

BLACK MESA COMPLEX

BLACK MESA AND KAYENTA MINES

Sedimentation Structures/Impoundments
"As-Built" Drawings
Impoundment Certification/Reclamation Status



BLACK MESA AND KAYENTA MINE "AS-BUILTS"
Impoundment Certification/Reclamation Status

The following Table 1 shows when a structure has been certified by a Registered Professional Engineer after the structure has been constructed, after remedial work has been performed, or when the structure has been reclaimed, based on the sediment and water control structures reference index in Chapter 6, Table 4. Although Volumes 7A to 7F are not part of the Kayenta or Black Mesa permits, the intention is to provide the mine personnel and inspecting regulatory authority a reference copy of the "as-built" certification drawing, or indicate when a structure is reclaimed. The as-built certification for roads is included on Drawing No. 85400. Table 1 will be updated periodically when changes occur to this Table.



TABLE 1

Black Mesa/Kayenta Mines
Impoundment Certification/Reclamation
Status Table

<u>OBS</u>	<u>Structure ID</u>	<u>Location Reference</u>	<u>Const. Cert.** Engineer</u>	<u>Date of** Const. Cert.</u>	<u>Reclamation Date*</u>
1	BM-A1	Vol. 2	LK	11/22/85	--
2	BM-B	Vol. 7A	RL	06/24/99	--
3	BM-FWP	Vol. 2	JS	04/23/98	--
4	BM-SS	Vol. 7A	RL	06/24/99	--
5	BM-T	Vol. 7A	RL	10/25/01	--
6	BM-TW	Vol. 2	JS	04/23/98	--
7	CW-A	Vol. 2	JS	04/23/98	1993
8	CW-B	Vol. 1	N/A	N/A	--
9	J1-A	Vol. 2	RL	05/13/04	--
10	J2-A-Dam	Vol. 7A, 22	JS	12/22/86	--
11	J3-A	Vol. 7A	JS	06/23/97	--
12	J3-B	Vol. 7A	JS	06/09/97	1993
13	J3-C	Vol. 1	N/A	N/A	--
14	J3-D	Vol. 7A	JS	10/29/96	--
15	J3-E	Vol. 7A	BW	03/05/91	--
16	J3-F	Vol. 7A	JS	09/14/87	--
17	J3-G	Vol. 7A	JS	09/07/89	--
18	J3-H	Vol. 2	RL	03/03/00	--
19	J3-SL	Vol. 2	RL	02/29/00	--
20	J7-A	Vol. 7A	RB	12/14/95	--
21	J7-B	Vol. 1	N/A	N/A	1996
22	J7-B1	Vol. 7A	RB	09/27/95	--
23	J7-CD	Vol. 7A	N/A	N/A	2011
24	J7-Dam	Vol. 22	JS	12/03/85	--
25	J7-E	Vol. 7A	JS	10/28/96	2011
26	J7-F	Vol. 7A	N/A	N/A	2011
27	J7-G	Vol. 7A	JS	06/01/99	--
28	J7-H	Vol. 7A	JS	06/01/99	--
29	J7-I	Vol. 7A	JS	10/01/97	--
30	J7-J	Vol. 7A	JS	06/01/99	--
31	J7-K	Vol. 7A	JS	06/01/99	--
32	J7-L	Vol. 1	N/A	N/A	1998
33	J7-JR	Vol. 7A	JS	10/31/01	--
34	J7-M	Vol. 7A	JS	03/30/98	--
35	J7-N	Vol. 1	N/A	N/A	1998
36	J7-O	Vol. 1	N/A	N/A	1998
37	J7-P	Vol. 1	N/A	N/A	1998
38	J7-Q	Vol. 1	N/A	N/A	1998
39	J7-Q1	Vol. 1	N/A	N/A	--
40	J7-R	Vol. 7A	JS	07/29/98	--
41	J7-R1	Vol. 7A	JS	07/29/98	--

TABLE 1
(Continued)

<u>OBS</u>	<u>Structure ID</u>	<u>Location Reference</u>	<u>Const. Cert.** Engineer</u>	<u>Date of** Const. Cert.</u>	<u>Reclamation Date*</u>
42	J7-S	Vol. 7A	RL	11/05/99	--
43	J7-T	Vol. 7A	RL	10/29/99	--
44	J7-U	Vol. 7A	RL	10/29/99	--
45	J7-V	Vol. 7A	JS	06/22/98	--
46	J16-A	Vol. 22	JS	12/03/85 & 03/08/99	--
47	J16-B	Vol. 1	N/A	N/A	1992
48	J16-C	Vol. 1	N/A	N/A	1992
49	J16-D	Vol. 7A	BW	11/05/91	--
50	J16-E	Vol. 7A	BW	11/05/91	--
51	J16-F	Vol. 7A	RB	11/09/95	--
52	J16-G	Vol. 7A	RB	12/12/95	--
53	J16-H	Vol. 1	N/A	N/A	1992
54	J16-I	Vol. 1	N/A	N/A	2003
55	J16-J	Vol. 1	N/A	N/A	2003
56	J16-K	Vol. 1	N/A	N/A	2003
57	J16-L	Vol. 22	JS	12/03/85 & 06/04/97	--
58	J19-A	Vol. 7A	JS	02/11/05	--
59	J19-B	Vol. 7A	JS	06/25/04	--
60	J19-D	Vol. 7A	JS	08/02/04	--
61	J19-E	Vol. 7A	JS	06/25/04	--
62	J19-RA	Vol. 7A	JS	09/23/05	--
63	J19-RB	Vol. 7A	JS	05/06/06	--
64	J19 Haul Road	Vol. 7A	RL	04/18/94	--
65	J19 Deadhead Rd	Vol. 7A	RL	12/03/97	--
66	J21-A	Vol. 7A	JS	01/05/09	--
67	J21-A1	Vol. 7A	JS	03/15/90	--
68	J21-B	Vol. 1	N/A	N/A	2003
69	J21-C	Vol. 7B	JS	11/16/95	--
70	J21-C2	Vol. 7B	JS	07/09/91	--
71	J21-D	Vol. 7B	JS	12/09/98	2012
72	J21-E	Vol. 7B	JS	01/06/09	2012
73	J21-F	Vol. 7B	JS	03/26/99	--
74	J21-F1	Vol. 7B	JS	03/26/99	--
75	J21-G	Vol. 7B	JS	07/21/03	--
76	J21-G1	Vol. 7B	JS	10/15/04	--
77	J21-H	Vol. 7B	JS	06/30/09	--
78	J21-H1	Vol. 7B	JS	06/30/09	--
79	J21-J	Vol. 1	N/A	N/A	2002
80	J21-T1	Vol. 1	N/A	N/A	1989
81	J21-T2	Vol. 1	N/A	N/A	1989
82	J21-T3	Vol. 1	N/A	N/A	1989
83	J21-T4	Vol. 1	N/A	N/A	1989
84	J27-A	Vol. 7B	JS	06/13/90	--
85	J27-B	Vol. 1	N/A	N/A	1999

TABLE 1
(Continued)

<u>OBS</u>	<u>Structure ID</u>	<u>Location Reference</u>	<u>Const. Cert.** Engineer</u>	<u>Date of** Const. Cert.</u>	<u>Reclamation Date*</u>
130	N2-D	Vol. 1	N/A	N/A	Prelaw
131	N2-E	Vol. 1	N/A	N/A	Prelaw
132	N2-G	Vol. 1	N/A	N/A	2000
133	N2-RA	Vol. 7C	RB	10/12/95	--
134	N2-RB	Vol. 7C	RB	09/20/95	Permanent
135	N2-RC	Vol. 7C	RB	11/01/95 & 06/21/96	Permanent
136	N5-A	Vol. 7C	JS	06/19/89	--
137	N5-A1	Vol. 1	N/A	N/A	1996
138	N5-D	Vol. 7C	RB	12/12/95	--
139	N5-E	Vol. 7C	RB	12/12/95	--
140	N5-F	Vol. 7C	BW	07/01/91	--
141	N5-G	Vol. 7D	JS	06/19/89	--
142	N6-B	Vol. 1	N/A	N/A	Prelaw
143	N6-C	Vol. 7D	JS	06/09/97	2012
144	N6-D	Vol. 7D	JS	06/09/97	2012
145	N6-D1	Vol. 7D	JS	06/23/97	--
146	N6-E	Vol. 7D	JS	09/26/96	--
147	N6-F	Vol. 7D	N/A	N/A	2009
148	N6-G	Vol. 7D	JS	06/19/89	--
149	N6-H	Vol. 7D	JS	06/19/89	--
150	N6-I	Vol. 7D	JS	06/20/90	--
151	N6-J	Vol. 7D	JS	06/20/90	--
152	N6-K	Vol. 7D	JS	07/18/97	--
153	N6-K1	Vol. 7D	N/A	N/A	2006
154	N6-L	Vol. 7D	JS	07/18/97	--
155	N6-M	Vol. 7D	JS	04/09/97	--
156	N6-T1	Vol. 1	N/A	N/A	1991
157	N6-T2	Vol. 1	N/A	N/A	1996
158	N7-A1	Vol. 1	N/A	N/A	2001
159	N7-B	Vol. 1	N/A	N/A	1992
160	N7-C	Vol. 1	N/A	N/A	1992
161	N7-D	Vol. 7D	JS	06/12/90	Permanent
162	N7-E	Vol. 7D	JS	02/16/90	Permanent
163	N7-E1	Vol. 1	N/A	N/A	2001
164	N8-A	Vol. 1	N/A	N/A	2001
165	N8-B	Vol. 1	N/A	N/A	2001
166	N8-B1	Vol. 1	N/A	N/A	2001
167	N8-RA	Vol. 6	JS	12/18/00	Permanent
168	N9-B	Vol. 7D	JS	11/03/06	--
169	N9-B1	Vol. 7D	JS	11/03/06	--
170	N9-B2	Vol. 7D	JS	06/01/07	--
171	N9-C	Vol. 7D	JS	11/03/06	--
172	N9-C1	Vol. 7D	JS	11/03/06	--
173	N9-D	Vol. 7D	JS	11/03/06	--

TABLE 1
(Continued)

<u>OBS</u>	<u>Structure ID</u>	<u>Location Reference</u>	<u>Const. Cert.** Engineer</u>	<u>Date of** Const. Cert.</u>	<u>Reclamation Date*</u>
174	N9-E	Vol. 7D	JS	11/03/06	--
175	N9-F	Vol. 7D	JS	12/29/05	--
176	N9-G	Vol. 7D	JS	11/03/06	--
177	N9-H	Vol. 7D	JS	11/03/06	--
178	N9-I	Vol. 7D	JS	11/03/06	--
179	N10-A	Vol. 7E	JS	10/14/88	--
180	N10-A1	Vol. 7E	NA&JS	09/26/95 & 11/12/96	--
181	N10-A2	Vol. 7E	NA	09/26/95	--
182	N10-B	Vol. 7E	RB	09/18/95	--
183	N10-B1	Vol. 7E	JS	03/05/98	--
184	N10-C	Vol. 7E	RB	07/13/95	--
185	N10-D	Vol. 7E	JS	05/22/98	--
186	N10-D1	Vol. 7E	NA	09/26/95	--
187	N10-E	Vol. 1	N/A	N/A	1994
188	N11-A	Vol. 7E	GA	06/27/08	--
189	N11-A1	Vol. 7E	GA	06/27/08	--
190	N11-A2	Vol. 7E	GA	06/27/08	--
191	N-11 Deadhead Rd	Vol. 7E	RL	12/07/95	--
192	N11-C	Vol. 7E	RL	03/07/95	--
193	N11-E	Vol. 7E	RL	03/07/95	--
194	N11-G	Vol. 7E	RL	05/08/95	--
195	N11-G1	Vol. 7E	RL	05/08/95	--
196	N11-G2	Vol. 7E	JS	06/25/04	--
197	N11-G3	Vol. 1	N/A	N/A	2003
198	N12-A	Vol. 1	N/A	N/A	1994
199	N12-C	Vol. 7E	RL	09/24/01	--
200	N12-C1	Vol. 7E	RL	07/12/94	--
201	N12-C2	Vol. 7E	RL	07/12/94	--
202	N12-F	Vol. 1	N/A	N/A	1994
203	N12-G	Vol. 1	N/A	N/A	1994
204	N12-H	Vol. 1	N/A	N/A	1994
205	N12-I	Vol. 1	N/A	N/A	1994
206	N12-J	Vol. 1	N/A	N/A	1994
207	N12-K	Vol. 1	N/A	N/A	1994
208	N12-L	Vol. 1	N/A	N/A	1994
209	N12-M	Vol. 7E	RL	09/23/94	--
210	N12-N	Vol. 7E	RB	11/20/95	--
211	N13-A	Vol. 1	N/A	N/A	1995
212	N13-B	Vol. 1	N/A	N/A	1995
213	N13-C	Vol. 1	N/A	N/A	1992
214	N13-D	Vol. 1	N/A	N/A	1992
215	N13-E	Vol. 1	N/A	N/A	1995



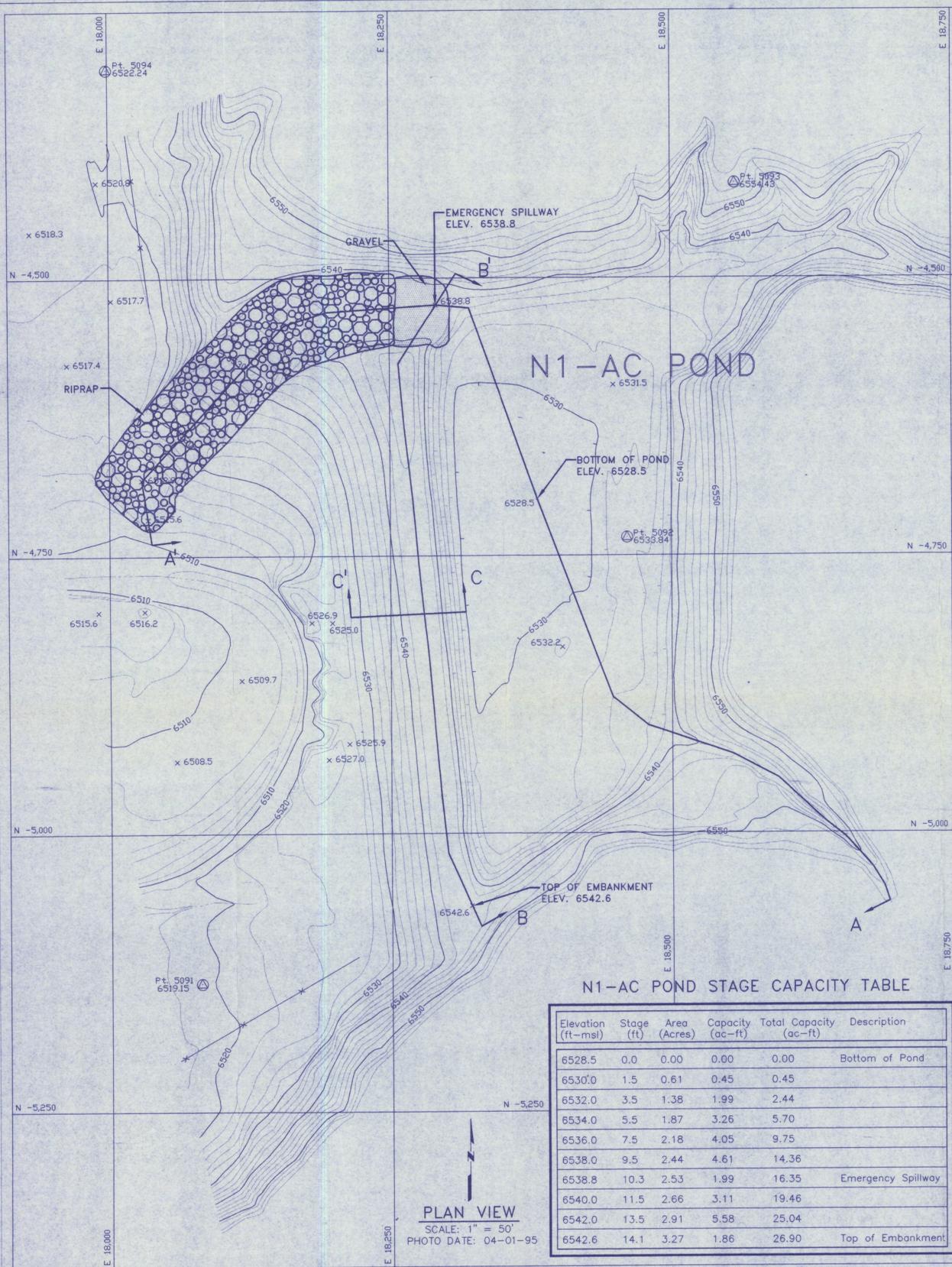
TABLE 1
(Continued)

OBS	Structure ID	Location Reference	Const. Cert.** Engineer	Date of** Const. Cert.	Reclamation Date*
216	N14-A	Vol. 1	N/A	N/A	1992
217	N14-B	Vol. 7F	RB&JS	05/11/95 & 11/14/96	--
218	N14-C	Vol. 7F	RB	11/20/95	--
219	N14-D	Vol. 22	JS	12/03/85	--
220	N14-E	Vol. 22	JS	12/03/85	--
221	N14-F	Vol. 22	JS	12/03/85	--
222	N14-G	Vol. 22	JS	12/03/85	--
223	N14-H	Vol. 22	JS	12/03/85	--
224	N14-L	Vol. 1	N/A	N/A	1991
225	N14-M	Vol. 1	N/A	N/A	2003
226	N14-N	Vol. 1	N/A	N/A	1992
227	N14-O	Vol. 1	N/A	N/A	1992
228	N14-P	Vol. 7F	RB	11/20/95	--
229	N14-Q	Vol. 7F	RB	04/13/95	--
230	N14-R	Vol. 1	N/A	N/A	1992
231	N14-S	Vol. 1	N/A	N/A	1992
232	N14-T	Vol. 7F	JS	02/14/97	--
233	TPC-A	Vol. 7F	JS	06/13/90	--
234	TPF-A	Vol. 7F	RB	12/18/95	--
235	TPF-B	Vol. 1	N/A	N/A	1992
236	TPF-C	Vol. 1	N/A	N/A	1992
237	TPF-D	Vol. 7F	RB	11/22/95	--
238	TPF-E	Vol. 7F	JS	10/09/97	--
239	TS-A	Vol. 7F	BW	12/13/91	--
240	TS-B	Vol. 7F	BW & RL	12/13/91 & 7/20/95	--
241	Transfer 23/24 HR	Vol. 7F	BW	10/29/91	--
242	WW-2	Vol. 7F	RL	10/29/99	--
243	WW-3	Vol. 7F	RL	06/24/99	--
244	WW-4	Vol. 7	JS	12/14/85	--
245	WW-5	Vol. 7F	RL	06/24/99	--
246	WW-6	Vol. 7F	RL	10/29/99	--
247	WW-9	Vol. 1	N/A	N/A	2000
248	WW-9A	Vol. 7F	RL	02/15/01	--
249	WW-9B	Vol. 7F	RL	02/15/01	--
250	WW-9C	Vol. 7F	RL	02/15/01	--
251	WW-9D	Vol. 1	N/A	N/A	2000

• Calendar year basis

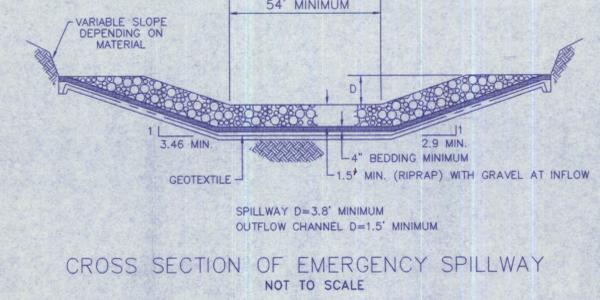
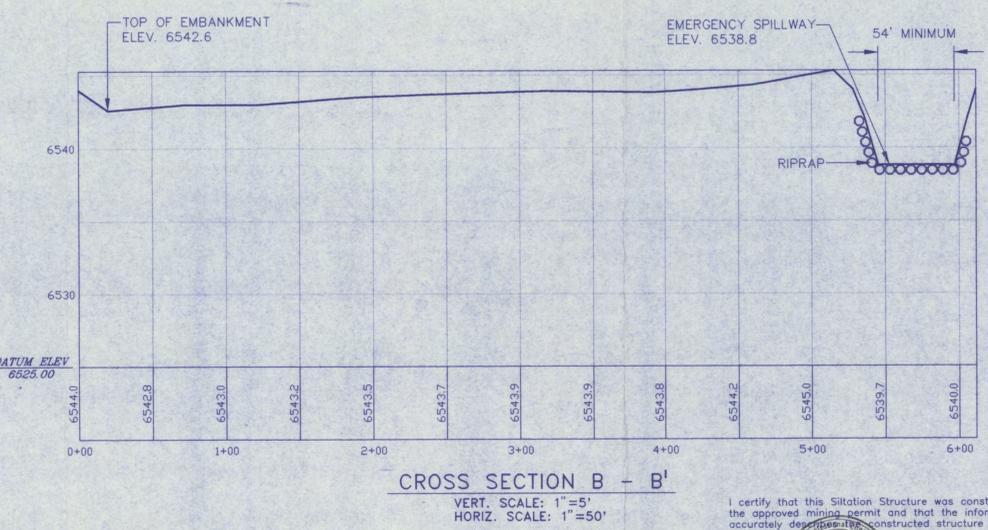
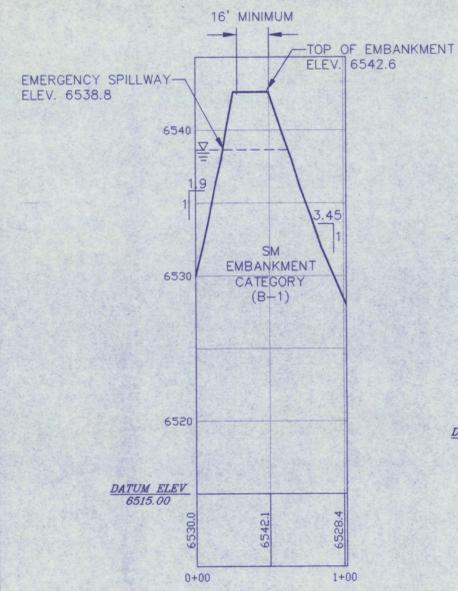
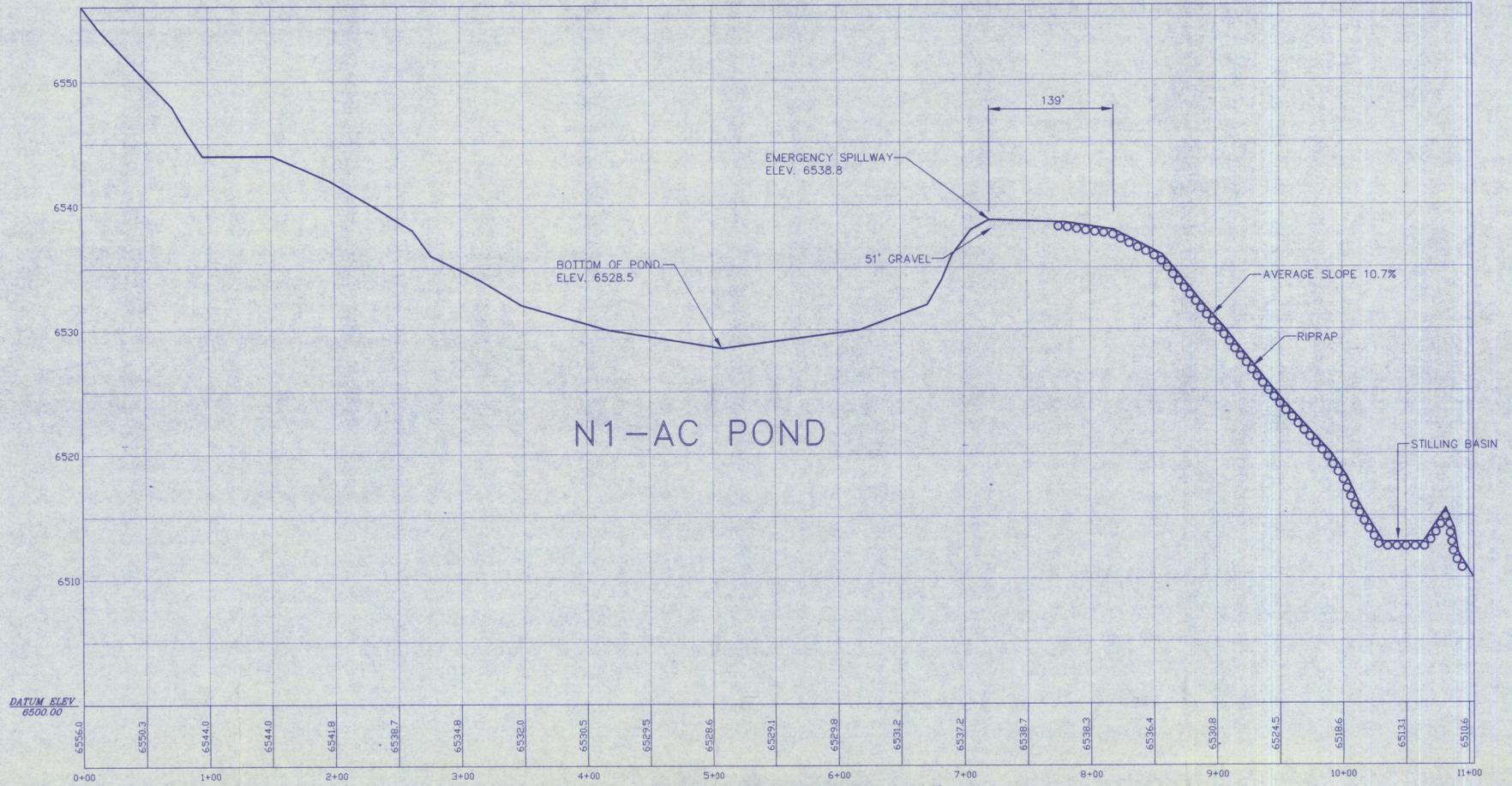
** Not applicable





N1-AC POND STAGE CAPACITY TABLE

Elevation (ft-msl)	Stage (ft)	Area (Acres)	Capacity (ac-ft)	Total Capacity (ac-ft)	Description
6528.5	0.0	0.00	0.00	0.00	Bottom of Pond
6530.0	1.5	0.61	0.45	0.45	
6532.0	3.5	1.38	1.99	2.44	
6534.0	5.5	1.87	3.26	5.70	
6536.0	7.5	2.18	4.05	9.75	
6538.0	9.5	2.44	4.61	14.36	
6538.8	10.3	2.53	1.99	16.35	Emergency Spillway
6540.0	11.5	2.66	3.11	19.46	
6542.0	13.5	2.91	5.58	25.04	
6542.6	14.1	3.27	1.86	26.90	Top of Embankment



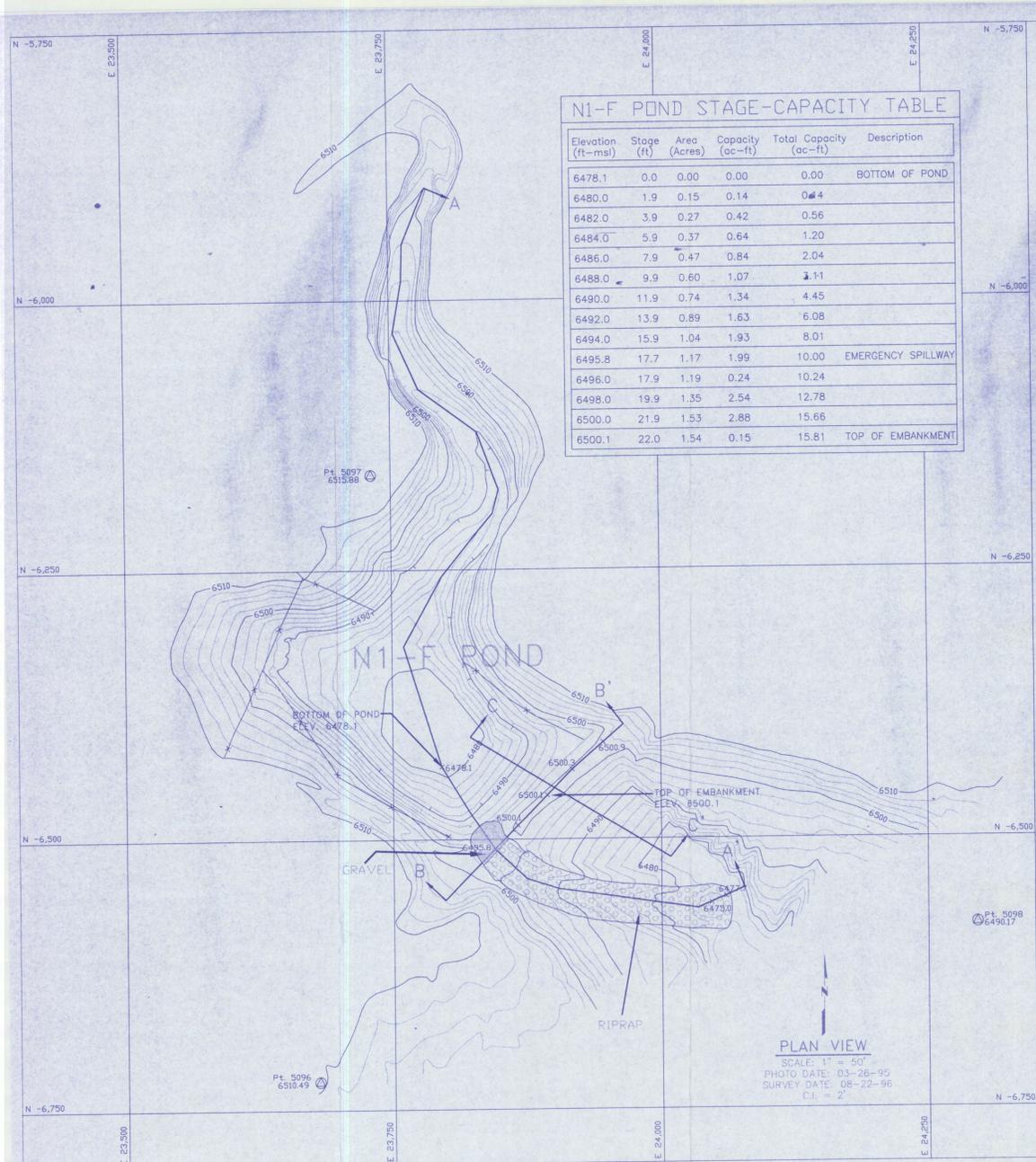
I certify that this Siltation Structure was constructed in accordance with the approved mining permit and that the information contained herein accurately describes the constructed structure to the best of my knowledge and belief.

RAYMOND W. GARDNER
 PEABODY WESTERN MINING COMPANY

ARIZONA P.E. 15264
 5/10/95
 DATE

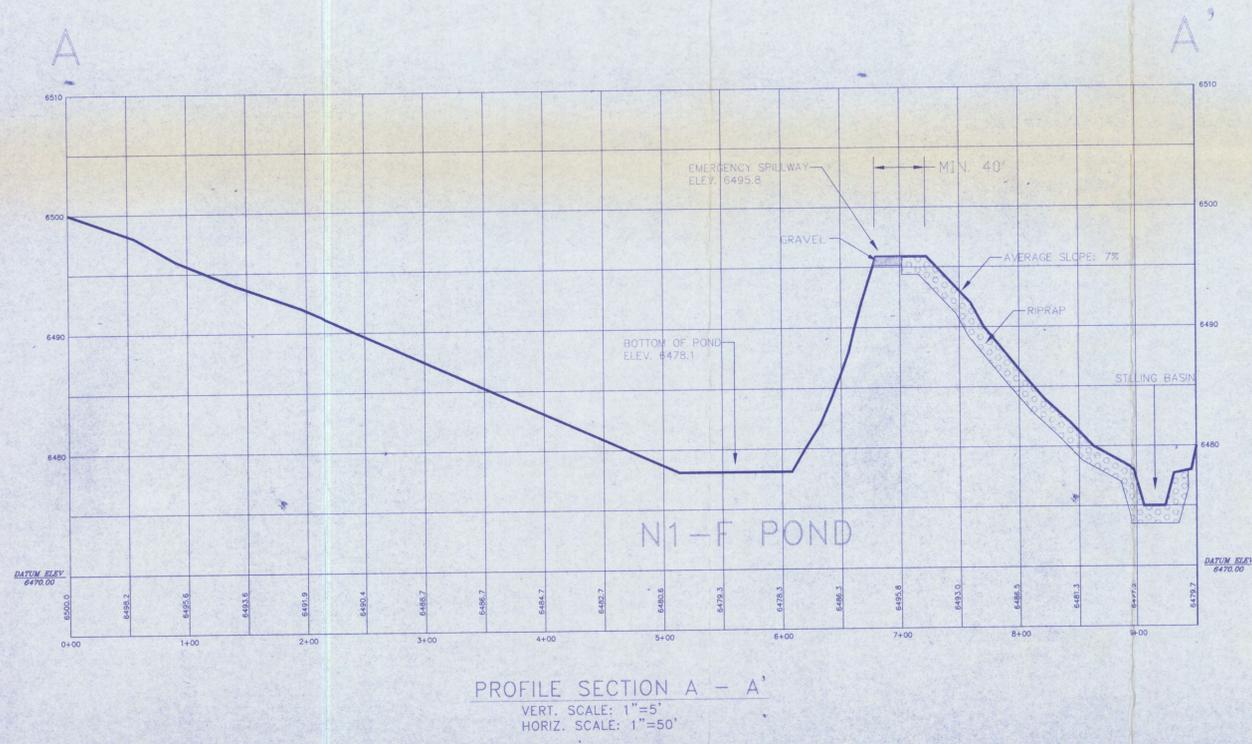
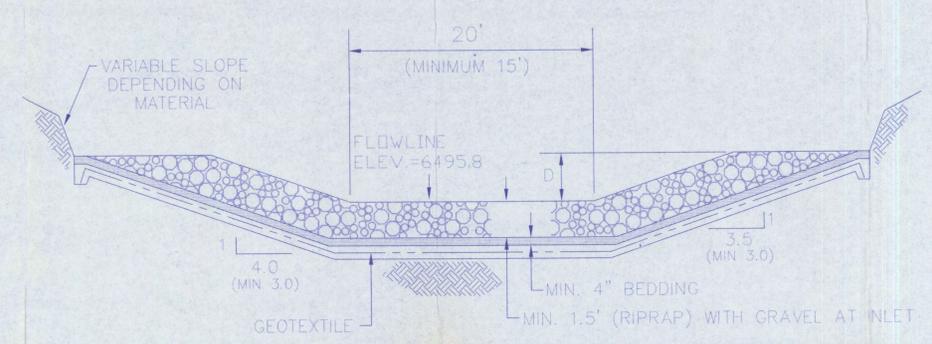
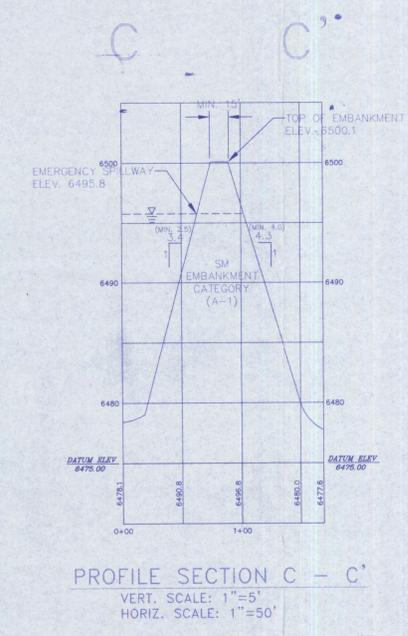
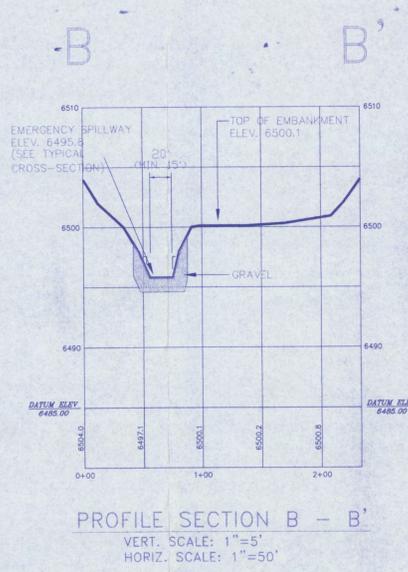
REVISIONS		N1-AC POND (AS BUILT)	
CHK'D	DATE	DESCRIPTION	

KAYENTA MINE
 PEABODY WESTERN COAL CO. 1300 S. YALE FLAGSTAFF AZ 86001
 DESIGNED BY: P.W.C.C. SCALE AS SHOWN
 DRAWN BY: E.F.D. DRAWING DATE: 05-03-95
 CHECKED BY: R.A.B. PHOTO DATE: 04-01-95
 CONTOUR INTERVAL: 2.0'



N1-F POND STAGE-CAPACITY TABLE

Elevation (ft-msl)	Stage (ft)	Area (Acres)	Capacity (ac-ft)	Total Capacity (ac-ft)	Description
6478.1	0.0	0.00	0.00	0.00	BOTTOM OF POND
6480.0	1.9	0.15	0.14	0.14	
6482.0	3.9	0.27	0.42	0.56	
6484.0	5.9	0.37	0.64	1.20	
6486.0	7.9	0.47	0.84	2.04	
6488.0	9.9	0.60	1.07	3.11	
6490.0	11.9	0.74	1.34	4.45	
6492.0	13.9	0.89	1.63	6.08	
6494.0	15.9	1.04	1.93	8.01	
6495.8	17.7	1.17	1.99	10.00	EMERGENCY SPILLWAY
6496.0	17.9	1.19	0.24	10.24	
6498.0	19.9	1.35	2.54	12.78	
6500.0	21.9	1.53	2.88	15.66	
6500.1	22.0	1.54	0.15	15.81	TOP OF EMBANKMENT



SPILLWAY D=3.5' (MINIMUM=3.1')
OUTFLOW CHANNEL D=2.8' (MINIMUM=2.0')

N1-F POND
CROSS-SECTION OF EMERGENCY SPILLWAY
NOT TO SCALE

I CERTIFY THAT THIS STRUCTURE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED MINE PERMIT AND THAT THE INFORMATION CONTAINED HEREIN ACCURATELY DESCRIBES THE CONSTRUCTED STRUCTURE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

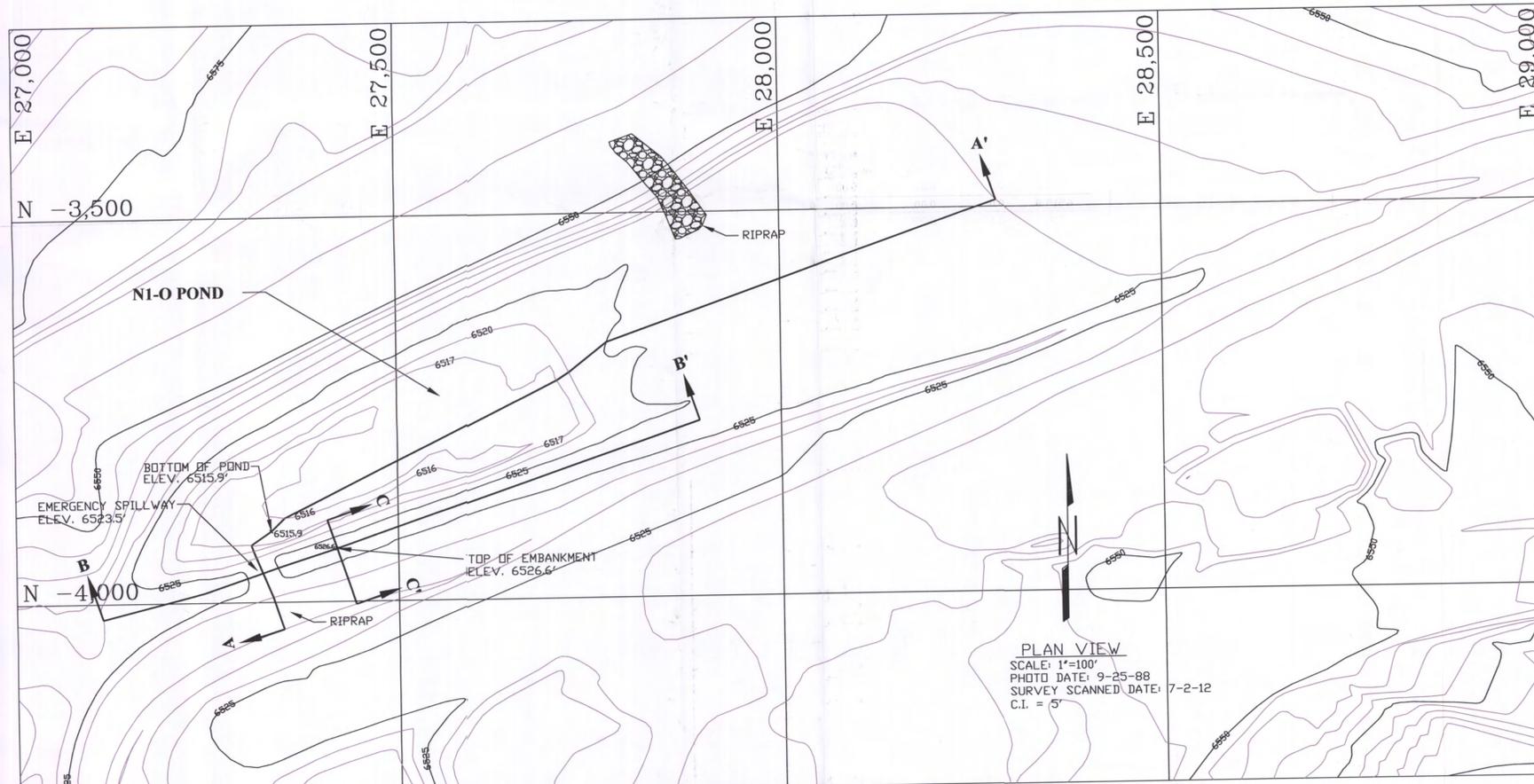


ARIZONA P.E. 18782
DATE: OCT 11 1996

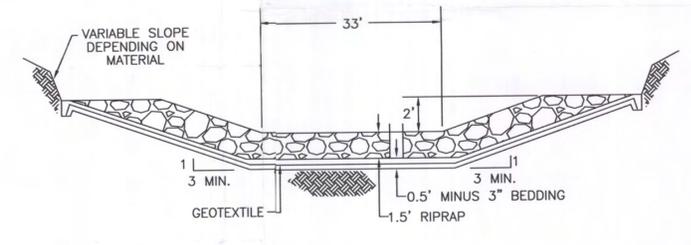
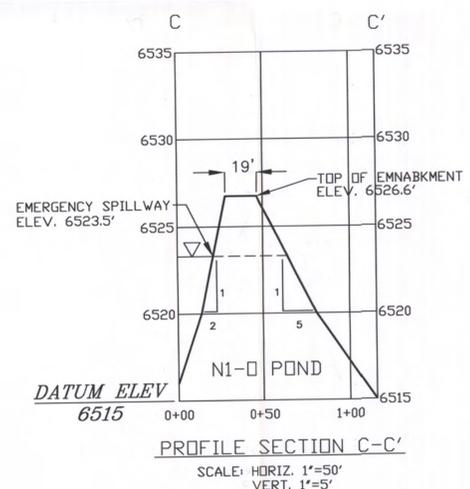
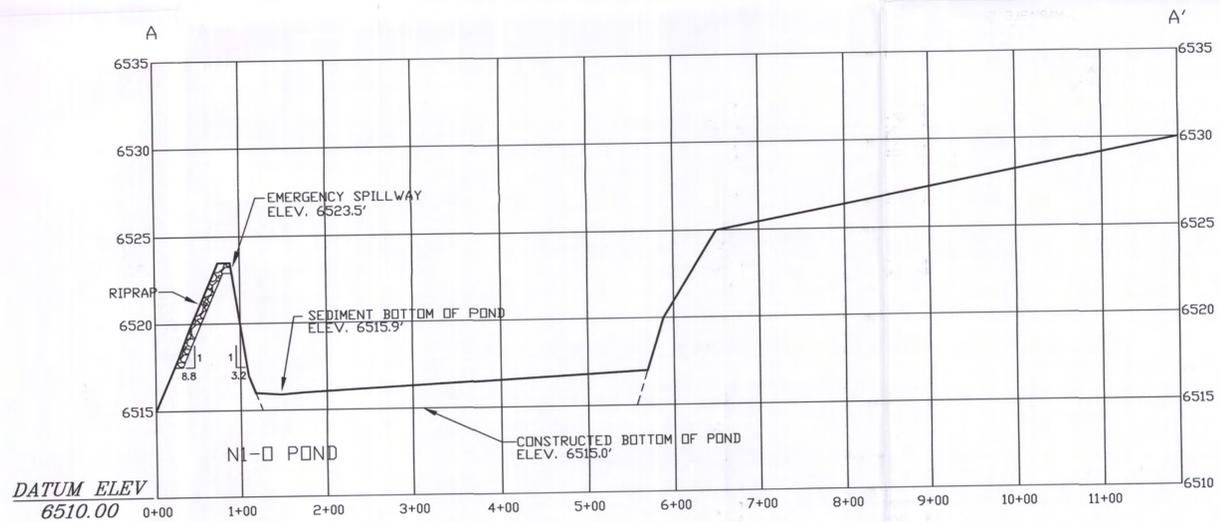
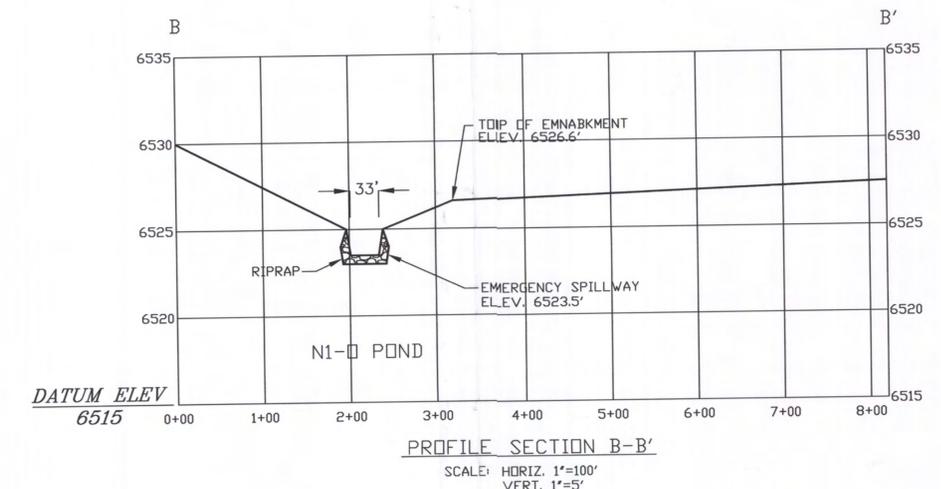
REVISIONS			N1-F POND AS-BUILT	
DATE	CHK'D	DESCRIPTION		

KAYENTA MINE
PEABODY WESTERN COAL COMPANY
1300 SOUTH YALE ST. FLAGSTAFF, ARIZONA 86001

DESIGNED BY: PWCC SCALE: AS SHOWN
DRAWN BY: SMM DRAWING DATE: 10-10-96
CHECKED BY: JGS PHOTO DATE: 3-28-95
CONTOUR INT.: 2' DWG FILE: N1-FAS-1.DWG



N1-O POND STAGE CAPACITY					
ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAPACITY (AC.-FT.)	TOTAL CAPACITY (AC.-FT.)	DESCRIPTION
6515.0	0.0	0.00	0.00	0.00	CONSTRUCTED BOTTOM OF POND
6515.9	0.0	0.00	0.00	0.00	SEDIMENT BOTTOM OF POND
6516.0	0.1	0.39	0.02	0.02	
6517.0	1.1	1.45	0.92	0.94	
6520.0	4.1	1.92	5.06	5.99	
6523.5	7.6	2.55	7.82	13.82	EMERGENCY SPILLWAY
6525.0	9.1	2.82	4.03	17.84	
6526.6	10.7	3.39	4.97	22.81	TOP OF EMBANKMENT



ENGINEER'S CERTIFICATION
 I certify that this Siltation Structure was constructed in accordance with the approved mining permit and that the information contained herein accurately describes the constructed structure to the best of my knowledge and belief.



EXPIRES: 09/30/2014
 Gary Altsisi
 Reclamation Supervisor
 Peabody Western Coal Company
 ARIZONA P.E. 37842

REVISIONS		EXHIBIT #1
CHK'D	DATE	DESCRIPTION
GA	6/13/13	REMEDIAL WORK

DESIGNED BY: G.A. SCALE: AS SHOWN
 DRAWN BY: G.A. DRAWING DATE: 6-14-13
 CHECKED BY: G.A. PHOTO DATE: 9-25-88
 CONTOUR INTERVAL: 5' DWG FILE: N1-O AS-BUILT