C/015/032 Incoming
#3616
K

GENWAL™ RESOURCES, INC.

P.O. Box 910, East Carbon, Utah 84520 794 North "C" Canyon Rd, East Carbon, Utah 84520
Telephone (435) 888-4000 Fax (435) 888-4002

October 14, 2010

Daron Haddock
Permit Supervisor
Utah Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
P.O.Box 145801
Salt Lake City, UT 84114-5801

Re: C/015/032
Genwal Resource, Inc.
Addition of Ditch DD-10A
NOV#10065

Dear Mr. Haddock:

Please find enclosed 8 Clean Copies of the addition of Ditch DD-10A. This submittal includes revised maps, figures, and design calculations.

If you have any questions or need any additional information, please contact me at (435) 888-4000.

Sincerely,

David Hibbs

David Hibbs
President

RECEIVED
OCT 19 2010
DIV. OF OIL, GAS & MINING

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change ☒ New Permit ☐ Renewal ☐ Exploration ☐ Bond Release ☐ Transfer ☐

Permittee: Genwal Resources, Inc
Mine: Crandall Canyon Mine **Permit Number:** 015/032
Title: Clean Copies - Addition of Ditch DD-10A
Description, Include reason for application and timing required to implement:

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

☐ Yes ☒ No 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ ☐ 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 # 10065
☐ 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?
☐ Yes ☒ No 24. Does the application include confidential information and is it clearly marked and separated in the plan?

Please attach three (3) review copies of the application. If the mine is on or adjacent to Forest Service land please submit four (4) 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 W. Hibbs	President	10/14/10	David W. Hibbs
Print Name	Position	Date	Signature (Right-click above choose certify then have notary sign below)

Subscribed and sworn to before me this 14 day of October, 2010

Notary Public: Mary V. Kava, state of Utah.

My commission Expires: May 16, 2012
Commission Number: 574260
Address: PO Box 891
City: Ferron State: Ut Zip: 84523

} ss:

MARY V. KAVA
NOTARY PUBLIC • STATE of UTAH
COMMISSION # 574260
COMM. EXP. 05-16-2012

For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
		RECEIVED OCT 19 2010 DIV. OF OIL, GAS & MINING

Form DOGM- C1 (Revised December 10, 2007)

APPLICATION FOR COAL PERMIT PROCESSING
Detailed Schedule Of Changes to the Mining And Reclamation Plan

Permittee: Genwal Resources, Inc
Mine: Crandall Canyon Mine
Permit Number: 015/032
Title: Clean Copies - Addition of Ditch DD-10A

Provide a detailed listing of all changes to the Mining and Reclamation Plan, which is required as a result of this proposed permit application. Individually list all maps and drawings that are added, replaced, or removed from the plan. Include changes to the table of contents, section of the plan, or other information as needed to specifically locate, identify and revise the existing Mining and Reclamation Plan. Include page, section and drawing number as part of the description.

			DESCRIPTION OF MAP, TEXT, OR MATERIAL TO BE CHANGED
☐ Add	☒ Replace	☐ Remove	Appendix 7-4 Page 21, 22, 23 and 24
☐ Add	☒ Replace	☐ Remove	Appendix 7-4 Figure 3
☒ Add	☐ Replace	☐ Remove	Appendix 7-4 Ditch Flow Calculations
☐ Add	☒ Replace	☐ Remove	Plate 7-5
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	
☐ Add	☐ Replace	☐ Remove	

Any other specific or special instruction required for insertion of this proposal into the Mining and Reclamation Plan.

Received by Oil, Gas & Mining

RECEIVED
OCT 19 2010
DIV. OF OIL, GAS & MINING

Form DOGM - C2 (Revised December 10, 2007)

APPENDIX 7-4

REPLACE PAGES 21, 22, 23 AND 24

REPLACE FIGURE 3

VIOLATION #10065
ISSUED 8/25/2010

APPENDIX 7-4

CRANDALL CANYON MINE
SEDIMENTATION AND DRAINAGE CONTROL PLAN

PREPARED BY: *DAN W. GUY, P.E.*
BLACKHAWK ENGINEERING, INC.
1056 WEST 2060 NORTH
HELPER, UT. 84526

UTAH REGISTERED
#154168
DAN W. GUY
9/14/10
PROFESSIONAL ENGINEER

REVISED: *SEPTEMBER 2010*

TABLE 5
RUNOFF CONTROL STRUCTURE WATERSHED SUMMARY

Structure	*Type*	*Contributing Watersheds*
Main Culvert	*Culvert*	*Crandall Canyon Above Mine*
UD-1	*Culvert*	*WSUD-1*
UD-2	*Culvert*	*WSUD-2*
UD-3	*Culvert*	*WSUD-3*
DD-1	*Ditch*	*WSDD-1, WSDD-2*
DD-3	*Ditch*	*WSDD-1, WSDD-2, WSDD-3*
DD-4	*Ditch*	*WSDD-1, WSDD-2, WSDD-3, WSDD-4, WSDD-8, WSDD-12*
DD-5	*Ditch*	*WSDD-1, WSDD-2, WSDD-3, WSDD-4, WSDD-5, WSDD-8, WSDD-12*
DD-7	*Ditch*	*WSDD-7, WSDD-11*
DD-8	*Ditch*	*WSDD-8, WSUD-3*
DD-10	*Ditch*	*WSDD-10 + Mine Water*
DD-10A	*Ditch*	*½ WSDD-10 (Disturbed)*
DD-11	*Ditch*	*WSDD-11*
DD-12	*Ditch*	*WSDD-12*
DD-13	*Ditch*	*WSDD-13*
DD-14	*Sheet Flow*	*WSDD-14*
C-1	*Culvert*	*WSDD-1, WSDD-2, WSDD-3, WSDD-8*
C-3	*Culvert*	*WSDD-7, WSDD-11, WSDD-15*
C-4	*Culvert*	*WSDD-10 + Mine Water*
C-5	*Culvert*	*WSDD-11*
C-6	*Culvert*	*WSUD-2*
C-7	*Culvert*	*WSDD-1, WSDD-2, WSDD-3*
C-9	*Culvert*	*WSDD-4, WSDD-12*
C-11	*Culvert*	*WSDD-12*
C-11A	*Culvert*	*WSDD-12*
C-12	*Culvert*	*WSDD-1, 2, 3, 4, 5, 8, 12*
C-13	*Culvert*	*WSDD-13*
C-14	*Slot Culvert*	*WSDD-4*
C-15	*Slot Culvert*	*WSDD-15*
C-16	*Culvert*	*WSDD-13*
C-17	*Culvert*	*WSDD-13*
Sediment Pond	*Pond*	*WSDD-1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, 14, WSUD-3*

TABLE 6
RUNOFF CONTROL STRUCTURE
FLOW SUMMARY

Structure	*Type*	*10 year/6 hour Peak Flow-cfs*	*10 year/24 hour Peak Flow-cfs*	*25 year/6 hour Peak Flow-cfs*	*100 year/6 hour Peak Flow-cfs*
Main Culvert	*Culvert*	-	-	-	*222.79*
UD-1	*Culvert*	*1.91*	-	*3.68*	*6.81*
UD-2	*Ditch*	*0.04*	-	*0.08*	*0.21*
UD-3	*Culvert*	*0.23*	-	*0.43*	*0.89*
DD-1	*Ditch*	*0.06*	*0.20*	*0.10*	-
DD-3	*Ditch*	*0.32*	*0.78*	*0.47*	-
DD-4	*Ditch*	*2.39*	*5.96*	*3.49*	-
DD-5	*Ditch*	*2.85*	*7.88*	*4.24*	-
DD-7	*Ditch*	*0.21*	*0.85*	*0.34*	-
DD-8	*Ditch*	*0.64*	*2.80*	*1.05*	-
DD-10A	*Ditch*	*0.10*	*0.21*	*0.14*	-
DD-10	*Ditch*	*2.62*	*3.06*	*2.76*	-
DD-11	*Ditch*	*0.10*	*0.57*	*0.18*	-
DD-12	*Ditch*	*1.55*	*3.58*	*2.26*	-
DD-13	*Ditch*	*2.62*	*6.08*	*3.83*	-
DD-14	*Sht Flw*	*0.39*	*0.88*	*0.56*	-
C-1	*Culvert*	*0.96*	*3.58*	*1.52*	-
C-3	*Culvert*	*0.21*	*0.85*	*0.34*	-
C-4	*Culvert*	*2.62*	*3.06*	*2.76*	-
C-5	*Culvert*	*0.10*	*0.57*	*0.18*	-
C-6	*Culvert*	*0.04*	-	*0.08*	-
C-7	*Culvert*	*0.32*	*0.78*	*0.47*	-
C-9	*Culvert*	*0.11*	*0.20*	*0.14*	-
C-11	*Culvert*	*1.55*	*3.58*	*2.26*	-
C-11A	*Culvert*	*1.55*	*3.58*	*2.26*	-
C-12	*Culvert*	*2.85*	*7.36*	*3.92*	-
C-13	*Culvert*	*2.62*	*6.08*	*3.83*	-
C-14	*Slot Cul.*	*0.11*	*0.20*	*0.14*	-
C-15	*Slot Cul.*	*0.06*	*0.11*	*0.08*	-
C-16	*Culvert*	*2.62*	*6.08*	*3.83*	-
C-17	*Culvert*	*2.62*	*6.08*	*3.83*	-
Sediment Pond	*Pond*	*6.46*	*16.53*	*9.50*	-

TABLE 7
DISTURBED DITCH DESIGN SUMMARY

Ditch	*DD-1*	*DD-3*	*DD-4*	*DD-5*	*DD-7*	*DD-8*	*DD-10A*
Slope (%)	*30.77*	*3.00*	*11.91*	*4.50*	*3.33*	*3.59*	*5.00*
Length (ft.)	*130*	*75*	*168*	*628*	*142*	*557*	*50*
Manning's No.	*0.035*	*0.035*	*0.035*	*0.035*	*0.035*	*0.035*	*0.035*
Side Slope (H:V)	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*	*1:1*
**Bottom Width (ft.)*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Peak Flow 10/6 (cfs)	*0.06*	*0.32*	*2.39*	*2.85*	*0.21*	*0.64*	*0.10*
Peak Flow 10/24 (cfs)	*0.20*	*0.78*	*5.96*	*7.88*	*0.85*	*2.80*	*0.21*
Flow Depth (ft.) 10/6	*0.14*	*0.40*	*0.66*	*0.84*	*0.33*	*0.50*	*0.23*
Flow Depth (ft.) 10/24	*0.22*	*0.56*	*0.92*	*1.23*	*0.57*	*0.87*	*0.31*
Flow Area (ft^2)10/6	*0.02*	*0.16*	*0.43*	*0.71*	*0.11*	*0.25*	*0.06*
Flow Area (ft^2)10/24	*0.05*	*0.31*	*0.85*	*1.52*	*0.32*	*0.76*	*0.10*
Velocity (fps)10/6	*3.15*	*2.00*	*5.55*	*4.02*	*1.87*	*2.55*	*1.81*
Velocity (fps) 10/24	*4.26*	*2.50*	*6.97*	*5.19*	*2.66*	*3.68*	*2.18*
Rip-Rap Req'd (Y/N)	*N*	*N*	*Y*	*N*	*N*	*N*	*N*
Rip-Rap D_{50}	-	-	*6"*	-	-	-	-

** All ditches are triangular.*
*** Flows include 1000 gpm (2.23 cfs) Mine Water Flow.*
Note: Slope/Lengths from Plate 7-5.

TABLE 7 (Continued)
DISTURBED DITCH DESIGN SUMMARY

Ditch	*DD-10*	*DD-11*	*DD-12*	*DD-13*	*DD-13 (MIN.)*	*(MAX.)*
Slope (%)	*3.33*	*3.00*	*3.29*	*1.79*	*50.00*	
Length (ft.)	*70*	*173*	*50*	*280*	*80*	
Manning's No.	*0.035*	*0.035*	*0.035*	*0.035*	*0.035*	
Side Slope (H:V)	*1:1*	*1:1*	*1:1*	*1:1*	*2:1*	
Bottom Width (ft.)	*0*	*0*	*0*	*0*	*2*	
Peak Flow 10/6 (cfs)	*2.62***	*0.10*	*1.55*	*2.62*	*2.62*	
Peak Flow 10/24 (cfs)	*3.06***	*0.57*	*3.58*	*6.08*	*6.08*	
Flow Depth (ft.) 10/6	*0.86*	*0.26*	*0.71*	*0.97*	*0.15*	
Flow Depth (ft.) 10/24	*0.92*	*0.50*	*0.97*	*1.33*	*0.24*	
Flow Area (ft^2) 10/6	*0.75*	*0.07*	*0.50*	*0.94*	*0.34*	
Flow Area (ft^2) 10/24	*0.84*	*0.25*	*0.94*	*1.77*	*0.60*	
Velocity (fps) 10/6	*3.51*	*1.50*	*3.07*	*2.79*	*7.66*	
Velocity (fps) 10/24	*3.65*	*2.31*	*3.79*	*3.44*	*10.12*	
Rip-Rap Req'd (Y/N)	*N*	*N*	*N*	*N*	*Y*	
Rip-Rap D_{50}	-	-	-	-	*9"*	

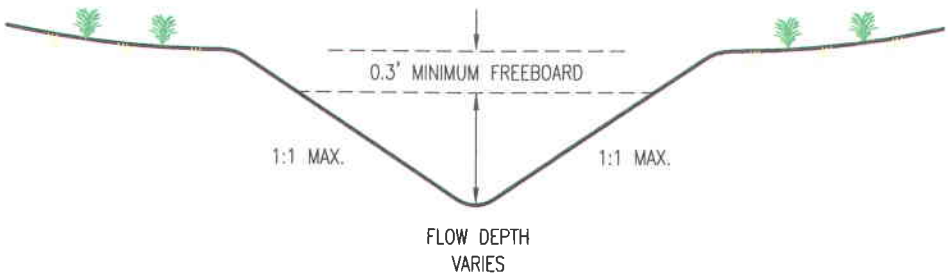
**All ditches are triangular.*
Note: Slope/Lengths from Plate 7-5.
Note: DD-12 is shortened due to construction of the south portal access ramp/fan pad.

DITCH FLOW CALCULATIONS

```
Title of run: DITCH DD-10A (10/24)
   Solving for................= Depth Normal
Triangle
   Flow depth (ft)............=    0.31
   First Side slope...........=     1.0
   Second Side slope..........=     1.0
   Slope of diversion.........=  0.0500
   Manning"s n................=   0.035
   CFS........................=    0.21
   Cross section area (sqft)..=    0.10
   Hydrualic radius...........=    0.11
   fps........................=    2.18
   Froude number..............=    1.16
```

```
Title of run: DITCH DD-10A (10/6)
   Solving for................= Depth Normal
Triangle
   Flow depth (ft)............=    0.23
   First Side slope...........=     1.0
   Second Side slope..........=     1.0
   Slope of diversion.........=  0.0500
   Manning"s n................=   0.035
   CFS........................=    0.10
   Cross section area (sqft)..=    0.06
   Hydrualic radius...........=    0.08
   fps........................=    1.81
   Froude number..............=    1.11
```

UNDISTURBED AND DISTURBED DITCH TYPICAL SECTION



DITCH SIZING					
10 YEAR 6 HOUR STORM			* 10 YEAR 24 HOUR STORM		
DITCH	FLOW DEPTH	FLOW AREA	DITCH	FLOW DEPTH	FLOW AREA
UD-2	0.14	0.02	UD-2	–	–
DD-1	0.14	0.02	DD-1	0.22	0.05
DD-3	0.40	0.16	DD-3	0.56	0.31
DD-4	0.66	0.43	DD-4	0.92	0.85
DD-5	0.84	0.71	DD-5	1.23	1.52
DD-7	0.33	0.11	DD-7	0.57	0.32
DD-8	0.50	0.25	DD-8	0.87	0.76
DD-10A	0.23	0.06	DD-10A	0.31	0.10
DD-10	0.86	0.75	DD-10	0.92	0.84
DD-11	0.26	0.07	DD-11	0.50	0.25
DD-12	0.71	0.50	DD-12	0.97	0.94
DD-13	0.56	0.32	DD-13	0.77	0.59

NOTE:

DITCH CONFIGURATIONS MAY VARY IN FIELD; HOWEVER, MINIMUM FLOW DEPTHS AND AREAS WILL BE MAINTAINED.

* FOR REFERENCE ONLY.

FIGURE 3

CHAPTER 7

REPLACE MAP 7-5

E 2,093,500
E 2,094,000
E 2,094,500
N 410,500
1/4 CORNER
6 5
USFS
GENWAL FEE
NATURAL ROCK DRAINAGE
WSUD-1
WSUD-2
WSUD-3
WSDD-8
WSDD-11
WSDD-7
WSDD-12
WSDD-3
WSDD-5
WSDD-10
WSDD-4
WSDD-13
WSDD-14
(ASCA 2)
UD-2
UD-3
UD-1
DD-1
DD-3
DD-4
DD-5
DD-7
DD-8
DD-10
DD-10A
DD-11
DD-12
DD-13
C-1
C-3
C-4
C-5
C-7
C-8
C-9
C-11
C-12
C-13
C-14 (Slotted Culvert)
C-15 (Slotted Culvert)
C-17
SILT FENCE
STRAWBALE DIKE
C-8 12" CULVERT
UNDISTURBED AREA 30 ACRES
UNDISTURBED AREA 10 ACRES
WATER TREATMENT AREA
MINE WATER DISCHARGE 12" WATERLINE
MINE WATER TREATMENT DISCHARGE CULVERT
De-Commissioned
MINE WATER DISCHARGE 12" WATERLINE (BURIED)
12" PIPE UPDES DISCHARGE #002 MINE WATER DISCHARGE
36" RISER
Washdown Pipe
SEDIMENT POND
EMERGENCY SPILLWAY
UPDES DISCHARGE #001
RIP RAP OUTLET & ENERGY DISSIPATOR
RIP-RAPPED INLET
FOREST SERVICE TRAILHEAD PARKING AREA
LOWER PAD
MAIN CULVERT (72" DIA.)
(ASCA 9)
(ASCA 10)
MINE OPERATION AREA (UPPER PAD)

RECEIVED
OCT 19 2010
DIV. OF OIL, GAS & MINING

LEGEND:

- POTENTIAL EXTENT OF DISTURBANCE
- 10' CONTOUR
- JERSEY BARRIERS
- WATERSHED BOUNDARY
- UNDISTURBED/DISTURBED WATERSHED (WSUD-1 WSDD-10)
- DIVERSION DITCH (DD-4)
- CULVERT (Solid–Above Grd/Dashed–Buried) (C-8)
- 6' DIAMETER CULVERT
- ASCA AREA:

N

CONTOUR INTERVAL = 10'

UTAH REGISTERED PROFESSIONAL ENGINEER #6449561 David W. Hibbs 10/14/10

GENWAL™ RESOURCES, INC.

P.O. Box 1077, 794 North "C" Canyon Rd, Price Utah
Telephone: (435) 888-4000

CRANDALL CANYON MINE DRAINAGE MAP

REV: 18	ACAD: 7-5
DATE: JAN. 2010	BY: PJJ
SCALE: 1" = 100'	PLATE #: 7-5