Many thanks

D.D.H. GEOMANAGEMENT LTD.

D.A. (Dave) HOWARD, M.SC. P.ENG
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0120 0048

MNG

ITEM 82

Harding Lawson Associates

HLA

November 10, 1981

7675,001.05

Welton, Candy & Associates
P.O. Box 6186
Long Beach, California 90806

Attention: Mr. Peter Candy

Gentlemen:

Hawthorne Leach Pad Study
Hawthorne, Nevada

This letter reports the results of our soil investigation of five ore leach pads and two ore stockpiles near Hawthorne, Nevada. The sites are located within a forty-one mile radius of Hawthorne.

The purpose of our investigation as outlined in our proposal dated October 14, 1981 and subsequently authorized October 19, 1981, was to determine material tonnages of the leach pads. In addition, two stockpiles were investigated to determine their tonnages.

Our soils engineer and engineering technician performed the field investigation from October 20 through October 25, 1981. The leach pads and stockpiles were measured using surveying equipment, to determine volumes. The surface and subsurface conditions were explored using sand cone equipment and by hand driving tubes, respectively, to determine in-situ densities. Undisturbed samples were obtained for laboratory dry density and moisture content determinations.

Based on the results of our investigation, we calculated the volumes and the material tonnages to be as follows:

SITE	VOLUME, yds3	TONNAGES, tons
Palmico Leach Pad	2080	3340
Palmico Stockpile (Located SW of the leach pad)	2110	3450
Lake View Leach Pad	3110	4830
Rawhide Leach Pad	6070	8690
Dead Horse Leach Pad	2510	4370
Cory Mill Leach Pad	2490	3400
Cory Mill Stockpile (Located South of the leach pad)	700	930

The tonnages are based on the average dry density of the materials encountered, as determined from the sand cone and laboratory testing. We believe the tonnage values are within plus or minus ten percent.

We trust this provides the information you require at this time. We are transmitting copies of our Boring Logs and Site Plans to Mr. Mac Forbes for his use. If you have any questions or need additional information please contact either of the undersigned.

Yours very truly,

HARDING LAWSON ASSOICATES

Stuart E. Dykins

Stuart E. Dykins
Engineer

James E. Nichols

James E. Nichols
Civil Engineer - 4675

SED/JEN/cj
cc: Mr. Mac Forbes

Harding Lawson Associates

Transmittal/Memorandum

HLA

To: Mr. Mac Forbes
2275 Mueller Drive
Reno, Nevada

From: Stuart Dykins
Date: November 11, 1981
Subject: Hawthorne Leach Pad Study
Job No.: 7675,001.05

Remarks:

At your request, please find enclosed copies of our Boring Logs and Boring Location Sketches for the Hawthorne Leach Pad Study.

If you need additional information please do not hesitate to call.

SED

cc:

Engineers
Geologists &
Geophysicists

940 Matley Ln.
Reno
Nevada 89502

Telephone
702/329-6123

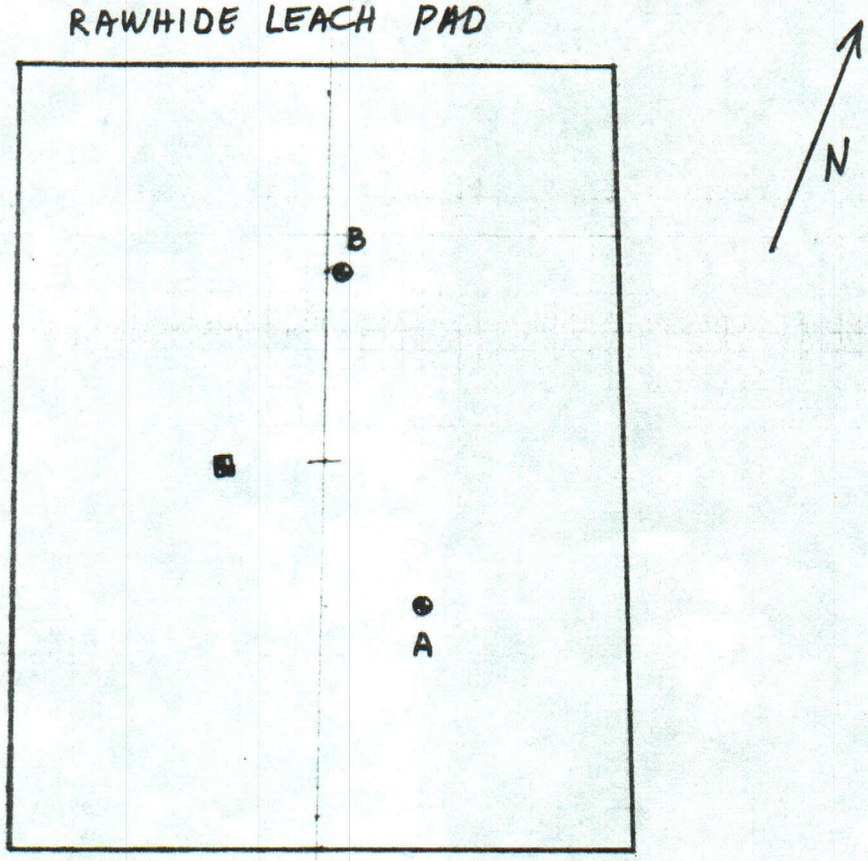
Alaska
California
Colorado

Hawaii
Illinois
Nevada

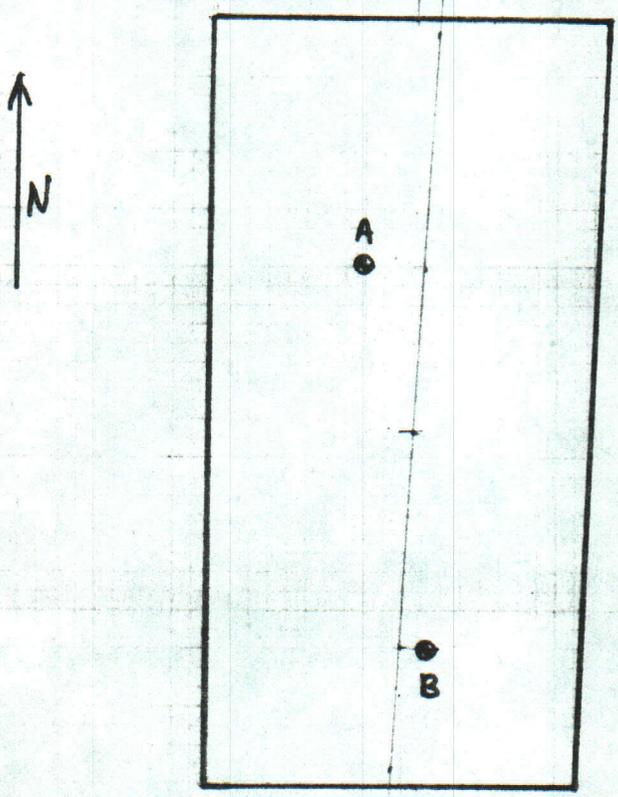
Texas
Washington
Saudi Arabia

RF1

RAWHIDE LEACH PAD



DEAD HORSE LEACH PAD



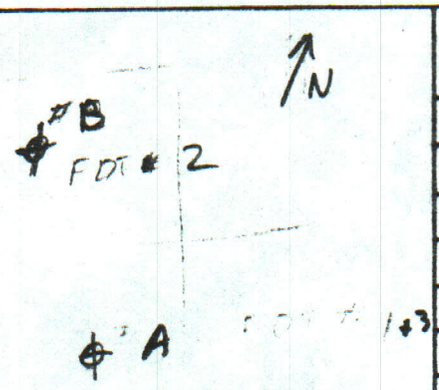
Scale : 1" = 40'
(approximate)

HARDING-LAWSON ASSOCIATES *Consulting Engineers and Geologists*	LOCATION of BORINGS + SAND CONES Hawthorne Leach Pile Hawthorne, Nevada	PLATE 2
Job No. 7675,001.05 Appr: Date 11/10/81		

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: Hawthorne Leach Piles	BORING NO. A
	TOTAL DEPTH: 8 ft
JOB NO.: 7675,001	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME: Stu + Gary	
SAMPLING METHODS: SH	
HAMMER WT.: 32 #	DROP: Varies
STARTED, TIME: 1145	DATE: 10/22/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moist %	MD	Moist %	DEPTH IN FEET	GRAPHIC LOG	
0 6	SH		19"	19"	G		105 (1)	11.0	95	12.9			Light Brn Clayey Sandy Gravel (GP), moist to wet
1 2													
											2		
2 7	SH		19"	6"	G		108 (3)	(11.6)	110	11.5 3			Driving moderately hard
											4		
											5		
											6		
6 3	SH		18"	6"									Brn Sandy Gravel (GP), sat
7 2	SH		18"	6"						96	6.8 7		Driving become easier @ 6 ft
											8		E.O.H @ 8 ft.
											9		
											10		

FIELD LOG OF BORING

SHEET 2 OF 2

LOCATION OF BORING: Rawhide

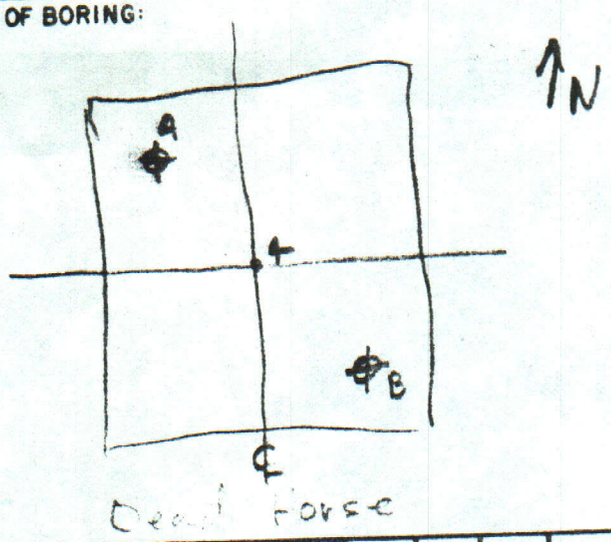
PROJECT: Hawthorne Leach Piles	BORING NO. B
	TOTAL DEPTH: 8'
JOB NO.: 7675,001.05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME: Stu - Gary	
SAMPLING METHODS: S & H	
HAMMER WT.: 32 #	DROP: Varies
STARTED, TIME:	DATE: 10/22/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moist, %	Moist	DEPTH IN FEET	GRAPHIC LOG	
0'	S&H		20"	12"	G		106 (2)	7.6				Lt. Brn Clayey Sandy Gravel (GP), sat
1'					G				114	10.1		Driving Difficult
2'	S&H		18"	6"	G							
												Gray - Brn. Gravel (GP) with sand, sat, dense
3' 4'	S&H		16"	14"	G				108	2.8		Driving Very Difficult @ 3'
												Lost Sampler @ 7' (could not retrieve)
												E.O.H. @ 8'

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:



PROJECT: Lewisburg Levee Piles	BORING NO. A
	TOTAL DEPTH: 5.5
JOB NO.: 7675.001	LOGGED BY: SEO
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S+H	
HAMMER WT.: 32 lbs.	DROP: Varies
STARTED, TIME: 830	DATE: 10/24/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

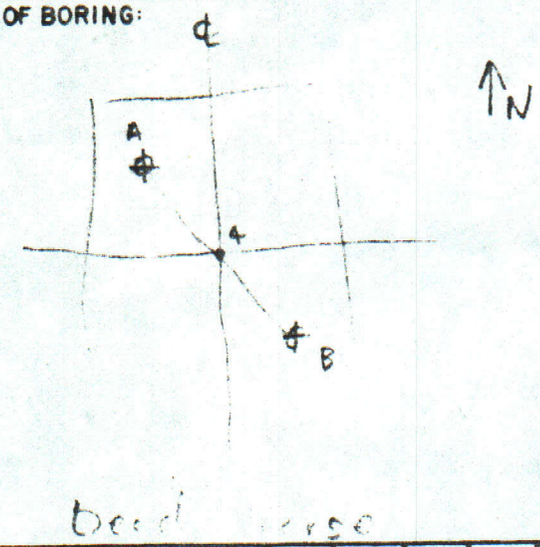
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PDT, pcf (No)	MOIST.		DEPTH IN FEET	GRAPHIC LOG	
							130 (1)	8.5				Brn Gravelly Sand (SP) with clay, dense, sat
							133 (4)	9.1		1		
									132	3.6 2		
1 4 2 4	S+H		18"	18"								Driving Difficult
3 1 3 7	S+H		15"	15"					124	5.7 3		
										4		
										5		Lost Sample during sample withdrawing from hole
												E.O.H. @ 5.5
										6		
										7		
										8		
										9		
										10		

Dead Force

FIELD LOG OF BORING

SHEET 2 OF 2

LOCATION OF BORING:



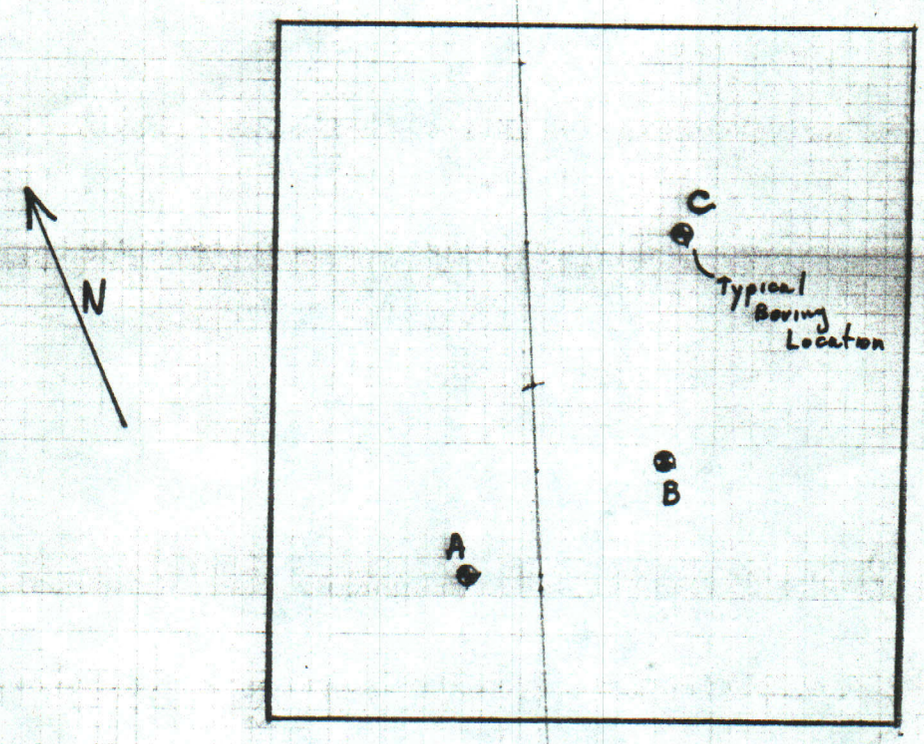
Beed [illegible]

PROJECT: Hawthorne Lench Pilot	BORING NO. B
	TOTAL DEPTH: 52
JOB NO.: 7675,001.05	LOGGED BY: [illegible]
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S+H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME: 730	DATE: 10/14/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

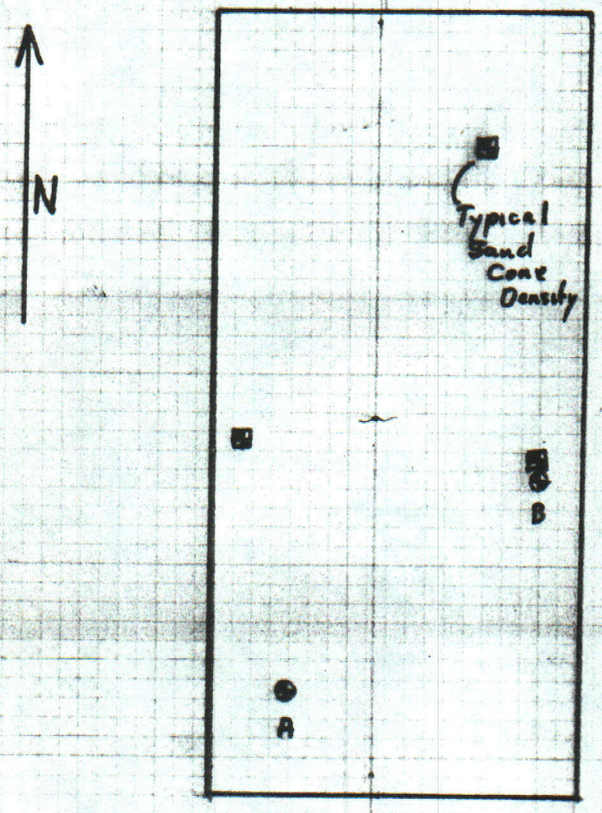
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No)	Moisty, MC	Moist	DEPTH IN FEET	GRAPHIC LOG	
							132 (2)	7.7				Brn Gravelly Sand (SP) with clay, dense, sat
							130 (3)	8.7		1		
										2		Driving moderately hard
2 0/2 3	S+H		18"	18"								
3 8	S+H		14"							3		
									121	3.4 4		
4 7/5 2	S+H		17"	17"								
									113	5.3 5		
										6		E.O.H.C 5.7 Difficulty in withdrawing sampler.
										7		
										8		
										9		
										10		

RF1

PALMICO LEACH PAD



LAKE VIEW LEACH PAD



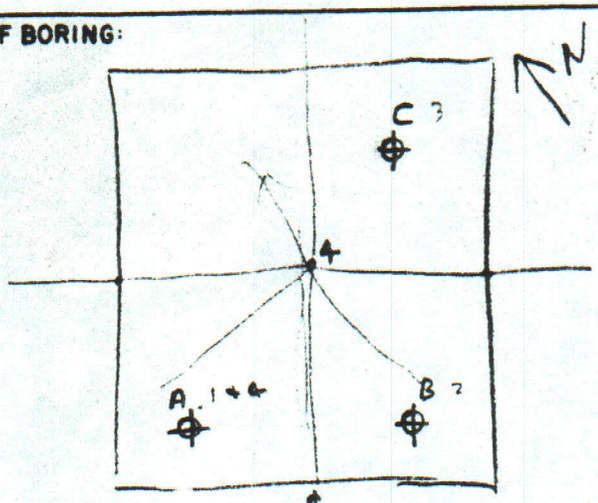
Scale : 1" = 40'
(approximate)

HARDING - LAWSON ASSOCIATES *Consulting Engineers and Geologists*	LOCATION of BORINGS & SAND CONES Hawthorne Leach Pile Hawthorne, Nevada	PLATE 1
Job No. 7675,001.05 Appr: Date 11/10/81		

FIELD LOG OF BORING

SHEET 1 OF 3

LOCATION OF BORING:



PALMICO LEACH PAD

PROJECT: Hawthorne Leach Piles	BORING NO. A
	TOTAL DEPTH: 3 ft
JOB NO.: 7675,001.05	LOGGED BY: SEO
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR:	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S & H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/20/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moisture	Lab Moisture/Density Moist.	DEPTH IN FEET	GRAPHIC LOG	
							125 (1)	6.5				Brn Gravelly Sand (SP) with clay, dense, moist to wet
							123 (4)	10.7		1		
										2		Sat.
1 12 2 4	S&H		18"	18"	G G				110	12.6		
										3		E.O.H. @ 3 ft.
										4		
										5		
										6		
										7		
										8		
										9		
										10		

FIELD LOG OF BORING

SHEET 2 OF 3

LOCATION OF BORING:

~~See~~ See Sheet

PROJECT: Hawthorne Leach Piles PALMICO	BORING NO. B
	TOTAL DEPTH: 3½
JOB NO.: 7675,001,05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S + H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/20/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	PDT, pcf (No.)	Moisture, %	M/D	Moist	DEPTH IN FEET	GRAPHIC LOG	
							121 (2)	8.3					Brn Gravelly Sand (SP) with clay, dense, moist to wet
1¹ 1²	S+H		18"	18"	G				112		10.1		Sat.
2²	S+H		12	6"	G								
											3		E.O.H. @ 3½ ft.
											4		
											5		
											6		
											7		
											8		
											9		
											10		

FIELD LOG OF BORING

SHEET 3 OF 3

LOCATION OF BORING:

PROJECT: Hawthorne Leach Piles PALMICO

BORING NO. C

TOTAL DEPTH: 4.0

JOB NO.: 7675,001.05

LOGGED BY: SED

PROJ. MGR.:

EDITED BY:

DRILLING CONTRACTOR: HLA

DRILL RIG TYPE: Hand Driven

DRILLERS NAME:

SAMPLING METHODS: S & H

HAMMER WT.: 32 lbs

DROP: Varies

STARTED, TIME:

DATE: 10/20/81

COMPLETED, TIME:

DATE:

BORING DEPTH (ft.)			
CASING DEPTH (ft.)			
WATER DEPTH (ft.)			
TIME:			
DATE:			

BACKFILLED, TIME: DATE: BY:

SURFACE ELEV.: DATUM:

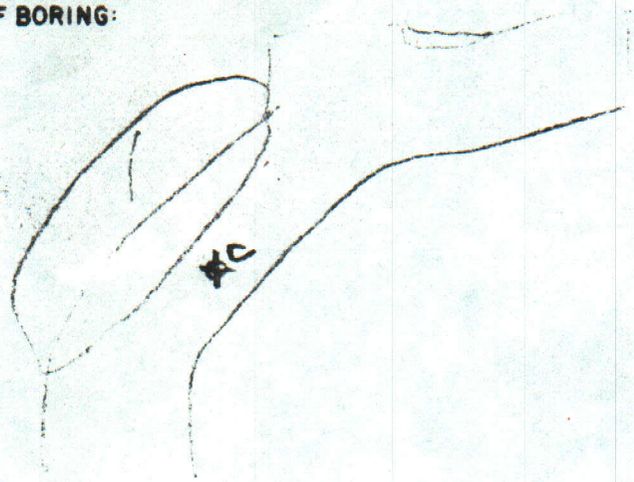
CONDITIONS:

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moist. M/D	Moist.	DEPTH IN FEET	GRAPHIC LOG	
							118 (3)	8.7				Brn Gravelly Sand (SP) dense, moist.
										1		
1.6	S&H		12"	6"	G							Increase in gravels @ 1.6 ft Wet
										2		
				5"								
2.10 3.4	S&H		12"	10"	G				125	11.73		
										4		E.O.H. @ 4.0 ft.
										5		
										6		
										7		
										8		
										9		
										10		

FIELD LOG OF BORING

SHEET 1 OF 1

LOCATION OF BORING:



PALMICO Stockpiles

PROJECT: Hanthorne Lead piles	BORING NO. D
	TOTAL DEPTH:
JOB NO.: 7675.001.05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S & H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/25/01
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

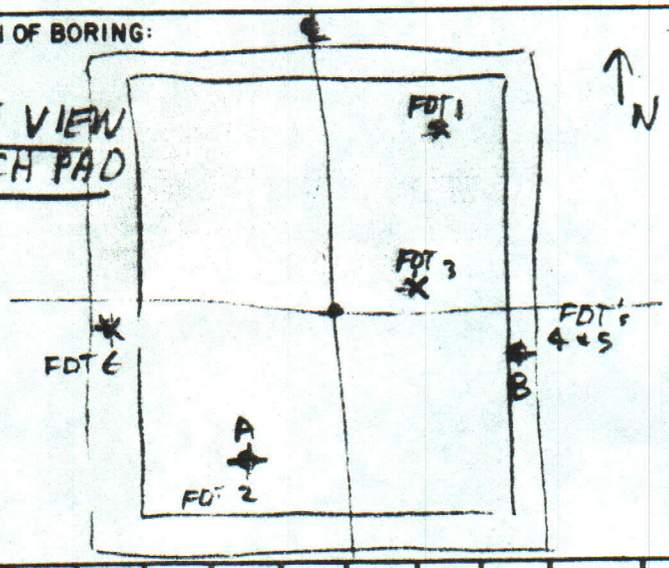
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moisture		DEPTH IN FEET	GRAPHIC LOG	
							129 (6)	2.6	121	3.0		Brn Sandy Gravel (GP) dry, Med. Dense, with silt
0-2 1-1	S&H		21"	12"	G				119	3.2		
			21"	0"						2		Loose @ 2.0 ft. (Driving Easy) No sample recovery, Hole is sluffing
										3		
										4		E.O.H. @ 3.5'
										5		
										6		
										7		
										8		
										9		
										10		

FIELD LOG OF BORING

SHEET 1 OF 2

LOCATION OF BORING:

LAKE VIEW LEACH PAD



PROJECT: Hawthorne Leach Piles	BORING NO. A
	TOTAL DEPTH: 7½
JOB NO.: 7E75,001.05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: S+H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/21/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No)	Moist. MO	DEPTH IN FEET	GRAPHIC LOG	
							117 (2)	7.2	1		Brn Sandy Gravel (GP) dense, moist to wet
											Sat.
2½	S+H		12"	6"	G			108	2		
									3		Increase in sand @ 2½ ft.
3½	S+H		12"	6"	G				4		
4½	S+H		14"	12"	G			105	5		
5½									6		
6½	S+H		12"	6"	G			115	7		
									8		E.O.H @ 7½ ft.
									9		
									10		

FIELD LOG OF BORING

SHEET 2 OF 2

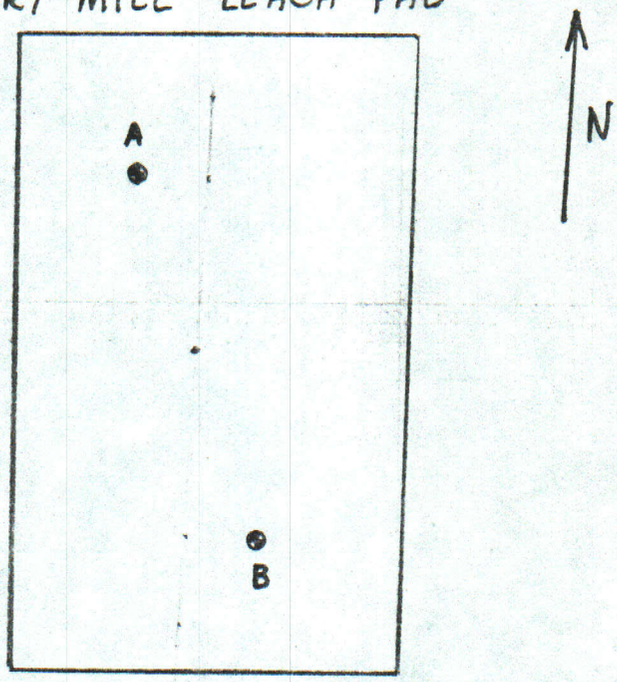
LOCATION OF BORING:

PROJECT: Haughorne Lough Pile LAKE VIEW	BORING NO. B
	TOTAL DEPTH: 6'
JOB NO.: 7675,001.05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: HAND Driven	
DRILLERS NAME:	
SAMPLING METHODS: S&H	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/21/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

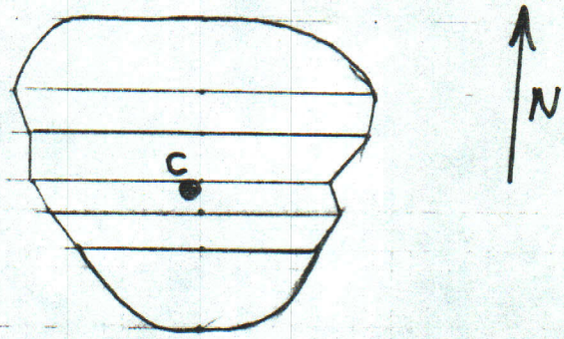
SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, psf (No.)	Moist.	MC	Moist DEPTH IN FEET	GRAPHIC LOG	
							119 (4)	9.3		1		Brn Sandy Gravel (GP) dense, moist
1'	S&H		12"	6"	G		105 (5)	6.0		2		Becoming wet
												Increase in gravels @ 2'
3'	S&H		12"	5"	G					3		
										4		
										5		
5'	S&H		10"	6"	G				121	8.7		
										6		E.O.H @ 6'
										7		
										8		
										9		
										10		

RF1

CORY MILL LEACH PAD



CORY MILL STOCKPILE



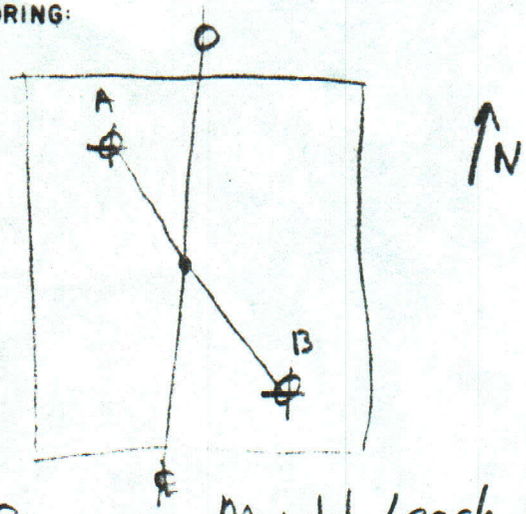
Scale : 1" = 40'
(approximate)

HARDING-LAWSON ASSOCIATES Consulting Engineers and Geologists	LOCATION of BORINGS + SAND CONE	PLATE
Job No. 7675,001.05 Appr: ____ Date 11/10/81	Hawthorne Leach Piles Hawthorne, Nevada	3

FIELD LOG OF BORING

SHEET 1 OF 3

LOCATION OF BORING:



Cory Mill Leach Pad

PROJECT: Hawthorne Leach Piles	BORING NO. A
	TOTAL DEPTH: 8.0
JOB NO.: 7675,001.05	LOGGED BY: SEO
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: SH	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/24/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moist.	MO	Marsh DEPTH IN FEET	GRAPHIC LOG	
							103 (1)	3.7				Light Brn. Silty Sand (SM), loose to med. dense, dry to moist.
							104 (3)	3.4		1		
										2		
2.9 3.2	SH		18	18	G				96	3.7 3		Driving Easy
										4		
4.1 4.8	SH		20"	20"	G				99	3.4 5		
										6		
6.2 6.8	SH		20"	20"	G				99	3.6 7		
7.5	SH		12"	12"	G				103	3.1 8		Driving Difficult @ 8.0
										9		E.O.H. @ 8.0
										10		

FIELD LOG OF BORING

SHEET 2 OF 3

LOCATION OF BORING:

Cory Mill Leach Pad

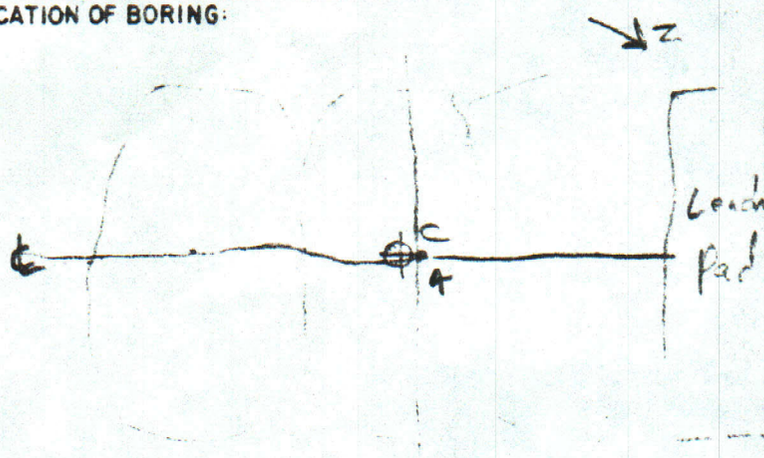
PROJECT: Hawthorne Leach Piles	BORING NO. B
	TOTAL DEPTH: 7½
JOB NO.: 7675,001.05	LOGGED BY: SED
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: HLA	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME:	
SAMPLING METHODS: SH	
HAMMER WT.: 32 lbs	DROP: Varies
STARTED, TIME:	DATE: 10/24/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)	FDT, pcf (No.)	Moist, MD	Moist %	DEPTH IN FEET	GRAPHIC LOG	
							116 (2)	2.1				Light Brn Silty Sand (SM) loose to med. dense, dry to moist.
										1		
										2		
							98 (4)	3.9				Driving Easy
3½ 3½	SH		20"	20"	G				95	4.0 3		
										4		
4½ 5½	SH		20"	20"	G				102	3.7 5		
										6		Driving more diff. @ 5½
6½	SH		20"	20"	G							
7¹									104	3.3 7		
										8		E.O.H. @ 7½
										9		
										10		

FIELD LOG OF BORING

SHEET 3 OF 3

LOCATION OF BORING:



Cory Mill Stockpile

PROJECT: Hanford Sites	BORING NO. C
	TOTAL DEPTH: 10'
JOB NO.: 7675,001.05	LOGGED BY: SEO
PROJ. MGR.:	EDITED BY:
DRILLING CONTRACTOR: LLP	
DRILL RIG TYPE: Hand Driven	
DRILLERS NAME: Cory	
SAMPLING METHODS:	
HAMMER WT.:	DROP: Varies
STARTED, TIME:	DATE: 10/29/81
COMPLETED, TIME:	DATE:
BORING DEPTH (ft.)	
CASING DEPTH (ft.)	
WATER DEPTH (ft.)	
TIME:	
DATE:	
BACKFILLED, TIME:	DATE: BY:
SURFACE ELEV.:	DATUM:
CONDITIONS:	

SAMPLE DEPTH	SAMPLER TYPE	BLOWS/6-IN.	INCHES DRIVEN	INCHES RECOVERED	SAMPLE CONDITION	DRILLING RATE (min/ft)			MD	Moist %	DEPTH IN FEET	GRAPHIC LOG	
0.5	SHH		20"	20"	G				97	3.2	1		Light Brn. Silty Sand (SM) loose, dry to moist.
											2		Driving Very Easy
2.5	SHH		20"	20"	G								moist
3.0									96	3.3	3		
											4		Driving Easy
4.5	SHH		20"	20"	G								
5.0									97	3.6	5		
											6		
6.5	SHH		20"	20"	G								
7.0									100	3.4	7		
7.7	SHH		14"	14"	G								Driving More Difficult @ 8.0
8.1									97	3.3	8		
8.9	SHH		12"	9"	G								
9.2									99	3.4	9		
											10		E.O.H. @ 9.5

Hawthorne Leach Pads
7675,001.05

Summary of Mat. Quanities : Preliminary

Site	Vol. Mat., yds.^{3}	Avg Dry Density		Quanity, tons
PALMICO Pad	2253	121.8	≈	3700 tons
Stockpile	2083	121	≈	3400 tons
LAKE VIEW	3152	121 40% = 105 60% =	≈	4740 tons
RAWHIDE	6041	106	≈	8650 tons
DEAD HORSE	2594	131	≈	4590 tons
CORY MILL	2578	105	≈	3650 tons
Stockpile	736	105	≈	1040 tons