

DATE DRILLED: 01/25/89

SUMMARY OF BORING NO. H-73

ELEVATION not measured

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

DEPTH IN FEET	SAMPLES (1) BLOWS/FT. (2)	CONSISTENCY	COLOR	MOISTURE	DESCRIPTION	SYMBOL (1)	WELL DESIGN
0		med. dense to dense	tan	sl. moist	GRAVELLY SAND	SP	
5					SAND trace gravel		
10							
15					---partially cemented		
20	mod. hard	hard med. dense			CALICHE GRAVELLY SAND	SP	
25	mod. h med. dense to dense			moist	SAND trace gravel	SP	
30					---partially cemented		
35	mod. h med. dense to dense				SILTY SAND trace gravel	SM	
40					GRAVELLY SAND	SP	

GROUNDWATER measured at 47.5 feet

END OF BORING AT 60 FEET

(1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS

(2) USING LB. DRIVING WEIGHT FALLING 30 INCHES AND INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY



CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

PROJECT NO.
88-43159-01

DRAWING NO.

A-29

APPROVED FOR PUBLICATION BY 3/17/89 ON

DATE DRILLED: 01/25/89

SUMMARY OF BORING NO. H-7(3)

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ELEVATION: not measured

DEPTH IN FEET	SAMPLES (1)	BLOWS/FT. (2)	CONSISTENCY	COLOR	MOISTURE	DESCRIPTION	SYMBOL (1)	WELL DESIGN
40			med. d to dense	tan	very moist	GRAVELLY SAND	SP	
			mod. hard			---partially cemented		
45			med. d hard			CALICHE	SP	
			stiff to very stiff	tan to brown	wet	SANDY CLAY with gravel	CL	
50								
55				brown		CLAY trace sand		
						SANDY CLAY		
60								
65								
70								
75								
80								

GROUNDWATER measured at 47.5 feet

END OF BORING AT 60 FEET

- (1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS
 (2) USING LB. DRIVING WEIGHT FALLING 30 INCHES AND INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY

CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

PROJECT NO.
88-43159-01
DRAWING NO.
A-30

APPROVED FOR PUBLICATION BY: *[Signature]* ON 3/17/89

DATE DRILLED: 01/26/89

SUMMARY OF BORING NOH-75

THIS SUMMARY APPLIES ONLY AT THE LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ELEVATION: not measured

DEPTH
IN FEETSAMPLES (1)
BLOWS/FT. (2)CONSISTENCY
COLOR

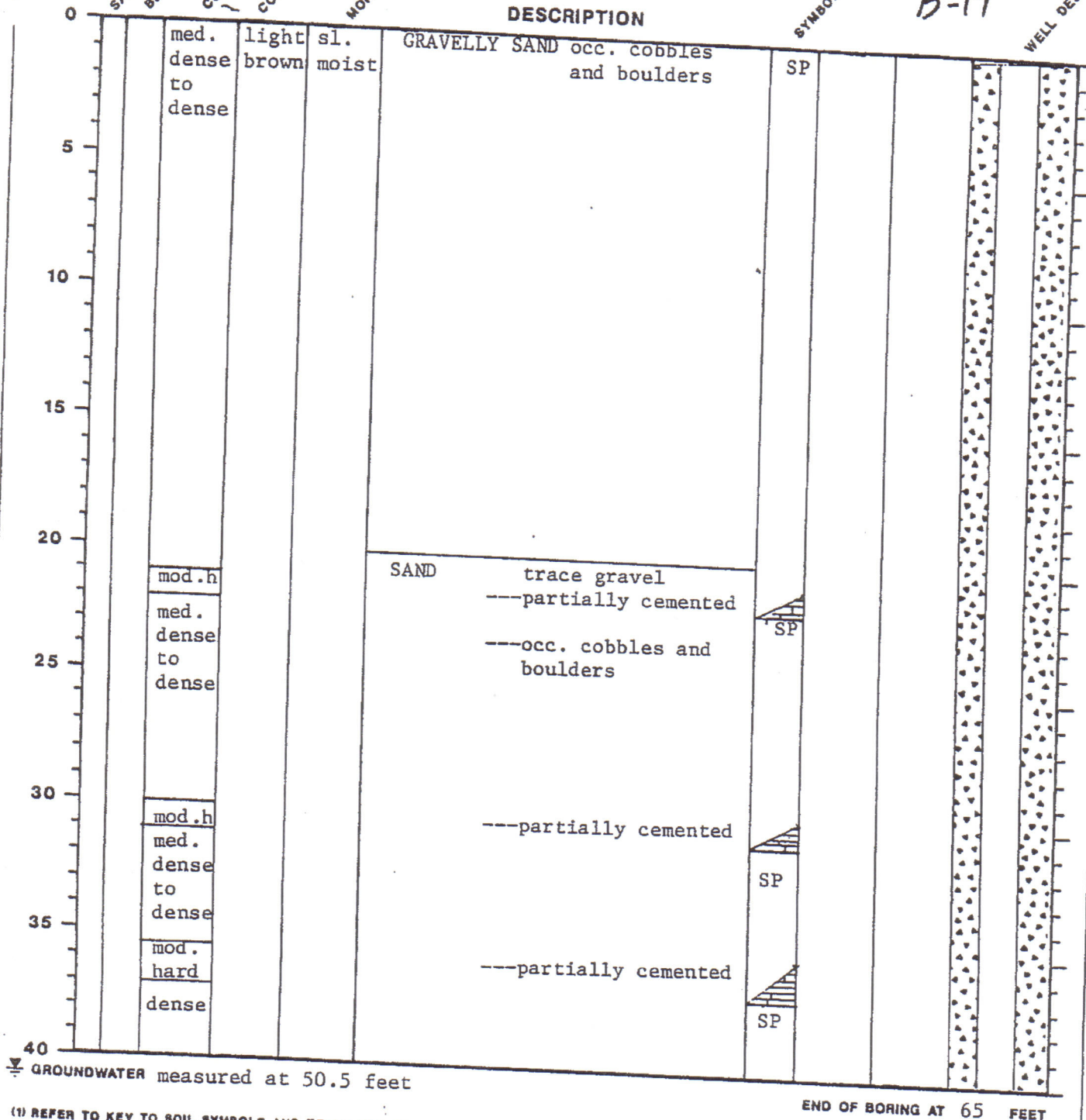
MOISTURE

DESCRIPTION

SYMBOL (1)

B-17

WELL DESIGN



(1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS
(2) USING

LB. DRIVING WEIGHT FALLING 30 INCHES AND

INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY



CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

PROJECT NO.
88-43159-01DRAWING NO.
A-33

APPROVED FOR PUBLICATION BY: [Signature] ON 5/11/89

DATE DRILLED: 01/26/89

SUMMARY OF BORING NO. H-75

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ELEVATION: not measured

SYMBOL (1)

B-17

WELL DESIGN

DEPTH IN FEET	SAMPLES (1) BLOWS/FT. (2)	CONSISTENCY	COLOR	MOISTURE	DESCRIPTION	SYMBOL (1)	WELL DESIGN
40		med. dense to dense	brown	sl. moist	GRAVELLY SAND	SP	
45		mod. h to med. d			---partially cemented	SP	
50		mod. h to hard			---partially cemented	SP	
55		med. dense to stiff	black gray		CALICHE		
		very stiff	gray		GRAVELLY SAND	SP	
		stiff	brown		CLAY with gravel	CL	
60			gray		SANDY CLAY		
65			brown		CLAY trace sand, sl. cemented		
70							
75							
80							

GROUNDWATER measured at 50.5 feet

END OF BORING AT 65 FEET

(1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS
(2) USING

LB. DRIVING WEIGHT FALLING 30 INCHES AND INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY



CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

PROJECT NO.
88-43159-01
DRAWING NO.
A-34

APPROVED FOR PUBLICATION BY J. W. ON 3/11/89

Log of Boring No. BW-11A

BMI Landfill CAMU Investigation

Henderson, Nevada



Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

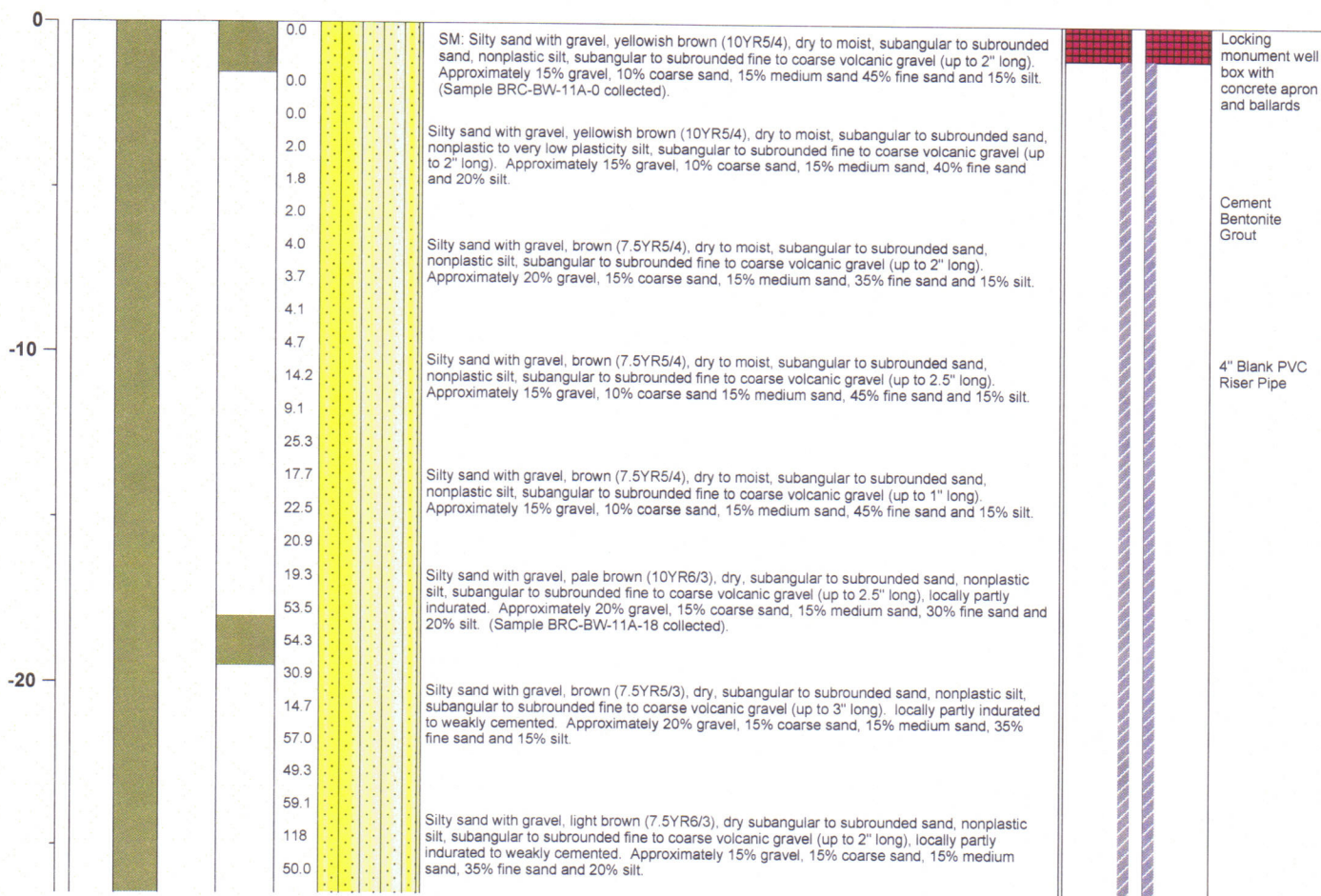
Northing: 26718693.954
 Easting: 824044.543
 TOC Elevation (ft. msl): 1776.180
 Borehole Total Depth: 80 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-MCF-BW-11
 Depth to Water (ft. bgs): 60' bgs

Sample Type: 2" Split Spoon
 Sample Interval Continuous

Logged By: A. Norris
 Date Started: 03/22/05
 Date Completed: 03/22/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	57 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	72 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-11A

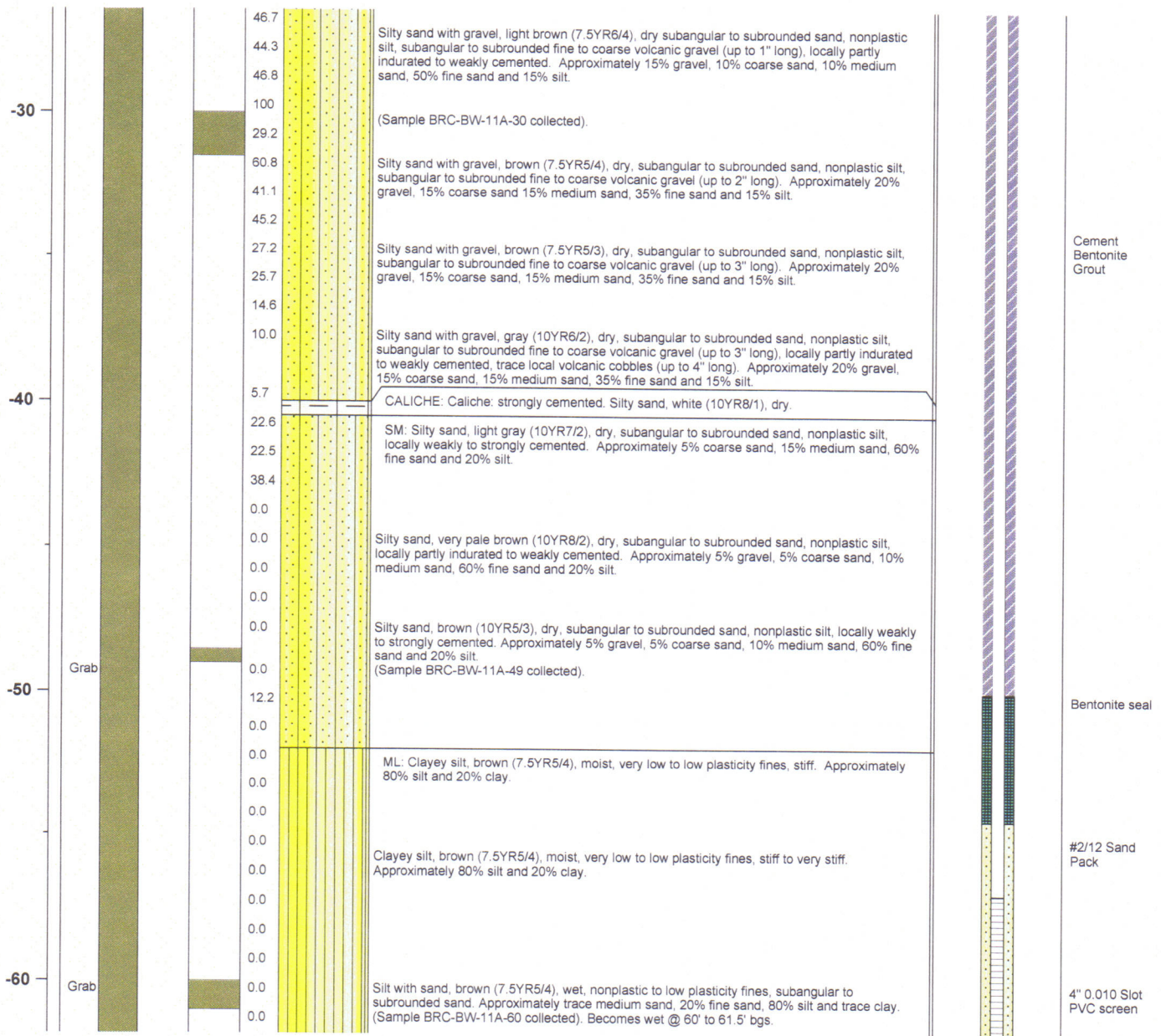


BMI Landfill CAMU Investigation
Henderson, Nevada



Log of Boring No. BW-11A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-11A



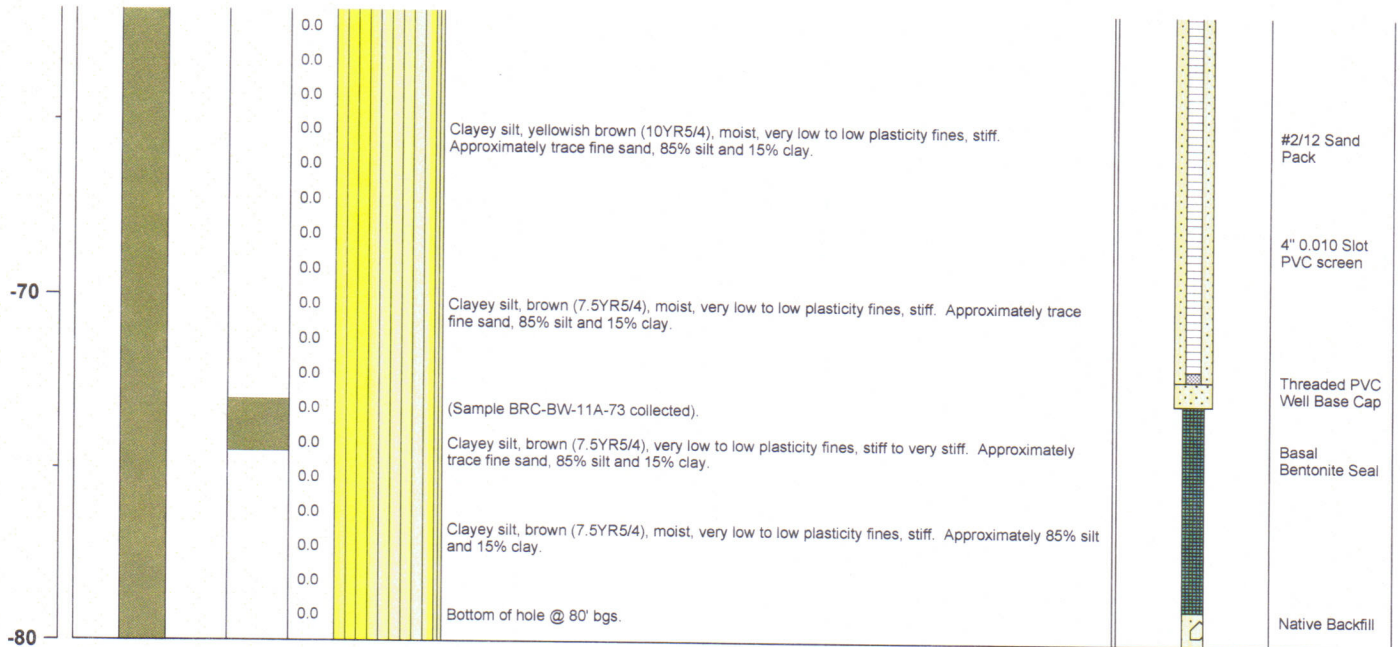
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-11A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-11A



Log of Boring No. BW-12B

BMI Landfill CAMU Investigation

Henderson, Nevada



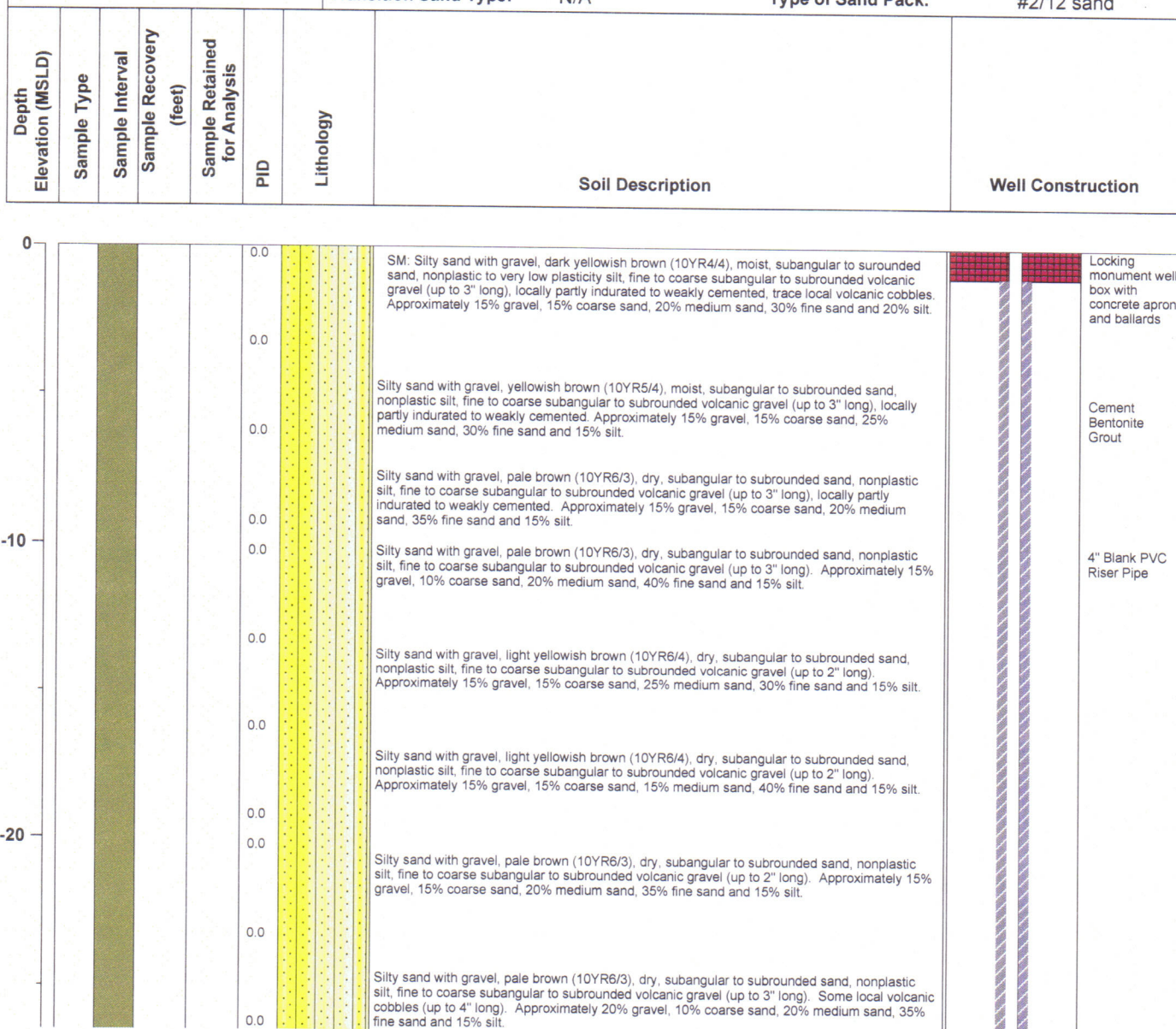
Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

Northing: 26718772.364
 Easting: 824440.207
 TOC Elevation (ft. msl): 1776.537
 Borehole Total Depth: 200 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-AA-BW-12
 Depth to Water (ft. bgs): 59.5 ft bgs

Sample Type: N/A
 Sample Interval Continuous

Logged By: A. Norris
 Date Started: 02/13/05
 Date Completed: 02/15/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	49 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	69 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12 sand



Project No. 1881263.020101

Log of Boring: BW-12B



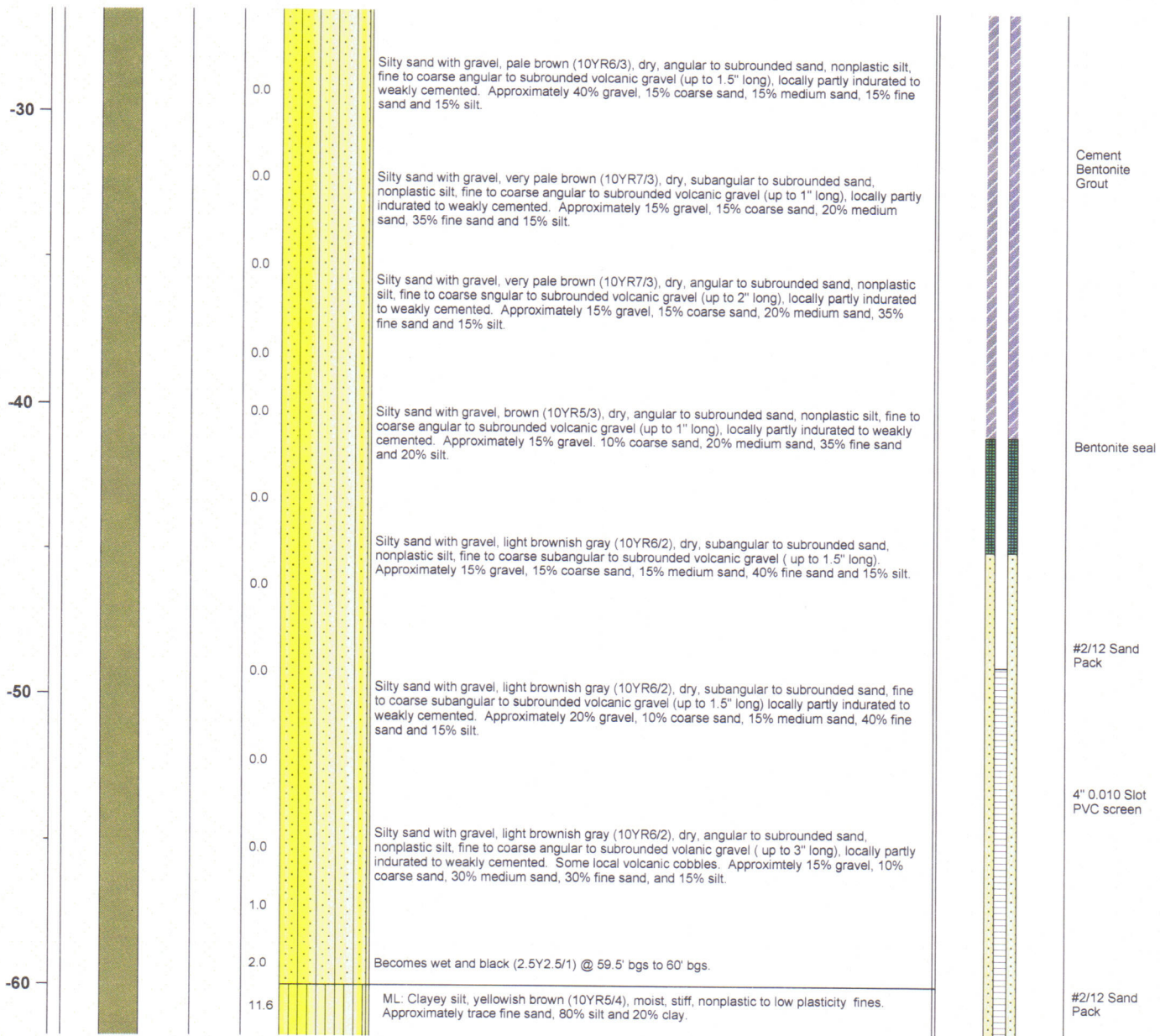
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101



Log of Boring: BW-12B

BMI Landfill CAMU Investigation
Henderson, Nevada



Log of Boring No. BW-12B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12B



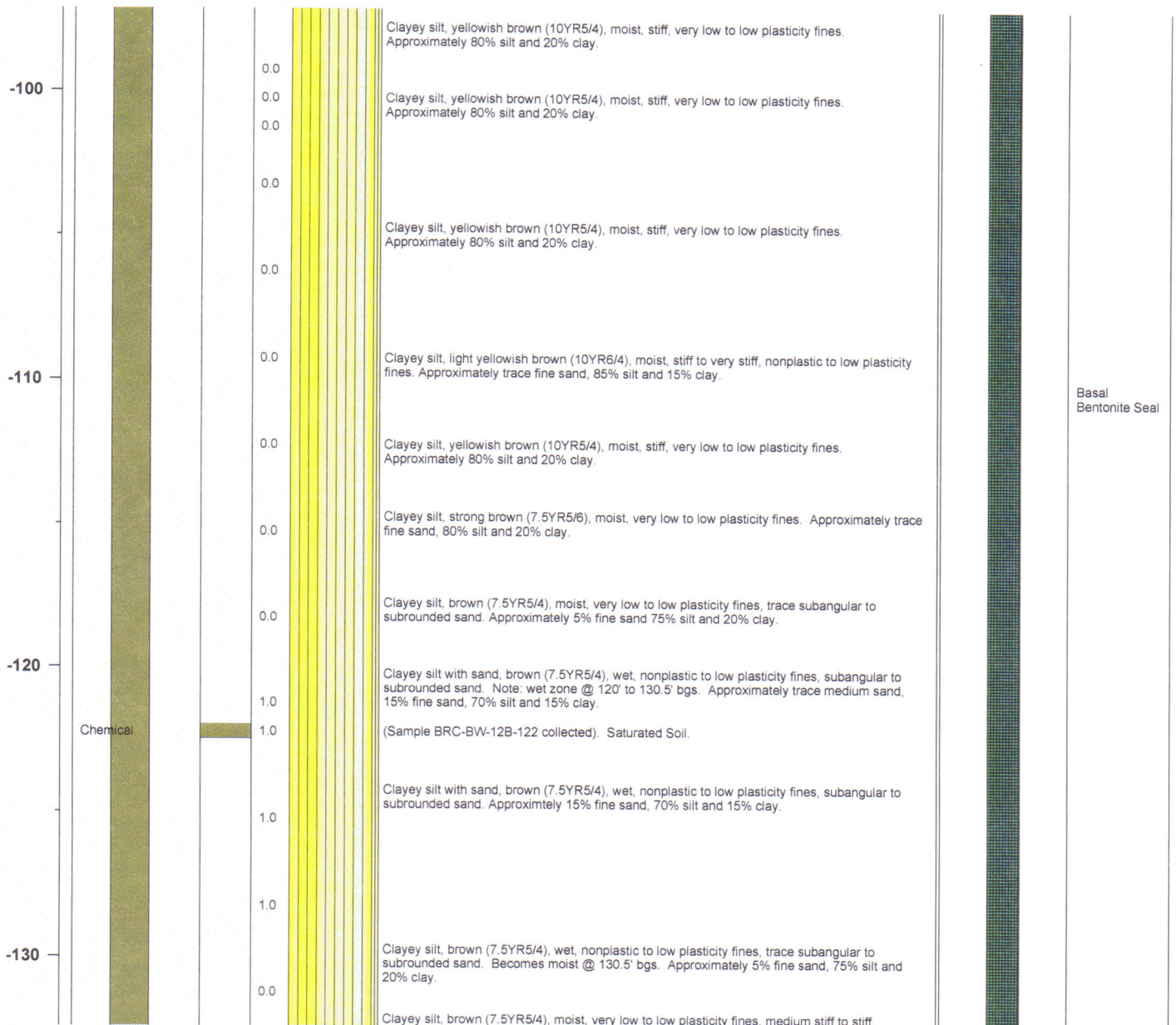
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12B



BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12B



BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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-170							<p>0.0 Clayey silt, brown (7.5YR5/4), moist, stiff, very low to low plasticity fines. Approximately 75% silt and 25% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, stiff, very low to low plasticity fines. Approximately 80% silt and 20% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, stiff to very stiff, very low to low plasticity fines. Approximately trace fine sand, 80% silt and 20% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, very stiff, nonplastic to low plasticity fines. Approximately 80% silt and 20% clay.</p> <p>0.0 Clayey silt, brown (7.5YR5/4), moist, stiff, very low to low plasticity fines. Approximately 70% silt and 30% clay.</p> <p>0.0 Clayey silt, brown (7.5YR5/4), moist, stiff, very low to low plasticity fines. Approximately 65% silt and 35% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, stiff to very stiff, nonplastic to low plasticity fines, trace local cementation. Approximately trace fine sand 85% silt and 15% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, stiff, very low to low plasticity fines. Approximately 70% silt and 30%.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, stiff to very stiff, nonplastic to low plasticity fines. Approximately 75% silt and 25% clay.</p> <p>0.0 Clayey silt, brown (7.5YR5/4), moist, very stiff, nonplastic to low plasticity fines, trace subangular to subrounded sand, trace local cementation. Approximately trace medium sand, 5% fine sand, 80% silt and 15% clay.</p> <p>0.0 Clayey silt, yellowish brown (10YR5/4), moist, very stiff, nonplastic to low plasticity fines, trace local cementation. Approximately trace fine sand, 80% silt and 20% clay. Bottom of hole @ 200' bgs. End Borehole @ 200 ft bgs.</p>	
-180								Basal Bentonite Seal
-190								
-200								

Project No. 1881263.020101

Log of Boring: BW-12B



Log of Boring No. BW-12A

BMI Landfill CAMU Investigation

Henderson, Nevada



Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

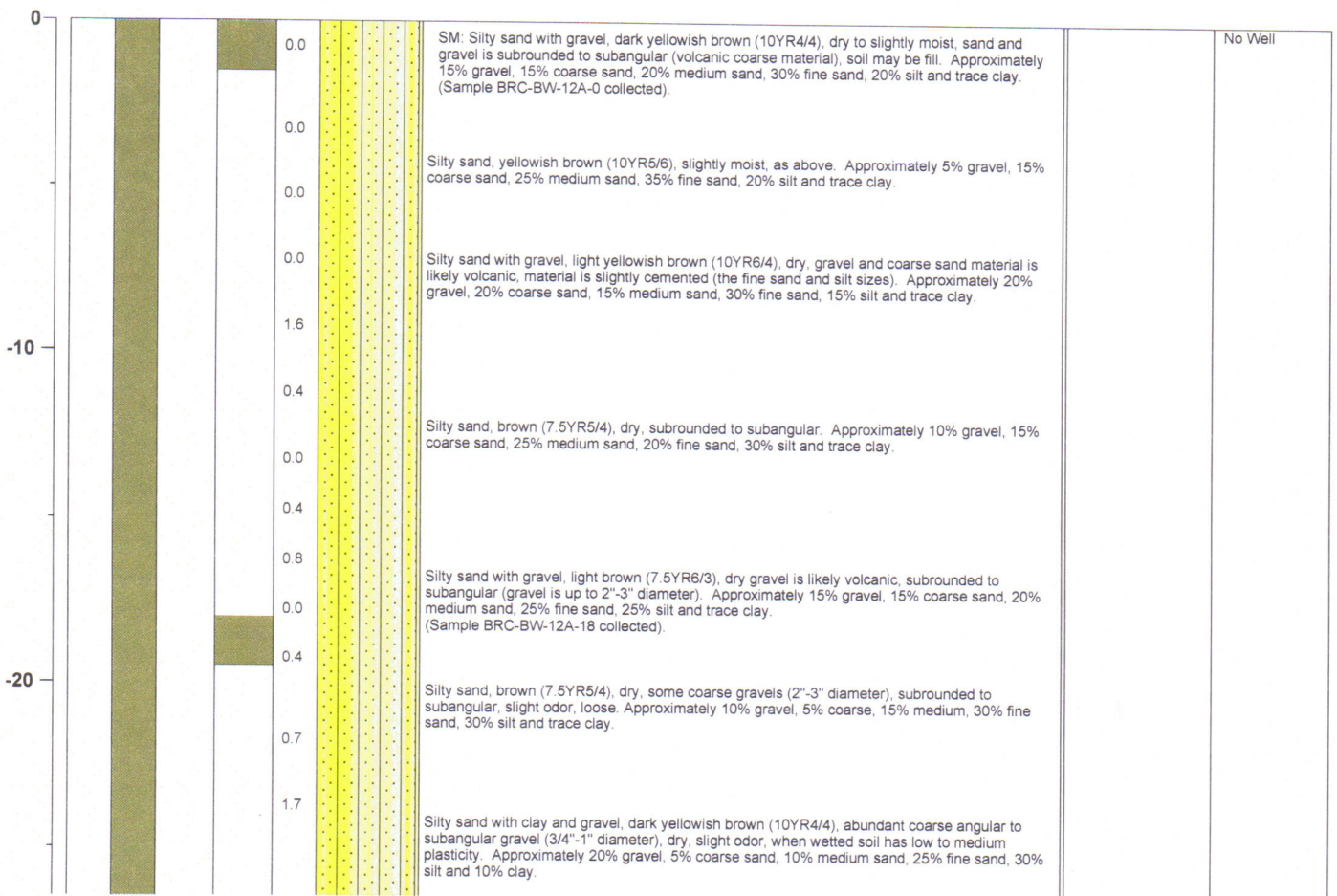
Northing: 26718800.316
 Easting: 824680.562
 TOC Elevation (ft. msl): N/A
 Borehole Total Depth: 131.5 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: N/A
 Depth to Water (ft. bgs): 68' bgs

Sample Type: 2" Split Spoon
 Sample Interval Continuous

Logged By: M. Manwaring
 Date Started: 03/25/05
 Date Completed: 03/26/05

Monitoring Well Construction			
Type of Surface Seal:	N/A	Screen Slot Size:	N/A
Blank Casing Type/Size:	N/A	Top of Screen (ft. bgs):	N/A
Screen Type/Size:	N/A	Bottom of Screen (ft. bgs):	N/A
Transition Sand Type:	N/A	Type of Sand Pack:	N/A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12A



BMI Landfill CAMU Investigation
Henderson, Nevada



Log of Boring No. BW-12A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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-30					0.3		Silty sand with clay, dry, brown (7.5YR5/4), low to medium plasticity (when wetted), no odor. Approximately 10% gravel, 5% coarse sand, 10% medium sand, 25% fine sand, 35% silt and 15% trace clay. (Sample BRC-BW-12A-30 collected).	
					0.3			
					0.4		SM: Silty sand with clay, brown (7.5YR5/4), dry to slightly moist, loose, low plasticity. Approximately 10% gravel, 5% coarse sand, 10% medium sand, 25% fine sand, 35% silt and 15% clay.	
					1.1			
					0.3		SM: Silty sand, dark yellowish brown (10YR4/4), slightly moist, loose, some subrounded to subangular sand and gravel, low plasticity. Approximately 10% gravel, 5% coarse sand, 15% medium sand, 35% fine sand, 30% silt and 5% clay.	
-40					0.0		SM: Silty sand, grayish brown (10YR5/2), dry, loose, abundant broken rock, gravel and coarse sand crushed rock. Approximately 10% gravel, 10% coarse sand, 15% medium sand, 25% fine sand, 30% silt and 10% clay.	
					0.0		Silty sand with gravel, silt with abundant coarse sand and gravels, angular to subangular, dry matrix, light grayish brown (10YR6/2), rock color varies. Approximately 20% gravel, 15% coarse sand, 20% medium sand, 20% fine sand, 15% silt and 5% clay.	
					0.3			
					0.0		Same as above to 50' bgs, brechia-volcanics (rock)	
-50					0.0		(Sample BRC-BW-12A-50 collected)	
					0.6		Silty sand with gravel, grayish brown (10YR5/2), dry to slightly moist, (below 52' bgs), slight odor. Approximately 20% gravel, 5% coarse sand, 10% medium sand, 25% fine sand, 30% silt and 10% clay.	
					4.6			
					4.2		SM: Silty sand with clay, gray (5Y5/1), with gravels (subangular to angular) moist, slight odor, trace clay. Approximately 10% gravel, 10% coarse sand, 5% medium sand, 30% fine sand, 30% silt and 15% clay.	
					8.5		ML: Clayey silt with sand and gravel, as above, grayish brown (10YR5/2). Approximately 25% gravel, 10% coarse sand, 5% medium sand, 20% fine sand, 25% silt and 15% clay.	
-60					2.0		Clayey silt with sand, strong brown (7.5YR5/6), moist, to very moist, slight odor, trace light gray silt size lenses and gravels, firm to stiff, low plasticity. Approximately 5% gravel, trace coarse sand, 20% fine sand, 55% silt and 20% clay.	

Project No. 1881263.020101

Log of Boring: BW-12A



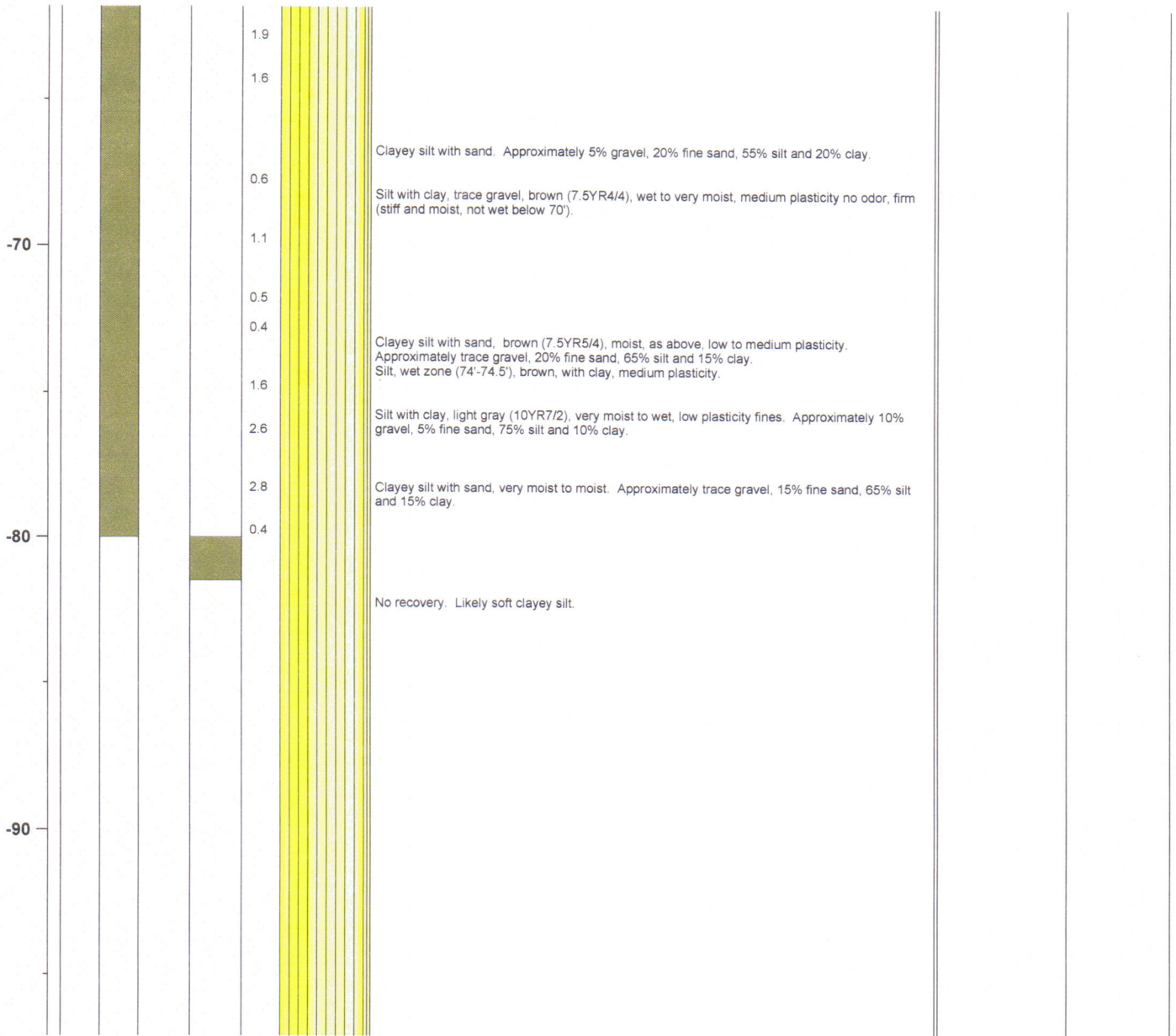
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12A



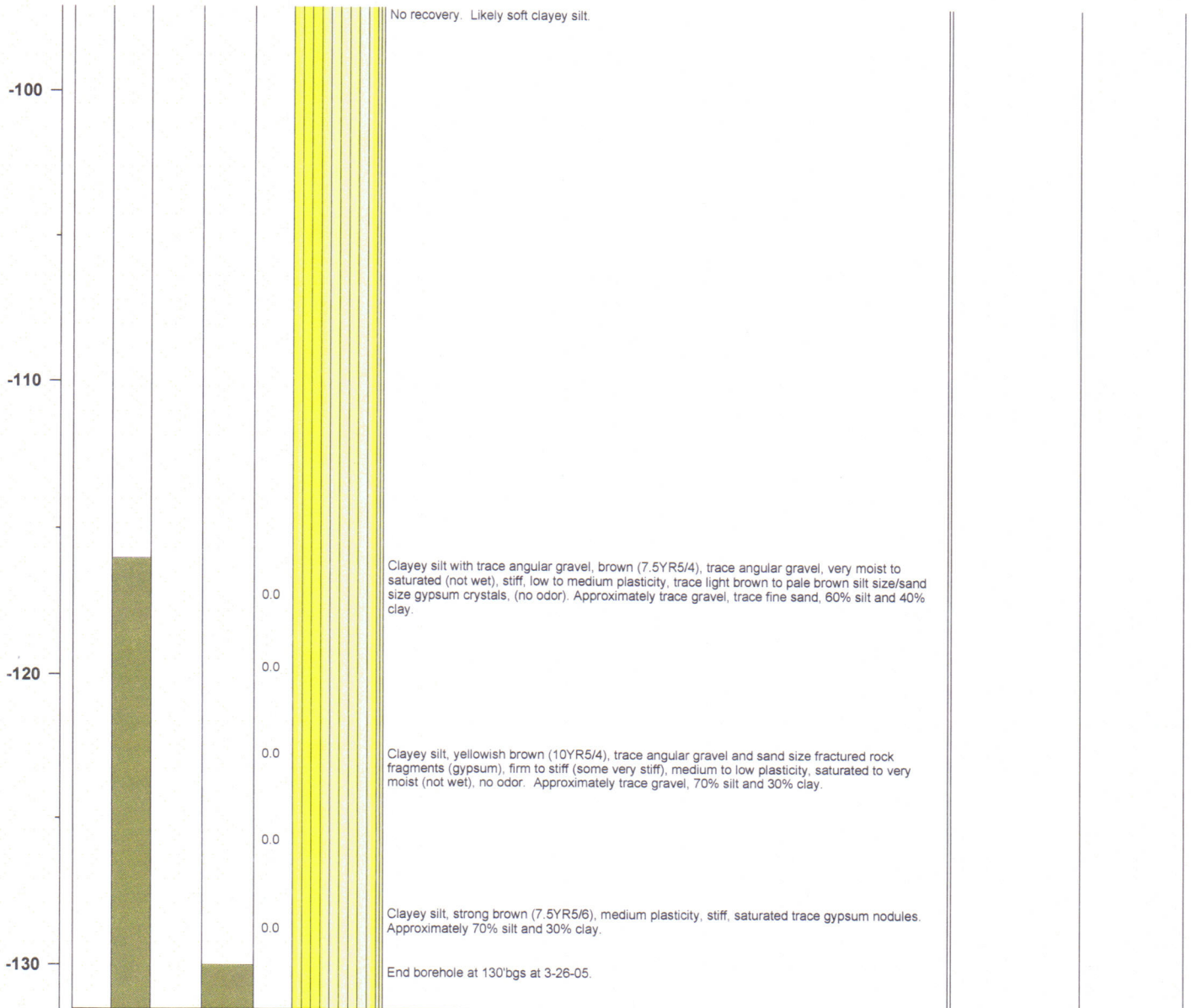
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-12A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-12A



"If the page filmed is not as legible as this label, it is due to the quality of the original."

Geraghty & Miller, Inc.

WELL LOG

Well No.: M-41

Date Completed: 4/16/80

Project: Stauffer Chemical Company

Location: Henderson, Nevada

Description

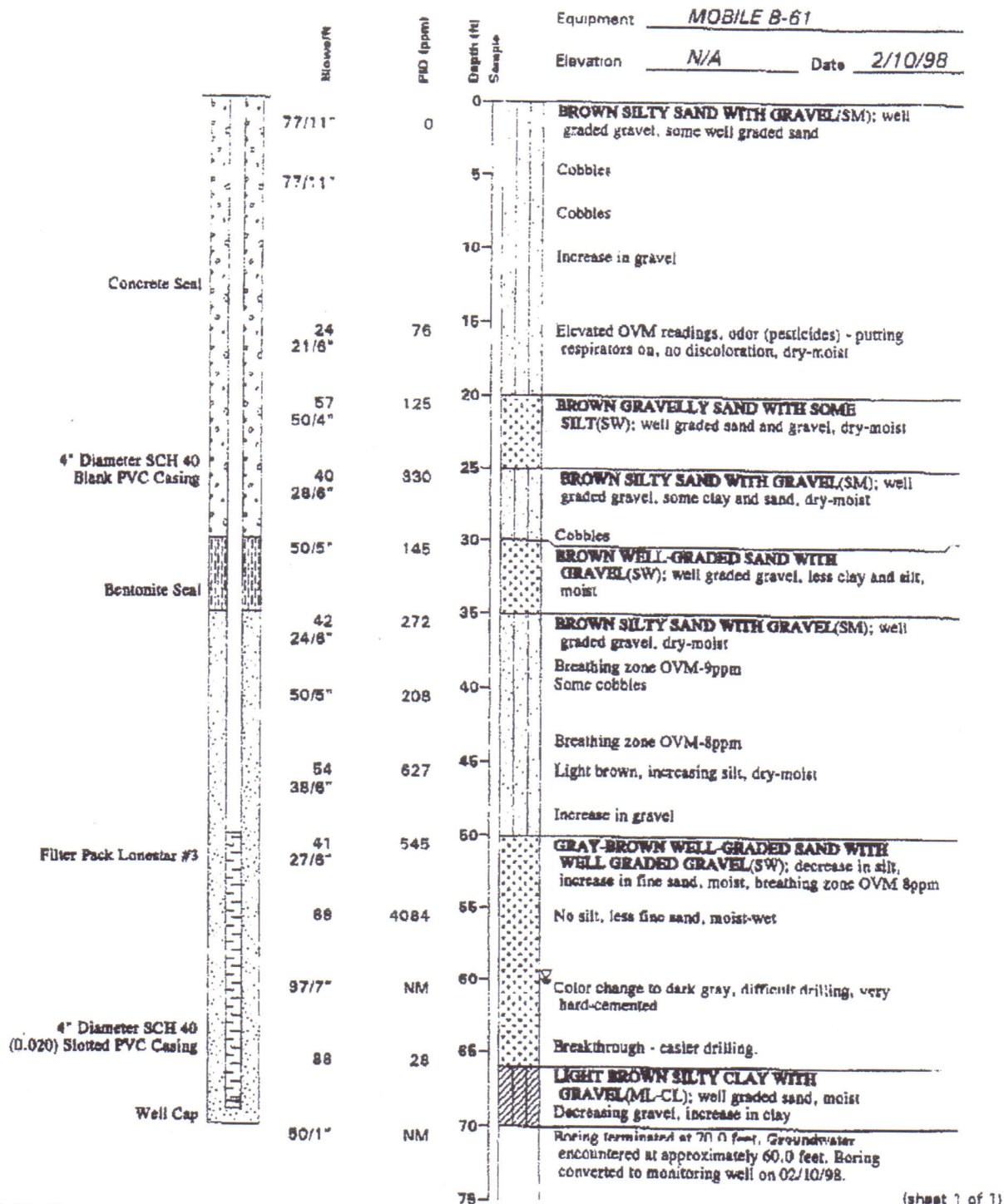
Depth Below
Land Surface
(feet)

Sand, silty to clayey, grayish-brown very fine to very coarse (poorly sorted) and gravel, pebbles, cobbles and boulders rounded to subangular; also with layers of caliche and caliche-cemented sand and gravel
Note: caliche layer at 40'; slight organic odor in cuttings at 44½'.

0 - 54

Clay, silty, to silt, clayey, light brown with traces of sand and gravel in matrix also with occasional thin layers of sand reworked caliche, and caliche (Muddy Creek Formation)

54 - 75



Harding Lawson Associates
Engineering and
Environmental Services

LOG OF BORING EC-2
Stauffer Management - BMI
8000 Lake Mead

FIGURE

DRAWN
KBH

PROJECT NUMBER
37105 23

APPROVED

DATE

REVISED DATE
7/20/98

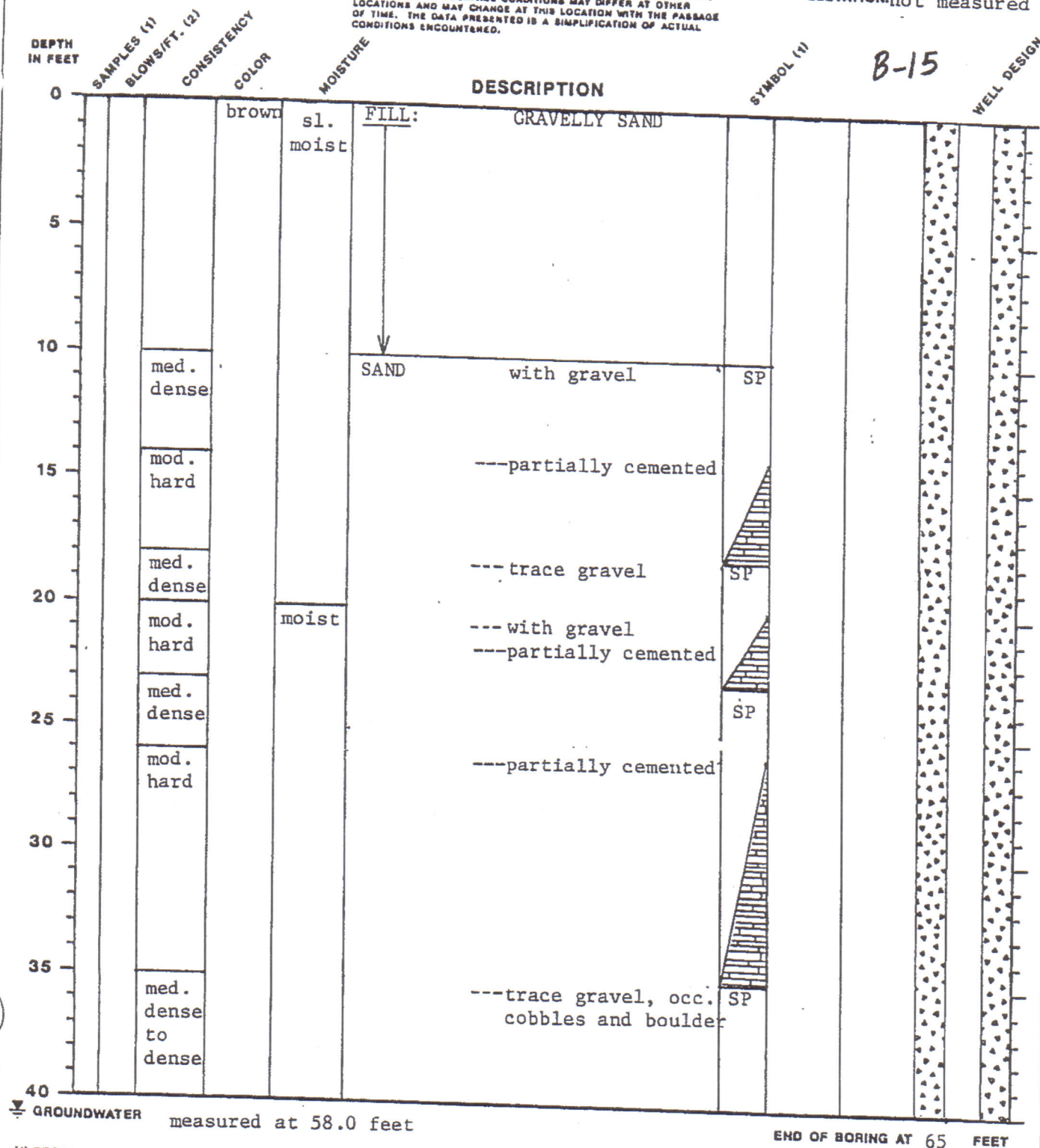
DATE DRILLED: 1/11/89

SUMMARY OF BORING NO. H-63

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ELEVATION: not measured

B-15



(1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS
 (2) USING

LB. DRIVING WEIGHT FALLING 30 INCHES AND

INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY

PROJECT NO.

88-43159-01

DRAWING NO.

A-9



CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

DATE DRILLED: 1/11/89

SUMMARY OF BORING NO. H-63

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND ... THE TIME OF LOGGING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF ACTUAL CONDITIONS ENCOUNTERED.

ELEVATION: not measured

DEPTH
IN FEET

SAMPLES (1)

BLOWS/FT. (2)

CONSISTENCY

COLOR

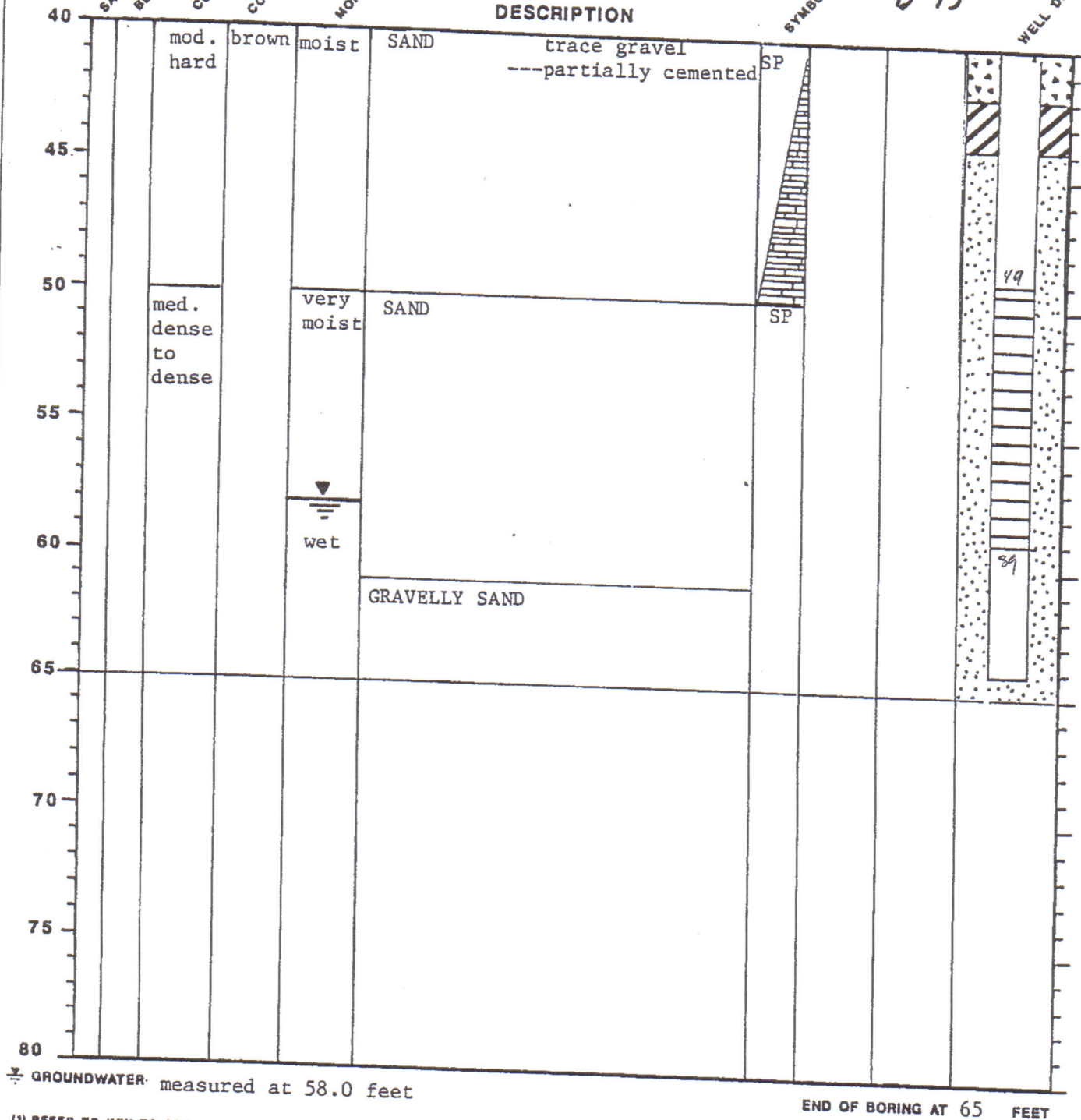
MOISTURE

DESCRIPTION

SYMBOL (1)

B-15

WELL DESIGN



(1) REFER TO KEY TO SOIL SYMBOLS AND TERMS FOR EXPLANATION OF TEST SYMBOLS
(2) USING

LB. DRIVING WEIGHT FALLING 30 INCHES AND

INCH DIAMETER SAMPLER

PIONEER CHLOR - ALKALI COMPANY HENDERSON FACILITY



CONVERSE ENVIRONMENTAL CONSULTANTS SOUTHWEST

PROJECT NO.
88-43159-01

DRAWING NO.

A-10

Log of Boring No. BW-8C
BMI Landfill CAMU Investigation
Henderson, Nevada

Drilling Method: Rotary Sonic
Drilling Equipment: GEFCO
Drilling Contractor: Water Development Corporation
Driller: Mike Wilkerson

Northing: 26719495.749
Easting: 825289.894
TOC Elevation (ft. msl): 1761.474
Borehole Total Depth: 75 ft bgs
Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
Well ID: GW-AA-BW-08B
Depth to Water (ft. bgs): 47' bgs



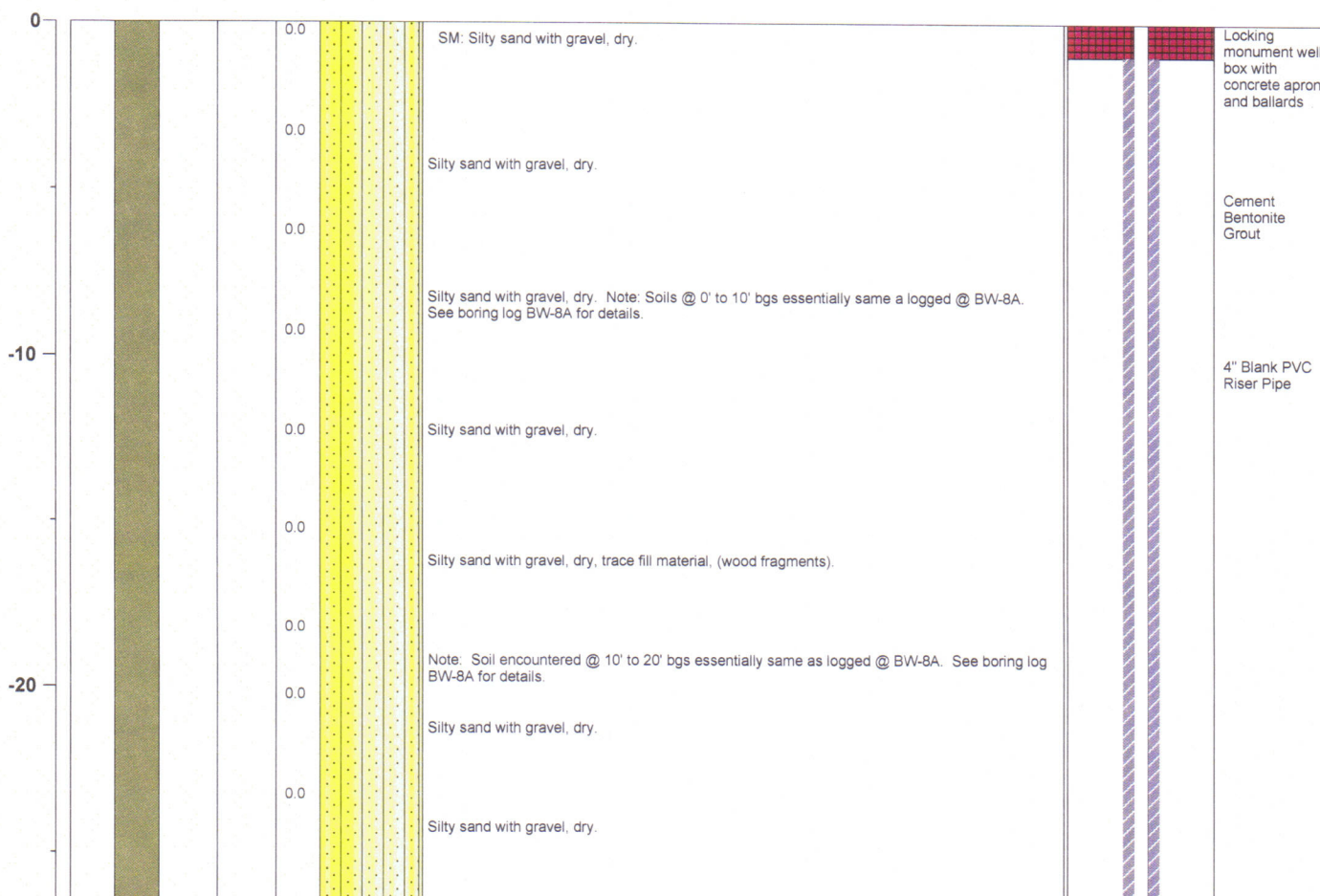
Sample Type: N/A
Sample Interval: Continuous

Logged By: A. Norris
Date Started: 03/16/05
Date Completed: 03/16/05

Monitoring Well Construction

Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	43 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	63 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8C



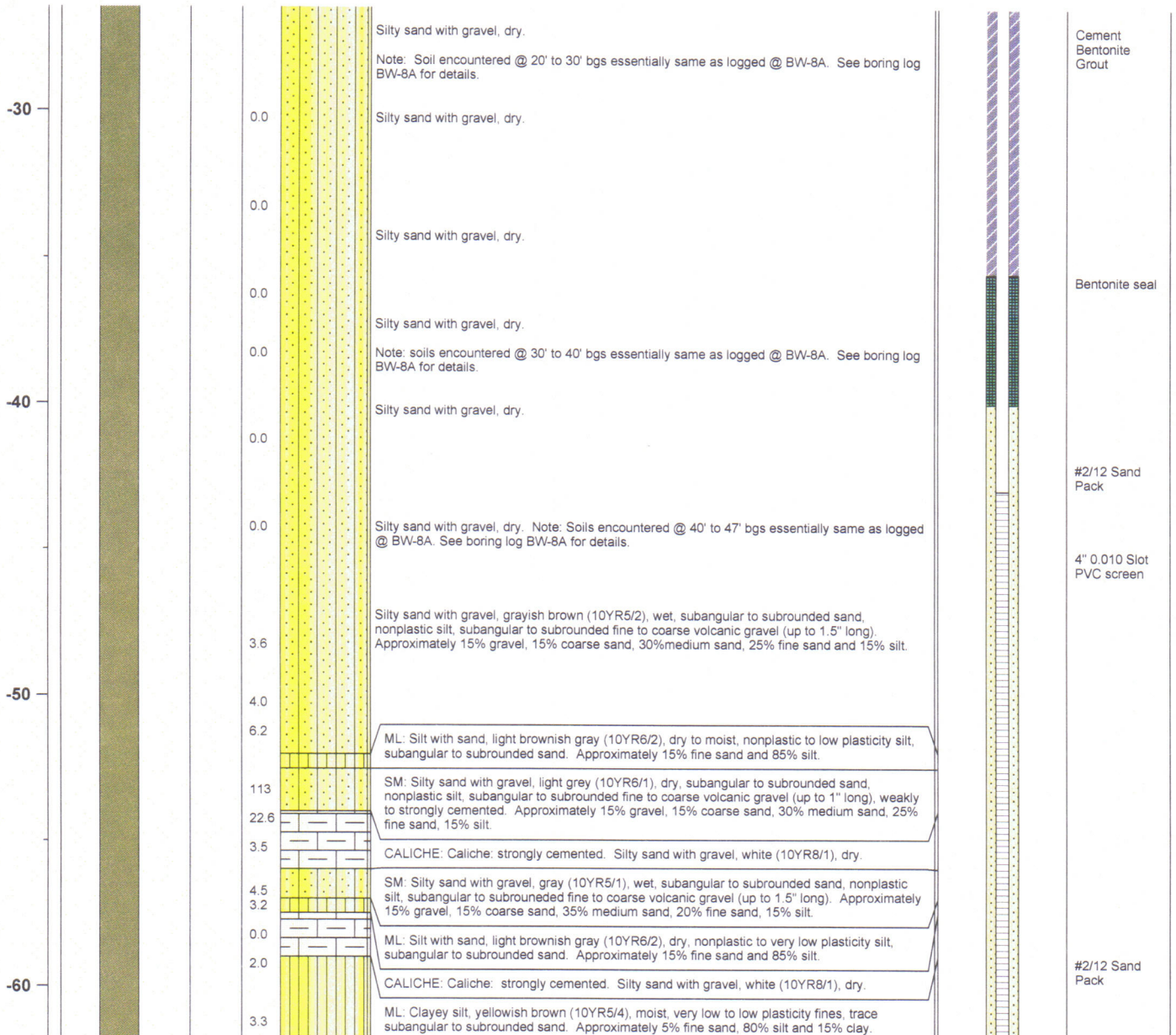
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8C

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8C



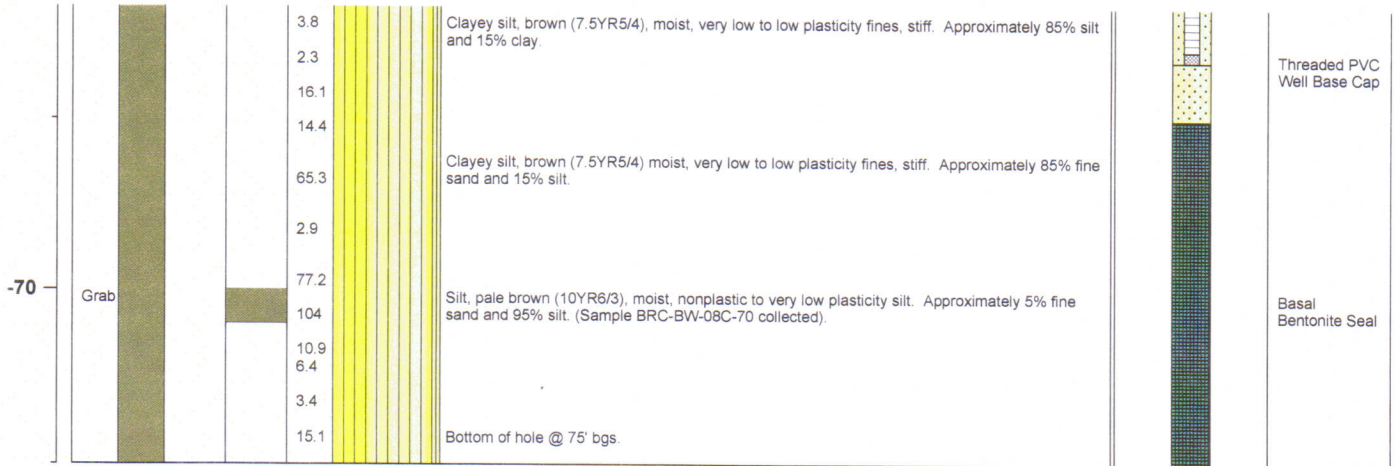
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8C

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8C



Log of Boring No. BW-8A

BMI Landfill CAMU Investigation

Henderson, Nevada



Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

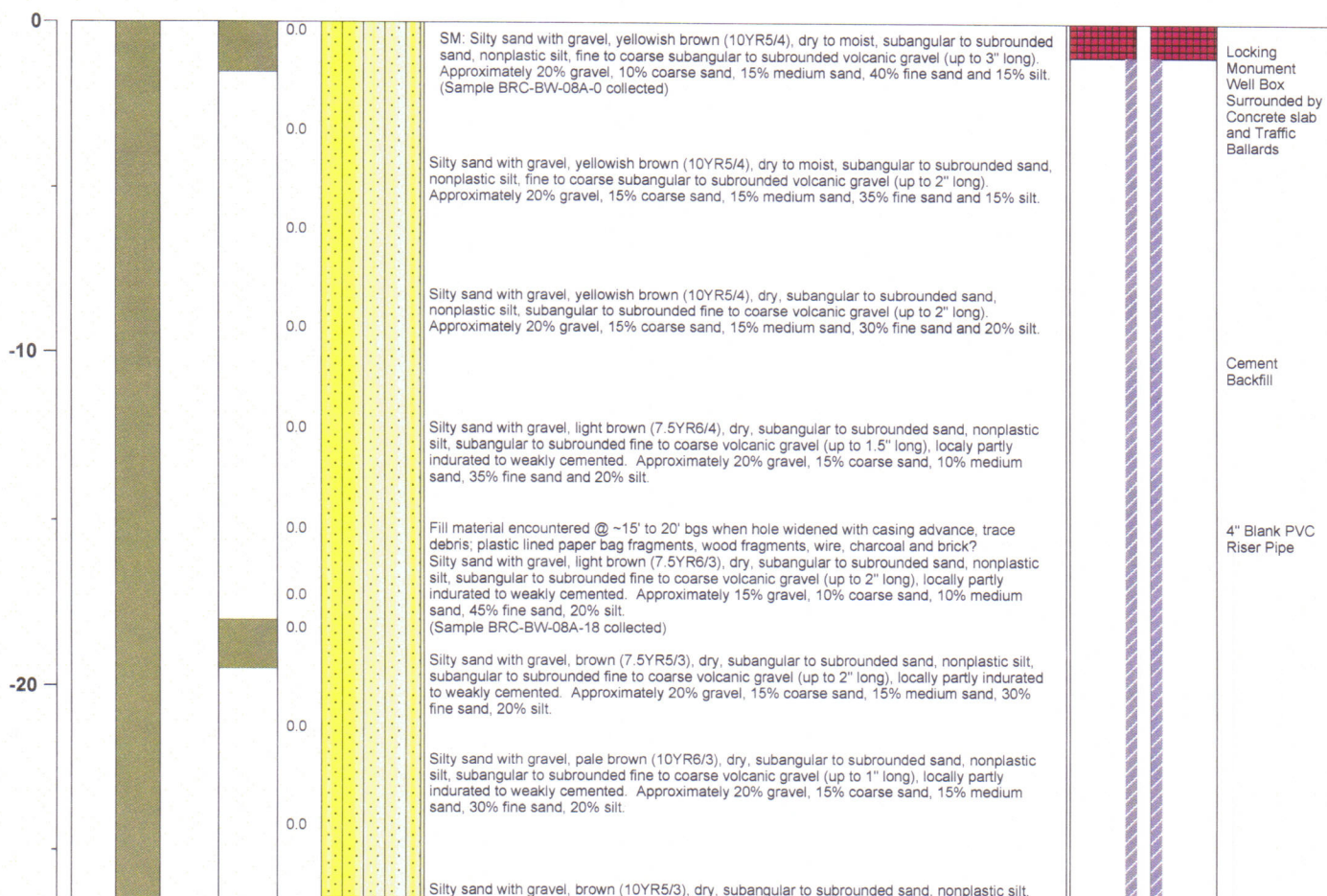
Northing: 26719495.153
 Easting: 825299.593
 TOC Elevation (ft. msl): 1761.518
 Borehole Total Depth: 90 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-MCF-BW-08
 Depth to Water (ft. bgs): 50' bgs

Sample Type: 2.5" Split Spoon
 Sample Interval: Continuous

Logged By: A. Norris
 Date Started: 03/13/05
 Date Completed: 03/14/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	77 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	87 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8A



BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
-30							subangular to subrounded fine to coarse volcanic gravel (up to 1" long), locally partly indurated to weakly cemented. Approximately 15% gravel, 10% coarse sand, 10% medium sand, 40% fine sand, 25% silt.	
							Fill @ ~30' to 35' bgs: Silty sand with gravel, brown (10YR5/3), dry, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 2" long), partly indurated locally trace plastic and glass debris, trace black carbonaceous (apparent charcoal) material (fill). Approximately 20% gravel, 15% coarse sand, 10% medium sand, 35% fine sand and 20% silt. (Sample BRC-BW-08A-30 collected)	
							Silty sand with gravel, pale brown (10YR6/3), dry, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 1.5" long), locally partly indurated to weakly cemented. Approximately 15% gravel, 15% coarse sand, 15% medium sand, 35% fine sand, 20% silt.	
							Silty sand with gravel, pale brown (10YR6/3), dry, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 1.5" long) locally partly indurated to weakly cemented. Approximately 15% gravel, 15% coarse sand, 15% medium sand, 35% fine sand and 20% silt.	
							Silty sand with gravel, brown (10YR5/3) dry subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 1" long), locally partly indurated to weakly cemented. Approximately 15% gravel, 15% coarse sand, 15% medium sand, 35% fine sand and 20% silt.	
							Silty sand with gravel, brown (10YR5/3), dry, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 2" long), locally partly indurated to weakly cemented. Approximately 15% gravel, 15% coarse sand, 15% medium sand, 35% fine sand and 20% silt.	
							Silty sand with gravel, brown (10YR4/3), dry to moist, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 1" long). Approximately 15% gravel, 15% coarse sand, 15% medium sand, 35% fine sand and 20% silt.	
							Wet @ 50' to 57' bgs: Silty sand with gravel, brown (10YR4/3), wet, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse gravel (up to 1.5" long). Approximately 15% gravel, 15% coarse sand, 25% medium sand, 30% fine sand and 15% silt. (Sample BRC-BW-08A-50 collected)	
							Silty sand with gravel, grayish brown (10YR5/2), wet, subangular to subrounded sand, nonplastic silt, subangular to subrounded fine to coarse volcanic gravel (up to 1.5" long), locally weakly to moderately cemented. Approximately 15% gravel, 15% coarse sand, 25% medium sand 30% fine sand, 15% silt.	
							CALICHE: Caliche, strongly cemented silty sand with gravel, white (10YR8/1), dry.	
							GP: Poorly graded gravel, multi colored, wet, subangular to subrounded coarse volcanic gravel (up to 3" long). 100% gravel.	
								Cement Backfill
								4" Blank PVC Riser Pipe
								Cement Backfill

Project No. 1881263.020101

Log of Boring: BW-8A



Page 2 of 3

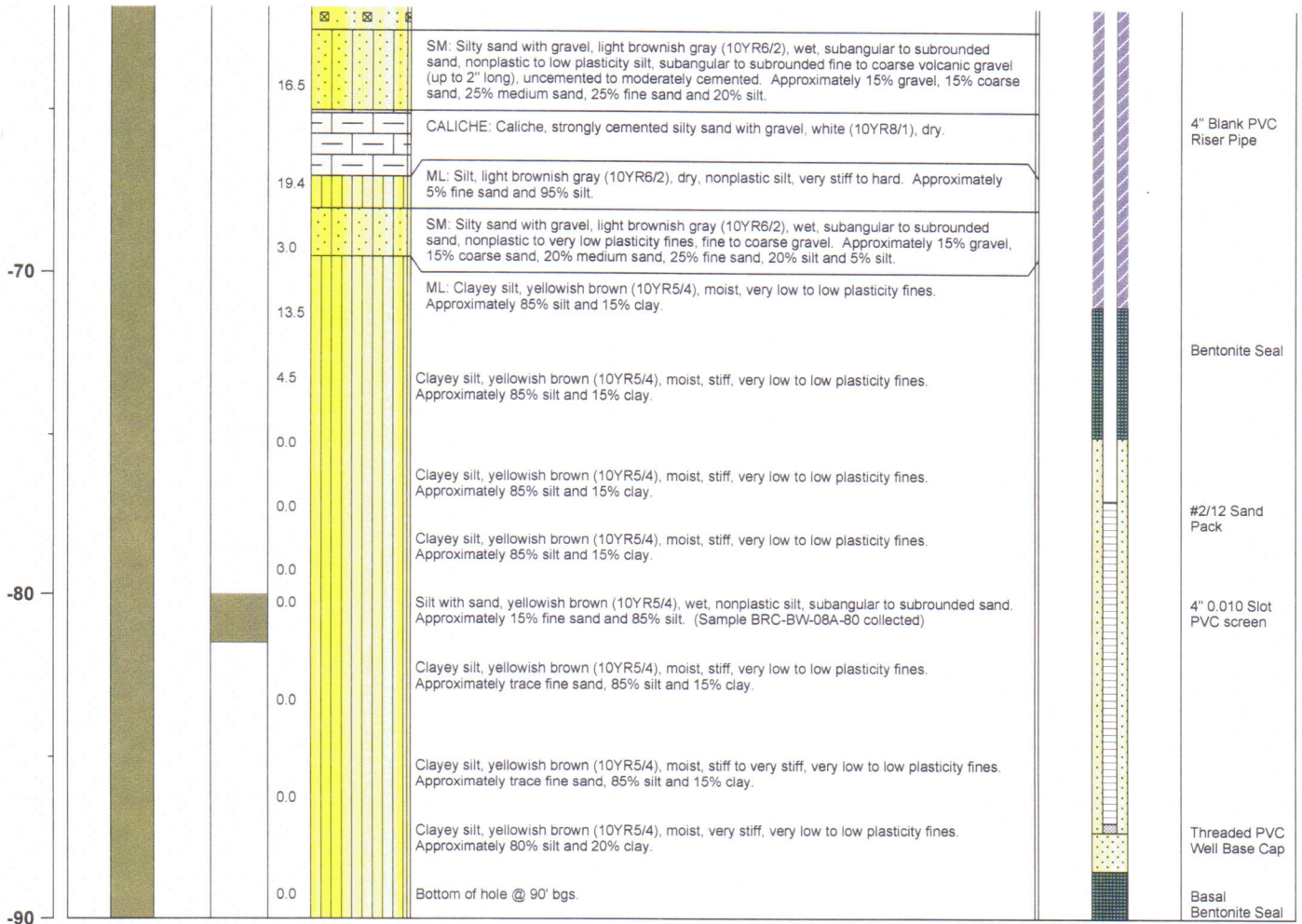
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8A



Log of Boring No. BW-8B

BMI Landfill CAMU Investigation

Henderson, Nevada

Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

Northing: 26719492.767
 Easting: 825332.701
 TOC Elevation (ft. msl): 1761.275
 Borehole Total Depth: 75 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-AA-BW-08A
 Depth to Water (ft. bgs): 50' bgs

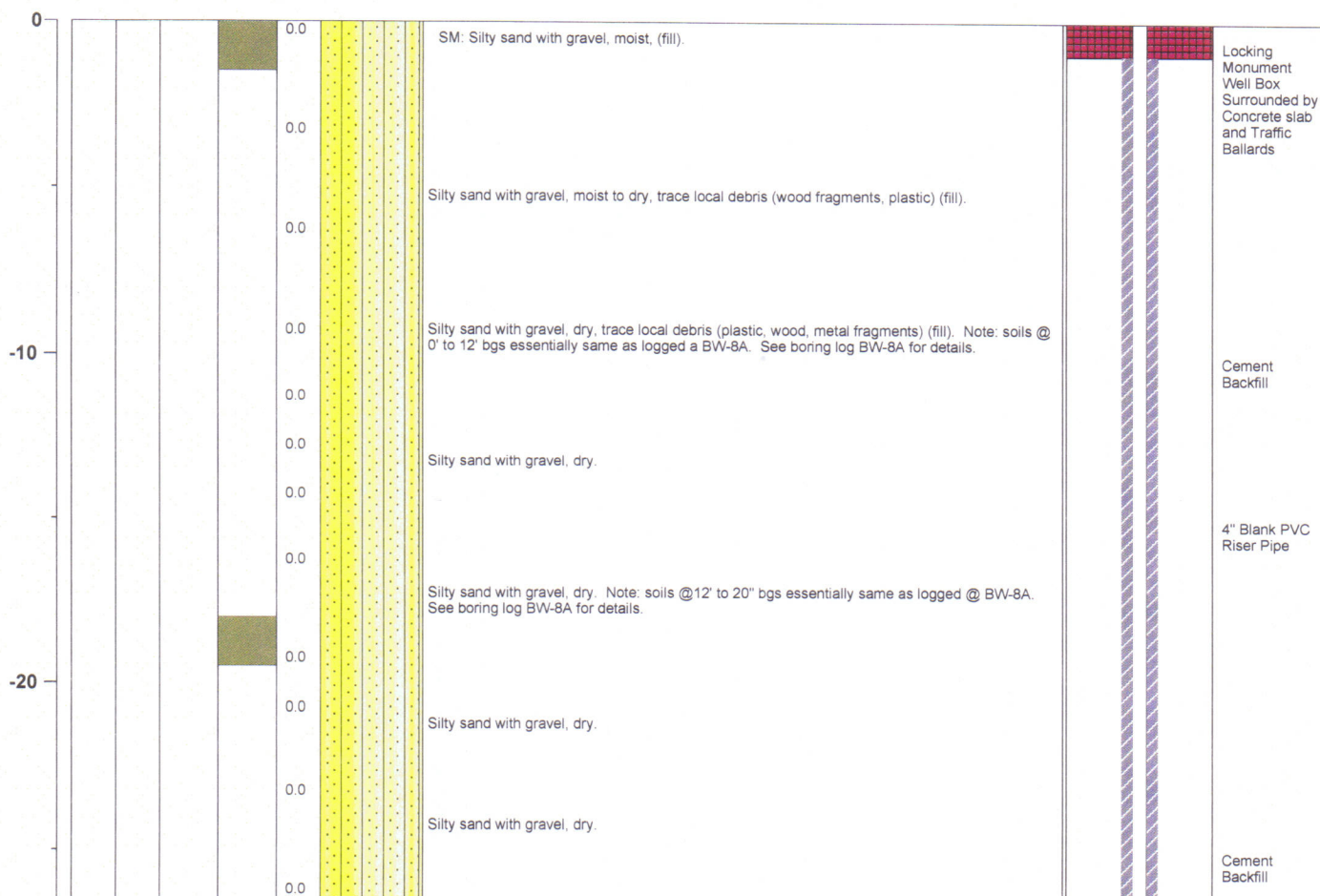


Sample Type: N/A
 Sample Interval: Continuous

Logged By: A. Norris
 Date Started: 03/15/05
 Date Completed: 03/15/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	37.5 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	57.5 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8B



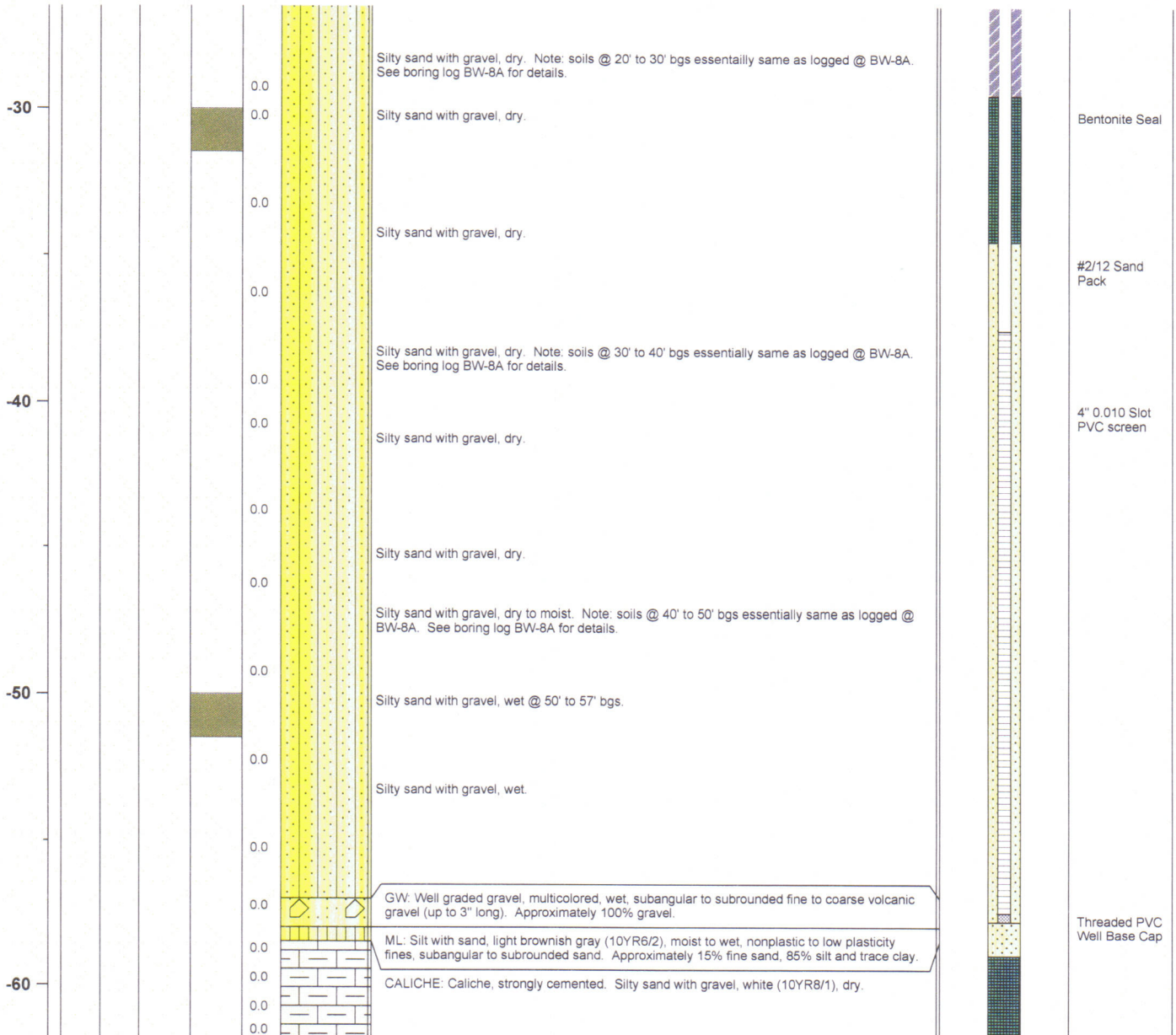
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-8B



BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-8B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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							ML: Clayey silt, yellowish brown (10YR5/4), moist, very low to low plasticity fines. Approximately 5% fine sand, 80% silt and 15% clay.		Basal Bentonite Seal
							Clayey silt, yellowish brown (10YR5/4), moist, very low to low plasticity fines. Approximately 85% silt and 15% clay.		
							Silt with sand, yellowish brown (10YR5/4), moist, nonplastic to very low plasticity fines, subangular to subrounded sand. Approximately 15% fine sand, 85% silt and trace clay.		
							Clayey silt, yellowish brown (10YR5/4), moist, very low to low plasticity fines. Approximately 85% silt and 15% clay.		
							Clayey silt, light yellowish brown (10YR6/4), moist, very low to low plasticity fines. Approximately 85% silt and 15% clay.		
							Bottom of hole @ 75' bgs.		

Project No. 1881263.020101

Log of Boring: BW-8B



Log of Boring No. BW-9A
BMI Landfill CAMU Investigation
Henderson, Nevada



Drilling Method: Rotary Sonic
Drilling Equipment: GEFCO
Drilling Contractor: Water Development Corporation
Driller: Mike Wilkerson

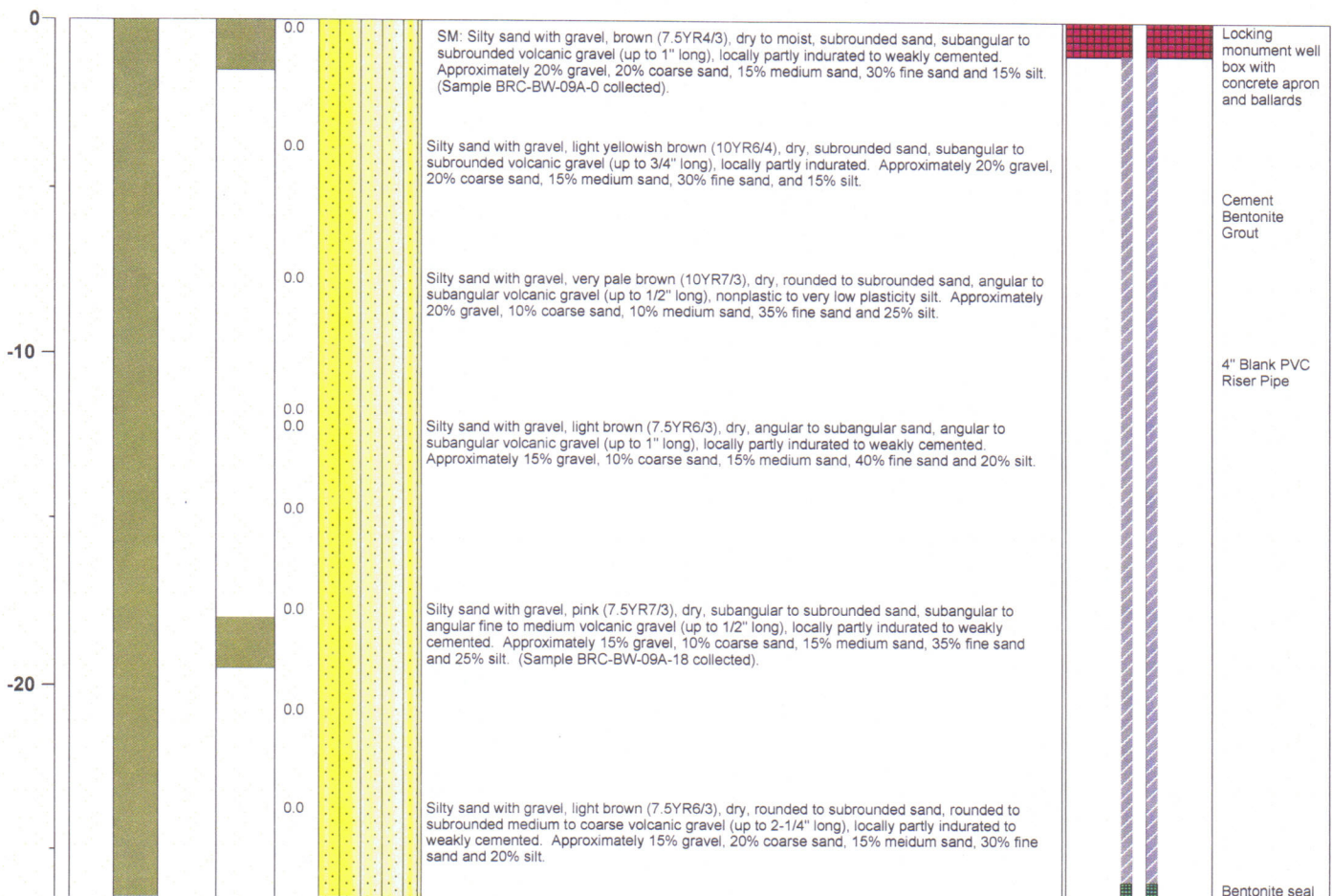
Northing: 26719455.900
Easting: 825703.307
TOC Elevation (ft. msl): 1761.593
Borehole Total Depth: 60 ft bgs
Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
Well ID: GW-AA-BW-09A
Depth to Water (ft. bgs): 49.5 ft bgs

Sample Type: N/A
Sample Interval: Continuous

Logged By: J. Plumer
Date Started: 03/10/05
Date Completed: 03/10/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	33 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	53 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-9A



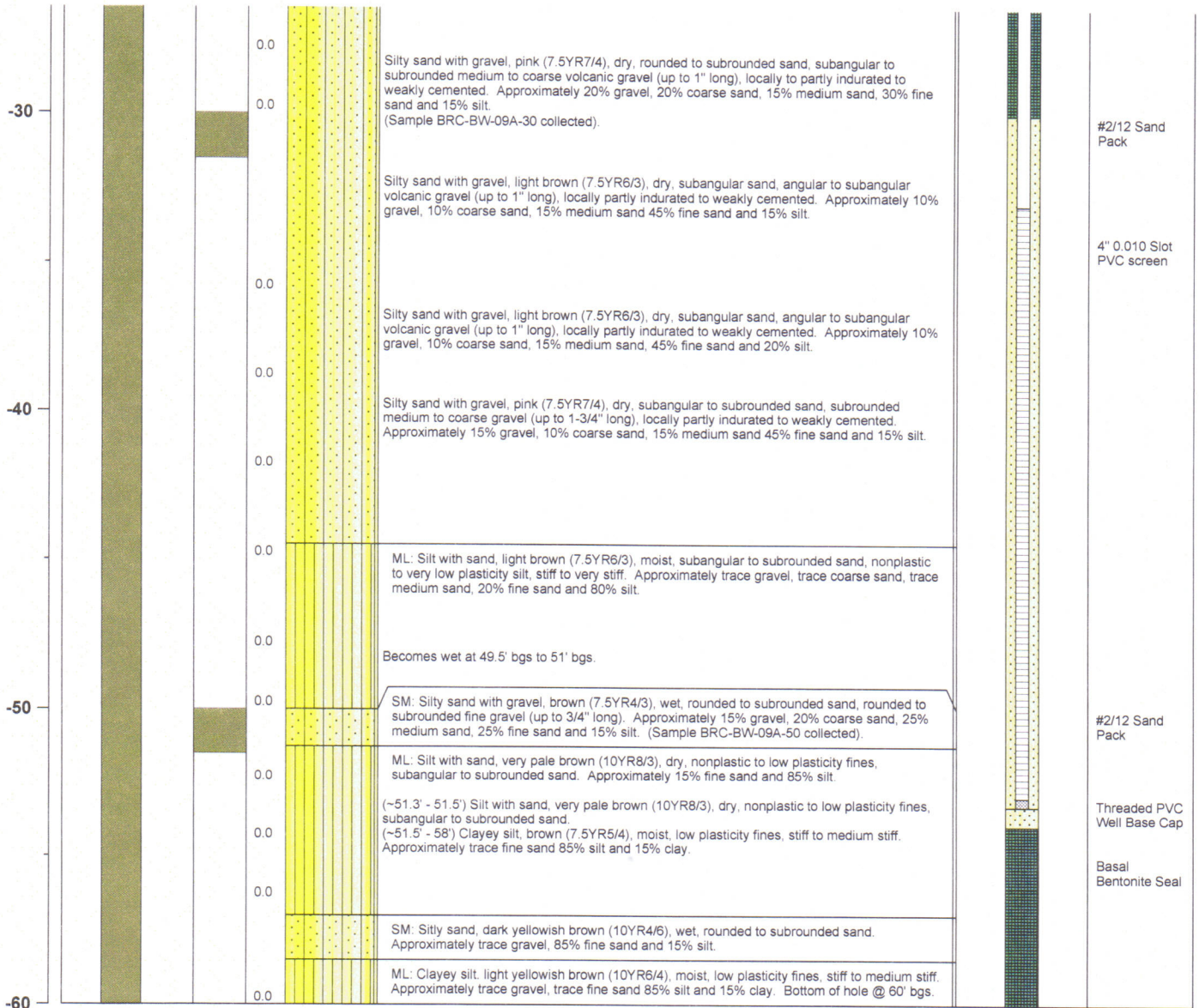
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-9A

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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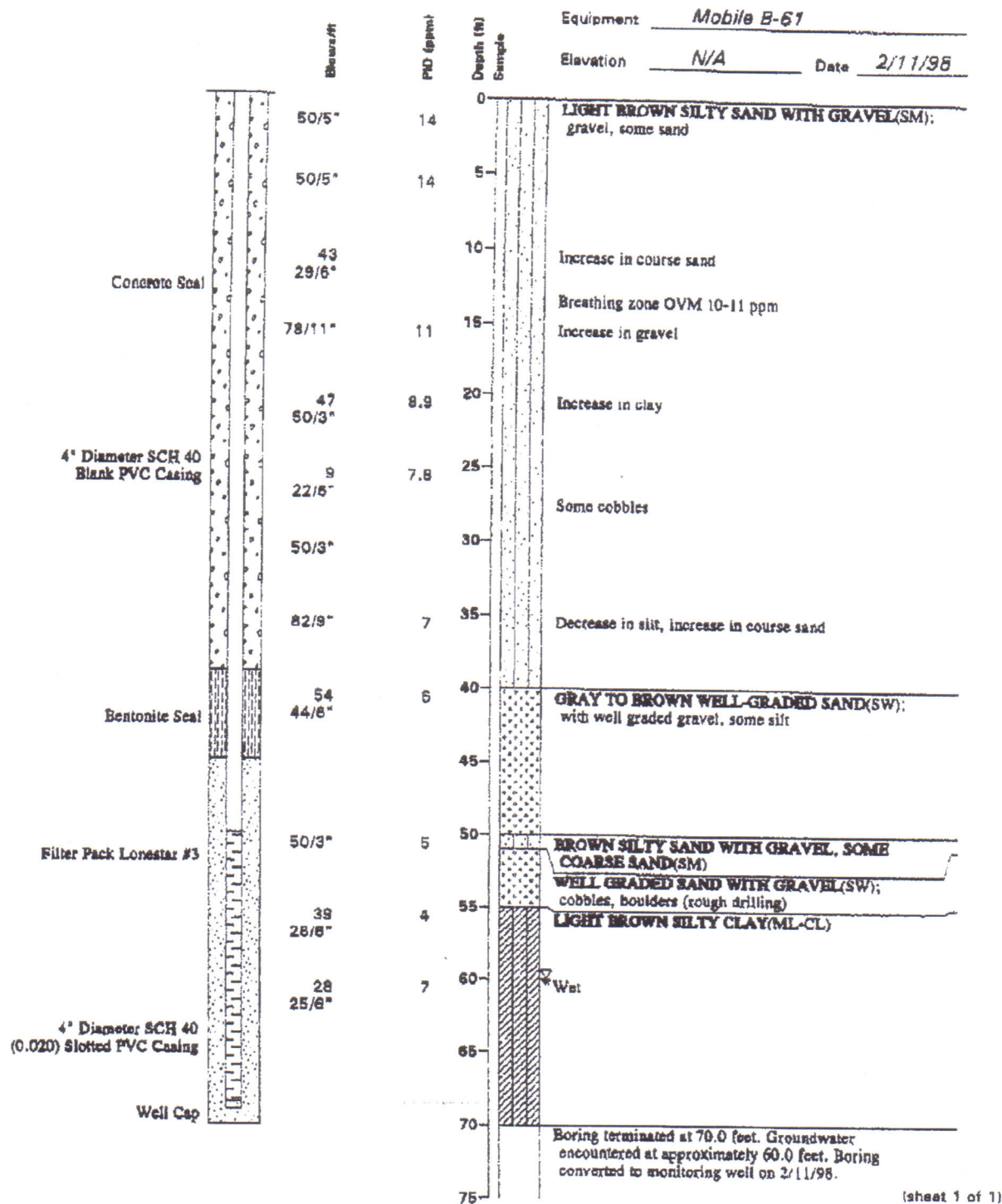


Project No. 1881263.020101

Log of Boring: BW-9A



Page 2 of 2



Harding Lawson Associates
Engineering and
Environmental Services

LOG OF BORING EC-1
Stauffer Management - BMI
8000 Lake Mead

FIGURE

DRAWN
KBH

PROJECT NUMBER
37105.23

APPROVED

DATE

REVISED DATE
7/20/98

Log of Boring No. BW-9B

BMI Landfill CAMU Investigation

Henderson, Nevada

Drilling Method: Rotary Sonic
 Drilling Equipment: GEFCO
 Drilling Contractor: Water Development Corporation
 Driller: Mike Wilkerson

Northing: 26719452.855
 Easting: 825735.127
 TOC Elevation (ft. msl): 1761.626
 Borehole Total Depth: 80 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-MCF-BW-09B
 Depth to Water (ft. bgs): 47 ft bgs

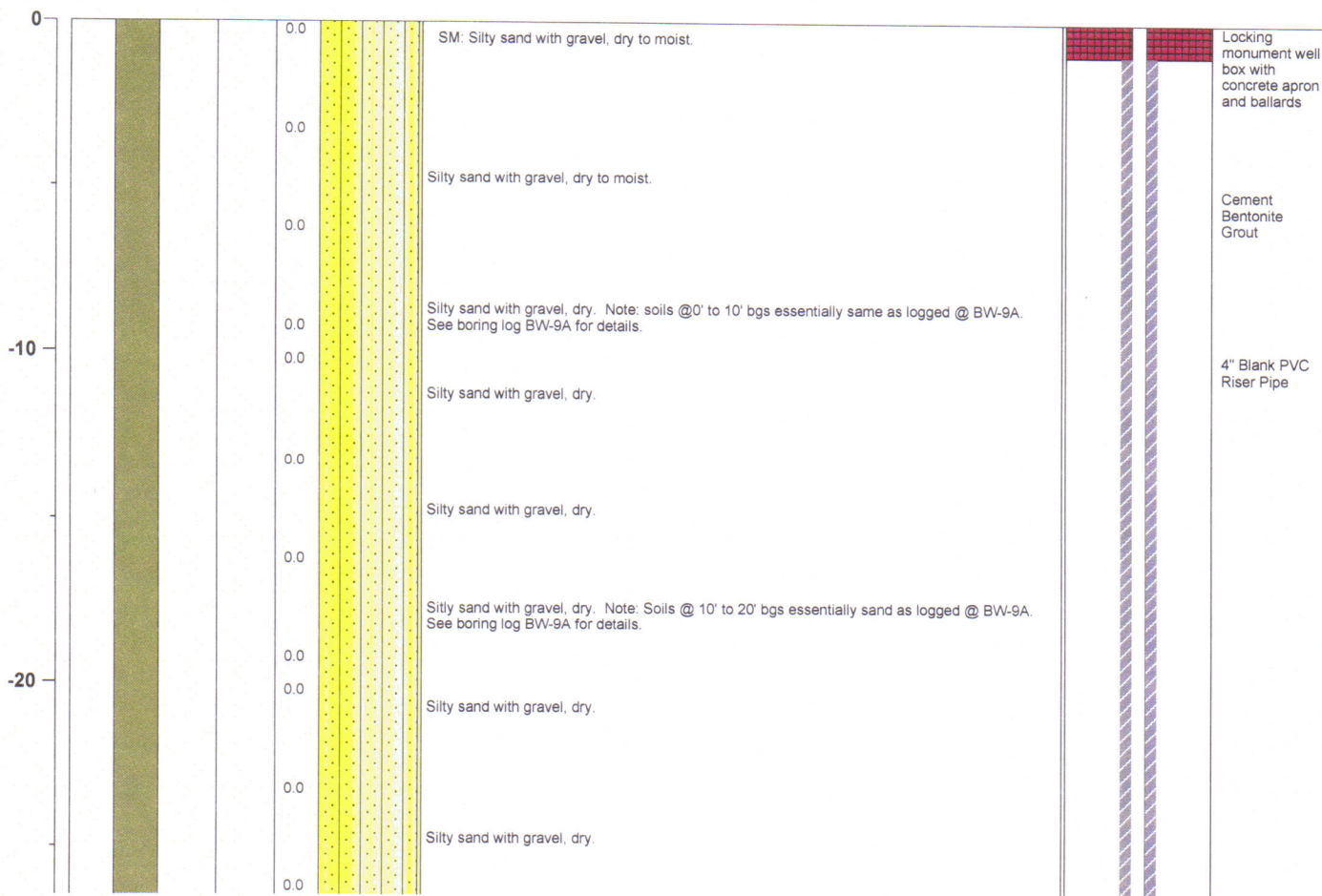


Sample Type: N/A
 Sample Interval Continuous

Logged By: A.Norris
 Date Started: 03/11/05
 Date Completed: 03/12/05

Monitoring Well Construction			
Type of Surface Seal:	Bentonite-Grout	Screen Slot Size:	0.010 in
Blank Casing Type/Size:	4" Sch 80 PVC	Top of Screen (ft. bgs):	58 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	78 ft bgs
Transition Sand Type:	N/A	Type of Sand Pack:	#2/12

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-9B



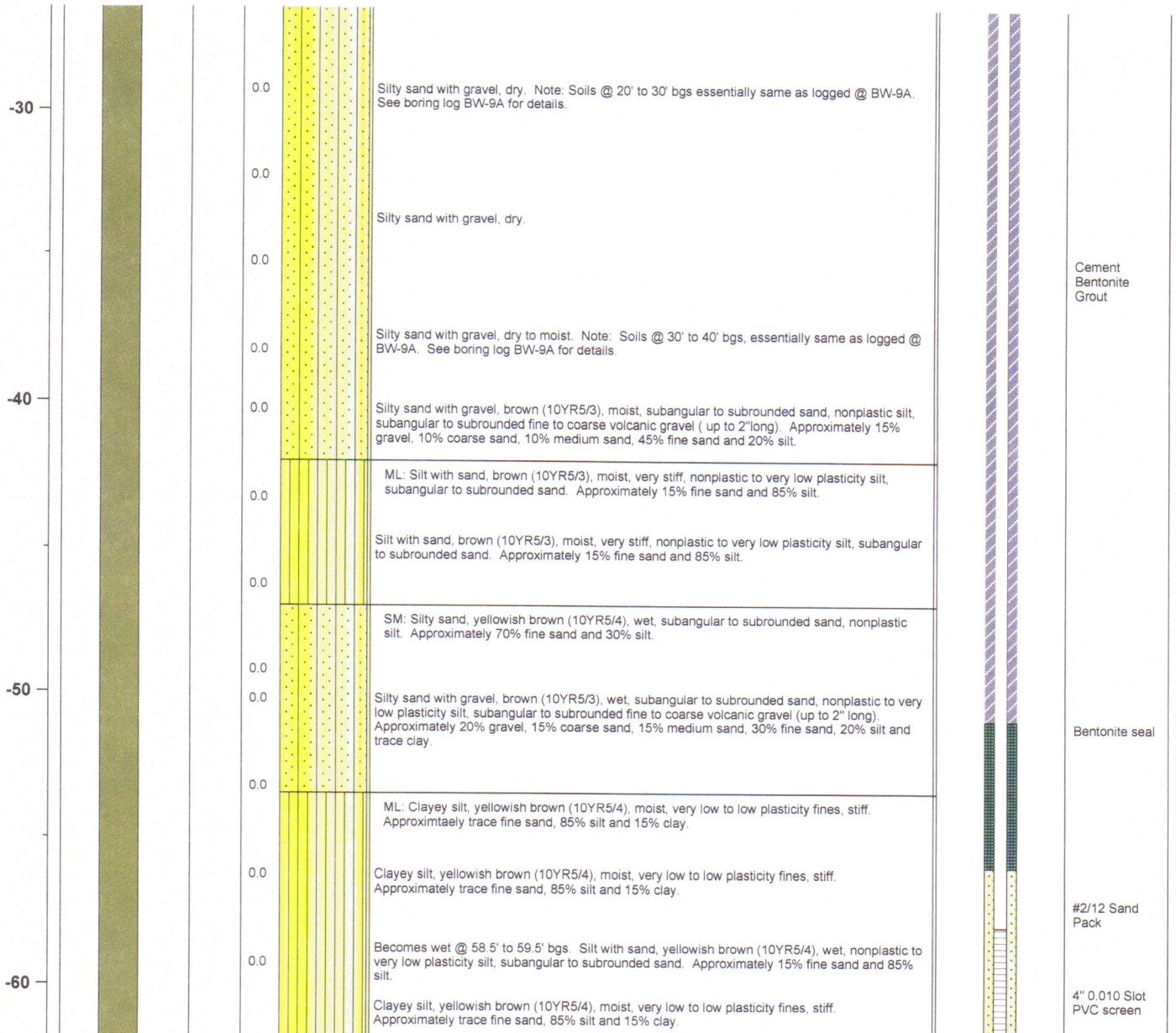
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-9B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-9B



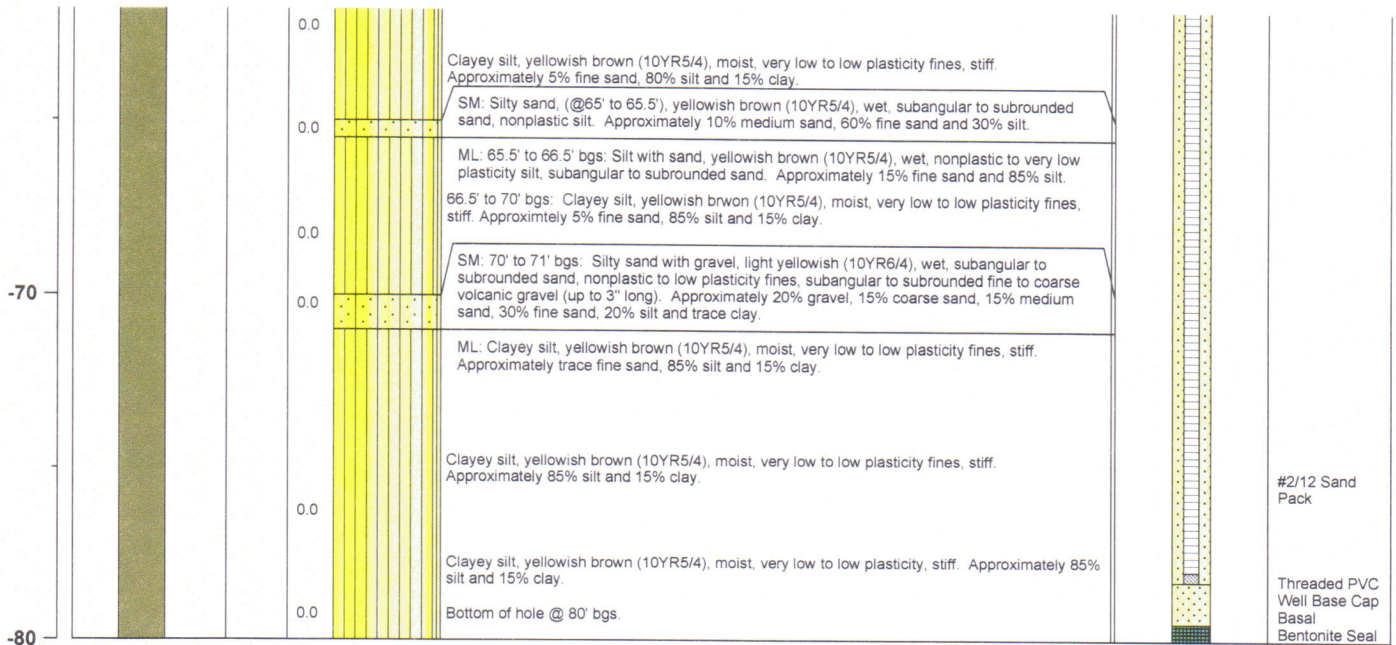
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-9B

Depth Elevation (MSLD)	Sample Type	Sample Interval	Sample Recovery (feet)	Sample Retained for Analysis	PID	Lithology	Soil Description	Well Construction
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Project No. 1881263.020101

Log of Boring: BW-9B



TABLE 3.3 (Cont'd)

H-41
C-C'

WELL	TOTAL DEPTH	SCREENED OR OPEN HOLE INTERVAL	DEPTH TO WATER AND YEAR MEASURED				DEPTH OF MUDDY CREEK FORMATION
			1971	1980	1982	1983	
H-32	101	37-101		39	40		38
H-33	101	36-101		38	38.4		37
H-34	44	41-44					44
H-35	94	91-94					35
H-36	44 old 39 new	41-44 29-39		26	28.4		38
H-37	50.5	25-50					25
H-38	55	16-55		34	34.5		25
H-39	75	15-75		45	46.1		43
H-40	75	55-75		49	51		40.5
H-41	75	65-75		46	50		54
H-42	55	8-555		33	36		44
H-43	55 old 44 new	9-55 29-44		30	32.9		45.5
H-44	231	6-231					49
H-45	Not Drilled	-	-	-	-	-	-
H-46	51	36-51					42
H-47	152	142-152			41.7		52
H-48	43	33-43			32		59
H-49	38	28-38			32		48
H-50	43	33-431			35		40
H-51	42	32-42			34		57.5
H-52	28	18-28			18		18
H-53					26		42
H-54					31		51
H-55					44		43
H-56					30.8		
LG-9	91	85-90		5.5			
LG-10	42			8.6			
LG-11	39	0-39		18.4			
LG-13	250	241-243		38.9			
LG-15	25	23-25		3			
LG-16	47	43-40		3			
LG-17	90	80-82		15.2			
LG-19	70			0-Flowing			
LG-20	20			5.6			
LG-21	40	37-39		29.1			
LG-25	24			11.4			
LG-26	100	87-90		11.7			
LG-27	62	57-62		14			
LG-30	30	27-29		6			
LG-32	155	147-155	35	49.7			54
LG-32R	90	80-90		Nov 79 50			52

Table 1 - continued

Well Number	Casing Elev.	Surface Elev.	Depth to Muddy Creek Fm.	Elev. of Top of Muddy Creek Fm.	Water Level Elev. Dec. 1982	Water Level Distance from Top of Muddy Creek Fm.
H-36*	1716.20	1715.4	38	1677	1687.86	11
H-37	1712.32	1710.7	25	1685		
H-38	1772.69	1771.7	25	1746	1738.25	-3
H-39✓	1770.32	1770.7	43	1728	1724.20	-4
H-40	1770.31	1769.0	40.5	1729	1719.30	-10
H-41✓	1774.92	1773.7	54	1720	1724.12	4
H-42✓	1729.09	1728.2	55	1684	1693.82	10
H-43*	1729.82	1728.2	45.5	1683	1696.89	14
H-44#			49.5			
H-45	Not drilled					
H-46✓	1730.03	1728.8	42	1687		
H-47+	1770.54		54		1729.47	
H-48	1682.79	1680.3	59	1621	1650.88	30
H-49	1685.38	1684.1	48	1636	1653.77	18
H-50	1700.48	1699.1	40	1659	1665.96	7
H-51	1699.00	1698.1	57.5	1641	1664.92	24
H-52	1727.71	1726.3	18	1708	1709.68	2
H-53	1713.87	1712.9	42	1672	1688.06	16
H-54	1722.30	1719.8	51	1671	1690.53	20
H-55	1749.05	1748.0	43	1706	1705.43	-1

Corehole without well completion

+ Second zone monitor

* Reworked configuration of well

Monitoring Well Construction Data

Stauffer Chemical Company/Henderson, Nevada

Well No.	Date Started	Date Completed	Hole Diam.	Total Depth	Casing Diam.	Casing Length	Completion	TOC above GS	TOC Elevation	Contractor rig
H-35	12-19-79	12-20-79	5"	95'	2" (T&C)	95.6'	10 slot wellpoint 91.6' - 94.1'; sand to 70', bentonite to 1', cement to surface	1.5'	1706.65	G/MR
H-36	12-20-79	12-20-79	5"	100'	-	-	test hole with core sample	-	-	G/MR
H-36	12-21-79	12-21-79	5"	44'	2" (T&C)	45.0'	10 slot wellpoint 41.2' - 43.7'; sand to 35'; bentonite to 32'; cuttings to 2'; cement to surface	1.3'	1717.78	G/MR
H-37	1-16-80	1-17-80	5"	50.5'	2" (T&C)	51.9'	saw-slotted pipe 25.3' - 50.3'; gravel to 5'; cuttings to 1'; cement to surface	1.6'	1712.32	G/MR
H-38	1-23-80	1-23-80	12"	15'	8" (c)	16.5'	pilot hole	-	-	A/FA
H-38	2-8-80	2-11-80	8"	55'	as	above	open hole, 16' - 55'	1.4'	1772.69	A/CT
H-39	2-12-80	2-13-80	12"	14.5'	8" (c)	15.4'	pilot hole	-	-	A/FA
H-39	2-15-80	2-19-80	8"	75'	as	above	open hole, 15.5' - 75'	1.0'	1770.32	A/CT
H-40	2-21-80	2-21-80	12"	15'	10" (c)	16.0'	pilot hole	-	-	-
H-40	2-27-80	4-2-80	8"	43'	-	-	-	-	-	A/CT
			6"	75'	6"	50.0'	drive casing; bottom 19.4' torch slotted	1.3'	1770.31	-
H-41	2-22-80	2-22-80	12"	26'	10" (c)	27.0'	pilot hole	-	-	A/FA

Monitoring Well Construction Data

Stauffer Chemical Company/Henderson, Nevada

Well No.	Date Started	Date Completed	Hole Diam.	Total Depth	Casing Diam.	Casing Length	Completion	TOC above GS	TOC Elevation	Contractor/rig
H-41	4-3-80	4-16-80	6"	75'	6"	57.0'	drive casing; bottom 10.0' torch slotted	1.2'	1774.92'	A/CT
H-42	2-22-80	2-22-80	10"	55'	8" (h)	8.5'	open hole, 7.5' - 55';	0.9'	1729.09'	G/MR
H-43	2-27-80	2-28-80	10"	55'	8"	9.4'	open hole, 8.5' - 55'; cement plug at surface	0.8'	1728.95'	G/MR
H-44	3-17-80	3-19-80	5"	231'	-	-	test hole with core samples; open hole	-	-	G/MR
H-45	3-19-80	-	5"	40; 45'	-	-	abandoned after 2 attempts due to lost circulation	-	-	G/MR
H-46	3-25-80	3-29-80	5"	51'	1 1/4" PVC	52.2'	drill-perforated pipe 36'-51' gravel to 30'; cuttings to 1; cement to surface	1.2'	1730.03'	G/MR
H-47	5-13-80	5-13-80	12"	39'	10" (c)	40.0'	pilot hole	-	-	A/FA
H-47	5-15-80	6-18-80	8"	120'	6" (c)	120.0'	annulus pressure cemented - by Halliburton	-	-	A/CT
LG032R	2-22-80	2-22-80	6"	152'	4" (h)	152.4'	bottom 10.0' torch/	1.75	-	A/FA
LG032R	4-17-80	5-6-80	10"	70'	10" (c)	16.0'	pilot hole slotted	-	-	A/CT
					6" (c)	72.5'	annulus cemented from bottom	1.5'	-	
			6"	90'	4" (h)	92.5'	torch slot bottom 10.0'	1.9'	1770.75'	
LG033	5-8-80	5-9-80	6"	35'-60'	6"		existing 6" casing	0.8'	-	A/CT
	(existing well deepened)	-	-	-	4" (h)	63.4'	torch slot bottom 10.0'	2.6	1770.06	

JSEP-conf

MA
copy