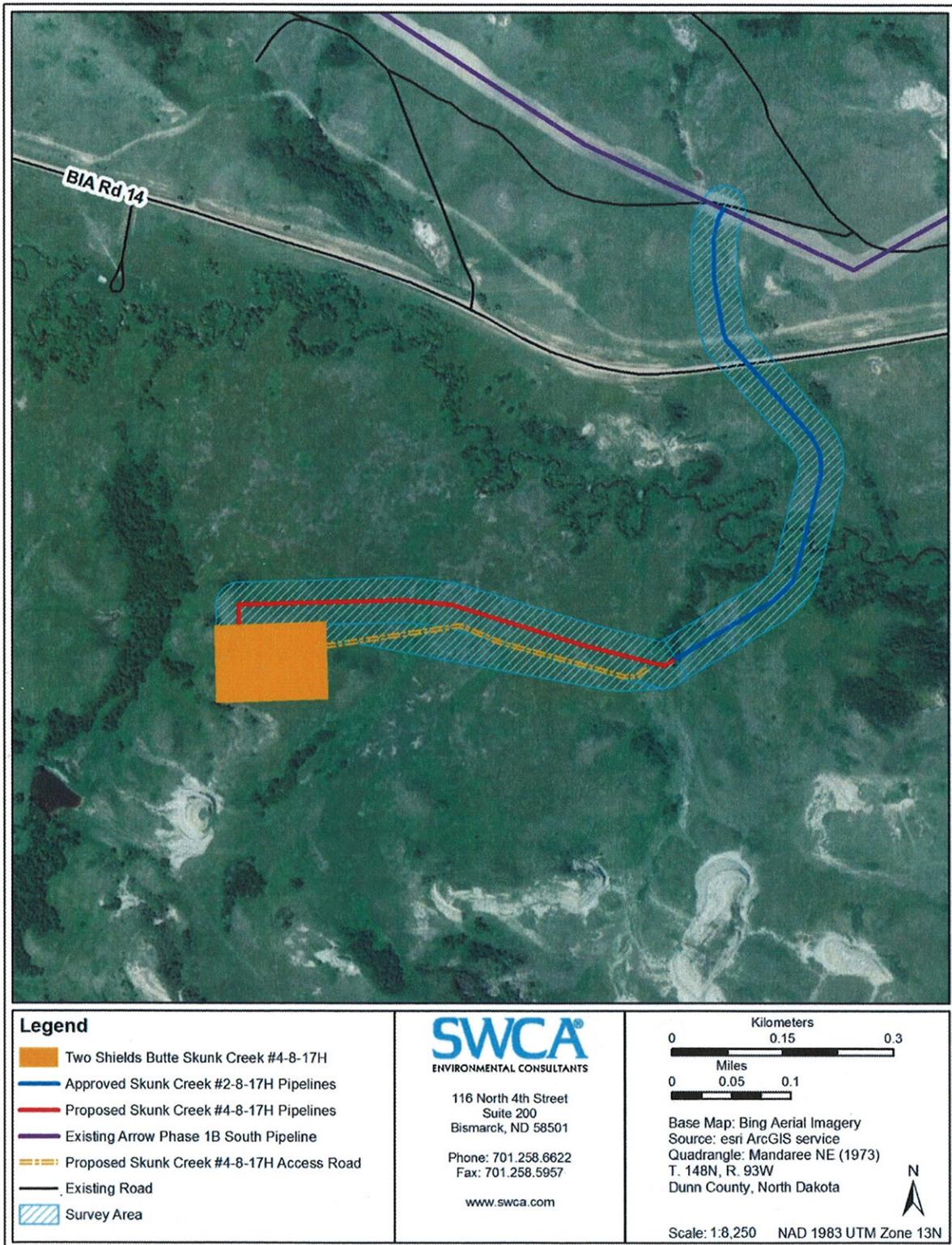
- Environmental Assessment and Finding of No Significant Impact: Arrow Midstream Holdings, LLC Oil, Gas & Water Gathering System Phase 1B-South (BIA 12-14) (FONSI March 2010).
- Addendum to Environmental Assessment to Authorize Land Use for Gathering Pipelines Connecting the Two Shields Butte Skunk Creek #2-8-17H Well Pad to the Arrow Phase 1B-South Pipeline (FONSI March 2011).

#### **14. NEPA Adequacy Criteria**

This document has identified two previously prepared NEPA documents (see Section 13) which adequately describe the environmental consequences of the newly proposed action described herein, and meet the following NEPA Adequacy Criteria.

1. The proposed action is substantially the same action and at the site specifically analyzed in the existing NEPA documents.
2. The range of alternatives is reasonable with respect to the current proposed action in the existing NEPA documents, which appropriately consider and analyze current environmental concerns, interests, and resource values.
3. The existing analysis and conclusions are adequate in the existing NEPA documents. The analysis is still valid in light of new studies or resource assessment information.
4. The methodology and analytical approach used in the existing NEPA documents continues to be appropriate for the proposed action.
5. The direct and indirect impacts of the proposed action are unchanged from those identified in the existing NEPA documents.
6. The cumulative impacts that would result from implementation of the proposed action are unchanged from those analyzed in the existing NEPA documents.
7. A 30-day comment period involving public input and interagency review was used in the development of the existing NEPA documents.

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System  
(March 2012)*



**Figure 1. Proposed ArrowTwo Shields Butte Skunk Creek #4-8-17H Pipeline System.**

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System  
(March 2012)*



United States Department of the Interior

BUREAU OF INDIAN AFFAIRS  
Great Plains Regional Office  
115 Fourth Avenue S.E., Suite 400  
Aberdeen, South Dakota 57401



IN REPLY REFER TO:  
DESCRM  
MC-208

MAR 07 2012

Elgin Crows Breast, THPO  
Mandan, Hidatsa and Arikara Nation  
404 Frontage Road  
New Town, North Dakota 58763

Dear Mr. Crows Breast:

We have considered the potential effects on cultural resources of a proposed Arrow gathering line in Dunn County, North Dakota. Approximately 13.39 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. No historic properties were located which appear to possess the quality of integrity and meet at least one of the criteria (36 CFR 60.4) for inclusion on the National Register of Historic Places. No properties were located that appear to qualify for protection under the American Indian Religious Freedom Act (42 USC 1996).

As the surface management agency, and as provided for in 36 CFR 800.5, we have therefore reached a determination of **no historic properties affected** for this undertaking. Catalogued as **BIA Case Number AAO-1891/PB/11**, the proposed undertaking, location, and project dimensions are described in the following report:

Schleicher, Jolene  
(2012) A Class I and Class III Cultural Resource Inventory of the Arrow Two Shields Butte Skunk Creek #4-8-17H Gathering Pipeline, Fort Berthold Indian Reservation, Dunn County, North Dakota. SWCA Environmental Consultants for Arrow Pipeline, LLC, Tulsa, OK.

If your office concurs with this determination, consultation will be completed under the National Historic Preservation Act and its implementing regulations. We will adhere to the Standard Conditions of Compliance.

If you have any questions, please contact Dr. Carson N. Murdy, Regional Archaeologist, at (605) 226-7656.

Sincerely,

ACTING

Regional Director

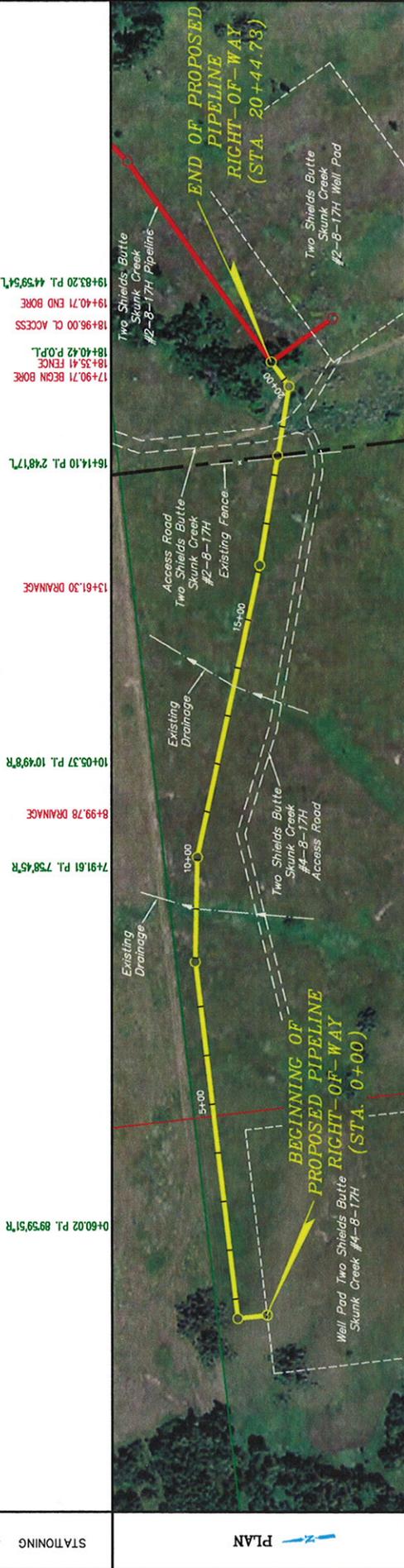
Enclosure

cc: Chairman, Three Affiliated Tribes  
Superintendent, Fort Berthold Agency

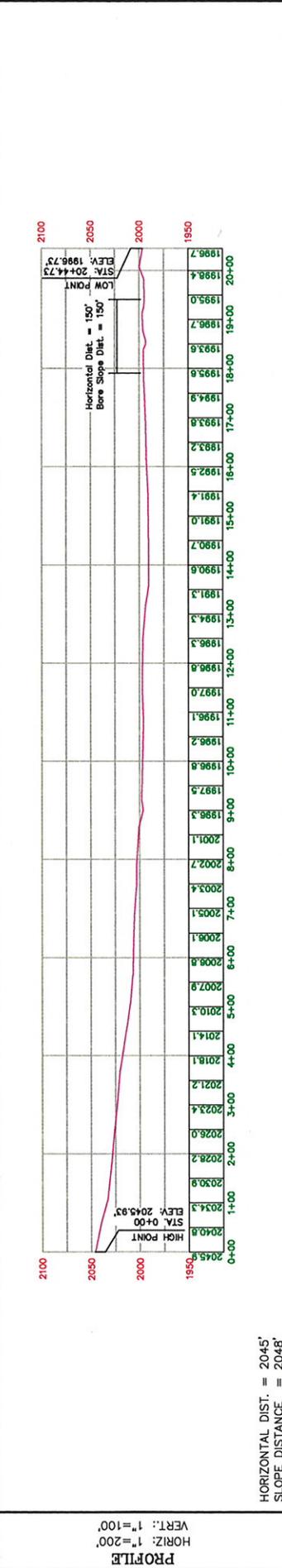
**APPENDIX A**

**Pipeline Layout and Pipeline Right-of-Way for the Arrow Two Shields Butte Skunk Creek #4-8-17H Pipeline System**

OWNER: MEM PLAN	0+00	2191-A NW 1/4 OF SEC. 8, T148N, R93W, 5th P.M.	18+40.42	1626 N 1/2 NE 1/4 OF SEC. 8, T148N, R93W, 5th P.M.	20+44.73
RODAGE		111.54	12.38		



CLASS	A
TERRAIN	PASTURE

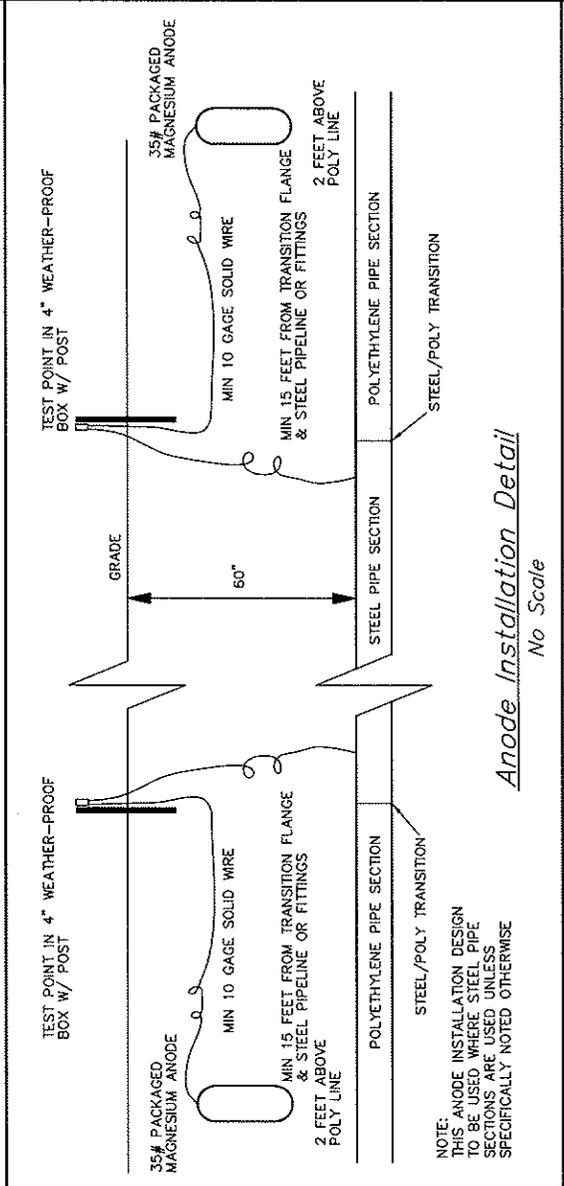


EASEMENT WORKSPACE	PERM. EASEMENT	TEMP. EASEMENT	ADD'T. TEMP. WORKSPACE
REVISIONS	11-04-11 S.B.		

PROJECT DATA	SCALE: AS SHOWN
SURVEYED BY: A.K.	DRAWING: 50448-A
DRAWN BY: D.F.	SHEET: 1 OF 2
DATE: 03-17-11	

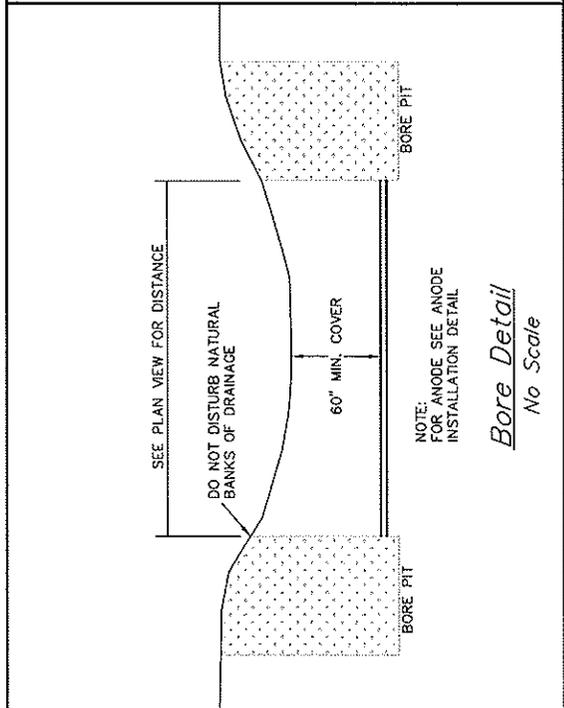
UNITEK ENGINEERING & LAND SURVEYING  
119 S SOUTH 200 EAST - PERRIS, UTAH 84078  
(435)766-1011

ARROW PIPELINE, LLC  
TWO SHIELDS BUTTE  
SKUNK CREEK #4-8-17H  
PIPELINE PLAN & PROFILE



NOTE:  
THIS ANODE INSTALLATION DESIGN  
TO BE USED WHERE STEEL PIPE  
SECTIONS ARE USED UNLESS  
SPECIFICALLY NOTED OTHERWISE

*Anode Installation Detail*  
No Scale



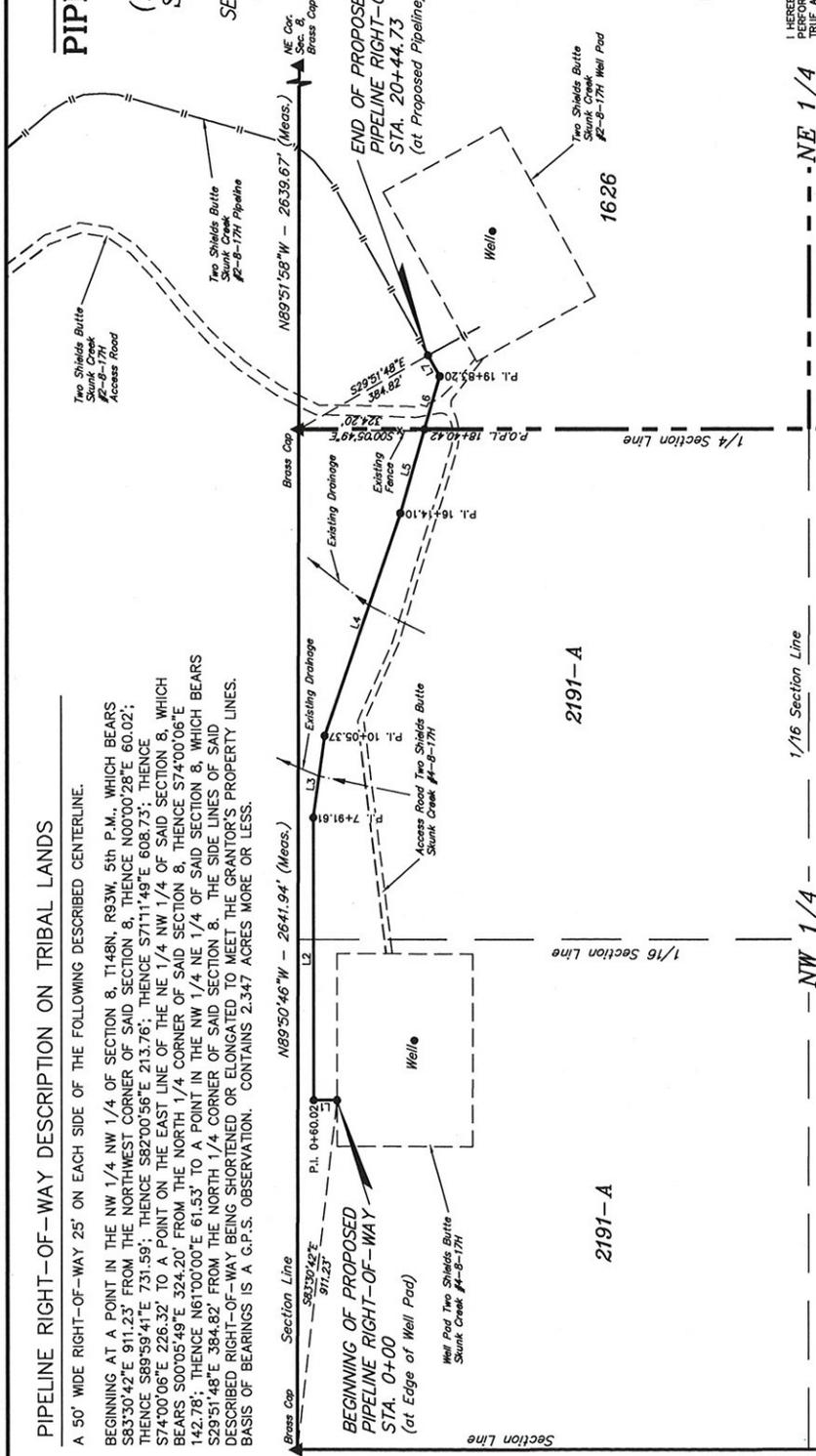
NOTE:  
FOR ANODE SEE ANODE  
INSTALLATION DETAIL

*Bore Detail*  
No Scale

<p>ARROW PIPELINE, LLC TWO SHIELDS BUTTE SKUNK CREEK #4-B-17H PIPELINE PLAN &amp; PROFILE</p>	<p>LOCATED BY SECTION 5048 P.M. DANK COUNTY, NORTH DAKOTA</p>	<p>SCALE: AS SHOWN DRAWING: 5048-B SHEET: 2 OF 2</p>	<p>PROJECT DATA SURVEYED BY: A.K. DRAWN BY: S.B. DATE: 11-04-11</p>	<p>UNTAH ENGINEERING &amp; LAND SURVEYING 15 S. SOUTH 200 EAST - VEGAL, UTAH 84078 (435)788-1817</p>	<p>UT 15</p>
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**ARROW PIPELINE, LLC**  
**PIPELINE RIGHT-OF-WAY**  
**ON TRIBAL LANDS**  
 (FOR TWO SHIELDS BUTTE  
 SKUNK CREEK #4-8-17H)  
 LOCATED IN  
 SECTION 8, T148N, R93W, 5th P.M.,  
 DUNN COUNTY, NORTH DAKOTA

**PIPELINE RIGHT-OF-WAY DESCRIPTION ON TRIBAL LANDS**  
 A 50' WIDE RIGHT-OF-WAY 25' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.  
 BEGINNING AT A POINT IN THE NW 1/4 NW 1/4 OF SECTION 8, T148N, R93W, 5th P.M., WHICH BEARS  
 S83°30'42"E 911.23' FROM THE NORTHWEST CORNER OF SAID SECTION 8, THENCE N00°00'28"E 60.02';  
 THENCE S89°59'41"E 731.59'; THENCE S82°00'56"E 213.76'; THENCE S71°11'49"E 608.73'; THENCE  
 S74°00'06"E 226.32' TO A POINT ON THE EAST LINE OF THE NE 1/4 NW 1/4 OF SAID SECTION 8, WHICH  
 BEARS S00°05'49"E 324.20' FROM THE NORTH 1/4 CORNER OF SAID SECTION 8, THENCE S74°00'06"E  
 142.78'; THENCE N61°00'00"E 61.53' TO A POINT IN THE NW 1/4 NE 1/4 OF SAID SECTION 8, WHICH BEARS  
 S29°51'48"E 384.82' FROM THE NORTH 1/4 CORNER OF SAID SECTION 8. THE SIDE LINES OF SAID  
 DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES.  
 BASIS OF BEARINGS IS A G.P.S. OBSERVATION. CONTAINS 2.347 ACRES MORE OR LESS.



**LINE TABLE**

LINE	DIRECTION	LENGTH
L1	N00°00'28"E	60.02'
L2	S89°59'41"E	731.59'
L3	S82°00'56"E	213.76'
L4	S71°11'49"E	608.73'
L5	S74°00'06"E	226.32'
L6	S74°00'06"E	142.78'
L7	N61°00'00"E	61.53'

**RIGHT-OF-WAY LENGTHS**

PROPERTY OWNER	FEET	ACRES	RODS
2191-A	1840.42	2.113	111.54
1626	204.31	0.235	12.38
TOTAL	2044.73	2.347	123.92

HORIZONTAL DIST. 2045'  
 SLOPE DISTANCE 2048'

**CERTIFICATE**  
 I HEREBY CERTIFY THAT THIS PLAT CORRECTLY REPRESENTS WORK  
 PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION AND IS  
 TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

**TROY JENSEN**  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 4654  
 STATE OF NORTH DAKOTA

REVISED: 11-04-11 S.B.  
**UNTAH ENGINEERING & LAND SURVEYING**  
 85 SOUTH - 200 EAST • (485) 789-1017  
 VERNAL, UTAH - 84078

SCALE	1" = 300'	DATE	03-17-11
PARTY	A.K. D.P.	REFERENCES	G.L.O. PLAT
WEATHER	COLD	FILE	5 0 4 4 8

Sec. 8

N00°05'W - 5280.00' (G.L.O.)

ARROW PIPELINE, LLC  
TWO SHIELDS BUTTE SKUNK CREEK #4-8-17H  
PIPELINE RIGHT-OF-WAY  
SECTION 8, T148N, R93W, 5th P.M.

TOTAL PIPELINE RIGHT-OF-WAY ON TRIBAL LANDS

TOTAL LENGTH OF RIGHT-OF-WAY IS 2044.73' OR 0.387 MILES. WIDTH OF RIGHT-OF-WAY IS 50' (25' PERPENDICULAR ON EACH SIDE OF CENTER LINE). CONTAINS 2.347 ACRES MORE OR LESS.

ENGINEER'S AFFIDAVIT

STATE OF MONTANA }  
COUNTY OF RICHLAND } SS

TROY JENSEN, BEING FIRST DULY SWORN DEPOSES AND STATES THAT HE IS THE REGISTERED LAND SURVEYOR, FOR ARROW PIPELINE, LLC, THAT THESE SURVEYS WERE MADE BY HIM (OR UNDER HIS SUPERVISION); THAT HE HAS EXAMINED THE FIELD NOTES OF THE SURVEYS OF THE PIPELINE RIGHT-OF-WAY AS DESCRIBED AND SHOWN ON THIS MAP, THAT THIS MAP WAS PREPARED UNDER HIS DIRECTION FROM SAID FIELD NOTES; AND THAT SAID RIGHT-OF-WAY, 0.387 MILES IN LENGTH BEGINNING AND ENDING AS SHOWN ON THIS MAP IS ACCURATELY REPRESENTED.



A handwritten signature of Troy Jensen in blue ink, written over a horizontal line.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 4654  
STATE OF NORTH DAKOTA

APPLICANT'S CERTIFICATE

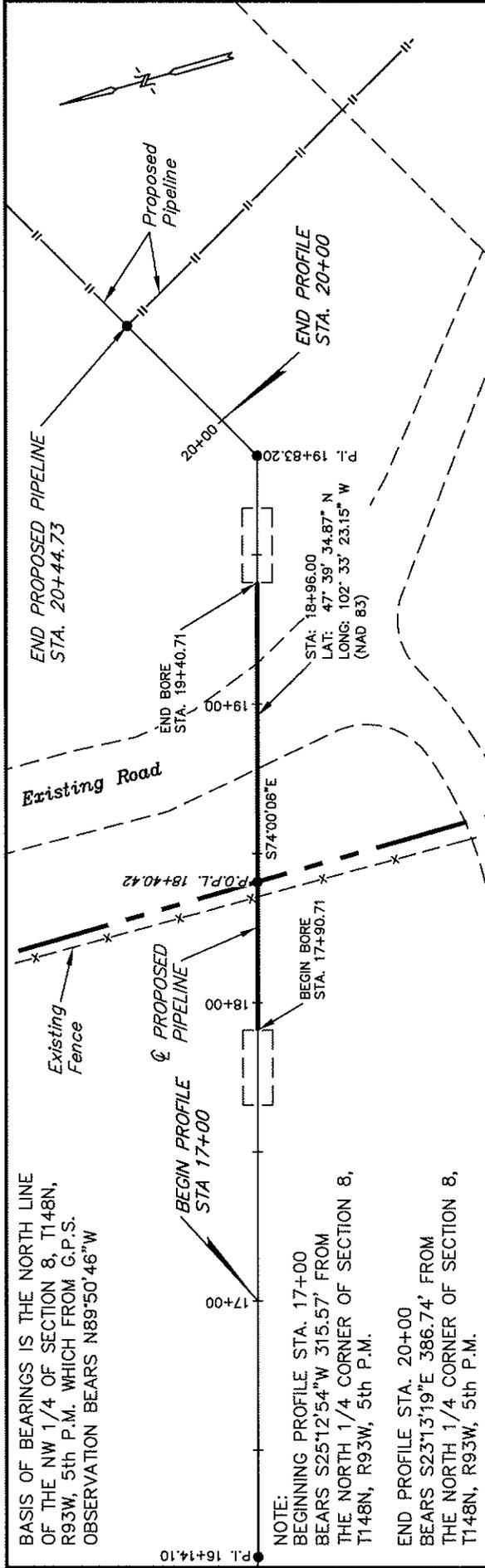
I, JOHN M. DOLAN, DO HEREBY CERTIFY THAT I AM THE V.P. OF ENGINEERING FOR ARROW PIPELINE, LLC, HEREINAFTER DESIGNATED THE APPLICANT; THAT TROY JENSEN WHO SUBSCRIBED TO THE FOREGOING AFFIDAVIT, IS EMPLOYED BY THE APPLICANT AS A LAND SURVEYOR AND THAT HE WAS DIRECTED BY THE APPLICANT TO SURVEY THE LOCATION OF THIS PIPELINE RIGHT-OF-WAY, 0.387 MILES IN LENGTH BEGINNING AT STA. 0+00 AND ENDING AT STA 20+44.73, THAT SAID PIPELINE RIGHT-OF-WAY IS ACCURATELY REPRESENTED ON THIS MAP; THAT SUCH SURVEY AS REPRESENTED ON THIS MAP HAS BEEN ADOPTED BY THE APPLICANT AS THE DEFINITE LOCATION OF THE RIGHT-OF-WAY THEREBY SHOWN; AND THAT THE MAP HAS BEEN PREPARED TO BE FILED WITH THE SECRETARY OF THE INTERIOR OR HIS DULY AUTHORIZED REPRESENTATIVE AS PART OF THE APPLICATION FOR SAID RIGHT-OF-WAY TO BE GRANTED THE APPLICANT, ITS SUCCESSORS AND ASSIGNS, WITH THE RIGHT TO CONSTRUCT, MAINTAIN, AND REPAIR IMPROVEMENTS, THEREON AND THEREOVER, FOR SUCH PURPOSES, AND WITH THE FURTHER RIGHT IN THE APPLICANT, ITS SUCCESSORS AND ASSIGNS TO TRANSFER THIS RIGHT-OF-WAY BY ASSIGNMENT, GRANT, OR OTHERWISE.

\_\_\_\_\_  
APPLICANT

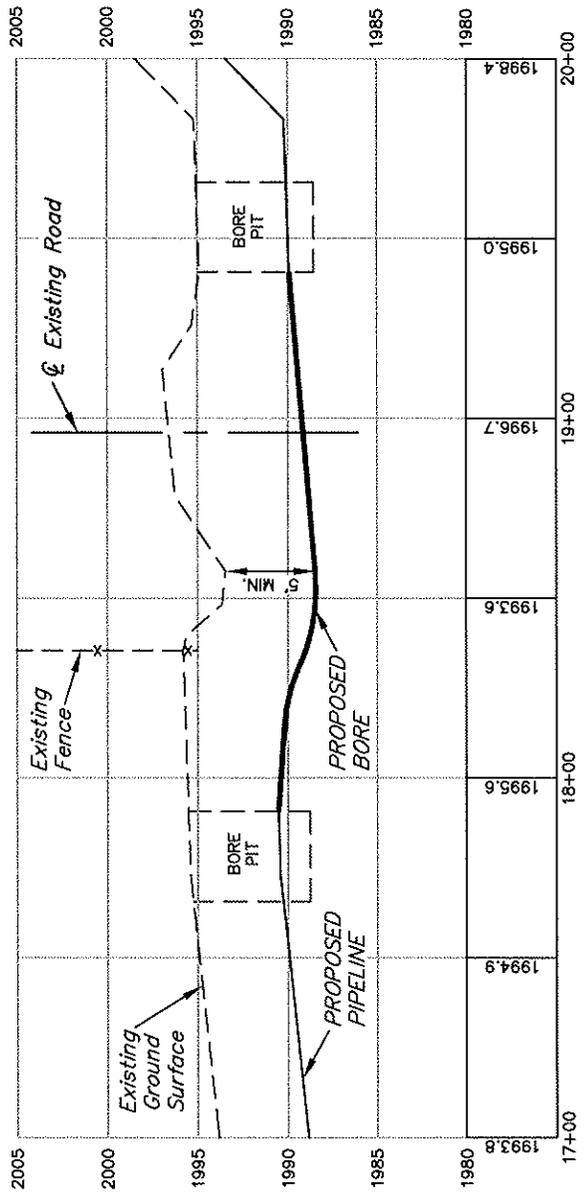
\_\_\_\_\_  
V.P. OF ENGINEERING  
TITLE

BASIS OF BEARINGS IS THE NORTH LINE OF THE NW 1/4 OF SECTION 8, T148N, R93W, 5th P.M. WHICH FROM C.P.S. OBSERVATION BEARS N89°50'46"W

P.L. 16+14.10



NOTE:  
 BEGINNING PROFILE STA. 17+00 BEARS S25°12'54"W 315.57' FROM THE NORTH 1/4 CORNER OF SECTION 8, T148N, R93W, 5th P.M.  
 END PROFILE STA. 20+00 BEARS S23°13'19"E 386.74' FROM THE NORTH 1/4 CORNER OF SECTION 8, T148N, R93W, 5th P.M.



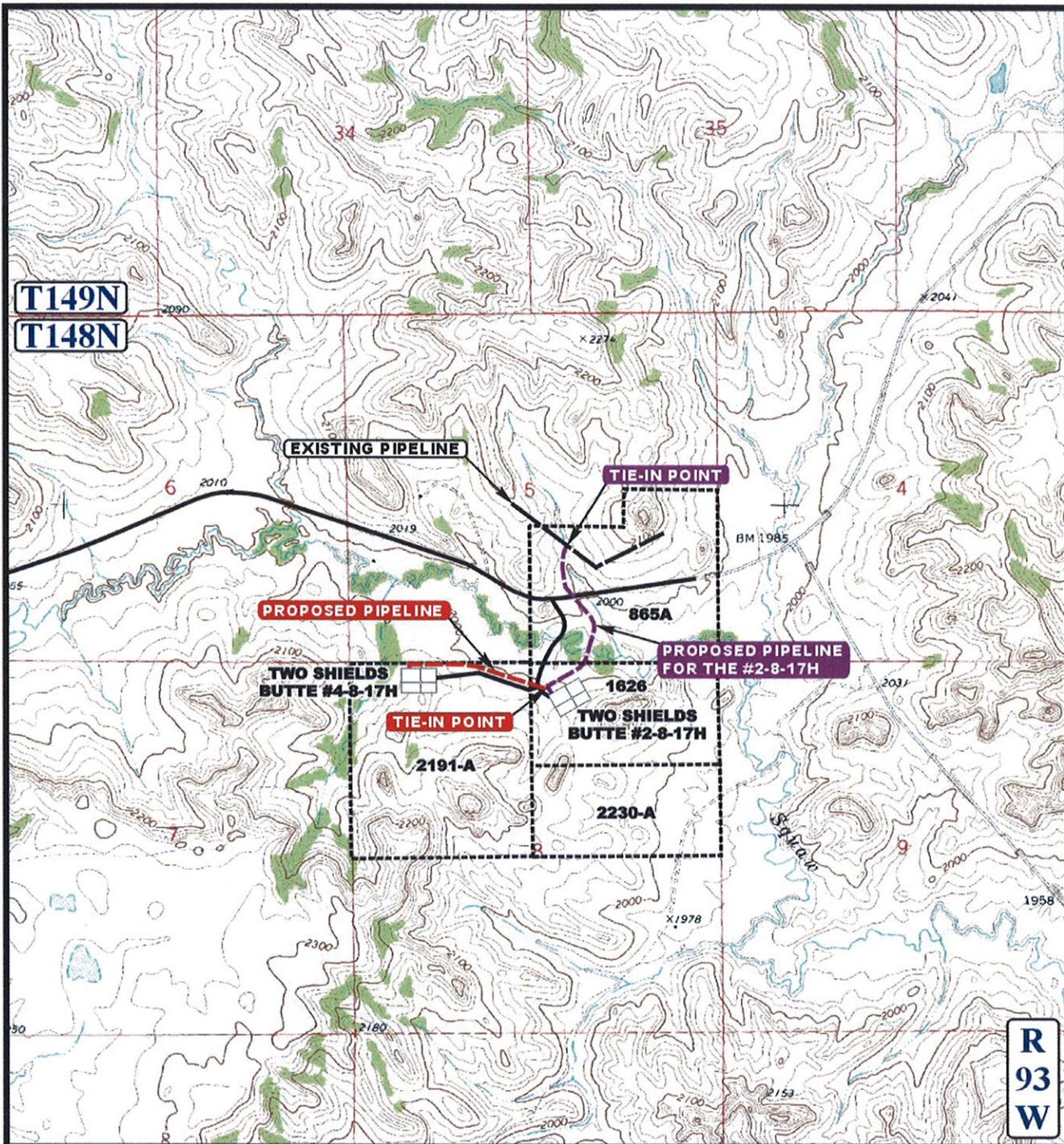
HORIZONTAL DIST. = 150'  
 SLOPE DISTANCE = 150'

**UTLS** UTAH ENGINEERING & LAND SURVEYING  
 85 SOUTH 200 EAST - VERNAL, UTAH 84078  
 (435) 789-1017

**PROJECT DATA**  
 SURVEYED BY: A.K.  
 DRAWN BY: S.B.  
 DATE: 11-04-11

LOCATED IN SECTION 8, T148N, R93W, 5th P.M. DUNN COUNTY, NORTH DAKOTA

**ARROW PIPELINE, LLC**  
 TWO SHIELDS BUTTE  
 SKUNK CREEK #4-8-17H  
 PROPOSED PIPELINE CROSSING PLAN & PROFILE



**APPROXIMATE TOTAL PIPELINE DISTANCE = 2,045' +/-**

**LEGEND:**

-  EXISTING ROAD
-  EXISTING PIPELINE
-  PROPOSED PIPELINE
-  PROPOSED PIPELINE (SERVICING OTHER WELLS)

**N**



**ARROW PIPELINE, LLC**

**TWO SHIELDS BUTTE SKUNK CREEK**

**#4-8-17H**

**SECTION 8, T148N, R93W, 5th P.M.**



**Uintah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813

**TOPOGRAPHIC**  
**MAP**

**03** **23** **11**  
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: S.F. REVISED: 09-13-11

**D**  
**TOPO**

# **Notice of Availability and Appeal Rights**

Arrow Pipeline, L.L.C: Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System

**The Bureau of Indian Affairs (BIA) is planning to issue administrative approvals related to an Addendum to Authorize Land Use for Pipelines Connecting the Kodiak Two Shields Butte Skunk Creek #4-8-17H Well to the Approved Kodiak Two Shields Butte Skunk Creek #2-8-17H Pipeline System on the Fort Berthold Reservation as shown on the attached map. Construction by Arrow Pipeline, L.L.C. is expected to begin in 2012.**

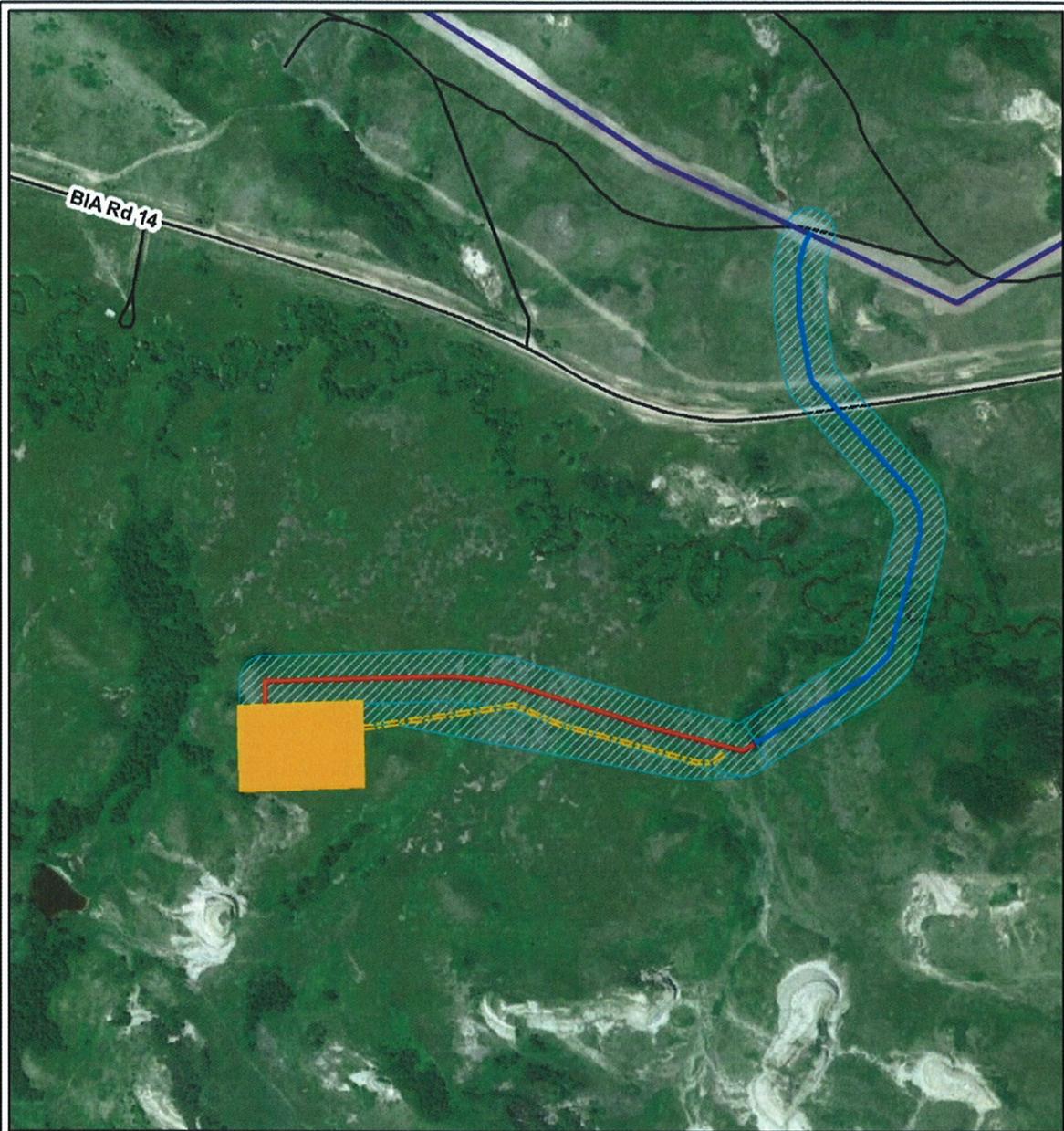
**An environmental assessment (EA) determined that proposed activities will not cause significant impacts to the human environment. An environmental impact statement is not required. Contact Earl Silk, Superintendent at 701-627-4707 for more information and/or copies of the EA and the Finding of No Significant Impact (FONSI).**

**The FONSI is only a finding on environmental impacts – it is not a decision to proceed with an action and *cannot* be appealed. BIA’s decision to proceed with administrative actions *can* be appealed until May 5, 2012, by contacting:**

**United States Department of the Interior  
Office of Hearings and Appeals  
Interior Board of Indian Appeals  
801 N. Quincy Street, Suite 300, Arlington, Va 22203.**

**Procedural details are available from the BIA Fort Berthold Agency at 701-627-4707.**

Project locations.



**Legend**

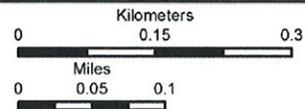
- Two Shields Butte Skunk Creek #4-8-17H
- Approved Skunk Creek #2-8-17H Pipelines
- Proposed Skunk Creek #4-8-17H Pipelines
- Existing Arrow Phase 1B South Pipeline
- Proposed Skunk Creek #4-8-17H Access Road
- Existing Road
- Survey Area



116 North 4th Street  
Suite 200  
Bismarck, ND 58501

Phone: 701.258.6622  
Fax: 701.258.5957

[www.swca.com](http://www.swca.com)



Base Map: Bing Aerial Imagery  
Source: esri ArcGIS service  
Quadrangle: Mandaree NE (1973)  
T. 148N, R. 93W  
Dunn County, North Dakota



Scale: 1:8,250 NAD 1983 UTM Zone 13N