

D-D'

"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.: H-42

Project: Stauffer Chemical Company

Date Completed: 2/22/80

Location: Henderson, Nevada

Description

Depth Below
Land Surface
(feet)

0 - 44

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 42.5-44; organic odor in mud at 41'

44 - 55

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).

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Geraghty & Miller, Inc.

WELL LOG

Well No.: H-42

Date Completed: 2-22-80

Project: Stauffer Chemical Company

Location: Henderson, Nevada

Split Spoon Samples

Description

Depth Below
Land Surface
(feet)

30-31-32 blows/6"
light brown clayey silt; organic odor

44.0 - 45.1

light brown clayey silt, with occasional
caliche gravel; slight organic odor
55.0-56.1; no organic odor 56.1-56.5

55.0 - 56.5

Log of Boring No. BW-7A

BMI Landfill CAMU Investigation

Henderson, Nevada



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

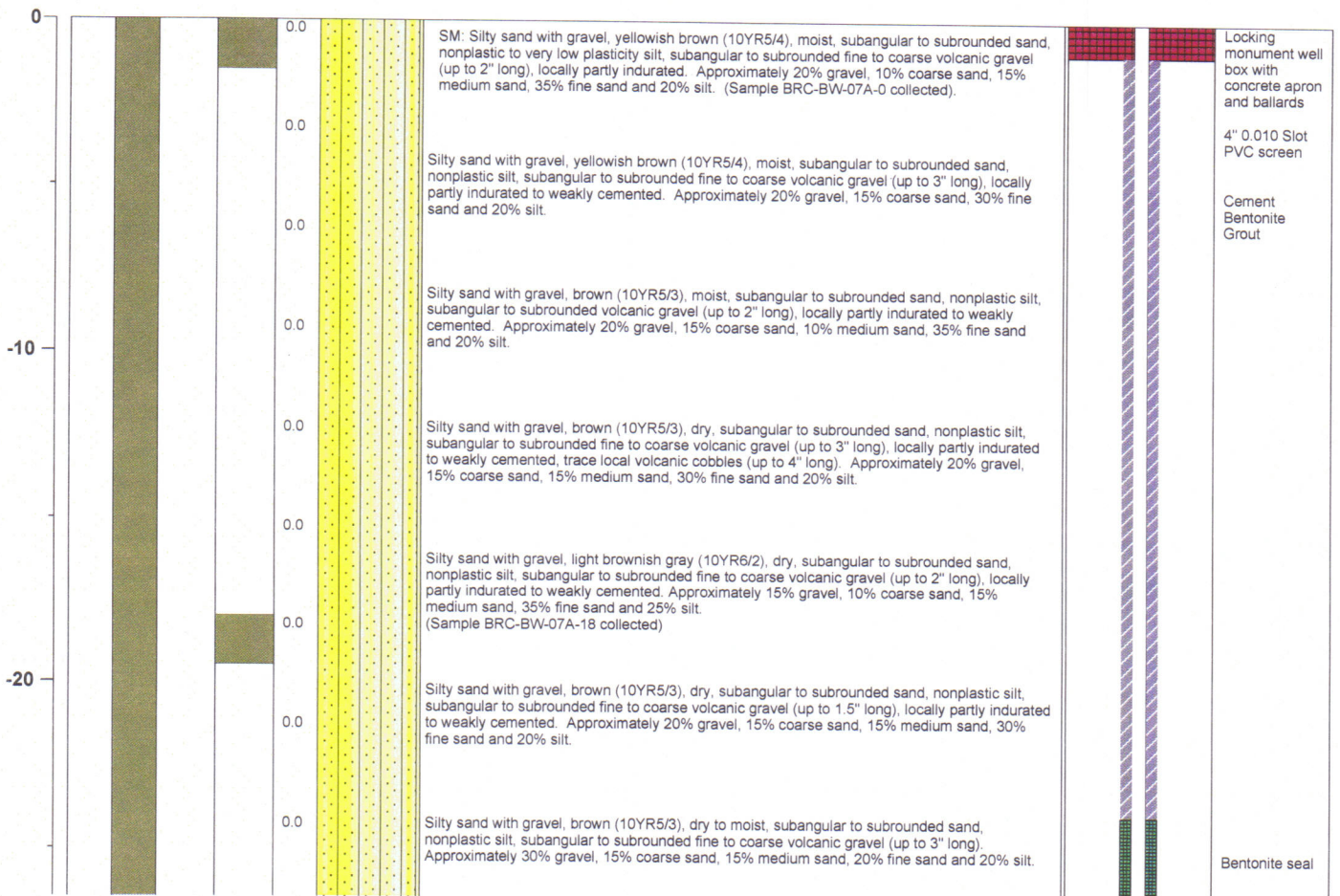
Northing: 26720637.976
 Easting: 823979.464
 TOC Elevation (ft. msl): 1739.890
 Borehole Total Depth: 60 ft bgs
 Borehole Diameter: 7 5/8" O.D. Casing / 7 7/8" O.D. Bit
 Well ID: GW-AA-BW-07A
 Depth to Water (ft. bgs): 45' bgs

Sample Type: 2.5" Split Spoon
 Sample Interval: Continuous

Logged By: A. Norris
 Date Started: 02/26/05
 Date Completed: 02/27/05

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):	32 ft bgs
Screen Type/Size:	4" Sch 80 PVC	Bottom of Screen (ft. bgs):	52 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-7A



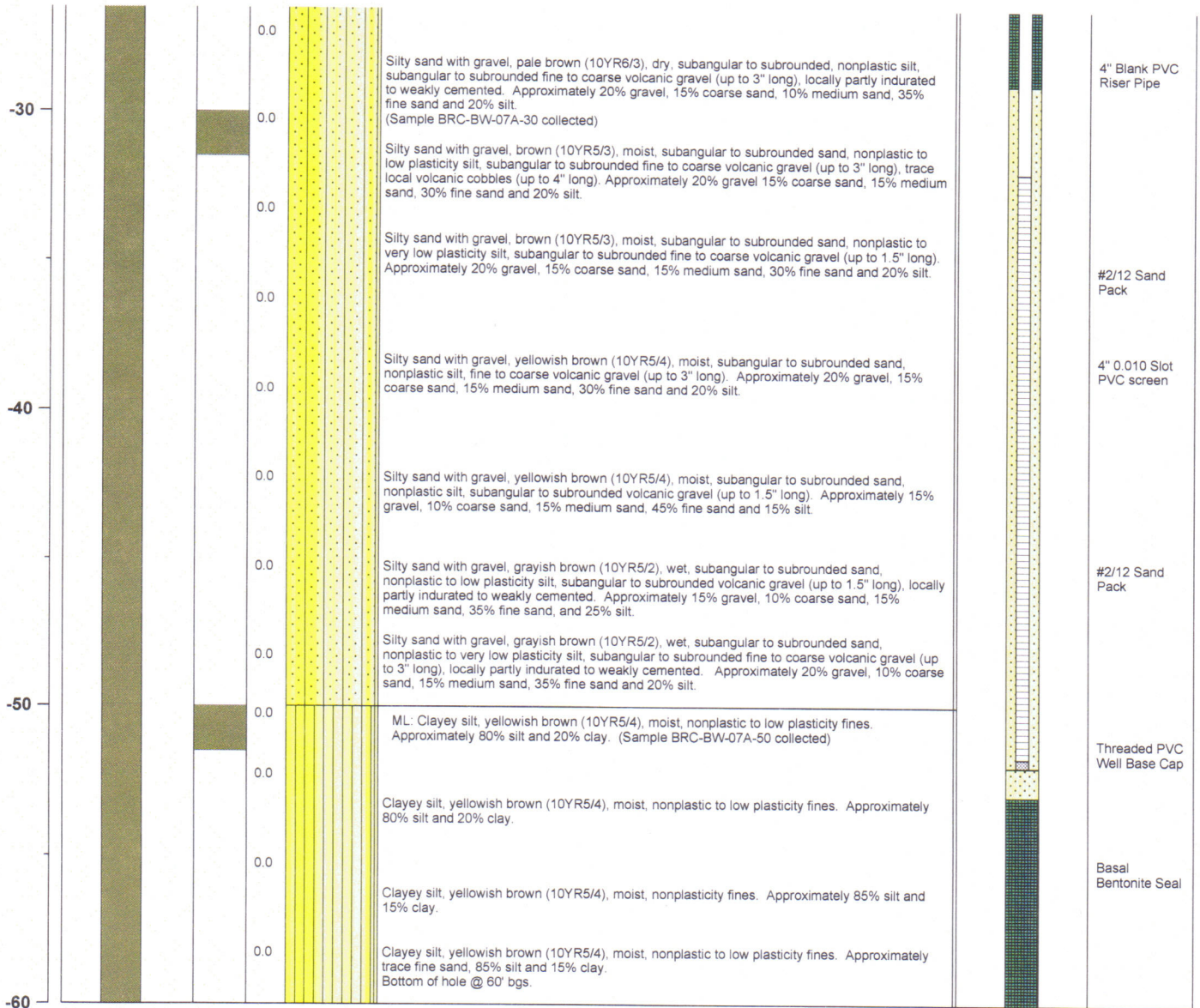
BMI Landfill CAMU Investigation

Henderson, Nevada



Log of Boring No. BW-7A

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-7A



Page 2 of 2

EXPLORATION LOG WDE-3

PROJECT: BRC WESTERN DITCH EXTENSION

HOLE LOCATION: SEE FIGURE 1

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

ELEVATION: EGS

PROJECT NO.: 99949V10

EXPLORATION DATE: 11/01/00

EQUIPMENT: MOBILE B-90 DRILL RIG

DRILLER/LOGGER: HEURTA/COOKE

INITIAL DEPTH TO WATER: 49.75 FEET

DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 49.75 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		GP	Pale brown (10 YR 6/3) poorly graded gravel with sand, dry and very dense. Sand fraction reacts strongly with hydrochloric acid. No odors or stains. PID = 0.0 ppmV.					
2.5			...dark yellowish brown (10 YR 4/4)					
5			...no odors or stains. PID = 0.0 ppmV					
7.5			...very dense, hard limestone gravel and volcanic cobbles					
10			...softer, poorly graded gravel, subangular to subrounded					
12.5			...no odors or stains. PID = 0.0 ppmV					
15			...gray (10 YR 6/1), subangular, very hard limestone gravel and volcanic cobbles					
17.5			...pale brown (10 YR 6/1)					

EXPLORATION LOG WDE-3

PROJECT: BRC WESTERN DITCH EXTENSION

HOLE LOCATION: SEE FIGURE 1

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

ELEVATION: EGS

PROJECT NO.: 99949V10

EXPLORATION DATE: 11/01/00

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DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 49.75 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20			...no odors or stains. PID = 0.0 ppmV.					
22.5								
25			...gravel size range decreasing: 3/8 inch to 1/2 inch					
27.5								
30			Pale brown (10 YR 6/3) poorly graded gravel with sand, dry and very dense. No odors or stains. PID = 0.0 ppmV.					
32.5			...drilling is easier.					
35								
37.5								

EXPLORATION LOG WDE-3

PROJECT: BRC WESTERN DITCH EXTENSION

HOLE LOCATION: SEE FIGURE 1

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

ELEVATION: EGS

PROJECT NO.: 99949V10

EXPLORATION DATE: 11/01/00

EQUIPMENT: MOBILE B-90 DRILL RIG



DRILLER/LOGGER: HEURTA/COOKE

INITIAL DEPTH TO WATER: 49.75 FEET

DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 49.75 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
40			...no odors or stains. PID = 0.0 ppmV					
42.5			...harder, more angular gravel					
45			...very hard drilling. Gray (10 YR 6/1) volcanic boulders					
47.5			...fines and sand fraction react strongly to hydrochloric acid. Gravel and cobbles do not react to hydrochloric acid					
50		CL	pale brown (10 YR 6/3) lean clay with sand, wet and very stiff. No odors or stains. PID = 0.0 ppmV.					
52.5			GROUNDWATER AT 49.75 FEET END OF BORING AT 52 FEET					
55								
57.5								

EXPLORATION LOG WDE-1

PROJECT: BRC WESTERN DITCH EXTENSION

HOLE LOCATION: SEE FIGURE 1

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

ELEVATION: EGS

PROJECT NO.: 99949V10

EXPLORATION DATE: 11/01/00

EQUIPMENT: MOBILE B-90 DRILL RIG

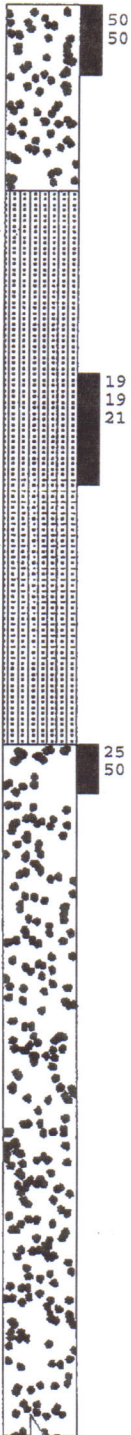
DRILLER/LOGGER: HEURTA/COOKE

INITIAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		GP	Pale brown (10 YR 6/3) poorly graded gravel with sand, moist (due to water truck spraying area) and very dense. Sand fraction has strong reaction to hydrochloric acid. No odors or stains. PID = 0.0 ppmV.					
2.5		SM	Dark yellowish brown (10 YR 4/4) silty sand with gravel, slightly moist and dense. No odors or stains. PID = 0.0 ppmV.					
5								
7.5								
10		GP	Dark yellowish brown (10 YR 4/4) poorly graded gravel with sand, slightly moist and very dense. Gravel fraction is subangular and up to 2.5 inches. Sand and limestone gravel have strong reaction to hydrochloric acid. PID = 0.0 ppmV.					
12.5								
15								
17.5								
			...with limestone cobbles and boulders					

EXPLORATION LOG WDE-1

PROJECT: BRC WESTERN DITCH EXTENSION

PROJECT NO.: 99949V10

HOLE LOCATION: SEE FIGURE 1

EXPLORATION DATE: 11/01/00

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

EQUIPMENT: MOBILE B-90 DRILL RIG

ELEVATION: EGS


DRILLER/LOGGER: HEURTA/COOKE

INITIAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20								
22.5								
25								
27.5								
30			...slight odor (pesticide ?) at approximately 30 feet below ground surface. No stains. PID = 0.0 ppmV.					
32.5			...increasing sand content (40 %)					
35			...no odors or stains. PID = 0.0 ppmV. Sand reacts strongly with hydrochloric acid. Gravel has no reaction to hydrochloric acid. Gravel is hard (H > 6), gray (10 YR 6/1) volcanic rock clasts.					
37.5								

EXPLORATION LOG WDE-1

PROJECT: BRC WESTERN DITCH EXTENSION

HOLE LOCATION: SEE FIGURE 1

EXPLORATION SIZE: 4 1/4" I.D. H.S.A.

ELEVATION: EGS

PROJECT NO.: 99949V10

EXPLORATION DATE: 11/01/00

EQUIPMENT: MOBILE B-90 DRILL RIG

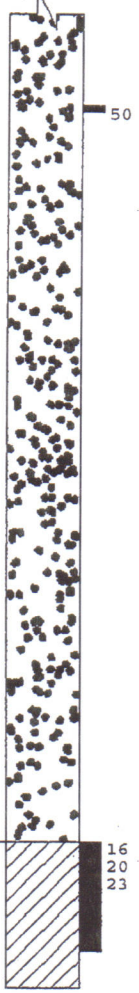
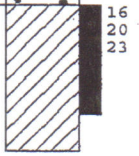
DRILLER/LOGGER: HEURTA/COOKE

INITIAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

FINAL DEPTH TO WATER: 50.0 FEET

DATE MEASURED: 11/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
40 42.5 45 47.5 50			<p>...slight odor (pesticide) again. No stains. PID = 0.0 ppmV. decreasing gravel size to mostly "pea" gravel in size and subrounded.</p> <p>...drilling gets easier. Mostly gravel to borderline silty sand with gravel</p> <p>...no odors or stains. PID = 0.0 ppmV.</p>					
50		CL	Dark yellowish brown (10 YR 4/4) lean clay with sand and gravel, moist to wet and very stiff. No odors or stains. PID = 0.0 ppmV.					
52.5 55 57.5			<p>GROUNDWATER AT 50.0 FEET</p> <p>END OF BORING AT 52 FEET</p>					

KEY TO SYMBOLS

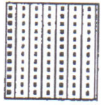
Symbol Description

Symbol Description

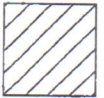
Strata symbols



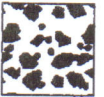
Poorly graded gravel



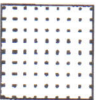
Silty sand



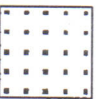
Low plasticity clay



Well graded gravel



Well graded sand



Poorly graded sand



Water table at date indicated



Water table at date indicated

Soil Samplers



California sampler

Misc. Symbols



Boring continues

Notes:

1. Exploratory borings were drilled on date shown with a Mobile B-90 drill rig using 4 1/4 inch hollow stem augers.
2. California sampler driven with 140 pound hammer falling 30 inches.
3. Boring locations shown on site plan estimated by pacing from existing features.
4. These logs are subject to the limitations, conclusions, and recommendations in this report.
5. Results of tests conducted on samples recovered are reported on the logs and attached plates/figures.
6. Soil color designation based on the Munsell Soil Color Charts, 1990.

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Geraghty & Miller, Inc.

WELL LOG

Well No.: H-39

Date Completed: 2/19/80

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.

0 - 43

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)

43 - 75

TABLE 3.3 (Cont'd)

D-D'
H-39

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	41-44		26			38
	39 new	29-39			28.4		
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	9-55		30			45.5
	44 new	29-44			32.9		
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
				Nov 79			
LG-32R	90	80-90		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	1687.36	11
H-37	1712.32	1710.7	25	1685		
H-38	1772.69	1771.7	25	1746	1738.25	-8
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" 6"	43' 75'	- 6"	50.0'	drive casing; bottom 19.4' torch slotted	1.3'	1770.31	A/CT
H-41	2-22-80	2-22-80	12"	26'	10" (c)	27.0'	pilot hole	-	-	A/FA