

**110 MINIMUM REQUIREMENTS FOR LEGAL, FINANCIAL, COMPLIANCE AND RELATED
INFORMATION**

111 Introduction

The de-gasification wells will be located on property owned by Canyon Fuel Company, LLC. The well locations are found in Table 1-1 and are shown in Figure 1-1.

**TABLE 1-1
Well Site Locations
Pine Canyon, Utah Quadrangle
Salt Lake Meridian**

Hole Number	Section	Township and Range
MW-06	Portion of SE1/4SE1/4NE1/4 Section 16	Township 13 South, Range 12 East
MW-08	Portion of SW1/4SW1/4NE1/4 Section 15	Township 13 South, Range 12 East

112 Identification of Interests

Refer to the same section of the approved M&RP.

112.100 Business Entity

Refer to the same section of the approved M&RP.

File in:

Confidential

Shelf

Expandable

Refer to Record No. 0024 Date 05/01/2003

In C 0070039, 2003, SuComing

For additional information



Canyon Fuel Company, LLC
 Soldier Canyon Mine
 P.O. Box 1029
 Wellington, Utah 84542
 (435) 637-6360 Fax: (435) 637-0108

COPY

0024

May 1, 2003

Ms. Pamela Grubaugh-Littig
 Department of Natural Resources
 Division of Oil, Gas and Mining
 1594 West North Temple
 Suite 1210
 Salt Lake City, UT 84114-5801

Incoming
C/007/039 OK

RE: Revisions to Methane Degassification Amendment, Wells MW-06 and MW-08,
 Canyon Fuel Company, LLC, Dugout Mine, C/007/039

Dear Ms. Grubaugh-Littig:

Enclosed please find five copies of the submittal to address the drilling of two methane degassification wells at the Dugout Canyon Mine. The information provided is to clarify information previously submitted.

The construction of both wells will increase the disturbed area for Dugout Canyon Mine by a total of 2.43 acres, however 0.16 acres within the disturbed area of well site MW-06 is a road and will not receive topsoil during the reclamation of the site.

An additional copy of the submittal has been delivered to the Price Field Office.

Please contact Vicky Miller at (435) 636-2869 or Gary Taylor (435) 636-2893, if there are any questions concerning this submittal.

Sincerely yours,

Vicky S. Miller

Vicky S. Miller

Cc: Chris Hansen (no enclosures)
 Dave Spillman (enclosures)
 Pete Hess (enclosures)

FILE IN:
 C/0070039 2003 *Incoming*
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 Date *05/01/03* For additional information

RECEIVED

MAY 05 2003

DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

COPY

Permittee: Canyon Fuel Company, LLC

Mine: Dugout Canyon Mine

Permit Number: C/007/039

Title: Revisions to Degassification Wells MW-06 and MW-08 Amendment

Description, Include reason for application and timing required to implement:

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- Yes No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: 2.43 increase decrease.
- Yes No 2. Is the application submitted as a result of a Division Order? DO# _____
- Yes No 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area?
- Yes No 4. Does the application include operations in hydrologic basins other than as currently approved?
- Yes No 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond?
- Yes No 6. Does the application require or include public notice publication?
- Yes No 7. Does the application require or include ownership, control, right-of-entry, or compliance information?
- Yes No 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling?
- Yes No 9. Is the application submitted as a result of a Violation? NOV # _____
- Yes No 10. Is the application submitted as a result of other laws or regulations or policies?
Explain: _____
- Yes No 11. Does the application affect the surface landowner or change the post mining land use?
- Yes No 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2)
- Yes No 13. Does the application require or include collection and reporting of any baseline information?
- Yes No 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area?
- Yes No 15. Does the application require or include soil removal, storage or placement?
- Yes No 16. Does the application require or include vegetation monitoring, removal or revegetation activities?
- Yes No 17. Does the application require or include construction, modification, or removal of surface facilities?
- Yes No 18. Does the application require or include water monitoring, sediment or drainage control measures?
- Yes No 19. Does the application require or include certified designs, maps or calculation?
- Yes No 20. Does the application require or include subsidence control or monitoring?
- Yes No 21. Have reclamation costs for bonding been provided?
- Yes No 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream?
- Yes No 23. Does the application affect permits issued by other agencies or permits issued to other entities?

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

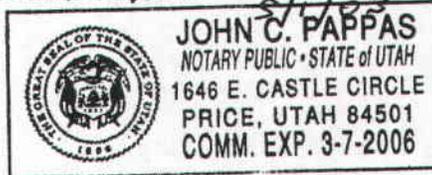
David Spillman
Print Name

David Spillman, Engineering Manager
Sign Name, Position, Date

Subscribed and sworn to before me this 5 day of MAY, 2003

John C. Pappas
Notary Public

My commission Expires: _____ }
Attest: State of UTAH } ss:
County of CARBON



<p>For Office Use Only:</p>	<p>Assigned Tracking Number:</p>	<p>Received by Oil, Gas & Mining</p> <p style="text-align: center; font-size: 1.5em; font-weight: bold;">RECEIVED</p> <p style="text-align: center; font-size: 1.2em; font-weight: bold;">MAY 05 2003</p> <p style="text-align: center;">DIV. OF OIL, GAS & MINING</p>
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113 Violation Information

Refer to the same section in the approved M&RP.

114 Right-of-Entry Information

Refer to the same section of the approved M&RP.

See Table 1-2 for disturbed acreage for each well site. The disturbed acres will be added to the total disturbed acreage for the Dugout Mine as each site is constructed.

TABLE 1-2
Disturbed Acres by Well Site

Well Site	Disturbed Acres
MW-06	0.86 1.02
MW-08	1.41

115 Status of Unsuitability Claims

Refer to the same section of the approved M&RP.

116 Permit Term

Refer to the same section of the approved M&RP.

117 Insurance, Proof of Publication, and Facilities and Structures Used in Common

The certificate of insurance(s) for each well will be obtained if required when the well is drilled. The certificate of insurance(s) will be included in Appendix 1-2 of the approved M&RP.

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MW-06	1.02
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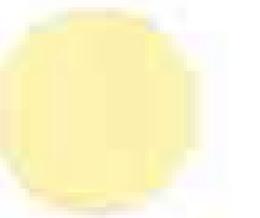
Refer to the same section of the approved M&RP.

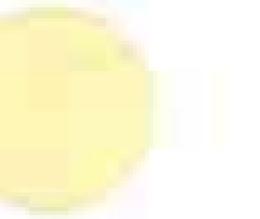
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Refer to the same section of the approved M&RP.

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The certificate of insurance(s) for each well will be obtained if required when the well is drilled. The certificate of insurance(s) will be included in Appendix 1-2 of the approved M&RP.





222.200 Soil Identification

<u>Well No.</u>	<u>Soil Map Unit</u>	<u>Soil Components</u>
MW-06	62	Midfork-Comodore complex
MW-08	7	Beje-Trag complex, 3-30% slopes

222.300 Soil Description

Refer to Attachment 2-1 of the submittal for soil descriptions.

222.400 Soil Productivity

The depth of topsoil at each site was measured to determine the amount of growth medium available for reclamation. The following table lists each well site and the approximate amount of growth medium available.

TABLE 2-1
Topsoil Volumes

Well No.	Cubic Yard of Material
MW-06	540 1387
MW-08	2967

Figure 5-1 and Figure 5-2 show the layout and approximate size of each well pad.

Estimated topsoil salvage from the MW-06 well site will be 10" on the west side of the existing road, 18" on the east side of the road the north portion and 12" on the south portion. All available topsoil will be salvaged and stockpiled.

**231.300 Testing of Topsoil Handling and Reclamation Procedures
Regarding Revegetation**

Dugout will exercise care to guard against erosion during and after application of topsoil and will employ the necessary measures to ensure the stability on graded slopes. Erosion control measures will include silt fences, berms, seeding, straw bales, and mulching of the soils.

Topsoil will be redistributed and the original soil surface beneath the topsoil stockpile will be roughened and seeded with seed mix as presented in Section 242.100 and Chapter 3, Section 352.

Phase two (2) reclamation grading of the sites will occur after venting of the methane gas is completed. See De-Gasification Well Reclamation on Figure 5-7 for details on timing.

Methods used to evaluate success of revegetation and stabilization are discussed in Chapter 3, Section 356.

231.400 Construction, Modification, Use, and Maintenance of Topsoil Storage Pile

Topsoil removed from the drill pad sites will be stockpiled on the site. The estimated volumes of topsoil stockpile for each site are shown in Table 2-1. The stockpiles will be sized as shown in Table 2-2.

The slopes of the stockpile will be 1.25H:1V or approximately 38° the natural angle of repose for earth.

**TABLE 2-2
Topsoil Stockpile Dimensions***

Well No.	Length (ft)	Width (ft)	Height (ft)
MW-06	120	20 30	6.4 10
MW-08	160	40	12.5

* These are approximate Dimensions of the topsoil stockpile and construction Dimensions may vary.

See Section 234.200 for detailed information on the topsoil stockpile(s).

232 Topsoil and Subsoil Removal

232.100 Topsoil Removal and Segregation

All topsoil will be removed as a single layer with no segregation. Topsoil will be removed using a dozer and/or loader. Refer to Section 231.100 for additional details.

232.200 Poor Topsoil

No poor soils exist at either well site see Attachment 2-1.

232.300 Thin Topsoil

Not applicable.

232.400 Minor Disturbances Not Requiring Topsoil Removal

Not applicable.

232.500 Subsoil Segregation

The B and C soil horizons will not be removed. Any small quantity of subsoil removed with the topsoil will not be segregated.

232.600 Timing

Topsoil removal will take place after all vegetation that could interfere with salvaging the topsoil has been grubbed and moved to the disturbed area perimeter. ~~If space is not available to temporary store all the vegetation, the excess will be burned. Burning permits will be obtained and burning will only occur when allowed by the burning index.~~

232.700 Topsoil and Subsoil Removal Under Adverse Conditions

The topsoil will be removed first and stockpiled and the remaining soil horizons will be left in place, except where natural conditions render removal operations hazardous or detrimental to soils outside the disturbed area then topsoil will not be removed.

Conventional Machines - In locations where steep grades, adverse terrains, severe rockiness, limited depth of soils, or other adverse conditions exist that render soil removal activities using conventional machines hazardous, soils will not be salvaged and stockpiled. Such conditions are not likely to occur in these areas.

Substitute Topsoil - Importing of substitute topsoil is not anticipated (Section 224).

233 Topsoil Substitutes and Supplements

233.100 Overburden Materials Supplementing and/or Replacing Topsoil

No overburden material will be used.

233.200 Suitability of Topsoil Substitutes and Supplements

Not applicable.

233.300 Physical and Chemical Analysis

See Section 243. Not applicable.

233.400 Testing of Substitute Topsoil

No substitute topsoil if planned.

234 Topsoil Storage

234.100 Topsoil Stockpiling

Topsoil will be stockpiled for later use in reclamation operations.

234.200 Topsoil Stockpile

Stable Stockpile Site - Stockpiled material will be placed on a stable site.

Protection from Contaminants and Compaction - To protect the topsoil from contaminants and unnecessary compaction that could interfere with vegetation, the stockpile will be isolated from the main surface area by a berm and/or silt fence. A sign designating "topsoil storage" will be installed on the stockpile.

The topsoil stockpile will be constructed in such a manner as to allow equipment access for repair of the pile surfaces and diversion structures as needed.

Wind and Water Erosion Protection - The topsoil stockpile will be protected from water erosion by berms and/or silt fence to help trap sediment runoff from the stockpile. The stockpile will be surface pitted and/or roughened and revegetated using the grass, forb, and shrub seeds listed in Table 3-2 (no seedlings will be planted on the stockpile) to prevent wind erosion.

Topsoil Redistribution - Stockpile soil will not be moved until redistribution during contemporaneous or final reclamation operations unless approved by the Division.

234.300 Topsoil Stockpile Relocation

Stockpiled soil in jeopardy of being detrimentally affected in terms of its quantity and quality by drilling operations may be temporarily redistributed or relocated on approval by the Division and modification of this M&RP.

240 RECLAMATION PLAN

241 General Information

Reclamation of the de-gasification sites (topsoil redistribution, amendments, and stabilization) is discussed in Sections 242, 243, and 244 respectively.

242 Soil Redistribution

242.100 Soil Redistribution Practices

The topsoil will be placed after recontouring of the site has occurred. The approximate amount of topsoil available for each site is shown in Table 2-1. ~~At well site MW-06 topsoil will not be placed on the road surface (approximately 0.16 acres).~~

Topsoil will be handled when they are loose or in a friable condition. The moisture content will be visually monitored and water will be added as needed to enhance the soil's condition for handling.

Topsoil will be moved from the stockpile and spread using a ~~front-end loader and/or~~ track excavator.

Soil Thickness - The topsoil will be distributed to the disturbed area as shown in Table 2-3.

TABLE 2-3
Topsoil Distribution Thickness

Well No.	Approximate Topsoil Thickness
MW-06	8½" 12"
MW-08	16¼"

Compaction - Prior to the application of topsoil, compacted subsoils will be roughened or loosened for a depth of 18 to 24 inches. To prevent compaction of topsoil, soil moving equipment will refrain from unnecessary

operation over spread topsoil. The topsoil will be loosened prior to seeding.

The dirt excavated to create the mud pit will be mixed with the drill cutting to prevent a boundary of hard material from forming in the mud pit area that would hamper root penetration.

Erosion - Care will be exercised to ensure the stability of topsoil on graded slopes to guard against erosion during and after topsoil application. Post reclamation erosion control measures will be surface roughing.

242.200 Regrading

The area will be graded to the approximate original topographic configuration.

242.300 Topsoil Redistribution on Impoundments and Roads

The mud pits and embankments will be dismantled and reclaimed with the well site. The access roads will not be reclaimed.

243 Soil Nutrients and Amendments

The soils will be analyzed ~~before being redistributed~~ **directly following salvage** to determine if amendments are needed. Testing of the topsoil will be done according to Table 6 of the Division's Topsoil and Overburden Guidelines. The topsoil will be tested at a minimum for the following parameters: pH, electrical conductivity, total carbon, SAR, water holding capacity, plant available nitrogen, and phosphorus.

244 Soil Stabilization

244.100 Protection and Stabilization of Surface Area

All reclaimed areas will be stabilized to control erosion by application of mulch and roughening of the surface. The areas will be graded to the approximately original topographic configuration. Seeding will be accomplished with the application of seeds and mulch with a long fiber tackifier. Methods of protection and stabilization are

CHAPTER 2

SOILS

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
210 INTRODUCTION	2-1
220 ENVIRONMENTAL DESCRIPTION	2-1
221 Prime Farmland Investigation	2-1
222 Soil Survey	2-1
222.100 Soils Map	2-1
222.200 Soil Identification	2-2
222.300 Soil Description	2-2
222.400 Soil Productivity	2-2
223 Soil Characterization	2-3
224 Substitute Topsoil	2-3
230 OPERATION PLAN	2-3
231 General Requirements	2-3
231.100 Removing and Storing Topsoil Methods	2-3
231.200 Suitability of Topsoil Substituted/Supplements	2-3
231.300 Testing of Topsoil Handling and Reclamation Procedures Regrading Revegetation	2-4
231.400 Construction, Modification, Use, and Maintenance Of Topsoil Storage Pile	2-4
232 Topsoil and Subsoil Removal	2-5
232.100 Topsoil Removal and Segregation	2-5
232.200 Poor Topsoil	2-5
232.300 Thin Topsoil	2-5
232.400 Minor Disturbances Nor Requiring Topsoil Removal	2-5
232.500 Subsoil Segregation	2-5
232.600 Timing	2-5
232.700 Topsoil and Subsoil Removal Under Adverse Conditions	2-6
233 Topsoil Substitutes and Supplements	2-6
233.100 Overburden Materials Supplementing and/or Replacing Topsoil	2-6
233.200 Suitability of Topsoil Substitutes and Supplements	2-6

TABLE OF CONTENTS(CONTINUED)

<u>Section</u>	<u>Page</u>
233.300 Physical and Chemical Analysis	2-6
233.400 Testing of Substitute Topsoil	2-6
234 Topsoil Storage	2-7
234.100 Topsoil Stockpiling	2-7
234.200 Topsoil Stockpile	2-7
234.300 Topsoil Stockpile Relocation	2-7
240 RECLAMATION PLAN	2-8
241 General Information	2-8
242 Soil Redistribution	2-8
242.100 Soil Redistribution Practices	2-8
242.200 Regrading	2-9
242.300 Topsoil Redistribution on Impoundments and Roads	2-9
243 Soil Nutrients and Amendments	2-9
244 Soil Stabilization	2-9
244.100 Protection and Stabilization of Surface Area	2-9
244.200 Mulch Application	2-10
244.300 Rills and Gullies	2-10
250 PERFORMANCE STANDARDS	2-10
251 Topsoil, Subsoil, and Topsoil Supplements Management	2-10
252 Stockpile Topsoil and Subsoil	2-10

TABLE OF CONTENTS(CONTINUED)

LIST OF TABLES

	<u>Page</u>
Table 2-1 Topsoil Volumes	2-2
Table 2-2 Topsoil Stockpile Dimensions	2-4
Table 2-3 Topsoil Distribution Thickness	2-8

LIST OF ATTACHMENTS

Attachment 2-1 Topsoil Evaluation For Methane Degas Wells

210 INTRODUCTION

This chapter and associated attachments address the pertinent data required for the addition of the de-gasification well sites for the Dugout Canyon Mine. Only those sections of the Division regulations that apply to the well sites have been addressed. The remainder of the regulations has already been addressed in the existing M&RP. The M&RP and this document contain pertinent information relating to the identification, management, and reclamation activities associated with the soil resources.

220 ENVIRONMENTAL DESCRIPTION

The well sites are at an elevation of about 8000 to 8500 feet in the Book Cliffs area between Dugout and Soldier Canyons. General vegetation includes sagebrush, serviceberry, aspen, Douglas-fir, Ponderosa pine, and snowberry. Bedrock materials are primarily sandstone and shale.

221 Prime Farmland Investigation

Due to limiting terrain, lack of water for irrigation and no evidence of past cultivation of the sites, it is concluded that no prime farmland exists within the area of disturbance of the well sites.

222 Soil Survey

222.100 Soils Map

The soils have been mapped as part of the Soil Survey of the Carbon Area, Utah by the Soil Conservation Service, issued 1988. The soils mapping were an Order III intensity level.

A description of the soils is included in Appendix 2-2 of the approved M&RP and in Attachment 2-1, *Topsoil Evaluation for Methane Degas Wells, Dugout Canyon Mine, Carbon County Utah*.

222.200 Soil Identification

<u>Well No.</u>	<u>Soil Map Unit</u>	<u>Soil Components</u>
MW-06	62	Midfork-Comodore complex
MW-08	7	Beje-Trag complex, 3-30% slopes

222.300 Soil Description

Refer to Attachment 2-1 of the submittal for soil descriptions.

222.400 Soil Productivity

The depth of topsoil at each site was measured to determine the amount of growth medium available for reclamation. The following table lists each well site and the approximate amount of growth medium available.

TABLE 2-1
Topsoil Volumes

Well No.	Cubic Yards of Material
MW-06	1387
MW-08	2967

Figure 5-1 and Figure 5-2 show the layout and approximate size of each well pad.

Estimated topsoil salvage from the MW-06 well site will be 10" on the west side of the existing road, 18" on the east side of the road the north portion and 12" on the south portion. All available topsoil will be salvaged and stockpiled.

223 Soil Characterization

The topsoil evaluation described in this chapter was performed by Daniel M. Larsen, Professional Soil Scientist in accordance with the standards of the National Cooperative Soil Survey.

224 Substitute Topsoil

Dugout Canyon does not plan to use substitute topsoil as growth media.

230 OPERATION PLAN

231 General Requirements

231.100 Removing and Storing Topsoil Methods

Prior to disturbance at each well site, the topsoil will be removed and stockpiled. The topsoil will be stored at the well pad and protected with a berm and/or silt fence around the soil. A qualified person will be on site during soil salvage to monitor and supervise the operation for the purpose of maximizing salvage volumes.

After the topsoil is removed, the mud pit will be excavated and the soils stored immediately adjacent to the mud pit.

231.200 Suitability of Topsoil Substitutes/Supplements

See Section 224.

**231.300 Testing of Topsoil Handling and Reclamation Procedures
Regarding Revegetation**

Dugout will exercise care to guard against erosion during and after application of topsoil and will employ the necessary measures to ensure the stability on graded slopes. Erosion control measures will include silt fences, berms, seeding, straw bales, and mulching of the soils.

Topsoil will be redistributed and the original soil surface beneath the topsoil stockpile will be roughened and seeded with seed mix as presented in Section 242.100 and Chapter 3, Section 352.

Phase two (2) reclamation grading of the sites will occur after venting of the methane gas is completed. See De-Gasification Well Reclamation on Figure 5-7 for details on timing.

Methods used to evaluate success of revegetation and stabilization are discussed in Chapter 3, Section 356.

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The slopes of the stockpile will be 1.25H:1V or approximately 38° the natural angle of repose for earth.

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Well No.	Length (ft)	Width (ft)	Height (ft)
MW-06	120	30	10
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No poor soils exist at either well site see Attachment 2-1.

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Not applicable.

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Not applicable.

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No overburden material will be used.

233.200 Suitability of Topsoil Substitutes and Supplements

Not applicable.

233.300 Physical and Chemical Analysis

See Section 243.

233.400 Testing of Substitute Topsoil

No substitute topsoil if planned.

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Topsoil will be stockpiled for later use in reclamation operations.

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The topsoil stockpile will be constructed in such a manner as to allow equipment access for repair of the pile surfaces and diversion structures as needed.

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234.300 Topsoil Stockpile Relocation

Stockpiled soil in jeopardy of being detrimentally affected in terms of its quantity and quality by drilling operations may be temporarily redistributed or relocated on approval by the Division and modification of this M&RP.

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Topsoil will be handled when they are loose or in a friable condition. The moisture content will be visually monitored and water will be added as needed to enhance the soil's condition for handling.

Topsoil will be moved from the stockpile and spread using a track excavator.

Soil Thickness - The topsoil will be distributed to the disturbed area as shown in Table 2-3.

TABLE 2-3
Topsoil Distribution Thickness

Well No.	Approximate Topsoil Thickness
MW-06	12"
MW-08	16¼"

Compaction - Prior to the application of topsoil, compacted subsoils will be roughened or loosened for a depth of 18 to 24 inches. To prevent compaction of topsoil, soil moving equipment will refrain from unnecessary operation over spread topsoil. The topsoil will be loosened prior to seeding.

The dirt excavated to create the mud pit will be mixed with the drill cutting to prevent a boundary of hard material from forming in the mud pit area that would hamper root penetration.

Erosion - Care will be exercised to ensure the stability of topsoil on graded slopes to guard against erosion during and after topsoil application. Post reclamation erosion control measures will be surface roughing.

242.200 Regrading

The area will be graded to the approximate original topographic configuration.

242.300 Topsoil Redistribution on Impoundments and Roads

The mud pits and embankments will be dismantled and reclaimed with the well site. The access roads will not be reclaimed.

243 Soil Nutrients and Amendments

The soils will be analyzed directly following salvage to determine if amendments are needed. Testing of the topsoil will be done according to Table 6 of the Division's Topsoil and Overburden Guidelines. The topsoil will be tested at a minimum for the following parameters: pH, electrical conductivity, total carbon, SAR, water holding capacity, plant available nitrogen, and phosphorus.

244 Soil Stabilization

244.100 Protection and Stabilization of Surface Area

All reclaimed areas will be stabilized to control erosion by application of mulch and roughening of the surface.

The areas will be graded to the approximately original topographic configuration. Seeding will be accomplished with the application of seeds and mulch with a long fiber tackifier. Methods of protection and stabilization are further discussed in Section 340.341.

244.200 Mulch Application

Mulch will be applied to stabilize the soil on all areas that have been regraded and covered with growth media. For further discussion of revegetation practices to be utilized, see Chapter 3, Section 341.

244.300 Rills and Gullies

Postmining Land Use and Revegetation - Rills and gullies that are approximately nine (9) inches in depth and disrupt the postmining land use or reestablishment of vegetative cover will be regarded and seeded.

Water Quality - Rills and gullies that contribute to the degradation of stream quality will be regraded and reseeded.

250 PERFORMANCE STANDARDS

251 Topsoil, Subsoil, and Topsoil Supplements Management

All topsoil, subsoil, and topsoil supplements will be managed as outlined in Sections 230 and 240.

252 Stockpiled Topsoil and Subsoil

All stockpiled topsoil and subsoil will be managed according to plans outlined in Sections 230 and 240.

and maintain revegetated areas throughout the bond liability period.

The well sites will be fenced to prevent wildlife and livestock from grazing the reclaimed areas until bond release.

341.100 Schedule and Timetable

The reclamation timetable as shown in Figure 5-7 of this submittal and reclamation monitoring schedule is found in Chapter 3, Table 3-3 of the approved M&RP.

341.200 Descriptions

Species and Amounts of Seed - The well sites will be planted with the seed mixes listed in on Table 3-2. The seed mix will be used in both contemporaneous and final reclamation phases. The seed will be incorporated with mulch and applied by hydroseeding. Refer to Section 234.200 for topsoil stockpile seeding description.

Methods Used for Planting and Seeding - The de-gasification sites will be graded and reclaimed. Refer to Chapter 5 for discussion of the sequence of the construction and reclamation of the sites.

The area will be graded to final contour, then ripped to relieve compaction. The depth of ripping will be from 18 to 24 inches. Following ripping, topsoil will be applied to the ripped surface and left in a roughened state.

Mulching Techniques - Organic mulch will be applied at the rate of 2,000 pounds per acre and anchored with a tackifier.

Irrigation, Pest, and Disease Control - No irrigation is planned and pesticides will not be used unless previously approved by the Division.

Measures Proposed for Revegetation Success - Refer to Section 356.

and maintain revegetated areas throughout the bond liability period.

The well sites will be fenced to prevent wildlife and livestock from grazing the reclaimed areas until bond release.

341.100 Schedule and Timetable

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Measures Proposed for Revegetation Success - Refer to Section 356.

527 Transportation Facilities

527.100 Road Classification

MW-06 and MW-08 will be developed on or next to existing private roads as shown on Figure 1-1. The existing roads will be classified as primary roads and will be maintained as required by landowner.

527.200 Description of Transportation Facilities

The well sites were chosen close to existing roads in the area to prevent disturbing more surface. ~~The existing roads are shown on Figure 1-1. are classified as an existing road with no up grade (red) and existing roads requiring up grade (yellow).~~ **When necessary existing roads will be graded, but no additional soils or vegetation will be disturbed.** ~~The roads requiring up grade will be regraded, but will not be cut any wider.~~ The existing roads are approximately 20 feet wide **and are shown on Figure 1-1.** See Figure 5-5 for a typical cross section of the existing roads.

528 Handling and Disposal of Coal, Excess Spoil, and Coal Mine Waste

No disposal of coal, excess spoil, and coal mine waste will occur at the well sites.

529 Management of Mine Openings

The perimeter of the sites will be fenced. MW-06 will have two (2) gates to allow access through the site since the pad will be built on the existing road. The well casing will have a valve that is closed and locked. The valve will also prevent access by animals or other material. A 20 foot radius around the well casing will be free of any plant life to reduce the possibility of fuel for fires.

530 OPERATIONAL DESIGN CRITERIA AND PLANS

531 General

This section contains the general plans for the construction of sediment controls and general construction and maintenance of the well sites.

527 Transportation Facilities

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MW-06 and MW-08 will be developed on or next to existing private roads as shown on Figure 1-1. The existing roads will be classified as primary roads and will be maintained as required by landowner.

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The well sites were chosen close to existing roads in the area to prevent disturbing more surface. When necessary existing roads will be graded, but no additional soils or vegetation will be disturbed. The existing roads are approximately 20 feet wide and are shown on Figure 1-1. See Figure 5-5 for a typical cross section of the existing roads.

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No disposal of coal, excess spoil, and coal mine waste will occur at the well sites.

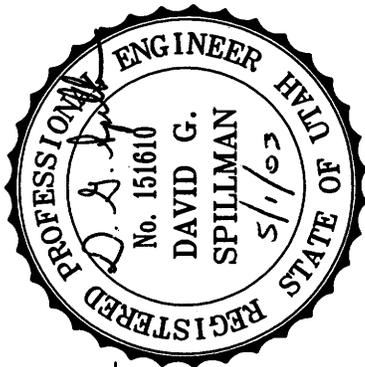
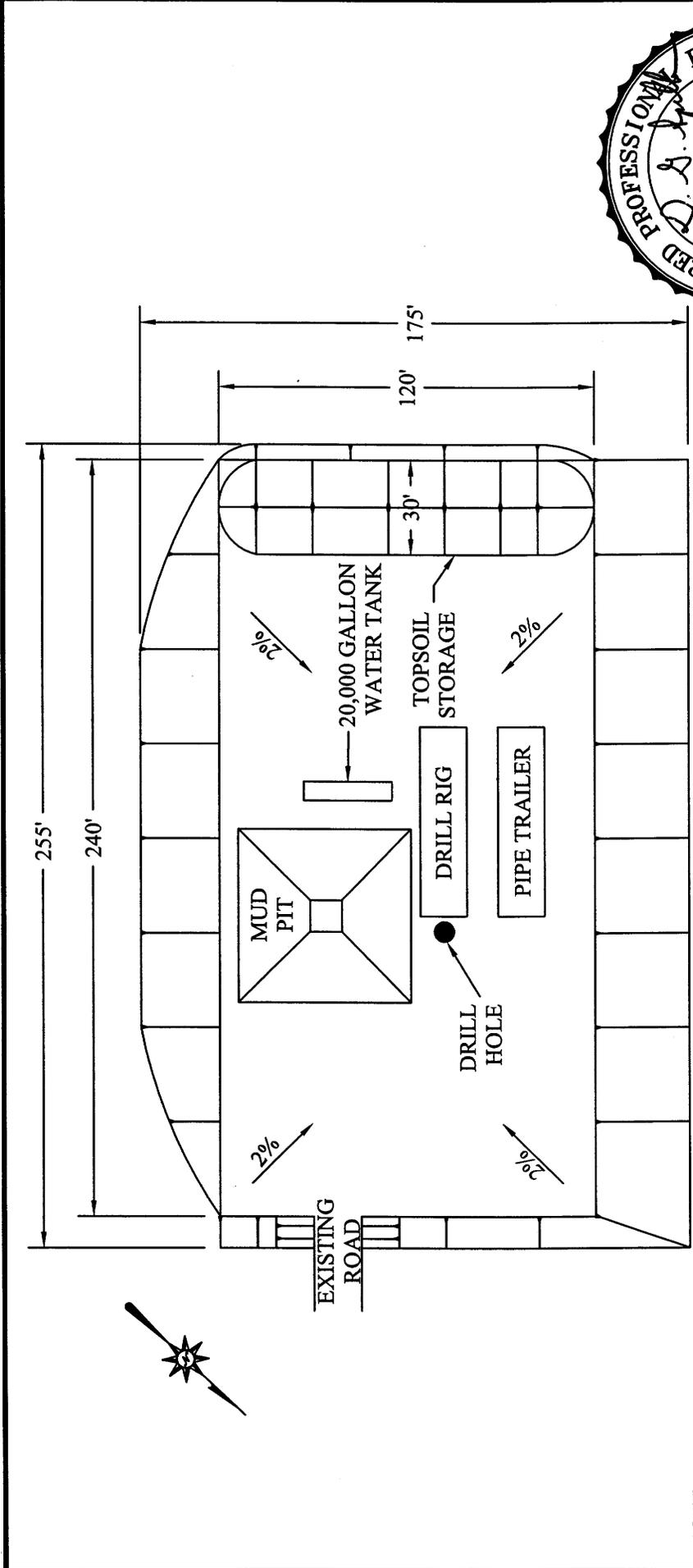
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530 OPERATIONAL DESIGN CRITERIA AND PLANS

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NOTE:

1. THE DRILL PAD WILL BE SLOPED TOWARDS THE MUD PIT.
2. MUD PIT DESIGNED FOR TOTAL CONTAINMENT OF A 10 YR. - 24 HR. EVENT.
3. SILT FENCE AND /OR STRAW BALES WILL BE PLACED AT THE TOE OF THE FILL SLOPES.
4. ACTUAL EQUIPMENT LOCATIONS MAY VARY AT THE SITE.
5. DRILL HOLE LOCATION MAY VARY.
6. THE TOTAL DISTURBED AREA WILL BE FENCED.
7. PAD ELEVATION IS APPROXIMATELY 7987.5 FT.
8. MUD PIT WILL BE KEPT PUMPED DOWN TO ELEVATION 7981 FT. FOR RUNOFF STORAGE.
9. BOTTOM ELEVATION OF MUD PIT IS APPROX. 7974 FT.
10. SEDIMENT ELEVATION OF MUD PIT IS APPROX. 7975.66 FT.

		Canyon Fuel Company, LLC Dugout Canyon Mine	
DRILLING LAYOUT MW-06		DRAWING OR MAP NUMBER P.O BOX 1029 WELLINGTON, UTAH 84542	
REVISIONS OR UP-DATES NO. DATE BY	DATE: 04/28/03 DESIGNED BY: DRAWN BY: RR CHECKED BY: GT	SCALE: 1" = 50' FILENAME: x:\DGCMA\Dugout\Drawings\MW-06_fig 5-1.dwg	FIGURE 5-1

623 Geologic Determinations

The information required by the Division to make a determination of the acid and toxic forming characteristics of the well site strata is presented in Chapter 2, Appendix 2-4 ~~2-4~~ of the approved M&RP. No acid or toxic forming materials will originate at the well sites.

624 Geologic Information

624.100 Regional Setting

Refer to Section 624 of the approved M&RP.

624.200 Test Boring and Drill Hole Data (overburden removed)

No test boring or drill cores are planned at the well sites.

624.300 Test Boring and Drill Hole Data (overburden not removed)

No test boring or drill cores are planned at the well sites.

625 Additional Geologic Information

It is not anticipated that any additional geologic data will need to be collected at the well sites.

626 Sampling Waivers

A sampling waiver is not requested at this time for the well sites.

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A sampling waiver is not requested at this time for the well sites.

731.200 Water Monitoring

No water monitoring will be conducted at the de-gas well sites.

731.300 Acid or Toxic Forming Materials

No acid or toxic forming materials are anticipated at the well sites (see Section 732.200). Refer to Section 728.100 for information concerning petroleum products.

731.400 Transfer of Wells

Refer to Section 731.400 of the approved M&RP.

731.500 Discharge

No discharges to underground workings.

731.600 Stream Buffer Zones

Stream Channel Diversions - No stream channel diversions are planned at the well sites.

Buffer Zone Designation - MW-06 is located on part of the Fish Creek drainage and buffer zone will established at the well site.

731.700 Cross Section and Maps

Not applicable.

731.800 Water Rights and Replacement

Refer to ~~Section 731.800 of the approved M&RP.~~ Water used at the well sites will be purchased from Price River Water Improvement District and hauled to the sites.

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No water monitoring will be conducted at the de-gas well sites.

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**Canyon Fuel Company, LLC
Dugout Canyon Mine**

**De-Gasification Amendment
May 2003**

**Attachment 7-1
Hydrology Calculations for Mud Pit and Ditches**

G. Taylor
18 APRIL 2003

BERM DESIGN
PERMANENT TOPSOIL
STOCKPILE MW-06

DESIGN FOR 10 YR - 24 HR

$$P = 1.95 \text{ IN.}$$

CN

$$\text{MIDFORK} \quad B \quad 66 \quad 71$$

$$\text{COMODOKE} \quad D \quad 89 \quad 29$$

WOOD OR FOREST LAND: THIN STAND, POOR COVER, NO MULCH

$$CN = .66(71) + .29(89) / .71 + .29 = 72.67 \text{ USE } 73$$

DETERMINE RUNOFF

$$Q = \frac{(P - 0.25)^2}{P + 0.85} \quad P > 0.25$$

$$S = \frac{1000}{CN} - 10$$

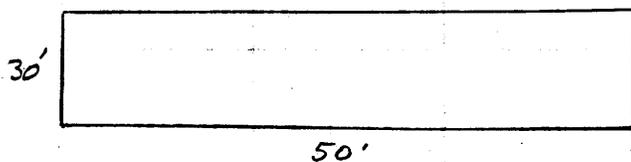
$$S = \frac{1000}{73} - 10 = 3.70$$

$$Q = \frac{(1.95 - 0.2(3.70))^2}{1.95 + 0.8(3.70)}$$

$$= \frac{1.46}{4.91}$$

$$= 0.30 \text{ IN.}$$

TOPSOIL STOCKPILE AREA



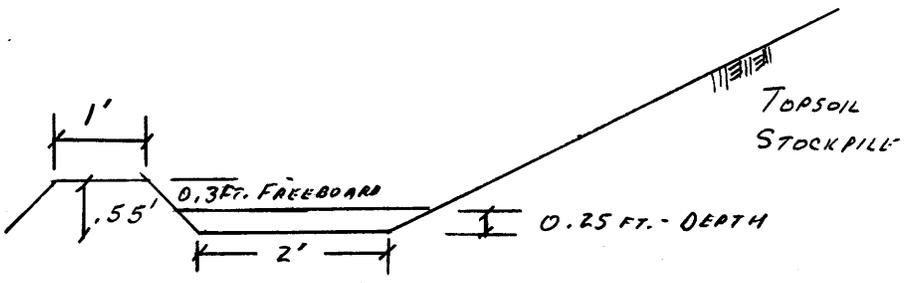
$$30 \text{ FT} \times 50 \text{ FT} = 1,500 \text{ SQ. FT} \\ = 0.03 \text{ AC.}$$

$$Q/12 \times \text{AREA}$$

$$0.30/12 \times 0.03 \text{ Ac} = 0.001 \text{ Ac-ft.}$$

BERM DESIGN

TOTAL CONTAINMENT OF RUNOFF



$$\text{AREA} = \frac{2.75 \text{ FT.} + 2 \text{ FT.}}{2} \times 50 \text{ FT.} = 118.75 \text{ SQ. FT.} = 0.003 \text{ Ac.}$$

$$\text{CAPACITY} = \frac{3 \text{ IN}}{12} \times 0.003 \text{ Ac} = 0.001 \text{ Ac.-ft.}$$

BERM WILL BE PLACED AROUND TOPSOIL STOCKPILE

42-381 50 SHEETS EYE-EASE® 5 SQUARE
 42-382 100 SHEETS EYE-EASE® 5 SQUARE
 42-383 100 SHEETS EYE-EASE® 10 SQUARE
 42-384 100 RECYCLED WHITE 5 SQUARE
 42-385 100 RECYCLED WHITE 10 SQUARE
 42-386 200 RECYCLED WHITE 5 SQUARE
 Made in U.S.A.



G. TAYLOR
18 APRIL 2003

BERM DESIGN
PERMANENT TOPSOIL
STOCKPILE MW-08

DESIGN FOR 10YR - 24 HR

$P = 1.95 \text{ IN.}$

CN

BESE ¹	-	C	88 ²	55%
TRAG	-	D	91	45%

CULTIVATED LAND WITHOUT CONSERVATION TREATMENT

$CN = .55(88) + .45(91) / (.55 + .45) = 89.35 \text{ USE } 89$

DETERMINE RUNOFF

$Q = \frac{(P - 0.25)^2}{P + 0.85} \quad P > 0.25$

$S = \frac{1000}{CN} - 10$

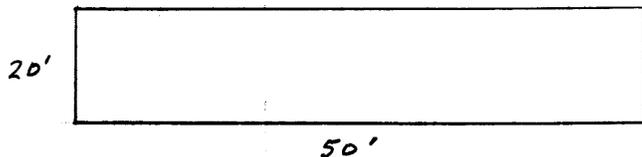
$S = \frac{1000}{89} - 10 = 1.24$

$Q = \frac{(1.95 - 0.2(1.24))^2}{1.95 + 0.2(1.24)}$

$= \frac{2.90}{2.94}$

$= 0.98 \text{ IN.}$

TOPSOIL STOCKPILE AREA



$20 \text{ FT} \times 50 \text{ FT} = 1000 \text{ SQ. FT}$
 $= 0.02 \text{ AC}$

42-381 50 SHEETS RELEASABLE SQUARE
42-382 100 SHEETS RELEASABLE SQUARE
42-383 150 SHEETS RELEASABLE SQUARE
42-384 200 SHEETS RELEASABLE SQUARE
42-385 250 SHEETS RELEASABLE SQUARE
42-386 300 SHEETS RELEASABLE SQUARE
42-387 350 SHEETS RELEASABLE SQUARE
42-388 400 SHEETS RELEASABLE SQUARE
42-389 450 SHEETS RELEASABLE SQUARE
42-390 500 SHEETS RELEASABLE SQUARE
42-391 550 SHEETS RELEASABLE SQUARE
42-392 600 SHEETS RELEASABLE SQUARE
42-393 650 SHEETS RELEASABLE SQUARE
42-394 700 SHEETS RELEASABLE SQUARE
42-395 750 SHEETS RELEASABLE SQUARE
42-396 800 SHEETS RELEASABLE SQUARE
42-397 850 SHEETS RELEASABLE SQUARE
42-398 900 SHEETS RELEASABLE SQUARE
42-399 950 SHEETS RELEASABLE SQUARE
42-400 1000 SHEETS RELEASABLE SQUARE
Made in U.S.A.



orks

, LLC

LOCATION

LINE

FIG 14

orks

y, LLC

LOCATION

1/1/00

FIG 1-1