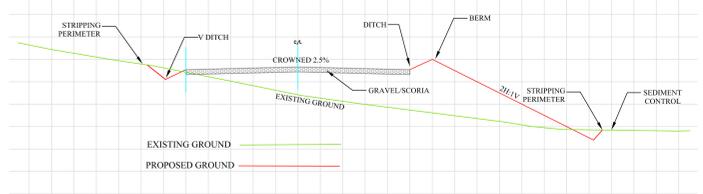
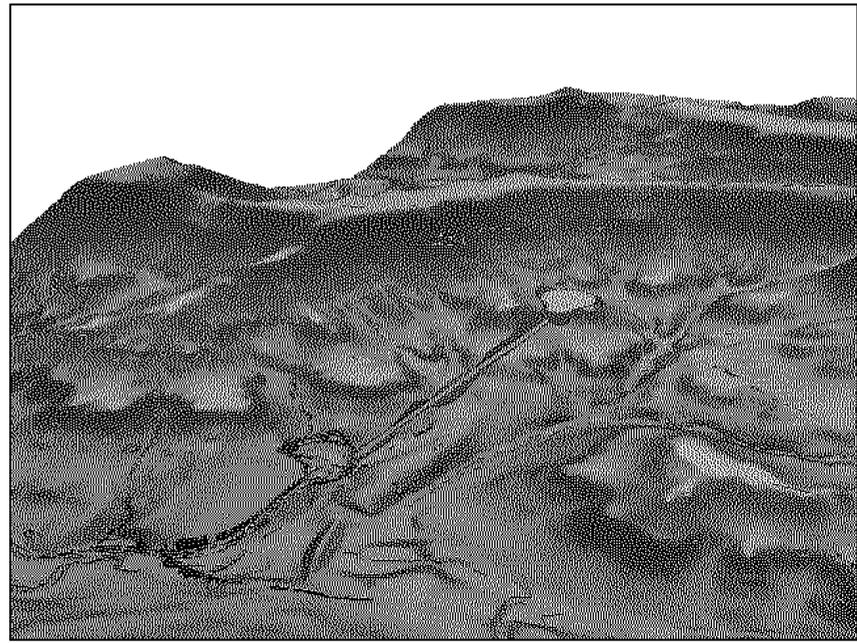
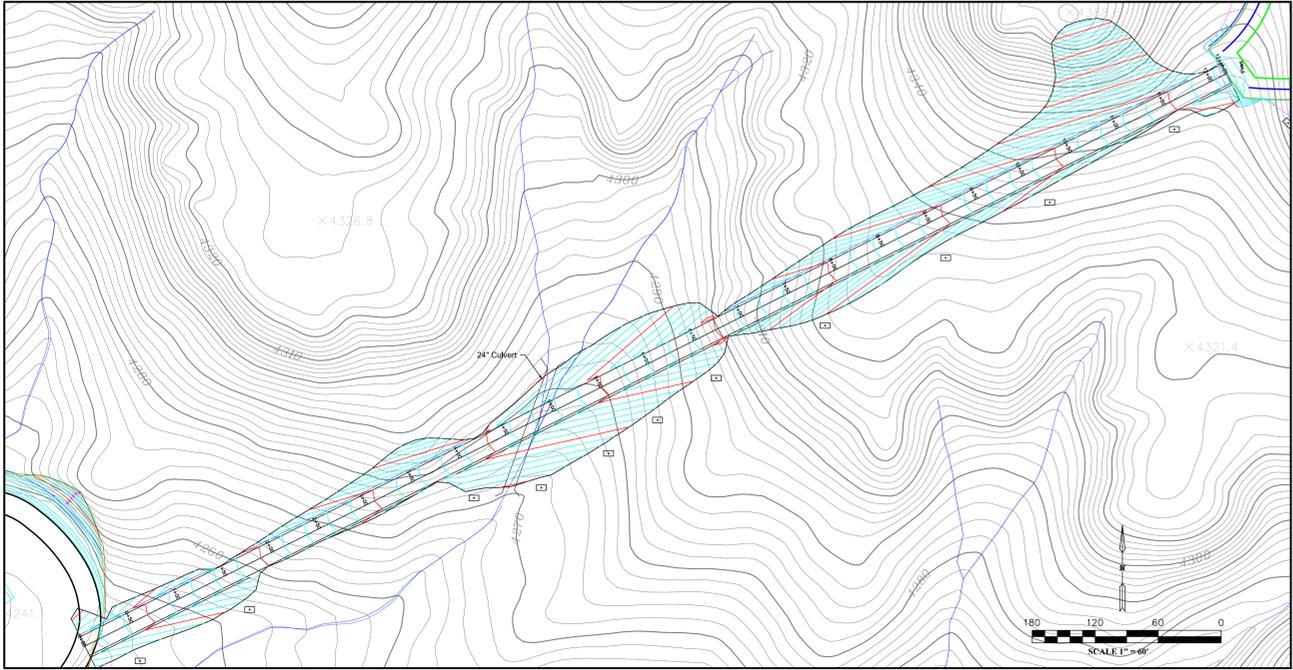


EXISTING GROUND  
PROPOSED GROUND



**CENTERLINE ACCESS PROFILE**

**CROSS SECTION**



**PAD ACCESS DESIGN**

**AERIAL**

**ESTIMATED PAD #4 ACCESS TOPSOIL SALVAGE**  
 Volumes by Triangulation (Prisms) Tue Mar 26 12:35:41 2013  
 Existing Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG.tin  
 Final Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus top.tin  
 Total inclusion area: 73,469.6 S.F., 1.69 Acres  
 Average Cut Depth: 0.50 feet  
 Export Volume: 1,360.5 C.Y.

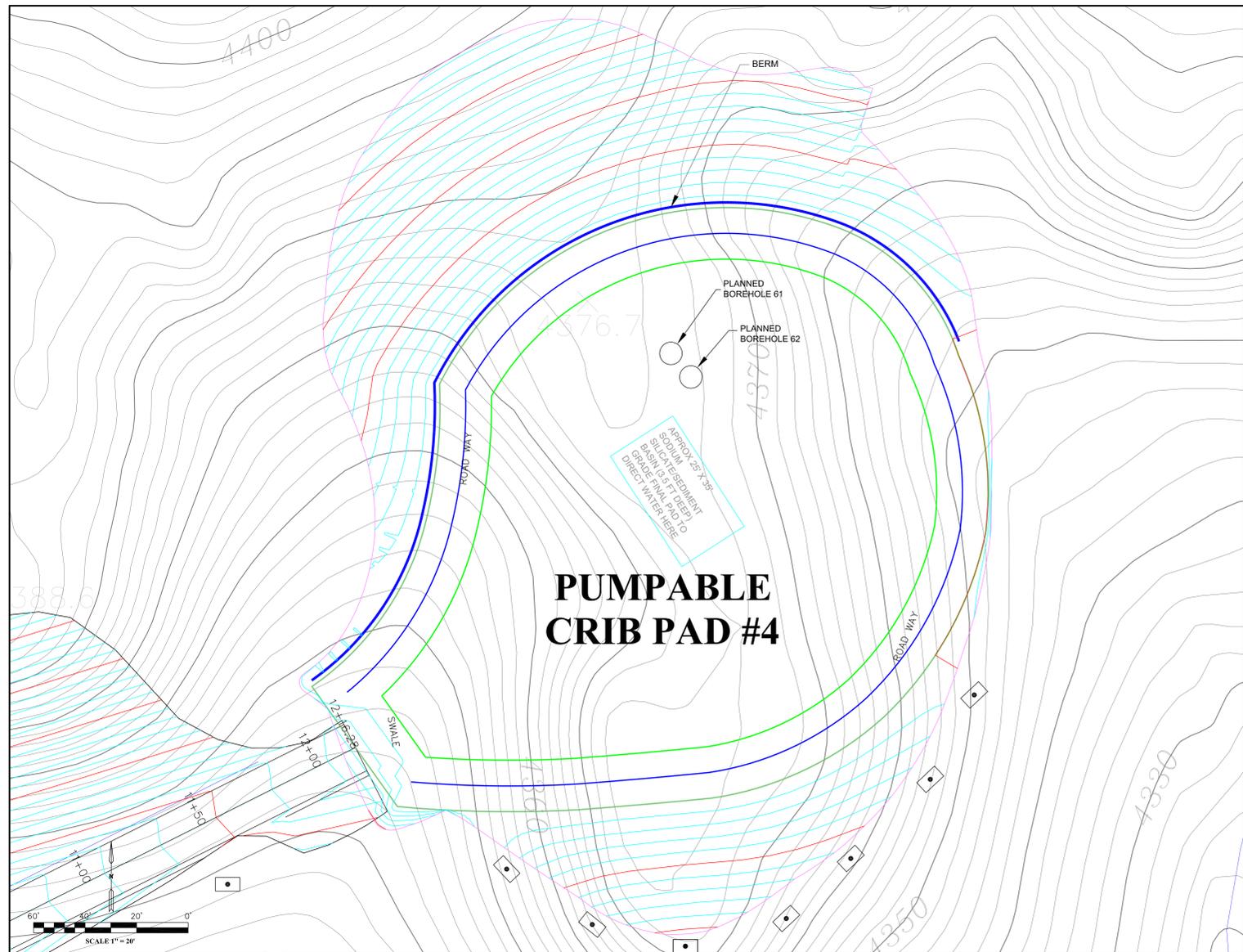
**ESTIMATED PAD #4 ACCESS SUBSOIL SALVAGE**  
 Volumes by Triangulation (Prisms) Tue Mar 26 12:36:38 2013  
 Existing Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus top.tin  
 Final Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus sub.tin  
 Total inclusion area: 73,469.6 S.F., 1.69 Acres  
 Average Cut Depth: 1.00 feet  
 Export Volume: 2,721.1 C.Y.

**ESTIMATED PAD #4 ACCESS DIRTWORK AFTER SOILS SALVAGE**  
 Process Road Design Tue Mar 26 13:20:39 2013  
 Template File> J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\PUMP PAD 4 ROAD.TPL  
 Profile File> J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\Pumpable Crib Pad 4.pro  
 Existing Surface File> J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus sub.tin  
 Centerline File> J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\Pad #4 Road.d  
 Processing 0+00.000 to 12+16.275  
 Total Cut: 195272.397 C.F., 7232.311 C.Y.  
 Total Fill: 145438.135 C.F., 5386.598 C.Y.  
 Balance Export: 1845.713 C.Y.  
 Cut to Fill Ratio: 1.34

**ESTIMATED PAD #4 TOPSOIL SALVAGE**  
 Volumes by Triangulation (Prisms) Tue Mar 26 12:22:40 2013  
 Existing Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG.tin  
 Final Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus top.tin  
 Total inclusion area: 44,708.5 S.F., 1.03 Acres  
 Average Cut Depth: 0.50 feet  
 Export Volume: 827.9 C.Y.

**ESTIMATED PAD #4 SUBSOIL SALVAGE**  
 Volumes by Triangulation (Prisms) Tue Mar 26 12:25:41 2013  
 Existing Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus top.tin  
 Final Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus sub.tin  
 Total inclusion area: 43,134.5 S.F., 0.99 Acres  
 Average Cut Depth: 1.00 feet  
 Export Volume: 1,597.6 C.Y.

**ESTIMATED PAD #4 DIRTWORK AFTER SOILS SALVAGE**  
 Pad Report  
 Top of pad elevation: 4345.0000  
 Existing Surface: J:\PERMIT\MINOR REVISIONS\166 Pumpable Crib Pad #4\EG minus sub.tin  
 Pad Earthwork Volumes  
 Total cut: 1,109,880.6 C.F., 41,106.69 C.Y.  
 Total fill: 2,347.6 C.F., 86.95 C.Y.  
 Balance Export: 1,107,533.0 C.F., 41,019.74 C.Y.  
 Area: 73197.7 Sq.Ft., 1.680 Acres



**DIRTWORK VOLUMES**

- NOTES:**
- See MAP 308-4 for general location of pad
  - Most of the sediment control features need to be installed prior to construction
  - Do not begin any pad construction until soils excavation has been validated
  - Strip all available topsoil up to a maximum of 1 foot deep
  - Strip all available subsoil up to a maximum of 2 feet deep
  - DO NOT disturb anything outside the topsoil stripping perimeter shown
  - Existing contours from June 2012 Fugro Horizons
  - PMT will be original Topography
  - All soils salvage will be placed in Pumpable Crib Pad #1 Stockpiles
  - SPE will maintain a minimum of approximately 1 foot of capacity in the sediment/sodium silicate basin for rain event capacity.
  - In order to maintain the minimum of approximately 1 foot capacity in the sediment/sodium silicate basin, SPE will pump the basin into a water truck (where it will be mixed with thousands of additional gallons of water) and discharged onto approved Primary and/or Secondary Roads.

**LEGEND**

	2' Design Contour
	10' Existing Contour
	2' Existing Contour
	Approximate Berm
	Approximate Sediment Control
	Tree

**PAD DESIGN**

T6NR27E SE 1/4 OF SECTION 20

REV.	DATE	BY	DESCRIPTION
1	06/17/13	S.T.E.	MR APPROVAL
0	02/27/13	S.T.E.	MR SUBMITTAL

**BULL MOUNTAINS MINE NO. 1**  
**Permit C1993017**  
 MUSSELSHELL AND YELLOWSTONE COUNTIES  
 June 17, 2013  
**MAP 308-10**  
**PUMPABLE CRIB PAD 4 & ACCESS DESIGN**

