RMNG 2019 SSIR Capital Project Summaries

Attachment 5

Black Hills Energy
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2019 Capital Project No. 1

Deep Well Anode Replacement Program – Andy's Mesa and De Beque Compressor

Project Overview

Scope: It has been determined that the existing groundbed at these locations have very high electrical resistance. As a result, the groundbeds require a higher level of power to achieve desired cathodic protection levels. High electrical resistance indicates the existing anodes may be depleting and near the end of their useful lives. The Company will install new deep well anode beds to replace existing anode beds at the De Beque Compressor and Andy's Mesa well locations to maintain required levels of cathodic protection. The 2019 sites are the oldest wells that RMNG is aware of on its system.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.935; CFR Title 49, Part 192, Subpart I – Requirements for Corrosion Control, Section 192.463

Project Details and Status

Schedule: **Target Date**
In-Service September 2019

Costs: **Estimated**
$94,500

Project Location: De Beque, CO

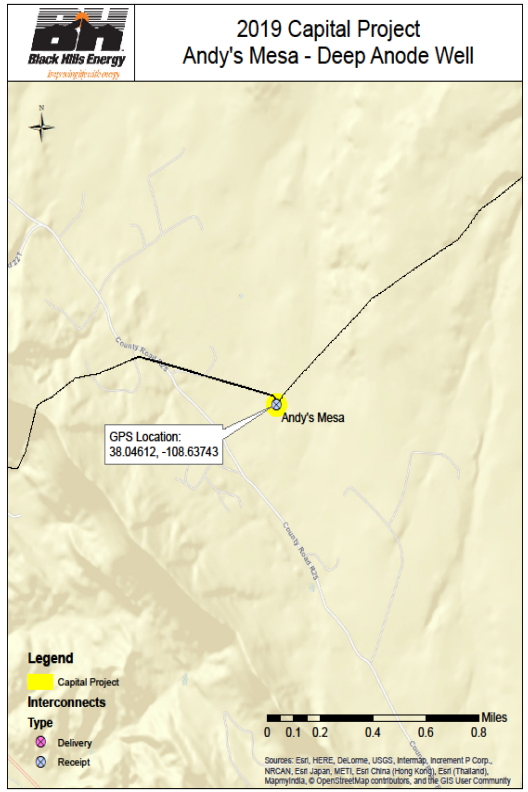
Risk Assessment Level:
SME - Medium

TIMP Initiative:
Corrosion Mitigation Initiative

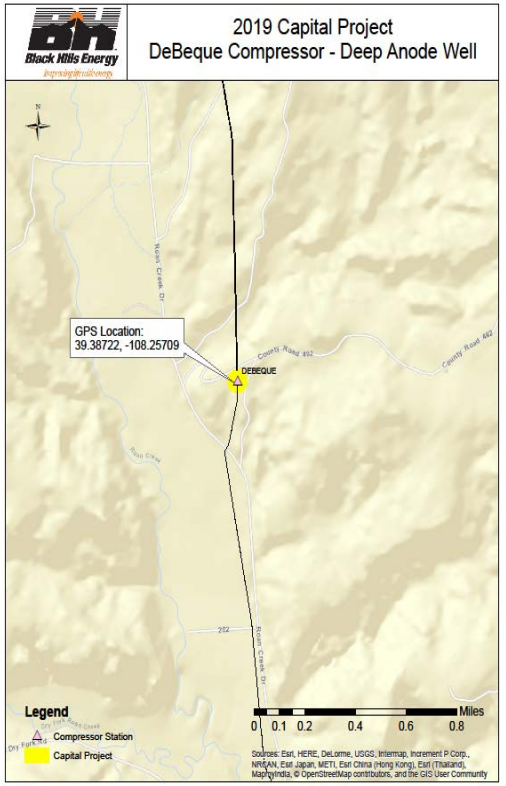
Assumptions, Notes and Risks

- This project is a continuation of the Deep Well Anode Replacement Program which was 2018 SSIR Capital Project No. 4.
- The Deep Well Anode Replacement program includes installing new deep well anode beds each year. Specific locations will be determined on a year-by-year basis since then-current data, such as bi-monthly rectifier reads and annual pipe-to-soil potentials, is required. This program is projected to end in 2023 or sooner and will depend on how many anode beds need to be replaced.

Map



Map



2019 Capital Project No. 2

Span and Exposed Pipe Replacement Program – 8-inch Young's Creek Pipeline Exposure

Project Overview

Scope: RMNG will replace the exposed and aging pipeline crossing Young's Creek with a new buried pipeline. RMNG will hire a pipeline contractor that will require the mobilization of project materials, the use of excavation and welding equipment to bore approximately 200 feet of pipeline under the creek. This segment of the pipeline was installed in 1959.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.917; CFR Title 49, Part 192, Subpart O – TIMP, 192.935

Project Details and Status

Schedule: **Target Date**
In-Service July 2019

Costs: **Estimated**
$135,000

Project Location: De Beque, CO

Risk Assessment Level:
ROF: Tier 4 - 26.3
SME: High

TIMP Initiative:
At-Risk Infrastructure Initiative

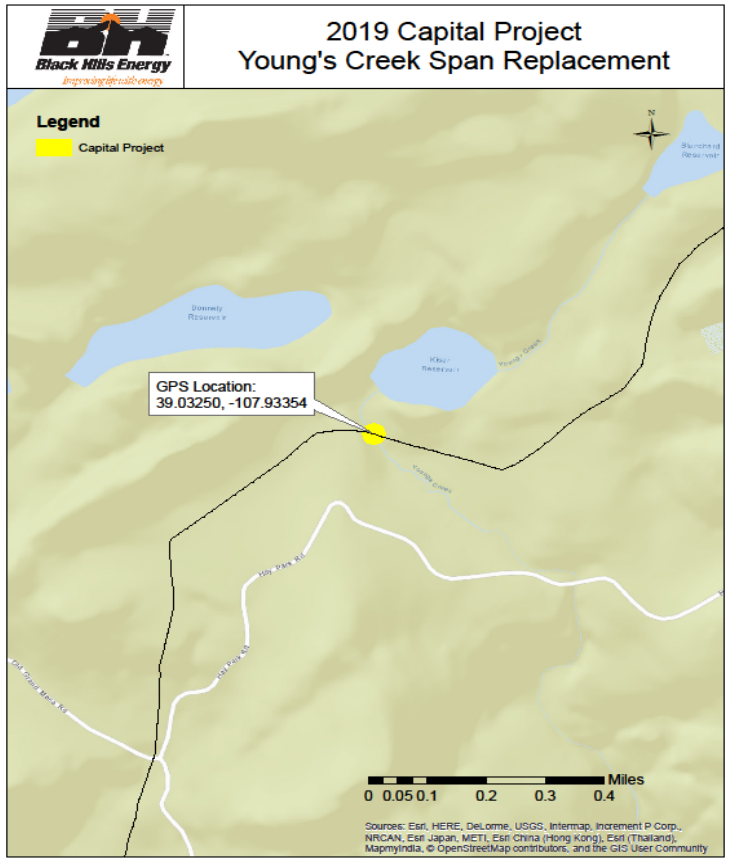
Assumptions, Notes and Risks

- Currently, there is a section of 8-inch pipeline exposed at the bottom of the creek that becomes submerged when water flows.
- This project is the continuation of a multi-year Span and Exposed Pipe Replacement Program. As part of this program, RMNG has either a span or exposed pipe replacement planned for each year through 2022. The below schedule and timeline for the program is subject to change as more data is gathered and analyzed.

Span and Exposed Pipe Replacement Program

Year	Project in Service
2019	8" Young's Creek Pipeline Exposure
2020	10" G Rd. Arroyo Pipeline Exposure
2021	10" Olathe Arroyo Pipeline Exposure
2022	Hell's Gulch near De Beque, CO

Map



2019 Capital Project No. 3

Install Launcher and Receiver at Olathe Interconnect 6-inch

Project Overview

Scope: RMNG will install a new tool launcher and receiver at the Olathe Interconnect Site. The project consists of engineering, design, ROW acquisition and construction of a 10-inch ILI compatible tool launcher and receiver assembly. This allows operations to break up an extremely difficult to manage 55.26 mile pipeline into two sections to improve ILI capability. The two tool runs are the Reed Junction to TCGT Olathe 19.28 mile tool run and the TCGT Olathe to Naturita Compressor Station 35.98 mile tool run.

Requirement: Requirement: CFR Title 49, Part 192, Subpart O, TIMP. Section 192.921

Project Details and Status

Schedule: **Target Date**
In-Service June 2019

Costs: **Estimated**
$1,560,000

Project Location: Reed Junction, CO to Olathe, CO

Risk Assessment Level
SME: High

TIMP Initiative
In-line Inspection Initiative

Map

Assumptions, Notes and Risks

- Installation of the Launcher/Receiver will aid in gaining system integrity knowledge. ILI inspections allow the Company to gather important unknown data including the location and extent of corrosion, deformation(s), and pipeline design characteristics, such as bends, tees and abandoned farm taps.

2019 Capital Project No. 4

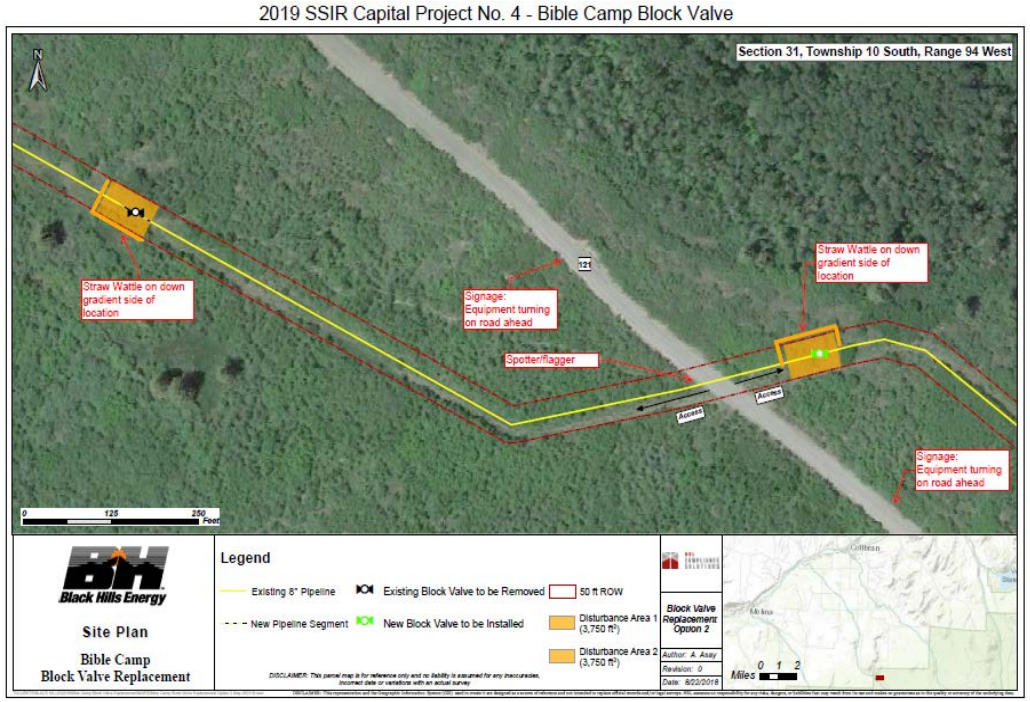
Mainline Valve Replacement Program - Bible Camp

Project Overview

Scope: RMNG will replace the existing gate valve with a mainline automated block valve to provide a safe point of control and isolation in case of a pipeline emergency. The project consists of the Company constructing a mainline automated block valve on the 8-inch pipeline segment. RMNG will engage a third party contractor to fabricate the assembly of an 8-inch block valve at the Bible Camp. The Company will also purchase two 8-inch stopple fittings that will be used to install the block valve assembly.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.917

Map



Project Details and Status

Schedule: **Target Date**
In-Service August 2019

Costs: **Estimated**
2018: $75,000 (engineering, ROW, design)
2019: $1,125,000 (construction)

Project Location: near Collbran, CO

Risk Assessment Level
ROF: Tier 3 – 29.1
SME: High

TIMP Initiative
At-Risk Infrastructure Initiative

Mainline Valve Replacement Program

2019	Bible Camp MLV
2020	8" Shire Gulch MLV
2021	8" Debeque Station MLV
2022	10" Redvale MLV
2023	8" Bronco Flats MLV

Assumptions, Notes and Risks

- This project is part of a multi-year Mainline Valve Replacement Program. RMNG currently has a mainline valve replacement planned for each year through 2023 as part of this program. As more RMNG data is gathered and analyzed, RMNG will determine whether or not this program should continue beyond 2023.
- The Bible Camp location was slated as the first mainline valve replacement in this program due to the remoteness of its location and limited access during the winter months. The valve is located atop the Grand Mesa. The existing valve is an older style gate valve that will not completely seal when closed and is difficult to maintain.

2019 Capital Project No. 5

Grove Creek Span Replacement

Project Overview

Scope: Each spring after run-off, RMNG personnel must remove debris from 15 feet of 8-inch exposed transmission pipeline that is submerged in Grove Creek near Collbran, Colorado. RMNG will replace the exposed pipeline in the creek by boring and burying approximately 200 feet of pipeline underground spanning the high-water marks of the creek.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.917; CFR Title 49, Part 192, Subpart O – TIMP, 192.935

Project Details and Status

Schedule: **Target Date**
In-Service September 2019

Costs: **Estimated**
2018: $75,000 (engineering, ROW, permits)
2019: $1,275,000 (construction)

Project Location: Collbran, CO

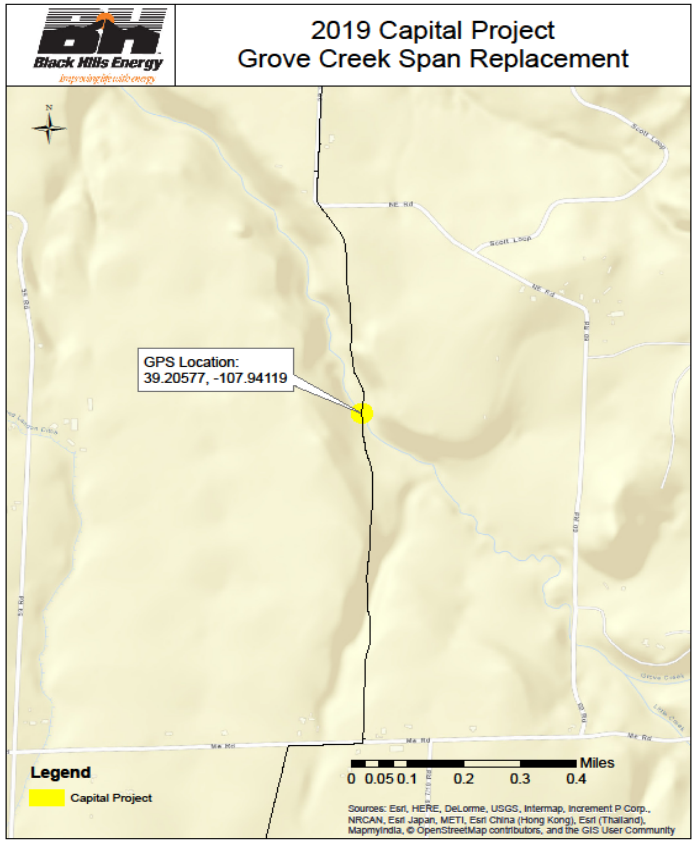
Risk Assessment Level
ROF: Tier 3 – 32.5
SME: High

TIMP Initiative
At-Risk Infrastructure Initiative

Assumptions, Notes and Risks

- This project is a continuation of 2018 Capital Project No. 12.
- If this SSIR Project is not completed and a failure occurs, the consequence is that the Company could lose service of a primary 8-inch transmission line that is a key feed of the system such that a failure in this pipeline segment could result in the loss of service to the towns of Cedaridge, Delta, Olathe and Montrose, Colorado, potentially for an extended period of time.

Map



2019 Capital Project No. 6

Cottonwood Pass Replacement

Project Overview

Scope: The project contributes to pipeline safety through the replacement of aging infrastructure since this segment of the pipe was installed in 1967. There are three components to the multi-year project: span replacement; block valve replacement; and pipeline replacement. RMNG will replace approximately 300 feet of existing spanned casing pipeline with new buried pipeline through a drainage area. In addition, RMNG will purchase two 4-inch stopple fittings that will be used to fabricate a mainline block valve. In 2019, RMNG install approximately five miles of 6-inch pipeline from Glenwood to Gypsum to ensure additional protection and control of the system, reducing the likelihood of failure. The 2019 construction will also include a mainline valve installation. The remaining 16 miles of the section, including the span replacement, will be completed in 2020-2022.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.917; CFR Title 49, Part 192, Subpart O – TIMP, Section 192.935

Project Details and Status

Schedule: **Target Date**
In-Service December 2019

Costs: **Estimated**
Total 2019 Project $4,550,000

Change in Capacity: Yes – 4-inch to 6-inch. Only costs of 4-inch will be included in SSIR.

Cost of 4" Replacement: 2018: $150,000 (SSIR portion – engineering, ROW, permits)
2019: $4,400,000 (SSIR portion - construction)

Project Location: Glenwood, CO to Gypsum, CO

Risk Assessment Level
ROF: Tier 1 – 56.4
SME: High

TIMP Initiative
At-Risk Infrastructure Initiative

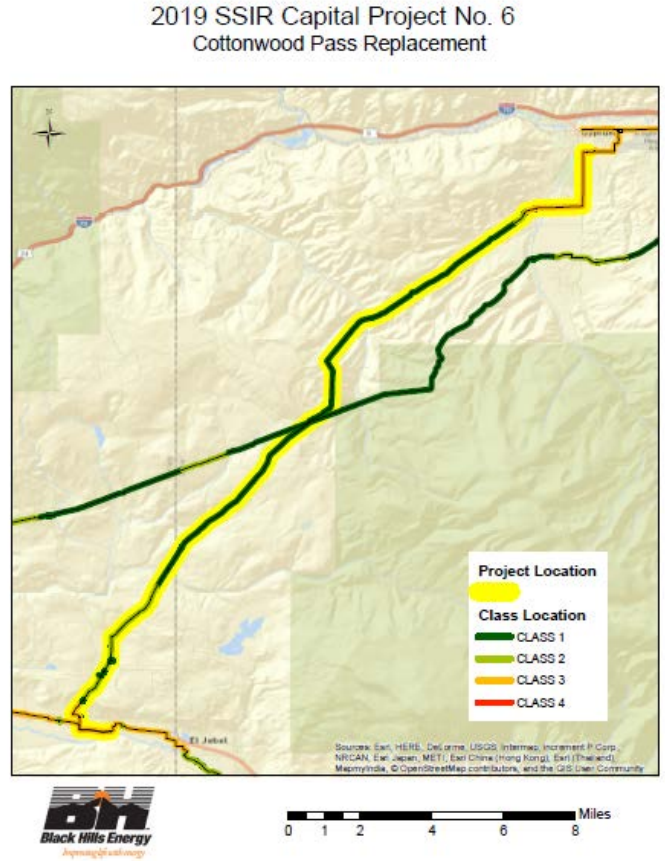
Cottonwood Pass Replacement

Year	Miles to Replace
2019	5
2020	5
2021	5
2022	6

Assumptions, Notes and Risks

- This project is a continuation of 2018 Capital Project No. 13 and is a multi-year replacement project being constructed 2019-2022.

Map



2019 Capital Project No. 7

Telluride Fittings Replacement - Skunk Creek Crossing

Project Overview

Scope: Project includes evaluation, engineering, and replacement of approximately 200 feet of 6-inch steel transmission line. This segment has been covered by hillside erosion and is currently estimated to be approximately 15 to 20 feet deep. The current line has a 1.5-inch diameter fitting in this location which RMNG is unable to verify. Replacement of this section of pipeline will confirm the line is piggable and will bring it back to an acceptable depth to continue supplying safe and reliable natural gas to the Telluride community. This SSIR project contributes to the overall operational safety of this transmission line, as well as the continued provision of service to downstream towns.

Requirement: CFR Title 49, Part 192, Subpart O – TIMP, Section 192.921

Project Details and Status

Schedule: **Target Date**
In-Service October 2019

Costs: **Estimated**
$450,000

Project Location: near Telluride, CO

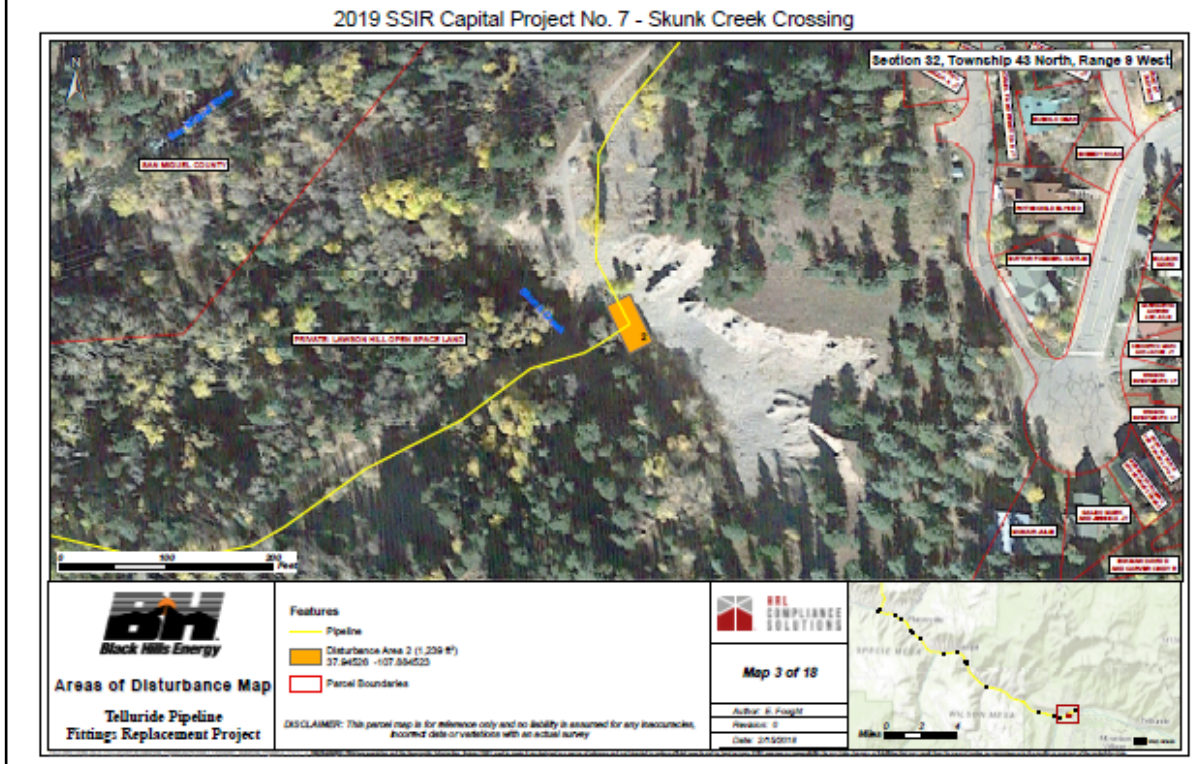
Risk Assessment Level
SME: High

TIMP Initiative(s)
In-Line Inspection Initiative

Assumptions, Notes and Risks

- This project is a continuation of Amended 2018 SSIR Capital Project No. 14 which was filed as "Supplemental Information" on September 10, 2018, in Proceeding No. 17AL-0736G.
- Some permitting constraints exist as this project requires additional CDOT and BLM permits.
- Due to system winter heating needs, this project must be completed prior to November.

Map



2019 Capital Project No. 8

Wolf Creek Well Assessments and Rework (#3, #4, #6, and #12)

Project Overview

Scope: RMNG originally planned to complete one to two well assessments and workovers per year through 2022. However, due to issues found in other well assessments as part of 2017 SSIR Capital Project No. 8 and 2018 SSIR Capital Project No. 2, well assessments have been accelerated so all well assessments will be completed by 2019. The 2019 portion of this program includes the rework of Wells #3, #4, #6, and #12. The work will include, but not necessarily limited to, evaluation and replacement of downhole safety valves, evaluation of the casing and re-work of the wells, as required. Downhole safety valves are the last resort when it comes to stopping the emission of gas in the wells and the Company believes this is an integral component to keeping our customers, local communities and the environment safe. In addition, wireline logs (casing thickness, Gamma/Neutron, and Cement Bond) will be conducted to assess the integrity of the wells' casing and cement bond.

Requirement: Interim Final Storage Rule - *API Recommended Practice 1171*

Project Details and Status

Schedule: **Target Date**
In-Service August 2019

Costs: **Estimated**
$2,100,000

Project Location: Pitkin County

Risk Assessment Level
Well #3 ROF: Tier 4 - 52.98
Well #4 ROF: Tier 4 – 52.98
Well #6 ROF: Tier 4 – 53.07
Well #12 ROF: Tier 2 – 59.44

SME: High

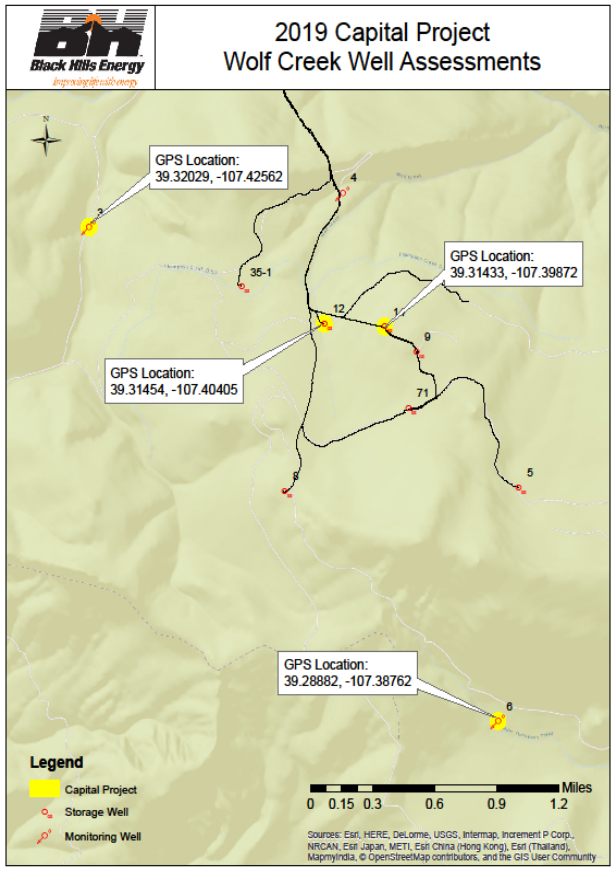
SIMP Initiative
Well Assessment Initiative

Well #	Well Vintage Year	Assessment and Rework Year
#3	1961	2019
#4	1964	2019
#6	1966	2019
#12	1989	2019

Assumptions, Notes and Risks

- The Wolf Creek Well Assessment Initiative included 2017 SSIR Capital Project No. 8 from Proceeding No. 16AL-0842G (Wells #5 and #14) and Amended 2018 SSIR Capital Project No. 2 from Proceeding No. 17AL-0736G (Wells #71, #9, #8, and #35-1).
- Well assessments showing significant irregularities may lead to inclusion into the Well Replacement Initiative.

Map



Capital Project No. 9

Wolf Creek Well Integrity – Replace Well #9

Project Overview

Scope: This project is a direct result of testing performed on Wolf Creek Well #9 in 2018 as part of 2018 SSIR Capital Project No. 2. The assessment on Well #9 showed excessive casing corrosion. The casing failed pressure testing so RMNG plugged and abandoned the well. A new replacement well will be drilled, stimulated and completed in 2019.

Requirement: Interim Storage Rule - *API Recommended Practice 1171*

Project Details and Status

Schedule: **Target Date**
In-Service October 2019

Costs: **Estimated**
2018: $300,000 (engineering, ROW, permits)
2019: $4,000,000 (construction)
Total: $4,300,000

Project Location: Pitkin County, CO

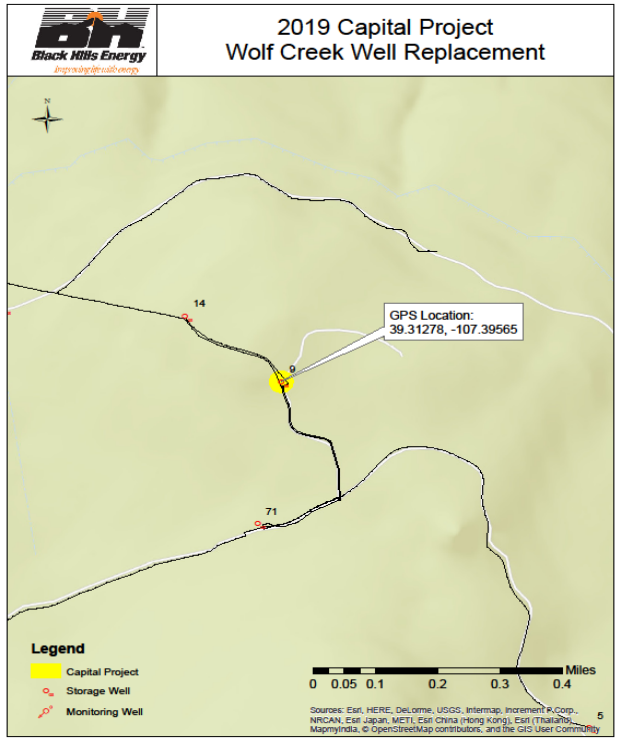
Risk Assessment Level
ROF: Tier 2 - 61.27
SME: High

SIMP Initiative
Well Replacement Initiative

Assumptions, Notes and Risks

- If this SSIR Project is not completed and a failure occurs, the consequence is that gas could be lost out of the formation. After reviewing the well assessment, the Company determined it can no longer safely operate Well #9 and this well was shut-in, plugged and abandoned. This storage facility is used to maintain gas supply during the winter and the loss of gas will impact the Company's ability to serve and could require the Company to purchase spot gas on the market in the event of a cold winter.
- See Attachment 7 – Confidential Well #9 Assessment Report for more information regarding the well assessment results for this storage well.

Map



2019 Capital Project No. 10

Wolf Creek Well Integrity – Replace Well #5

Project Overview

Scope: This project is a direct result of testing performed on Wolf Creek Well #5 in 2017 as part of 2017 SSIR Capital Project No. 8. RMNG found irregularities in Well #5, including corrosion and physical damage such as buckled casing. Based on the assessments performed, RMNG intends to plug and abandon Well #5 in 2019. A new well will be drilled, stimulated, and completed in 2019.

Requirement: Interim Storage Rule - *API Recommended Practice 1171*

Project Details and Status

Schedule: **Target Date**
In-Service December 2019

Costs: **Estimated**
2018: $325,000 (engineering, ROW, permits)
2019: $4,000,000 (construction)
Total: $4,325,000

Project Location: Pitkin County, CO

Risk Assessment Level:
ROF: Tier 4 - 53.8
SME: High

SIMP Initiative
Well Replacement Initiative

Assumptions, Notes and Risks

- If this SSIR Project is not completed and a failure occurs, the consequence is that gas could be lost out of the formation. If the casing fails, the Company can no longer safely operate Well #5 and this well would have to be shut-in, plugged and abandoned. This storage facility is used to maintain gas supply during the winter and the loss of gas will impact the Company's ability to serve and could require the Company to purchase spot gas on the market in the event of a cold winter.
- See Attachment 6 – Confidential Well #5 Assessment Report for more information regarding the well assessment results for this storage well.

Map