

# WATERBODY DATA FORM

Centerline  Re-Route  Access Road  Ancillary Facility  Other:

Feature ID #: S7ATR004

Stream/Waterbody Name (if known): DOG EAR CREEK

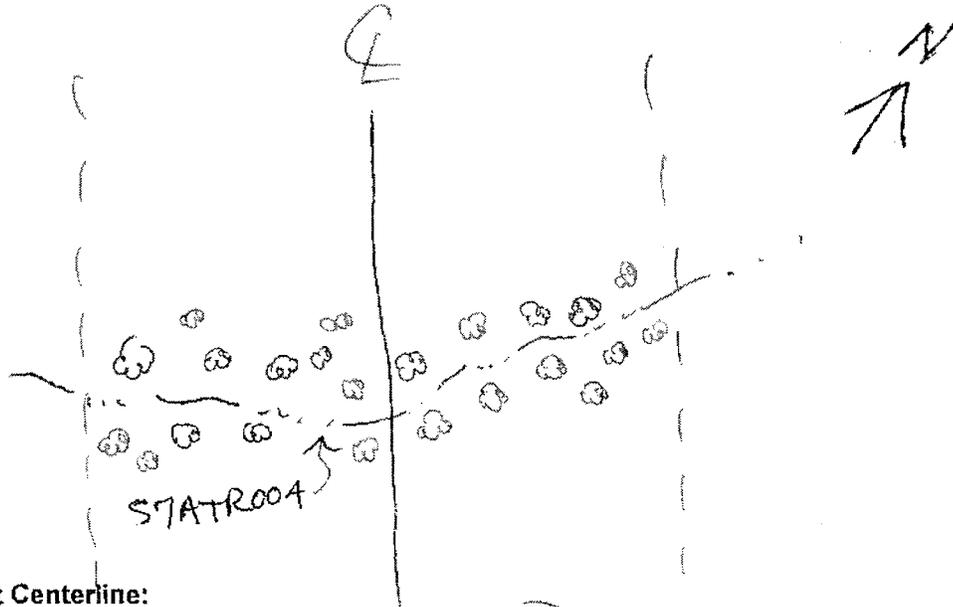
Associated Wetland ID #:

|                                  |  |                                      |
|----------------------------------|--|--------------------------------------|
| Date: 7/9/08                     | Project Name & No.: Keystone XL-10623-007-803A | Milepost: 564.5                      |
| Investigators: ROBSON/FREBOROUGH | State/County: SD/ TRIPP                        | Quad Name: DOG EAR BUTTES            |
| Logbook No.:                     | Logbook Page No.: 60                           | Tract No.: ML-SD-TR-11020.000, 11000 |
|                                  |  | Picture No.: S7ATR004_N,2W,3SW       |

PHYSICAL ATTRIBUTES

Waterbody Sketch Plan

Please include: Directional & North Arrow, Centerline, Length of feature, Distances from Centerline, Photo Locations, and Survey corridor



Angle of Crossing at Centerline:

|  |  |   |
|--|--|---|
| Waterbody Type                         | <input type="checkbox"/> Lake <input type="checkbox"/> Pond <input type="checkbox"/> Borrow Pit <input type="checkbox"/> River <input checked="" type="checkbox"/> Stream <input type="checkbox"/> Ag. Ditch   | Other:  |
| Stream Flow                            | <input type="checkbox"/> Fast <input type="checkbox"/> Moderate <input checked="" type="checkbox"/> Slow<br><input type="checkbox"/> Very Slow <input type="checkbox"/> None   | Flow type   |
| Subsurface Flow?                       | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown   | <input type="checkbox"/> Perennial (Flows year round)<br><input type="checkbox"/> Seasonal (Continuous flow ≥ 3 months)<br><input type="checkbox"/> Intermittent (Flows <3 months)<br><input type="checkbox"/> Ephemeral (Flows only in response to rainfall) |
| OHWM Width (ft.):                      | 12'  | Sinuosity <input type="checkbox"/> Straight <input checked="" type="checkbox"/> Meandering  |
| Stream Width (ft.)                     | Top of Bank (at crossing location): 15'  | Water Surface (at crossing location): 7'  |
| Stream Depth (in.)                     | <input type="checkbox"/> 0-3 <input type="checkbox"/> 3-6 <input checked="" type="checkbox"/> 6-12 <input type="checkbox"/> 12-18 <input type="checkbox"/> 18-24 <input type="checkbox"/> 24-36 <input type="checkbox"/> 36-48 <input type="checkbox"/> 48-60 <input type="checkbox"/> 60+   |   |
| OHWM Indicator                         | <input checked="" type="checkbox"/> Clear natural line on bank <input type="checkbox"/> Wrack line <input type="checkbox"/> Shelving <input type="checkbox"/> Scour<br><input type="checkbox"/> Abrupt plant community change <input type="checkbox"/> Bent, matted or missing vegetation <input type="checkbox"/> Wrested vegetation <input type="checkbox"/> Water staining<br><input type="checkbox"/> Soil character changes <input type="checkbox"/> Sediment deposition <input type="checkbox"/> Sediment sorting<br><input type="checkbox"/> Litter and debris <input type="checkbox"/> Leaf litter disturbed <input type="checkbox"/> Other: |   |
| Bank Height (ft.) (looking downstream) | Left: <input type="checkbox"/> 0-2 <input checked="" type="checkbox"/> 2-4 <input type="checkbox"/> 4-6 <input type="checkbox"/> 6-8 <input type="checkbox"/> 8+   | Right: <input type="checkbox"/> 0-2 <input type="checkbox"/> 2-4 <input checked="" type="checkbox"/> 4-6 <input type="checkbox"/> 6-8 <input type="checkbox"/> 8+   |
| Bank Slope (looking downstream)        | Left: <input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input type="checkbox"/> 2:1 <input checked="" type="checkbox"/> 1:1 <input type="checkbox"/> Vertical   | Right: <input type="checkbox"/> 4:1 <input type="checkbox"/> 3:1 <input type="checkbox"/> 2:1 <input checked="" type="checkbox"/> 1:1 <input type="checkbox"/> Vertical   |

|       |  |           |
|-------|--|-----------|
| Date: | Project Name & No.: Keystone XL-10623-007-803A | Milepost: |
|-------|--|-----------|

**QUALITATIVE ATTRIBUTES**

|  |  |  |   |                                      |   |       |
|--|--|--|---|--------------------------------------|---|-------|
| <b>Water Appearance (check all that apply)</b>           | Clear <input checked="" type="checkbox"/> Turbid <input type="checkbox"/><br>Slightly Turbid <input type="checkbox"/> Very Turbid <input type="checkbox"/><br>Other:   | Sheen on surface <input type="checkbox"/><br>Greenish color <input checked="" type="checkbox"/>  | Floating algal mats <input type="checkbox"/><br>Obvious surface scum <input type="checkbox"/> | Water Color:                         |   |       |
| <b>Stream Substrate %</b>                                | Silts                      Cobbles                      Bedrock<br>Concrete                      Muck                      Vegetation:<br>Other:                      Explain:   | Sands 100%   | Gravel  |                                      |   |       |
| <b>Aquatic Habitats (check all that apply)</b>           | Sand Bar <input type="checkbox"/> Gravel Riffles <input type="checkbox"/><br>Gravel Bar <input type="checkbox"/> Deep Pools <input type="checkbox"/><br>Mud Bar <input type="checkbox"/> Bank root systems <input type="checkbox"/><br>Undercut Banks <input type="checkbox"/> Overhanging trees/shrubs <input checked="" type="checkbox"/>  | In-stream emergent plants: <input type="checkbox"/><br>In-stream submerged plants: <input type="checkbox"/><br>Fringing Wetlands: <input type="checkbox"/> |   |                                      |   |       |
| <b>Aquatic Organisms Observed (check all that apply)</b> | Waterfowl <input type="checkbox"/> Fish (adult) <input type="checkbox"/> Turtles <input type="checkbox"/><br>Snakes <input type="checkbox"/> Fish (juvenile) <input type="checkbox"/> Frogs <input type="checkbox"/>   | Other:<br>Invertebrates:   |   |                                      |   |       |
| <b>Riparian Zone</b>                                     | Width of natural vegetation zone from edge of active channel out onto flood plain (FT): 300<br>Circle vegetative layers: trees <input checked="" type="checkbox"/> shrubs <input checked="" type="checkbox"/> herbs <input checked="" type="checkbox"/><br><input type="checkbox"/> Significant bare areas within riparian zone <input type="checkbox"/> Evidence of non-buffered concentrated flows |  |   |                                      |   |       |
| <b>Tributary is</b>                                      | <input checked="" type="checkbox"/> Natural <input type="checkbox"/> Artificial (Man-Made) <input type="checkbox"/> Manipulated  |  |   |                                      |   |       |
| <b>Channel Condition:</b>                                | Channelization or Braiding <input checked="" type="checkbox"/>   | Unnatural straightening <input type="checkbox"/>   | Downcutting <input type="checkbox"/>  | Dikes/Berms <input type="checkbox"/> | Excessive bank erosion <input type="checkbox"/> | Other |
| <b>Disturbances</b>                                      | Livestock access to riparian zone <input checked="" type="checkbox"/><br>Waste discharge pipes present <input type="checkbox"/>  |  | Manure in stream or on banks <input type="checkbox"/><br>Other:                               |                                      |   |       |

|  |                 |
|--|-----------------|
| Describe Habitat Characteristics, Aquatic & Terrestrial Diversity:   | Habitat ID No.: |
| COTTONWOOD, WILLOW, VARIOUS SHRUBS & GRASSES LINE BOTH BANKS. MATURE COTTONWOOD GROWTH EXTENDS OUT TO 250' EITHER SIDE OF BANK |                 |

|   |
|---|
| Comments (e.g. pipeline crossing angle, construction constraints, erosion potential, existing disturbances, and meanders) |
| CL CROSSES AT A NEAR 90 DEGREE ANGLE TO STREAM  |
| STREAM QUALITY    High <input type="checkbox"/> Moderate <input type="checkbox"/> Low <input checked="" type="checkbox"/> |