0013

Incoming
C/007/041

OK

WEST RIDGE RESOURCES, INC.
FAX COVER SHEET
Fax No. 435-564-4002
Telephone No. 435- 564-4000

DATE: 2/14/03

TO: Pam Grubaugh Littig

FROM: Gary Gray

FAX NUMBER:

NO. OF PAGES INCLUDING COVER SHEET 16

SHOULD YOU EXPERIENCE ANY PROBLEMS, PLEASE CALL (435)-564-4000

COMMENTS: Here is the changed pages that have been discussed. I have included an explanation sheet in front of each C2 form

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FEB 14 2003
DIV. OF OIL, GAS & MINING

Pam

This C2 form covers the first TA response which removes the non-existent page 7-34b and clarifies the text, tables and figures for the first 59 pages; clarifies which sections in the Computer Backup to replace; and what to do with the Maps.

Application for Permit Processing
Detailed Schedule of Changes to the MRP

Title of Application: Mine Water NOV Permit Change TA Response

Permit Number: C/007/041

Mine: WEST RIDGE

Permittee: WEST RIDGE Resources, Inc.

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	pages 7-33, 34 and 36 in Chapter 7
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4 all text and tables from cover page thru to page 59 except for the figures
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Figures 3 and 4; retain all other figures.
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 West Ridge Computer Backup, section containing Disturbed
☐ ADD	☐ REPLACE	☐ REMOVE	Ditch Calculations
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 West Ridge Computer Backup, section containing Disturbed
☐ ADD	☐ REPLACE	☐ REMOVE	Culvert Calculations, retain all other sections of Calculations
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Map 7-2, Rev 10, retain all other Maps
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

Pam

this is the C2 form to use for the changes that Greg had us to do by the phone call on Wednesday which we wanted to get to you by noon on Thursday.

Application for Permit Processing
Detailed Schedule of Changes to the MRP

Title of Application: Mine Water NOV Permit Change TA Response #2

Permit Number: C/007/041

Mine: WEST RIDGE

Permittee: WEST RIDGE Resources, Inc.

Provide a detailed listing of all changes to the mining and reclamation plan which will be required as a result of this proposed permit application. Individually list all maps and drawings which are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise the existing mining and reclamation plan. **Include page, section and drawing numbers as part of the description.**

			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, page 1a
☒ ADD	☐ REPLACE	☐ REMOVE	Appendix 7-4, page 1b
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, page 27 (2nd page of Table 10)
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, page 29 (2nd page of Table 11)
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, page 31 (Table 13)
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, page 35 (Table 15)
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Figure 3
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 (West Ridge Computer Backup), Disturbed Ditch
☐ ADD	☐ REPLACE	☐ REMOVE	Calculations, DD-4A (10,6) MW
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 (West Ridge Computer Backup), Disturbed Ditch
☐ ADD	☐ REPLACE	☐ REMOVE	Calculations, DD-4A (10/24) MW
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 (West Ridge Computer Backup), Disturbed Culvert
☐ ADD	☐ REPLACE	☐ REMOVE	Calculations, DC-4A (10,6) MW
☐ ADD	☒ REPLACE	☐ REMOVE	Appendix 7-4, Appendix 1 (West Ridge Computer Backup), Disturbed Culvert
☐ ADD	☐ REPLACE	☐ REMOVE	Calculations, DC-4A (10/24) MW
☐ ADD	☐ REPLACE	☐ REMOVE	
☐ ADD	☐ REPLACE	☐ REMOVE	
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Any other specific or special instructions required for insertion of this proposal into the Mining and Reclamation Plan?

e) At the present time, some water is being discharged from the mine. Since the mine is not sufficiently developed to provide large settling sumps at this time, the mine water is pumped into the upper cell of the sediment pond, where it is evaporated or sufficiently cleaned and discharged. Mine water will be pumped from the pond and discharged in accordance with the UPDES Permit, when it reaches a level at (or below) the 100% sediment level shown on the sediment markers. The mine water will utilize only the "dead" or sediment storage volume of the pond; therefore, adequate volume will be available in the pond for a 10 year - 24 hour design storm. Design details for the sediment pond are provided in Section 3.1.

Water is pumped from the mine at a maximum rate of 230 gpm or 0.51 cfs. Mine water will discharged from a pipe into ditch DD-4A, to culvert DC-4A, to ditch DD-5, to culvert DC-6, to ditch DD-6, to culvert DD-7, to ditch DD-8A, to culvert DC-8A, to ditch DD-11, to culvert DC-11, to culvert DC-13 and into the upper cell (A) of the sediment pond.

All affected culverts and ditches have been sized to adequately carry the required 10 year- 24 hour runoff, plus the mine water and maintain 0.5' of freeboard.

The mine water may be discharged directly to the bypass culvert at UPDES 002, as shown on Plate 7-2. Existing mine sumps handle the current mine water volume and the anticipated volume for several years; however, occasionally, total suspended solids have been a concern on a visual basis (samples have shown no exceedences). Initial mine water volumes were in the order of 10 gpm or less on a 24 hour basis. Currently, the volume has increased to 80 gpm on a 24 hour basis. Until longwall panels 1 thru 5 are mined out (approximately late 2004 - early 2005) the mine water will pass thru the existing sumps. The mined out area of panels 1 thru 5 will provide a very large sump with the inflow and outtake points a considerable distance apart, which will greatly reduce the suspended solids. Until the larger sump is available, the mine water discharge will pass into the upper cell of the sediment pond, thru a filtering system and to the UPDES 002 discharge point or directly to the UPDES 002 discharge point.

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f) 3 - nominal 9" pipes have been installed just upstream from the inlet to culvert DC-8A within the freeboard area of Ditch DD-8A. These pipes are intended to be used as relief culverts for culvert DC-8A, in the event of a storm exceeding the 10 year - 24 hour design. This relief would allow approximately 5.19 cfs to flow to ditch DD-12 and culvert DC-12. Although this would be expected to occur only during a storm event exceeding the 10 year - 24 hour event, both ditch DD-12 and culvert DC-12 are adequately sized to carry the 10 year - 24 hour event, plus the 5.19 cfs from the relief culverts. This will help prevent a potential overflow and subsequent erosion of the road in the event of storm runoff exceeding the required 10 year - 24 hour design.

TABLE 10 (Continued)
DRAINAGE STRUCTURES

DC-2	DD-2 + DD-3	
DC-4a	DD-4a	
DC-5	DA-5, UA-5	
DC-6	DD-5	
DC-7	DD-6, DD-8	
DC-8	DA-8	
DC-8a	DD-8a	
DC-8AR	DD-8A Freeboard	To Lower Pond
DC-9	DD-9	To Upper Pond
DC-10	DA-10	
DC-10A	DD-10	
DC-11	DD-11	
DC-12	DD-12	To Lower Pond
DC-13	DD-11, DD-13	To Upper Pond

TABLE 11 (Continued)

DRAINAGE STRUCTURE FLOW SUMMARY

Structure	10/6 Cfs	10/24 Cfs	25/6 Cfs	100/6 Cfs	Flows To:
DC-2	5.01	19.65	9.61	16.96	Sediment Pond
DC-4a	5.08	18.32	9.24	15.83	Sediment Pond
DC-5	0.57	1.25	0.82	1.18	Sediment Pond
DC-6	1.26	2.81	1.84	2.68	Sediment Pond
DC-7	7.88	24.55	13.32	21.75	Sediment Pond
DC-8	0.62	1.37	0.99	1.27	Sediment Pond
DC-8a	7.3	23.43	12.51	20.6	Sediment Pond
DC-8AR	1.73	1.73	1.73	1.73	To Lower Pond
DC-9	1.26	2.86	1.88	2.75	To Upper Pond
DC-10	2.58	7.44	4.09	6.52	Sediment Pond
DC-11	7.58	24.06	12.92	21.18	Sediment Pond
DC-12	4.11	13.51	6.99	11.62	To Lower Pond
DC-13	7.86	24.66	13.32	21.74	To Upper Pond

12/02

TABLE 13

DISTURBED DITCH DESIGN SUMMARY

Ditch Structure	DD-1	DD-2	DD-3	DD-4	DD-4A
10 yr - 6 hr event (in.)	1.30	1.30	1.30	1.30	1.30
Peak Flow (cfs)	1.79	3.22	1.18	5.08	**1.20
Velocity (fps)	4.26	3.24	3.05	4.99	2.60
Required Area (ft^2)	0.42	0.99	0.39	1.02	0.46
Flow Depth (ft.)	0.46	0.70	0.44	0.71	0.48
10 yr - 24 hr event (in.)	2.00	2.00	2.00	2.00	2.00
Peak Flow (cfs)	7.13	12.52	4.30	18.32	**2.07
Velocity (fps)	6.02	4.55	4.22	*** 5.99	2.98
Required Area (ft^2)	1.18	2.75	1.02	3.06	0.69
Flow Depth (ft.)	0.77	1.17	0.71	1.24	0.59
Construction					
Minimum Area (ft^2)	3.22	5.58	2.93	6.06	2.38
Minimum Depth (ft.)	1.27	1.67	1.21	1.74	1.09
*Erosion Protection	N	N	N	Y	N
Energy Dissipater Intervals	-	-	-	100' Max.	-

* Based on 10 year - 24 hour flow.

**Includes 0.51 cfs Mine Water.

*** Based on installation of energy dissipaters.

12/02

TABLE 15

DISTURBED CULVERT DESIGN SUMMARY

Culvert	10 yr - 6 hr Event 1.30"			10 yr - 24 hr Event 2.00"			As-Constructed Diameter (ft.)	Flow Capacity (cfs)	Rip-Rap Req'd Y/N	Rip-Rap D_{50}
	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd ft.	Peak Flow Cfs	Velocity fps	Min. Diam. Req'd ft.				
DC-2	4.40	4.49	1.12	16.82	6.28	1.85	2.0	20.80	N	-
DC-4A*	1.20	4.90	0.56	2.07	5.61	0.69	1.5	16.72	N	-
DC-5	0.57	2.69	0.52	1.25	3.28	0.70	1.5	9.66	N	-
DC-6*	1.77	3.58	0.79	3.32	4.18	1.01	1.5	9.66	N	-
DC-7*	7.81	5.18	1.39	23.94	6.86	2.11	2.0	20.80	Y	0.50
DC-8	0.62	5.03	0.40	1.37	6.13	0.53	1.5	21.59	Y	0.50
DC-8A*	7.81	11.30	0.94	23.94	14.95	1.43	1.5	27.31	Y	1.20
DC-9	1.26	8.47	0.44	2.86	10.39	0.59	1.5	34.14	Y	0.75
DC-10	2.58	10.18	0.57	7.44	13.20	0.85	1.5	34.14	Y	1.00
DC-10A	2.58	9.32	0.59	7.44	12.14	0.88	1.5	30.53	Y	1.00
DC-11*	8.89	7.37	1.18	24.56	9.73	1.79	2.0	32.88	Y	0.50
DC-12*	4.62	8.31	0.84	14.02	10.97	1.28	1.5	21.59	Y	0.75
DC-13*	8.37	7.43	1.20	25.17	9.79	1.81	2.0	32.88	Y	0.50
**DC-8AR	1.73	5.37	0.64	1.73	5.37	0.64	3@0.61	5.19	Y	0.50

* Includes 0.51 cfs Mine Water.

** Relief Culverts for DC-8A.

UNDISTURBED AND DISTURBED DITCH TYPICAL SECTION

(UNLINED DITCH)

UNLINED DITCH		
DITCH	FLOW DEPTH	FLOW AREA (FT.²)
UD-2	0.[illegible]2	0.35
UD-15	0.59	0.71
DD-1	0.77	1.18
DD-2	1.17	2.75
DD-3	0.71	1.02
**DD-4A	0.[illegible]	0.69
**DD-5	0.79	1.24
DD-8	0.42	0.36
DD-9	0.58	0.66
DD-10	1.02	2.08
**DD-11	1.67	5.35
DD-12	1.11	2.47
DD-13	0.41	0.34

Note: Flows based on a 10 year – 24 hour event.

* Used for calculation only. Side slopes may vary; however, minimum flow area will be maintained.

** 10 year – 24 hour flow + 0.51 cfs Mine Water.

REGISTERED #154168 PROFESSIONAL ENGINEER 2/14/03

FIGURE 3

Title of run: DD-4A (10/6) MW

Solving for.....= Depth Normal

Triangle

Flow depth (ft).....=	0.48
First Side slope.....=	2.0
Second Side slope.....=	2.0
Slope of diversion.....=	0.0290
Manning"s n.....=	0.035
CFS.....=	1.20
Cross section area (sqft)..=	0.46
Hydrualic radius.....=	0.21
fps.....=	2.60
Froude number.....=	0.99

Title of run: DD-4A (10/24) MW

Solving for.....= Depth Normal

Triangle

Flow depth (ft).....=	0.59
First Side slope.....=	2.0
Second Side slope.....=	2.0
Slope of diversion.....=	0.0290
Manning"s n.....=	0.035
CFS.....=	2.07
Cross section area (sqft)..=	0.69
Hydrualic radius.....=	0.26
fps.....=	2.98
Froude number.....=	1.02

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-4A (10/6) MW

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0600 ft/ft
Manning's n.....	0.020
Discharge.....	1.20 cfs

Computed Results:

Full Flow Diameter.....	0.56 ft
Full Flow Depth.....	0.56 ft
Velocity.....	4.90 fps
Flow Area.....	0.24 sf
Critical Depth....	0.52 ft
Critical Slope....	0.0520 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	1.20 cfs
QMAX @.94D.....	1.29 cfs
Froude Number.....	FULL

Open Channel Flow Module, Version 3.43 (c) 1991
Haestad Methods, Inc. * 37 Brookside Rd * Waterbury, Ct 06708

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow

Worksheet Name: WEST RIDGE

Comment: CULVERT DC-4A (10/24) MW

Solve For Full Flow Diameter

Given Input Data:

Slope.....	0.0600 ft/ft
Manning's n.....	0.020
Discharge.....	2.07 cfs

Computed Results:

Full Flow Diameter.....	0.69 ft
Full Flow Depth.....	0.69 ft
Velocity.....	5.61 fps
Flow Area.....	0.37 sf
Critical Depth....	0.64 ft
Critical Slope....	0.0519 ft/ft
Percent Full.....	100.00 %
Full Capacity.....	2.07 cfs
QMAX @.94D.....	2.23 cfs
Froude Number.....	FULL

Open Channel Flow Module, Version 3.43 (c) 1991
Haestad Methods, Inc. * 37 Brookside Rd * Waterbury, Ct 067

Circular Channel Analysis & Design
Solved with Manning's Equation

Open Channel - Uniform flow