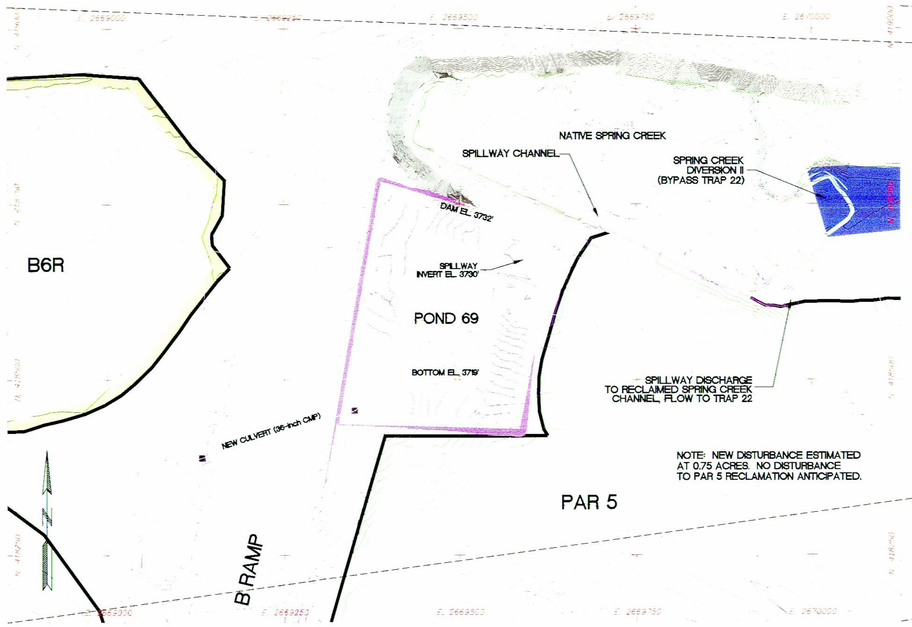
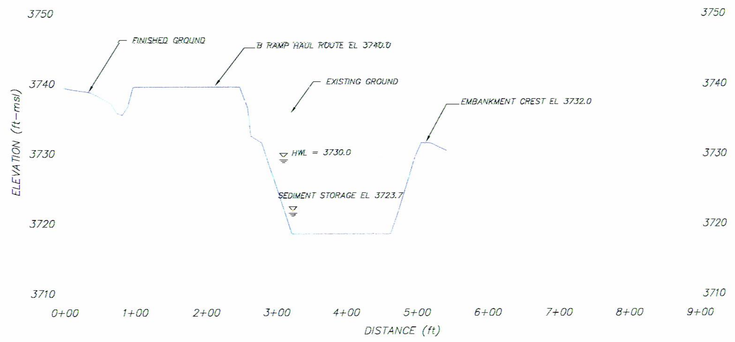
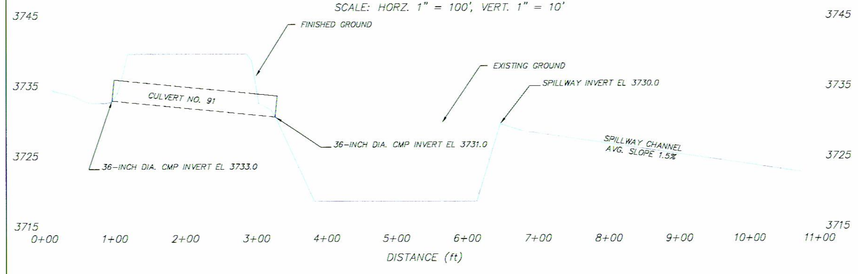


SCALE: 1" = 100'
C.I. = AS SHOWN

DISTURBANCE BOUNDARY (OCT. 2009)
EXISTING DRAINAGE
EXISTING CONTOUR (INTERVAL VARIES)
POND CONTOUR (INTERVAL VARIES)



SCALE: HORZ. 1" = 100', VERT. 1" = 10'



SCALE: HORZ. 1" = 100', VERT. 1" = 10'

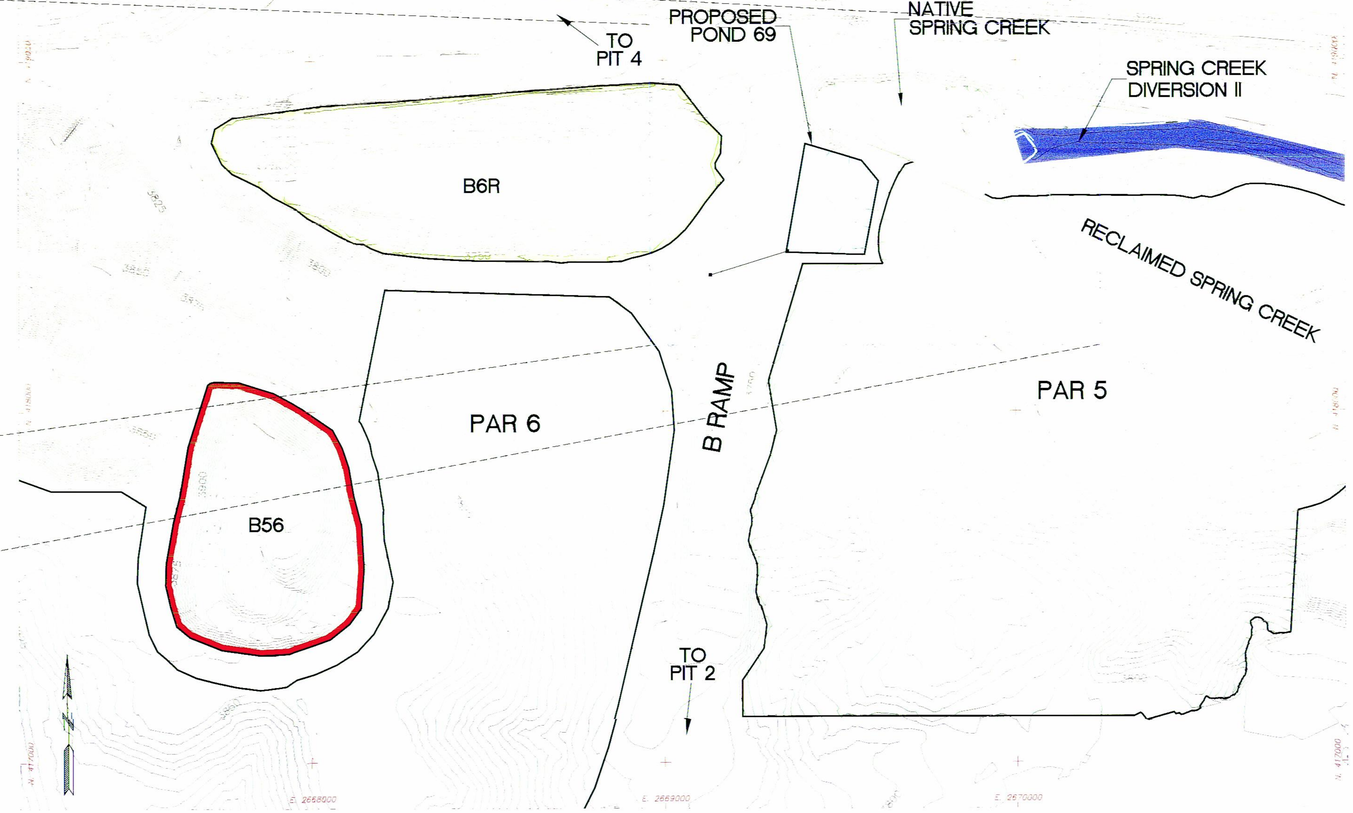
SIZE TO CONVEY 25-YR, 24-HR PEAK DISCHARGE

$$Q = \frac{1.49}{n} AR^{2/3} S^{1/2}$$

Q = 101.1 cfs	WP = 24.02 ft
n = 0.031	R = 0.82 ft
S = 0.015 ft/ft	V = 5.16 fps
A = 19.6 ft^2	Yn = 0.90 ft
b = 20 ft	

NOTE: SPILLWAY TO BE STABILIZED WITH TEMPORARY ECB AND SEEDED WITH SOD FORMING GRASSES.

NOT TO SCALE



SCALE: 1" = 200'
C.I. = 5'

RECURRENCE INTERVAL	10 years	25 years
RAINFALL FREQUENCY	24 hours	24 hours
PRECIPITATION	2.19 inches	2.65 inches
RAINFALL DISTRIBUTION	SCS Type II	SCS Type II
3-YEAR SEDIMENT YIELD/ACRE	0.035 acre-ft/acre	

	POND 69
AREA (acres)	106
HYDRAULIC LENGTH (ft)	3,100
ELEVATION DIFFERENCE (ft)	130
TIME OF CONCENTRATION (hr)	0.61
CURVE NUMBER (AREA WEIGHTED)	82
10-YR, 24-HR PEAK DISCHARGE (cfs)	61.9
10-YR, 24-HR RUNOFF VOLUME (ac-ft)	6.89
25-YR, 24-HR PEAK DISCHARGE (cfs)	91.4
SEDIMENT YIELD (ac-ft)	0.035

10-YR, 24-HR DESIGN RUNOFF VOLUME (ac-ft)	6.89
3-YR DESIGN SEDIMENT YIELD (ac-ft)	3.71
10-YR, 24-HR DESIGN RUNOFF AND SEDIMENT VOLUME (ac-ft)	10.6

NOTE: RUNOFF VOLUMES AND PEAK DISCHARGES WERE COMPUTED USING THE NRCS TR-55 TABULAR HYDROGRAPH METHOD.

ELEVATION (ft)	AREA (ac)	AVG. AREA (ac)	CAPACITY (ac-ft) INCR.	CAPACITY (ac-ft) ACCUM.	
3719.0	0.63			0.00	
		0.68	0.68		
3720.0	0.73			0.68	
		0.76	0.76		
3721.0	0.79			1.44	SEDIMENT STORAGE CAPACITY 3.76 ac-ft
		0.82	0.82		
3722.0	0.84			2.26	
		0.86	0.86		
3723.0	0.89			3.12	
		0.92	0.64		
3723.7	0.93			3.76	
		0.94	0.28		
3724.0	0.95			4.04	
		0.97	0.97		
3725.0	1.00			5.01	
		1.04	1.04		
3726.0	1.07			6.05	
		1.09	1.09		
3727.0	1.12			7.14	RUNOFF STORAGE CAPACITY 7.03 ac-ft
		1.15	1.15		
3728.0	1.19			8.29	
		1.22	1.22		
3729.0	1.25			9.51	
		1.28	1.28		
3730.0	1.32			10.79	
		1.35	1.35		
3731.0	1.38			12.14	INACTIVE FREEBOARD CAPACITY 2.76 ac-ft
		1.41	1.41		
3732.0	1.44			13.55	

NOTE: SPILLWAY INVERT ELEVATION IS 3730 FEET.

JENNIFER HOLZ
Notary Public
Sheridan County
Wyoming
My Commission Expires 9/28/2011

SUBSCRIBED AND SWORN TO BEFORE ME THIS 17th DAY OF December 2009
NOTARY PUBLIC Jennifer Holz
RESIDING IN Sheridan, WY
MY COMMISSION EXPIRES 9/28/2011

I, Eric M. Datmer, hereby certify that this drawing was made by me or by persons under my direct supervision, for whose work I stand responsible, and that it is correct to the best of my knowledge and belief.

Eric M Datmer
12/17/09

CLOUD PEAK ENERGY

SPRING CREEK MINE
P.O. BOX 67, DECKER, MT 59025
PHONE: (406) 757-2581

DATE	BY	REVISION

SEDIMENT CONTROL POND 69 DESIGN PLANS

DESIGN EMD DRAWN EMD DATE 10/09 SHEET 1 OF 1
SCALE As Shown CONTOUR INTERVAL As Shown FILE NUMBER

COPY