FAC[illegible] VILE TRANSMISSION COVER SHEET

40-8903

HOMESTAKE MINING COMPANY OF CALIFORNIA

GRANTS RECLAMATION PROJECT

P.O. BOX 98
GRANTS, NEW MEXICO 87020-0011

TELEPHONE - (505) 287-4456
FACSIMILE - (505) 287-9289

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STABILITY ANALYSIS

EVAPORATION POND #2

HOMESTAKE GRANTS PROJECT

Revised 9/1/94

CALCULATION METHOD: Simplified Bishop

COMPUTER CODE: STABL5

CONDITIONS ANALYZED:

A) South Dike

1) Highest cross-section (Dike on southwest side)

2) Pond level at maximum pool of elevation 6580

3) Phreatic surface in dike assumed to extend at elevation 6580 horizontally through dike to outslope surface, then along outslope to toe then along ground surface (fully saturated dike and foundation - very conservative)

4) Earthquake peak acceleration of 0.1g

5) Natural soil (foundation) and dike fill properties based on SPT blow counts of test borings EP2-1 through EP2-6, and all strength attributed to internal friction of soil (cohesion ignored - conservative).

B) East Slope of EP2 through West Slope of EP1

1) EP2 empty, EP1 at full pool (water surface at 6597.1). Maximum driving vs resisting forces.

2) Phreatic surface extends from EP1 pool to upslope edge of EP2 crest bench, then along ground surface of EP2 slope and pond bottom (fully saturated EP2 slope - conservative)

3) Earthquake peak acceleration of 0.1g

4) Natural soil (foundation) and dike fill properties based on SPT blow counts of test borings EP2-1 through EP2-6, and tailings properties based on

field density records from EP1 construction QC (contained in Completion Report). All strength attributed to internal friction of soil (cohesion ignored - conservative).

RESULTS:

A) South Dike

1) Minimum factor of safety under pseudostatic load conditions: 1.01

2) Minimum factor of safety under static load conditions: 1.53

B) East Slope

1) Minimum factor of safety under pseudostatic load conditions: 1.03

2) Minimum factor of safety under static load conditions: 1.92

References for selection of friction angle:

Terzaghi and Peck, 1967; Soil Mechanics in Engineering Practice, John Wiley & Sons

U.S. Navy, Naval Facilities Engineering Command, 1971; Design Manual NAVFAC DM-7; Soil Mechanics, Foundations, and Earth Structures

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer's Method of Slices

PROBLEM DESCRIPTION HMC EVAPORATION POND #2 WORST CASE - South Side Static - Revised 9/1/94

BOUNDARY COORDINATES

6 Top Boundaries
7 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	63.50	40.00	61.50	2
2	40.00	63.50	95.50	82.00	1
3	95.50	82.00	110.50	82.00	1
4	110.50	82.00	165.00	64.00	1
5	165.00	64.00	182.80	57.90	2
6	182.80	57.90	200.00	57.80	2
7	40.00	63.50	185.00	64.00	2

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	126.0	134.0	.0	33.0	.00	.0	1
2	115.0	125.0	.0	30.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	63.50
2	40.00	63.50
3	116.50	80.00
4	200.00	80.00

A Horizontal Earthquake Loading Coefficient Of .000 Has Been Assigned

A Vertical Earthquake Loading Coefficient Of .000 Has Been Assigned

Cavitation Pressure = .0 psf

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

4 Surfaces Initiate From Each Of 25 Points Equally Spaced Along The Ground Surface Between X = 20.00 ft. and X = 70.00 ft.

Each Surface Terminates Between X = 95.50 ft. and X = 130.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 50.00 ft.

4.00 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -45.0 And 20.0 deg.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 19 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	38.75	63.50
2	42.52	62.15
3	46.38	61.10
4	50.31	60.36
5	54.28	59.94
6	58.28	59.83
7	62.29	60.04
8	66.31	60.57
9	70.31	61.42
10	74.29	62.58
11	78.24	64.05
12	82.14	65.82
13	85.97	67.88
14	89.70	70.21
15	93.32	72.81
16	96.81	75.65
17	98.68	78.24
18	99.09	81.83
19	99.38	82.00

Circle Center At X = 57.6 ; Y = 110.2 and Radius, 50.4

*** 1.529 ***

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer's Method of Slices

PROBLEM DESCRIPTION HMC EVAPORATION POND #2 WORST CASE - South Side
Pseudostatic - Revised 9/1/94

BOUNDARY COORDINATES

6 Top Boundaries
7 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	63.50	40.00	63.50	2
2	40.00	63.50	95.50	82.00	1
3	95.50	82.00	110.50	82.00	1
4	110.50	82.00	165.00	64.00	1
5	165.00	64.00	182.80	57.80	2
6	182.80	57.90	200.00	57.80	2
7	40.00	63.50	165.00	64.00	2

ISOTROPIC SOIL PARAMETERS

2 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	126.0	134.0	.0	33.0	.00	.0	1
2	115.0	125.0	.0	30.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 4 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	63.50
2	40.00	63.50
3	116.50	80.00
4	200.00	80.00

A Horizontal Earthquake Loading Coefficient
Of .100 Has Been Assigned

A Vertical Earthquake Loading Coefficient
Of .100 Has Been Assigned

Cavitation Pressure = .0 psf

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

4 Surfaces Initiate From Each Of 25 Points Equally Spaced Along The Ground Surface Between X = 20.00 ft. and X = 70.00 ft.

Each Surface Terminates Between X = 95.50 ft. and X = 130.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 50.00 ft.

4.00 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -45.0 And 20.0 deg.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

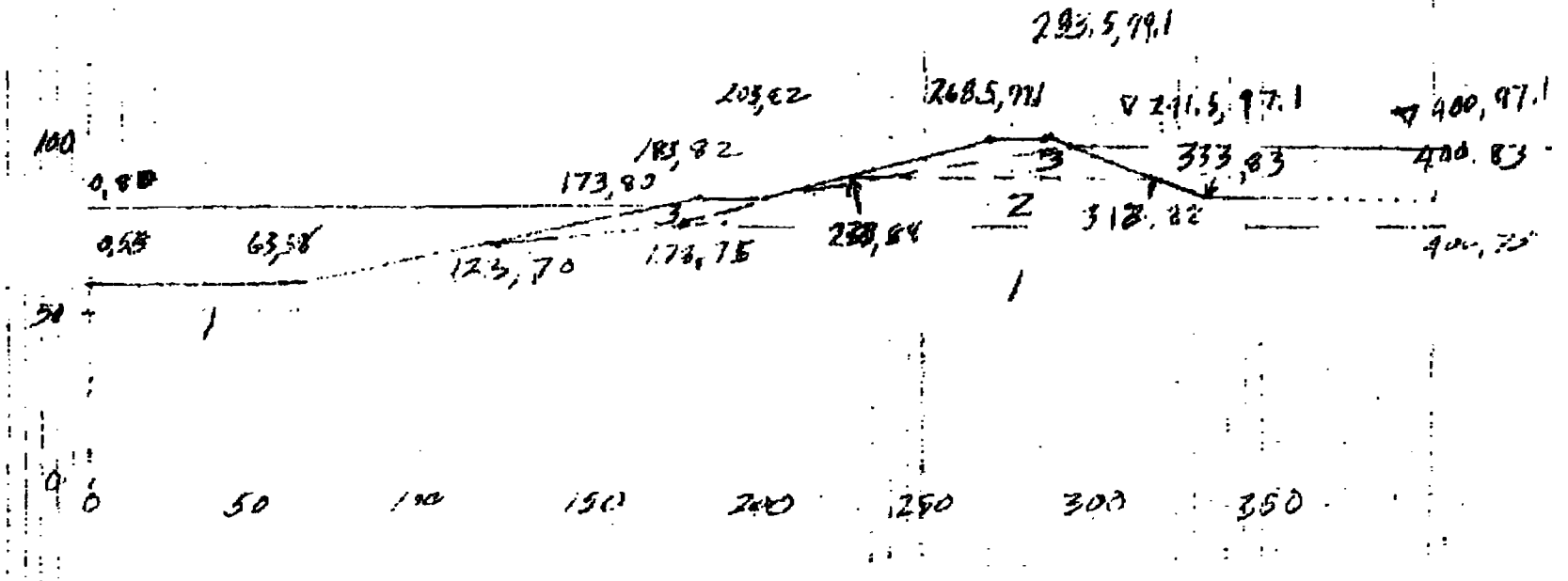
* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 25 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	22.08	63.50
2	25.76	61.58
3	29.56	60.65
4	33.40	60.54
5	37.25	60.63
6	41.11	60.94
7	44.96	61.46
8	48.82	62.20
9	52.67	63.16
10	56.52	64.34
11	60.37	65.73
12	64.22	67.33
13	68.07	69.14
14	71.92	71.17
15	75.77	73.40
16	79.62	75.85
17	83.47	78.50
18	87.32	81.36
19	91.17	84.43
20	95.02	87.70
21	97.64	90.55
22	100.71	94.51
23	103.64	98.23
24	106.42	101.11
25	107.19	102.00

Circle Center At X = 52.0 ; Y = 130.9 and Radius, 73.7

*** 1.007 ***



EAST SLOPE EP 2
AND WEST SLOPE EP 1

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer's Method of Slices

PROBLEM DESCRIPTION HMC EP2 EAST SLOPE - WORST CASE
STATIC CONDITIONS

9/1/94

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	58.00	63.00	58.00	1
2	63.00	58.00	123.00	70.00	1
3	123.00	70.00	183.00	82.00	1
4	183.00	82.00	203.00	82.00	1
5	203.00	82.00	263.00	94.00	1
6	263.00	94.00	291.50	97.10	1
7	291.50	97.10	351.00	97.10	1
8	351.00	97.10	400.00	85.00	1
9	400.00	85.00	403.00	85.00	2
10	403.00	85.00	423.00	85.00	3
11	423.00	85.00	703.00	75.00	3
12	703.00	75.00	753.00	75.00	3
13	753.00	75.00	778.00	75.00	3
14	778.00	75.00	400.00	75.00	1

ISOTROPIC SOIL PARAMETERS

3 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	116.0	125.0	.0	32.0	.00	.0	1
2	121.0	130.0	.0	36.0	.00	.0	1
3	126.0	134.0	.0	33.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 6 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	58.00
2	63.00	58.00
3	183.00	82.00
4	203.00	82.00
5	291.50	97.10
6	400.00	97.10

A Horizontal Earthquake Loading Coefficient
Of .000 Has Been Assigned

A Vertical Earthquake Loading Coefficient
Of .000 Has Been Assigned

Cavitation Pressure = .0 psf

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

4 Surfaces Initiate From Each Of 25 Points Equally Spaced Along The Ground Surface Between X = .00 ft. and X = 150.00 ft.

Each Surface Terminates Between X = 268.50 ft. and X = 333.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 30.00 ft.

20.00 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -45.0 And 10.0 deg.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 13 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	56.25	58.00
2	74.31	57.06
3	96.23	56.94
4	116.22	57.64
5	136.16	59.17
6	156.02	61.51
7	175.77	64.67
8	195.37	68.64
9	214.79	73.42
10	234.00	78.98
11	252.97	85.34
12	271.65	92.47
13	285.42	98.38

Circle Center At X = 89.1 ; Y = 542.9 and Radius, 486.0

*** 1.919 ***

A Critical Failure Surface Searching Method, Using A Random Technique For Generating Circular Surfaces, Has Been Specified.

100 Trial Surfaces Have Been Generated.

4 Surfaces Initiate From Each Of 25 Points Equally Spaced Along The Ground Surface Between X = .00 ft. and X = 150.00 ft.

Each Surface Terminates Between X = 268.50 ft. and X = 333.00 ft.

Unless Further Limitations Were Imposed, The Minimum Elevation At Which A Surface Extends Is Y = 30.00 ft.

20.00 ft. Line Segments Define Each Trial Failure Surface.

Restrictions Have Been Imposed Upon The Angle Of Initiation. The Angle Has Been Restricted Between The Angles Of -45.0 And 10.0 deg.

Following Are Displayed The Ten Most Critical Of The Trial Failure Surfaces Examined. They Are Ordered - Most Critical First.

* * Safety Factors Are Calculated By The Modified Bishop Method * *

Failure Surface Specified By 12 Coordinate Points

Point No.	X-Surf (ft)	Y-Surf (ft)
1	75.00	60.40
2	94.67	58.78
3	114.56	56.68
4	134.55	54.10
5	154.53	51.06
6	174.37	47.54
7	193.97	43.57
8	213.21	39.15
9	231.97	34.30
10	250.14	29.03
11	267.62	23.36
12	278.35	20.00

Circle Center At X = 132.1 ; Y = 315.4 and Radius, 261.3

*** 1.035 ***

--Slope Stability Analysis--
Simplified Janbu, Simplified Bishop
or Spencer's Method of Slices

PROBLEM DESCRIPTION HMC EP2 EAST SLOPE - WORST CASE 9/1/94
PSEUDOSTATIC CONDITIONS

BOUNDARY COORDINATES

10 Top Boundaries
14 Total Boundaries

Boundary No.	X-Left (ft)	Y-Left (ft)	X-Right (ft)	Y-Right (ft)	Soil Type Below Bnd
1	.00	58.00	63.00	58.00	1
2	63.00	58.00	123.00	70.00	1
3	123.00	70.00	183.00	82.00	1
4	183.00	82.00	203.00	82.00	3
5	203.00	82.00	233.00	88.00	3
6	233.00	88.00	268.50	99.10	2
7	268.50	99.10	283.50	99.10	2
8	283.50	99.10	313.00	88.00	3
9	313.00	88.00	333.00	83.00	3
10	333.00	83.00	400.00	83.00	2
11	333.00	70.00	178.00	75.00	1
12	178.00	75.00	203.00	82.00	2
13	233.00	88.00	313.00	88.00	2
14	178.00	75.00	400.00	75.00	1

ISOTROPIC SOIL PARAMETERS

3 Type(s) of Soil

Soil Type No.	Total Unit Wt. (pcf)	Saturated Unit Wt. (pcf)	Cohesion Intercept (psf)	Friction Angle (deg)	Pore Pressure Param.	Pressure Constant (psf)	Piez. Surface No.
1	115.0	125.0	.0	32.0	.00	.0	1
2	124.0	130.0	.0	36.0	.00	.0	1
3	126.0	134.0	.0	33.0	.00	.0	1

1 PIEZOMETRIC SURFACE(S) HAVE BEEN SPECIFIED

Unit Weight of Water = 62.40

Piezometric Surface No. 1 Specified by 6 Coordinate Points

Point No.	X-Water (ft)	Y-Water (ft)
1	.00	58.00
2	63.00	58.00
3	183.00	82.00
4	203.00	82.00
5	291.50	97.10
6	400.00	97.10

A Horizontal Earthquake Loading Coefficient
Of .100 Has Been Assigned

A Vertical Earthquake Loading Coefficient
Of .100 Has Been Assigned

Cavitation Pressure = .0 psf

TEST BORING PROGRAM FOR TEST BORINGS
EVAPORATION POND #2 AREA
HOMESTAKE GRANTS PROJECT

COORDINATES AND DEPTHS

Boring #	Northing	Easting	Drill to:
EP2-1	1541765.7	490551.0	25 ft.
EP2-2	1541596.3	490782.0	25
EP2-3	1542075.3	490668.0	40
EP2-4	1541975.7	491016.0	40
EP2-5	1542370.0	490785.0	25
EP2-6	1542355.0	491250.0	25

SAMPLING AND TESTING

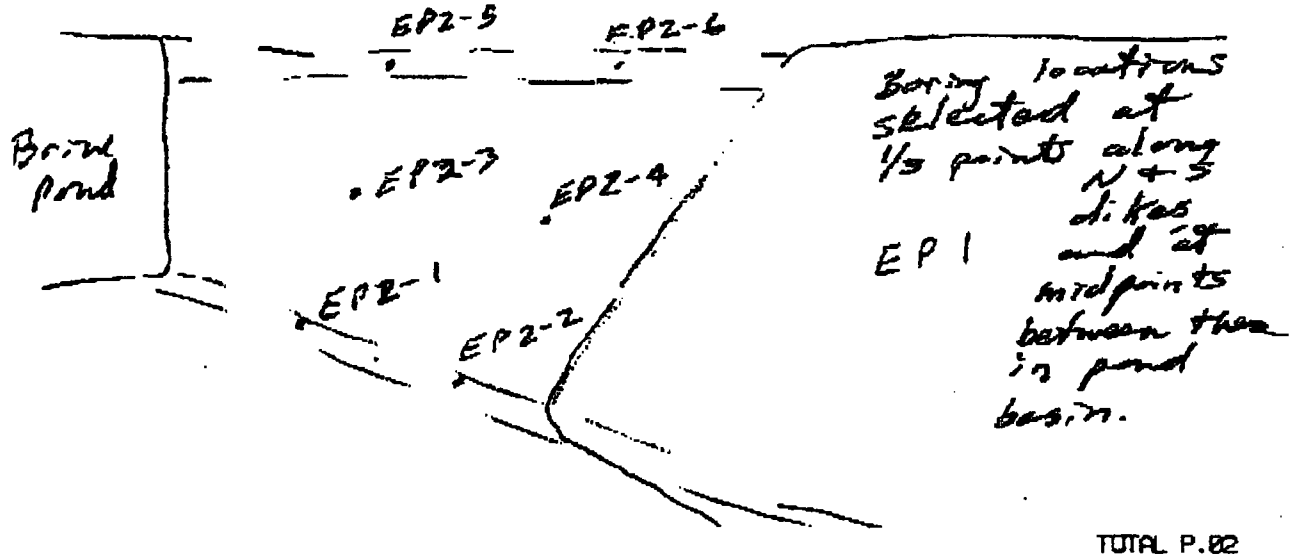
Drill to total depth with 4.0 in. hollow stem auger, taking SPT,s with split spoon samples at 2.0 ft, 5.0 ft and at intervals of not more than 5.0 to total depth.

Preserve samples for USCS soil classification

Record blow counts for each 6.0 in interval for 18.0 in. sampler drive.

Record moisture condition of sample upon removal from sampler, and saturation where encountered.

Record each log on standard log form approved by Homestake.



SW

V & A

LOG OF TEST HOLE NO. EPZ-1

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: _____ Date Drilled: 8/26/94

Depth to Groundwater not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
0	(12) 4/6/6	S				SP-SM	Sand, slightly silty, fine to medium grained, poorly graded, medium dense, moist, tan to brown
5	(13) 4/6/7	S					medium
10	(17) 5/8/9	S					
15	(15) 6/7/8	S				SC	Sand, clayey to very clayey, fine grained, medium dense, moist, red-brown
20	(13) 6/6/7	S					wet, thin clay lenses
25	(22) 5/9/13	S					BOH @ 26½
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

SE

V & A

LOG OF TEST HOLE NO. EPZ-2

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: _____ Date Drilled: 8/25/94

Depth to Groundwater: not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
		B				SM	Sand, silty, fine to medium grained, poorly graded, medium dense, slightly moist, brown
		B					clayey lens, dark brown
5	(21) 13/13/8	S					silty
10	(26) 15/10/16	S					clay lens, medium moist brown
							clay lens
15	(37) 10/16/16	S					dense very thin clay lens, red-brown, moist
20	(24) 8/11/13	S					clayey lenses
25	(22) 9/11/11	S					brown
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

W, Center

V & A

LOG OF TEST HOLE NO. EP 2-3

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: nk Date Drilled: 8/26/94

Depth to Groundwater: ~~not encountered~~ ± 40' Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
	(19) 2/2/11	S				SM	Sand, silty, fine grained, slightly moist, brown
							Clay lens, medium moist, dark brown
							Sand, silty, fine to medium grained, poorly graded, medium moist, tan to light grey to slightly silty
5	(17) 5/7/10	S					
	(20) 7/9/11	S					
10							
							clay lens, moist, brown
							Sand, silty, fine to medium grained moist, brown
15	(22) 5/9/13	S				CL	Clay, very sandy, fine grained, very stiff moist, red-brown
20	(20) 6/9/11	S				SC	Sand, very clayey to clayey, fine to medium grained, poorly graded, medium dense, moist red-brown
	(26) 9/11/15	S					very thin clay lens
25							Clayey to silty Sand
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

W. Central

V & A

LOG OF TEST HOLE NO. EPZ-3 Cont

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: _____ Date Drilled: 8/26/94

Depth to Groundwater: ~~not encountered~~ @ ± 40' Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
	9/11/10 (21)	S				SM	Sand, silty, fine to medium grained, poorly grad medium dense, moist, red brown thin basalt gravel lens. clayey lenses
35	(25) 9/12/13	S					very thin clay lens
40	(33) 14/17/16	S					wet, very thin gravelly lenses
45							BOH @ 41½'
50							
55							
60							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

E. Center

V & A

LOG OF TEST HOLE NO. EPZ-4

Project: Homestake Evaporation Project No. 94-1-

Elevation Top of Test Hole: ____ Date Drilled: 8/25/94

Depth to Groundwater not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
		B				SM	Sand, silty, fine to medium grained, poorly graded, dense, medium moist, brown
	(71)	B				SC	Clayey, dark grey brown, medium moist
5	25/31/40	S				SM	Silty, light grey, slightly moist
		B				SC	Clayey, light brown
10	(56)						
	22/28/28	S				SM	Silty, slightly moist, light brown
	(16)						
15	9/8/8	S					
	(37)					SC	Sand, very clayey, fine grained, poorly graded, dense, medium moist brown
20	8/17/20	S				SM	Sand, silty, fine to medium grained, poorly graded, red-brown
		B				CL	Clay, very sandy, fine grained, stiff, moist, red brown
	(21)						
25	7/11/10	S				SM	Sand, silty to very silty, fine grained, poorly graded, medium dense, moist, red-brown
						CL	Clay, as above
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure ____

E. center

V & A

LOG OF TEST HOLE NO. EPZ-4 Cont.

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole. _____ Date Drilled: 8/25/94

Depth to Groundwater: not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
35	9/12/9 (21) 9/12/18 (30)	S S				SM	Sand, silty, fine to medium grained, poorly graded, medium dense, moist, brown Clay lenses
40	8/8/12 (20)	S				CL	Clay, very sandy, fine to coarse grained trace fine gravel, very stiff, very moist brown
45							BOH @ 41½'
50							
55							
60							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

N.W.

V & A

LOG OF TEST HOLE NO. EPZ-5

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: _____ Date Drilled: 8/26/94

Depth to Groundwater: not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
	(28) 7/14/16	S				SM	Sand, very silty, fine to medium grained, poorly graded, medium dense, slightly moist brown
							silty
							clay lens, thin, dark brown
5	(18) 11/10/8	S					light gray, slightly moist
10	(38) 9/15/23	S					dense
							silty to slightly silty, tan
15	(30) 11/19/16	S					
20	(24) 12/11/13	S					
							medium dense
						CL	Clay, very sandy, fine grained, very stiff, moist, red-brown
25	(23) 9/10/13	S					
							BOH @ 26½
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____

N.E.

V & A

LOG OF TEST HOLE NO. EPZ-6

Project: Homestake Evaporation Pond II Project No. 94-1-

Elevation - Top of Test Hole: _____ Date Drilled: 8/25/94

Depth to Groundwater: not encountered Drilling Method: 6" HSA

Depth, feet	Blows/Foot	Sample Type	Dry Density pcf	Water Content, %	Additional Testing	Unified Classification	Material Description
		B				SM	Sand, silty, fine to medium grained, poorly graded, dense, slightly moist, brown
	(45)	B				CL	Clay, very sandy, fine grained, hard, medium moist, brown
5	15/23/22	B					dark gray
		S				SM	Sand, silty, fine to medium grained, poorly graded, dense, slightly moist, light brown
	(31)						
10	12/16/15	S					
	(41)						
15	7/18/23	S					very thin clay lens
	(13)						
20	4/6/7	S				CL	Clay, very sandy, fine grained, stiff moist, red-brown
	(28)						
25	9/14/14	S					
							BOH @ 26½
30							

1 = Sieve Analysis 2 = Atterberg Limits 3 = Direct Shear 4 = R-Value 5 = Other

Figure _____