6.0 Environmental Impact Summary

Table 6-1 provides a summary of the environmental impacts that are expected to remain after Keystone's BMPs are applied. These impacts will include both short-term impacts (impacts that will occur over a 5-year period or less) and long-term impacts (impacts that exceed 5 years).

Table 6-1 Impact Summary

Resource	Impact Summary
Air Quality	• Fugitive dust will be generated from Project construction activities and traffic during the construction period regardless of the dust suppression measures applied. All regions crossed by the Project are in attainment for particulate matter and no state-mandated dust control permits will be required. • Operational hydrocarbon emissions from 30 new pump stations will be minimal because pumps will be electrically driven. • The Steele City tank farm will emit regulated air pollutants during the crude oil storage. The tank farm will be subject to federal and state air regulations and an air construction and operating permit application will need to be filed with the NDEP. • If diesel-fired generator engines are installed at the construction camps in Montana and/or South Dakota, they will emit regulated air pollutants during operation. The generator engines will be subject to state air regulations and an air construction permit application will need to be filed with the appropriate state agency.
Geology, Minerals, and Paleontology	• There are 726 oil and gas well locations within 0.25 mile of the Project. The Project also crosses about 150 miles of deposits that may hold gravel resources. Construction and operation of the Project will limit access to underlying minerals such as sand and gravel for the life of the Project. This limitation will be confined to the width of the permanent pipeline easement and locations of aboveground facilities. • The Project crosses about 252 miles of bedrock formations that have a high potential to contain scientifically important fossils. Keystone has surveyed where required and made recommendations to avoid impacts to these resources. Adherence to those measures will minimize adverse impacts to scientifically important paleontological resources on federal lands.
Soils and Agricultural Production	• A small fraction of the excavated soils in areas with highly erodible soils (7,074 acres) could be lost to increased water and wind erosion acting on disturbed soil surfaces until grass and other herbaceous vegetation is restored (potentially three to five years). Soil protection measures will be used during and after construction to avoid or minimize erosion. • Approximately 17,017 acres of agricultural cropland and rangeland (including hayland) production will be lost in the construction ROW and additional temporary workspace areas for the year of construction. During the next growing season, production on haylands and pasturelands may be reduced. Long-term productivity will not be impaired.

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Resource	Impact Summary
Water Resources	• Construction across waterbodies will cause local short-term increases in total suspended solids and deposited sediment in 280 perennial streams and rivers that are crossed one or more times. Channel disturbance at 38 perennial waterbody crossings will be avoided by HDD technique to install the pipeline (see **Table 2.1-10**). • Pipeline construction will disturb a total of 747 acres of wetlands, river systems, and other open water. Of this total, approximately 555 acres are wetlands (287 acres palustrine emergent wetlands 247 acres forested wetlands, and 21 acres palustrine scrub shrub). Approximately 191 acres are located in river systems and open water. It is estimated that vegetation cover in palustrine emergent and palustrine scrub-shrub wetlands will recover in one to five years; forested wetlands will require 20 to 50 years. No permanent loss of wetlands will occur as a result of this Project; however, approximately 82 acres of forested wetland will be permanently converted to herbaceous wetland. • Water used for hydrostatic testing of the pipeline will be obtained from surface water sources. Withdrawal rates and volumes will be designed to avoid impacts to aquatic life and downstream water users. Hydrostatic test water will be discharged to the land surface at an approved location or returned to the source water using an approved energy dissipation device. Water discharged to the land surface may evaporate or infiltrate into the soil where the water is released. All necessary water use and discharge permits will be obtained and their conditions adhered to.
Vegetation	• Pipeline construction will temporarily disturb a total of 20,585 acres including 11,533 acres of native and low quality grassland/rangeland/pastureland, 2,523 acres of forest land, and 5,404 acres of agriculture/cropland.
Wildlife	• Approximately 1,351 acres of upland and wetland wildlife habitats will be cleared during pipeline construction and then recovered over short- and long-term timeframes (see water resources and vegetation above and additional temporary workspace areas). • Wildlife displacement from the construction ROW is expected to be short-term. No long-term displacement impacts are expected from the operational activities associated with this Project. • There may be a potential loss of bird eggs and young from pipeline clearing activities or increased human presence if these activities occur during the breeding season along the entire length of the Project. • Power lines (ranging in length from 0.6 to 65 miles) will be constructed to serve the pump stations. The power lines represent a collision hazard for waterfowl and other birds similar to those of existing electrical distribution lines.
Aquatic Resources	• Short-term increases in total suspended solids and sediment deposition downstream from channel excavation at open-cut stream crossings will occur in 280 perennial rivers and streams (see water resources above), thus may result in localized, minor, short-term impacts to aquatic resources.

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Resource	Impact Summary
Sensitive Species	• There will be a potential reduction in sensitive wildlife and aquatic species habitats as a result of construction. These habitat changes are described for wildlife and aquatic resources above. • Of the 61 special status species potentially occurring in the counties along the Project, seven are not located within the Project area (Section 3.6.6). • A Biological Assessment of 17 species has been prepared for USFWS review. Eight of the species have a No Effect determination, and eight species are not likely to be adversely affected. One species has a may affect and is likely to adversely affect determination.
Land Use (including noise, and transportation)	• Approximately 8,613 acres will not be allowed to be occupied by residential or other structures within the permanent pipeline easement and aboveground facility locations over the life of the Project. Agricultural uses will be allowed to continue as before except at the aboveground facility locations. • Several recreation and special-interest areas will be crossed by the Project (**Table 3.7-6**). • Aboveground facilities (tank farm, pump stations, power lines, valves, densitometers) will exist for the life of the Project. Power lines primarily will be located along county roads where possible to minimize impacts and therefore, will impact visual aesthetics in those areas. • Short-term obstruction or temporary disruption to local roads will occur during construction.
Cultural Resources	• Cultural resource impacts may include physical disturbance of archaeological sites or architecturally significant structures and features. Further, the Project may introduce visual or audible elements (e.g., pump stations) that will alter the setting of a cultural resource feature. • Impacts to sites that are eligible for the NRHP will be mitigated by one or more of the following measures: avoidance through use of pipeline realignments and facility relocations; approved data recovery from sites that cannot be avoided; and use of landscaping or other techniques to minimize or eliminate effects on the historic setting or ambience of standing structures. • Construction activities may adversely affect undiscovered archaeological sites. If previously undocumented sites are discovered within the construction work areas, work that could adversely affect the discovery will cease until consultation with appropriate agencies is completed. If the previously unidentified site is recommended as eligible to the NRHP, impacts will be mitigated through the procedures included in an Unanticipated Discovery Plan. • Treatment of any discovered human remains will be handled in accordance with the guidelines contained in the NAGPRA or state laws, depending upon whether the remains are found on federal or state land as well as the age and cultural affiliation of the remains. Construction will not resume in an area where human remains are discovered until the appropriate authorized agency(ies) provides a notice to proceed. • Of all cultural resources that currently fall within the Project area, 61 are considered potentially eligible, 40 eligible, 236 ineligible, and 304 sites are undetermined for listing on the NRHP. All eligible, potentially eligible, and undetermined sites will be avoided to the extent practical.

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Resource	Impact Summary
Socioeconomic Conditions	• Keystone will acquire pipeline easements and fee property from landowners and provide landowners with monetary compensation for the conveyance of those easements or fee property. Keystone will reclaim damaged or disturbed lands, repair or restore damaged property, and compensate owners for damages. Additionally, the easement area will be returned to its preconstruction use with the exception of timber/forest and structures in the permanent easement. • Land for permanent facility sites will be acquired in fee or through an aboveground surface lease. • In the short term, construction of the Project facilities will provide direct employment of an estimated 5,000 to 6,000 workers distributed across five to six states. Project employees will increase retail sales in local areas along the Project route. Demands on local infrastructure will include temporary accommodations during the construction period and, potentially, emergency services both during and after the construction period. It is anticipated that workers will commute from larger population centers to the Project work sites. • In the long term, operations will increase revenues to the states and counties crossed by the Project. It is estimated that the Project will pay 140 million dollars in property taxes in the first year of operation.
Public Health and Safety	• The USDOT prescribes pipeline design and operational requirements that minimize the risk of accidental crude oil releases. Over the operational life of the Project, a release of crude oil that could injure people, drinking water supplies, and ecologically sensitive areas is highly unlikely. If a spill were to occur, the appropriate remedial measures will be implemented to meet federal and state standards designed to ensure protection of human health and environmental quality.