



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

FEB 13 2012

MEMORANDUM

TO: Superintendent, Fort Berthold Agency

FROM: ^{ACTING} 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 QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 wells to the approved George Blackhawk #21-6x 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 QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the
Approved George Blackhawk #21-6x Pipeline System*

*Fort Berthold Indian Reservation
Dunn County, North Dakota*

The U.S. Bureau of Indian Affairs (BIA) has received a proposal for the construction and installation of three pipelines including one oil pipeline, one gas pipeline, and one produced water pipeline. As proposed, the MHA #2-05-04H-148-91 and #4-05-04H-148-91 pipeline system (pipelines) would transport oil, gas, and produced water from the wells to the approved George Blackhawk #21-6x Pipeline System and approved disposal sites. Associated federal actions by BIA include determinations of impacts and effects regarding environmental resources for developments on tribal lands.

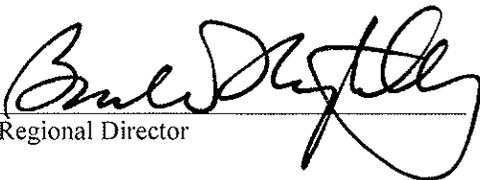
The potential of the proposed actions to impact the human environment is analyzed in the attached addendum to an existing EA, as required by the National Environmental Policy Act. Based on the recently completed addendum to the EA, I have determined that the proposed project will not significantly affect 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



Date

2/13/12

**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 QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the
Approved George Blackhawk #21-6x Pipeline System**

Fort Berthold Indian Reservation

February 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

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the
QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
George Blackhawk #21-6x Pipeline System
(February 2012)*

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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 gas pipeline, and one produced water pipeline. As proposed, the MHA #2-05-04H-148-91 and #4-05-04H-148-91 pipeline system (pipelines) would transport oil, gas, and produced water from the wells to markets and approved disposal sites. A buried electrical line may be installed in the future within the approved right-of-way (ROW).

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 the 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 originating from the northeast corner of the well pad, in the NW¹/₄ SW¹/₄ of Section 5, Township (T) 148 North (N), Range (R) 91 West (W), 5th Prime Meridian (P.M.), Dunn County, North Dakota. From the origination point the pipelines would generally trend west-northwest through the N¹/₂ of Section 6, T148N, R91W, 5th P.M., Dunn County, North Dakota, until their termination point in the NW¹/₄ NW¹/₄ Section 6, T148, 91W, 5th P.M., Dunn County, North Dakota.

4. Scope of Work for Proposed Action

Arrow proposes to construct and install oil, gas, and produced water pipelines on trust land that would join the MHA #2-05-04H-148-91 and #4-05-04H-148-91 wells (wells) to the Arrow Phase 2E – BIA 13 pipeline via the approved George Blackhawk #21x-6 Pipeline System. All three 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 gas pipelines would be no greater than 8 inches in diameter and constructed of steel. The water pipeline would also be no greater than 8 inches in diameter and constructed of Fiberspar[®] or similar corrosion-resistant material.

Approximately 5,146 feet of steel and Fiberspar or similar pipe would be needed to connect the wells to the tie-in. All construction disturbances would occur within a 120-foot-wide temporary ROW and permanent surface disturbance would occur within a 50-foot-wide ROW

between the well pad and the tie-in, which has been surveyed for impacts to natural and cultural resources with no significant findings. In total, approximately 14.18 acres would be temporarily disturbed as a result of activities associated with the construction of the proposed pipelines. Pipeline plats are provided in Appendix A.

5. Materials Information and Corrosion Rates

Steel Pipe

Arrow proposes to construct the oil and gas pipelines using 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 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 2011¹) 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.

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

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 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 pipeline. A 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 is to occur during winter, Arrow will 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 (BMPs) 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, or 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 pipeline is 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. Access roads and work areas would be leveled or backfilled as necessary, scarified, recontoured, and seeded. Exceptions to these reclamation measures might occur if the BIA approves assignment of an access road either to the BIA roads inventory or to concurring surface allottees. It is economically and environmentally unfeasible to excavate and remove the decommissioned pipeline. Instead it 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 species and habitat, migratory birds and active nests, bald and golden eagles and nests, and wetlands on October 13, 2011. BIA Environmental Specialist Chris McLaughlin approved the location and proposed alignment of the pipelines on October 14, 2011. No wetlands are anticipated to be impacted by the construction of the proposed pipelines. No threatened and endangered species or bald/golden eagles or nests were observed during the natural resource surveys. However, due to the proximity to Lake Sakakawea and potential for the presence of nesting habitat for least tern (*Sturnella antillarum*) and designated critical habitat of the piping plover (*Charadrius melodus*), the proposed project may affect, but is not likely to adversely affect piping plovers and least terns. Arrow would implement all BMPs, erosion control measures, and spill prevention practices required by the Clean Water Act to minimize any potential impact on piping plover and least tern.

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the
QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
George Blackhawk #21-6x Pipeline System
(February 2012)*

A cultural resource inventory of this pipeline route was conducted by personnel of SWCA Environmental Consultants, using an intensive pedestrian methodology. Approximately 27.38 acres were inventoried on October 13, 2011 (Schleicher 2011). One archaeological site was revisited which may possess the quality of integrity and meet at least one of the criteria (36 CFR 60.6) for inclusion on the National Register. As the lead federal agency, and as provided for in 36 CFR 800.5, on the basis of the information provided, BIA reached a determination of **no historic properties affected** for this undertaking, as the archaeological site will be avoided. This determination was communicated to the THPO on January 10, 2012; however the THPO did not respond within the allotted 30 day comment period.

Schleicher, Jolene

(2011) A Class I and Class III Cultural Resources Inventory of the Arrow QEP MHA #2-05-04H-148- 91 and #4-05-04H-148-91 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 BMPs 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; implementation of BMPs to control the introduction of noxious weeds; and by minimizing the length of time between trenching, pipeline burial, and reclamation. These mitigation measures are consistent with the approved National Environmental Policy Act (NEPA) documents, which received a finding of no significant impact (FONSI) (September 2010).

13. Applicable NEPA Document(s)

- *Environmental Assessment and Finding of No Significant Impact: Arrow Pipeline, LLC Phase 2E - BIA 13 Pipeline* (September 2010).

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the
QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
George Blackhawk #21-6x Pipeline System
(February 2012)*

- *Addendum to Environmental Assessment to Authorize Land Use for Gathering Pipelines Connecting the XTO Headless Turtle #44x-32, Grinnell #34x-33, Grinnell #41x-1, and George Blackhawk #21x-6 Wells to the Existing Arrow Phase 2E – BIA 13 Pipeline (December 2011).*

14. NEPA Adequacy Criteria

This document has identified two previously prepared NEPA documents (see Section 13) that adequately describe the environmental consequences of the newly proposed action described herein, and meets 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
QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
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(February 2012)*

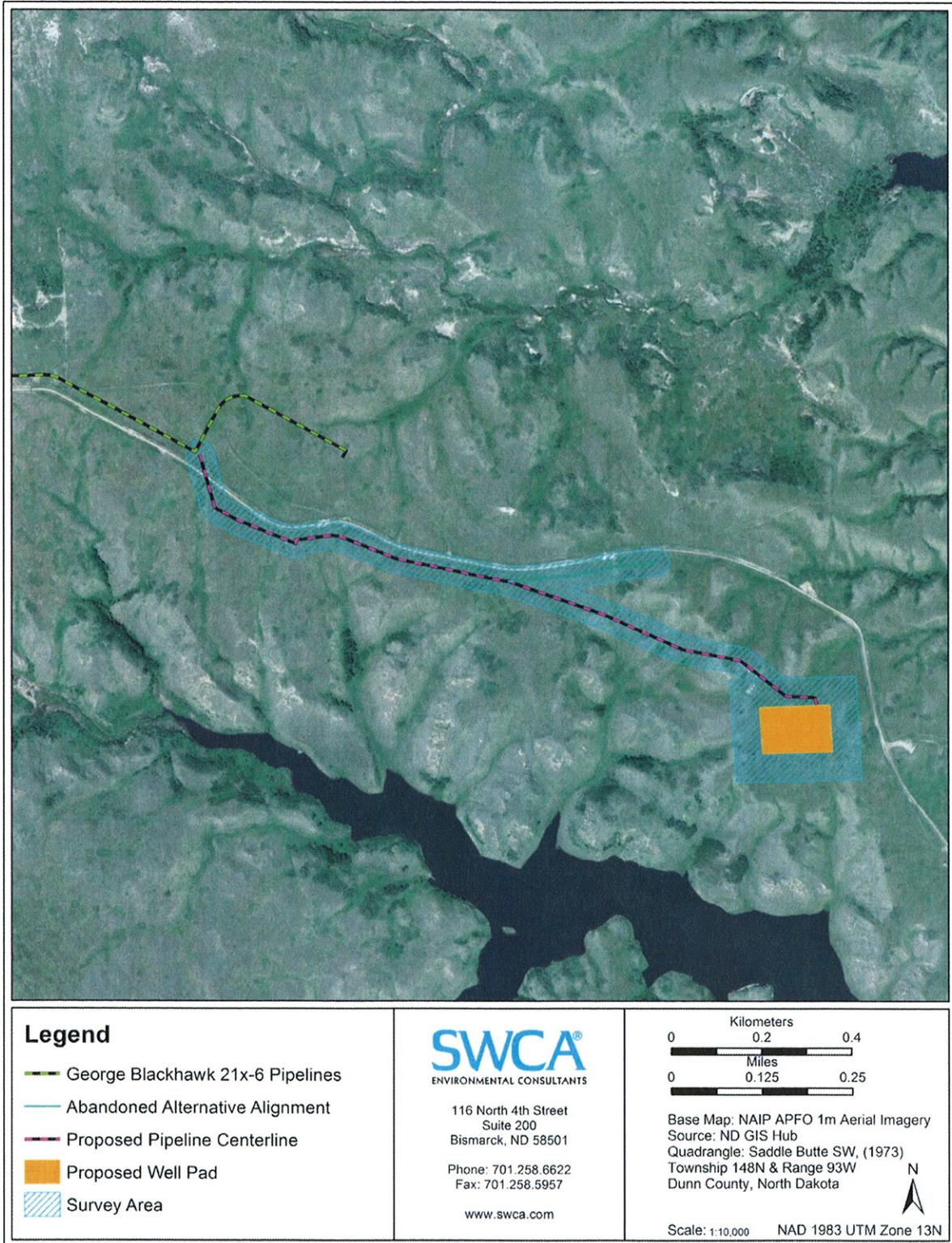


Figure 1. Proposed MHA #2-05-04H-148-91 and #4-05-04H-148-91 pipeline alignment.

*Addendum to Environmental Assessment to Authorize Land Use for Pipelines Connecting the
QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
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(February 2012)*



United States Department of the Interior

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Great Plains Regional Office MC-208
115 Fourth Avenue S.E., Suite 400
Aberdeen, South Dakota 57401



IN REPLY REFER TO:
DESCRM
MC-208

JAN 10 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 27.38 acres were intensively inventoried using a pedestrian methodology. Potential surface disturbances are not expected to exceed the area depicted in the enclosed report. One archaeological site (32DU1595) was revisited which may 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 reached a determination of **no historic properties affected** for this undertaking, as the archaeological site can and will be avoided. Catalogued as **BIA Case Number AAO-1890/FB/11**, the proposed undertaking, location, and project dimensions are described in the following report:

Schleicher, Jolene
(2011) A Class I and Class III Cultural Resources Inventory of the Arrow QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 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

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QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved
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(February 2012)*

APPENDIX A

**Pipeline Layout and Pipeline Right-of-Way
for MHA #2-05-04H-148-91 and #4-05-04H-148-91 Pipelines**

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(February 2012)*

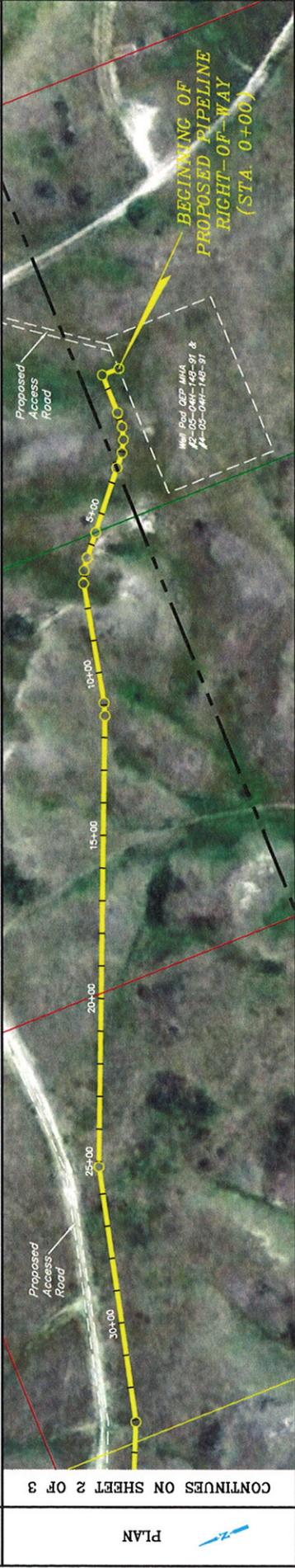
OWNER: T1194 NW 1/4 SW 1/4 SEC. 5, T148N, R91W, 5th P.M. 0+00

834A SW 1/4 NW 1/4 SEC. 5 & NE 1/4, SE 1/4 NW 1/4, & LOT 3 SEC. 6, T148N, R91W, 5th P.M. 3+52.65

142.26 27+00

STATIONING

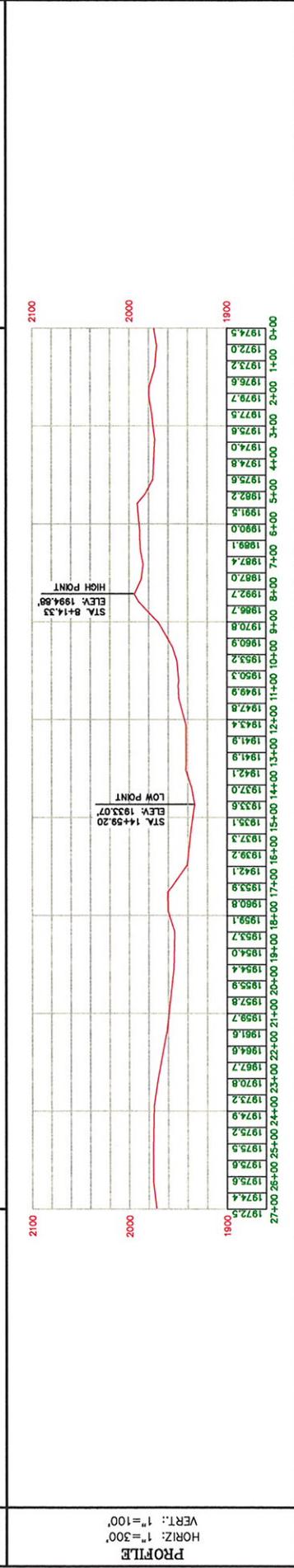
RODDAGE



PLAN

CONTINUES ON SHEET 2 OF 3

CLASS TERRAIN



PROFILE

HORIZ: 1"=300'

VERT: 1"=100'

EASEMENT WORKSPACE

PERM EASEMENT

TEMP EASEMENT

ADJUT TEMP

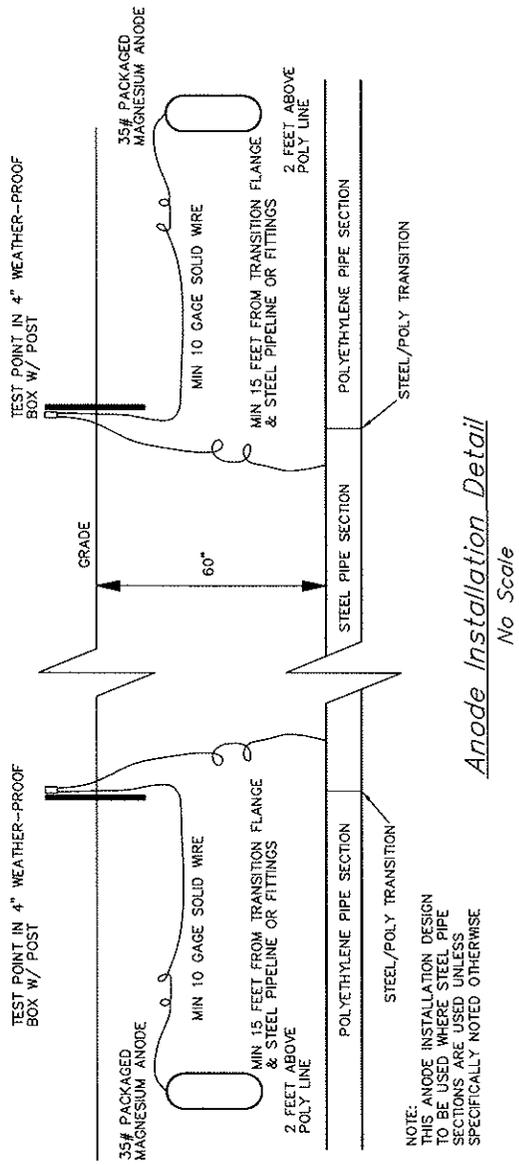
WORKSPACE

PROJECT DATA		MATERIAL SUMMARY		CLASS MATERIAL	
SCALE: AS SHOWN	SURVEYED BY: A.K.	CASING	COATING	TERRAIN	
DRAWING: 5 1 3 1 1-A	DRAWN BY: S.B.				
SHEET: 1 OF 3	DATE: 11-29-11				

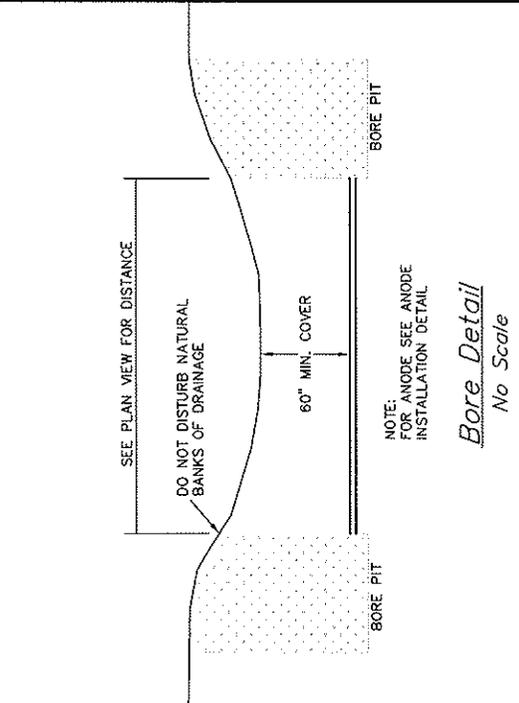
UNTAH ENGINEERING & LAND SURVEYING
 515 S. SOUTH 200 EAST - VERMILION, UTAH 84078
 (435) 788-1017

ARROW PIPELINE, LLC
 GEP MHA #2-05-04H-149-91
 & #4-05-04H-149-91
 PIPELINE PLAN & PROFILES

LOCATED IN SECTIONS 5 & 6, T148N, R91W, 5th P.M., DOW COUNTY, NORTH DAKOTA



Anode Installation Detail
No Scale



Bore Detail
No Scale

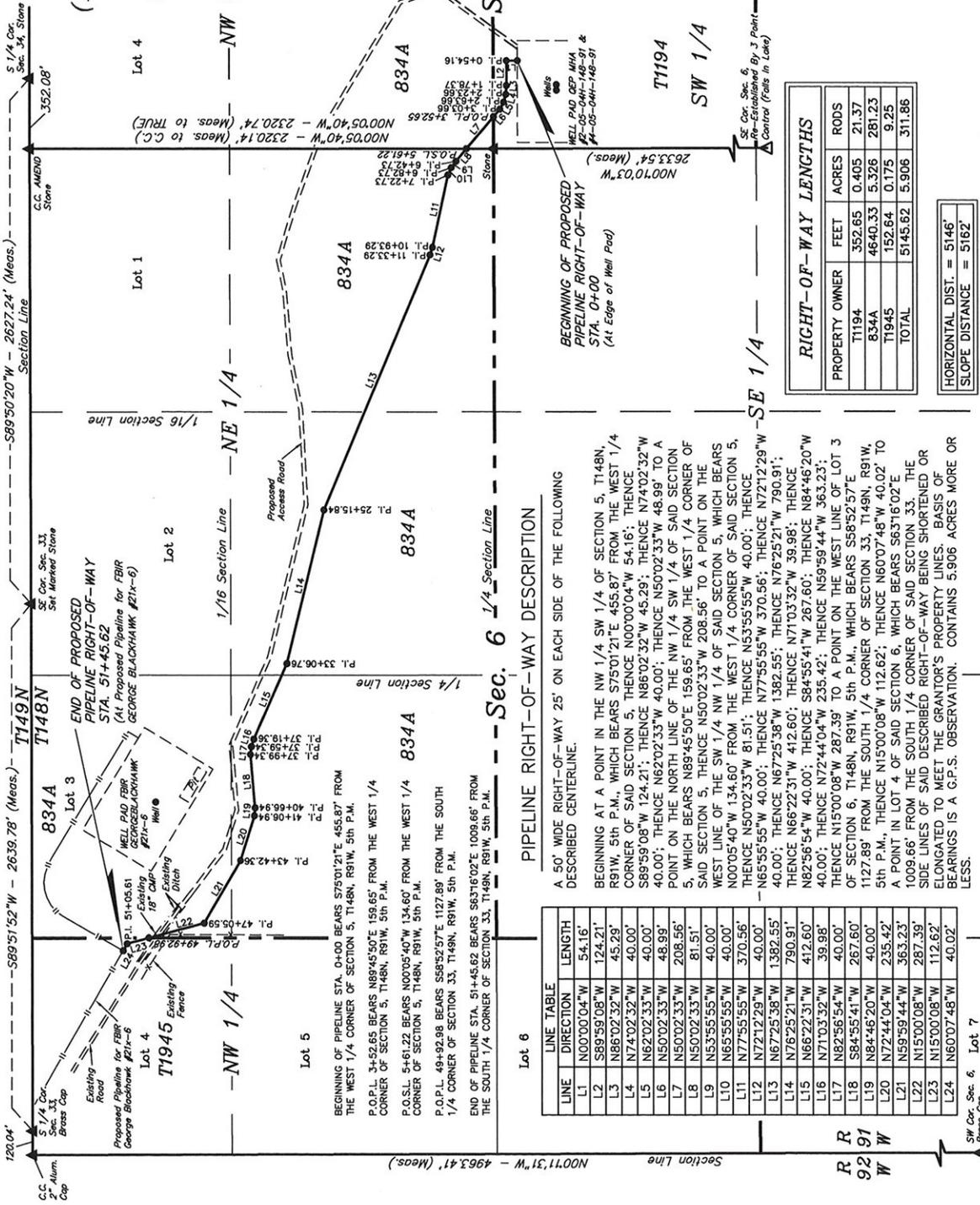
<p>UTAH ENGINEERING & LAND SURVEYING 86 SOUTH 200 EAST - WERDALL UTAH 84078 (435)788-1617</p>	<p>PROJECT DATA</p>		<p>SCALE: AS SHOWN DRAWINGS 1, 3, 11-C SHEET: 3 OF 3</p>	<p>LOCATED IN: SECTIONS 5 & 6, T14N, R9W, S9 P.M. BURN COUNTY, NORTH DAKOTA</p>	<p>ARROW PIPELINE, LLC GEP AREA #2-05-04H-148-01 # 14-05-04F-148-01 PIPELINE PLAN & PROFILE</p>
	<p>SURVEYED BY: A.K. DRAWN BY: S.B. DATE: 11-29-11</p>	<p>DATE: 11-29-11</p>			

ARROW PIPELINE, LLC

PIPELINE RIGHT-OF-WAY
ON TRIBAL LANDS

(For QEP MHA #2-05-04H-148-91
& #4-05-04H-148-91)

LOCATED IN
SECTIONS 5 & 6, T148N, R91W, 5th P.M.,
DUNN COUNTY, NORTH DAKOTA



LOCAL COORDINATE SYSTEM
BASED ON TRUE NORTH

▲ = SECTION CORNERS LOCATED.
△ = SECTION CORNER RE-ESTABLISHED.
(Not Set on Ground)

BASIS OF BEARINGS
BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

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.



REGISTERED LAND SURVEYOR
REGISTRATION NO. 46654
STATE OF NORTH DAKOTA

UNTAH ENGINEERING & LAND SURVEYING
85 SOUTH - 200 EAST • (435) 789-1077
VERNAL, UTAH - 84078

SCALE	1" = 500'	DATE	11-28-11
PARTY	A.K. S.B.	REFERENCES	G.L.O. PLAT
WEATHER	COLD	FILE	5 1 3 1 0

PROPERTY OWNER	FEET	ACRES	RODS
T1194	352.65	0.405	21.37
834A	4640.33	5.326	281.23
T1945	152.64	0.175	9.25
TOTAL	5145.62	5.906	311.86

HORIZONTAL DIST. = 5146'
SLOPE DISTANCE = 5162'

PIPELINE RIGHT-OF-WAY DESCRIPTION

A 50' WIDE RIGHT-OF-WAY 25' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT IN THE NW 1/4 SW 1/4 OF SECTION 5, T148N, R91W, 5th P.M., WHICH BEARS S75°01'21"E 455.87' FROM THE WEST 1/4 CORNER OF SAID SECTION 5, THENCE N00°00'04"W 54.16'; THENCE S89°59'08"W 124.21'; THENCE N86°02'32"W 45.29'; THENCE N74°02'32"W 40.00'; THENCE N62°02'33"W 40.00'; THENCE N50°02'33"W 48.99' TO A POINT ON THE NORTH LINE OF THE NW 1/4 SW 1/4 OF SAID SECTION 5, WHICH BEARS N89°45'50"E 159.65' FROM THE WEST 1/4 CORNER OF SAID SECTION 5, THENCE N50°02'33"W 208.56' TO A POINT ON THE WEST LINE OF THE SW 1/4 NW 1/4 OF SAID SECTION 5, WHICH BEARS N00°05'40"W 134.60' FROM THE WEST 1/4 CORNER OF SAID SECTION 5, THENCE N50°02'33"W 81.51'; THENCE N53°55'55"W 40.00'; THENCE N72°12'29"W 40.00'; THENCE N67°25'38"W 1382.55'; THENCE N77°55'55"W 370.56'; THENCE N62°22'31"W 412.60'; THENCE N71°03'32"W 790.91'; THENCE N82°56'54"W 40.00'; THENCE S84°55'41"W 267.60'; THENCE N84°46'20"W 40.00'; THENCE N72°44'04"W 235.42'; THENCE N59°59'44"W 363.23'; THENCE N15°00'08"W 287.39' TO A POINT ON THE WEST LINE OF LOT 3 OF SECTION 6, T148N, R91W, 5th P.M., WHICH BEARS S86°52'57"E 1127.89' FROM THE SOUTH 1/4 CORNER OF SECTION 33, T148N, R91W, 5th P.M., THENCE N15°00'08"W 112.62'; THENCE N60°07'48"W 40.02' TO A POINT IN LOT 4 OF SAID SECTION 6, WHICH BEARS S63°16'02"E 1009.66' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 33. 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 5.906 ACRES MORE OR LESS.

LINE	DIRECTION	LENGTH
L1	N00°00'04"W	54.16'
L2	S89°59'08"W	124.21'
L3	N86°02'32"W	45.29'
L4	N74°02'32"W	40.00'
L5	N62°02'33"W	40.00'
L6	N50°02'33"W	48.99'
L7	N50°02'33"W	208.56'
L8	N50°02'33"W	81.51'
L9	N53°55'55"W	40.00'
L10	N65°55'55"W	40.00'
L11	N77°55'55"W	370.56'
L12	N72°12'29"W	40.00'
L13	N67°25'38"W	1382.55'
L14	N62°22'31"W	790.91'
L15	N82°56'54"W	412.60'
L16	N71°03'32"W	39.98'
L17	N82°56'54"W	40.00'
L18	N84°46'20"W	267.60'
L19	N84°46'20"W	40.00'
L20	N72°44'04"W	235.42'
L21	N59°59'44"W	363.23'
L22	N15°00'08"W	287.39'
L23	N15°00'08"W	112.62'
L24	N60°07'48"W	40.02'

SW Cor. Sec. 6, Lot 7
Bress Cop

ARROW PIPELINE, LLC
QEP MHA #2-05-04H-148-91 & #4-05-04H-148-91
PIPELINE RIGHT-OF-WAY
SECTIONS 5 & 6, T148N, R91W, 5th P.M.

TOTAL PIPELINE RIGHT-OF-WAY ON TRIBAL LANDS

TOTAL LENGTH OF RIGHT-OF-WAY IS 5145.62' OR 0.975 MILES. WIDTH OF RIGHT-OF-WAY IS 50' (25' PERPENDICULAR ON EACH SIDE OF THE CENTERLINE). CONTAINS 5.906 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, 0.975 MILES IN LENGTH BEGINNING AND ENDING AS SHOWN ON THIS MAP IS ACCURATELY REPRESENTED.




REGISTERED LAND SURVEYOR
REGISTRATION NO. 4654
STATE OF NORTH DAKOTA

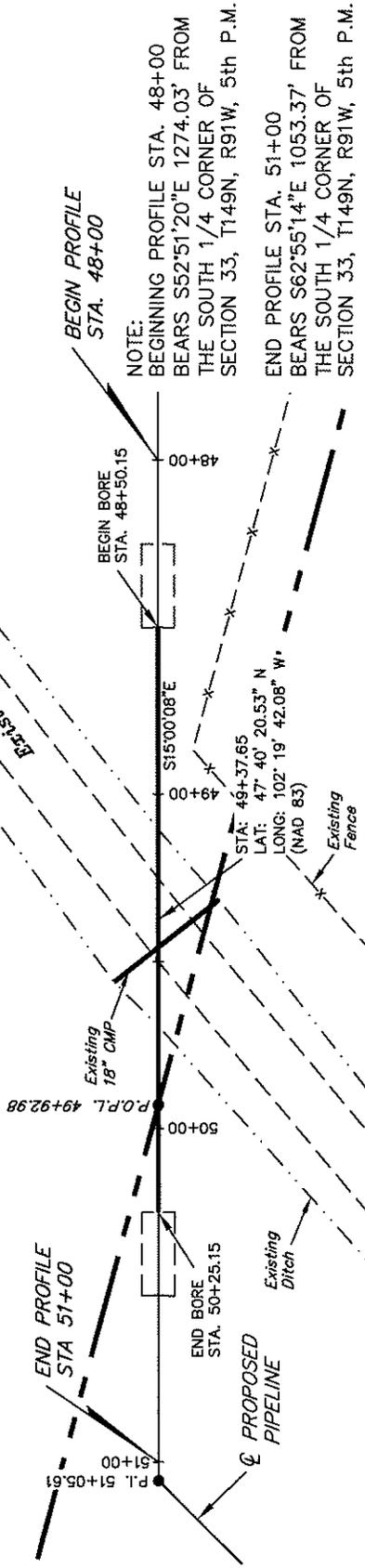
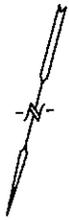
APPLICANT'S CERTIFICATE

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, 0.975 MILES IN LENGTH BEGINNING AT STA. 0+00 AND ENDING AT STA. 51+45.62, 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 LOT 3 OF SECTION 6, T148N, R91W, 5th P.M. WHICH FROM G.P.S. OBSERVATION BEARS S89°51'52"W



BEGIN PROFILE STA. 48+00

NOTE:

BEGINNING PROFILE STA. 48+00 BEARS S52°51'20"E 1274.03' FROM THE SOUTH 1/4 CORNER OF SECTION 33, T149N, R91W, 5th P.M.

END PROFILE STA. 51+00

BEARS S62°55'14"E 1053.37' FROM THE SOUTH 1/4 CORNER OF SECTION 33, T149N, R91W, 5th P.M.

BEGIN BORE STA. 48+50.15

STA: 49+37.65
LAT: 47° 40' 20.53" N
LONG: 102° 19' 42.08" W
(NAD 83)

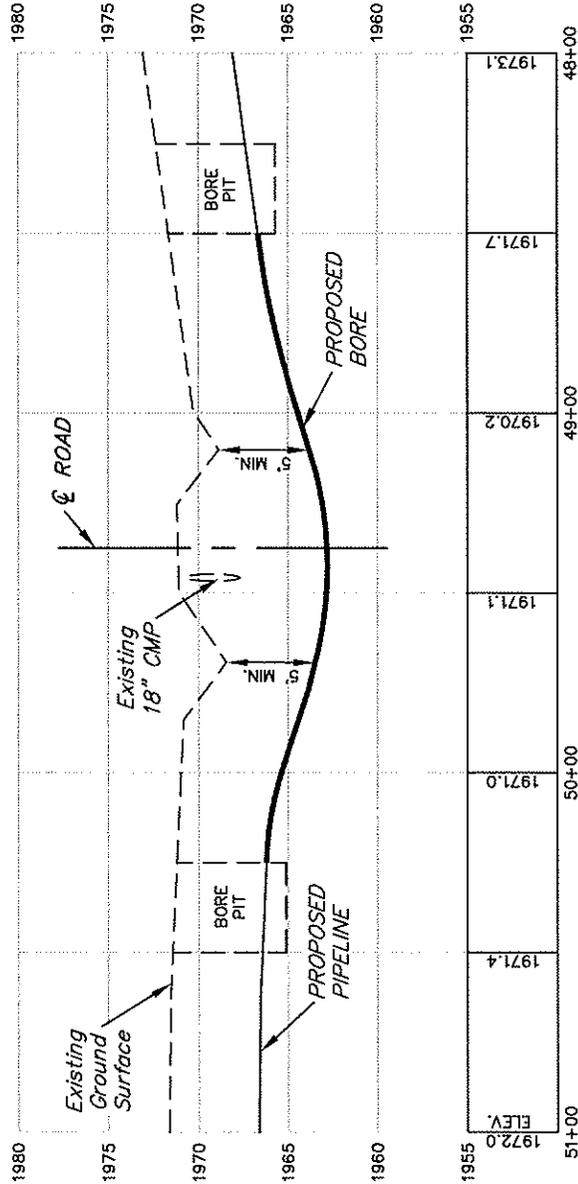
Existing 18" CMP

P.O.P.L. 49+92.98

END PROFILE STA 51+00

END BORE STA. 50+25.15

PROPOSED PIPELINE



SHEET 1 OF 1

HORIZONTAL DIST. = 175'
SLOPE DISTANCE = 176'

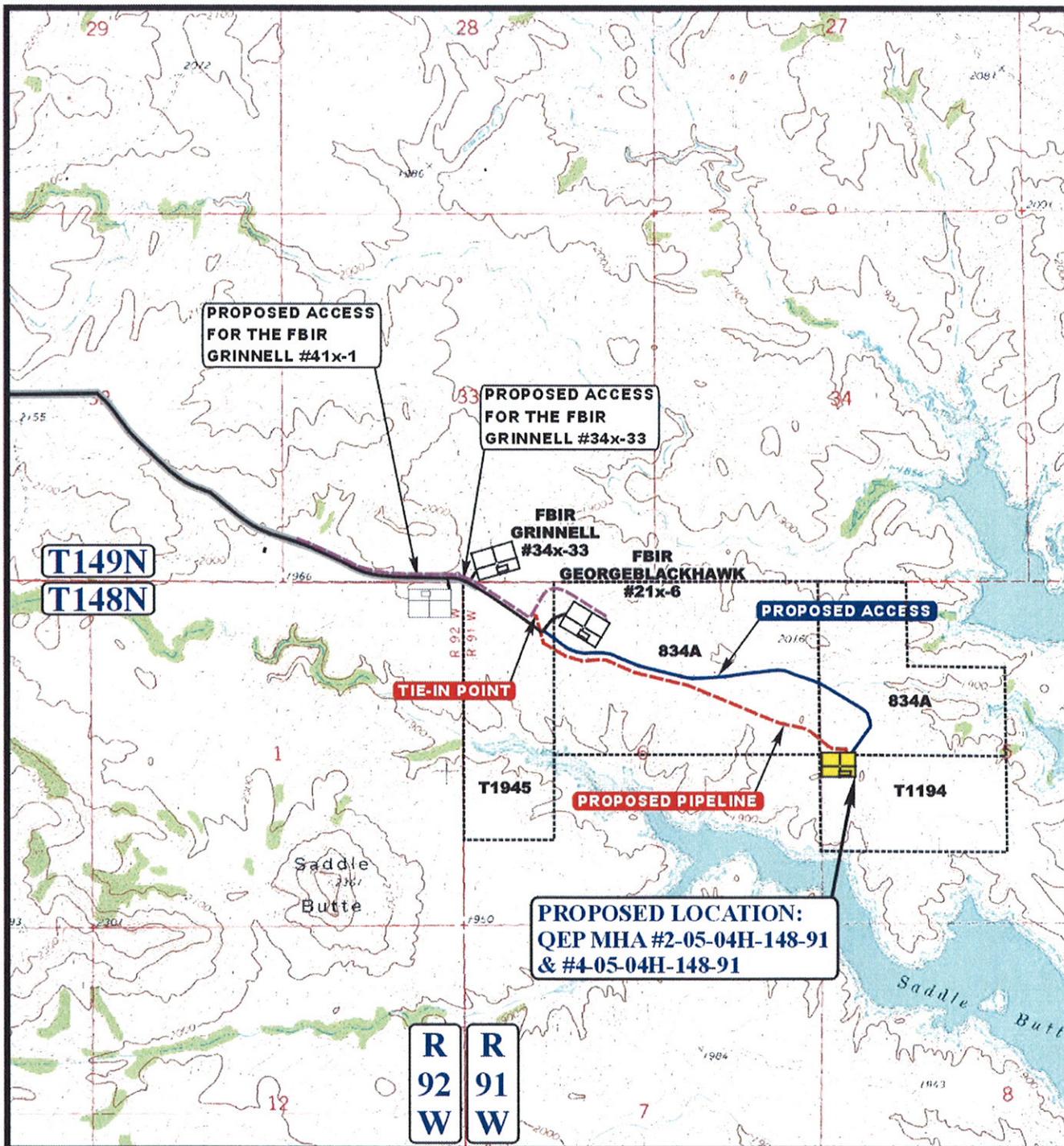
UNIVERSITY
UNTAH ENGINEERING & LAND SURVEYING
85 SOUTH 200 EAST - VERNAL, UTAH 84078
(435) 788-1017

PROJECT DATA

LOCATED IN SECTIONS 5 & 6, T148N, R91W, 5th P.M., DUNN COUNTY, NORTH DAKOTA
SURVEYED BY: A.K.
DRAWN BY: S.B.
DATE: 11-30-11

ARROW PIPELINE, LLC
QEP MEA #2-05-04H-148-91 & #4-05-04H-148-91

PROPOSED PIPELINE CROSSING PLAN & PROFILE



APPROXIMATE TOTAL PIPELINE DISTANCE = 5,146' +/-

LEGEND:

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

ARROW PIPELINE, LLC

**QEP MHA #2-05-04H-148-91
& #4-05-04H-148-91
SECTIONS 5 & 6 T148N, R91W, 5th P.M.**

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



TOPOGRAPHIC MAP
 11 01 11
 MONTH DAY YEAR
 SCALE: 1" = 2000' DRAWN BY: B.D.H. REVISED: 00-00-00

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 QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved George Blackhawk #21-6x 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 QEP MHA #2-05-04H-148-91 and #4-05-04H-148-91 Wells to the Approved George Blackhawk #21-6x 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 March 13, 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

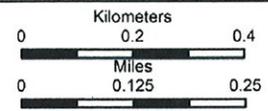
-  George Blackhawk 21x-6 Pipelines
-  Abandoned Alternative Alignment
-  Proposed Pipeline Centerline
-  Proposed Well Pad
-  Survey Area



116 North 4th Street
Suite 200
Bismarck, ND 58501

Phone: 701.258.6622
Fax: 701.258.5957

www.swca.com



Base Map: NAIP APFO 1m Aerial Imagery
Source: ND GIS Hub
Quadrangle: Saddle Butte SW, (1973)
Township 148N & Range 93W
Dunn County, North Dakota



Scale: 1:10,000 NAD 1983 UTM Zone 13N