

EXPLORATION LOG OPW6

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-90 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/COOKE

INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00

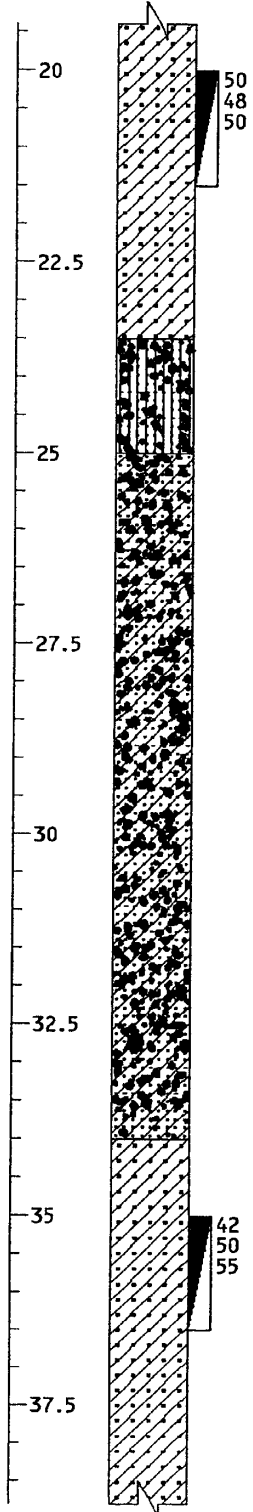
ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt and gravel, dry to slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
2.5			...No odor or staining. PID = 0.0 ppmV.					
5		SP-SC	Brown (7.5 YR 5/4) poorly graded sand with silty clay and gravel, slightly moist and medium dense. No odor or staining. PID = 0.0 ppmV.					
7.5	...No odor or staining. PID = 0.0 ppmV.							
10			...No odor or staining. PID = 0.0 ppmV.					
12.5								
15								
17.5								

EXPLORATION LOG OPW6

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
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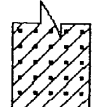
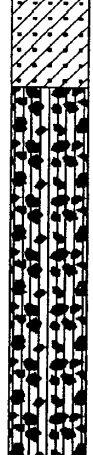




INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00

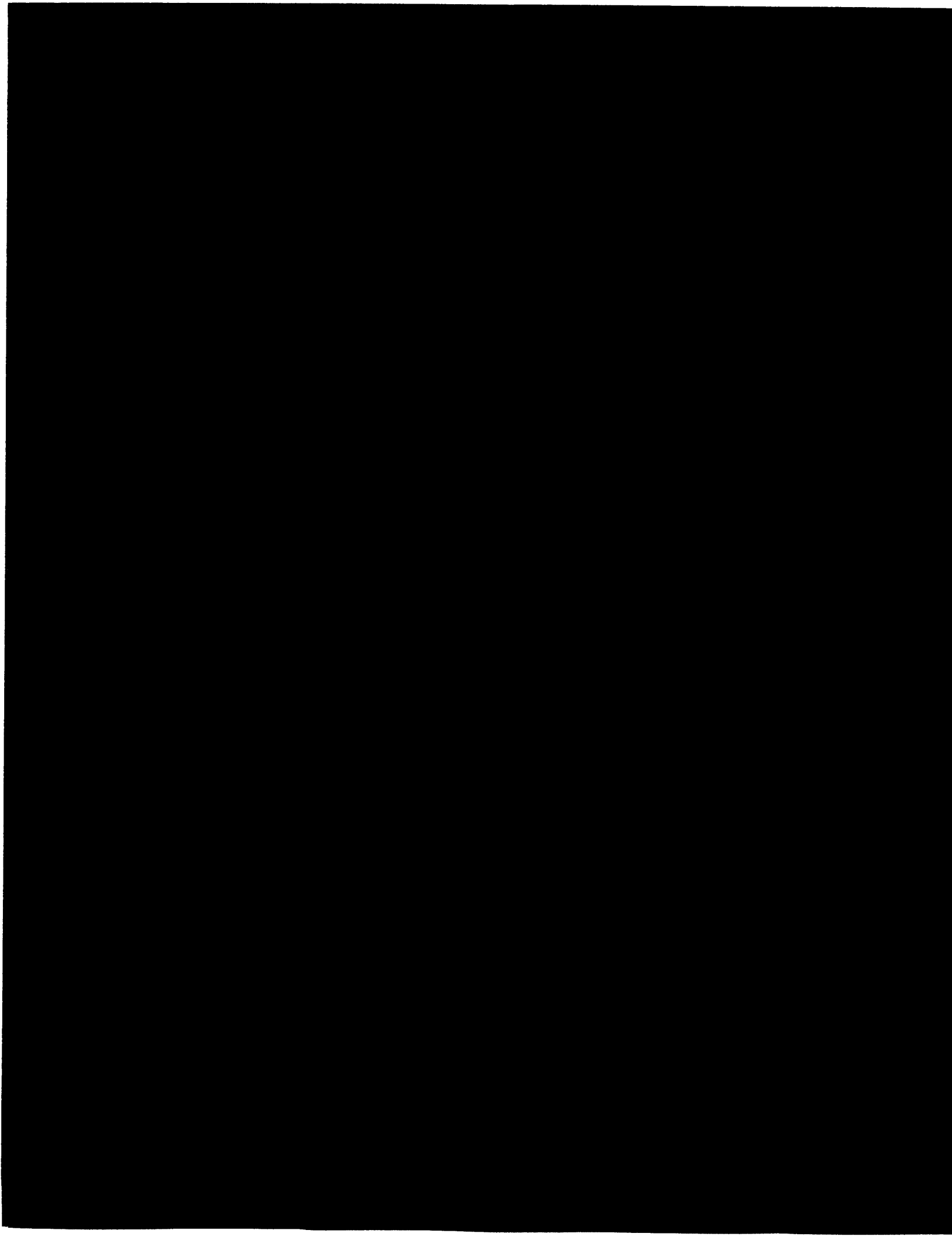
ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20	50 48 50		...No odor or staining. PID = 0.0 ppmV.					
22.5								
25	GP-GM		Brown (7.5 YR 5/2) poorly graded gravel with silt and sand, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
27.5	GP-GC		Brown (7.5 YR 5/4) poorly graded gravel with silty clay and sand, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
30								
32.5								
35	SP-SC		Brown (7.5 YR 5/3) poorly graded sand with silty clay and gravel, slightly moist and dense. ...No odor or staining. PID = 0.0 ppmV.					
37.5	42 50 55							



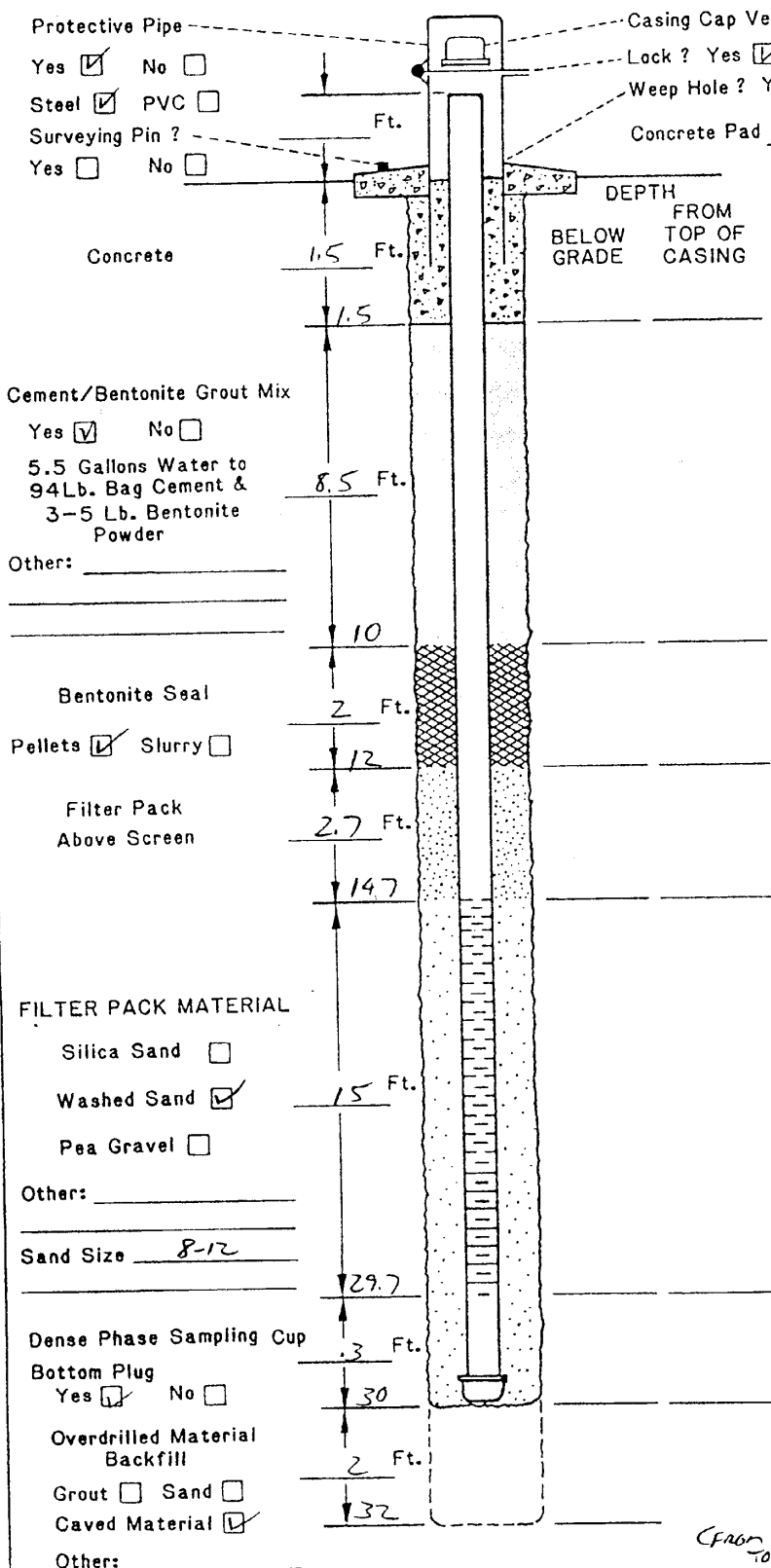
EXPLORATION LOG OPW6

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
BORE HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-90 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/COOKE
INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/04/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
40								
42.5		GM	Brown (7.5 YR 5/2) silty gravel with sand, slightly moist and dense. No Odor or staining. PID=0.0 ppmV.					
45			GROUNDWATER AT 46.0 FEET BGS. NO recovery at 46.0 feet BGS. Groundwater depth interpreted by wet soil on sampler hammer.					
47.5								
50			...No recovery at 50-feet to 51.5-feet BGS due to wet soil.					
52.5			...No odor or staining. PID = 29.5 ppmV.					
55			END OF BORING AT 53 FEET					
57.5								



**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: .020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
10 / 1 Minutes/Hours
 - Approximate Water Volume Removed? 140 Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____
- WATER LEVEL INFORMATION:**
Water Level Summary (From Top of Casing)
- During Drilling 23.5 Ft. Date 3/23/98
Before Development 20.3 Ft. Date 3/24/98
After Development 22.42 Ft. Date 3/25/98

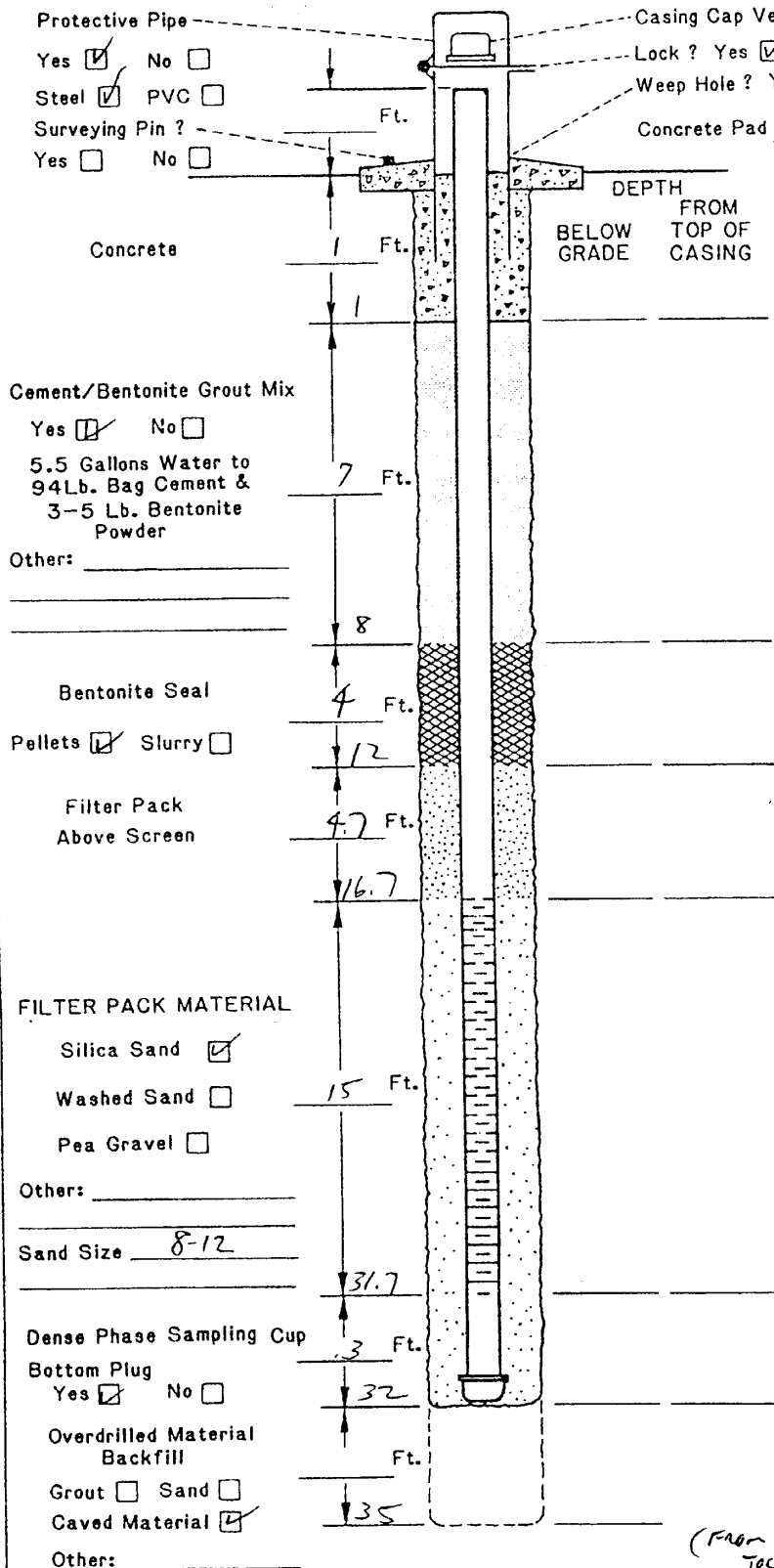
Driller/Firm ROBERTSON/WESSEL DRILLING Drill Rig Type MPSILE B-61 Date Installed 3/24/98
Drill Crew ROBERTSON/JOHNSON/RIIVIKLA Well No. PC-1 Kerr-McGee Hydrologist T. BREE

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMCLLC</i>		LOCATION <i>HENDERSON, W</i>		BORING NUMBER <i>PC-1</i>					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
5	FILL: SAND/GRAVEL IN IMPOUNDMENT BERM										
10	SAND/SILTY SAND; LT. TAN-BROWN; GRAVEL COMMON; WELL-GRADED; DRY		Sm								
15	SAND AS ABOVE		Gm								
20	CALICHE ZONE @ 17-19'										
25	SAND AS ABOVE; BECOMING MOIST										
30	GRAVEL ZONE @ 22'										
31	SILTY CLAY; RED-BROWN W/ LT. GRAY-GREEN REDUCED ZONES		CL								
32	MUDDY CREEK			81448		1	X	32 33.5'	1.2'		GROUNDWATER SAMPLE COLLECTED @ 28'
	TO 32'										

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
		Water Table (Time of Boring)			<i>3/23/98</i>	<i>1 of 1</i>
		PID Photoionization Detection (ppm)		DRILLING METHOD		
		Identifies Sample by Number Sample Collection Method		<i>HSA</i>		
		SPLIT-BARREL		DRILLED BY		
	THIN-WALLED TUBE		<i>WEBER DRILLING</i>			
	AUGER		LOGGED BY			
	CONTINUOUS SAMPLER		<i>T. REED</i>			
	ROCK CORE		EXISTING GRADE ELEVATION (FT. AMSL)			
	NO RECOVERY					
DEPTH	Depth Top and Bottom of Sample		LOCATION OR GRID COORDINATES			
REC.	Actual Length of Recovered Sample in Feet					

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



Protective Pipe
 Yes No
 Steel PVC
 Surveying Pin?
 Yes No

Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

1. Borehole Diameter= 8 Inches.
2. Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used? Yes No
 Depth= _____ to _____ Feet.
4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
4. Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screens: .020
6. Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development?
10 / 1 Minutes/Hours
3. Approximate Water Volume Removed? 75 Gallons
4. Water Clarity Before Development? Clear
 Turbid Opaque
5. Water Clarity After Development? Clear
 Turbid Opaque
6. Did Water have Odor? Yes No
 If Yes, Describe _____
7. Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 18' Ft. Date 3/23/98
 Before Development _____ Ft. Date _____
 After Development 20.01' Ft. Date 3/25/98

FILTER PACK MATERIAL
 Silica Sand
 Washed Sand
 Pea Gravel
 Other: _____

Sand Size 8-12

Dense Phase Sampling Cup
 Bottom Plug
 Yes No

Overdrilled Material Backfill
 Grout Sand
 Caved Material
 Other: _____

(FROM TOC)

Driller/Firm LEE ROBERTSON / WEBER DRG. Drill Rig Type B-61 Date Installed 3/23/98
 Drill Crew L. ROBERTSON / B. JOHNSON Well No. PC-2 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION Hudson, NV	BORING NUMBER PC-2
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
5	SAND/SILTY SAND w/ ASD GRAVEL; LT. TAN-BROWN; WELL-GRAINED; DRY GRAVEL @ 6-7'		SM-GM							
10	SAND AS ABOVE GRAVEL @ 14-15'		SM-GM							
18'	---		SM							
20	SAND AS ABOVE; SATURATED									
25										
30										
31	SILTY CLAY; REDDISH-BROWN GRADING INTO LT. GRAY-GREEN MUDDY CRACK		CL	31-27		1	X	30 31.5	1.4'	
35	TO 35'									

GROUNDWATER
SAMPLE TAKEN
@ 30'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 3/23/98	PAGE 1 of 1
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID NO. Identifies Sample by Number TYPE Photoionization Detection (ppm) Sample Collection Method	SPLIT-BARREL THIN-WALLED TUBE	AUGER CONTINUOUS SAMPLER	DRILLED BY WABER DRILLING
	ROCK CORE NO RECOVERY	NO RECOVERY	LOGGED BY T. REED	EXISTING GRADE ELEVATION (FT. AMSL)
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES

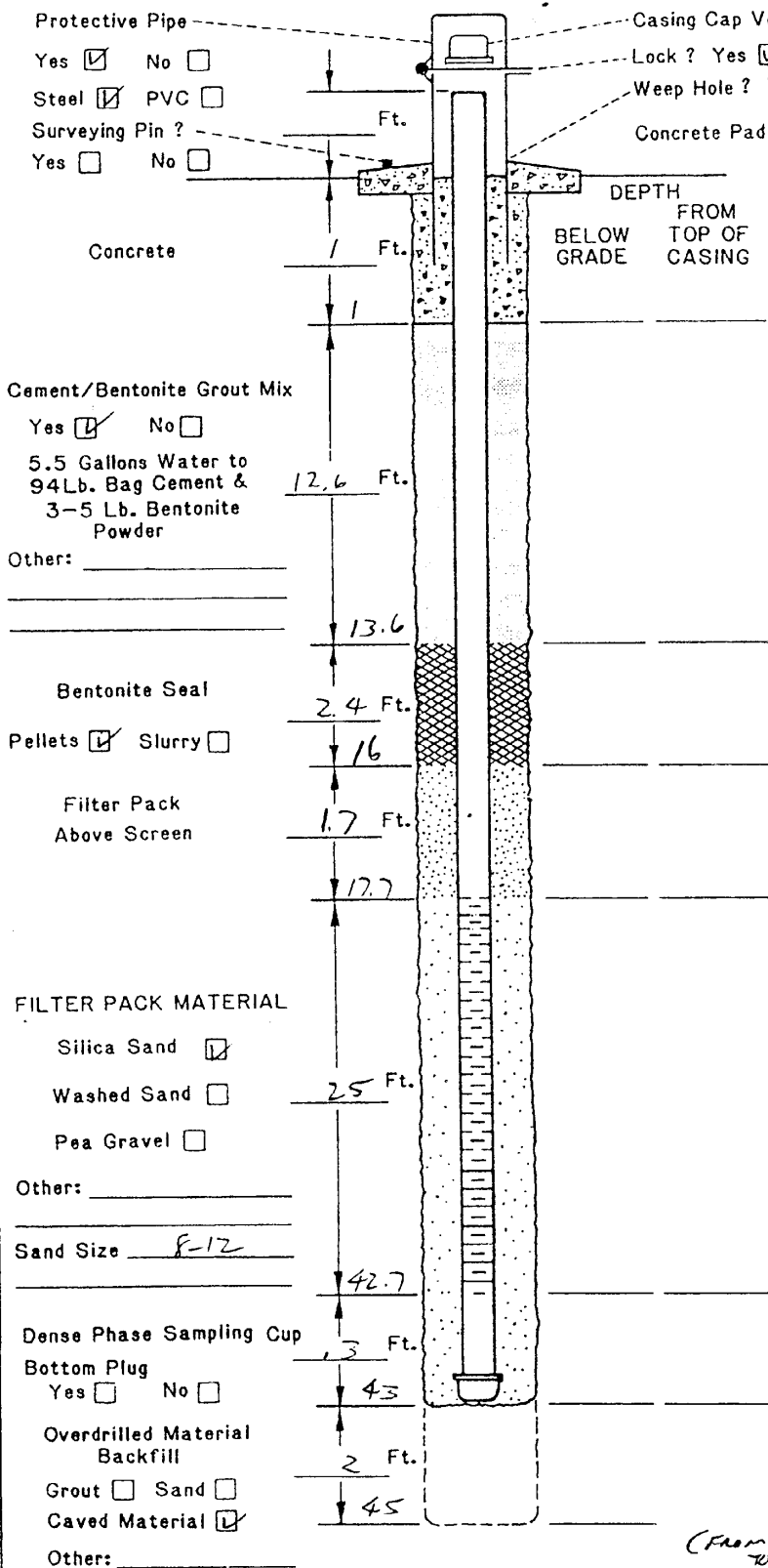
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>Km LLC</i>	LOCATION <i>HENDERSON, W</i>	BORING NUMBER <i>PC-3</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	FILL: SAND/GRAVEL IN IMPOUNDMENT BERM								
10	SAND; SILTY SAND W/ COMMON TO ABSD. GRAVEL; LT. TAN-BROWN; WELL-GRADED; DRY								
15	GRAVEL ZONE @ 8-9'		SM-GM						
20	SAND AS ABOVE; BECOMING MOIST								
23	-----		▽						
25	SAND AS ABOVE; SATURATED								GROUNDWATER SAMPLE COLLECTED @ ~28'
30			CL						
30.5	SILTY CLAY; RED-BROWN TO LT. TANNY-GREEN MUDDY COBBLE TO 31'			7122		1	X	31 32.5	1.3'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE
		Water Table (Time of Boring)			<i>3/23/98</i>
		PID Photoionization Detection (ppm)		DEBRIS FILL	DRILLING METHOD
		Identifies Sample by Number		HIGHLY ORGANIC (PEAT)	<i>HSA</i>
		Sample Collection Method		SANDY CLAY	DRILLED BY
	SPLIT-BARREL		CLAYEY SAND	<i>WEBER DRILLING</i>	
	AUGER			LOGGED BY	
	ROCK CORE			<i>T. REED</i>	
	THIN-WALLED TUBE			EXISTING GRADE ELEVATION (FT AMSL)	
	CONTINUOUS SAMPLER			LOCATION OR GRID COORDINATES	
	NO RECOVERY				
	DEPTH: Depth Top and Bottom of Sample				
	REC.: Actual Length of Recovered Sample in Feet				

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: .020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
45 / _____ Minutes/Hours
 - Approximate Water Volume Removed? 50 Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)
During Drilling 22 Ft. Date 3/24/98
Before Development _____ Ft. Date _____
After Development 23.65 Ft. Date 3/25/98

Driller/Firm L. ROBERTSON / WEBER DRILL Drill Rig Type MOBILE B-61 Date Installed 3/24/98
Drill Crew ROBERTSON / JOHNSON / RIVERA Well No. PC-4 Kerr-McGee Hydrologist T. RAY

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV		BORING NUMBER PC-4				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	FILL: SAND AND GRAVEL IN IMPOUNDMENT BERM								
10	SAND / SILTY SAND; GRAVEL COMMON TO 8.0'; LT. TAN-BROWN; DRY TO SL. MOIST; WELL-SORTED								
15	GRAVEL @ 11-13.5'								
20	SAND AS ABOVE		SM-GM						
22									
25	GRAVEL @ 25-27'								
30	SAND AS ABOVE; SATURATED								
35	GRAVEL @ 38-40'		SM-GM						
40									
EXPLANATION ▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID NO. TYPE Photoionization Detection (ppm) Sample Collection Method ⊗ SPLIT-BARREL AUGER ROCK CORE ■ THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY		GRAPHIC LOG LEGEND ▨ CLAY ▩ DEBRIS FILL ▩ SILT ▨ HIGHLY ORGANIC (PEAT) ▩ SAND ▨ SANDY CLAY ▩ GRAVEL ▨ CLAYEY SAND ▨ SILTY CLAY ▨ CLAYEY SILT				DATE DRILLED 3/24/98		PAGE 1 of 2	
						DRILLING METHOD HSA DRILLED BY WEBER DRILLING LOGGED BY T. REED EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet									

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMLLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-4 (CONT.)		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
40	GRAVEL @ 41.5-42.5'		SM-GM					GROUNDWATER SAMPLE TAKEN @ 42'
43.5	SILTY CLAY, LT. GRAY-GREEN; SLT.		CL					
45	PLASTIC MUDDY CLAY		CL					
	TO 45'			34 32		1	X	45 46.5 1.4'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 3/24/98	PAGE 2 of 2
	Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT	DRILLING METHOD HSA
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND		DRILLED BY WEBER DRILLING
	SPLIT-BARREL	AUGER	ROCK CORE	LOGGED BY T. REED
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	EXISTING GRADE ELEVATION (FT. AMSL)
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NJ.			BORING NUMBER PC-5			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
2	FILL: SAND/GRAVEL IN IMPOUNDMENT BERM									
5	SAND, SILTY SAND; GRAVEL COMMON; WELL-GRADED; LT. TAN-BROWN									
	GRAVEL ZONE @ 8-10'		SM-							
	SAND AS ABOVE, MOIST		GM							
10	GRAVEL @ 13'									
15	GRAVEL @ 15.5-16.5'									
18										
20										
25										
26										
27	SILTY CLAY; BROWN TO REDDISH-BROWN SANDY CLAY; V. SLI. PLASTIC MUDDY CREEK TO 27'		CL	37 50		1	X	27' 28.5'	1.5'	GROUNDWATER SAMPLE COLLECTED @ 25'

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method
- SPLIT-BARREL
- THIN-WALLED TUBE
- AUGER
- CONTINUOUS SAMPLER
- ROCK CORE
- NO RECOVERY

DEPTH Depth Top and Bottom of Sample
 REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED: 3/25/98
 PAGE: 1 of 1

DRILLING METHOD: HSA

DRILLED BY: WEBER DRILLING

LOGGED BY: T. REED

EXISTING GRADE ELEVATION (FT AMSL):

LOCATION OR GRID COORDINATES:

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-6			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	FILL: SAND AND GRAVEL IN IMPOUNDMENT BEAM								
10	SAND; SILTY SAND; GRAVEL COMMON TO ABO; WELL-GRADED LT. TAN-BROWN; SL. MOIST								
15	GRAVEL @ 10-12'		SM- GM						
20	SAND AS ABOVE								
23	GRAVEL @ 22-23'								
25	SAND AS ABOVE; SATURATED								
30	GRAVEL @ 33-34'		SM- GM						
35	GRAVEL @ 36-37'								
40									GROUNDWATER SAMPLE TAKEN @ 40'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/24/98	PAGE 1 of 2
	Water Table (Time of Boring)			CLAY	DEBRIS FILL
	PID	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER DRILLING	
	Photoionization Detection (ppm)	SAND	SANDY CLAY	LOGGED BY T. REED	
	Identifies Sample by Number	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
Sample Collection Method	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
SPLIT-BARREL	AUGER	ROCK CORE			
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY			
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC-6 (CONT.)
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
40	SAMS AS ABOVE		SM-GM						
41	SILTY CLAY; LT. GRAY-GREEN; SL. PLASTIC MUDDY CREEK		CL						
43	TD 43'			18 39		1	X	43 44.5	1.3'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/24/98	PAGE 2 of 2	
		Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA		
		Photoionization Detection (ppm)		SILT		DRILLED BY WEBER DRILLING	
		Identifies Sample by Number		SAND		LOGGED BY T. REED	
		Sample Collection Method		GRAVEL		EXISTING GRADE ELEVATION (FT. AMSL)	
	SPLIT-BARREL		AUGER		LOCATION OR GRID COORDINATES		
	THIN-WALLED TUBE		CONTINUOUS SAMPLER				
	ROCK CORE		NO RECOVERY				
DEPTH Depth Top and Bottom of Sample							
REC. Actual Length of Recovered Sample in Feet							

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, N		BORING NUMBER PC-7			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	FILL; SAND/GRAVEL IN IMPOUNDMENT BEAM								
10	SILTY SAND/SAND; GRAVEL COMMON TO ABD; WELL-GRADED; LT. TAN-BROWN GRAVEL ZONE 6-8.5'								
15			SM-GM						
21									
25	SAND AS ABOVE; SATURATED								
35	SAND AS ABOVE								
40			SM-GM						

EXPLANATION	GRAPHIC LOG LEGEND			DATE DRILLED	PAGE
	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p> Water Table (24 Hour)</p> <p> Water Table (Time of Boring)</p> <p> PID Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method</p> <p> SPLIT-BARREL</p> <p> THIN-WALLED TUBE</p> <p> AUGER</p> <p> CONTINUOUS SAMPLER</p> <p> ROCK CORE</p> <p> NO RECOVERY</p> <p>DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet</p> </div> <div style="width: 30%;"> <p> CLAY</p> <p> SILT</p> <p> SAND</p> <p> GRAVEL</p> <p> SILTY CLAY</p> <p> CLAYEY SILT</p> <p> DEBRIS FILL</p> <p> HIGHLY ORGANIC (PEAT)</p> <p> SANDY CLAY</p> <p> CLAYEY SAND</p> </div> </div>	3/25/98	1 of 2		
	DRILLING METHOD			HSA	
	DRILLED BY			WEBER DRILLING	
	LOGGED BY			T. REED	
	EXISTING GRADE ELEVATION (FT. AMSL)				
	LOCATION OR GRID COORDINATES				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV			BORING NUMBER PC-7 (CONT.)		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
40	SAND AS ABOVE	D. 1/2 S. 10	SM-GM						NOTE: DRILLER'S PICK ON MUDDY CREEK TOP; BLOWING SAND INTO AUGERS PREVENTED SPLIT SPOON SAMPLING
42	AUGER CUTTINGS: SILTY CLAY; LT-MED. RED-BROWN; SLI. TO MOD. PLASTIC; OCC. LT. GRAY CLAY STREAKS	[Hatched Pattern]	CL						
45	TO 45'								DRILLERS USED FRESH WATER TO ATTEMPT TO WASH OUT AUGERS FOR SPLIT SPOON SAMPLING; DID NOT COLLECT GROUNDWATER SAMPLE

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE	
	▽	Water Table (Time of Boring)			[Diagonal Lines]	CLAY	[Cross-hatch]
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	[Horizontal Lines]	SILT	[Wavy]	HIGHLY ORGANIC (PEAT)	
	[Split-Barrel]	SPLIT-BARREL	[Dotted]	SAND	[Diagonal Lines]	SANDY CLAY	
	[Thin-Walled Tube]	THIN-WALLED TUBE	[Grid]	GRAVEL	[Diagonal Lines]	CLAYEY SAND	
[Auger]	AUGER	[Diagonal Lines]	SILTY CLAY	[Empty Box]			
[Continuous Sampler]	CONTINUOUS SAMPLER	[Diagonal Lines]	CLAYEY SILT	[Empty Box]			
[Rock Core]	ROCK CORE	[Empty Box]		[Empty Box]			
[No Recovery]	NO RECOVERY	[Empty Box]		[Empty Box]			
DEPTH Depth Top and Bottom of Sample				DRILLED BY		3/25/98	2 of 2
REC. Actual Length of Recovered Sample in Feet				LOGGED BY		HSA	
				EXISTING GRADE ELEVATION (FT AMSL)		WEBER DRILLING	
				LOCATION OR GRID COORDINATES		T. REED	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-8			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND; SILTY SAND; GRAVEL COMMON; WELL-GRADED; LT. TAN-BROWN	[Hand-drawn graphic log symbols]	SM-GM						
	GRAVEL ZONE @ 7-8'								
10	SAND AS ABOVE								
15	GRAVEL ZONE @ 13'; COLOR CHANGE TO LT. BROWN, MOIST								
17	---								
20									
25									GROUNDWATER SAMPLE COLLECTED @ 28'
30									
35									
36	SILTY CLAY; REDDISH-BROWN; GRADING TO LT. GRAY-GREEN; U. SLI. PLASTIC MUDDY CRK	[Hand-drawn graphic log symbols]	CL	10	48	1	X	37	1, 2'
37								32.5	
	TO 37'								

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/26/98	PAGE 1 of 1
		Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA	
		PID Photoionization Detection (ppm)		SILT	DRILLED BY WEBER DRILLING	
		Identifies Sample by Number		SAND	LOGGED BY T. REED	
		Sample Collection Method		GRAVEL	EXISTING GRADE ELEVATION (FT AMSL)	
	SPLIT-BARREL		SANDY CLAY	LOCATION OR GRID COORDINATES		
	AUGER		CLAYEY SAND			
	ROCK CORE		CLAYEY SILT			
	THIN-WALLED TUBE					
	CONTINUOUS SAMPLER					
	NO RECOVERY					
DEPTH Depth Top and Bottom of Sample						
REC. Actual Length of Recovered Sample in Feet						

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON, NV	BORING NUMBER PC-9
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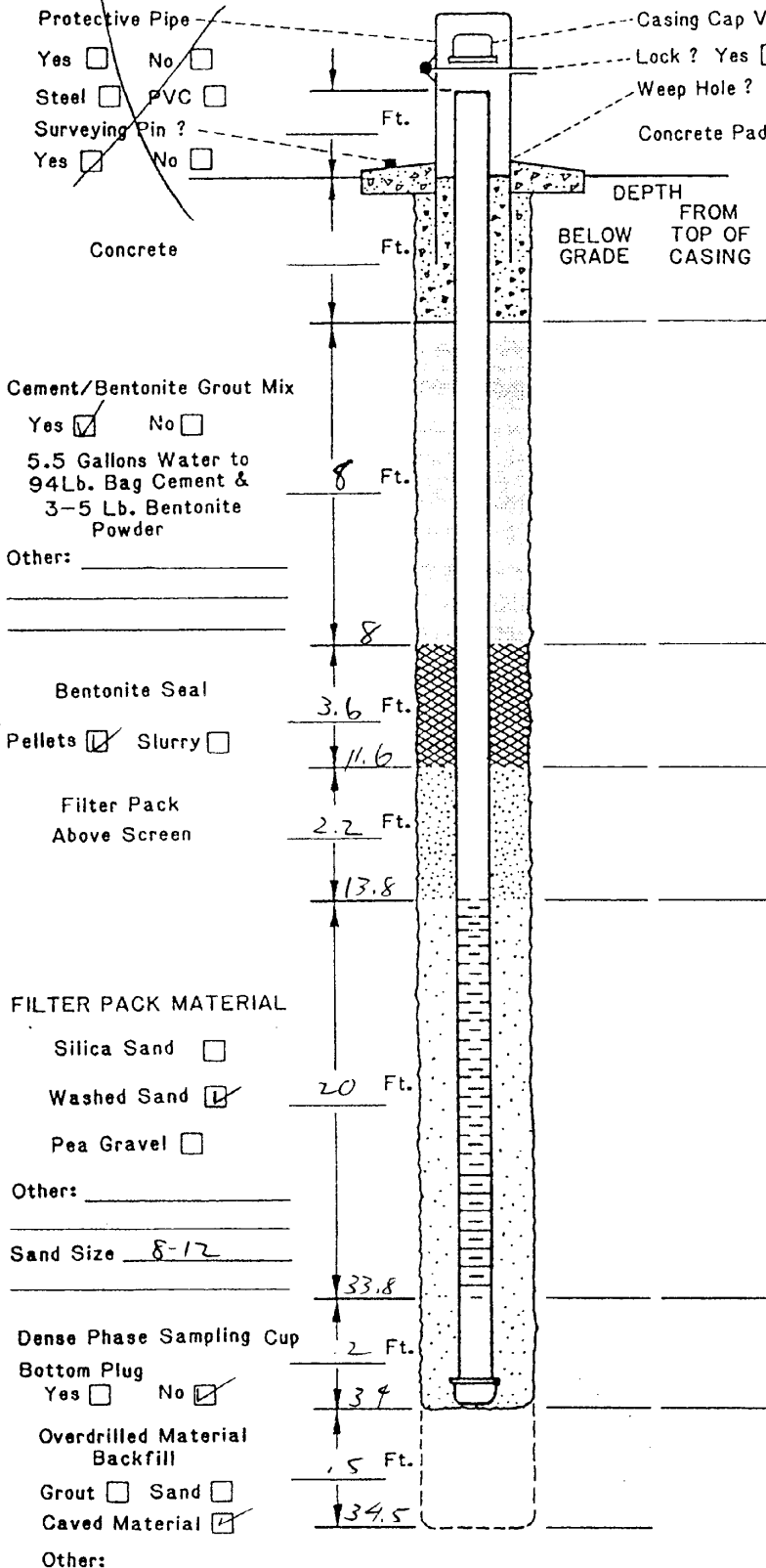
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND/SILTY SAND BROWN - LT TAN BROWN GRAVELLY WELL GRADED DRY		SM/ GM						DRILLING W/ MOBILE B-61 HDX 8" AUGERS
10	SAND/SILTY GRAVELLY SD BROWN BRN								
15	OCCASIONAL CORBBLES		Gm						
20									
24									24' T/MUDDY CREEK
25	SILTY CLAY TRENDSH BROWN SI - NON PLASTIC		CL	4.17					
30									TD 25' GROUNDWATER SAMPLE COLLECTED AT 25'
35									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 3/30/98	PAGE 1 of 1	
		Water Table (Time of Boring)		DRILLING METHOD HSA		
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	DRILLED BY WEBER			
		SPLIT-BARREL		CLAY	LOGGED BY J. Crawford	
		AUGER		SILT		
	THIN-WALLED TUBE		SAND	LOCATION OR GRID COORDINATES		
	CONTINUOUS SAMPLER		GRAVEL			
	ROCK CORE		SILTY CLAY			
	NO RECOVERY		CLAYEY SAND			
			CLAYEY SILT			

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSHMOUNT



Casing Cap Vent ? Yes No

Lock ? Yes No

Weep Hole ? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

1. Borehole Diameter= 8 Inches.
2. Were Drilling Additives Used ? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used ? Yes No
Depth= _____ to _____ Feet.
4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC Galvanized Teflon
Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
4. Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screen: 0.020
6. Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed ? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development ?
_____/_____/_____ Minutes/Hours
3. Approximate Water Volume Removed ? _____ Gallons
4. Water Clarity Before Development ? Clear
Turbid Opaque
5. Water Clarity After Development ? Clear
Turbid Opaque
6. Did Water have Odor ? Yes No
If Yes, Describe _____
7. Did Water have any Color ? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 23' Ft. Date 3/30/98
Before Development 20.95' Ft. Date 4/17/98
After Development 20.95' Ft. Date 4/17/98

Driller/Firm L. ROBERTSON / WISLA DRIG Drill Rig Type B-61 HDX Date Installed 4/13/98

Drill Crew L. ROBERTSON / R. MONTFAR Well No. PC-10 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENRIKSON NJ	BORING NUMBER PC-10
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND/SILTY SAND TANNISH BROWN WELL GRADED LOOSE V SILT MOIST GRAVELS	[Hand-drawn graphic log symbols for sand and gravel]	SM						AUGER TO TOP OF MUDDY CREEK THEN SPLIT BARREL SAMPLE
	DECREASE SILT								
15	SAND BROWN BROWN SILT MOIST	[Hand-drawn graphic log symbols for sand and silt]	GM						
20	SAND BROWN CLAYEY DK BRN MOIST GRAVELS								
25	GRAVEL TO CORBLE	[Hand-drawn graphic log symbols for gravel and sand]	GM						GROUNDWATER SAMPLE COLLECTED AT 22'
30	SAND/CLAYEY SAND DK BRN SILT COHESIVE								
34	SILTY CLAY GREENISH GRAY SILT-NOV PLASTIC	[Hand-drawn graphic log symbol for clay]	CL						TO MUDDY CREEK 34'
35									TO 35'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 3/30/98	PAGE 1 of 1	
	Water Table (Time of Boring) PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		DRILLING METHOD HSA	DRILLED BY WEIBER	
	SPLIT-BARREL THIN-WALLED TUBE	AUGER CONTINUOUS SAMPLER	ROCK CORE NO RECOVERY	LOGGED BY J. CRAWFORD	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES	

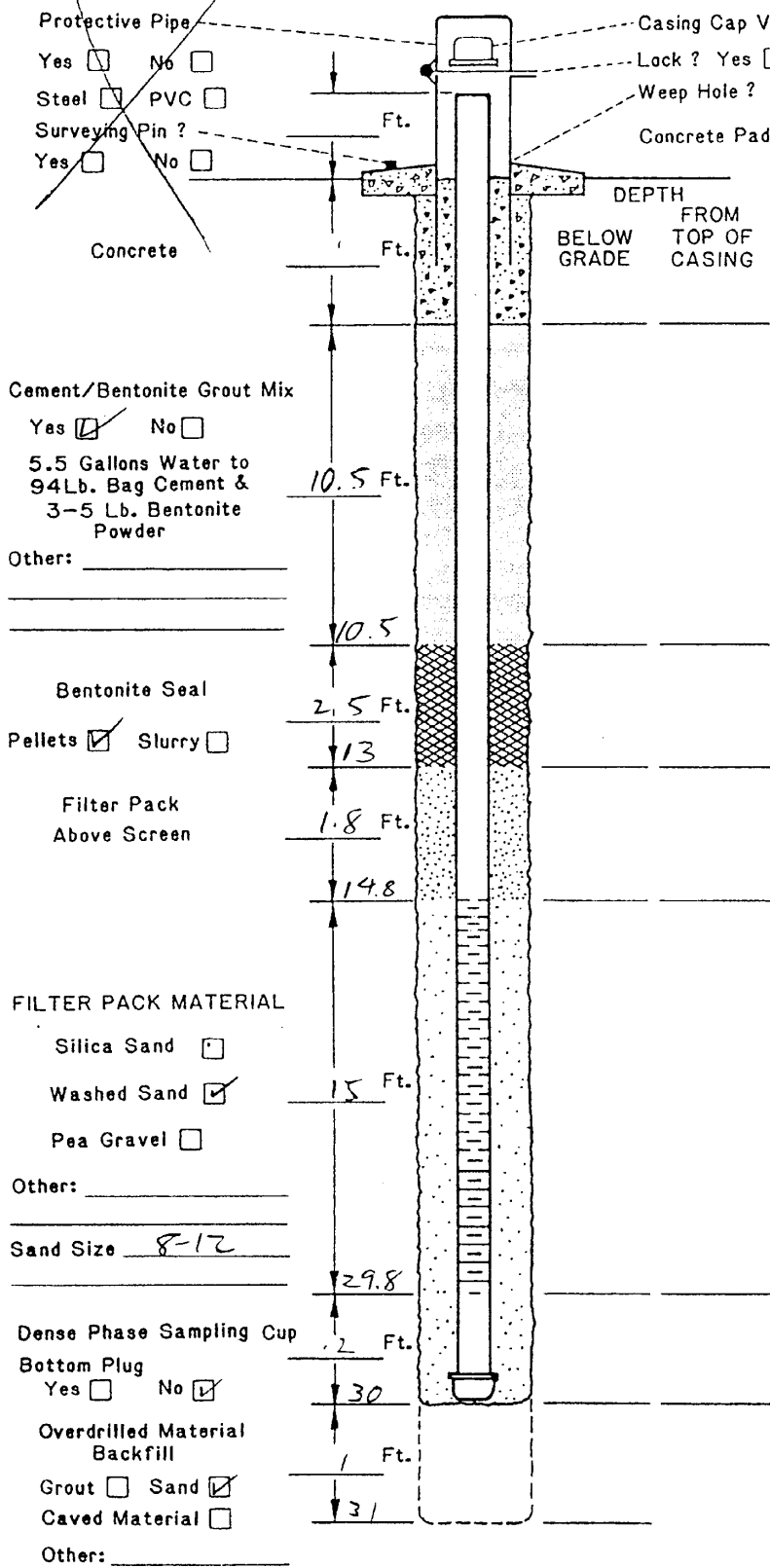
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-11			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND / SANDY SILT TANISH BRN DRY GRAVELLY DECREASE SILT		SM						
15	INC GRAVEL		Gm						
20	SAND / GRAVELLY SAND BROWN MOIST TO CLAY								
25	INC CLAY BRN-OK BRN MOIST TO WET SLI COHESIVE		Gm						GROUNDWATER SAMPLE COLLECTED AT 30'
30	SAND w/ CLAY WET BROWN		Gm						NO SPLIT-SPoon VERIFICATION OF MUDDY CREEK. NOTED MC ON AUGER FLIGHT
35									V. HARD DRLY 36-37 1/2
37.5	GRAVELLY SAND WELL SORT V. HARD		CL						37.5' T/ MUDDY CREEK
	SILTY CLAY GREENISH GRAY SLI PLASTIC								TD 38'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/30/98	PAGE 1 of 1
	Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	CLAY	DEBRIS FILL	DRILLED BY WEBER	
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY J. CRAWFORD	
	AUGER	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)	
THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES		
ROCK CORE	SILTY CLAY	CLAYEY SILT			
CONTINUOUS SAMPLER	NO RECOVERY				
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

FLUSHMOUNT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



Casing Cap Vent ? Yes No

Protective Pipe
Yes No

Lock ? Yes No

Steel PVC

Weep Hole ? Yes No

Surveying Pin ?
Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete

DEPTH
FROM
BELOW
GRADE
TOP OF
CASING

DRILLING INFORMATION:

1. Borehole Diameter = 8 Inches.
2. Were Drilling Additives Used ? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used ? Yes No
Depth = _____ to _____ Feet.
4. Borehole Diameter for Outer Casing _____ Inches.

Cement/Bentonite Grout Mix

Yes No

5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder

Other: _____

WELL CONSTRUCTION INFORMATION:

1. Type of Casings: PVC Galvanized Teflon
Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
4. Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screen: 0.020
6. Type of Screen Perforations: Factory Slotted
Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

Bentonite Seal

Pellets Slurry

Filter Pack
Above Screen

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed ? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development ?
1 / 1 Minutes/Hours
3. Approximate Water Volume Removed ? 100 Gallons
4. Water Clarity Before Development ? Clear
Turbid Opaque
5. Water Clarity After Development ? Clear
Turbid Opaque
6. Did Water have Odor ? Yes No
If Yes, Describe ROTTEN EGG
7. Did Water have any Color ? Yes No
If Yes, Describe _____

FILTER PACK MATERIAL

Silica Sand

Washed Sand

Pea Gravel

Other: _____

Sand Size 8-12

Dense Phase Sampling Cup

Bottom Plug

Yes No

Overdrilled Material
Backfill

Grout Sand

Caved Material

Other: _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 21 Ft. Date 3/13/98

Before Development 19.80 Ft. Date 4/17/98

After Development 19.82 Ft. Date 4/17/98

Driller/Firm L. ROBINSON / WESBA

Drill Rig Type B-61 HDX

Date Installed 4/13/98

Drill Crew L. ROBINSON / R. MONTUFAR

Well No. PC-12

Kerr-McGee
Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION
Hydrology Dept. - S&EA Division

KM SUBSIDIARY
State KMC-LLC

LOCATION
ANDERSON NV

BORING NUMBER
HC 12

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND/SILTY SAND LT BWN-TAN W/CL GRD GRAVELS TO CORBLES								
10	CORBLES		GM						
15	SAND/GRAVEL BROWN MOIST NOTE INC CLAY BOMB SLI COHESIVE		GC						
20									
25	SD/GRAVELS W/ CLAY AAB								
29.5									POOL RETURNS BELOW
30	SILTY CLAY GREENISH GRAY SLI PLASTIC		CL						+ MUDDY CREEK 29.5'
35									GROUNDWATER SAMPLE COLLECTED @ 20'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>3/31/98</i>	PAGE <i>1 of 1</i>
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD <i>HSA</i>	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY <i>W. K. K.</i>	
	SPLIT-BARREL	SAND	SANDY CLAY	LOGGED BY <i>Jim Crawford</i>	
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
AUGER	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
CONTINUOUS SAMPLER	NO RECOVERY				
ROCK CORE					
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-UC	LOCATION HENDERSON NJ	BORING NUMBER PC-13
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND LT BRN GRAVELLY DRY		SM						
5-10	SAND SILTY ORANGISH BRN WELL GRADED		SM/GM						
15	SILTY SAND BRN-DK BRN DRY - SLI MOIST FINE-MED GR. GRAVELS THRU OUT		SM/GM						
20	1/4" GRAVEL		GM						GROUNDWATER SAMPLE COLLECTED AT 18' AFTER PULLING AUGERS
27.5	SILTY CLAY GREENISH GRAY SLI SDY		CL						27.5' T/MUDDY CREEK TD 29'
30-35									DID NOT USE SPLIT SPOON DUE TO FILL IN AUGER

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/31/98	PAGE 1 of 1
	▽	Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		
		SPLIT-BARREL		AUGER		HIGHLY ORGANIC (PEAT)
		THIN-WALLED TUBE		ROCK CORE		SANDY CLAY
	CONTINUOUS SAMPLER		NO RECOVERY		CLAYEY SAND	
DEPTH REC.	Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet		GRAVEL		SILTY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)
			CLAYEY SILT			LOCATION OR GRID COORDINATES

DRILLED BY
WEBER

LOGGED BY
J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-14			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND (RD) BRN LOOSE DRY W/EN GRADED GRAVELS		SM						
10	Cobbles at 10.5 silty gravel rd brn		SM						
20	BRN MOIST SILT CLAYEY DK BRN		CL						FOOT RETURNS BELOW
27	SILTY CLAY GREENISH GRAY SCL-NON PLASTIC		CL						T/MUDDY CREEK AT
30									TO 28' GROUNDWATER SAMPLE COLLECTED AT 18'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 3/31/98	PAGE 1 of 1	
	Water Table (Time of Boring)		DRILLING METHOD HSA	DRILLED BY WEBER	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SPLIT-BARREL AUGER THIN-WALLED TUBE	ROCK CORE CONTINUOUS SAMPLER NO RECOVERY	LOGGED BY J. CRAWFORD	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			EXISTING GRADE ELEVATION (FT AMSL)	
				LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON NV	BORING NUMBER PC-15
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND REDDISH BROWN WELL GRADED w/ GRAVEL		SM						
10	W/CREASE GRAVEL		GM						
15	SAND/GRAVEL SILTY BECOMING CLAYEY DARK BROWN								
20	INC CLAY		▽						GROUNDWATER SAMPLE COLLECTED AT 20'
25			GM						POOR RETURNS BELOW ▽
30									
35									
40	SILTY CLAY GRAYISH WHITE		CL						T/ Muddy Creek 31' TO 38'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 3/31/98	PAGE 1 of 1	
		Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA		
		PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		DRILLED BY WEBER	
		SPLIT-BARREL		SAND		LOGGED BY J. Crawford	
		THIN-WALLED TUBE		GRAVEL		EXISTING GRADE ELEVATION (FT. AMSL)	
		AUGER		SILTY CLAY	LOCATION OR GRID COORDINATES		
		CONTINUOUS SAMPLER		CLAYEY SAND			
		ROCK CORE		CLAYEY SILT			
		NO RECOVERY					
	DEPTH	Depth Top and Bottom of Sample					
	REC.	Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NU		BORING NUMBER PC-16			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	SILTY SAND RD BRN GRAVELS W/CL GRADEN		SM					
15	INC GRAVELS		GM					
20	SAND/GRAVEL DK BRN MOIST SLI CLAYEY		GV					GROUNDWATER SAMPLE COLLECTED AT 20'
25	INC CLAY CONTENT							V. POOR RETURN BLOW 25'
30	SAND/GRAVEL							
35								

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/1/98	PAGE 1 of 2	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA		
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY Weber		
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY J. Crawford	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
	NO RECOVERY					
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-14		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
45		0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0	CL					T/MUDDY REEL 47'
50	SILTY CLAY GREENISH GRAY SOFT TO FIRM SU PLASTIC							T/S 48'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2/1/98	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	SPLIT BARREL	SAND	SANDY CLAY	LOGGED BY J. CRAWFORD	
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
AUGER	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
ROCK CORE	NO RECOVERY				
CONTINUOUS SAMPLER					
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

FLUSHMOUNT
WELL

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM

Protective Pipe
Yes No
Steel PVC
Surveying Pin? Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete

DEPTH FROM TOP OF CASING BELOW GRADE

DRILLING INFORMATION:

- Borehole Diameter= _____ Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

Cement/Bentonite Grout Mix

Yes No

5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder

Other: _____

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 010
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

Bentonite Seal

Pellets Slurry

Filter Pack
Above Screen

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 110 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

FILTER PACK MATERIAL

Silica Sand

Washed Sand

Pea Gravel

Other: _____

Sand Size 8-12

Dense Phase Sampling Cup

Bottom Plug
Yes No

Overdrilled Material
Backfill

Grout Sand

Caved Material

Other: _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 19' Ft. Date 4/1/98

Before Development 19.2' Ft. Date 4/17/98

After Development 19.2' Ft. Date 4/17/98

Driller/Firm WEFEL

Drill Rig Type Mobile 61

Date Installed 4/8/98

Drill Crew LEE ROBERTSON

Well No. PC-17

Kerr-McGee Hydrologist J. W. Crawford

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KML-111</i>	LOCATION <i>HEWDERSON NU</i>	BORING NUMBER <i>PZ-17</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5 10 15 20 25 30 35	<p><i>SILTY SAND RD BRN w/ GRAVEL LOOSE DRY</i></p> <p><i>GRAVELY SAND RD BRN DRY to sil moist SILTY</i></p> <p><i>GRAVELY SAND w/ CLAY GRAY ISH BRN sil cohesive</i></p>		<p><i>GM</i></p> <p><i>GM</i></p> <p><i>GC</i></p>						<p><i>GROUNDWATER SAMPLE COLLECTED AT 19'</i></p> <p><i>POOR RETURNS BELOW</i></p>

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED <i>4/1/98</i>	PAGE <i>1 of 2</i>																								
		Water Table (Time of Boring)		<table border="0" style="width:100%;"> <tr> <td></td><td>CLAY</td> <td></td><td>DEBRIS FILL</td> </tr> <tr> <td></td><td>SILT</td> <td></td><td>HIGHLY ORGANIC (PEAT)</td> </tr> <tr> <td></td><td>SAND</td> <td></td><td>SANDY CLAY</td> </tr> <tr> <td></td><td>GRAVEL</td> <td></td><td>CLAYEY SAND</td> </tr> <tr> <td></td><td>SILTY CLAY</td> <td></td><td></td> </tr> <tr> <td></td><td>CLAYEY SILT</td> <td></td><td></td> </tr> </table>		CLAY		DEBRIS FILL		SILT		HIGHLY ORGANIC (PEAT)		SAND		SANDY CLAY		GRAVEL		CLAYEY SAND		SILTY CLAY				CLAYEY SILT			DRILLING METHOD <i>HSA</i>
		CLAY			DEBRIS FILL																								
		SILT		HIGHLY ORGANIC (PEAT)																									
		SAND		SANDY CLAY																									
	GRAVEL		CLAYEY SAND																										
	SILTY CLAY																												
	CLAYEY SILT																												
	PID Identifies Sample by Number NO. Type Sample Collection Method		DRILLED BY <i>WEBER</i>																										
	SPLIT-BARREL		AUGER	LOGGED BY <i>J. Crawford</i>																									
	THIN-WALLED TUBE		CONTINUOUS SAMPLER	EXISTING GRADE ELEVATION (FT. AMSL)																									
			ROCK CORE	LOCATION OR GRID COORDINATES																									
			NO RECOVERY																										
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet																												

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-17
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
45	SAND/GRAVEL								
50	SILTY CLAY V. LIGHT GRAY TO GRAYISH WHITE V. SOFT SATURATED		CL						TO WINDY CREEK 48'
55	BMY GRAYISH GREEN SLI MOIST FIRM								TO 55

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/1/98	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEIDEN	
	SPLIT-BARREL	SAND	SANDY CLAY	LOGGED BY J. Crawford	
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
AUGER	SILTY CLAY	ROCK CORE	LOCATION OR GRID COORDINATES		
CONTINUOUS SAMPLER	CLAYEY SILT	NO RECOVERY			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

FLUSH
MOUNT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

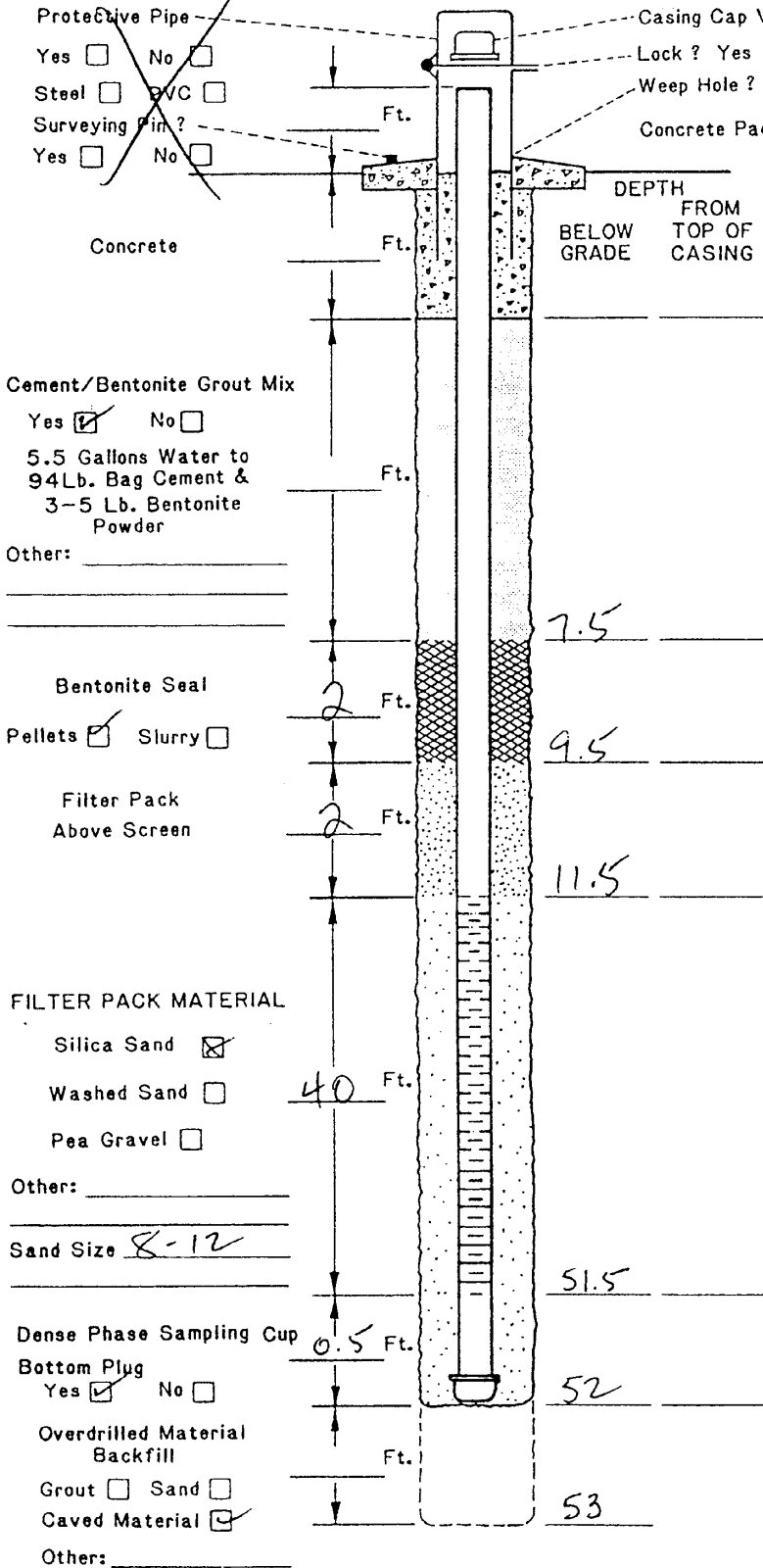
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 10
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 110 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 22 Ft. Date 4/8/98
 Before Development 19.80' Ft. Date 4/17/98
 After Development 19.70' Ft. Date 4/17/98



Driller/Firm WEBER Drill Rig Type MOBILE B-61 XD Date Installed 4/8/98
 Drill Crew LEE ROBERTSEN Well No. PC-18 Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-18		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	Silty SAND TO BRN DRY WELL GRADED GRAVELS		SM					
10								
15								
20			GM					COLLECT GROUNDWATER SAMPLE AT 22'
25	SAND/GRAVEL BRN HEAVY MOIST WELL GRADED		GM					
30	SAND/GRAVEL GRAYISH BROWN WELL GRADED SAT SILTY		GM					

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/2/98	PAGE 1 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD ASA	
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY J. Crawford
THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
ROCK CORE	NO RECOVERY	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES	
DEPTH	Depth Top and Bottom of Sample				
REC.	Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION
Hydrology Dept. - S&EA Division

KM SUBSIDIARY
KMC-LLC

LOCATION
HENDERSON NJ

BORING NUMBER
PC-18

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
51	Sand/Gravel BRN WELL GRADED		GM						SPLIT SPOON AT 42'
50	SAND BRN F. CTS gr sm 1/4" GRAVEL WELL GRADED SAT LOOSE SLT SILTY		SW CL						POOR RETURNS
	SILTY CLAY RD BRN w/ sm FINE SAND + SMALL GRAVELS								T/MUDDY CREEK 51'
	SILTY CLAY GREENISH GRAY w/ TAN to BROWN VARIG. Bloccly								DRILL TO 53'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 4/2/98	PAGE 2 of 2
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY	DRILLED BY WEISER	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet		LOGGED BY J. Crawford	
			EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES	

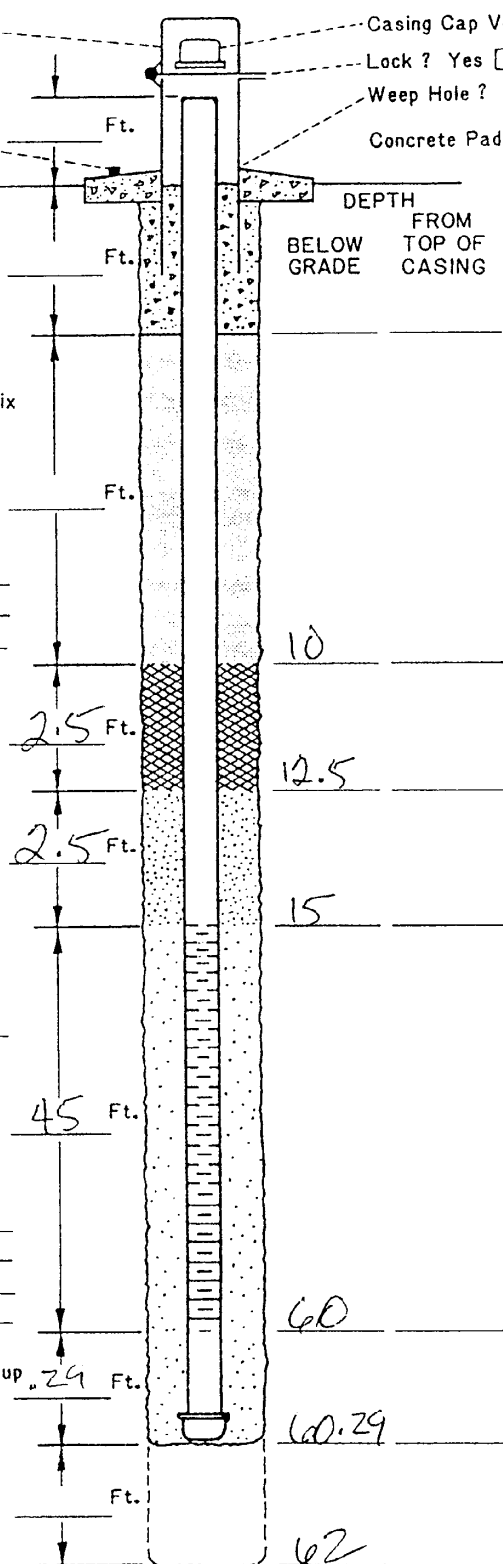
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



Concrete
Ft.
Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry
Filter Pack
Above Screen
2.5 Ft.

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____
Sand Size 8-12

Dense Phase Sampling Cup
Bottom Plug
Yes No
Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DEPTH
FROM
TOP OF
CASING
BELOW
GRADE

10
12.5
15
45
60
60.29
62

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens:
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 100 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 22' Ft. Date 4/2/98
Before Development 19.89' Ft. Date 4/17/98
After Development 19.89' Ft. Date 4/17/98

Driller/Firm WERNER Drill Rig Type MOBILE B-61 XHD Date Installed 4/6/98
Drill Crew LEE ROBERTSON Well No. PC-19 Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&E Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-19			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND w/ GRAVEL RD BRN WELL GRADED DRY	0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0	SM						
10	COBBLES SAND/GRAVEL FG LOOSE RD BRN DRY SILTY	1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0	GM						
15	COBBLES	2.0 2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8 2.9 3.0							
20	SAND/GRAVEL SD MD-CRS GR SILTY LOOSE MOIST	3.0 3.1 3.2 3.3 3.4 3.5 3.6 3.7 3.8 3.9 4.0	▽						GROUNDWATER SAMPLE COLLECTED AT 35'
25	CLAY SANDY w/ SM GRAVELS GRAYISH BRN MOIST SLI PLASTIC FIRM CONSISTENCY	4.0 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9 5.0	GC						SPLIT SPOONS RECOVERED ONLY FILL. PULLED AUGERS TO VERIFY SAMPLES. DRILLER THOUGHT THIS INTERVAL MIGHT BE MUDDA CREEK DUE TO DRILLING ACTION
30		5.0 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 6.0							
35		6.0 6.1 6.2 6.3 6.4 6.5 6.6 6.7 6.8 6.9 7.0							

EXPLANATION	▽	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/2/98	PAGE 1 of 2
	▽	Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	[diagonal lines]	CLAY	[stippled]	DEBRIS FILL
	[X]	SPLIT-BARREL	[horizontal lines]	SILT	[wavy]	HIGHLY ORGANIC (PEAT)
	[solid black]	THIN-WALLED TUBE	[dots]	SAND	[diagonal lines]	SANDY CLAY
[vertical bar]	AUGER	[checkered]	GRAVEL	[diagonal lines]	CLAYEY SAND	
[vertical bar]	CONTINUOUS SAMPLER	[diagonal lines]	SILTY CLAY	[square]		
[diagonal bar]	ROCK CORE	[diagonal lines]	CLAYEY SILT	[square]		
[diagonal bar]	NO RECOVERY	[diagonal lines]		[square]		
DEPTH	Depth Top and Bottom of Sample					
REC.	Actual Length of Recovered Sample in Feet					
					LOGGED BY J. Crawford	
					EXISTING GRADE ELEVATION (FT. AMSL)	
					LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LL		LOCATION HENDERSON NV			BORING NUMBER PC-19		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
45	SAND/GRAVELS AND S		SM/GM						FOR RETURNS
50									
55	SILTY CLAY GREEN - GRAYISH SOFT moist		CL						T/MUDDY CREEK 58'
60									
									TO 60' CONVERTED TO MONITOR WELL PC-19 (RE-DRILLED 4/4/98)

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/2/98	PAGE 2 of 2
		Water Table (Time of Boring)				DEBRIS FILL
	PID	Photoionization Detection (ppm)		HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	NO.	Identifies Sample by Number		SANDY CLAY	LOGGED BY J. GAWFOTZ	
	TYPE	Sample Collection Method		CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
		SPLIT-BARREL		CLAYEY SILT	LOCATION OR GRID COORDINATES	
	THIN-WALLED TUBE					
	AUGER					
	CONTINUOUS SAMPLER					
	NO RECOVERY					

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet


SOIL BORING LOG KM-5655-B






















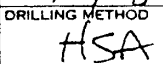


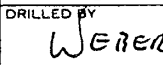

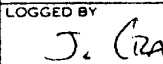

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-20
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	SILTY SAND REDISH BRN w/ GRAVELS DRY		SM					
10	SAND/GRAVEL BRN-RO BRN		GM					
15	SAND RD BRN M-CRS GR. LOOSE DRY TO SLI MOIST 1/4" GRAVEL SILTY							
20	SAND BRN-GY BRN CRS GR BECOMG SLI CLAYEY		▽					20' POOR RETURNS
25	COBBLES?							24' DRILLED HARD
30	SAND & GRAVELS AAB		GM					GROUNDWATER SAMPLE COLLECTED AT 27'
35								

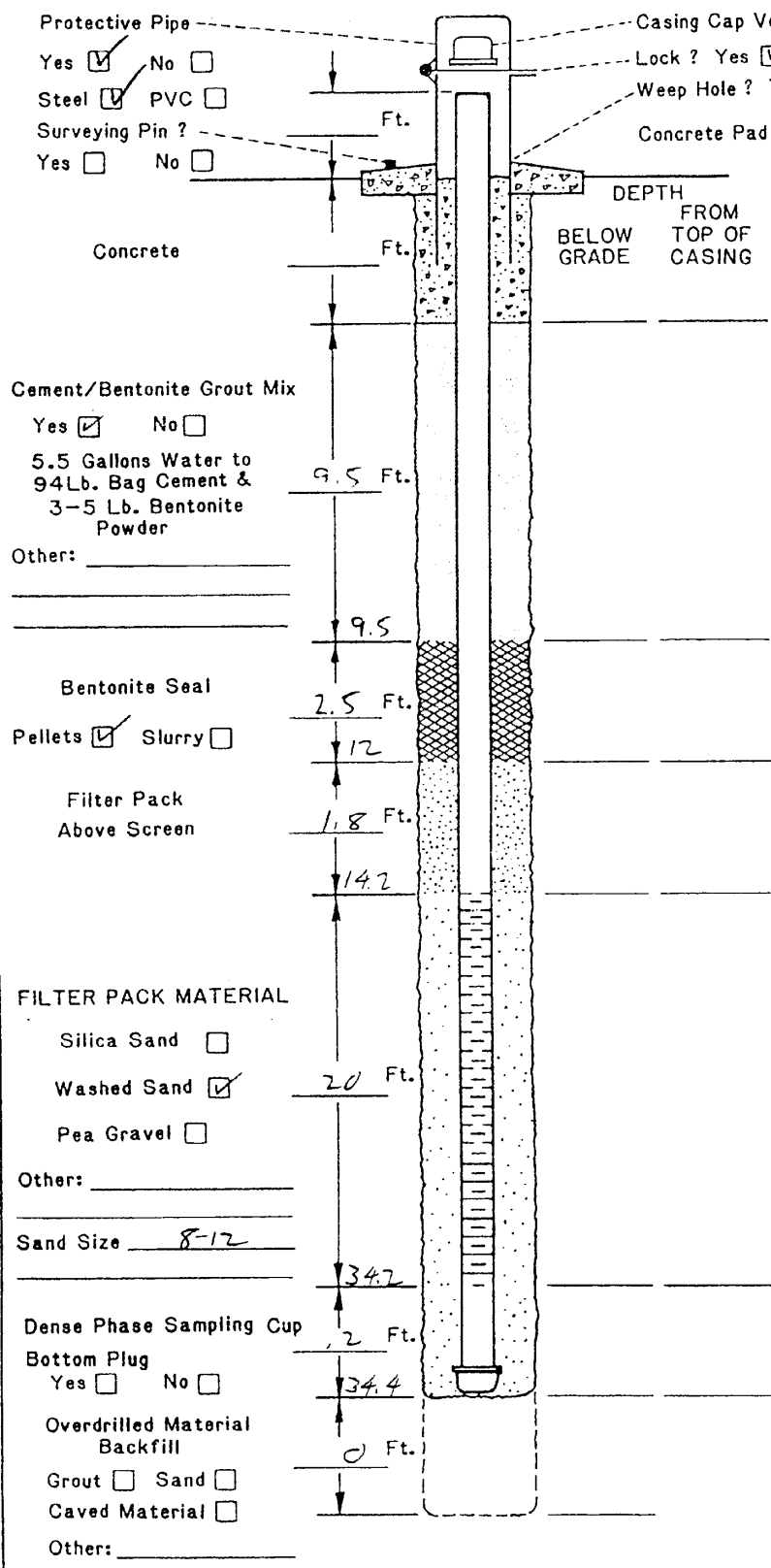
EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4/6/98	PAGE 1 of 2 ✓
		Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD HSA
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			SPLIT-BARREL
		THIN-WALLED TUBE		AUGER	LOGGED BY J. CRAWFORD
		CONTINUOUS SAMPLER		ROCK CORE	EXISTING GRADE ELEVATION (FT. AMSL)
	NO RECOVERY		NO RECOVERY	LOCATION OR GRID COORDINATES	
DEPTH	Depth Top and Bottom of Sample	REC.	Actual Length of Recovered Sample in Feet		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMC-LLC</i>		LOCATION <i>HENDERSON NV</i>		BORING NUMBER <i>PC-20</i>		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	DEPTH	
45	SILTY CLAY GRAYH GRN TO OLIVE SOFT WET MED PLASTIC		CL			<input checked="" type="checkbox"/>		<i>T/Muddy Creek 41'</i>
50	SILTY CLAY V. LITE GRAY FIRM TO HARD LAMINATED DRY							<i>TO 43'</i>

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED <i>4/6/98</i>	PAGE <i>2 of 2</i>		
		Water Table (Time of Boring)			CLAY		DEBRIS FILL
		PID Photoionization Detection (ppm)			SILT		HIGHLY ORGANIC (PEAT)
		Identifies Sample by Number			SAND		SANDY CLAY
		Sample Collection Method			GRAVEL		CLAYEY SAND
		SPLIT-BARREL			SILTY CLAY		
	THIN-WALLED TUBE		CLAYEY SILT				
	AUGER		ROCK CORE		DRILLING METHOD <i>HSA</i>		
	CONTINUOUS SAMPLER		NO RECOVERY		DRILLED BY <i>Werner</i>		
					LOGGED BY <i>J. Crawford</i>		
DEPTH	Depth Top and Bottom of Sample			EXISTING GRADE ELEVATION (FT AMSL)			
REC.	Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES			

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? 100 Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
 During Drilling 19' Ft. Date 4/13/98
 Before Development 20.53' Ft. Date 4/17/98
 After Development 20.60' Ft. Date 4/17/98

Driller/Firm ROBERTSON / WEBER Drill Rig Type B-61 HDX Date Installed 4/15/98
 Drill Crew L. ROBERTSON / R. MONTUEAR Well No. PC-21 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, N.		BORING NUMBER PC-21				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
5	SAND; SILTY SAND; GRAVEL COMMON; LT. TAN-BROWN; WELL-GRADED; SLI. MOIST GRAVEL ZONE @ 5-6'	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	Sm-GM							
10	SAND AS ABOVE									
15	SAND AS ABOVE; BECOMING MOIST TO SATURATED									
20										
25	SAND AS ABOVE									
30										
33.5	SILTY CLAY; LT. BROWN-BROWN; MOD. PLASTIC MUDDY CREEK	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	CL							
35	TO 35'									
						1	X	17' 18.5'	1.2'	
						2	X	25' 26.5'	1.1'	GROUNDWATER SAMPLE COLLECTED AT ~30'
						3	X	35' 36.5'	.8'	

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH Depth Top and Bottom of Sample
 REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED **4/13/98** PAGE **1 of 1**

DRILLING METHOD **HSA**

DRILLED BY **WEBER ORLS.**

LOGGED BY **T. REED**

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-22		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
1	ASPHALT / ROAD GRAVEL							
5	SAND; SILTY SAND; GRAVEL COMMON; SLI. MAST; LT. TAN-BROWN; WELL-GRADED GRAVEL ZONE @ 6'							
10	SAND AS ABOVE		SM- GM					
20	SAND AS ABOVE; SATURATED							BORING DRY: COULD NOT OBTAIN ENOUGH WATER FOR SAMPLE
25	CAVITY @ 25-26.5'							
27	SILTY CLAY; REDDISH-TAN; SLI. PLASTIC MUDDY CREEK		CL			1	X	27 28.5
28.5	TO 28.5'							1.2'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/14/98	PAGE 1 of 1
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY HSA	
	Identifies Sample by Number Sample Collection Method	SAND	SANDY CLAY	LOGGED BY WEBER DRLG.	
SPLIT-BARREL	AUGER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	SILTY CLAY	CLAY	LOCATION OR GRID COORDINATES	
ROCK CORE	NO RECOVERY	CLAYEY SILT			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC	LOCATION HENDERSON, NV	BORING NUMBER PC-23					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
1	ASPHALT / ROAD GRAVEL	[Symbol]							
5	SAND; SILTY SAND; GRAVEL COMMON; WELL-GRADED; SLI. MOST LT. REDDISH-BROWN TO TAN-BROWN GRAVEL ZONE @ 4-5'	[Symbol]							
10	GRAVEL ZONE @ 13-14'	[Symbol]	SM-GM						
15	GRAVEL @ 16-17'	[Symbol]							
22	-----	[Symbol]							
25		[Symbol]							WATER SAMPLE COLLECTED @ 26'
29		[Symbol]							
30	SILTY/SANDY CLAY; REDDISH-TAN; SLI. PLASTIC; MUDDY CREEK TD 30'	[Symbol]	CL			1	X	30 31.5	1.4'

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID
- NO.
- TYPE
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH: Depth Top and Bottom of Sample
 REC.: Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED: **4/14/98** PAGE: **1 of 1**

DRILLING METHOD: _____

DRILLED BY: **HSA**

LOGGED BY: **WEGER DRIG**

EXISTING GRADE ELEVATION (FT. AMSL): _____

LOCATION OR GRID COORDINATES: _____

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

Flushmount well

- Protective Pipe
 Yes No
 Steel PVC
 Surveying Pin?
 Yes No

Casing Cap Vent? Yes No

Lock? Yes No

Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete

DEPTH
FROM
TOP OF
CASING
BELOW
GRADE

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

Cement/Bentonite Grout Mix

Yes No

5.5 Gallons Water to
94 Lb. Bag Cement &
3-5 Lb. Bentonite
Powder

Other: _____

WELL CONSTRUCTION INFORMATION:

- Type of Casings: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

Bentonite Seal

Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL

Silica Sand

Washed Sand

Pea Gravel

Other: _____

Sand Size 8-12

Dense Phase Sampling Cup

Bottom Plug
Yes No

Overdrilled Material
Backfill

Grout Sand

Caved Material

Other: _____

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 100 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 18.5' Ft. Date 4/14/98

Before Development 19.90' Ft. Date 4/17/98

After Development 19.90' Ft. Date 4/17/98

Driller/Firm ROBERTSON/WEGEN

Drill Rig Type B-61 HDX

Date Installed 4/14/98

Drill Crew L. ROBERTSON/R. MONTIFER

Well No. PC-24

Kerr-McGee
Hydrologist

T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMLLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-24				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
1	ASPHALT / ROAD GRAVEL									
5	SAND/SILTY SAND W/ GRAVEL; TAN-BROWN; WELL-GRADED; SLI. MOIST									
10	SAND AS ABOVE		Sm-Gm							
15	GRAVEL @ 13-14'									
18.5										
20	SAND AS ABOVE; SATURATED					1	X	20 21.5	1.1'	GROUNDWATER SAMPLE COLLECTED @ ~25'
25										
28	SILTY/SANDY CLAY; REDDISH-BROWN; SLI. PLASTIC MUDDY CREEK		CL							
30	TD 30'					2	X	30 31.5	1.4'	

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/14/98	PAGE 1 of 1
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm) Identifies Sample by Number	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEDEN ORLG.	
	Sample Collection Method	SAND	SANDY CLAY	LOGGED BY T. REED	
	SPLIT-BARREL	AUGER	ROCK CORE	EXISTING GRADE ELEVATION (FT. AMSL)	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	LOCATION OR GRID COORDINATES		
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet		GRAVEL	CLAYEY SAND		
		SILTY CLAY	CLAYEY SILT		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KM LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-25			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
1	ASPHALT / ROAD GRAVEL								
5	SAND; SILTY SAND; LT. REDDISH-BROWN; GRAVEL COMMON; WELL GRADED; SLI. MUST		Sm						
10	SAND AS ABOVE								
15									
20									
24	SILTY CLAY; LT. REDDISH-BROWN; SLI. PLASTIC <u>MUDDY CREEK</u>		CL						COULD NOT COLLECT ENOUGH WATER FOR SAMPLE
25	TO 25'					1	X	25 26.5	1.5'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4/14/98	PAGE 1 of 1		
		Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD		
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			DRILLED BY HSA		
		SPLIT-BARREL		AUGER	LOGGED BY WEBER DRILLING		
		THIN-WALLED TUBE		CONTINUOUS SAMPLER	EXISTING GRADE ELEVATION (FT. AMSL) T. REED		
			ROCK CORE	LOCATION OR GRID COORDINATES			
			NO RECOVERY				

DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet
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SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KMCLLC</i>	LOCATION <i>HERNDON, VA</i>	BORING NUMBER <i>PC-26</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	<i>SAND; SILTY SAND; LT. TAN-BROWN; GRAVEL COMMON; SLI. MOIST; WELL-GRADED</i>									
10	<i>GRAVEL ZONE @ 10.5-12</i>		<i>SM-GM</i>							
15	<i>GRAVEL ZONE @ 16-17'</i>									
18										
20	<i>SAND AS ABOVE; SATURATED</i>									<i>GROUNDWATER SAMPLE COLLECTED @ 28'</i>
25										
30	<i>SILTY CLAY, LT. TAN TO REDDISH-BROWN; MOD. PLASTIC; MUDDY CREEK</i>		<i>CL</i>			<i>1</i>	<i>X</i>	<i>29 30.5</i>	<i>18'</i>	
35	<i>TO 35'</i>									

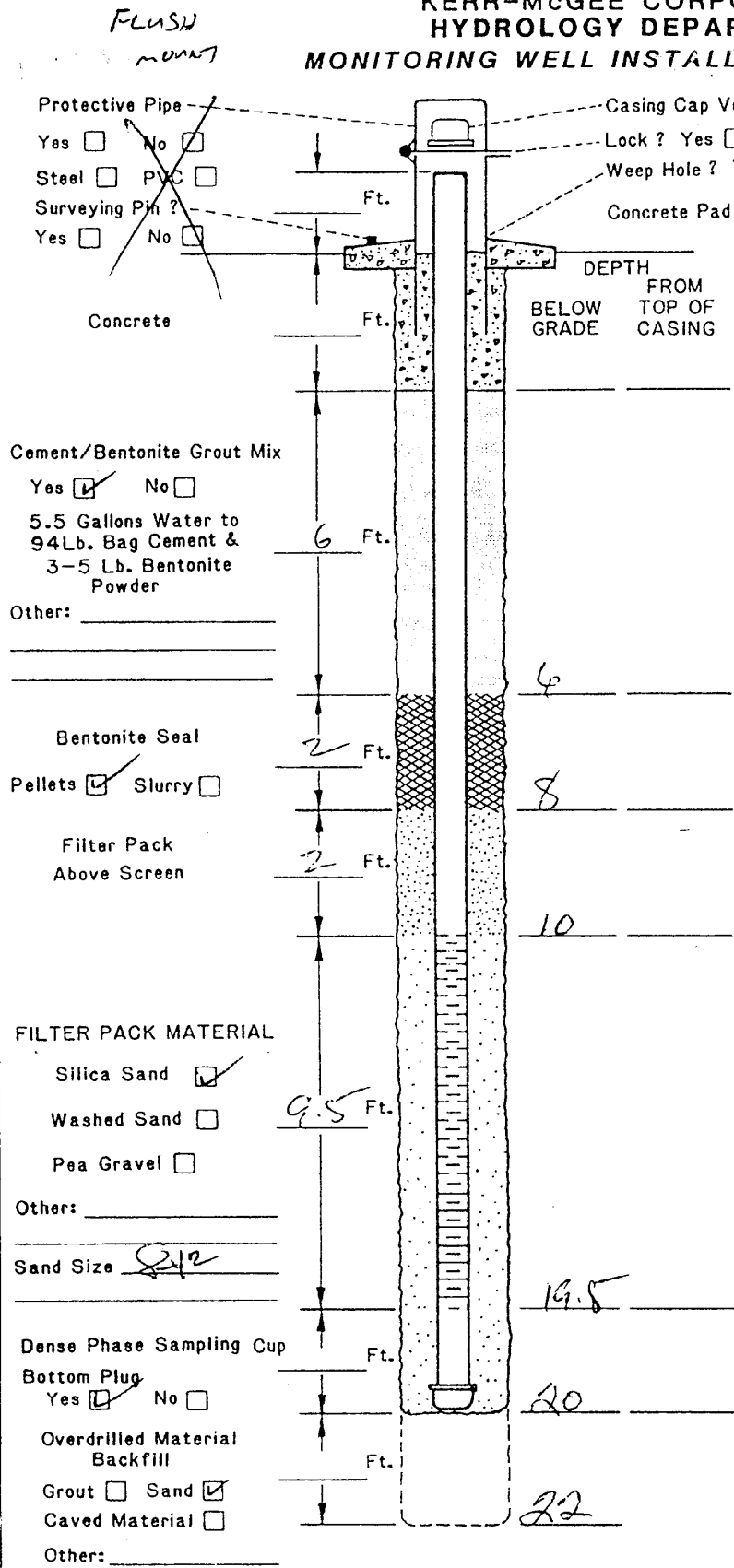
EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED <i>4/15/98</i>	PAGE <i>1 of 1</i>																							
		Water Table (Time of Boring)		<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td>CLAY</td> <td></td> <td>DEBRIS FILL</td> </tr> <tr> <td></td> <td>SILT</td> <td></td> <td>HIGHLY ORGANIC (PEAT)</td> </tr> <tr> <td></td> <td>SAND</td> <td></td> <td>SANDY CLAY</td> </tr> <tr> <td></td> <td>GRAVEL</td> <td></td> <td>CLAYEY SAND</td> </tr> <tr> <td></td> <td>SILTY CLAY</td> <td></td> <td></td> </tr> <tr> <td></td> <td>CLAYEY SILT</td> <td></td> <td></td> </tr> </table>		CLAY		DEBRIS FILL		SILT		HIGHLY ORGANIC (PEAT)		SAND		SANDY CLAY		GRAVEL		CLAYEY SAND		SILTY CLAY				CLAYEY SILT		
		CLAY			DEBRIS FILL																							
		SILT		HIGHLY ORGANIC (PEAT)																								
		SAND		SANDY CLAY																								
	GRAVEL		CLAYEY SAND																									
	SILTY CLAY																											
	CLAYEY SILT																											
	SPLIT-BARREL		AUGER		ROCK CORE	DRILLED BY <i>WEBER DRLG.</i>																						
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		NO RECOVERY	LOGGED BY <i>T. REED</i>																						
	DEPTH	Depth Top and Bottom of Sample		EXISTING GRADE ELEVATION (FT AMSL)		LOCATION OR GRID COORDINATES																						
	REC.	Actual Length of Recovered Sample in Feet																										

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, N		BORING NUMBER PC-27		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
1	ASPHALT / ROAD GRAVEL							
5	SAND/SILTY SAND; TAN-BROWN GRAVEL COMMON; WELL-SORTED; SLT. MOIST							
10	GRAVEL ZONE @ 10-11'		Sm-GM					
20	SAND AS ABOVE; SATURATED		Sm-GM					
28	SILTY CLAY; LT. REDDISH-BROWN; SLT. PLASTIC MUDDY EDGEK		CL					
30	TD 30'					1	X	30' 31.5' 1.5'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY DEBRIS FILL SILT HIGHLY ORGANIC (PEAT) SAND SANDY CLAY GRAVEL CLAYEY SAND SILTY CLAY CLAYEY SILT	DATE DRILLED 4/16/98	PAGE 1 of 1
		Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	DRILLED BY WEBER ORLG.		
		SPLIT-BARREL	LOGGED BY T. REED		
		THIN-WALLED TUBE	EXISTING GRADE ELEVATION (FT. AMSL)		
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	LOCATION OR GRID COORDINATES			

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



Casing Cap Vent? Yes No

Lock? Yes No

Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

1. Borehole Diameter = 8 Inches.

2. Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger

3. Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.

4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC Galvanized Teflon
Stainless Other _____

2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____

3. Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____

4. Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.

5. Slot Size of Screens: 020

6. Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____

7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____

2. Time Spent on Well Development?
_____ / _____ Minutes/Hours

3. Approximate Water Volume Removed? 100 Gallons

4. Water Clarity Before Development? Clear
Turbid Opaque

5. Water Clarity After Development? Clear
Turbid Opaque

6. Did Water have Odor? Yes No
If Yes, Describe SLIGHT HYDROCARBON

7. Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 13' Ft. Date 4/16/98

Before Development _____ Ft. Date _____

After Development 7.00 Ft. Date 5/12/98

Driller/Firm WEREVE Drill Rig Type B-66 Date Installed 4/23/98

Drill Crew L. ROBERTSON Well No. PC-28 Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC	LOCATION HENDERSON, NV		BORING NUMBER PC-28				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	DEPTH	REC.	
1	ASPHALT / ROAD GRAVEL								
5	SAND; SILTY SAND; GRAVEL OCCASIONAL TO COMMON; WELL-GRADED; SLI. MOST; LT. TAN BROWN		SM-GM						
10									
13									
15	SAND AS ABOVE; COLOR CHANGE TO LT. TAN								NOTE: BORING PROVIDED ABUNDANT WATER FOR SAMPLING
18									
20	SILTY CLAY; LT. REDDISH-TAN; SLI. PLASTIC MUDY CREEK		CL						GROUNDWATER SAMPLE COLLECTED @ 15'
20	TO 20'					1	20 21.5'	1.0'	

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/16/98	PAGE 1 of 1
	Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID NO. Identifies Sample by Number	CLAY	DEBRIS FILL	DRILLED BY WEBER DRLG.	
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY T. REED	
	THIN-WALLED TUBE	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)	
AUGER	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES		
ROCK CORE	SILTY CLAY	CLAYEY SILT			
NO RECOVERY	CONTINUOUS SAMPLER				
DEPTH	Depth Top and Bottom of Sample				
REC.	Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division			KM SUBSIDIARY <i>KMULLL</i>		LOCATION <i>HENDERSON, NV</i>		BORING NUMBER <i>PC-29</i>		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
1	ASPHALT / ROAD GRAVEL								
5	SAND / SILTY SAND; GRAVEL COMMON; WELL-GRADED; TAN-BROWN; SLI. MOIST								
10			SM-GM						
15									
20	SAND AS ABOVE; MOIST TO SATURATED					1	X	20' 21.5'	1.5'
25			SM-GM						
30									
34									
35	SILTY-SANDY CLAY; LT. TAN; MOD. PLASTIC MUDDY CREEK TO 35'		CL			2	X	34.5' 36'	1.2'
									GROUNDWATER SAMPLE COLLECTED @ 30'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>4/16/98</i>	PAGE <i>1 of 1</i>
	Water Table (Time of Boring)			DRILLING METHOD <i>HSA</i>	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	CLAY	DEBRIS FILL	DRILLED BY <i>WEBER DRLG.</i>	
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY <i>T. REED</i>	
	AUGER	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT AMSL)	
	ROCK CORE	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	SILTY CLAY	CLAYEY SILT			
CONTINUOUS SAMPLER	NO RECOVERY				
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

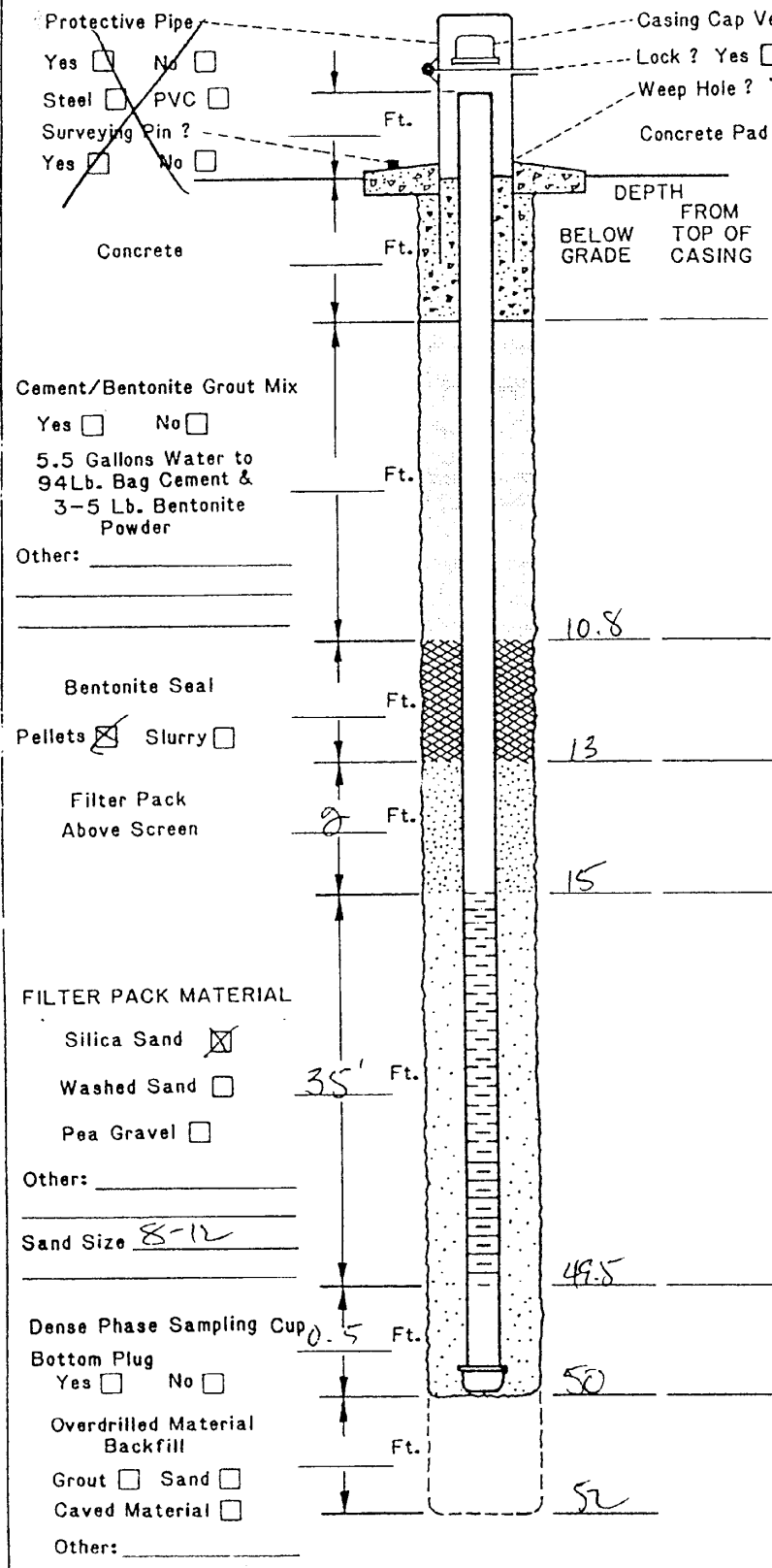
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NJ		BORING NUMBER PC-30				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	ASPHALT ROAD GRAVEL SILTY SAND - GRAVELLY TAN BROWN DRY WELL GRADED	SSS	SM GM							
15	SILTY SAND BROWN MOIST CORDEX									
20	SILTY SAND GRAY BRN GRAVELS TR CLAY WET CORDEX									
25	CORDEX		GM							
30	SAND/GRAVEL GRAY BRN WELL GRADED SILTY LITTLE CLAY									WATER SAMPLE COLLECTED AT 30'
37.5	37.5' MUDDY GREEN SILTY CLAY TD BRN SOFT WET		CL							TD 42' SPLIT SPON AT 42'
40	BCMG MOIST AT 40'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 4/20/68	PAGE 1 of 1
		Water Table (Time of Boring)			DRILLING METHOD HSA
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		DRILLED BY WEBER	
		SPLIT-BARREL		LOGGED BY J. LAWRENCE	
		AUGER		EXISTING GRADE ELEVATION (FT AMSL)	
		THIN-WALLED TUBE		LOCATION OR GRID COORDINATES	
		CONTINUOUS SAMPLER			
		ROCK CORE			
		NO RECOVERY			
		DEPTH Depth Top and Bottom of Sample			
		REC. Actual Length of Recovered Sample in Feet			

FLUSH

MOUNT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: .020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
121 Minutes/Hours
- Approximate Water Volume Removed? 100 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION: Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
Before Development 15 Ft. Date 4/21/98
After Development 15.60 Ft. Date 5/11/98

Driller/Firm WEBER ENVIRONMENTAL Drill Rig Type MOBILE B-601 Date Installed 4/21/98
Drill Crew L. ROBERTSON Well No. PC-31 Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER R-31
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
0	ASPHALT ROAD GRAVEL								
5	SILTY SAND BRN - RD BRN, LOOSE, WELL GRADED, GRAVELS MOIST CORNUSES		SM GM						
10									
15									
20	SAND & GRAVEL TAB		∇						
25	INDURATED SAND/GRAVEL CONGLOMERATE WELL GRADED ANGULAR-SA STRONG CEMENT								VERY HARD DRILLING @ 21-24 FT 25-26
26.5	SANDSTONE TAN-TAN BRN VFG PORE GRADED DENSE SILTY SILTY CLAY GY BRN SLI PLAST FEW GRAVELS SLI SDY IP								
30									
35			SM GM						
40									

4/20
4/20

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/20/98	PAGE 1 of 2
	∇	Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA	
	PID	Photoionization Detection (ppm)		SILT		
	NO.	Identifies Sample by Number		SAND	DRILLED BY WEBER	
	TYPE	Sample Collection Method		GRAVEL		
	SPLIT-BARREL		SILTY CLAY	LOGGED BY J. Crawford		
	THIN-WALLED TUBE		CLAYEY SAND			
	AUGER		CLAYEY SILT	EXISTING GRADE ELEVATION (FT. AMSL)		
	CONTINUOUS SAMPLER		DEBRIS FILL			
	ROCK CORE		HIGHLY ORGANIC (PEAT)	LOCATION OR GRID COORDINATES		
	NO RECOVERY		SANDY CLAY			
DEPTH		Depth Top and Bottom of Sample				
REC.		Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KM-CCC	LOCATION HENDERSON NU	BORING NUMBER PC-31
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
15	SAND GRAY BRN - TAN W/ GR W/ GRAVELS	[Symbol: Sand with Gravel]							No Returns DESCRIPTION FROM MATERIAL ON AUGER FLIGHT AFTER 10
50	50' MUDDY GREEN SILTY CLAY GRN GY to OFF WHITE MOIST to DRY LAMINATED IP FIRM	[Symbol: Silty Clay]	CC						TO 52'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4/21/98	PAGE 2 of 2																							
		Water Table (Time of Boring)		<table style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td>CLAY</td> <td></td> <td>DEBRIS FILL</td> </tr> <tr> <td></td> <td>SILT</td> <td></td> <td>HIGHLY ORGANIC (PEAT)</td> </tr> <tr> <td></td> <td>SAND</td> <td></td> <td>SANDY CLAY</td> </tr> <tr> <td></td> <td>GRAVEL</td> <td></td> <td>CLAYEY SAND</td> </tr> <tr> <td></td> <td>SILTY CLAY</td> <td></td> <td></td> </tr> <tr> <td></td> <td>CLAYEY SILT</td> <td></td> <td></td> </tr> </table>		CLAY		DEBRIS FILL		SILT		HIGHLY ORGANIC (PEAT)		SAND		SANDY CLAY		GRAVEL		CLAYEY SAND		SILTY CLAY				CLAYEY SILT		
		CLAY			DEBRIS FILL																							
		SILT		HIGHLY ORGANIC (PEAT)																								
		SAND		SANDY CLAY																								
	GRAVEL		CLAYEY SAND																									
	SILTY CLAY																											
	CLAYEY SILT																											
	PID Photoionization Detection (ppm)		SPLIT-BARREL	DRILLED BY WEBER																								
	NO. Identifies Sample by Number		AUGER	LOGGED BY J. Crawford																								
	TYPE Sample Collection Method		ROCK CORE	EXISTING GRADE ELEVATION (FT. AMSL)																								
	THIN-WALLED TUBE		CONTINUOUS SAMPLER	LOCATION OR GRID COORDINATES																								
	NO RECOVERY		DEPTH Depth Top and Bottom of Sample																									
	RECOVERY		REC. Actual Length of Recovered Sample in Feet																									

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-32
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
	ASPHALT & QUIN GRAVEL	[Symbol]								
5	SAND SILTY TO BRN w/ GRAVELS DRY	[Symbol]	SM EM							
15	SAND w/ GRAVEL BRN MOIST	[Symbol]								
20	SAND & GRAVEL GRAY TO OFF WHITE HIGHLY INDURATED "FANGLOMERATE"	[Symbol]	CL							19' HARD DRILLS HARD FROM 19 TO 24' SILI HYDROCARBON ODDOR
25	GRAVELY CLAY GRAY GREEN w/ TAN TO BROWN STREAKS FIRM HARD DRY TO WET SILTY	[Symbol]	CL							
35	SAND & GRAVEL BRN WELL GRADED	[Symbol]	SM							STOP AT 27' to REPLACE BIT
40										

4/21
4/22

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/21/98	PAGE 1 of 2	
	▽	Water Table (Time of Boring)	[Symbol]	CLAY	[Symbol]	DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	[Symbol]	SILT	[Symbol]	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER
	[Symbol]	SPLIT-BARREL	[Symbol]	SAND	[Symbol]	SANDY CLAY	LOGGED BY J. BAUFORN
	[Symbol]	AUGER	[Symbol]	GRAVEL	[Symbol]	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)
[Symbol]	THIN-WALLED TUBE	[Symbol]	SILTY CLAY	[Symbol]		LOCATION OR GRID COORDINATES	
[Symbol]	CONTINUOUS SAMPLER	[Symbol]	CLAYEY SILT	[Symbol]			
[Symbol]	ROCK CORE	[Symbol]		[Symbol]			
[Symbol]	NO RECOVERY	[Symbol]		[Symbol]			
[Symbol]	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMC-LLC</i>	LOCATION <i>HENDERSON NU</i>			BORING NUMBER <i>PC-32</i>				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
<div style="text-align: center; margin-bottom: 10px;">45</div> <div style="text-align: center; margin-bottom: 10px;">58</div>	Silty Clay GRN - 94 GRN - OFF WHITE DRY - moist Firm - HARD BEING SLI SANDY SOFT - FIRM		<i>CC</i>				<input checked="" type="checkbox"/>			T/Muddy Creek 40.5 TD 43 GROUNDWATER SAMPLE COLLECTED @ 19 ft

EXPLANATION	▼	Water Table (24 Hour)			GRAPHIC LOG LEGEND	DATE FILLED <i>4/22/98</i>	PAGE <i>2 of 2</i>	
	▽	Water Table (Time of Boring)				DRILLING METHOD <i>HSA</i>		
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method				HIGHLY ORGANIC (PEAT)	DRILLED BY <i>WEBER</i>	
	SPLIT-BARREL	AUGER	ROCK CORE	CLAY	DEBRIS FILL	SANDY CLAY	LOGGED BY <i>J. Crawford</i>	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	SILT	HIGHLY ORGANIC (PEAT)	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
	SAND	GRAVEL	SILTY CLAY	SAND	SANDY CLAY	CLAYEY SAND	LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NU			BORING NUMBER PC-33		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	ASPHALT & ROAD GRAVEL	5.0-5.2							
5	SILTY SAND RD BROWN CRS-V CRS, GRAVELS DRY	5.2-10.0	SM GM						
15	SAND BROWN GRAVEL BEMG SLI CLAYEY	10.0-15.0	SM GM						GROUNDWATER SAMPLE COLLECTED @ 14'
20	SILTY CLAY RD BROWN WET FIRM W/ HARD CLASTS BLOCKY	15.0-20.0	CL						21' T/MUDDY GREGG
25									TD 23'
30									
35									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4/22/98	PAGE 1 of 1	
	▽	Water Table (Time of Boring)		DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER
	⊗	SPLIT-BARREL		SAND	SANDY CLAY	LOGGED BY S. Crawford
	■	AUGER		GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)
■	THIN-WALLED TUBE	NO RECOVERY	SILTY CLAY	LOCATION OR GRID COORDINATES		
■	CONTINUOUS SAMPLER	CLAY	CLAYEY SILT			

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KALL-LLC	LOCATION HEWLESON NV	BORING NUMBER PC-34
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
0-5	FRONT ROAD GRAVEL SILTY SAND W/ GRAVEL REDISH BRN LOOSE WELL GRADED DRY		SM EM						
5-15	SILTY SAND W/ GRAVEL BRN-TAN MOIST		VI						
15-20	CLAY (20) BRN FIRM-HRD SILTY IP FEW HARD CLUSTS BLOCKY		CC						✓ MUDY CHECK 19.5'
20-25									TD 21

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/22/98	PAGE 1 of 1
	▽	Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA	
	▽	Photoionization Detection (ppm)		SILT		
	PID NO. TYPE	Identifies Sample by Number		SAND		DRILLED BY WEBER
X	SPLIT-BARREL		GRAVEL		LOGGED BY J. CRAWFORD	
■	THIN-WALLED TUBE		AUGER		EXISTING GRADE ELEVATION (FT. AMSL)	
■	CONTINUOUS SAMPLER		ROCK CORE			
□	NO RECOVERY		NO RECOVERY		LOCATION OR GRID COORDINATES	
DEPTH		Depth Top and Bottom of Sample				
REC.		Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON, NV	BORING NUMBER PC-35
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
	ASPHALT & ROAD GRAVEL	5-8							
5	SILTY SANDS w/ GRAVELS REDDISH BROWN DRY WELL GRADED		SM/GM						
10									
15	GRAVEL w/ SAND WELL GRADED SILT MOST								
20									
25									
30	SANDY SILT v. LITE GRAY v. SOFT HOMOGEN. OCC. TRACES SMALL GRAVEL		ML						TOP OF SILT BASED ON EXAM OF AUGER FLIGHTS UPON REMOVAL FROM BOREHOLE
35									POOR RETURNS WHILE DRILLING
40									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4/22/98	PAGE 1 of 2	
	Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD HSA	
	PID NO. TYPE	Identifies Sample by Number Sample Collection Method		DRILLED BY WEBER	LOGGED BY J. Crawford
	SPLIT-BARREL	AUGER	ROCK CORE	EXISTING GRADE ELEVATION (FT. AMSL)	LOCATION OR GRID COORDINATES
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KML-ULL	LOCATION HENDERSON NV	BORING NUMBER PC-35
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	SANDY SILT AAB VERY SOFT	[Graphic Log: Dotted pattern]	ML				[Vertical bar with 'X' at bottom]			POOR RETURNS SAMPLES FROM AUGER FLIGHTS
50										
55	SILTY CLAY RED BROWN STIFF V. SLI PLASTIC DRY	[Graphic Log: Diagonal hatching]	CL				[Vertical bar with 'X' at bottom]			T/ MUDDY CREEK 58'
60										
[Scale continues]										TD 60'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE		
		Water Table (Time of Boring)		4/22/98	2 of 2		
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT	DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD		
		SPLIT-BARREL		AUGER		ROCK CORE	DRILLED BY
		THIN-WALLED TUBE		CONTINUOUS SAMPLER		NO RECOVERY	LOGGED BY
DEPTH	Depth Top and Bottom of Sample					EXISTING GRADE ELEVATION (FT. AMSL)	
REC.	Actual Length of Recovered Sample in Feet					LOCATION OR GRID COORDINATES	
						DRILLED BY HSA LOGGED BY WEBER J. (RAWFORD)	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION Henderson, NV		BORING NUMBER PC 36			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE		DEPTH
5	SAND, gravelly, f-m w/c-vc 0-12.5' mod yell brn (10YR5/4) f-m sd (w/ minor c-vc) and minor gravel (10-20% of 1/4"-1/4"). Dry. Contains 10-15% silt. Minor caliche cement @12.5' damp		SW/GW						
12.5	SAND, silty & gravelly, f-m w/c-vc		GM					wet @ 15'	
15	12.5'-15' 15-20% 1/4"-1/2" grav and 25-30% silt.								
20	SAND, silty, mod yell brn, SA-SR, 30% silt, no gravel f-m w/c grained		SM						
25								Water sample taken when hole 30' deep	
27	SAND, mod yell brn, vf-f w/m, compact, w/ 20% silt		SP/SM						
30.5						X	29-30	100	
35	SAND, silty, gravelly, f-m w/c-vc and 10-15% 1/4" gravel. 25-30% silt. Minor caliche cement		SM						
EXPLANATION Water Table (24 Hour) Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND		DATE DRILLED 4-27-98 PAGE 1 of 2	
						DRILLING METHOD Auger DRILLED BY Weber LOGGED BY E. J. Krish EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES			

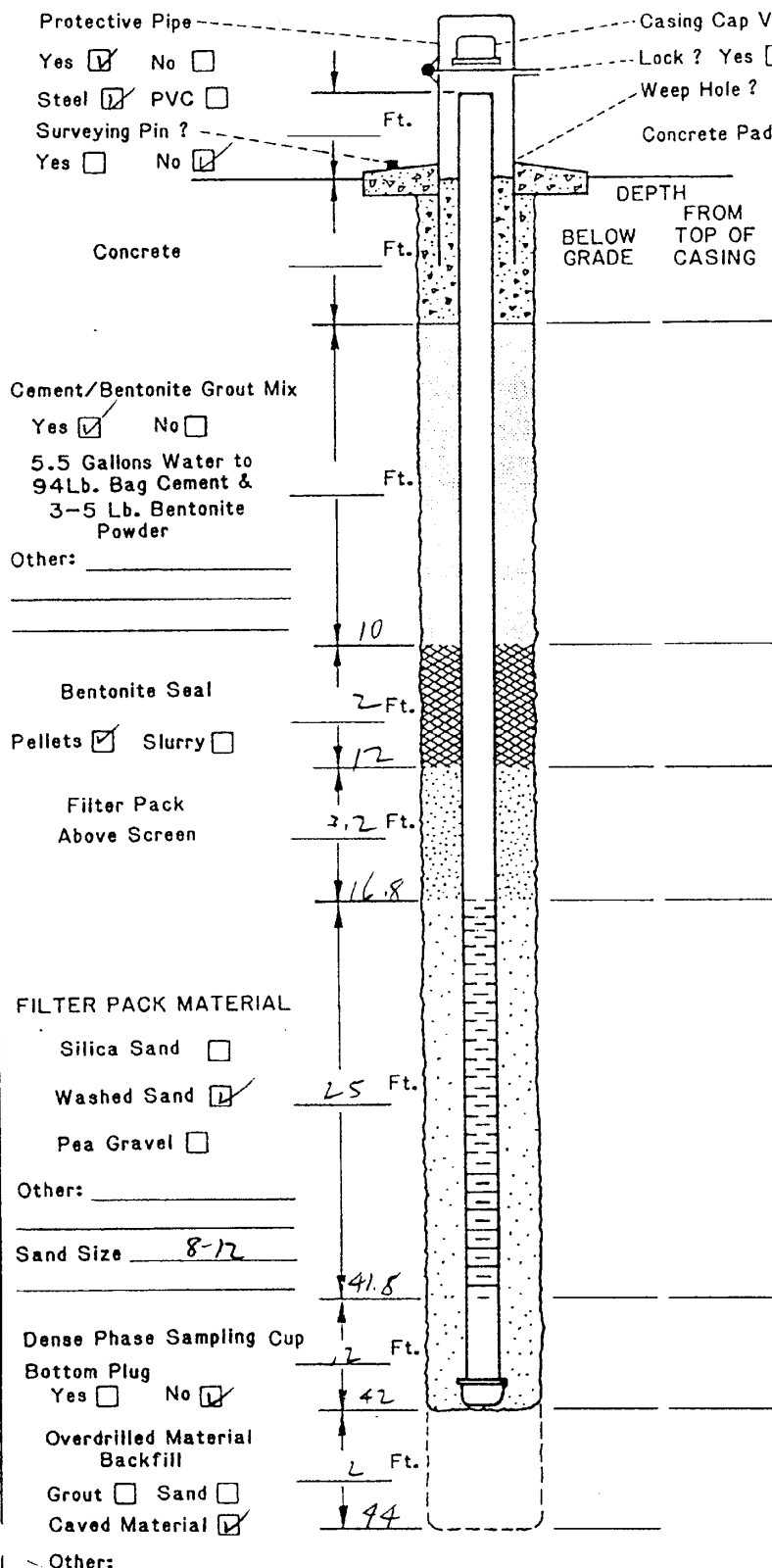
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION Henderson, NV		BORING NUMBER PC 36			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	PI (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
					NO.	TYPE	DEPTH	REC.	
41	SILT, slightly clayey, H brn (5YR 6/4) w/ minor 10% vfg sd	: 1	SM						
45		ML							
	TD @ 45								

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)			4-27-98	2 of 2
	PID	Photoionization Detection (ppm)	▨	CLAY	▩	DEBRIS FILL
	NO.	Identifies Sample by Number	▤	SILT	▨	HIGHLY ORGANIC (PEAT)
	TYPE	Sample Collection Method	▩	SAND	▨	SANDY CLAY
▨	SPLIT-BARREL	▩	AUGER	▨	CLAYEY SAND	
▩	THIN-WALLED TUBE	▨	CONTINUOUS SAMPLER	▩	NO RECOVERY	
▨	NO RECOVERY	▨	GRAVEL	▨	SILTY CLAY	
▨	CLAYEY SAND	▨	CLAYEY SILT	▨	CLAYEY SILT	

DRILLING METHOD Auger	DRILLED BY Weber
LOGGED BY E. J. Krish	
EXISTING GRADE ELEVATION (FT. AMSL)	
LOCATION OR GRID COORDINATES	

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad 2 Ft. x 2 Ft. x 2 Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

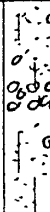
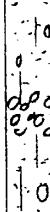

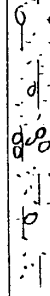
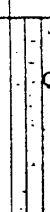
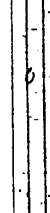


- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
2 / 1 / 1 Minutes/Hours
- Approximate Water Volume Removed? 90 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____






















WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 17.0 Ft. Date 4/27/98
 Before Development 23.95 Ft. Date 5/1/98
 After Development 25.10 Ft. Date 5/1/98

Driller/Firm B. JOHNSON / WASSER Drill Rig Type B-61 Date Installed 4/27/98
 Drill Crew B. JOHNSON / R. MONTGOMERY Well No. PC-37 Kerr-McGee Hydrologist T. RUS

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV.			BORING NUMBER PC-37		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SAND/SILTY SAND; O.C. GRAVEL; LT. TAN-BROWN; WELL-GRADED; GRAVEL ZONE @ 3-4'		SM						
16	SAND AS ABOVE; GRAVEL ZONE @ 12-13'								
15									
20	SAND AS ABOVE; GRAY-BROWN; GRAVEL ZONE @ 22'								
25									
27									
30	SANDY SILT; O.C. GRAVEL; LT. GRAY-BROWN; SATURATED.		ML						
35									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/27/98	PAGE 1 of 2
		Water Table (Time of Boring)		CLAY		DEBRIS FILL
		Photoionization Detection (ppm)		SILT		HIGHLY ORGANIC (PEAT)
		Identifies Sample by Number		SAND		SANDY CLAY
		Sample Collection Method		GRAVEL		CLAYEY SAND
	SPLIT-BARREL		AUGER		ROCK CORE	DRILLING METHOD HSA
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		NO RECOVERY	DRILLED BY WEBER ORLG.
	DEPTH	Depth Top and Bottom of Sample		LOGGED BY T. REED		
	REC.	Actual Length of Recovered Sample in Feet		EXISTING GRADE ELEVATION (FT. AMSL)		
				LOCATION OR GRID COORDINATES		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KmCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-37			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
40 41 44	SILTY CLAY; LT. REDDISH-BROWN; SLT. PLASTIC Muddy Creek		ML CL				44 45.5	1.5'	

EXPLANATION	▼	Water Table (24 Hour)	 SPLIT-BARREL	 AUGER	 ROCK CORE	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE	
	▽	Water Table (Time of Boring)				 THIN-WALLED TUBE	 CONTINUOUS SAMPLER	 NO RECOVERY	 CLAY	 DEBRIS FILL
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	 SILT	 HIGHLY ORGANIC (PEAT)	DRILLING METHOD HSA		 SAND	 SANDY CLAY	DRILLED BY WEBER DRLG.	
	 GRAVEL	 CLAYEY SAND	 SILTY CLAY	 CLAYEY SILT	LOGGED BY T. REED		EXISTING GRADE ELEVATION (FT AMSL)		LOCATION OR GRID COORDINATES	
	DEPTH REC.	Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet								

SOIL BORING LOG KM-5655-8

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION Henderson, NV		BORING NUMBER PC 38							
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS			
						NO.	TYPE	DEPTH	REC.				
5	SAND, gravelly, lt brn 0-40', f-m w/c-vcsd and 30-35% 1/4-3/4" grav. (Minor 3/4"-2" grav). Slight silty 5-10%. Minor caliche cement throughout	SW											
20	20'-40' 20% silt, lt brn sd and grav as above												
										DAMP @ 33' ▽			
										MOIST-WET @ 40'			
EXPLANATION ▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method ⊗ SPLIT-BARREL AUGER ROCK CORE ■ THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY						GRAPHIC LOG LEGEND				DATE DRILLED 4-27-98		PAGE 1 of 2	
						▨ CLAY ▩ DEBRIS FILL ▧ SILT ▪ HIGHLY ORGANIC (PEAT) ▦ SAND ▤ SANDY CLAY ▥ GRAVEL ▣ CLAYEY SAND ▤ SILTY CLAY □ _____ ▣ CLAYEY SILT □ _____				DRILLING METHOD AUGER DRILLED BY WEBER LOGGED BY E J Krish EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet													

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV			BORING NUMBER PC 38		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
45	SAND, silty, mod yell brn, w/ 30% silt w/ 10-15% granules (1/4")	[Symbol]	SM						
50	SILT, lt brn, w/ minor clay, moist. tr-sp vfgsd (5%) w/ minor gypsum	[Symbol]	ML						water sample taken when hole @ 47'
55	TD @ 55					X	54-55	100%	

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE	
	▽	Water Table (Time of Boring)			[Symbol]	CLAY	[Symbol]
	PID NO.	Photoionization Detection (ppm)	[Symbol]	SILT	[Symbol]	DEBRIS FILL	DRILLING METHOD
	TYPE	Identifies Sample by Number	[Symbol]	SAND	[Symbol]	HIGHLY ORGANIC (PEAT)	AUGER
	X	SPLIT-BARREL	[Symbol]	GRAVEL	[Symbol]	SANDY CLAY	DRILLED BY
[Symbol]	THIN-WALLED TUBE	[Symbol]	NO RECOVERY	[Symbol]	CLAYEY SAND	WEBER	
[Symbol]	AUGER	[Symbol]	ROCK CORE	[Symbol]	CLAYEY SILT	LOGGED BY	
[Symbol]	CONTINUOUS SAMPLER	[Symbol]	NO RECOVERY	[Symbol]	CLAYEY SILT	E. J. KRISH	
[Symbol]	NO RECOVERY	[Symbol]	NO RECOVERY	[Symbol]	CLAYEY SILT	EXISTING GRADE ELEVATION (FT AMSL)	
DEPTH	Depth Top and Bottom of Sample	[Symbol]	NO RECOVERY	[Symbol]	CLAYEY SILT	LOCATION OR GRID COORDINATES	
REC.	Actual Length of Recovered Sample in Feet	[Symbol]	NO RECOVERY	[Symbol]	CLAYEY SILT		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-39					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
5	SAND/SILTY SAND; LT. TAN-BROWN; O.C. GRAVEL; SLI. MOIST; WELL-GRADED	○									
10	SAND AS ABOVE; GRAVEL ZONE @ 10'	○	SM								
15		○									
17		○									
20		○									
25		○									
30		○	SM								
35	GRAVEL ZONE @ 33-35'	○									
40		○									
EXPLANATION	▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method		GRAPHIC LOG LEGEND [diagonal lines] CLAY [cross-hatch] DEBRIS FILL [horizontal lines] SILT [wavy lines] HIGHLY ORGANIC (PEAT) [dots] SAND [diagonal lines] SANDY CLAY [dots] GRAVEL [diagonal lines] CLAYEY SAND [diagonal lines] SILTY CLAY [diagonal lines] CLAYEY SILT				DATE DRILLED 4/27/98	PAGE 1 of 2			
	[X] SPLIT-BARREL [thin wall] THIN-WALLED TUBE	[solid] AUGER [solid] CONTINUOUS SAMPLER	[solid] ROCK CORE [diagonal lines] NO RECOVERY	DRILLING METHOD HSA				DRILLED BY WEBER DRUG.			
			LOGGED BY T. REED				EXISTING GRADE ELEVATION (FT. AMSL)				
			DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				LOCATION OR GRID COORDINATES				

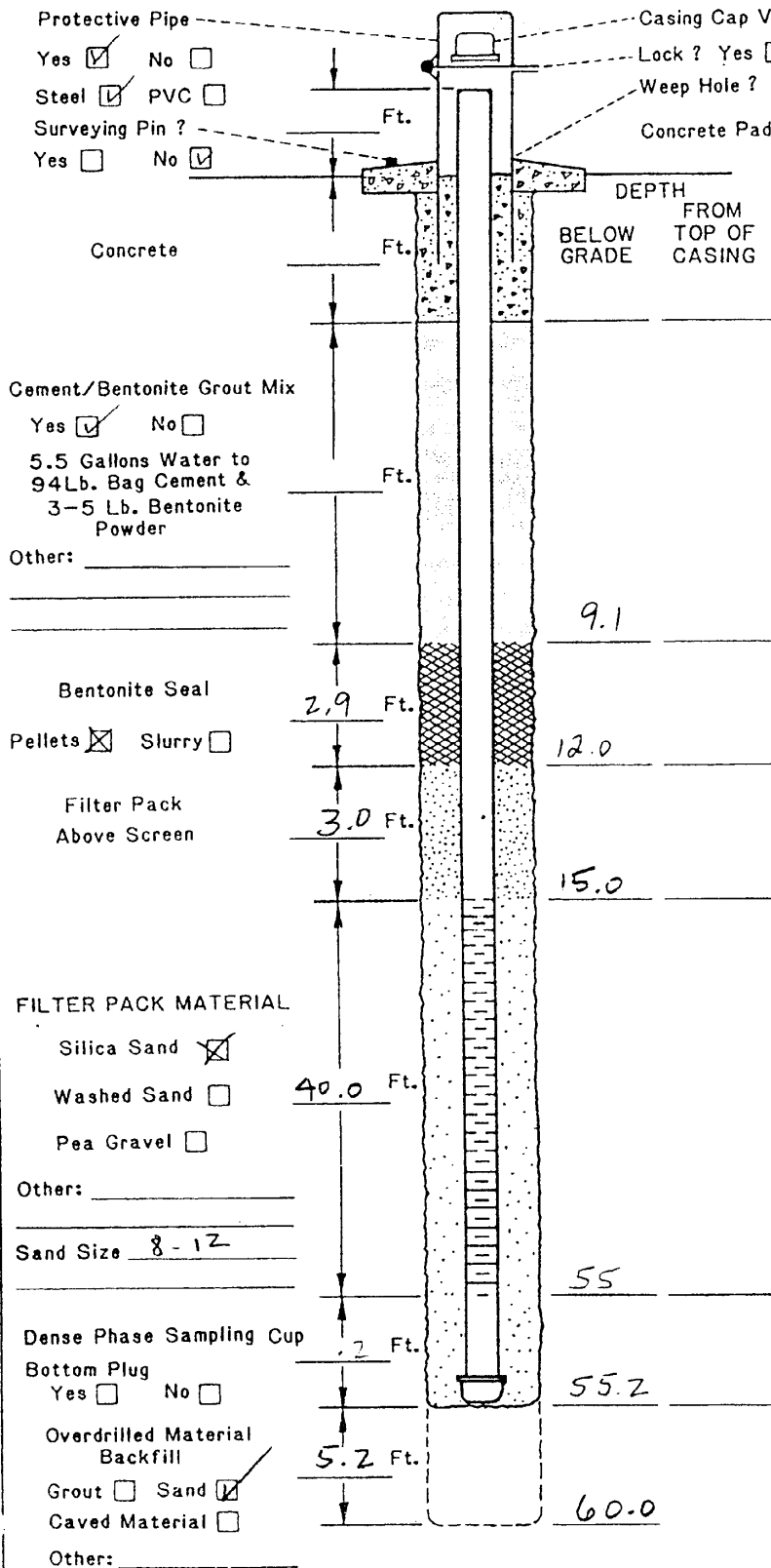
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMULLC		LOCATION HENDERSON, NV		BORING NUMBER PC-39				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
40	SAND AS ABOVE		SM							
44	SILTY CLAY; v. sil. PLASTIC; LT. REDDISH-BROWN MUDRY CLAYEY		CL			1	X	46	1.5'	
45								47.5		
46	TO 46'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/27/98	PAGE 2 of 2
	Water Table (Time of Boring)			CLAY	DEBRIS FILL
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER ORLG.
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY T. REED
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)
	ROCK CORE	SILTY CLAY	_____	LOCATION OR GRID COORDINATES	
	NO RECOVERY	CLAYEY SILT	_____		

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
5 1 1 Minutes/Hours
 - Approximate Water Volume Removed? 100 Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
- During Drilling _____ Ft. Date _____
 Before Development 30.01 Ft. Date 5/1/98
 After Development 30.01 Ft. Date 5/1/98

Driller/Firm WEBER ENVIRONMENTAL Drill Rig Type MOBILE B-61 Date Installed 4-28-98
 Drill Crew L. Robertson Well No. PC-40 Kerr-McGee Hydrologist E.J. KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC	LOCATION HENDERSON, NV		BORING NUMBER PC 40			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	SAND, gravelly, med yell brn (10YR 5/4). Contains 20-30% 1/4"-3/4" gravel. Slightly silty (5%).							
10	0'-10' w/ minor cobbles - 3/4" - 3" minor caliche cement throughout							
15	0'-43' sand is f-m w/ minor C-VC							
20								
25								
30								@ 18' damp
35	32'-35' cobbles w/ caliche cement							▽ @ 30' moist-wet

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 4-27/28-98	PAGE 1 of 2
	Water Table (Time of Boring)		DRILLING METHOD AUGER	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY	DRILLED BY WEBER	
		DEPTH REC. Actual Length of Recovered Sample in Feet	LOGGED BY E. J. Krish	EXISTING GRADE ELEVATION (FT AMSL)
			LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON			BORING NUMBER PC 40		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
43	SAND, gravelly		SW						
45	SAND, silty, gravelly, med yell brn. Mod-com silt (30%) and 10% granules (1/4") sand grains SR-SA and f-vc		SM						
56	SILT, slightly clayey, yell gry (5Y8/1), no sd		ML						Water sample taken when hole completed
60	TD 60' AUGER TD 61' Splitspoon						X	60'-61'	100

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4-27/28-98	PAGE 2 of 2	
		Water Table (Time of Boring)				CLAY	
		PID Photoionization Detection (ppm)		SILT		HIGHLY ORGANIC (PEAT)	DRILLING METHOD AUGER
		Identifies Sample by Number		SAND		SANDY CLAY	DRILLED BY WEBER
		Sample Collection Method		GRAVEL		CLAYEY SAND	LOGGED BY KRISH
	SPLIT-BARREL		AUGER		SILTY CLAY	EXISTING GRADE ELEVATION (FT AMSL)	
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		CLAYEY SILT	LOCATION OR GRID COORDINATES	
	ROCK CORE		NO RECOVERY				
	DEPTH Depth Top and Bottom of Sample						
	REC. Actual Length of Recovered Sample in Feet						

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KmCLLC</i>	LOCATION <i>HENDERSON, N</i>	BORING NUMBER <i>PC-41</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
5	<i>SAND; SILTY SAND; LT. ORANGE-BROWN; GRAVEL COMMON; WELL-GRAINED; SLT. MUST</i>		SM							
10										
15	<i>GRAVEL ZONE @ 17'</i>		SM							
16										
20			ML							
25										
28	<i>SANDY SILT; LT. TAN-BROWN; OCC. GRAVEL; POORLY-GRAINED SATURATED</i>		ML			1	X	26 27.5	1.2'	<i>COLLECTED WATER SAMPLE @ 26'</i>
30										
35	<i>SILTY CLAY; LT. REDDISH-TAN; V. SH. PLASTIC MUDDY CLAY</i>		CL							
37.5										
39	<i>TO 39'</i>					2	X	38 39.5	1.3'	

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>4/28/98</i>	PAGE <i>1 of 1</i>	
		Water Table (Time of Boring)		CLAY	DRILLING METHOD <i>HSA</i>		
		Photoionization Detection (ppm)		SILT		DRILLED BY <i>WEBER ORLG.</i>	
		Identifies Sample by Number		SAND		LOGGED BY <i>T. REED</i>	
		Sample Collection Method		GRAVEL		EXISTING GRADE ELEVATION (FT. AMSL)	
	SPLIT-BARREL		AUGER		LOCATION OR GRID COORDINATES		
	THIN-WALLED TUBE		CONTINUOUS SAMPLER				
	ROCK CORE		NO RECOVERY				
DEPTH Depth Top and Bottom of Sample							
REC. Actual Length of Recovered Sample in Feet							

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV		BORING NUMBER PC 42		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	SAND, gravelly, lt brn (SYR 6/4) + poorly sorted, SA-SR, f-vc w/ 20-30% 1/4"-3/4" gravel. Weak caliche cement throughout	[Graphic Log: Sand with gravel and caliche]						
10	0'-41' sparse silt (5-10%)							
15		[Graphic Log: Silty sand]						
20								
25		[Graphic Log: Silty sand]						
30								
35	31'-41' Calichefied sand and gravel, slow drilling, poor returns	[Graphic Log: Calichefied sand and gravel]						31'-41' hard drilling - sample off auger flites

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- Identifies Sample by Number
- Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED 4-28/29-98 PAGE 1 of 2

DRILLING METHOD AUGER

DRILLED BY WEBER

LOGGED BY E.J. Krish

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV		BORING NUMBER PC 42		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
41	SAND, silty, brngry (SYR4/1), silty (25%) w/ minor VC-granules (10-25%). Sand grains SR-SA, f-m w/c	[Graphic Log: Sand with silty texture]	SW					wet @ 41' ∇
45			SM					
50								
55	53'-57' mod oran pink (SYR 8/4). 30-40% silt in vf-fg sd w/ spotty weak caliche cement					54-55	100	Water sample taken when hole 55' deep
57	SILT, yell gry (SYB/1) & v. pale orange (10YR 8/2). Slight clay (10%). Tr FeOx after py.	[Graphic Log: Silty texture]	ML					
60							60-61	100
	TD Auger @ 60'							
	TD Split Spoon @ 61'							

EXPLANATION	∇	Water Table (24 Hour)	GRAPHIC LOG LEGEND	4-28/29-98	PAGE 2 of 2
	∇	Water Table (Time of Boring)		DRILLING METHOD AUGER	DRILLED BY WEBER
PID NO. TYPE		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	[Diagonal Lines] CLAY	[Cross-hatch] DEBRIS FILL	LOGGED BY E. J. KRISH
[X] SPLIT-BARREL	[Vertical Bar] AUGER	[Vertical Bar] ROCK CORE	[Horizontal Lines] SILT	[Wavy Lines] HIGHLY ORGANIC (PEAT)	EXISTING GRADE ELEVATION (FT AMSL)
[Thick Vertical Bar] THIN-WALLED TUBE	[Thin Vertical Bar] CONTINUOUS SAMPLER	[Diagonal Bar] NO RECOVERY	[Dotted] SAND	[Diagonal Lines] SANDY CLAY	LOCATION OR GRID COORDINATES
[Thin Vertical Bar]			[Dotted] GRAVEL	[Diagonal Lines] CLAYEY SAND	
[Vertical Bar]			[Diagonal Lines] SILTY CLAY	[Diagonal Lines] CLAYEY SILT	
[Vertical Bar]			[Diagonal Lines] CLAYEY SILT		
[Vertical Bar]					

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division			KM SUBSIDIARY KNCLLC		LOCATION HENDERSON, NV			BORING NUMBER PC-43		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	GRAVEL / COBBLES / SAND; LT. YELLOW-BROWN; WELL-GRADED		Gm							
12	SAND / SILTY SAND; ADD. GRAVEL; LT. TAN-BROWN; WELL-GRADED		Sm							
15	GRAVEL / COBBLES / SAND		Gm							
16	SAND; SILTY SAND; ADD. GRAVEL LT. GRAY-TAN; WELL-GRADED		Sm							
20										
23.5										
25	GRAVEL / COBBLES		Gm							
27	SAND, SILTY SAND; ADD. GRAVEL; LT. GRAY-BROWN; SATURATED		Sm							
30										
32										
35	GRAVEL / COBBLES; MICRITIC Limestone w/ OCC. BASALT-COBBLES		Gm							
37										
38	SAND / SILTY SAND w/ GRAVEL		Sm							
	GRAVEL / COBBLES AS ABOVE		Gm							
EXPLANATION Water Table (24 Hour) Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						GRAPHIC LOG LEGEND CLAY DEBRIS FILL SILT HIGHLY ORGANIC (PEAT) SAND SANDY CLAY GRAVEL CLAYEY SAND SILTY CLAY CLAYEY SILT 		DATE DRILLED 4/29/98 DRILLING METHOD HSA DRILLED BY WABER DRLLC LOGGED BY T. REED EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES		
						PAGE 1 of 2				

GRAVEL ZONES
VERY HARD
DRILLING

SOIL BORING LOG KM-5655-8

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV			BORING NUMBER PC-43		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
43	GRAVELS/COBBLES AS ABOVE	000 000 000 000 000	Gm						
45	TO 43'								NOTE: DRIVE CAP FRACTURED FROM HARD DRILLING; HOLE ABANDONED

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)			▨	CLAY
	PID	Photoionization Detection (ppm)	▨	SILT	▩	HIGHLY ORGANIC (PEAT)
	NO.	Identifies Sample by Number	▨	SAND	▨	SANDY CLAY
	TYPE	Sample Collection Method	▨	GRAVEL	▨	CLAYEY SAND
▨	SPLIT-BARREL	▨	SILTY CLAY	□		
▨	AUGER	▨	CLAYEY SILT	□		
▨	ROCK CORE	▨		□		
▨	THIN-WALLED TUBE	▨		□		
▨	CONTINUOUS SAMPLER	▨		□		
▨	NO RECOVERY	▨		□		



DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	DRILLED BY HSA WRBER ORLG. LOGGED BY T. REED EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES
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

















SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV			BORING NUMBER PC-44			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	GRAVEL / COBBLES / SAND; ORY; LT. TAN-YELLOW TO LT. TAN-BROWN; WELL-GRADED	0:00 0:05 0:10 0:15 0:20 0:25 0:30 0:35 0:40 0:45 0:50 0:55 1:00	GM							VERY HARD DRILLING IN COBBLES
12.5	SAND/SILTY SAND W/ ABD GRAVEL; LT. GRAY-BROWN; WELL-GRADED	1:05 1:10 1:15 1:20 1:25 1:30 1:35 1:40 1:45 1:50 1:55 2:00	SM							
15	GRAVEL / COBBLES / SAND	2:05 2:10 2:15 2:20 2:25 2:30 2:35 2:40 2:45 2:50 2:55 3:00	GM	▽						
20	SAND-SILTY SAND AS NSUM; LT. TAN-BROWN; MOIST	3:05 3:10 3:15 3:20 3:25 3:30 3:35 3:40 3:45 3:50 3:55 4:00	SM							
23	COBBLES / GRAVEL / SAND AS ABOVE	4:05 4:10 4:15 4:20 4:25 4:30 4:35 4:40 4:45 4:50 4:55 5:00	GM							
26.5	SAND / SILTY SAND W/ COMMON TO ABD. GRAVEL, LT. YELLOW-BRN; MOIST TO SATURATED	5:05 5:10 5:15 5:20 5:25 5:30 5:35 5:40 5:45 5:50 5:55 6:00	SM							WATER SAMPLE COLLECTED @ 30'
30		6:05 6:10 6:15 6:20 6:25 6:30 6:35 6:40 6:45 6:50 6:55 7:00								
35		7:05 7:10 7:15 7:20 7:25 7:30 7:35 7:40 7:45 7:50 7:55 8:00								

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/29/98	PAGE 1 of 2	
	Water Table (Time of Boring)			CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND		DRILLING METHOD HSA
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	DRILLED BY WEGEN DRUG.				
	SPLIT-BARREL AUGER THIN-WALLED TUBE	ROCK CORE CONTINUOUS SAMPLER	LOGGED BY T. REED			
	NO RECOVERY	EXISTING GRADE ELEVATION (FT. AMSL)				
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	LOCATION OR GRID COORDINATES					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-44				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
40 41	SILTY CLAY, LT. REDDISH-TAN; SLI. PLASTIC MUDOT CREEK		SM							
			CL			1	X	43 44.5'	0.9'	

EXPLANATION	 Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/29/98	PAGE 2 of 2
	 Water Table (Time of Boring)	 CLAY	 DEBRIS FILL	DRILLING METHOD HSA	
	 PID NO. TYPE Identifies Sample by Number Sample Collection Method	 SILT	 HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER DRUGS	
	 SPLIT-BARREL	 AUGER	 ROCK CORE	 SANDY CLAY	LOGGED BY T. REED
 THIN-WALLED TUBE	 CONTINUOUS SAMPLER	 NO RECOVERY	 CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet	 GRAVEL	 SAND	LOCATION OR GRID COORDINATES	
		 SILTY CLAY	 CLAYEY SILT		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV		BORING NUMBER PC 45			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	GRAVEL, sandy, lt brn (SYR 6/4). 50-60% 1/4"-2" SR-SA gravel and 50-40% f-vc sand. Sparse silt (5-10%). Weak caliche cement		GP / GW						
10	10'-20' smaller diam gravel 1/4"-5/8"								
15									
20	20'-30' gravel 1/4"-7/8"		SW / SM						
25									
28	28'-29' bit-eating basalt boulder								
30	SAND, locally silty, med yell brn (10YR 5/4). Slightly silty (10%) layers alt/w silty (30%) layers. sand grains are f-c w/ minor vc-granules		SW / SM						
35						31-32	80		
						35-36	75		
38	SAND, gravelly, med yell brn, SA-SR, f-vc sd w/ 20-30%		SW						
						38.5-39	100		

EXPLANATION Water Table (24 Hour) Water Table (Time of Boring) PID NO. Identifies Sample by Number TYPE Sample Collection Method SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 4-29/30-98 DRILLING METHOD AUGER DRILLED BY WEBER LOGGED BY E. J. KRISH EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES
	PAGE 1 of 2	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV			BORING NUMBER PC 45		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
43	pea gravel (1/4"-3/8")	●●●●●	SW						WATER SAMPLE TAKEN WHEN HOLE AT TD
45	SILT, slightly clayey, 1+brn (5YR 6/4)		ML			X	45-45.5	100	
	TD Auger 45' TD splitspoon 45.5'								

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)			▨	CLAY
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	▤	SILT	▨	HIGHLY ORGANIC (PEAT)
	X	SPLIT-BARREL	▥	SAND	▨	SANDY CLAY
■	THIN-WALLED TUBE	▧	GRAVEL	▨	CLAYEY SAND	
▨	AUGER	▩	SILTY CLAY	□		
▩	CONTINUOUS SAMPLER	▫	CLAYEY SILT	□		
▫	ROCK CORE	▬		□		
▬	NO RECOVERY	▬		□		
DEPTH	Depth Top and Bottom of Sample					
REC.	Actual Length of Recovered Sample in Feet					
					DRILLING METHOD	2 of 2
					DRILLED BY	AUGER
					LOGGED BY	WEBER
					EXISTING GRADE ELEVATION (FT AMSL)	E. J. KRISH
					LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NJ	BORING NUMBER PC-46
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	• PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	COBBLES/GRAVEL/SAND; WELL GRADED; LT. YELLOW-TAN; ARY	0:0 0:0 0:0 0:0 0:0 0:0 0:0 0:0	GM						
13	SAND-SILTY SAND; GRAVEL COMMON; LT. YELLOW-BROWN; SLI. MOIST	0:0 0:0	SM						
15	GRAVEL/COBBLES/SAND; LT. TAN-BROWN; SLI. MOIST	0:0 0:0 0:0 0:0	GM						
20	SAND/SILTY SAND AS ABOVE, MOIST TO SATURATED	0:0 0:0	SM						
22	COBBLES/GRAVEL/SAND AS ABOVE	0:0 0:0 0:0 0:0	GM						
27	SAND/SILTY SAND AS ABOVE, LT. TAN-BROWN; SATURATED	0:0 0:0 0:0	SM						
30		0:0 0:0							
35		0:0 0:0							

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/29/98	PAGE 1 of 2	
	▽	Water Table (Time of Boring)		CLAY		DEBRIS FILL	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		HIGHLY ORGANIC (PEAT)	DRILLING METHOD HSA
		SPLIT-BARREL		SAND		SANDY CLAY	DRILLED BY WEBER DRIG.
	THIN-WALLED TUBE		AUGER		GRAVEL	LOGGED BY T. REED	
	ROCK CORE		CONTINUOUS SAMPLER		SILTY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)	
	NO RECOVERY				CLAYEY SAND	LOCATION OR GRID COORDINATES	
	DEPTH		DEPTH Top and Bottom of Sample		CLAYEY SILT		
	REC.		Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMCLLC</i>		LOCATION HENDERSON, W		BORING NUMBER PC-46			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
40		[Symbol]	SM						COLLECTED WATER SAMPLE @ 38'
42	CLAYEY SILT/SILTY CLAY; LT. PURPLISH-BROWN; SLT. PLASTIC; MUDDY CRACK	[Symbol]	CL						
						1	X	43 44.5'	

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE										
	∇	Water Table (Time of Boring)			[Symbol]	CLAY	[Symbol]	DEBRIS FILL	[Symbol]	HIGHLY ORGANIC (PEAT)	[Symbol]	SANDY CLAY	[Symbol]	CLAYEY SAND	[Symbol]	_____
	PID	Photoionization Detection (ppm)	[Symbol]	SILT	[Symbol]	DRILLING METHOD	[Symbol]	NO RECOVERY	[Symbol]	GRAVEL	[Symbol]	SILTY CLAY	[Symbol]	CLAYEY SILT	[Symbol]	_____
	NO.	Identifies Sample by Number	[Symbol]	SAND	[Symbol]	DRILLED BY	[Symbol]	THIN-WALLED TUBE	[Symbol]	CONTINUOUS SAMPLER	[Symbol]	NO RECOVERY	[Symbol]	NO RECOVERY	[Symbol]	_____
	TYPE	Sample Collection Method	[Symbol]	ROCK CORE	[Symbol]	LOGGED BY	[Symbol]	EXISTING GRADE ELEVATION (FT. AMSL)	[Symbol]	LOCATION OR GRID COORDINATES	[Symbol]	_____	[Symbol]	_____	[Symbol]	_____
	[Symbol]	SPLIT-BARREL	[Symbol]	AUGER	[Symbol]	DATE DRILLED	[Symbol]	4/29/98	[Symbol]	PAGE	[Symbol]	2 of 2	[Symbol]	[Symbol]	[Symbol]	[Symbol]
	[Symbol]	THIN-WALLED TUBE	[Symbol]	CONTINUOUS SAMPLER	[Symbol]	DRILLED BY	[Symbol]	HSA	[Symbol]	LOGGED BY	[Symbol]	WEAVER DRLC.	[Symbol]	[Symbol]	[Symbol]	[Symbol]
	[Symbol]	NO RECOVERY	[Symbol]	NO RECOVERY	[Symbol]	EXISTING GRADE ELEVATION (FT. AMSL)	[Symbol]	T. REED	[Symbol]	LOCATION OR GRID COORDINATES	[Symbol]	_____	[Symbol]	[Symbol]	[Symbol]	[Symbol]
	[Symbol]	DEPTH	[Symbol]	DEPTH Top and Bottom of Sample	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	[Symbol]	[Symbol]	[Symbol]
	[Symbol]	REC.	[Symbol]	Actual Length of Recovered Sample in Feet	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	RECOVERED	[Symbol]	[Symbol]	[Symbol]	[Symbol]

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCC		LOCATION HENDERSON, NV		BORING NUMBER PC 47				
DEP. H IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
5	GRAVEL, sandy, lt brn (5YR 6/4), 50-60% 1/4"-2" gravel with f-vc sand. Sparse 10% silt. Variable caliche cement	[Graphic Log: Gravel pattern]	GP							
10	11'-15' pea gravel w/ v. few larger cobbles.									
15	15'-21' hard, slow drilling in strongly calicheified gravel.									
21								▽ @ 2' damp - moist		
25	SAND, silty, gr or an pink (5YR 7/2). SA-SR, f-m sd w/ 25-30% silt. Minor c-vc grains	[Graphic Log: Sand pattern]	SM						WATER SAMPLE TAKEN WHEN HOLE COMPLETED	
30										
35										TD Auger @ 40' TD Split Spoon @ 41'
38	SILT, sl. clayey (10%), v. pale oran & lt brn, minor gypsum	[Graphic Log: Silty Clay pattern]	ML						Split spoon 40'-41' 100% REC.	
<p>EXPLANATION</p> <p>▼ Water Table (24 Hour)</p> <p>▽ Water Table (Time of Boring)</p> <p>PID NO. Photoionization Detection (ppm)</p> <p>TYPE Identifies Sample by Number</p> <p>Sample Collection Method</p> <p>[Symbol] SPLIT-BARREL [Symbol] AUGER [Symbol] ROCK CORE</p> <p>[Symbol] THIN-WALLED TUBE [Symbol] CONTINUOUS SAMPLER [Symbol] NO RECOVERY</p> <p>DEPTH Depth Top and Bottom of Sample</p> <p>REC. Actual Length of Recovered Sample in Feet</p>						<p>GRAPHIC LOG LEGEND</p> <p>[Symbol] CLAY [Symbol] DEBRIS FILL</p> <p>[Symbol] SILT [Symbol] HIGHLY ORGANIC (PEAT)</p> <p>[Symbol] SAND [Symbol] SANDY CLAY</p> <p>[Symbol] GRAVEL [Symbol] CLAYEY SAND</p> <p>[Symbol] SILTY CLAY [Symbol] _____</p> <p>[Symbol] CLAYEY SILT [Symbol] _____</p>			<p>DATE DRILLED 4-30-98</p> <p>PAGE 1 of 1</p> <p>DRILLING METHOD AUGER</p> <p>DRILLED BY WEBER</p> <p>LOGGED BY E.J. KRISH</p> <p>EXISTING GRADE ELEVATION (FT AMSL)</p> <p>LOCATION OR GRID COORDINATES</p>	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMCC	LOCATION HENDERSON, NV	BORING NUMBER PC 48
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	GRAVEL, sandy, mod yell brn (10YR 5/4), SA-SR 1/4"-2" gravel w/ 40% f-vc sand. Sparse 5-10% silt. 0-10' Minor caliche cement		GP						
10	10'-22' hard, slow drilling in strongly caliche-fied pea gravel (1/4"-5/8"). V. pale orange (10YR 8/2) w/ 20% f-c sd			VERY HARD					
22									▽ damp-moist @ 22'
25	SAND, silty, gry orange pink (5YR 7/2). Contains 25-30% silt in vf-m w/ c-vc sd + minor granules.		SM						
30									
35									
37	SILT, slightly clayey (5%), mod brn (5YR 5/4) w/tr. (5%) vf sd		ML						TD Auger 40' TD Split Spoon @ 41' Split spoon 40-41', 100% REC

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
	Water Table (Time of Boring)		CLAY	DEBRIS FILL	4-30-98
	PID	SILT	HIGHLY ORGANIC (PEAT)	DRILLING METHOD	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	AUGER	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	DRILLED BY	
SPLIT-BARREL	AUGER	SILTY CLAY	WEBER		
THIN-WALLED TUBE	CONTINUOUS SAMPLER	CLAYEY SILT	LOGGED BY		
ROCK CORE	NO RECOVERY		E. J. KRISH		
DEPTH Depth Top and Bottom of Sample			EXISTING GRADE ELEVATION (FT AMSL)		
REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>Km LLC</i>		LOCATION <i>HENDERSON, NV</i>		BORING NUMBER <i>PC-49</i>			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
1	ASPHALT / ROAD GRAVEL								
5	SAND; SILTY SAND; LT. YELLOW-BROWN; GRAVEL COMMON; WELL-GRADED								
10			SM- GM						
15									
20	SAND AS ABOVE, LT. TAN-BROWN								
25									WATER SAMPLE COLLECTED @ 22'
30	SAND AS ABOVE, LT. GRAY-BRN; SATURATED					1	30 31.5	1.1'	
35									
38	SILTY CLAY, LT. REDDISH-TAN;								
40	SLI. PLASTIC <i>MUDOT CREEK</i>		CL						

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE		
	▽	Water Table (Time of Boring)				CLAY		DEBRIS FILL
	▽	PID	Photoionization Detection (ppm)		SILT		HIGHLY ORGANIC (PEAT)	
	NO.	Identifies Sample by Number	X	SPLIT-BARREL		SAND		SANDY CLAY
TYPE	Sample Collection Method		AUGER		GRAVEL		CLAYEY SAND	
	THIN-WALLED TUBE		ROCK CORE		SILTY CLAY		CLAYEY SILT	
	CONTINUOUS SAMPLER		NO RECOVERY					
DEPTH			Depth Top and Bottom of Sample			DRILLING METHOD		
REC.			Actual Length of Recovered Sample in Feet			DRILLED BY		
							LOGGED BY	
							EXISTING GRADE ELEVATION (FT. AMSL)	
							LOCATION OR GRID COORDINATES	

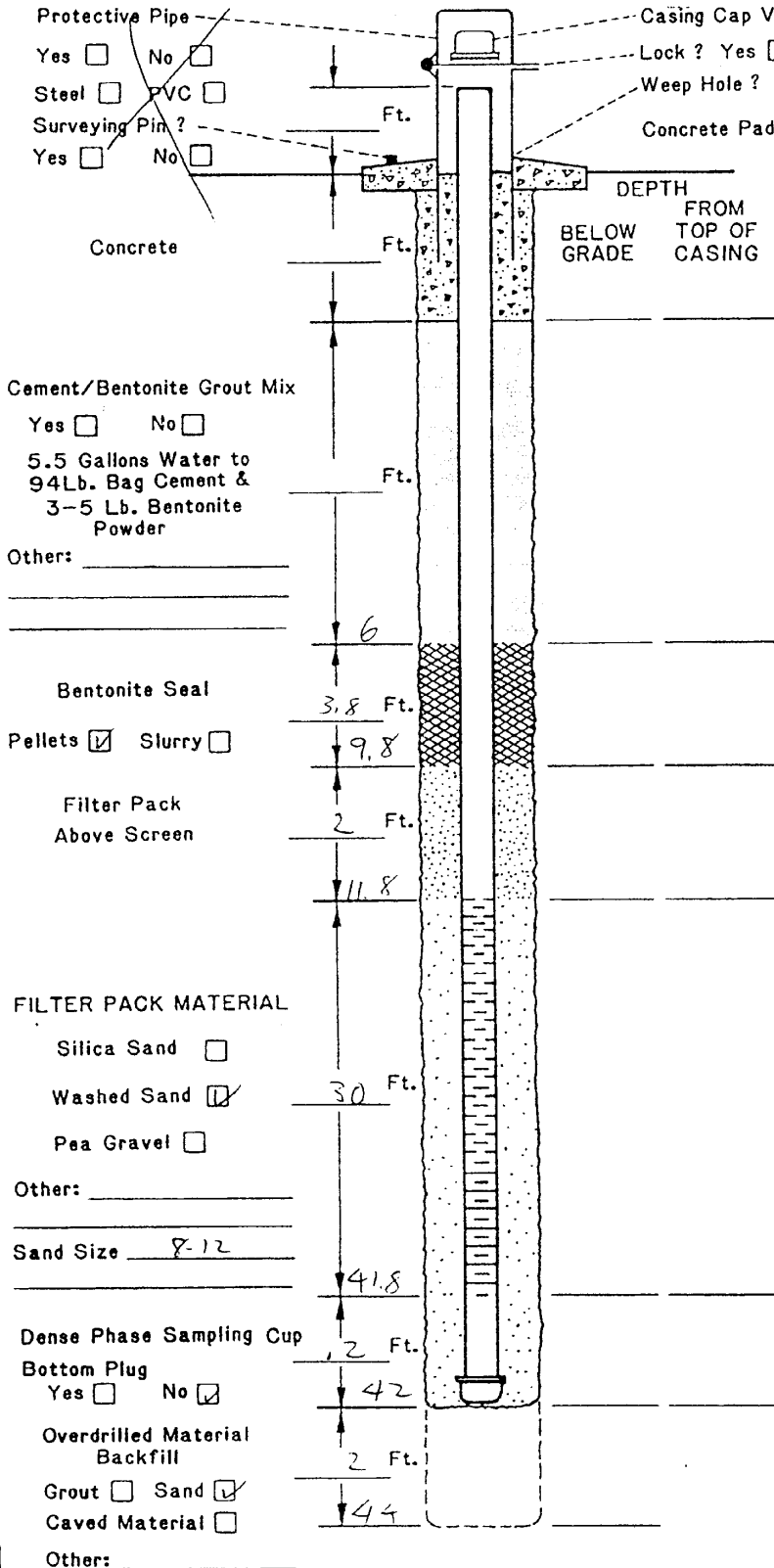
4/30/98
 HSA
 WEBER DRG.
 T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMULLC</i>		LOCATION HENDERSON, NV		BORING NUMBER PC-49					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS		
						NO.	TYPE	DEPTH		REC.	
40	<i>To 40'</i>					2	<input checked="" type="checkbox"/>	40 41.5'	1.5'		
EXPLANATION	▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method				GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND				DATE DRILLED 4/30/98 DRILLING METHOD HSA DRILLED BY WABER DRG. LOGGED BY T. REED EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES		PAGE 2 of 2
	SPLIT-BARREL THIN-WALLED TUBE	AUGER CONTINUOUS SAMPLER	ROCK CORE NO RECOVERY	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet							

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

*FLUSH
NOW*



DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: .020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ Minutes/Hours
- Approximate Water Volume Removed? 95 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odeur? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 13' Ft. Date 4/30/98
Before Development _____ Ft. Date _____
After Development 12.45' Ft. Date 5/1/98

Driller/Firm JOHNSON / WEBER DRILL Drill Rig Type B-61 HOX Date Installed 4/30/98
Drill Crew JOHNSON / MONTANA / MADDOX Well No. PC-50 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY <i>KMCLLC</i>		LOCATION <i>HENDERSON, NV</i>		BORING NUMBER <i>PC-50</i>			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
1	ASPHALT / ROAD GRAVEL								
5	SAND/SILTY SAND; GRAVEL COMMON TO ABO; LT. TAN-BROWN; WELL-GRADED								
13			Sm-Gm						
15									
20									
25									
30	GRAVEL ZONE @ 28'								
35	CLAYEY SILT; LT. REDDISH-TAN; SATURATED; MOD. PLASTIC MUDDY CLAY?		MH						SILT NOTED ON AUGERS WHEN WELL INSTALLED; NOT APPARENT WHEN DRILLING

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>4/30/98</i>	PAGE <i>1 of 2</i>
	Water Table (Time of Boring)			DRILLING METHOD <i>HSA</i>	
	PID Identifies Sample by Number Sample Collection Method	CLAY	DEBRIS FILL	DRILLED BY <i>WEBER DRLLG.</i>	
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY <i>T. REED</i>	
	AUGER	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)	
THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES		
CONTINUOUS SAMPLER	SILTY CLAY	CLAYEY SILT			
ROCK CORE	NO RECOVERY				
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-50			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
40			MH						
42.5	SILTY CLAY; LT. GREENISH-WHITE; V. SLI. PLASTIC		CL						
	TO 44'					1	X	44 45.5	1.1'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/30/98	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER ORLC.	
	SPLIT-BARREL AUGER ROCK CORE	SAND	SANDY CLAY	LOGGED BY J. REED	
THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)		
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	SILTY CLAY CLAYEY SILT		LOCATION OR GRID COORDINATES		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division			KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV			BORING NUMBER PC-51		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
1	ASPHALT / ROAD GRAVEL									
5	SAND/SILTY SAND; ABO. GRAVEL; LT. TAN-BROWN; WELL-GRAINED		SM-GM							
10	SAND AS ABOVE; LT. GRAY-TAN		SM-GM							
12										
15	SAND AS ABOVE; GRAVEL ZONE @ 16-18'		SM-GM							
20										
25										
30										
33	SILTY CLAY; LT. TAN; SLI. PLASTIC; MUDDY CREEK		CL							
35	TO 35'					1		35 36.5	1.5'	WATER SAMPLE COLLECTED @ 25'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/30/98	PAGE 1 of 1
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	SPLIT-BARREL	AUGER	SILTY CLAY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	CLAYEY SILT			
ROCK CORE	NO RECOVERY				
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NJ		BORING NUMBER PC-52			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND w/ GRAVEL LT TAN - RED BRN WELL GRADED DRY	[Symbol]	SM/ GM						
10		[Symbol]							
15		[Symbol]							
20	SAND/GRAVEL DARK BRN CLAYEY MOIST BEING WET	[Symbol]							GROUND WATER SAMPLE COLLECTED AT 20'
25	SAND MS-VCS DIL BRN TR GRAVEL	[Symbol]	SM						
30		[Symbol]							
33	SILTY CLAY LT GRAY TO OFF WHITE LAM SOFT TO FIRM	[Symbol]	CL						33' T/ MUDDY CREEL TO 34'

EXPLANATION	▼	Water Table (24 Hour)
	▽	Water Table (Time of Boring)
	PID	Photoionization Detection (ppm)
	NO.	Identifies Sample by Number
	TYPE	Sample Collection Method
[Symbol]	SPLIT-BARREL	[Symbol] AUGER
[Symbol]	THIN-WALLED TUBE	[Symbol] CONTINUOUS SAMPLER
[Symbol]		[Symbol] ROCK CORE
[Symbol]		[Symbol] NO RECOVERY
DEPTH	Depth Top and Bottom of Sample	
REC.	Actual Length of Recovered Sample in Feet	

GRAPHIC LOG LEGEND	
[Symbol] CLAY	[Symbol] DEBRIS FILL
[Symbol] SILT	[Symbol] HIGHLY ORGANIC (FEAT)
[Symbol] SAND	[Symbol] SANDY CLAY
[Symbol] GRAVEL	[Symbol] CLAYEY SAND
[Symbol] SILTY CLAY	[Symbol] _____
[Symbol] CLAYEY SILT	[Symbol] _____

DATE DRILLED 5/4/98	PAGE 1 of 1
DRILLING METHOD HSA	
DRILLED BY WEBER	
LOGGED BY J. CRAWFORD	
EXISTING GRADE ELEVATION (FT. AMSL)	
LOCATION OR GRID COORDINATES	

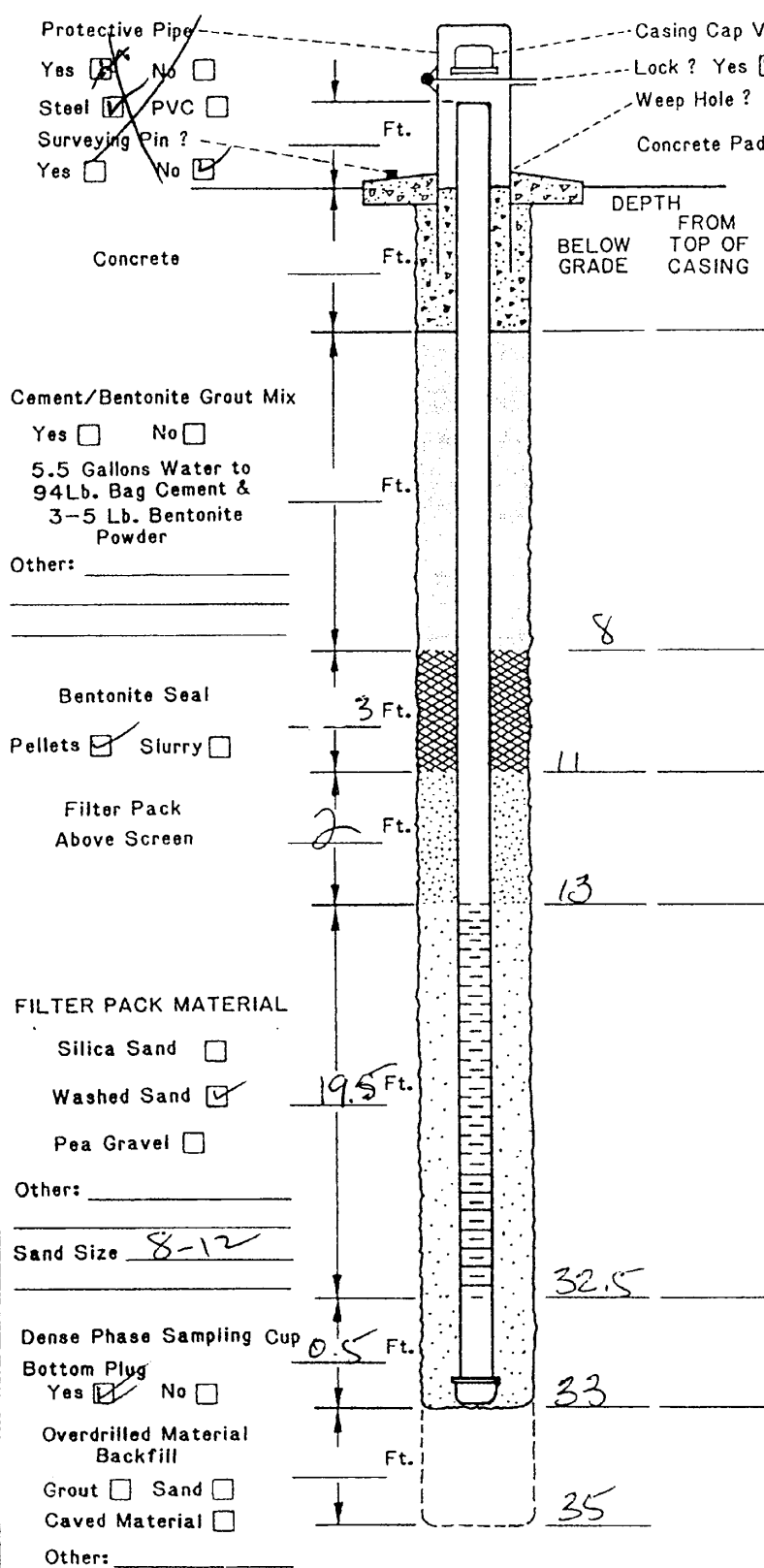
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-53				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	SILTY SAND (TO BRN TO TAN GRAVELS WELL GRADED DRY									
10										
15	SILTY SAND w/ GRAVEL BEING CLAYEY MOIST DARK BRWN									
20										
25	SAND SILTY BRN-DK BRN SLT CLAYEY TR GRAVELS CR5-V CR5 GR SAT									
30										
	SILTY CLAY GRN GY TO OFF WH LAM FIRM									32' T/ MUDDY GREGG
										TO 35'

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)		CLAY	5/4/98	1 of 1
	PID	Photoionization Detection (ppm)		SILT	DRILLING METHOD	
	NO.	Identifies Sample by Number		SAND	HSA	
	TYPE	Sample Collection Method		GRAVEL	DRILLED BY	
		SPLIT-BARREL		SILTY CLAY	WEBER	
		AUGER		CLAYEY SAND	LOGGED BY	
		ROCK CORE		DEBRIS FILL	J. Crawford	
		THIN-WALLED TUBE		HIGHLY ORGANIC (PEAT)	EXISTING GRADE ELEVATION (FT AMSL)	
		CONTINUOUS SAMPLER		NO RECOVERY	LOCATION OR GRID COORDINATES	
		DEPTH Top and Bottom of Sample				
		REC. Actual Length of Recovered Sample in Feet				

[CASING PROTECTION]
 FLUSH
 MOUNT

KERR-McGEE CORPORATION
 HYDROLOGY DEPARTMENT
 MONITORING WELL INSTALLATION DIAGRAM



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad 1 Ft. x 1 Ft. x 2 Inches

DRILLING INFORMATION:

- Borehole Diameter = _____ Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: .020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 100 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

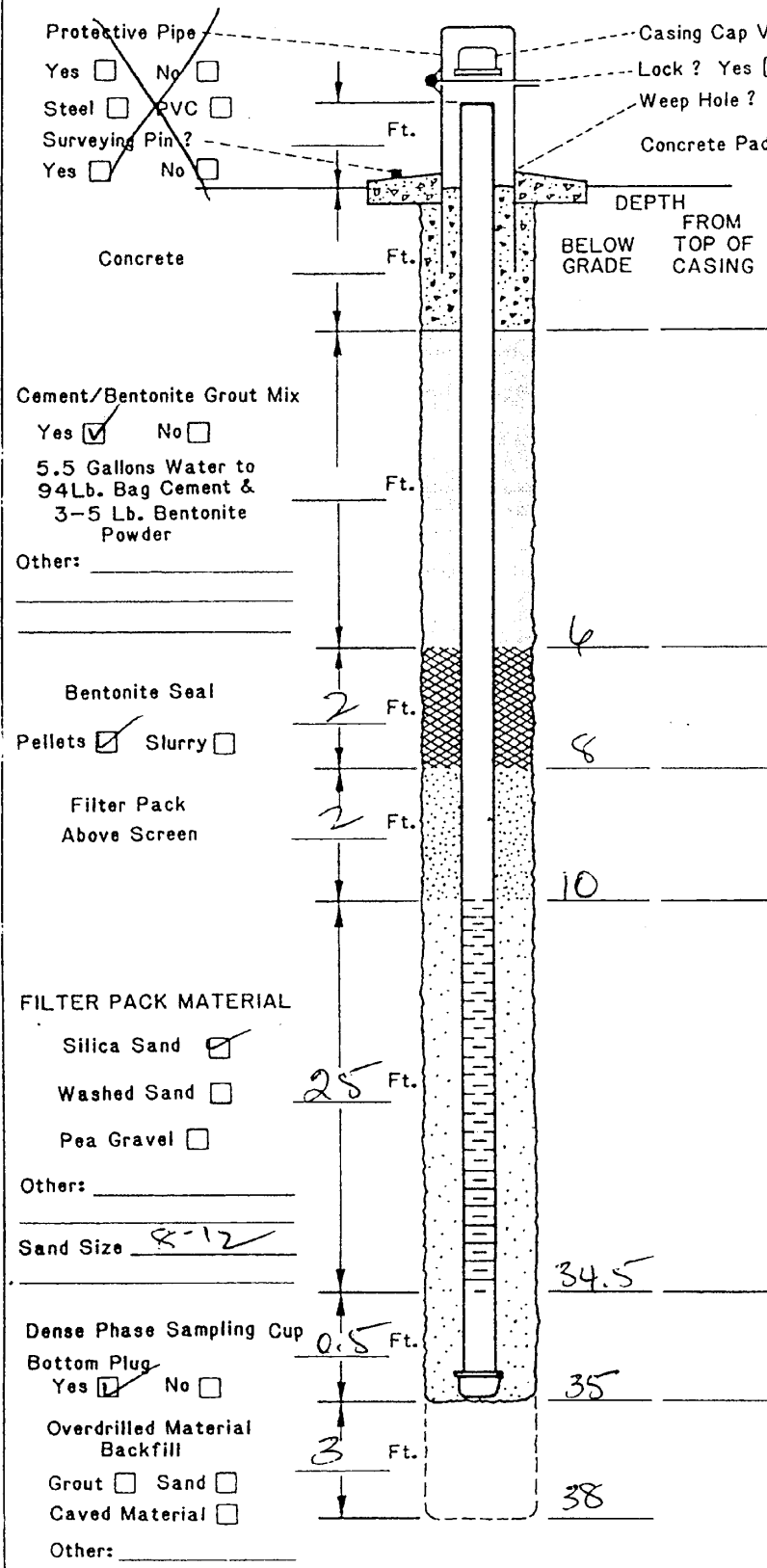
WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
 Before Development 18 Ft. Date 5/4/98
 After Development 19.54 Ft. Date 5/12/98

Driller/Firm WEBER Drill Rig Type MOBILE 361 Date Installed 5/4/98
 Drill Crew LEE ROBERTSON Well No. PC-53 Kerr-McGee Hydrologist J. Crawford

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

*FLUSH
mount*



- DRILLING INFORMATION:**
- Borehole Diameter= _____ Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth= _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: .020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
 _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? ~100 Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
 During Drilling 16 Ft. Date 5/4/98
 Before Development _____ Ft. Date _____
 After Development 12.0 Ft. Date 5/12/98

Driller/Firm WEBER Drill Rig Type MOBICE BGL Date Installed 5/4/98
 Drill Crew LEE ROBERTSON Well No. PC 54 Kerr-McGee Hydrologist J. Crawford

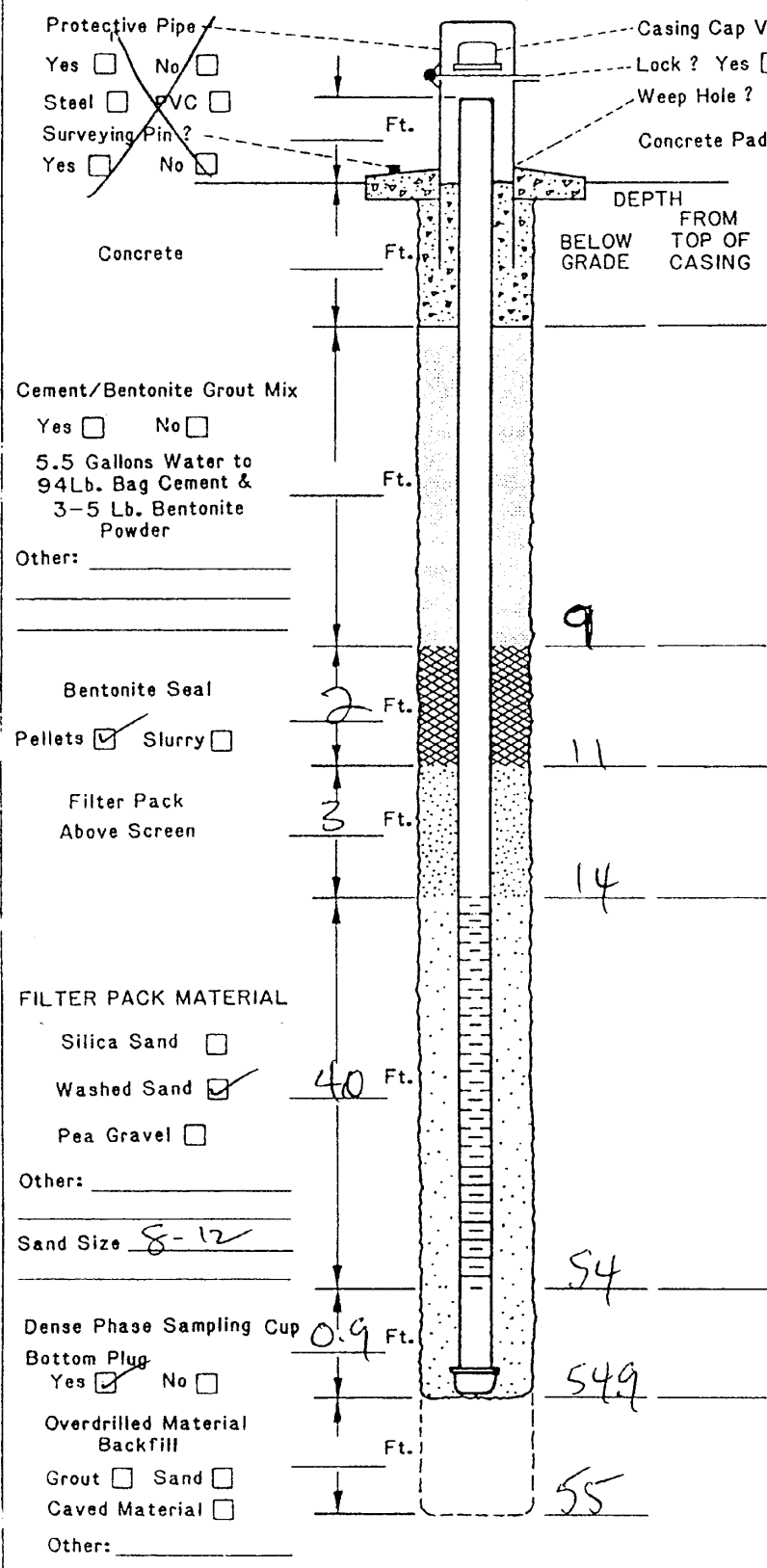
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-54			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	ASPHALT + ROAD GRAVELS	0-5							
5	SILTY SANDS RD BROWN W/ GRAVELS WELL GRADED DRY	5-15	SM / GM						
10		10-15							
15		15-20							
20	SANDS BROWN - RD BROWN TR GRAVEL SD CRS - V CRS SATURATED	20-35	SM						
25		25-30							
30		30-35							
35	SILT TAN TO LT BRN MOIST POORLY GRADED	35-40	ML						
40	SILTY CLAY RD BRN VERY SLI PLASTIC	40-45	CL						
						39.5' T/ MUDDY CREEK			
EXPLANATION	Water Table (24 Hour)		GRAPHIC LOG LEGEND [Diagonal lines] CLAY [Cross-hatch] DEBRIS FILL [Horizontal lines] SILT [Wavy lines] HIGHLY ORGANIC (PEAT) [Dotted] SAND [Diagonal lines] SANDY CLAY [Square with dots] GRAVEL [Square with diagonal lines] CLAYEY SAND [Square with diagonal lines] SILTY CLAY [Square with diagonal lines] CLAYEY SILT			DATE DRILLED 5/4/98	PAGE 1 of 1		
	Water Table (Time of Boring)					DRILLING METHOD HSA			
	PID NO. TYPE Identifies Sample by Number Sample Collection Method		DRILLED BY WEBER DRILL		LOGGED BY J. CRAWFORD				
	SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY		EXISTING GRADE ELEVATION (FT. AMSL)		LOCATION OR GRID COORDINATES				
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet									

3" BLG

FLUSH
MANT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 12 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 6 Inches, Screen 6 Inches.
- Slot Size of Screen: _____
- Type of Screen Perforation: Factory Slotted
 Hackaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 100 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling ~18 Ft. Date 5/6/98
 Before Development _____ Ft. Date _____
 After Development 18.12 Ft. Date 5/1/98

Driller/Firm WEBER Drill Rig Type MOBILE B-61 Date Installed 5/6/98
 Drill Crew LEE ROBERTSON Well No. PC 55 Kerr-McGee Hydrologist J. Crawford

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KRM-LLC</i>	LOCATION HENDERSON NV	BORING NUMBER <i>PC-55</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	SILTY SAND BRN - RD BRN w/ GRAVEL WELL GRADED DRY									Mobile B-61 12" HOLE
15	INCREASE GRAVELS 13-17'									
20	CORIXES 19-21'									
25	CLAYEY SAND w/ SW GRAVEL FIRM WET									DRILLS HARD 25-29'
30										
35	SILTY SAND w/ GRAVEL BRN-DK BRN WELL GRADED WET									
40										

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>5/5/98</i>	PAGE 1 of 2
	▽	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD <i>ISA</i>	
	PID	Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)		
	NO.	Identifies Sample by Number	SAND	SANDY CLAY	DRILLED BY <i>WEBER</i>	
	TYPE	Sample Collection Method	GRAVEL	CLAYEY SAND		
	SPLIT-BARREL		AUGER		LOGGED BY <i>J. Crawford</i>	
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		EXISTING GRADE ELEVATION (FT AMSL)	
DEPTH Depth Top and Bottom of Sample			SILTY CLAY		LOCATION OR GRID COORDINATES	
REC. Actual Length of Recovered Sample in Feet			CLAYEY SILT			

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-55					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
45	SAND GRAY BRN w/ SMALL GRAVEL WELL GRADED	SM/GM									
50	-----? MUDDY CREEK?-----										
55	TD 55									POSSIBLE +/- MUDDY CREEK AT 52' BASED ON DRILL ACTION UNABLE TO SAMPLE DUE TO BOTTOM PLATE IN BIT. EXAMINATION OF AUGER FLIGHTS INCONCLUSIVE FOR MUDDY CREEK	
EXPLANATION	▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method			GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND				DATE DRILLED 5/5/98		PAGE 2 of 2	
	SPLIT-BARREL THIN-WALLED TUBE AUGER CONTINUOUS SAMPLER ROCK CORE NO RECOVERY	DRILLING METHOD HSA			DRILLED BY WEBER				LOGGED BY J. CRAWFORD		
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			EXISTING GRADE ELEVATION (FT. AMSL)				LOCATION OR GRID COORDINATES				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMCLLC	LOCATION HENDERSON, NV	BORING NUMBER PC-56
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
2	BERM MATERIAL: SAND W/ GRAVEL									
5	SAND W/ SILT AND OCC. GRAVEL; MED. TAN-BROWN; SLI. MOIST GRAVEL @ 5-6'		SM							
7	-----									
20	GRAVEL ZONE @ 20-23'		GM							
35	SAND AS ABOVE; ASSEMBLES COFFEE GROUND WHEN FINES ARE RINSED OUT		SM							

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
		Water Table (Time of Boring)			5/20/98	1 of 2
		Photoionization Detection (ppm)			DRILLING METHOD	
		Identifies Sample by Number			DRILLED BY	
		Sample Collection Method			LOGGED BY	
	SPLIT-BARREL			LOGGED BY		
	AUGER			EXISTING GRADE ELEVATION (FT. AMSL)		
	THIN-WALLED TUBE			LOCATION OR GRID COORDINATES		
	ROCK CORE					
	CONTINUOUS SAMPLER					
	NO RECOVERY					
DEPTH Depth Top and Bottom of Sample						
REC. Actual Length of Recovered Sample in Feet						

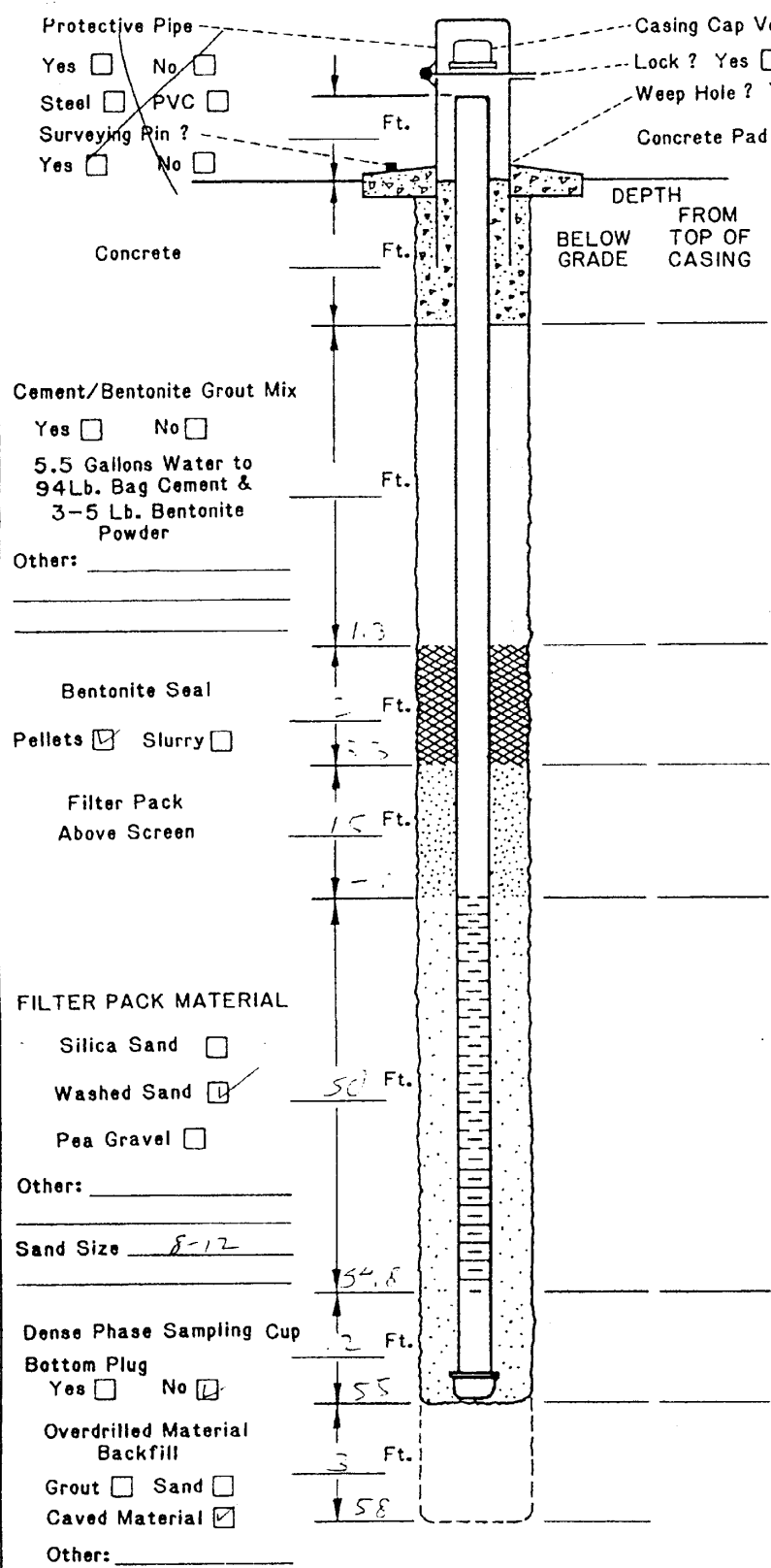
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, N		BORING NUMBER PC-56				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
40	GRAVEL ZONE c 40-43'		Gm							
45			Sm							
54 55	CLAYEY SILT - SILTY CLAY, LT. TAN-DRY, SLT. PLASTIC MUDDY CREEK		CL-ML			1	X	55 56.5	1.5'	
58	TO 58'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/20/98	PAGE 2 of 2	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD		
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY HSA		
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY WEBER DRUG.		
TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	SILTY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)		
SPLIT-BARREL	AUGER	ROCK CORE	CLAYEY SILT	LOCATION OR GRID COORDINATES		
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY				
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
now



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 0020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
_____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? ~100 Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____
- WATER LEVEL INFORMATION:**
Water Level Summary (From Top of Casing)
- During Drilling 7 Ft. Date 5/21/98
Before Development _____ Ft. Date _____
After Development 7.93 Ft. Date 6/15/98

Driller/Firm ROSKATSON / WESAL DRILL Drill Rig Type B-61 HDX Date Installed 5/21/98
Drill Crew L. ROSKATSON / M. ROSKATSON Well No. PC-56 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-57				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
2	BERM MATERIAL: SAND W/ GRAVEL	[Symbol]								
5	SAND W/ SILT; MED. TAN-BROWN; SLI. MOIST; OCC. GRAVEL	[Symbol]								
7		[Symbol]	SM							
10		[Symbol]	SM							
15		[Symbol]								
20	SAND AS ABOVE; BROWN MED. BROWN (LOOKS LIKE COFFEE GROUND): OCC. GRAVEL	[Symbol]								
25		[Symbol]								
30		[Symbol]	SM							
35	SAND AS ABOVE; SATURATED	[Symbol]								
		[Symbol]				1	X	35 26.5	1.1	

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/20/98	PAGE 1 of 2
	▽	Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	[Symbol] CLAY	[Symbol] DEBRIS FILL	DRILLED BY WESEL DRLLG.	
	[Symbol]	SPLIT-BARREL	[Symbol] SILT	[Symbol] HIGHLY ORGANIC (PEAT)	LOGGED BY T. REED	
	[Symbol]	AUGER	[Symbol] SAND	[Symbol] SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)	
[Symbol]	THIN-WALLED TUBE	[Symbol] GRAVEL	[Symbol] CLAYEY SAND	LOCATION OR GRID COORDINATES ~ 200' EAST OF PC-56		
[Symbol]	CONTINUOUS SAMPLER	[Symbol] SILTY CLAY	[Symbol] CLAYEY SILT			
[Symbol]	NO RECOVERY					
[Symbol]	ROCK CORE					
[Symbol]	NO RECOVERY					

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KMCLLC</i>	LOCATION <i>HENDERSON, NV</i>	BORING NUMBER <i>PC-57</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		
40	<i>GRAVEL ZONE @ 42-45'</i>		SM							
45			GM							
50			SM							
52	<i>CLAYEY SILT - SILTY CLAY, LT. GREEN-TAN, SLI. PLASTIC MUDDY CLAYEY</i>		CL-MI			2	X	<i>51</i> <i>52.5</i>	<i>1.5'</i>	
53										
	<i>TD 53'</i>									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED <i>5/20/98</i>	PAGE <i>2 of 2</i>
	Water Table (Time of Boring)		DRILLING METHOD <i>HSA</i>	
	PID Photoionization Detection (ppm)	CLAY	DEBRIS FILL	DRILLED BY <i>WEBER DRUG.</i>
	Identifies Sample by Number	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY <i>T. REED</i>
	Sample Collection Method	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)
SPLIT-BARREL	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES <i>~200' EAST OF PC-56</i>	
THIN-WALLED TUBE	SILTY CLAY	CLAYEY SILT		
AUGER	NO RECOVERY			
CONTINUOUS SAMPLER				
ROCK CORE				
DEPTH Depth Top and Bottom of Sample				
REC. Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KmCLLC		LOCATION HENDERSON, NV		BORING NUMBER PC-58			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
	BERM: SAND w/ GRAVEL								
2.5	SAND w/ SILT; MED. BROWN; SLI MOIST; OCC. GRAVEL		Sm						
5									
10	GRAVEL ZONE @ 10-14'		Gm						
13									
15									
20			Sm						
25	GRAVEL ZONE @ 26-28'		Gm						
30									
34	SILTY CLAY - CLAYEY SILT; GREENISH-WHITE		CL-ML						
35	U. SLI. PLASTIC; MOOY CRACK					1	X	35 36.5	1.5'
36	TD 36'								

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- Identifies Sample by Number
- Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED
5/21/98

PAGE
1 of 1

DRILLING METHOD
HSA

DRILLED BY
WEBER DRUG.

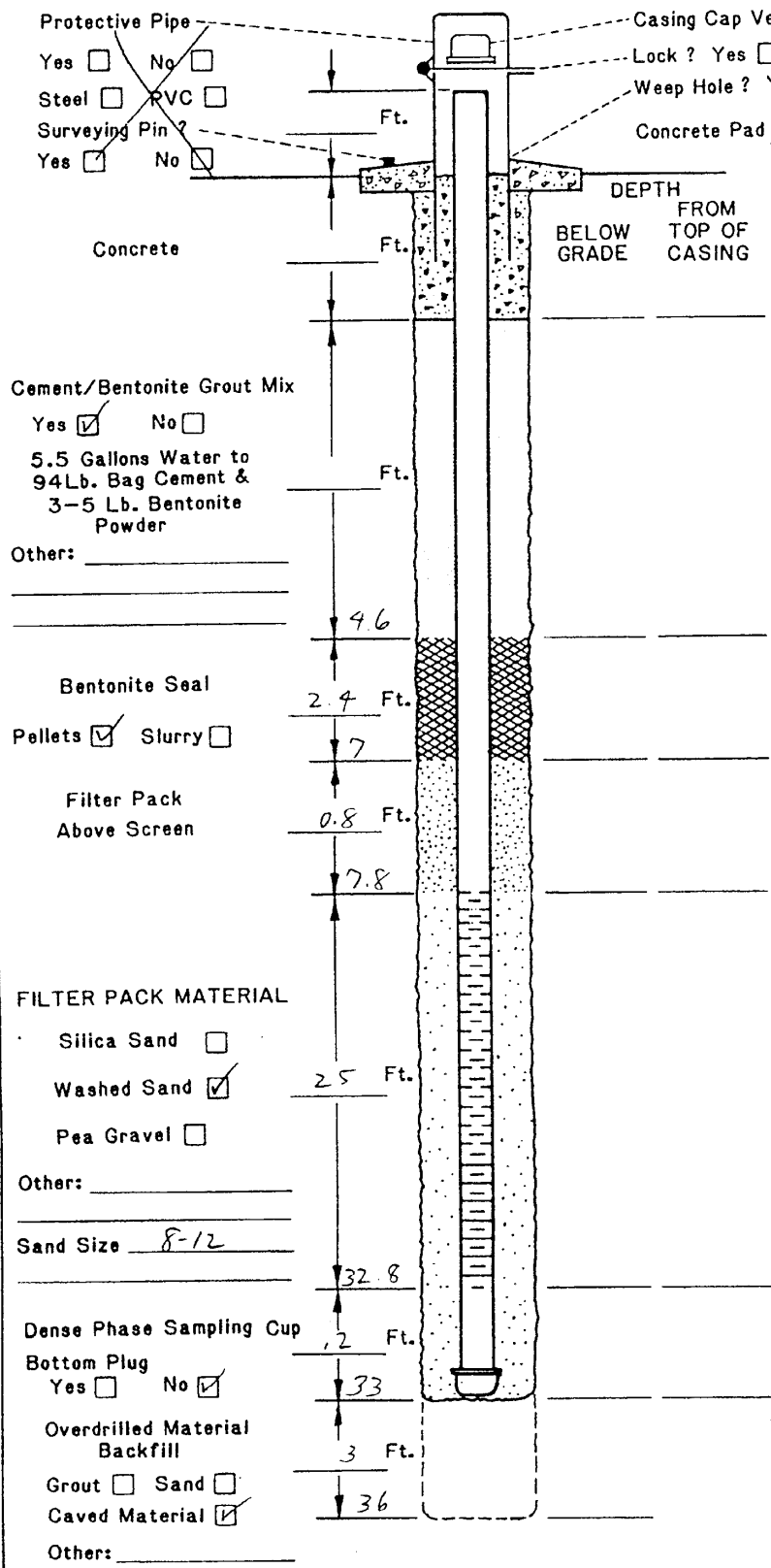
LOGGED BY
T. REED

EXISTING GRADE ELEVATION (FT AMSL)

LOCATION OR GRID COORDINATES
~ 500' EAST OF PC-56

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: .020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? 45 / 0 Minutes/Hours
 - Approximate Water Volume Removed? 80 Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)
 During Drilling 13 Ft. Date 5/21/98
 Before Development _____ Ft. Date _____
 After Development 8.00 Ft. Date 6/15/98

Driller/Firm ROBERTSON / WASSA DRILL Drill Rig Type B-61 LDX Date Installed 5/21/98
 Drill Crew L. ROBERTSON / M. RUBEN Well No. PC-58 Kerr-McGee Hydrologist T REED

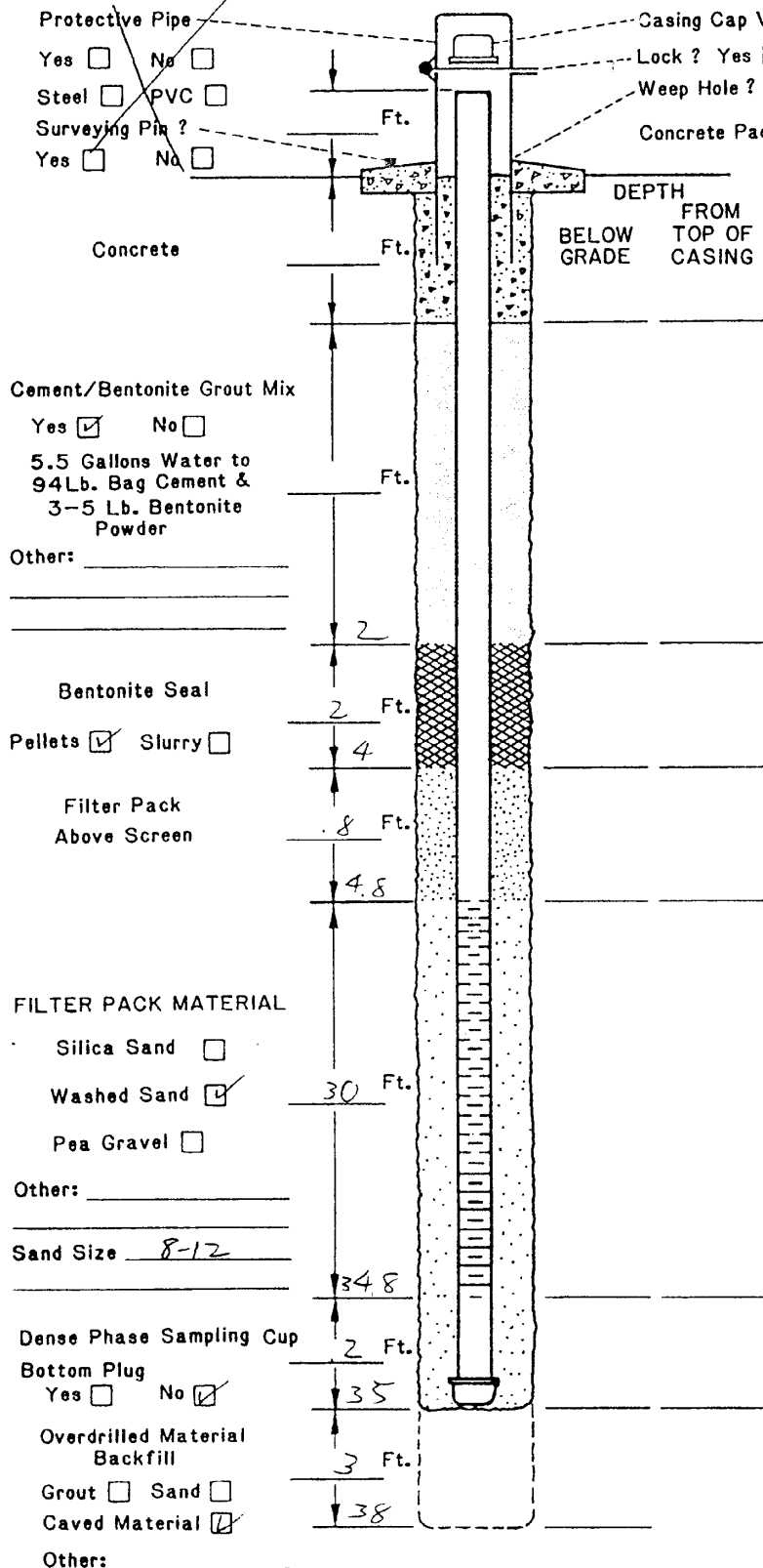
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC		LOCATION HENDERSON, N		BORING NUMBER PC-59				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
2	BERM: SAND W/ GRAVEL									
5	SAND W/ SILT; OCC. GRAVEL; MED. BROWN; WELL-GRADED; SILTY; MOIST GRAVEL @ 3-4'		SM							
10										
15										
20	SAND AS ABOVE; SATURATED; OCC. GRAVEL		SM							
25										
30	SANDY SILT; LT. BEIGE; SATURATED; OCC FINE-MED. SAND		ML							
34										
35	SILTY CLAY; CLAYEY-SILT; MED. GREEN-BEIGE; V. SILTY PLASTIC MUDDY COBBLE		CL-ML							
38	TD 38'					1	X	38 39.5	1.4'	

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)				
	PID	Photoionization Detection (ppm)			DRILLING METHOD	
	NO.	Identifies Sample by Number			HSA	
	TYPE	Sample Collection Method			DRILLED BY	
	SPLIT-BARREL			WEBER DRUG.		
	THIN-WALLED TUBE			LOGGED BY		
	AUGER			T. REED		
	CONTINUOUS SAMPLER			EXISTING GRADE ELEVATION (FT. AMSL)		
	ROCK CORE			LOCATION OR GRID COORDINATES		
	NO RECOVERY			~ 500' WEST OF PC-56		
DEPTH	Depth Top and Bottom of Sample					
REC.	Actual Length of Recovered Sample in Feet					

FLUSH MOUNT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: .020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
15 / 1 Minutes/Hours
 - Approximate Water Volume Removed? 110 Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 8 Ft. Date 5/22/98
Before Development _____ Ft. Date _____
After Development 9.14' Ft. Date 6/15/98

Driller/Firm ROBERTSON/WAGNER DRILL Drill Rig Type B-61 HAX Date Installed 5/22/98
Drill Crew _____ Well No. PC-59 Kerr-McGee Hydrologist T. REED

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-60				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
1	BERM MATERIAL	S								MOBILE B-41 8" HOLE
5	SILTY SAND w/ GRAVEL BROWN-RED BROWN WELL GRADED DRY	SM	SM							
10	GRAVEL ZONE 7-8' MOIST	SM								
15		SM								
20	SILTY SAND w/ GRAVELS BROWN TO DK BROWN WELL GRADED SAT	SM								
25	- ? - ? - ? - ? - ? T/ SANDY SILT NOT DETERMINED	SM								
30	SANDY SILT V. LITE GRAY GRAVELLY IP V. SOFT SAT	ML	ML							
35		ML								
40		ML								T/MUDDY CREEK 40'

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/26/98	PAGE 1 of 2	
	▽	Water Table (Time of Boring)			[diagonal lines]	CLAY	[cross-hatch]
	PID	Photoionization Detection (ppm)	[horizontal lines]	SILT	[wavy lines]	HIGHLY ORGANIC (PEAT)	
	NO.	Identifies Sample by Number	[dots]	SAND	[diagonal lines]	SANDY CLAY	
	TYPE	Sample Collection Method	[checkered]	GRAVEL	[diagonal lines]	CLAYEY SAND	
[X]	SPLIT-BARREL	[vertical bar]	AUGER	[diagonal lines]	SILTY CLAY	[square]	LOGGED BY J. Crawford
[solid black]	THIN-WALLED TUBE	[vertical bar]	CONTINUOUS SAMPLER	[square]	CLAYEY SILT	[square]	EXISTING GRADE ELEVATION (FT AMSL)
[diagonal bar]	NO RECOVERY	[diagonal bar]	NO RECOVERY				LOCATION OR GRID COORDINATES
DEPTH		Depth Top and Bottom of Sample					
REC.		Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division			KM SUBSIDIARY KMG-LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-60			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
<p>45</p> <p>50</p>	<p>Silty Clay GREEN-GRN GRY w/ sm DARK ORANGE STRATIATIONS SLI TO NON PLASTIC FIRM TO STIFF MOIST</p>		<p>CL</p>			<p>1</p>	<p>X</p>	<p>43-44</p>	<p>100%</p>	<p>TD 43'</p> <p>39' ALLUVIUM</p>

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/26/98	PAGE 2 of 2
	▽	Water Table (Time of Boring)			CLAY	DEBRIS FILL
	PID	Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	NO.	Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY J. GRAWFORD	
	TYPE	Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
X	SPLIT-BARREL	SILTY CLAY		LOCATION OR GRID COORDINATES		
■	THIN-WALLED TUBE	CLAYEY SILT				
■	AUGER					
■	ROCK CORE					
■	CONTINUOUS SAMPLER					
▽	NO RECOVERY					
DEPTH Depth Top and Bottom of Sample						
REC. Actual Length of Recovered Sample in Feet						

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

*FLUSH
MOUNT*

- Protective Pipe ~~Yes~~ No
 Steel PVC
 Surveying Pin Yes No

Casing Cap Vent? Yes No

Lock? Yes No

Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete

DEPTH
FROM
BELOW
GRADE
TOP OF
CASING

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

Cement/Bentonite Grout Mix

Yes No

5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder

Other: _____

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.075
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

Bentonite Seal

Pellets Slurry

Filter Pack
Above Screen

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? ~100 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

FILTER PACK MATERIAL

Silica Sand

Washed Sand

Pea Gravel

Other: _____

Sand Size _____

Dense Phase Sampling Cup

Bottom Plug

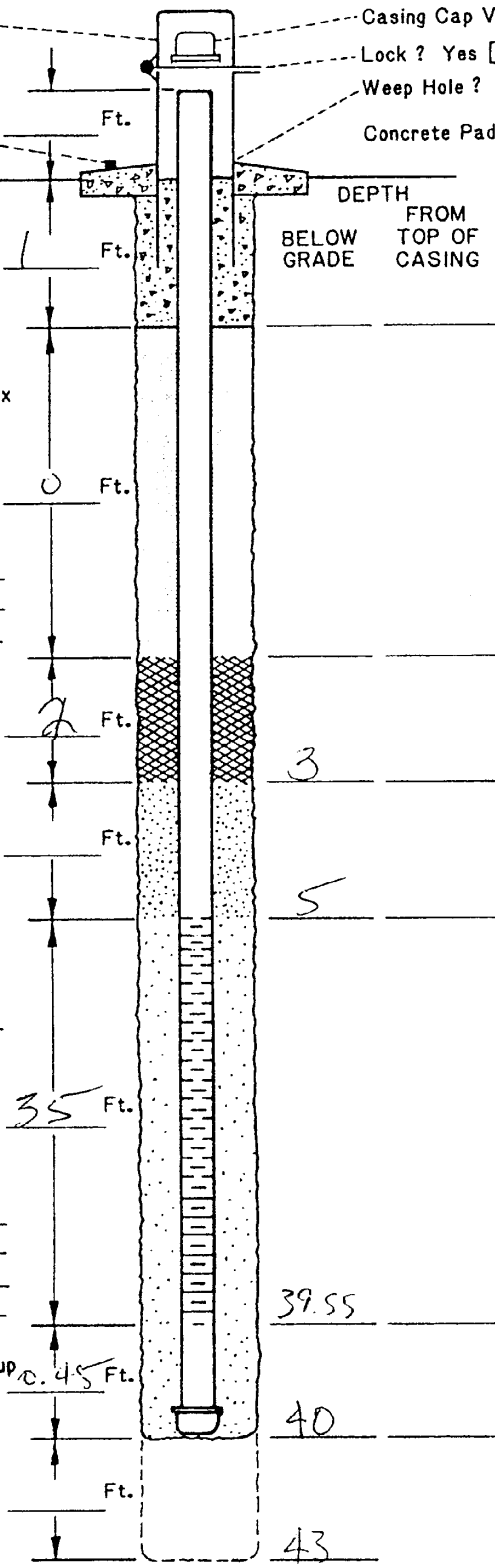
Yes No

Overdrilled Material
Backfill

Grout Sand

Caved Material

Other: _____



WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 7 Ft. Date 5/26

Before Development _____ Ft. Date _____

After Development 7.90 Ft. Date 6/15/98

Driller/Firm WEBER

Drill Rig Type MOBILE B-61

Date Installed 5/26/98

Drill Crew Lee ROBERTSON

Well No. PC-60

Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-61			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
2	BERM MATERIAL								
5	SANDY GRAVEL DK BRN DRY WELL GRADED SILTY								
10	GRAVELLY SAND DK BRN SILTY WELL GRADED MOIST		GM						
15	SAND SILTY DK BRN GRAVEL COMMON TR CLAY WET WELL GRADED								
25	GRAVEL SANDY DK BRN TR SILT WELL GRADED 60% GRAVEL 15% SS CLS-V CLS		SW			1	X 25-26	100%	
30	SANDY GRAVEL BRN SILTY								
35	SAND DK BRN CLS GR SILTY POOR GRADED LOOSE SAT OCCASSIONAL CLAY Lam		SM			2	X 35-36	100%	

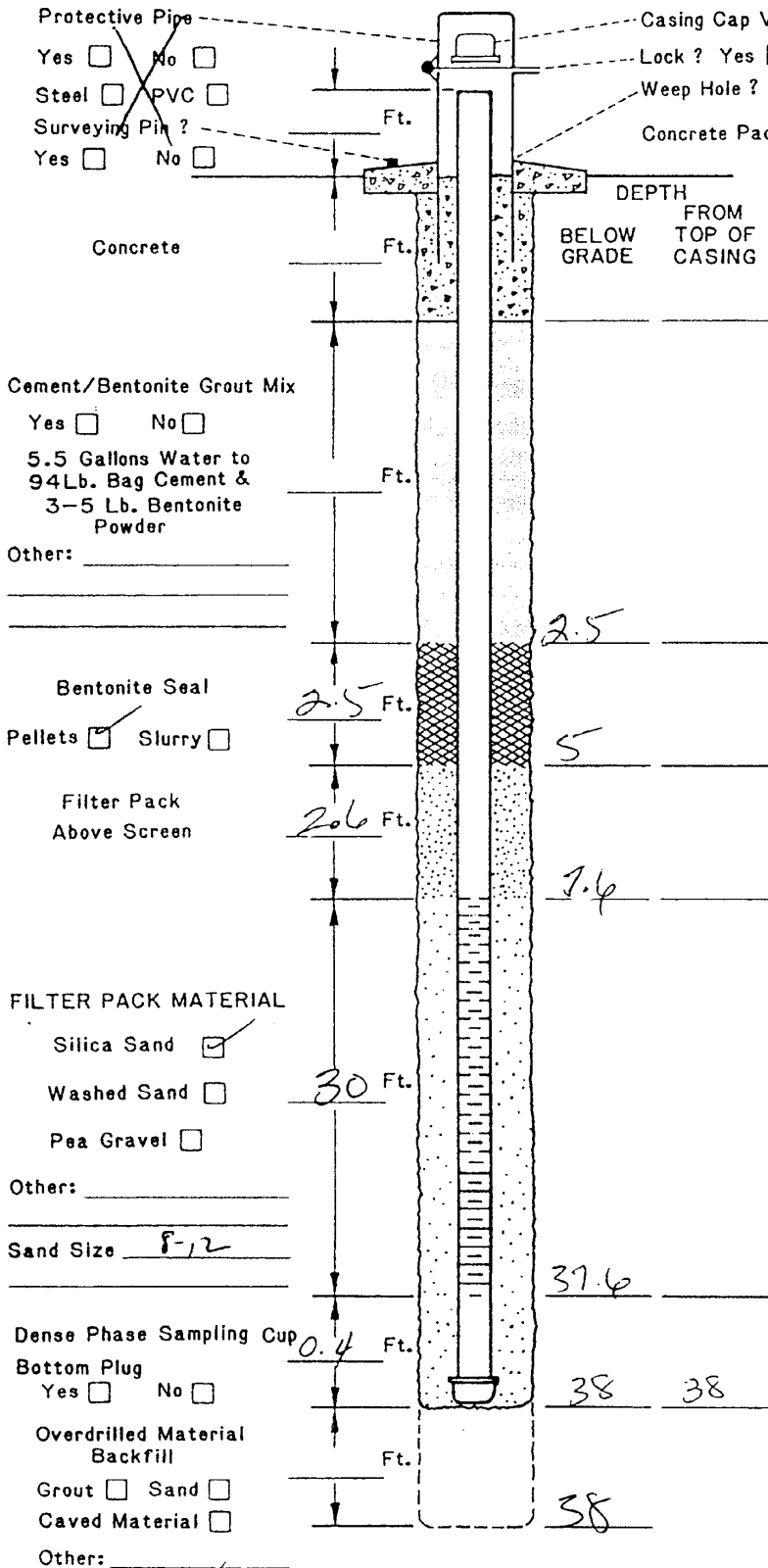
EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/26/98	PAGE 1 of 2	
	∇	Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA		
	PID	Photoionization Detection (ppm)		SILT		DRILLED BY WEISER	
	NO.	Identifies Sample by Number		SAND		LOGGED BY J. RAWFORD	
	TYPE	Sample Collection Method		GRAVEL		EXISTING GRADE ELEVATION (FT AMSL)	
		SPLIT-BARREL		SILTY CLAY	LOCATION OR GRID COORDINATES		
		AUGER		CLAYEY SILT			
		THIN-WALLED TUBE		NO RECOVERY			
		CONTINUOUS SAMPLER					
		ROCK CORE					
		DEPTH Depth Top and Bottom of Sample					
		REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-61				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
45	SAND BROWN F-V CRS FIN POORLY GRADED	•••••	SW							
50	SILTY CLAY GRY GRN SLI SANDY FIRM-STIFF	XXXX	CC			3	X	47-48	100%	
55										T/MUDDY CREEK 47' TO 48' 45' ALLUVIUM
EXPLANATION ▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method ⊠ SPLIT-BARREL AUGER ROCK CORE ■ THIN-WALLED TUBE CONTINUOUS SAMPLER ▭ NO RECOVERY						GRAPHIC LOG LEGEND ▨ CLAY ▩ DEBRIS FILL ▧ SILT ▪ HIGHLY ORGANIC (PEAT) ▦ SAND ▫ SANDY CLAY ▤ GRAVEL ▬ CLAYEY SAND ▥ SILTY CLAY □ _____ ▧ CLAYEY SILT □ _____			DATE DRILLED 5/26/98 PAGE 2 of 2 DRILLING METHOD HSA DRILLED BY WEBER LOGGED BY J. GAWFORD EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES	
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet										

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: .010
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? ~100 Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 10 Ft. Date 5-27
 Before Development _____ Ft. Date _____
 After Development 10.00 Ft. Date 6/15/98

Driller/Firm WEBER Drill Rig Type B-61 Date Installed 5/27/98
 Drill Crew LEE ROBERTSON Well No. PC-62 Kerr-McGee Hydrologist J. CLAWFORD






















SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY Karl - LLC	LOCATION HENDERSON NV	BORING NUMBER PC-62
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		
0-5	BEAM MATERIAL	(Symbol)								
5-10	GRAVELS/SAND BRN - RD BRN DRY WELL GRADED LOBBLES 1-8'	(Symbol)	GM						ALLUVIUM THICKNESS 35'	
10-25		(Symbol)	GM SM							
25-37	SAND DILGY BRN V CRS SM GRAVEL SAND SLI SILTY WELL GRADED	(Symbol)	SM							
37-38	SILTY CLAY - SILT GRY GRN SOFT BOMG FIRM - STIFF SLI PLASTIC	(Symbol)	CL							
									T/MUDDY @ 37' TD 38'	
								38-39	100%	

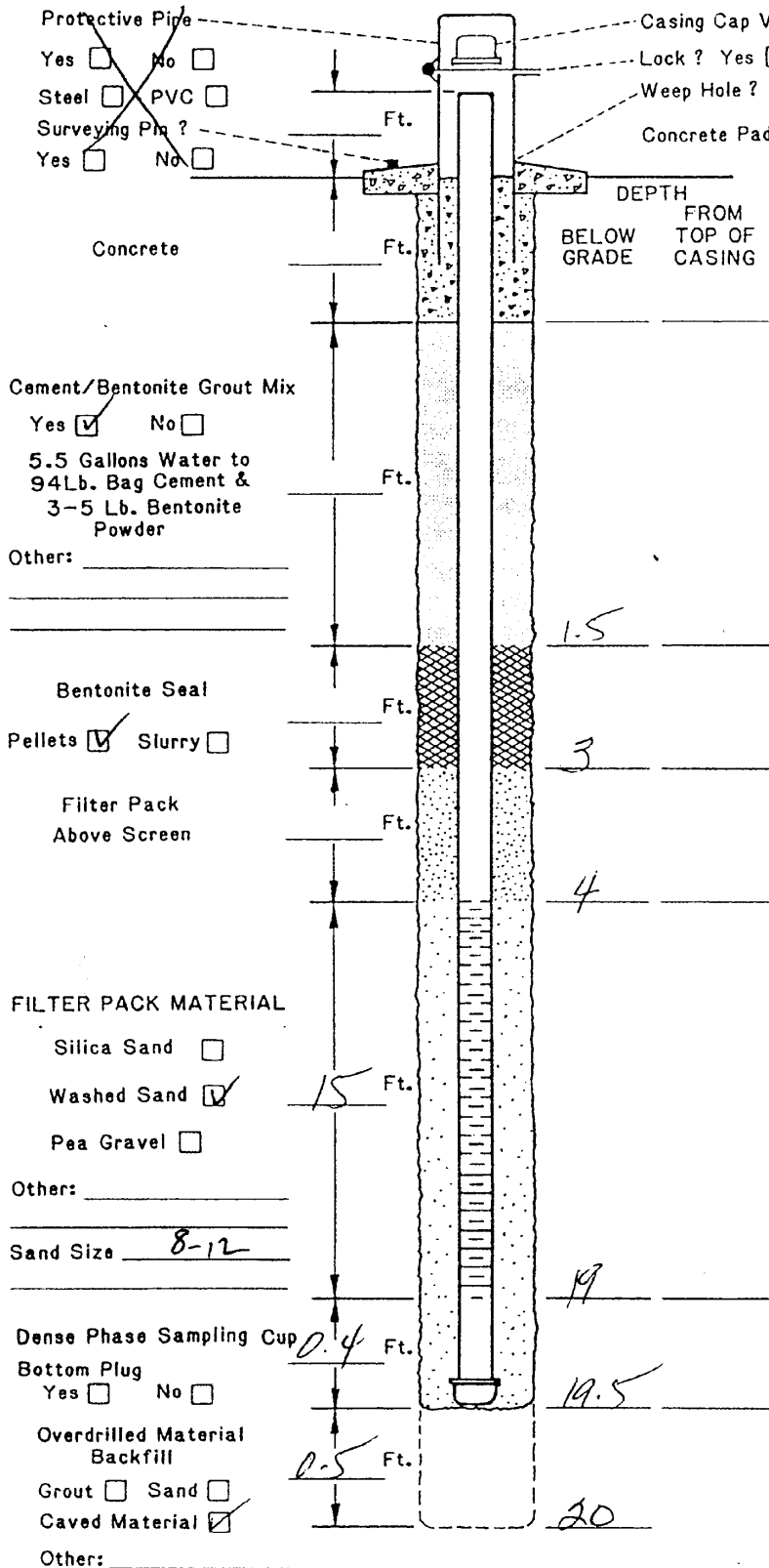
EXPLANATION	▼ Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/27/98	PAGE 1 of 1
	▽ Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY J. CRAWFORD	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	⊗ SPLIT-BARREL	SILTY CLAY		LOCATION OR GRID COORDINATES	
▬ THIN-WALLED TUBE	CLAYEY SILT				
▬ AUGER					
▬ CONTINUOUS SAMPLER					
▬ ROCK CORE					
▬ NO RECOVERY					
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-63						
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS		
						NO.	TYPE	DEPTH	REC.			
2	BERM MATERIAL	(0-2)										
5	SAND / GRAVEL BRN - Dk BRN WELL GRADEN SILTY	(2-10)	GM/ SM									
10												
15	SAND / GRAVEL AA B	(10-20)	SM									
20												
25												
30	SILTY CLAY GRN to GRN GY w/ Dk ORANGE LAMS SOFT TO FIRM	(20-34)	CL									
34												
35												
40												
EXPLANATION  Water Table (24 Hour)  Water Table (Time of Boring)  PID  NO.  TYPE  SPLIT-BARREL  AUGER  THIN-WALLED TUBE  ROCK CORE  CONTINUOUS SAMPLER  NO RECOVERY DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						GRAPHIC LOG LEGEND  CLAY  SILT  SAND  GRAVEL  SILTY CLAY  CLAYEY SILT  DEBRIS FILL  HIGHLY ORGANIC (PEAT)  SANDY CLAY  CLAYEY SAND				DATE DRILLED 5/27/98 DRILLING METHOD HSA DRILLED BY WEBER LOGGED BY J. CRAWFORD EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES		PAGE 1 of 1

FLUSH
MOUNT

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen: _____
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____
 _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? 65 Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
 During Drilling 7 Ft. Date 5/28
 Before Development _____ Ft. Date _____
 After Development 5.9' Ft. Date 6/15/98

Driller/Firm WEBER Drill Rig Type MOBILE B-61 Date Installed 5/28/98
 Drill Crew LEE ROBERTSON Well No. PC-64 Kerr-McGee Hydrologist J. BULLFORD

Palm & Barrett

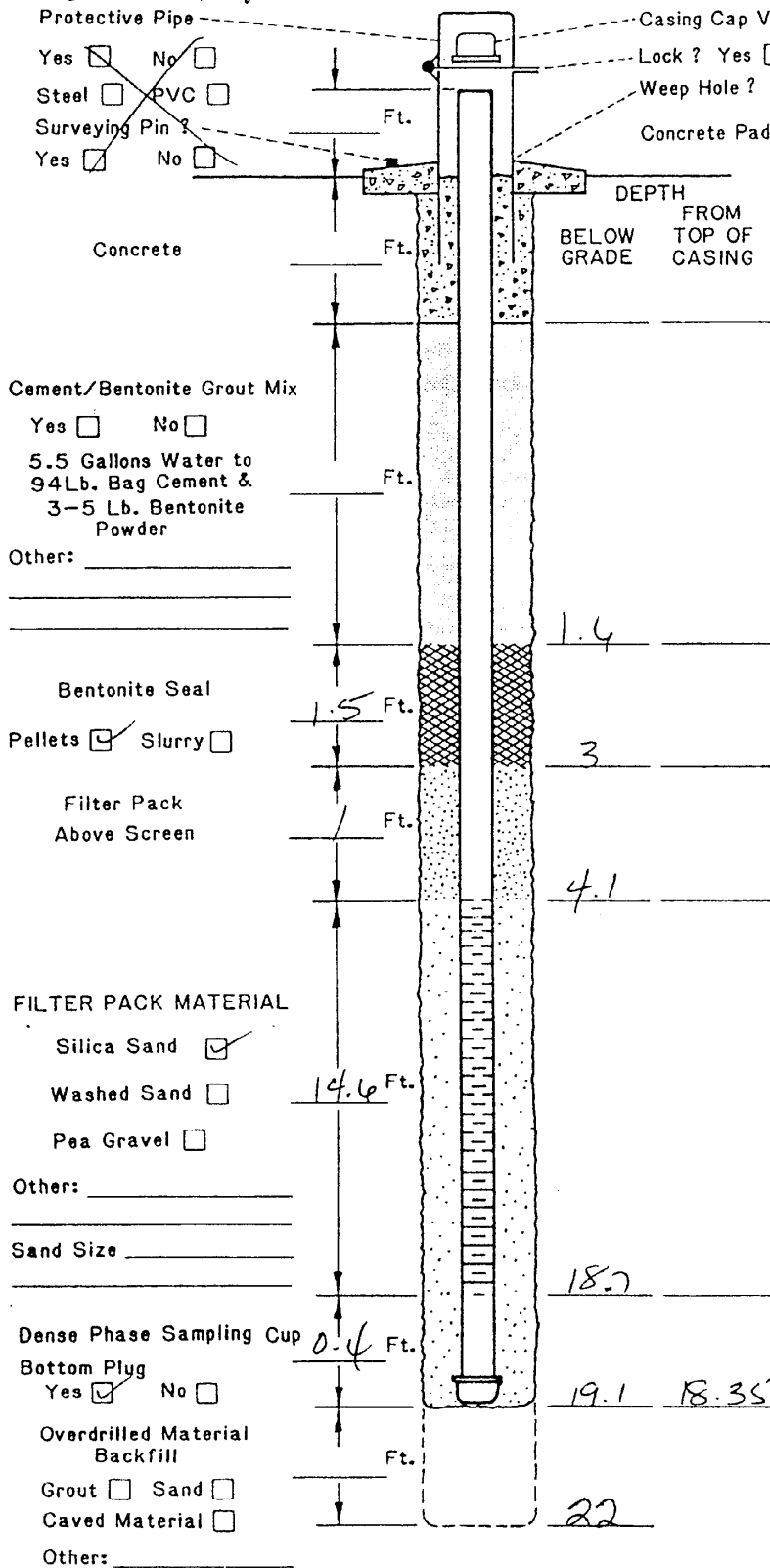
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC-64			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS	
						NO.	DEPTH		REC.
5	ASPHALT/GRAVEL								
5-10	GRAVELLY SAND BROWN V. CLS. WELL GRAINED DRY SILTY		SM/ GM						
10-15	GRAVELS & SAND AAS BEING SILTY CLAYEY		SM/ GM						
19-20	CLAY SILT BUFF to LITE BROWN STIFF DRY		CL						
						X	20-21	100%	T/MURPHY GREEN 19 FT TO 20'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/28/98	PAGE 1 of 1
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER	
	SPLIT-BARREL	SAND	SANDY CLAY	LOGGED BY J. GAWFORD	
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
AUGER	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
ROCK CORE	NO RECOVERY				
CONTINUOUS SAMPLER					
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

FLUSH MOUNT
COMPLETION

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM



Protective Pipe
Yes No
Steel PVC
Surveying Pin? No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: .020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ Minutes/Hours
- Approximate Water Volume Removed? 65 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 12 Ft. Date 5/28
Before Development _____ Ft. Date _____
After Development 5.10 Ft. Date 6/15/98

Driller/Firm WEBER Drill Rig Type B-61 Date Installed 5/28/98
Drill Crew LEE ROBERTSON Well No. PC-45 Kerr-McGee Hydrologist ST. CRAWFORD

Chestnut

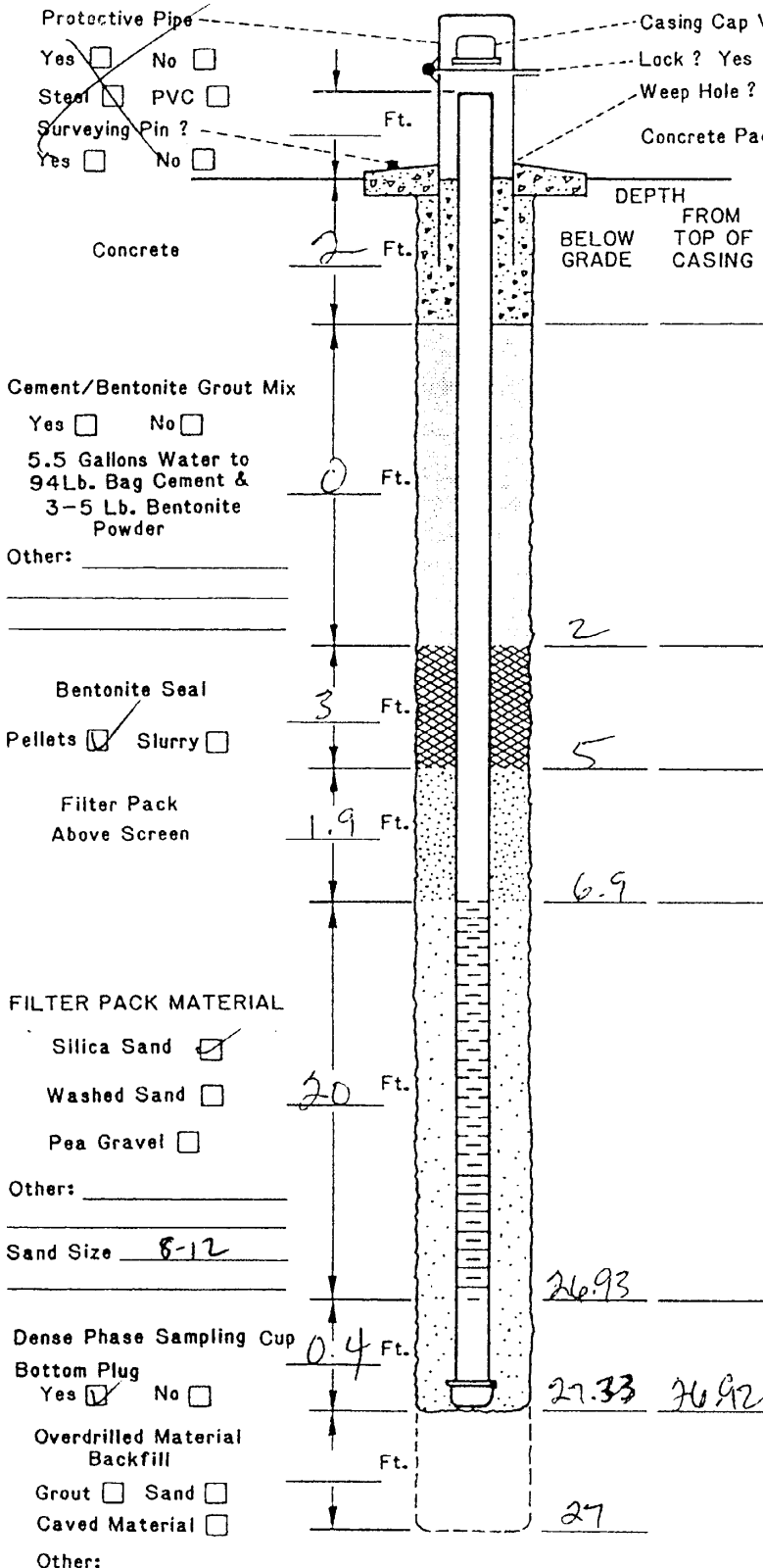
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PC-65			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
	ASPHALT & ROAD GRAVEL								
5	SILTY SAND REDDISH BRN + DRN V C&S GR. SM GRAVEL W/EN GRADED SL CLAYEY IN PART ORY		SM/GM						
10									
15	SAND w/ GRAVEL A&B								T/ MUDDY CREEK 19'
19									
20	CLAYEY SILT RD BRN STIFF DRY LAMINATED		CL			1	X	20-21	100%
									TD 22' DRILL 2' EXTRA FEET DUE TO FLOWING SANDS

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED: 5/28/98	PAGE 1 of 1
	Water Table (Time of Boring) Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		CLAY	DEBRIS FILL
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY WEBER
	AUGER	SAND	SANDY CLAY	LOGGED BY J. CRAWFORD
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)
CONTINUOUS SAMPLER	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES	
ROCK CORE	NO RECOVERY			
DEPTH: Depth Top and Bottom of Sample	REC.: Actual Length of Recovered Sample in Feet			

FLUSH
MOUNT

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
_____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? 25 Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____
- WATER LEVEL INFORMATION:**
Water Level Summary (From Top of Casing)
- During Drilling 10 Ft. Date 5/28/98
Before Development _____ Ft. Date _____
After Development 8.25' Ft. Date 6/15/98

Driller/Firm WEBER Drill Rig Type MOBILE B-6 Date Installed 5/28/98
Drill Crew LEE ROBERTSON Well No. PC-66 Kerr-McGee Hydrologist J. CRAWFORD

PRICE & ENGEL

SOIL BORING LOG KM-5655-B

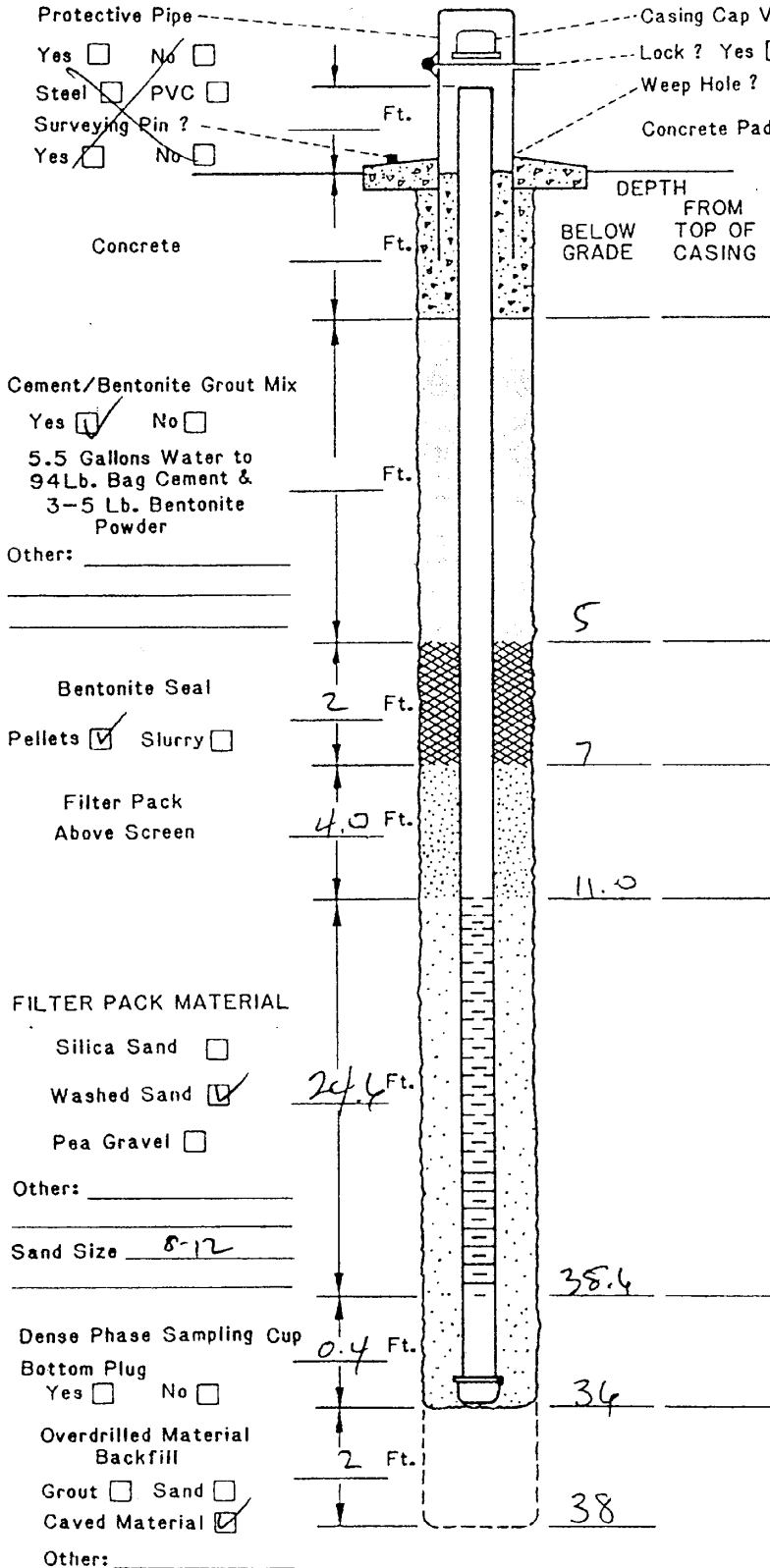
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-66
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
	ASPHALT & ROAD GRAVELS	9.7%							
5	GRAVELLY SANDS BRN - RED BRN V CLS Silty WELL GRADED DRY	SM/GM							
10	GRAVELLY SANDS DARK BRN WET INC CLAY	SM							
15		SM							
22									
24.5	SILT/CLAY LT BRN - TAN SOFT - FIRM NON to v SILTY PLASTIC GYP XLS	CL							+ MUDDY CREEK 24.5'
25							27-28	100%	TD 27
24.5									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/28/98	PAGE 1 of 1	
	▽	Water Table (Time of Boring)	▨	CLAY	▩	DEBRIS FILL	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	▨	SILT	▩	HIGHLY ORGANIC (PEAT)	DRILLING METHOD HSA
	⊗	SPLIT-BARREL	▨	SAND	▩	SANDY CLAY	DRILLED BY WEBER
	▨	THIN-WALLED TUBE	▨	GRAVEL	▩	CLAYEY SAND	LOGGED BY J. Crawford
▨	AUGER	▨	SILTY CLAY	▩		EXISTING GRADE ELEVATION (FT AMSL)	
▨	CONTINUOUS SAMPLER	▨	CLAYEY SILT	▩		LOCATION OR GRID COORDINATES	
▨	ROCK CORE	▨		▩			
▨	NO RECOVERY	▨		▩			
DEPTH Depth Top and Bottom of Sample		REC. Actual Length of Recovered Sample in Feet					

FLUSH MOUNT

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM



DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: .020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 75 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

- Water Level Summary (From Top of Casing)
- During Drilling 9 Ft. Date 5/29/98
Before Development _____ Ft. Date _____
After Development 7.62 Ft. Date 6/15/98

Driller/Firm WEBER Drill Rig Type MOBILE B6 Date Installed 5/29/98
Drill Crew LEG ROBERTSON Well No. PC-67 Kerr-McGee Hydrologist J. CAWFOLE

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON, NV	BORING NUMBER PC-67
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH		REC.
0	ASPHALT & ROAD GRAVELS									
5	Silty SAND TO BRN CRS GRAVEL COMMON WELL GRADED DRY		SM/ GM							
10	Silty SAND AND INC CLAY BEING WET									
15	INSTANTANEOUS GYPSUM XTLs 14-15					1	X	14-15	100'	HARD DRILLING at 14'
20	Silty SAND BRN - LT BRN CRS - V CRS GR FEW GRAVELS SAT "SOUPY"									
25			SM							
30										
35										
40	Silty CLAY TO BRN - LT TAN SOFT - FIRM		CL			2	X	38-39	100%	32-32.6 HARD "TIGHT" DRILLING

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5/29/98	PAGE 1 of 1	
	▽	Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA		
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		DRILLED BY WEBER	
		SPLIT-BARREL		SAND		LOGGED BY J. Crawford	
		THIN-WALLED TUBE		GRAVEL		EXISTING GRADE ELEVATION (FT AMSL)	
	AUGER		CLAYEY SILT		LOCATION OR GRID COORDINATES		
	ROCK CORE						
	CONTINUOUS SAMPLER						
	NO RECOVERY						
DEPTH	Depth Top and Bottom of Sample						
REC.	Actual Length of Recovered Sample in Feet						

FLUSH MOUNT

KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

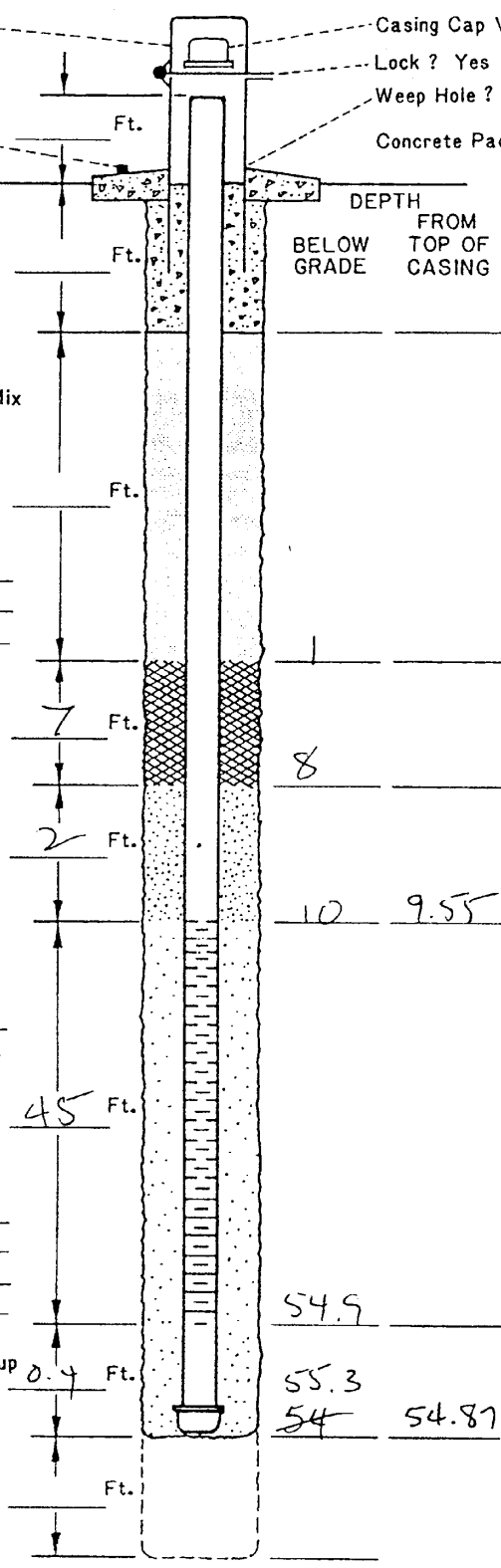
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: .020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / _____ Minutes/Hours
- Approximate Water Volume Removed? 105 Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 11 Ft. Date 6/3/98
Before Development _____ Ft. Date _____
After Development 9.10 Ft. Date 6/15/98



Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____
Sand Size 8-12

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DEPTH FROM TOP OF CASING BELOW GRADE

7
8
10 9.55
54.9
55.3
54 54.87

Driller/Firm WEBER Drill Rig Type MOBILE B-61 Date Installed 6/3/98
Drill Crew LEE ROBERTSON Well No. PC-68 Kerr-McGee Hydrologist J. CRAWFORD

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-68
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
	BORN MATERIAL								
5	SILTY SAND BSN-DIC BSN GRAVEL COMMON WET GRADEN DRY		SM/ GM						
10	GRAVELS 9-10								
15	SILTY SAND AAS, BSN WET								
20			SM						
25									
30	SILTY SAND W/ GRAVEL POOR RETURNS		SM						
35									
40									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		CLAY		DEBRIS FILL	DATE DRILLED: 6/1/98	PAGE 1 of 2
		Water Table (Time of Boring)			SILT		HIGHLY ORGANIC (PEAT)	DRILLING METHOD ASA	
		PID Photoionization Detection (ppm)			SAND		SANDY CLAY	DRILLED BY WEINER	
		Identifies Sample by Number			GRAVEL		CLAYEY SAND	LOGGED BY J. Crawford	
		Sample Collection Method			SILTY CLAY			EXISTING GRADE ELEVATION (FT. AMSL)	
	SPLIT-BARREL		AUGER		CLAYEY SILT		LOCATION OR GRID COORDINATES		
	THIN-WALLED TUBE		CONTINUOUS SAMPLER						
	ROCK CORE		NO RECOVERY						
	DEPTH Depth Top and Bottom of Sample								
	REC. Actual Length of Recovered Sample in Feet								

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-68
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
45	CORRALS		SM GM						
50	CORRALS								
52	Silty CLAY RD BRN BANG		CL						J/MUDDY (RESIL 52')
55	LT GREENISH GR SOFT SILT PLASTIC TO GRAVEL								

EXPLANATION	▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method	GRAPHIC LOG LEGEND 	DATE DRILLED 6/1/98	PAGE 2 of 2	
	SPLIT-BARREL AUGER ROCK CORE		DRILLING METHOD #SA	DRILLED BY WEBER	
	THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY		LOGGED BY J. Crawford	EXISTING GRADE ELEVATION (FT. AMSL)	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet		LOCATION OR GRID COORDINATES		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC-LLC		LOCATION HENDERSON NV		BORING NUMBER PL-49			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	SILTY SAND RD BRN GRAVEL common well GRADED DRY	SM							
10									
15									
20	SILTY SAND BRN-RED BRN GRAVELS well GRADED WLT	SM GM							
25									
30	SILTY SAND A+B "SOUPY"	SM							
35									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 6/1/98	PAGE 1 of 2	
	▽	Water Table (Time of Boring)			▨	CLAY	▩
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	▤	SILT	▨	HIGHLY ORGANIC (PEAT)	DRILLING METHOD HSA
	▤	SPLIT-BARREL	▥	SAND	▨	SANDY CLAY	DRILLED BY WEBER
	▥	AUGER	▧	GRAVEL	▨	CLAYEY SAND	LOGGED BY J. GRANFORD
▧	THIN-WALLED TUBE	▩	SILTY CLAY	□		EXISTING GRADE ELEVATION (FT AMSL)	
▩	CONTINUOUS SAMPLER	▫	CLAYEY SILT	□		LOCATION OR GRID COORDINATES	
▫	ROCK CORE	▬					
▬	NO RECOVERY						

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC-LLC	LOCATION HENDERSON NV	BORING NUMBER PC-69
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	COBBLES Silty SAND BRN - RD BRN GRAVELS Common WELL GRADED "SOUPY"		GM							
50	COBBLES									
52	Silty clay lt RD BRN to V lt GRN Gy moist SLI PLASTIC SM GRAVELS		CL							52' MUDDY CREEK

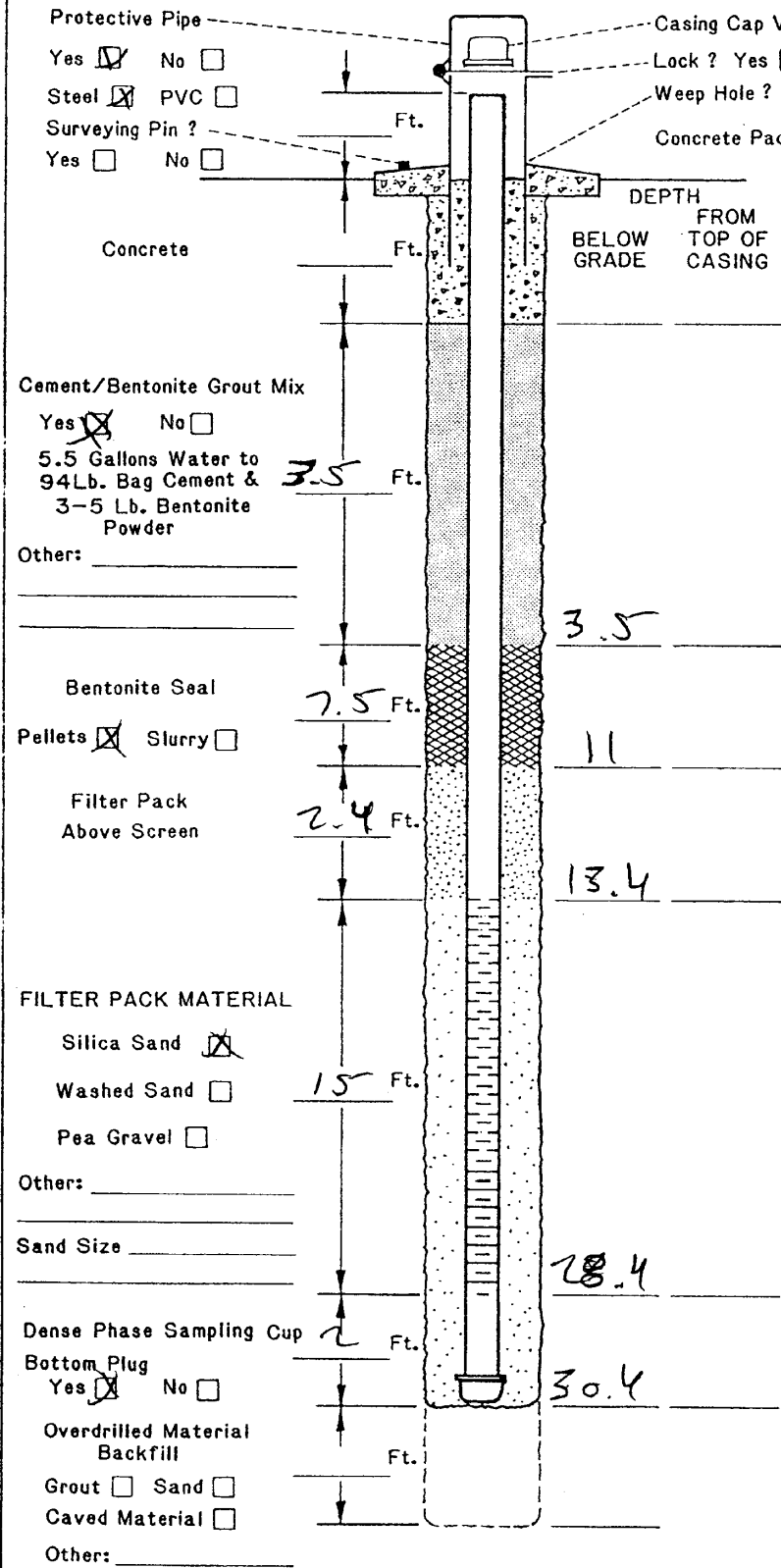
EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 6/1/98	PAGE 2 of 2
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	CLAY	DEBRIS FILL	DRILLED BY WEBER
	SPLIT-BARREL	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY J. CRAWFORD
	AUGER	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT AMSL)
THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES	
CONTINUOUS SAMPLER	SILTY CLAY	CLAYEY SILT		
ROCK CORE	NO RECOVERY			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services		KM SUBSIDIARY Chemical	LOCATION Hempstead, NY		BORING NUMBER PC-71				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	Thin to reddish brown silty sand with variable small to medium gravel in thin layers.	A	GM						
10	alluvial sequence	A							
20	Hard red clay	C	SC						
25	reddish-brown silty clay	C	CL						
30	Reddish-brown clay, blocky, dry-huddy Creek TD 33 Ft	C	CL						
35									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	CLAY	DEBRIS FILL	DATE DRILLED 11-30-98	PAGE 1 of 1		
	Water Table (Time of Boring)		SILT	HIGHLY ORGANIC (PEAT)	DRILLING METHOD Hollow Stem Auger			
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SAND	SANDY CLAY	DRILLED BY Compliance Drilling			
	SPLIT-BARREL		AUGER	ROCK CORE	CLAYEY SAND	LOGGED BY Steve Lower		
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	SILTY CLAY	CLAYEY SILT	EXISTING GRADE ELEVATION (FT AMSL)			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				LOCATION OR GRID COORDINATES				

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



DRILLING INFORMATION:

- Borehole Diameter = 6.25 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen: 0.020
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____

Before Development _____ Ft. Date _____

After Development _____ Ft. Date _____

Driller/Firm Compliance Drilling Drill Rig Type Job 1, B-59 Date Installed 11-30-98

Drill Crew Lee Hartson Well No. PC-71 Kerr-McGee Hydrologist Steve Lantz

SOIL BORING LOG Km-5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services	KM SUBSIDIARY Chemical	LOCATION Henderson, NV	BORING NUMBER PC-72
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	Tan to reddish brown silt sand with variable small to medium gravel Alluvial sequence		GM							
10										
15										
20										
25							34-35 0.5	1515		
30	Sequence of caliche and gray coarse sand		SP							
35	Reddish-brown clay, firm, blocky - muddy creek		CL				35-36 1'	0750		
40	TD 38 FT						37-38 1'	0810		

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- Identifies Sample by Number
- Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

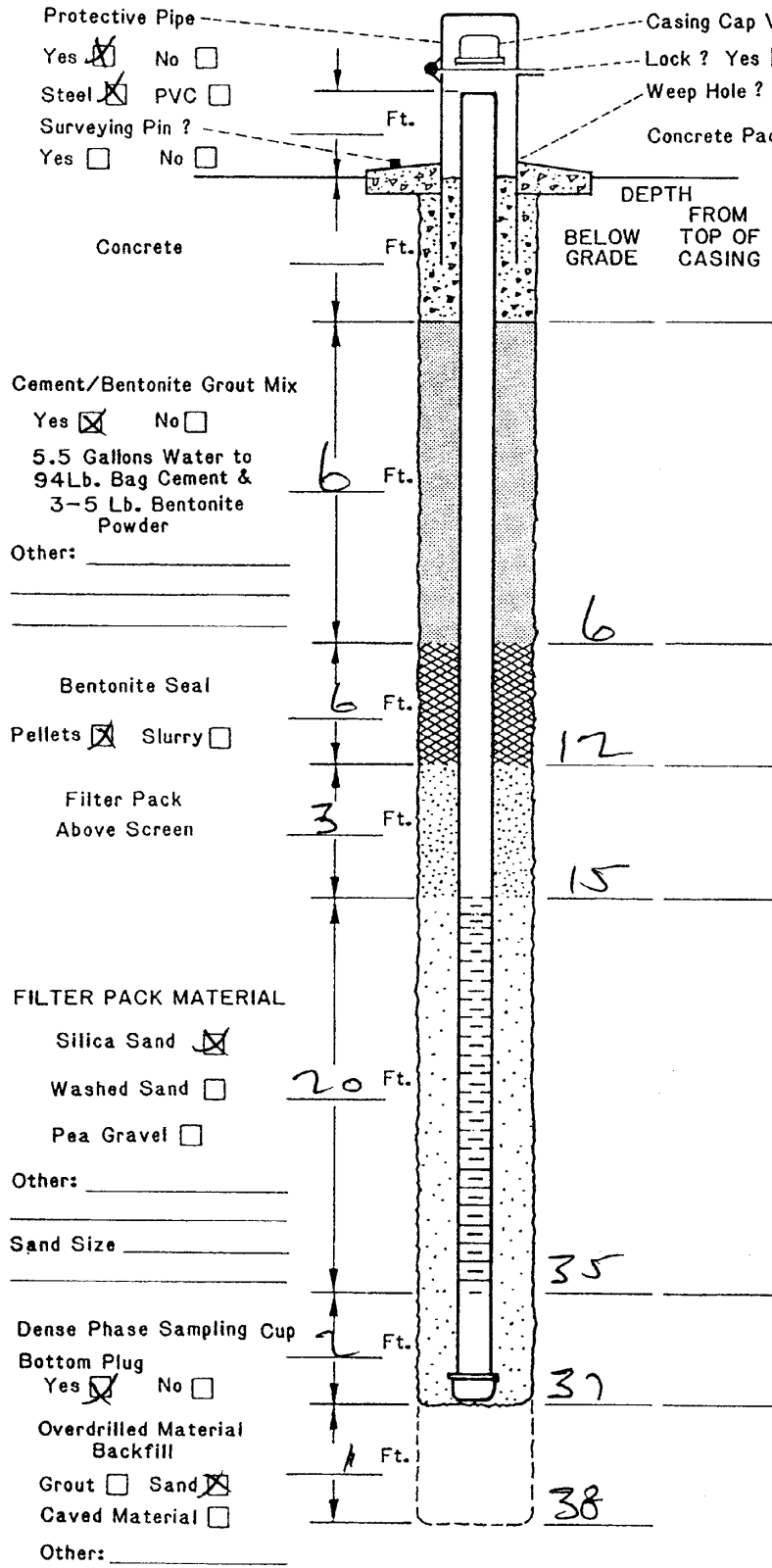
DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED 12.1.98	PAGE (of)
DRILLING METHOD Hollow Stem Auger	
DRILLED BY Compliance Drilling	
LOGGED BY Steve Lauer	
EXISTING GRADE ELEVATION (FT AMSL)	
LOCATION OR GRID COORDINATES	

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

- DRILLING INFORMATION:**
- Borehole Diameter = 6.25 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm Compliance Drilling Drill Rig Type Mobile B-59 Date Installed 12-1-98
 Drill Crew Lee Robertson Well No. PC-72 Kerr-McGee Hydrologist Steve Lower

SOIL BORING LOG KM-5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services		KM SUBSIDIARY Chemical			LOCATION Henderson, NV		BORING NUMBER PC-73			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	Tan to reddish brown silty sand with variable small to medium gravel in thin layers									
10										
15										
20	Gray silty sand with small gravel									
25										
30										
35										
40										

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND				DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)					<input checked="" type="checkbox"/> CLAY <input type="checkbox"/> SILT <input checked="" type="checkbox"/> SAND <input checked="" type="checkbox"/> GRAVEL <input checked="" type="checkbox"/> SILTY CLAY <input checked="" type="checkbox"/> CLAYEY SAND <input checked="" type="checkbox"/> CLAYEY SILT	<input checked="" type="checkbox"/> DEBRIS FILL <input checked="" type="checkbox"/> HIGHLY ORGANIC (PEAT) <input type="checkbox"/> SANDY CLAY <input type="checkbox"/> CLAYEY SAND
	PID	Photoionization Detection (ppm)					DRILLING METHOD	
	NO.	Identifies Sample by Number					Hollow Stem Auger	
	TYPE	Sample Collection Method					DRILLED BY	
							Compliance Drilling	
<input checked="" type="checkbox"/>	SPLIT-BARREL	<input type="checkbox"/>	AUGER	<input type="checkbox"/>	ROCK CORE	LOGGED BY		
<input checked="" type="checkbox"/>	THIN-WALLED TUBE	<input type="checkbox"/>	CONTINUOUS SAMPLER	<input type="checkbox"/>	NO RECOVERY	Steve Lowrey		
DEPTH	Depth Top and Bottom of Sample					EXISTING GRADE ELEVATION (FT AMSL)		
REC.	Actual Length of Recovered Sample in Feet					LOCATION OR GRID COORDINATES		

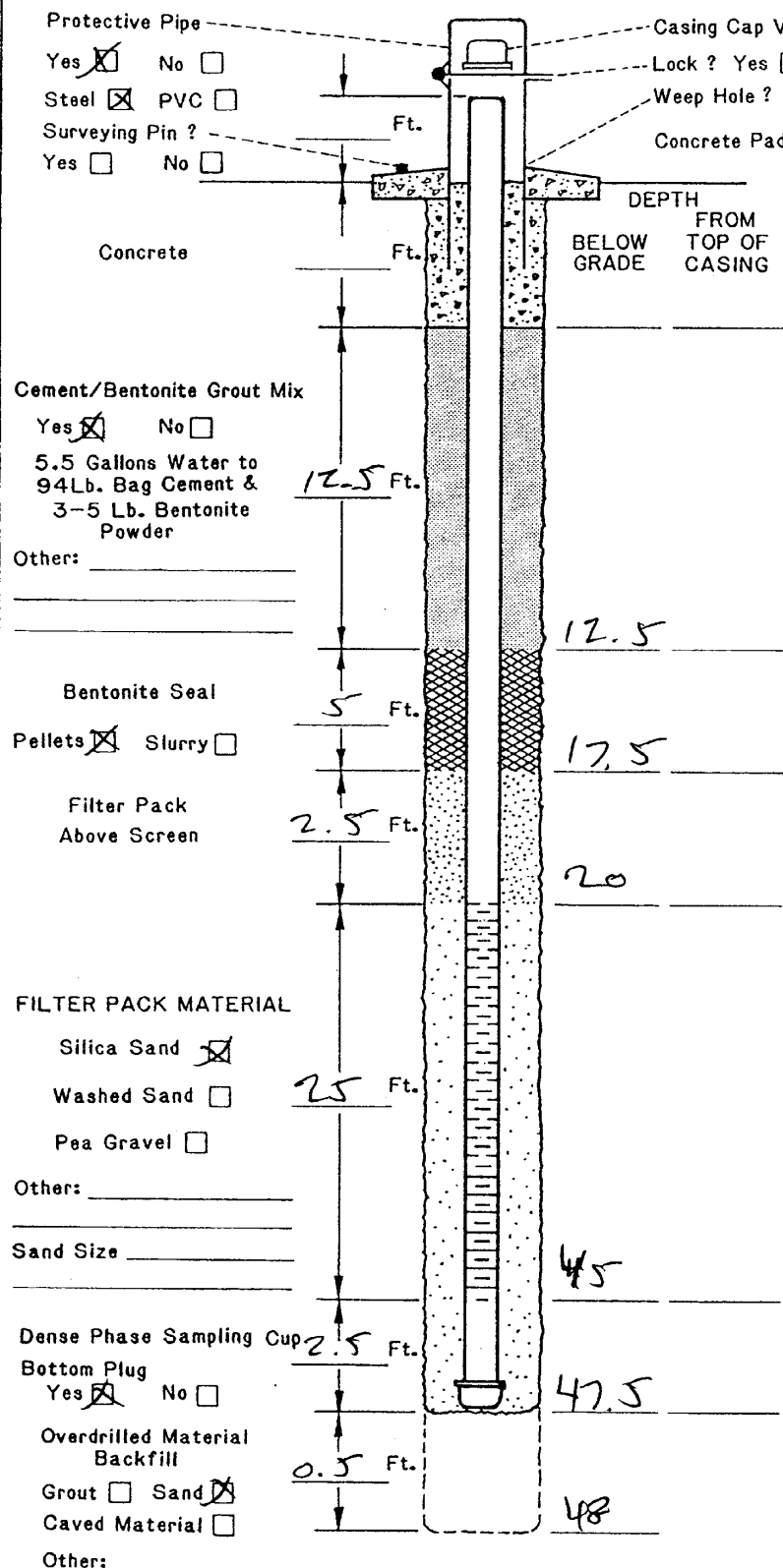
SOIL BORING LOG KM-5655-A

KERR-McGEE CORPORATION Hydrology Dept. Engineering Services		KM SUBSIDIARY Chemical		LOCATION Henderson, NV		BORING NUMBER PC-73		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER FOOT	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	DEPTH	
	Gray silty sand with small gravel		GM					
45	Reddish-brown fine, blocky clay		CL			X 43.5-45	0.5	1145
50	Muddy Creek TO 48ft					X 47-48	1'	1210

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 12-1-98	PAGE 2 of 2	
	Water Table (Time of Boring)			DRILLING METHOD Hobas Stem Auger		
	PID Photoionization Detection (ppm)	DRILLED BY Compliance Drilling	LOGGED BY Steve Lower	EXISTING GRADE ELEVATION (FT. AMSL)	LOCATION OR GRID COORDINATES	
	NO. Identifies Sample by Number	SPLIT-BARREL	AUGER	ROCK CORE		
	TYPE Sample Collection Method	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY		

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 6.25 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Oder? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
- During Drilling _____ Ft. Date _____
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm Compliance Drilling Drill Rig Type Mobile B59 Date Installed 12-1-98
 Drill Crew Lee Robertson Well No. PC-73 Kerr-McGee Hydrologist John Lower

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION Henderson NV	BORING NUMBER PC 74
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-8 GRAVEL w/ silty sd, yell orange. 30% gravel + boulders to 2' diam. volcanics 60% vc-vf SA sd 10% silt		GW							
10	8-15 silty SAND w/minor gravel. Inc in silt to 25%. gry brn. sd is vf-vc, SA-A. Gravel up to 2"		SM							damp @ 7' @ 12.45' 4-29-00
15	15-21 silty GRAVEL w/minor silt. gry brn volc grav. to 2" w/ sd vc-f SA-A matrix. 10-15% silt		GW-GM							▽ WTR @ 16' (Perched) 4-26-00
20	21-24 cly SAND, gry grn, sd f-vc w/ com (40%) clay		SC							only damp @ 21' ▽ WTR @ 24' 4-26-00
25	24-51 Pea Gravel w/ vc-f sd matrix. gry. st. silty 25% sd 70% pea gravel		GW							
30	27-28.5 w/ com cobbles/ boulders									
35	37-48 boulder zones (thin) scattered throughout									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 4-26-00	PAGE 1 of 2
	Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD HSA
	PID Photoionization Detection (ppm)	DRILLED BY Compliance		
	NO. Identifies Sample by Number	LOGGED BY E KRISHA		
	TYPE Sample Collection Method	EXISTING GRADE ELEVATION (FT. AMSL)		
SPLIT-BARREL	AUGER	ROCK CORE	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY		
DEPTH Depth Top and Bottom of Sample				
REC. Actual Length of Recovered Sample in Feet				

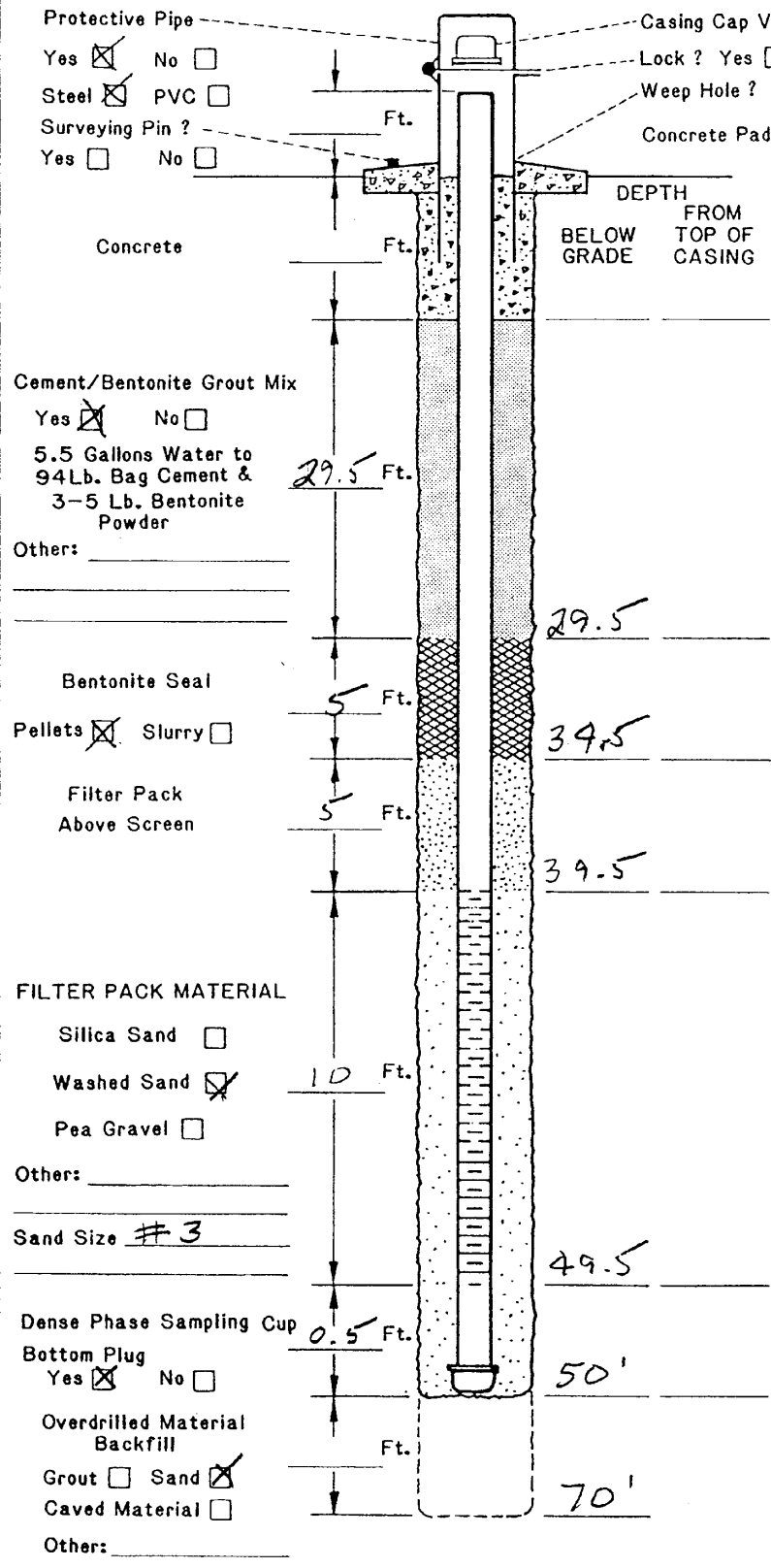
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION Henderson NV			BORING NUMBER PC 74			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45			GW							SCREENED 40'-50'
51	51-56 SAND, m-vc, SA-SR, grn gry, hard. sl. silty (10%). w/ 10% granules		SW							WTR SMPL 4-28-00 PH 7.3 TDS 7100
56	56-70 silty sdy CLAY, grn gry & red brn, mottled. Calcareous, sticky, drills slow. w/ 5-15% v.f.-mg sand in matrix. Contains 10% c-vc-gran sized caliche nodules dissem. throughout		CL-ML							Muddy Creek @ 56'
70	TD 70'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4-28-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY Compliance	
	Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY E KRISH	
	Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	LOCATION OR GRID COORDINATES		
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY			
DEPTH REC.	Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet				

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 1 1/2 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2" Inches, Screen 2" Inches.
- Slot Size of Screen: 0.02
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

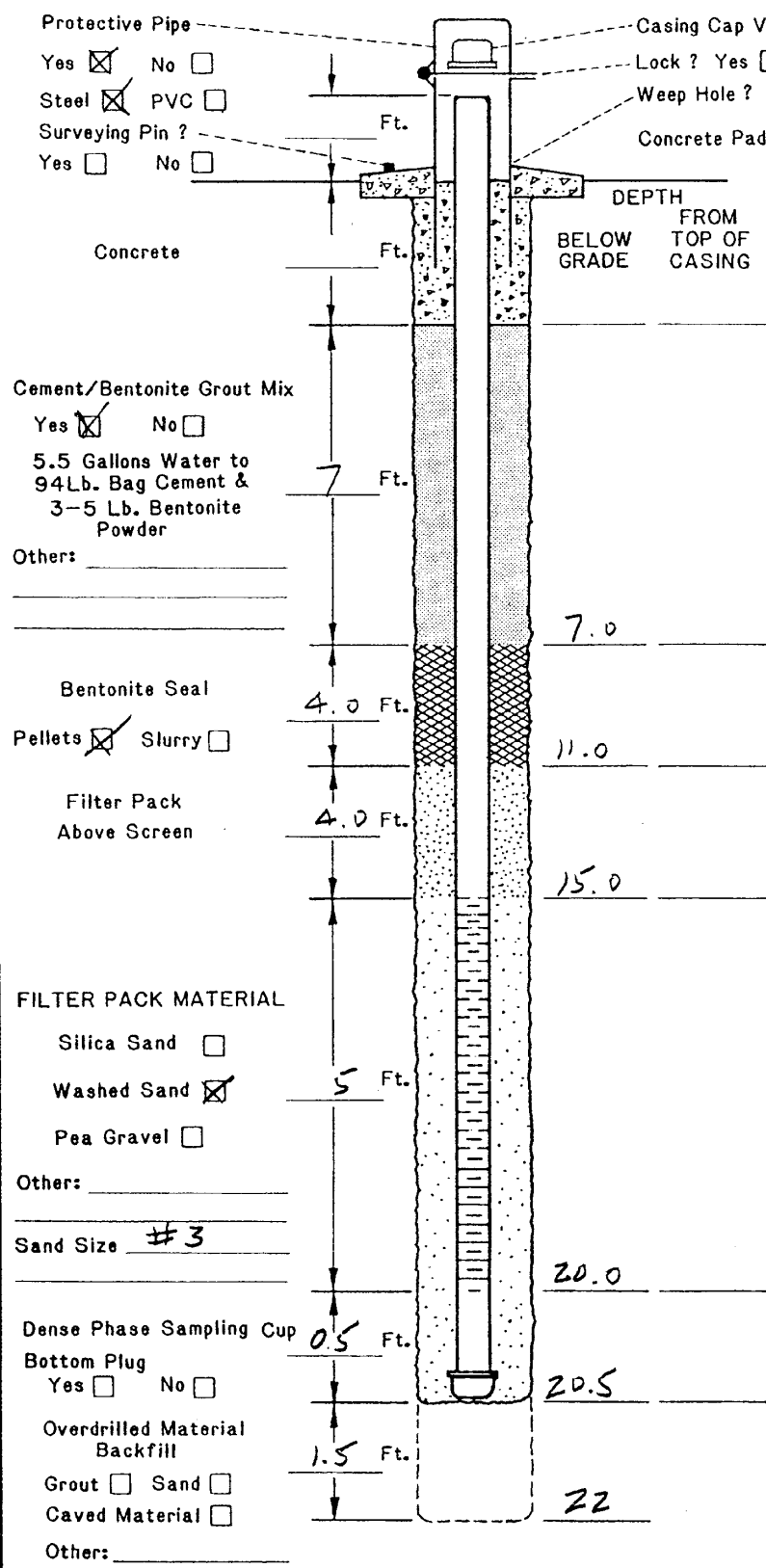
WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 24 Ft. Date 4-26-00
Before Development 12.45 Ft. Date 4-29-00
After Development 13.41 Ft. Date 5-11-00

Driller/Firm Compliance Drill Rig Type Mobile 53 Date Installed 4-26-00
Drill Crew Wells, Well No. PC 74 Kerr-McGee Hydrologist Ed Krish

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 10 1/2 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing 8 Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2" Inches, Screen 2" Inches.
 - Slot Size of Screens:
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
- During Drilling 16' Ft. Date 4-28-00
 Before Development 16.28' Ft. Date 4-29-00
 After Development 13.60' Ft. Date 5-11-00

Driller/Firm Compliance Drill Rig Type Mobile S3 Date Installed 4-28-00
 Drill Crew Wells Well No. PC 76 Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION Henderson, NY	BORING NUMBER PC 76
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5 10 15 20	PC 76 located 10' SW of PC75 (20' SW of PC74) see log of PC74 for lithology									SCREEN SET 15'-20' ▽ 4-28-00 ▽ 4-29-00 @ 16.28' WTR SmpL 4-30-00 PH 7.2 Cond. 8600
	TD 22'									

EXPLANATION	▽	Water Table (24 Hour)	GRAPHIC LOG LEGEND				DATE DRILLED 4-28-00	PAGE 1 of 1
	▽	Water Table (Time of Boring)	▨	CLAY	▩	DEBRIS FILL	DRILLING METHOD HSA	
	▽	Photoionization Detection (ppm)	▧	SILT	▨	HIGHLY ORGANIC (PEAT)		
	NO.	Identifies Sample by Number	▩	SAND	▨	SANDY CLAY	DRILLED BY Compliance	
	TYPE	Sample Collection Method	▩	GRAVEL	▨	CLAYEY SAND		
▨	SPLIT-BARREL	▩	AUGER	▩	ROCK CORE	LOGGED BY Ed Krish		
▩	THIN-WALLED TUBE	▩	CONTINUOUS SAMPLER	▩	NO RECOVERY			
DEPTH Depth Top and Bottom of Sample		REC. Actual Length of Recovered Sample in Feet		▩	SILTY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)		
				▩	CLAYEY SILT			LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON NV		BORING NUMBER PC 77				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-11 sl. silty SAND, vf-fg, SA-SR, brown, 10-15% silt below 6' silt inc. to 20-25% w/ tr vc volc grains		SW SM							damp @ 2' 6.53' moist @ 6' 4-30-00 PH 7.2 cond. 5500
11	11-21 silty gravelly SAND, brn, vf-m, SA-SR, 30% silty matrix. 20% volc + caliche granules + pebbles to 1"		SM GM							17.18' 5-3-00 @ 19' 4-29-00
25	21-34 gravelly SAND, vf-v, brn gry, sl. silty 10-20%, SR-SA volc and caliche 22-24 v. hard calichified gravel 29-34 dec in gravel. to 10%. Mostly vf-vc sand		GW SW							WTR smpl 5-2-00 PH 7.8 cond. 6800
35	34-40 silty SILT, brn, 30-40% vf, SA, sand. contains 10-15% matrix supported volc granules		ML							

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- Identifies Sample by Number
- Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY
- DEPTH Depth Top and Bottom of Sample
- REC. Actual Length of Recovered Sample in Feet

- GRAPHIC LOG LEGEND
- CLAY
 - SILT
 - SAND
 - GRAVEL
 - SILTY CLAY
 - CLAYEY SILT
 - DEBRIS FILL
 - HIGHLY ORGANIC (PEAT)
 - SANDY CLAY
 - CLAYEY SAND

DATE DRILLED 4/29-5/1/00 PAGE 1 of 2

DRILLING METHOD HSA

DRILLED BY COMPLIANCE

LOGGED BY Ed KRISH

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 77
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	40-44 silty gravelly SAND brn, f-vc w/ 30-35% gran. and pebbles of volc and caliche & minor ls.		SM- GM							
	44-45 v. hard calcified GRAVEL (volc & ls.) TD 45' (too hard to drill)									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 4/29-5/1/00	PAGE 2 of 2	
		Water Table (Time of Boring)		CLAY	DRILLING METHOD HSA		
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		DRILLED BY COMPLIANCE	
		SPLIT-BARREL		SAND		LOGGED BY ED KRISH	
		THIN-WALLED TUBE		GRAVEL		EXISTING GRADE ELEVATION (FT. AMSL)	
		AUGER		SILTY CLAY	LOCATION OR GRID COORDINATES		
		ROCK CORE		CLAYEY SILT			
		CONTINUOUS SAMPLER					
		NO RECOVERY					
	DEPTH	Depth Top and Bottom of Sample					
	REC.	Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe

Yes No

Steel PVC

Surveying Pin ?

Yes No

Casing Cap Vent ? Yes No

Lock ? Yes No

Weep Hole ? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 1 1/2 Inches.
- Were Drilling Additives Used ? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used ? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.02
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed ? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development ?
1 60 Minutes Hours
- Approximate Water Volume Removed ? _____ Gallons
- Water Clarity Before Development ? Clear
 Turbid Opaque
- Water Clarity After Development ? Clear
 Turbid Opaque
- Did Water have Odor ? Yes No
 If Yes, Describe _____
- Did Water have any Color ? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 19' Ft. Date 4-29-00
 Before Development 6.53' Ft. Date 4-30-00
 After Development 7.27' Ft. Date 5-11-00

Concrete

Cement/Bentonite Grout Mix

Yes No

5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder

Other: _____

Bentonite Seal

Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL

Silica Sand

Washed Sand

Pea Gravel

Other: _____

Sand Size #3

Dense Phase Sampling Cup

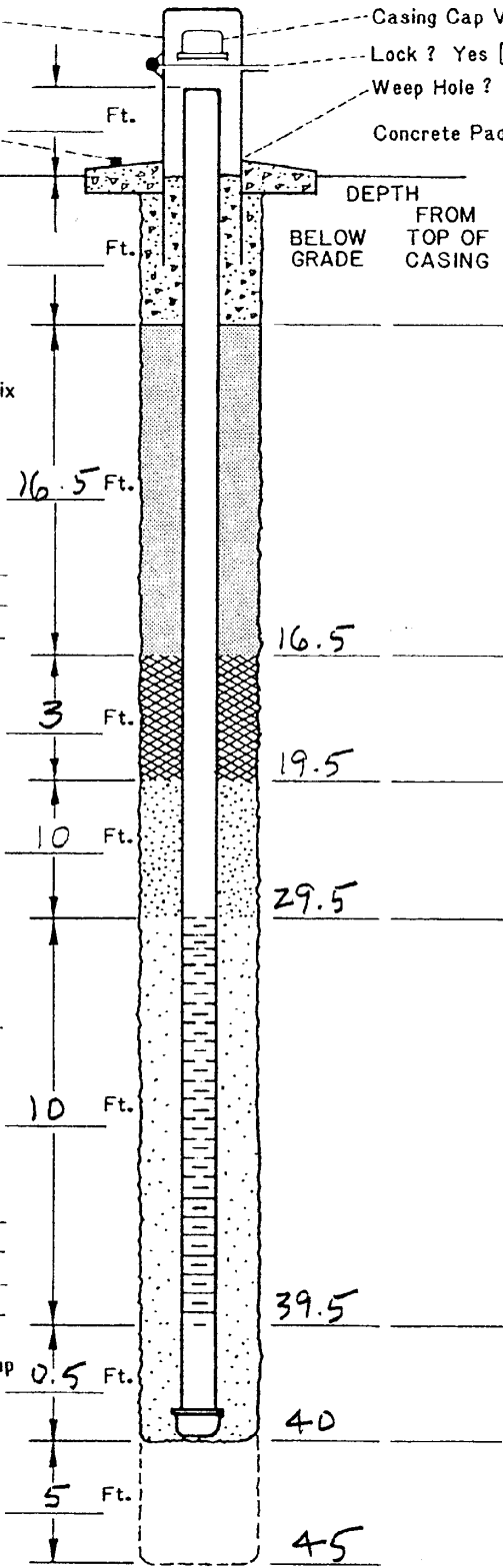
Bottom Plug
Yes No

Overdrilled Material
Backfill

Grout Sand

Caved Material

Other: _____



Driller/Firm Compliance

Drill Rig Type Mobile B53 Date Installed 5-1-00

Drill Crew Wells

Well No. PC 77

Kerr-McGee
Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

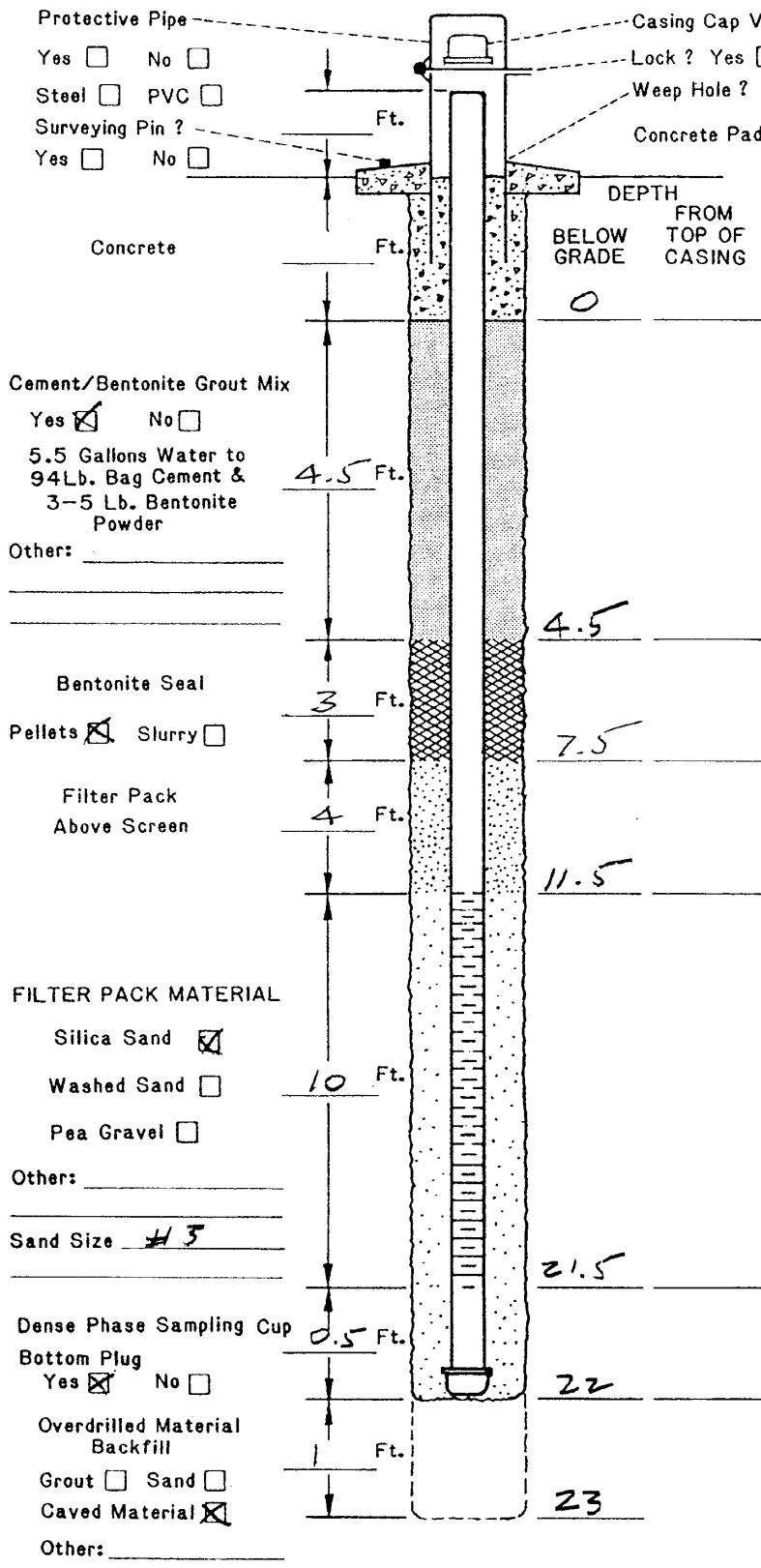
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON NV	BORING NUMBER PC78
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
5	HOLE LOCATED 10' SOUTH OF PC77. See PC77 for lith log									▼ 6.95' 5-3-00 PH 7.5 TDS 4800	
10											
15											
20											▼ @19' 5-2-00
22	TD 22'										

EXPLANATION	▼ Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 5-2-00	PAGE 1 of 1
	▽ Water Table (Time of Boring)		DRILLING METHOD HSA DRILLED BY COMPLIANCE LOGGED BY ED KRISH EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES	
	PID Photoionization Detection (ppm)			
	NO. Identifies Sample by Number			
	TYPE Sample Collection Method			
SPLIT-BARREL THIN-WALLED TUBE AUGER CONTINUOUS SAMPLER ROCK CORE NO RECOVERY	CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 7 1/2 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.02
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
1 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 19' Ft. Date 5-2-00
Before Development 6.95' Ft. Date 5-3-00
After Development 6.86' Ft. Date 5-11-00

Driller/Firm COMPLIANCE Drill Rig Type MOBILE B-59 Date Installed 5-2-00
Drill Crew WELLS Well No. PC 78 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 79
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-6 silty SAND brn, 20-30% silt in vf-vc sd. Contains 5-10% dissem pea gravel		SM							damp @ 5'
10	6-39 silty gravelly SAND brn, 20-30% silt in vf-vc sd w/ 20-30% volc granules and minor pea gravel, SA-SR									
15	7-12 50% silt 15-30 locally com thin caliche cemented zones		SM-GM							
35	36-38 calcified gravel zone									
39	39-42 gravelly SILT		ML-GM							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-2-00	PAGE 1 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	SILTY CLAY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	CLAYEY SILT		
DEPTH	Depth Top and Bottom of Sample				
REC.	Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

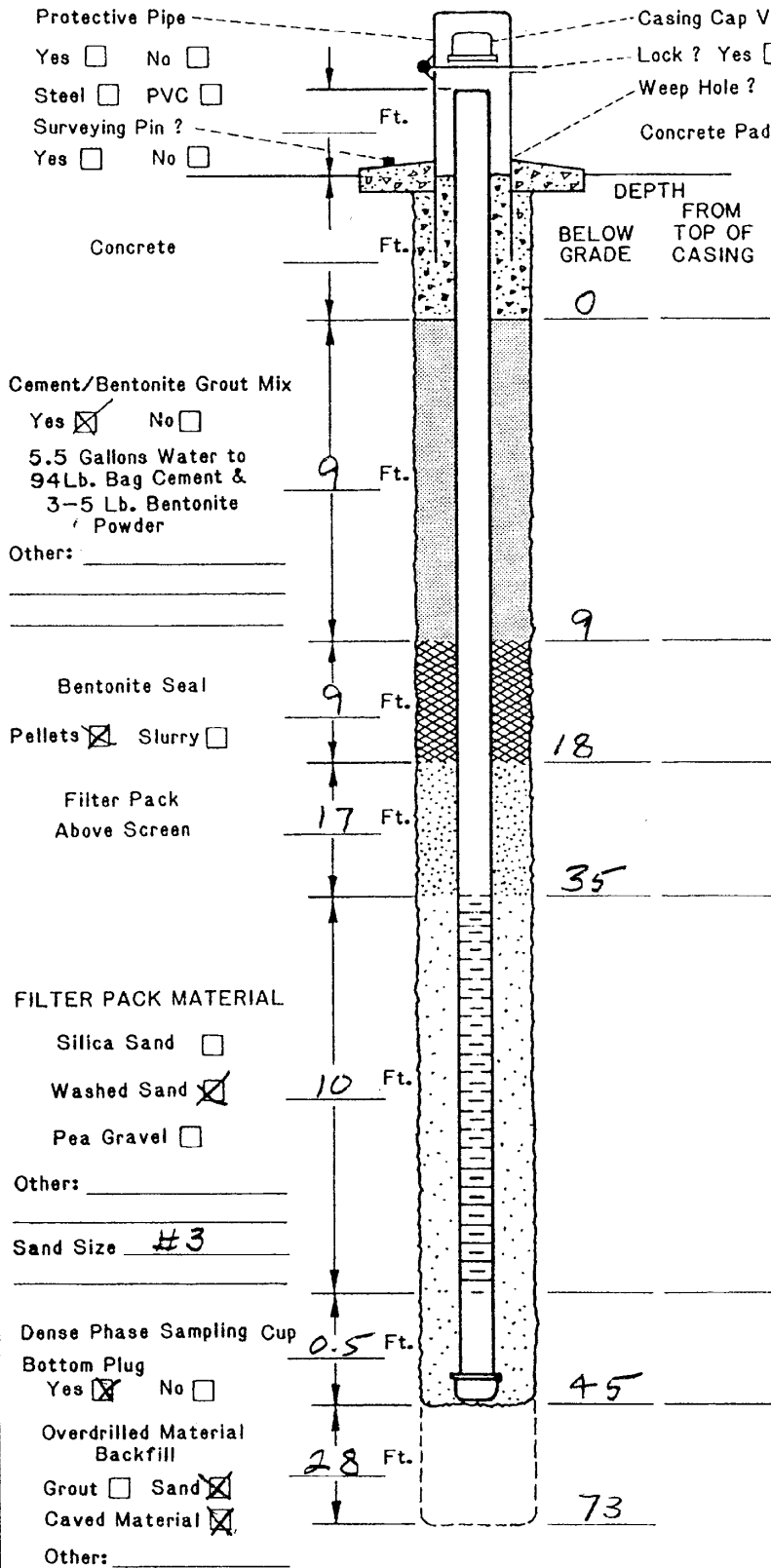
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 79
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
42	grn gray, sticky, 10-20% dissem matrix supported pea gravel (to 1")		ML-GM							
45	42-45 silty gravelly SAND, as above		SM-GM							
45-58	45-58 silty sdy CLAY, grngry, dk gry and lt tan.		CL							MC @ 45
(49-50)	Calichified zone									
55										
58-73	58-73 sdy SILT, clay SILT pale brn w/ minor grngry, 10% vf-mg, SR-SA sand in matrix. Minor gypsum xtals throughout		ML-CL							
65	59-60 hard, calichified zone		ML-CL							
70	66-73 hard, calichified zone									
	TD 73'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 5-2-00	PAGE 2 of 2
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)		DRILLED BY COMPLIANCE	
	NO. Identifies Sample by Number		LOGGED BY ED KRISH	
	TYPE Sample Collection Method		EXISTING GRADE ELEVATION (FT. AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY		
DEPTH Depth Top and Bottom of Sample		REC. Actual Length of Recovered Sample in Feet		

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH MOUNT



DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.02"
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1.60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 12' Ft. Date 5-2-00
 Before Development 7.05' Ft. Date 5-11-00
 After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE

Drill Rig Type MOBILE B59 Date Installed 5-3-00

Drill Crew WELLS

Well No. PC 79

Kerr-McGee Hydrologist ED KRISH

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

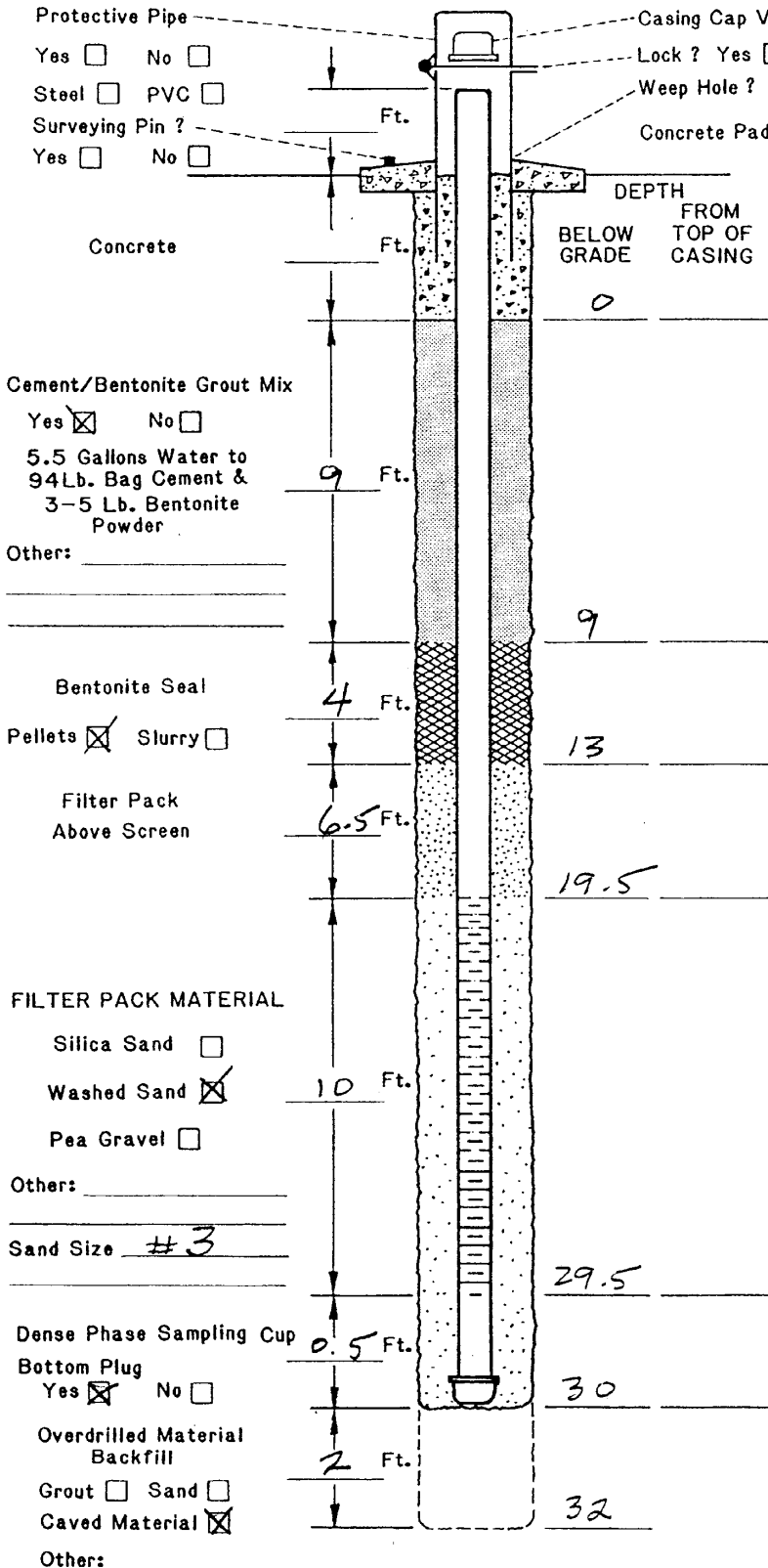
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.02
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / 60 Minutes / Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odeur? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 12 Ft. Date 5-3-00
Before Development 7.15' Ft. Date 5-11-00
After Development _____ Ft. Date _____



Driller/Firm COMPLIANCE

Drill Rig Type Mobile B-59

Date Installed 5-3-00

Drill Crew WELLS

Well No. PC80

Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

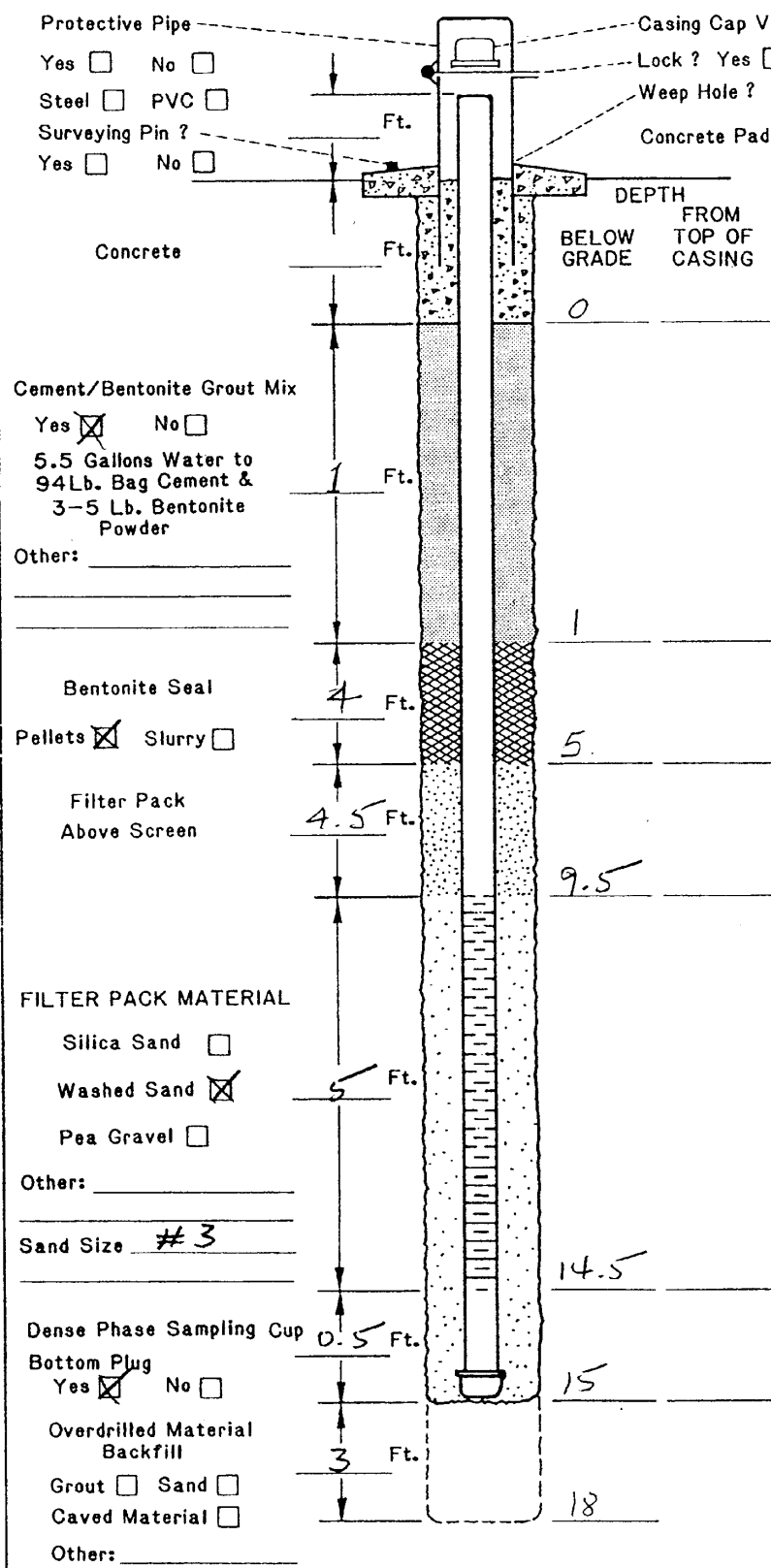
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 80
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	PC 80 located 10' EAST OF PC 79. SEE LTH LOG OF PC 79 for lithology									
10										
15										▽ 12' 5-3-00
20										
25										
30										
32		TD 32'								

EXPLANATION	▼ Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-3-00	PAGE 1 of 1	
	▽ PID NO. TYPE	Water Table (Time of Boring) Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT	DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD HSA	
	SPLIT-BARREL	AUGER	ROCK CORE	THIN-WALLED TUBE	CONTINUOUS SAMPLER	DRILLED BY COMPLIANCE
			NO RECOVERY			LOGGED BY ED KRISH
	DEPTH REC.	Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet				EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.02
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
1 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Ochr? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____
- WATER LEVEL INFORMATION:**
Water Level Summary (From Top of Casing)
During Drilling 12' Ft. Date 5-3-00
Before Development 6.95' Ft. Date 5-11-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-3-00
Drill Crew WELLS Well No. PC 81 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 81
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5 10 15 18	PC 81 located 10' EAST of PC 80. See Log of PC 79 for lithology									▽ 12' 5-3-00
	TO 18'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-3-00	PAGE 1 of 1
		Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
		Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)		
		Identifies Sample by Number	SAND	SANDY CLAY	DRILLED BY COMPLIANCE	
		Sample Collection Method	GRAVEL	CLAYEY SAND	LOGGED BY ED KRISH	
	SPLIT-BARREL	SILTY CLAY		EXISTING GRADE ELEVATION (FT AMSL)		
	THIN-WALLED TUBE	CLAYEY SILT		LOCATION OR GRID COORDINATES		
	AUGER					
	ROCK CORE					
	CONTINUOUS SAMPLER					
	NO RECOVERY					
	DEPTH	Depth Top and Bottom of Sample				
	REC.	Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 82		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
0-3	disturbed berm material silty grav SAND		SM- GM					@ 2' damp
3-12	silty gravelly SAND, dk brn, 20% silt, 40% granules & pea gravel (SR) of volc. 40% vf-vc sd, SA-SR		SM- GM					▽ @ 5'
12-15	sdly clay SILT, dk brn, 15-25% vf-m, SA-SR, sd, 20% clay, 10% sm volc granules, sticky		ML					
15-20	silty sdly GRAVEL, dk brn, SR-SA, 20% silt, 25% vf-vc sd, SA-SR		GM					
20-30	silty gravelly SAND, dk brn, 20% silt, 40% volc granules to pea gravel to 1/2", SR; vf-vc, SR-SA sd		SM- GM					
30-33	sdly silty GRAVEL, dk brn, 30% SA-SR, vf-vc sd, 20% silt, 50% volc w/ minor		GM					
33-35	1/2 gravel to 2-3", SR							
33-39	silty gravelly SAND, as above @ 38'-39' gravel zone, volc SR up to 3" diam		SM- GM					
39-46	silty SAND, brn,		SM					

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-4-00	PAGE 1 of 2
	Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	CLAY	DEBRIS FILL	DRILLED BY COMPLIANCE	
	Identifies Sample by Number	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY ED KRISH	
	Sample Collection Method	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	SILTY CLAY	CLAYEY SILT	
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet				

SOIL BORING LOG KM-5655-B

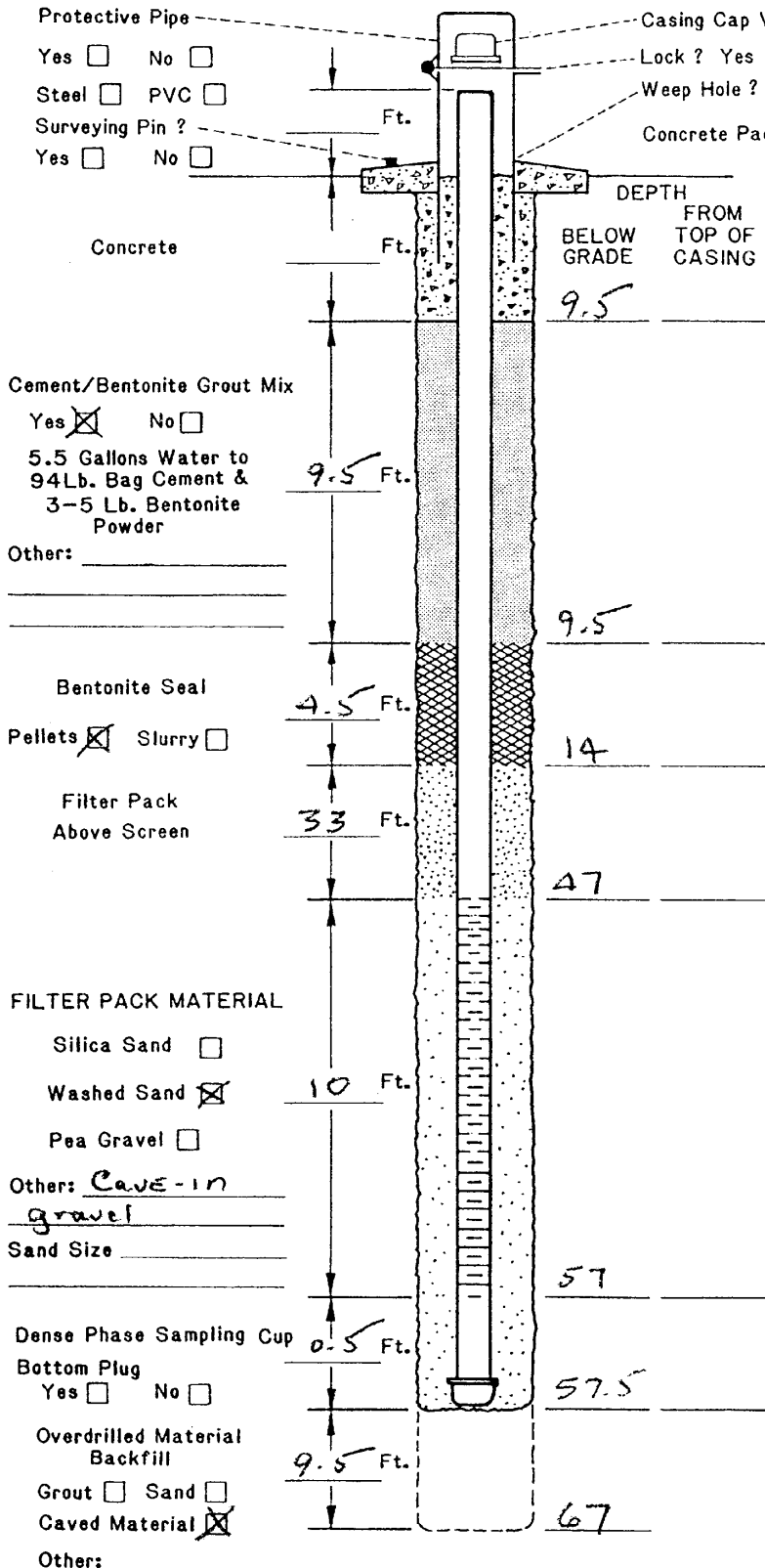
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC82
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	SA, 30% silt in 70% vt-f sd w/ minor c-vc grains sticky, calcareous		SM							
46-50	silty gravelly SAND, dk brn, as above		SM-GM							
50-52	cl. silty SAND, lt. red brn + grn gry. SA-SR		SM-SC							
52	vt-fg sd w/ 20% clay + 30% silt. Com sm caliche nodules, calcareous		SM-GM							
56	silty gravelly SAND, f-c SR-SA w/ 20% silt and 30% volc + ls pebbles to 2"								Muddy Ck @ 56'	
60	silty CLAY, lt grn yellow, sticky		CL							
67	TD 67'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 5-4-00	PAGE 2 of 2
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SPLIT-BARREL AUGER THIN-WALLED TUBE	ROCK CORE CONTINUOUS SAMPLER	DRILLED BY COMPLIANCE
		NO RECOVERY	LOGGED BY ED KRISH	
	DEPTH REC. Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet		EXISTING GRADE ELEVATION (FT. AMSL)	LOCATION OR GRID COORDINATES

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 (Minutes) Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 5' Ft. Date 5-4-00
Before Development 4.91' Ft. Date 5-5-00
After Development 5.42' Ft. Date 5-11-00

Driller/Firm COMPLIANCE

Drill Rig Type MOBILE B-59

Date Installed 5-4-00

Drill Crew WELLS

Well No. PC82

Kerr-McGee
Hydrologist ED KRISH

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

1-FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

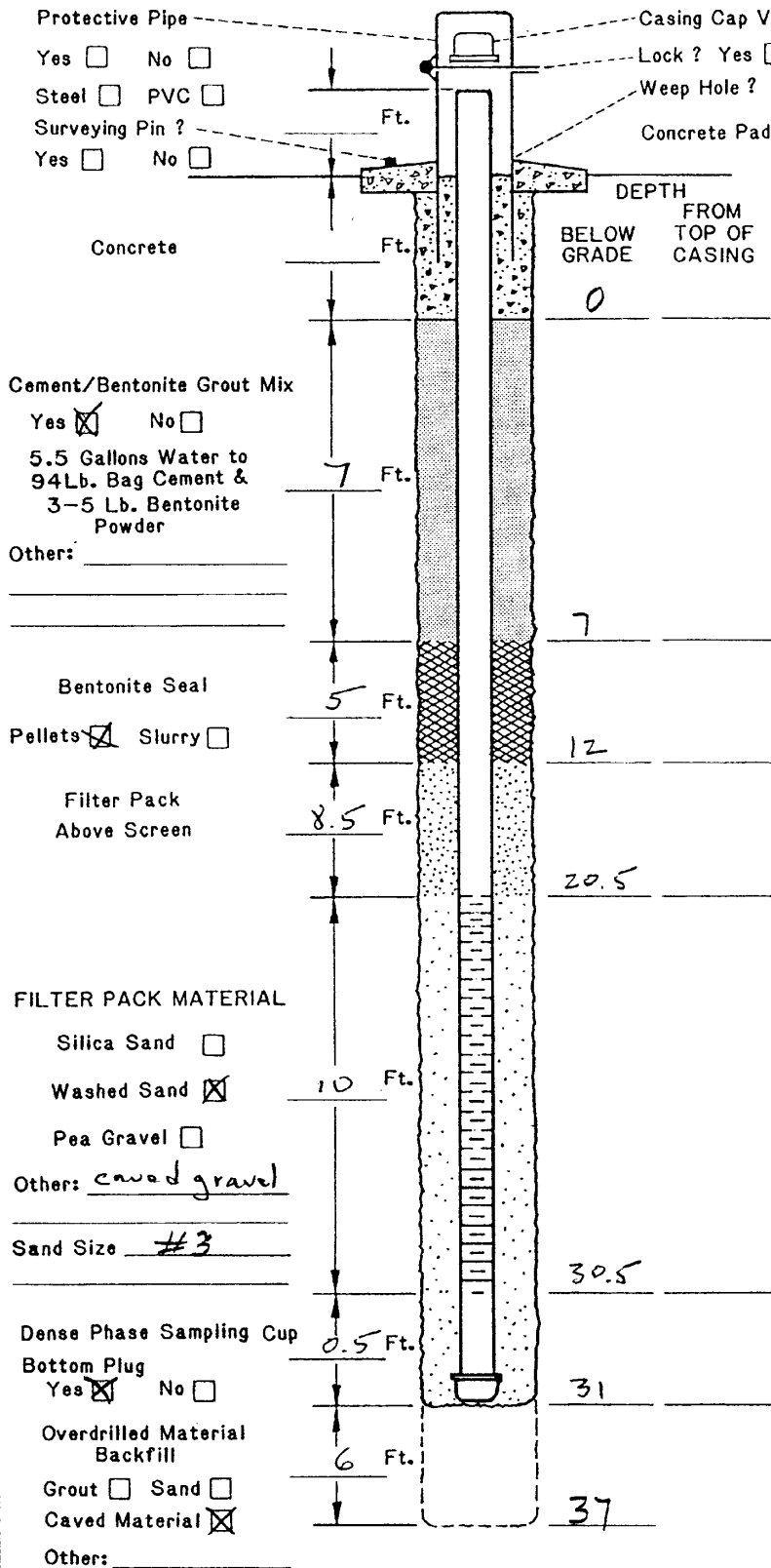
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / 60 (Minutes) / Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 5' Ft. Date 5-4-00
Before Development 3.82' Ft. Date 5-11-00
After Development _____ Ft. Date _____



Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL

Silica Sand
Washed Sand
Pea Gravel

Other: caved gravel

Sand Size #3

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill

Grout Sand
Caved Material

Other: _____

Driller/Firm COMPLIANCE

Drill Rig Type Mobile B-59

Date Installed 5-5-00

Drill Crew WELLS

Well No. PC 83

Kerr-McGee
Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

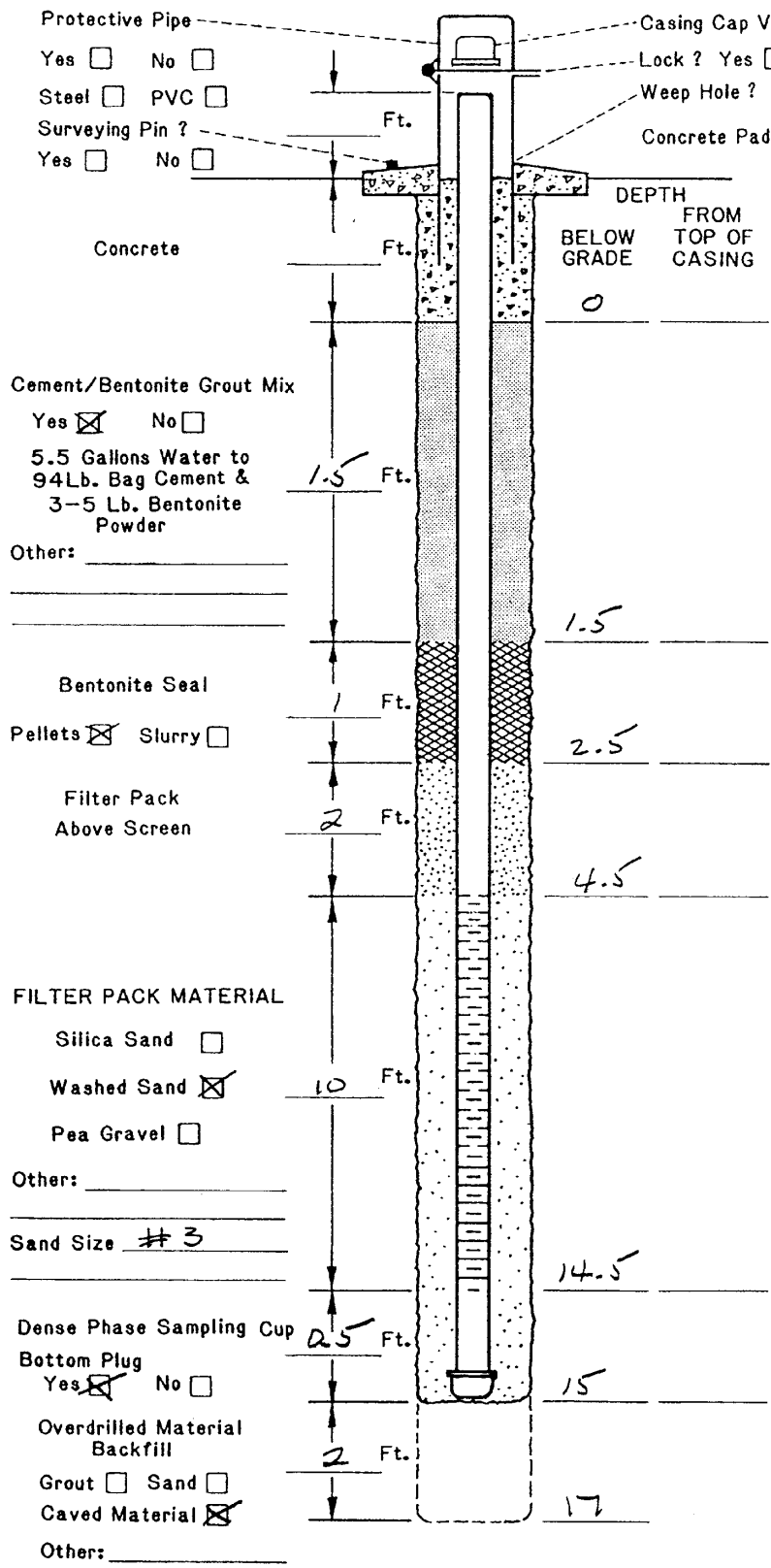
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 83
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	PC 83 is 11' NORTH of PC 82. See log for PC 82 for lithology									▽ @ 5' 5-4-00
10										
15										
20										
25										
30										
35										
37' TD										

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 5-4-00	PAGE 1 of 1
	Water Table (Time of Boring)		CLAY	DEBRIS FILL
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	
	SPLIT-BARREL	AUGER	ROCK CORE	SANDY CLAY
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	CLAYEY SAND
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	SAND	GRAVEL	SILTY CLAY	CLAYEY SILT
DRILLED BY COMPLIANCE		LOGGED BY ED KRISH		
EXISTING GRADE ELEVATION (FT AMSL)		LOCATION OR GRID COORDINATES		

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.02
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
1 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 5' Ft. Date 5-5-00
Before Development 4.26' Ft. Date 5-11-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-5-00
Drill Crew WELLS Well No. PC 84 Kerr-McGee Hydrologist ED KRISH



















SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NJ	BORING NUMBER PC 84
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5 10 15	<p>PC 84 is 11' NORTH OF PC 83. SEE log of PC 82 for lithology</p>									<p>▽ @ 5' 5.5-00</p>
	TD 17'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
		Water Table (Time of Boring)			5-5-00	1 of 1
		Photoionization Detection (ppm)		DRILLING METHOD		
		Identifies Sample by Number		HSA		
		Sample Collection Method		DRILLED BY		
	SPLIT-BARREL		COMPLIANCE			
	THIN-WALLED TUBE		LOGGED BY			
	AUGER		ED KRISH			
	CONTINUOUS SAMPLER		EXISTING GRADE ELEVATION (FT. AMSL)			
	DEPTH Depth Top and Bottom of Sample		LOCATION OR GRID COORDINATES			
	REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 85				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	<u>0-10</u> sl. silty SAND, gry brn (5YR4/2), SR-SA, poorly sorted vt-vc, 10% silt and 10% volc granules to 1/4"		SW							damp 20' ▽ @ 2'
15	<u>10-27</u> silty gravelly SAND. dk yell brn (10YR4/2) 20-30% silt and 10-20% volc granules and pebbles to 1/2"		SM- GM							
30	<u>27-43</u> silty sdy GRAVEL dk yell brn (10YR4/2). 30% silt, 25% vt-vc, SA-SR sd and 45% granules + pebbles to 1 1/2"		GM							
35	<u>38-43</u> v. hard drilling calcified gravel									
EXPLANATION ▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method  SPLIT-BARREL  AUGER  ROCK CORE  THIN-WALLED TUBE  CONTINUOUS SAMPLER  NO RECOVERY DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet		GRAPHIC LOG LEGEND  CLAY  SILT  SAND  GRAVEL  SILTY CLAY  CLAYEY SILT  DEBRIS FILL  HIGHLY ORGANIC (PEAT)  SANDY CLAY  CLAYEY SAND  				DATE DRILLED 5-10-00 DRILLING METHOD HSA DRILLED BY COMPLIANCE LOGGED BY ED KRISH EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES				

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON NV	BORING NUMBER PC 85
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
43	43-47 sdy silt, yell gry + lt brn, 5-10% m-c SR qtz grains + 5-10% c-vc, caliche nodules. Calcareous	[Symbol]	GM							MC @ 43'?
47			ML							
50	47-67 CLAY and silty CLAY, interbedded. 15-25% dissem caliche nodules. Calcareous. sticky	[Symbol]	CL							
55	47-57 mod red orange 10R6/6									
60	57-64 lt grn gry (5GY 8/1)									
65	64-67 med gry (N5)									
70	TD 67'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 5-10-00	PAGE 2 of 2
	Water Table (Time of Boring)		DRILLING METHOD HSA	
	PID	DRILLED BY COMPLIANCE		
	NO.	LOGGED BY ED KRISH		
	TYPE	EXISTING GRADE ELEVATION (FT. AMSL)		

SPLIT-BARREL
 AUGER
 ROCK CORE
 THIN-WALLED TUBE
 CONTINUOUS SAMPLER
 NO RECOVERY

DEPTH Depth Top and Bottom of Sample
 REC. Actual Length of Recovered Sample in Feet

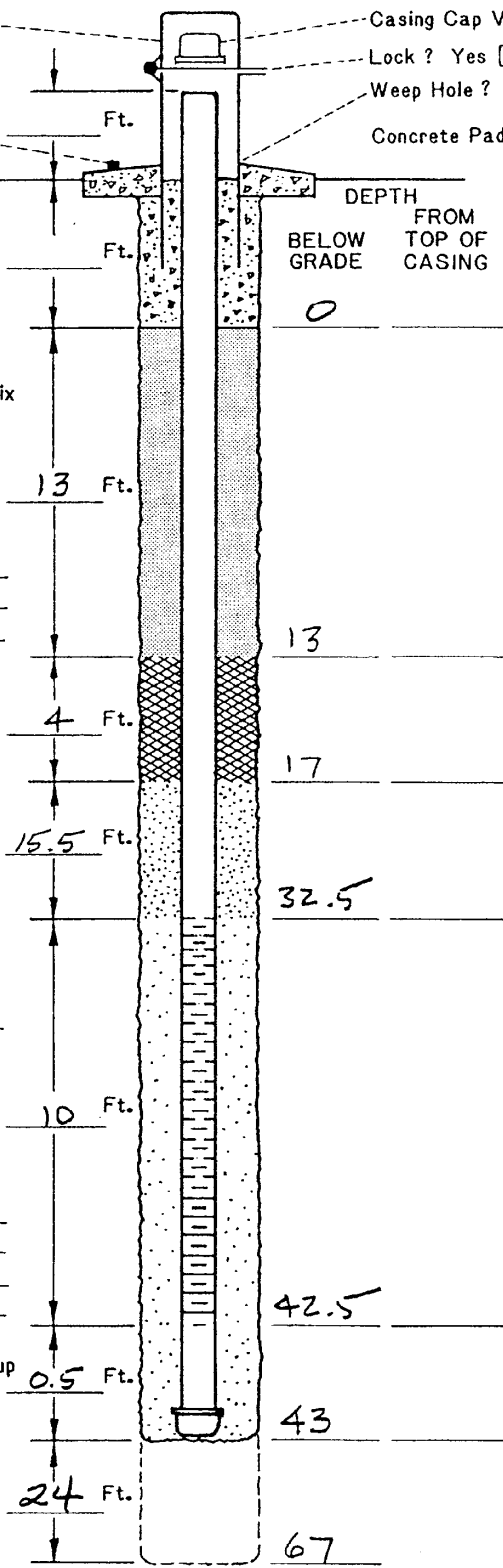
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen *
(CAVED GRAVEL)

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____

Sand Size #3

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

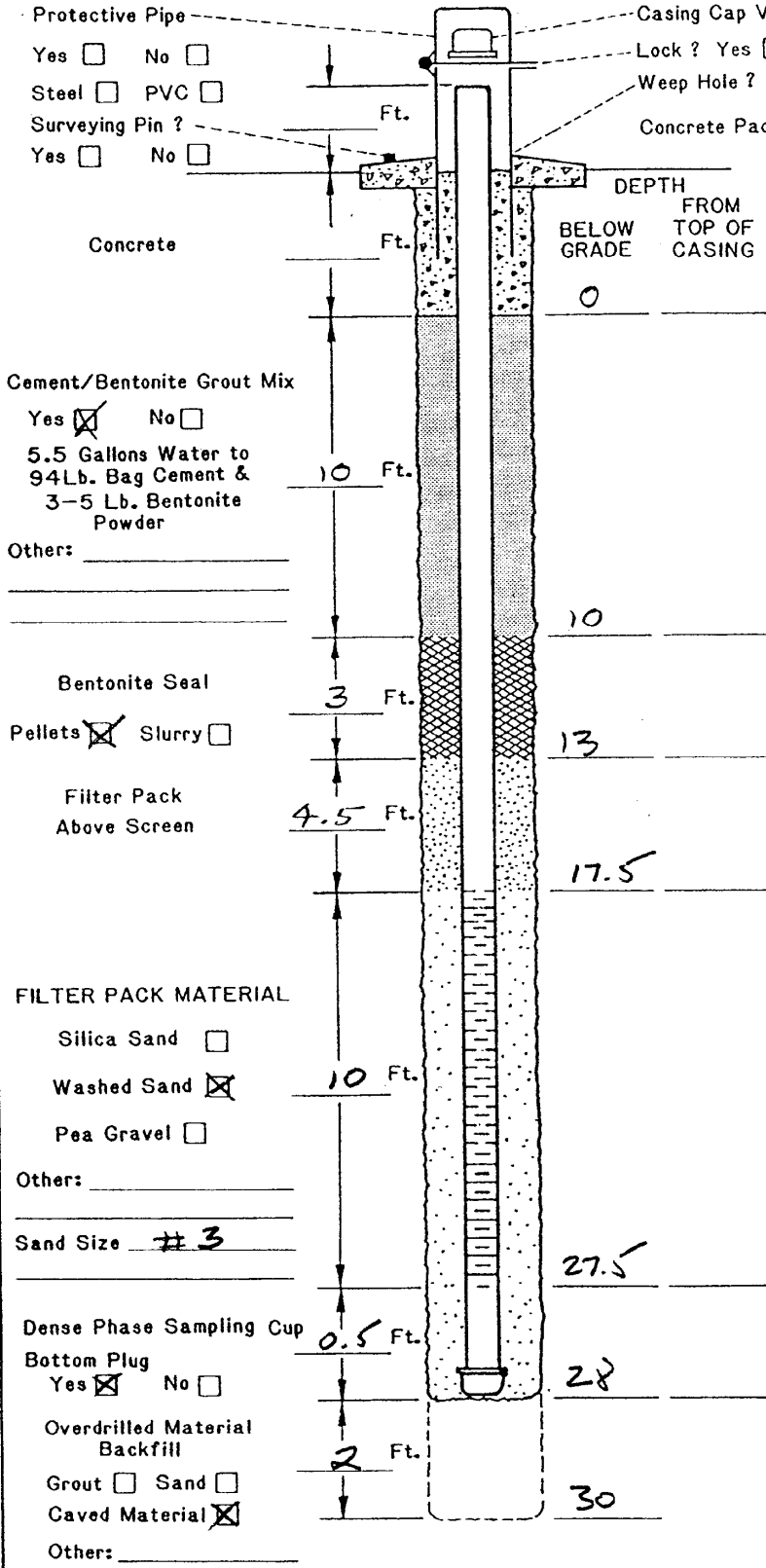
WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 2' Ft. Date 5-10-00
Before Development 0-33' Ft. Date 5-12-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-10-00
Drill Crew WELLS Well No. PC 85 Kerr-McGee Hydrologist Ed Krish

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screen: 0.020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)
During Drilling 2' Ft. Date 5-11-00
Before Development 0.58' Ft. Date 5-12-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B59 Date Installed 5-11-00
Drill Crew WELLS Well No. PC86 Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

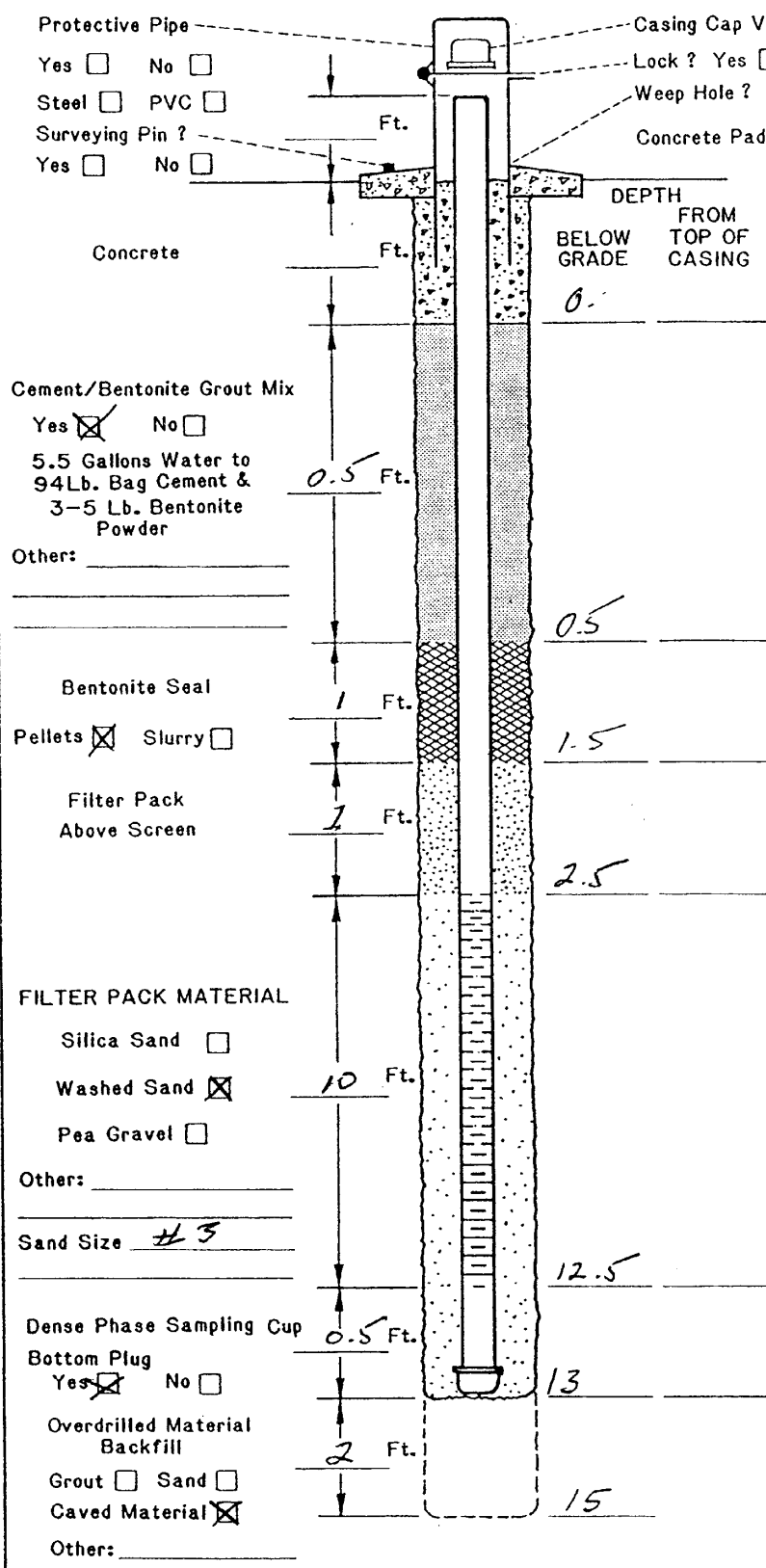
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 86
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	PC 86 is 10' east of PC 85. SEE log of PC 85 for lithology									▽ 2'
10										
15										
20										
25										
30	TD 30'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE					
		Water Table (Time of Boring)			CLAY		DEBRIS FILL	5-11-00	1 of 1	
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		HIGHLY ORGANIC (PEAT)	DRILLING METHOD	HSA		
		SPLIT-BARREL		AUGER		SAND		SANDY CLAY	DRILLED BY	COMPLIANCE
		THIN-WALLED TUBE		CONTINUOUS SAMPLER		GRAVEL		CLAYEY SAND	LOGGED BY	ED KRISH
			ROCK CORE		SILTY CLAY			EXISTING GRADE ELEVATION (FT. AMSL)		
			NO RECOVERY		CLAYEY SILT			LOCATION OR GRID COORDINATES		
	DEPTH	Depth Top and Bottom of Sample								
	REC.	Actual Length of Recovered Sample in Feet								

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No
Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry
Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____
Sand Size #3

Dense Phase Sampling Cup
Bottom Plug
Yes No
Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:
1. Borehole Diameter = 8 Inches.
2. Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.

WELL CONSTRUCTION INFORMATION:
1. Type of Casing: PVC Galvanized Teflon
Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
4. Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screens: 0.020
6. Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:
1. How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development?
_____ / 60 Minutes/Hours
3. Approximate Water Volume Removed? _____ Gallons
4. Water Clarity Before Development? Clear
Turbid Opaque
5. Water Clarity After Development? Clear
Turbid Opaque
6. Did Water have Odor? Yes No
If Yes, Describe _____
7. Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)
During Drilling 2' Ft. Date 5-11-00
Before Development 1-78' Ft. Date 5-12-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-11-00
Drill Crew WELLS Well No. PC 87 Kerr-McGee Hydrologist ED KRISH

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 87	
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	PC 87 located 10' EAST of PC 86. SEE Log of PC 85 for lithology									
10										
15	TD 15'									

EXPLANATION	▼ Water Table (24 Hour)	<p>GRAPHIC LOG LEGEND</p> <p> CLAY DEBRIS FILL</p> <p> SILT HIGHLY ORGANIC (PEAT)</p> <p> SAND SANDY CLAY</p> <p> GRAVEL CLAYEY SAND</p> <p> SILTY CLAY <input type="checkbox"/></p> <p> CLAYEY SILT <input type="checkbox"/></p>	DATE DRILLED 5-11-00	PAGE 1 of 1
	▽ Water Table (Time of Boring) PID NO. Identifies Sample by Number TYPE Photoionization Detection (ppm) Sample Collection Method		DRILLING METHOD HSA	
	SPLIT-BARREL AUGER ROCK CORE THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY		DRILLED BY COMPLIANCE	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet		LOGGED BY ED KRISH	
	EXISTING GRADE ELEVATION (FT. AMSL)		LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 88				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-12 sdy GRAVEL, pale brn (5YR 5/2). 10% silt, 30% sd (SA-SR, vf-vc) and 60% volc gravel (SA-SR, up to 3" diam.		GW							damp @ 0' 7 @ 2'
15	12-51 silty gravelly SAND. pale yell brn (10YR 6/2). Var. silt 20-40%. 20-30% pea gravel to 3/4" (volc). Sand SA-SR vf-vc		SM-GM							
20	12-21 10-20% silty matrix									
25	21-51 com silt in matrix 30-40%									
30	27-33 gravel zone w/ pebbles to 3". Var. caliche cement									
35	32-33 v. hard. slow drilling abu caliche cement									
	37-51 Var. amts of gravel (pebbles to 2") up to 50%									

EXPLANATION	Water Table (24 Hour)			GRAPHIC LOG LEGEND		DATE DRILLED	PAGE
							5-11-00
	Water Table (Time of Boring)					DRILLING METHOD HSA	
	Photoionization Detection (ppm)					DRILLED BY COMPLIANCE	
	Identifies Sample by Number					LOGGED BY ED KRISH	
	Sample Collection Method					EXISTING GRADE ELEVATION (FT AMSL)	
						LOCATION OR GRID COORDINATES	
	DEPTH Depth Top and Bottom of Sample						
	REC. Actual Length of Recovered Sample in Feet						

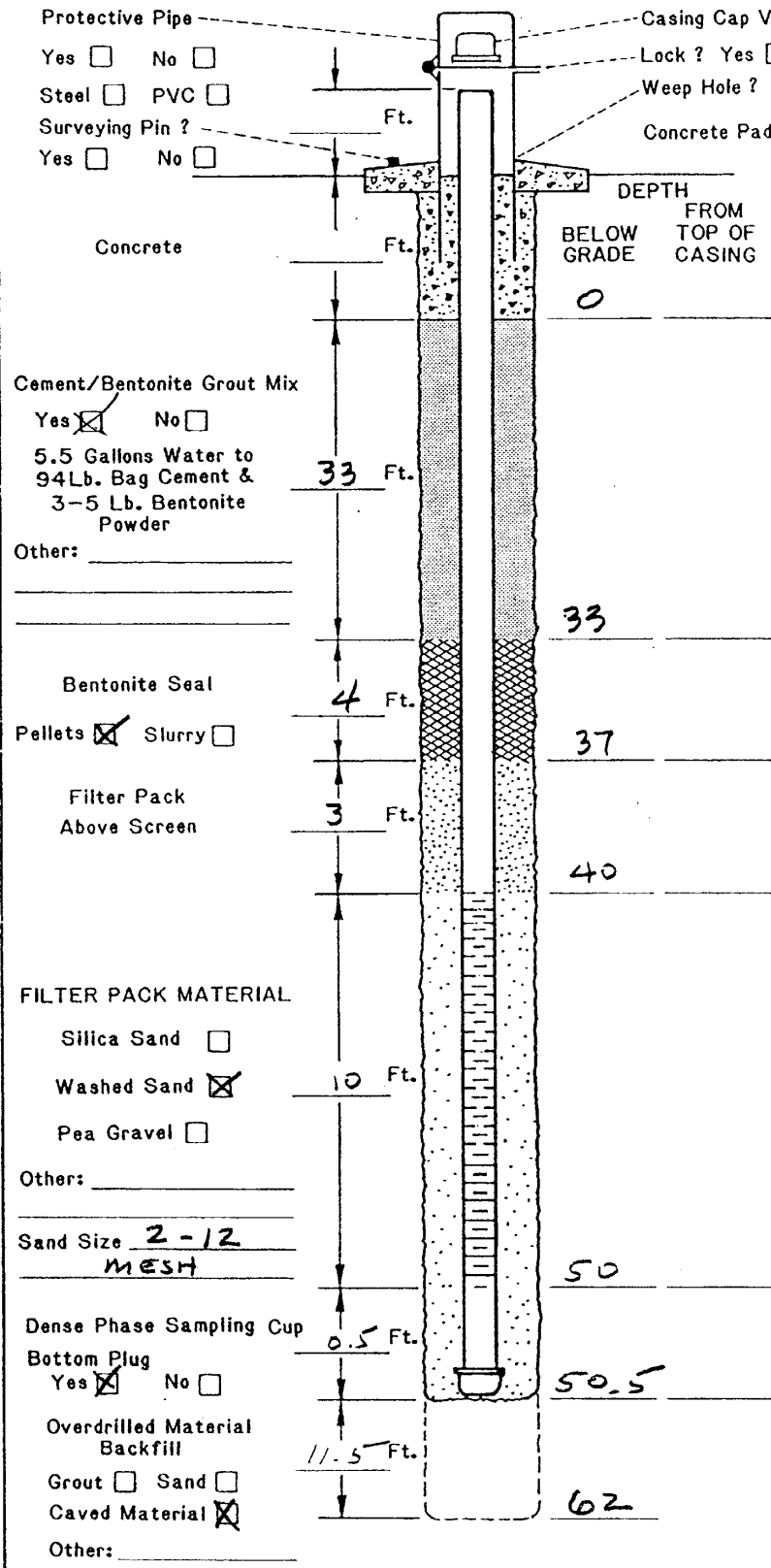
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 88				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	NOTE = Most likely this unit is a series of fluvial fining-upward sediments, from gravels to silts	SM SM								
51	51-62 silty CLAY, grn gry (5G18/2) and yell gry (5Y8/1)	CL								MC 51'
55										
60										
62	TD 62'									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-12-00	PAGE 2 of 2
	▽	Water Table (Time of Boring)			CLAY	DEBRIS FILL
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	X	SPLIT-BARREL	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	■	AUGER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
	■	THIN-WALLED TUBE	SILTY CLAY	□	LOCATION OR GRID COORDINATES	
	■	CONTINUOUS SAMPLER	CLAYEY SILT	□		
	■	ROCK CORE				
	□	NO RECOVERY				
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casings: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 2' Ft. Date 5-11-00
 Before Development 0.21' Ft. Date 5-13-00
 After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type MOBILE B-59 Date Installed 5-11-00
 Drill Crew WELLS Well No. PC 88 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KML LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 89
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	PC 89 located 7' east of PC 88. See log of PC 88 for lithology									▽ 2'
10										
15										
20										
25										
30										
35										
39	TD 39'									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND				DATE DRILLED	PAGE
	▽	Water Table (Time of Boring)		CLAY		DEBRIS FILL	5-12-00	1 of 1
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		HIGHLY ORGANIC (PEAT)	DRILLING METHOD	
		SPLIT-BARREL		AUGER		SANDY CLAY	DRILLED BY	
		ROCK CORE		GRAVEL		CLAYEY SAND	LOGGED BY	
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		SILTY CLAY	EXISTING GRADE ELEVATION (FT AMSL)		
	NO RECOVERY		CLAYEY SILT			LOCATION OR GRID COORDINATES		
DEPTH		Depth Top and Bottom of Sample						
REC.		Actual Length of Recovered Sample in Feet						

HSA

COMPLIANCE

ED KRISH

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin? Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 2 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

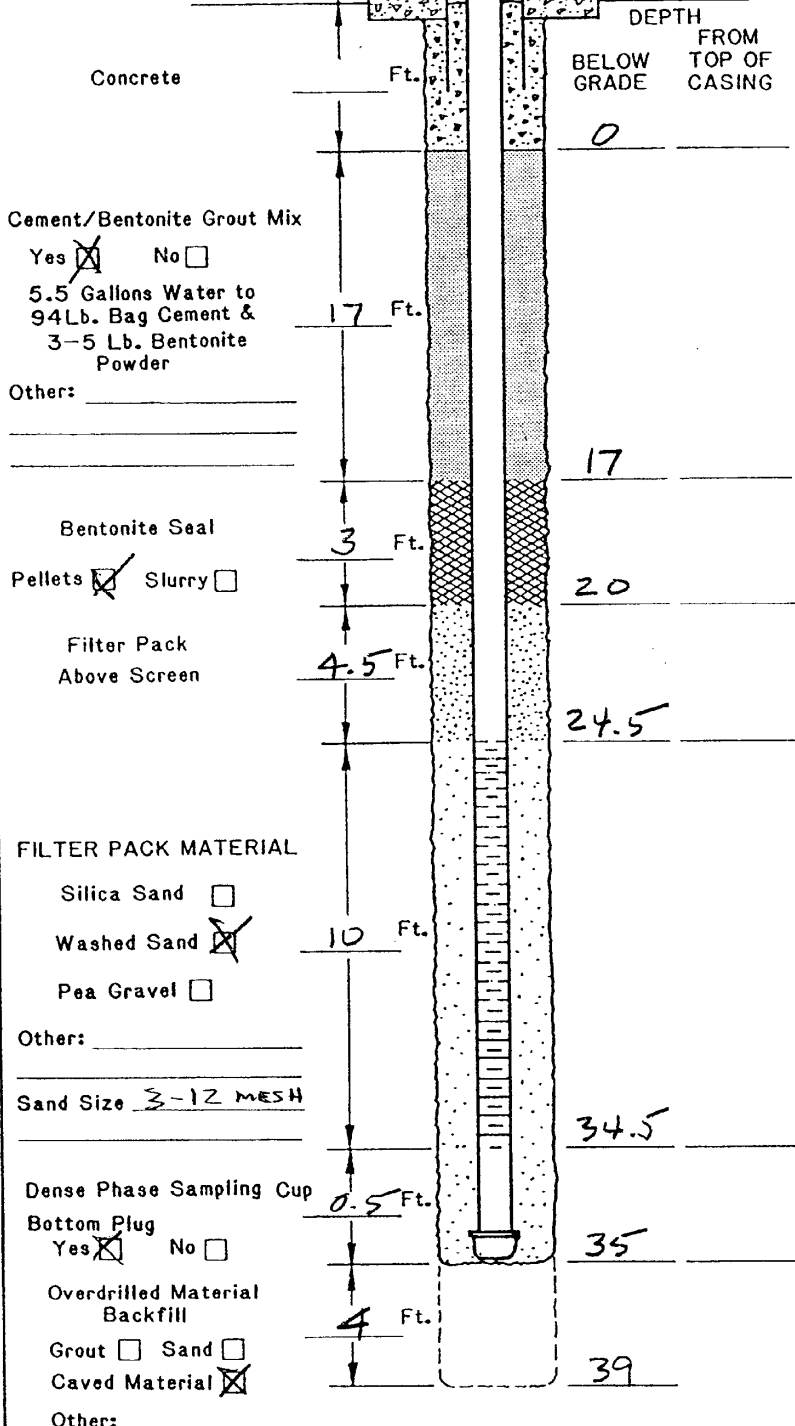
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:



















Water Level Summary (From Top of Casing)
During Drilling 2 Ft. Date 5-12-00
Before Development +0.08' Ft. Date 5-13-00
After Development _____ Ft. Date _____



Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-12-00
Drill Crew WELLS Well No. PC 89 Kerr-McGee Hydrologist ED KRISH

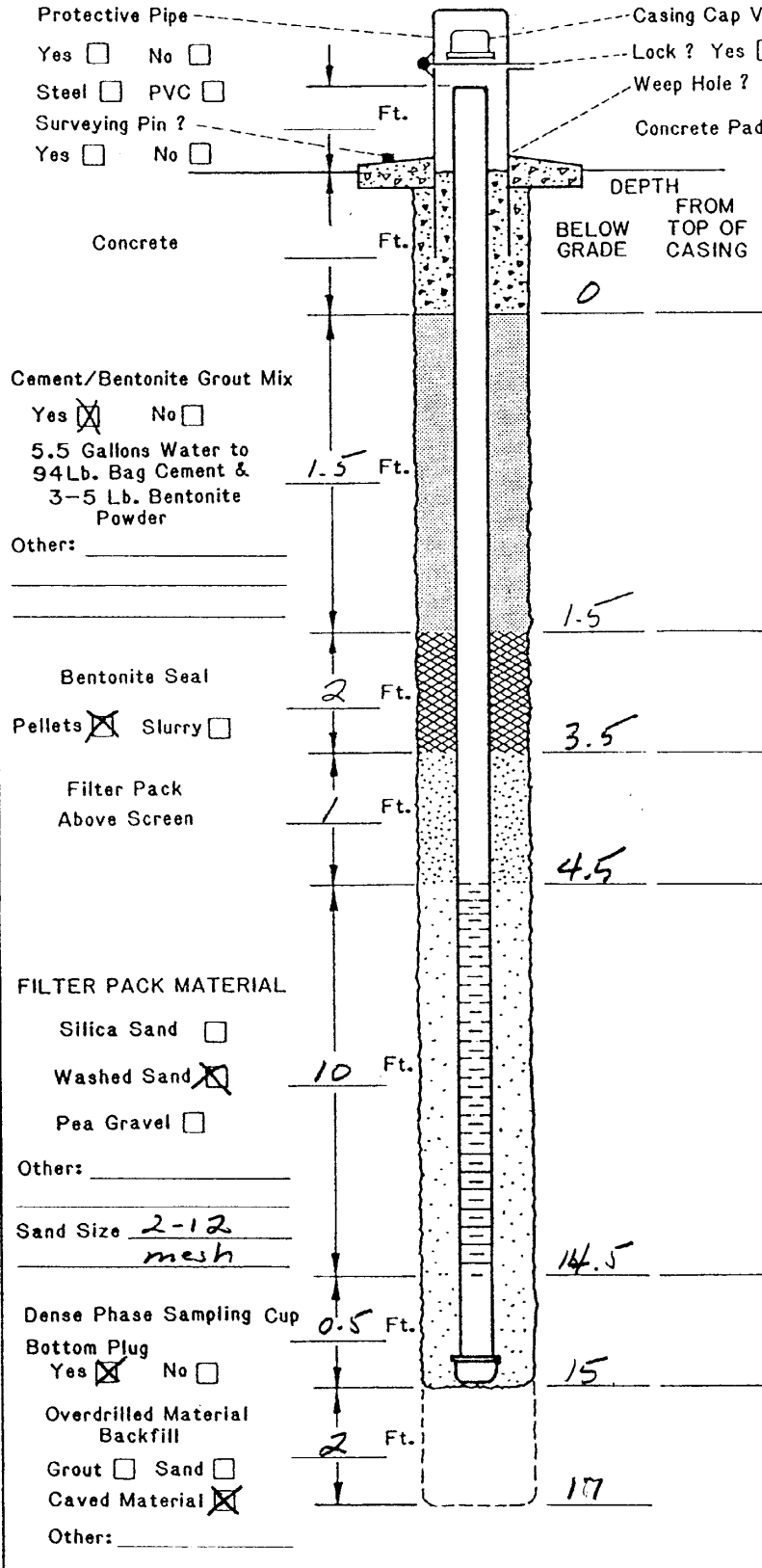
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV		BORING NUMBER PC 90				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	PC 90 located 10' east of PC 89. SEE log of PC 88 for lithology								202'
18									
	TD 18'								

EXPLANATION	 Water Table (24 Hour)	GRAPHIC LOG LEGEND  CLAY  SILT  SAND  GRAVEL  SILTY CLAY  CLAYEY SILT	 DEBRIS FILL  HIGHLY ORGANIC (PEAT)  SANDY CLAY  CLAYEY SAND	DATE DRILLED 5-12-00	PAGE 1 of 1	
	 Water Table (Time of Boring) PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			 SPLIT-BARREL  THIN-WALLED TUBE	 AUGER  CONTINUOUS SAMPLER	 ROCK CORE  NO RECOVERY
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				LOGGED BY ED KRISH	EXISTING GRADE ELEVATION (FT AMSL)
					LOCATION OR GRID COORDINATES	

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

**FLUSH
MOUNT**



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
 1.60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)
 During Drilling 2 Ft. Date 5-12-00
 Before Development 0.64' Ft. Date 5-13-00
 After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile Date Installed 5-12-00
 Drill Crew WELLS Well No. PC 90 Kerr-McGee Hydrologist ED KRISH

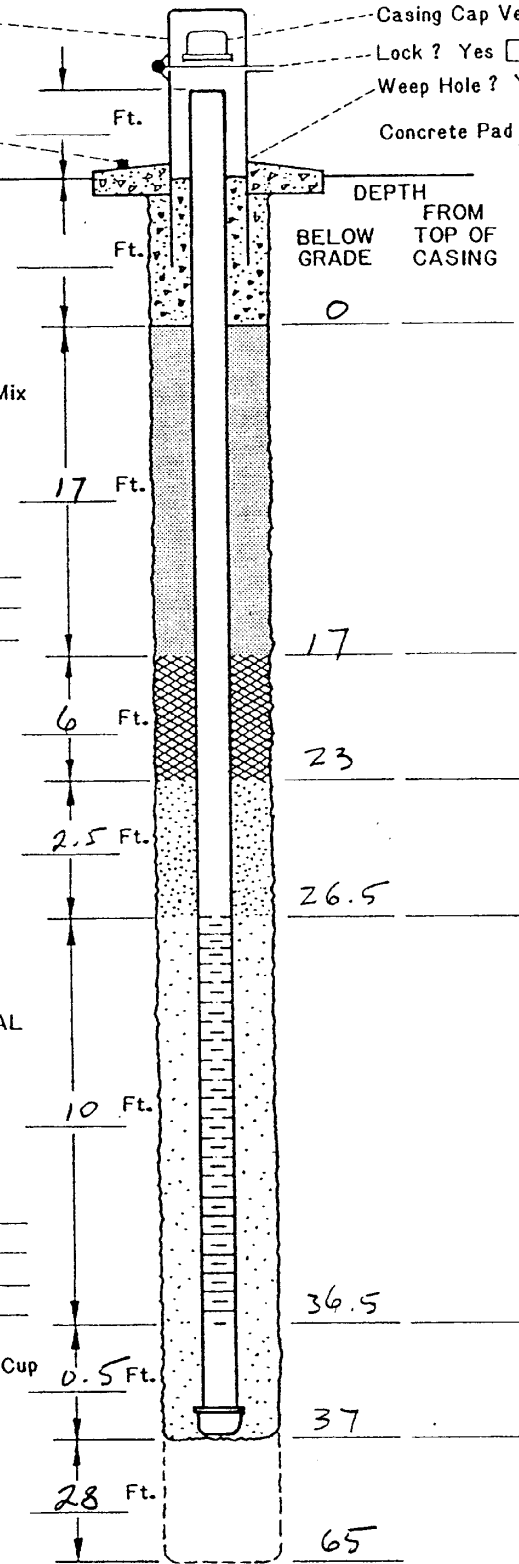
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin? Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry
Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____

Sand Size 2-12
mesh
Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:
1. Borehole Diameter = 8 Inches.
2. Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.

4. Borehole Diameter for Outer Casing _____ Inches.
WELL CONSTRUCTION INFORMATION:
1. Type of Casing: PVC Galvanized Teflon
Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
4. Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screens: 0.020
6. Type of Screen Perforations: Factory Slotted
Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:
1. How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development?
1 60 Minutes/Hours
3. Approximate Water Volume Removed? _____ Gallons
4. Water Clarity Before Development? Clear
Turbid Opaque
5. Water Clarity After Development? Clear
Turbid Opaque
6. Did Water have Odor? Yes No
If Yes, Describe _____
7. Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)
During Drilling 10' Ft. Date 5-13-00
Before Development 4.19' Ft. Date 5-14-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-13-00
Drill Crew WELLS Well No. PC 91 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 91				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-6 gravelly SAND, mod brn (SYR 4/2), poorly sorted, SA-SR. with 10% silt and 20% SA-SR volc granules and pebbles to 2"	[Graphic: Sand with small circles]	SW							damp @ 7
10	6-31 silty gravelly SAND, mod brn (SYR 4/2), contain 25% silt in matrix and 25% volc granules and pebbles to 1/2" diam. Sand vt-vc SA-SR. minor small caliche nodules	[Graphic: Sand with small circles and dots]	SM-GM							▽ @ 10'
31	31-40 silty sdy GRAVEL, mod brn (SYR 4/2). 25% silt, 25% vt-vc SA-SR sd and 50% SR, volc & ls granules and sm pebbles to 1" diam.	[Graphic: Gravel with larger circles]	GM							
35										

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
		Water Table (Time of Boring)			5-13-00	1 of 2
		Photoionization Detection (ppm)				DRILLING METHOD
		Identifies Sample by Number				HSA
		Sample Collection Method				DRILLED BY
	SPLIT-BARREL			COMPLIANCE		
	AUGER			LOGGED BY		
	ROCK CORE			ED KRISH		
	THIN-WALLED TUBE			EXISTING GRADE ELEVATION (FT AMSL)		
	CONTINUOUS SAMPLER			LOCATION OR GRID COORDINATES		
	DEPTH Depth Top and Bottom of Sample					
	REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 91
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
40-42	silty CLAY sticky w/10% vfg sd	[diagonal lines]								MC @ 40
42-58	lt grn gry (SGY 8/1)	[diagonal lines]								
45	42-58 pale olive (10Y 6/2)	[diagonal lines]								
58-62	mod grn gry (SG 5/1) w/10-20% caliche nodules & ls granules to 1/4"	[diagonal lines]	CL							
50		[diagonal lines]								
62-65	silty CLAY with abu gypsum xtals. mod grn gry (SG 5/1) 1" gyp xtals	[diagonal lines]	CL							
65	TD 65'									

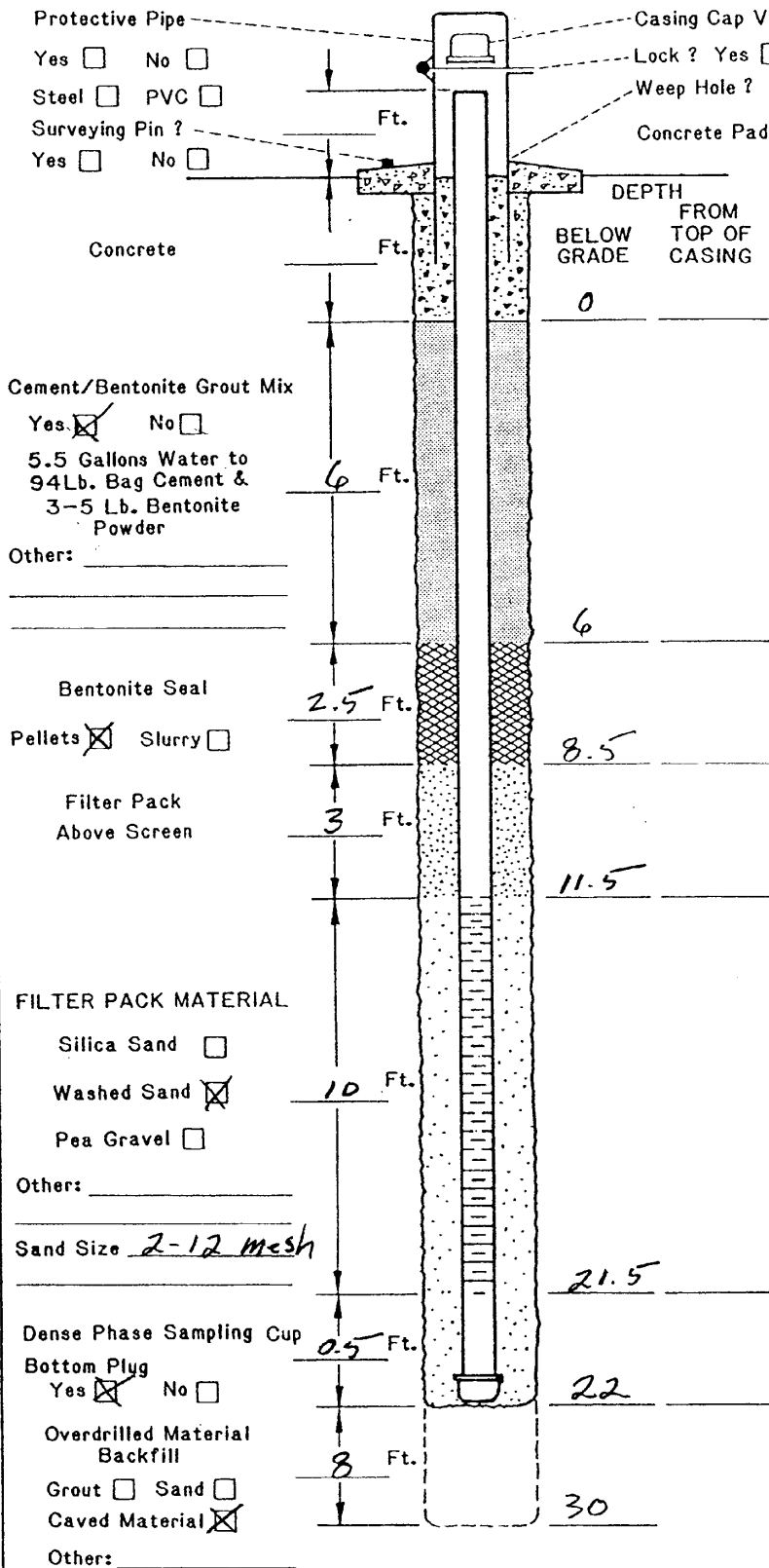
EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-13-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	NO RECOVERY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER				
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 92			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
5	PC 92 located 20' west of PC 91. See log of PC 91 for lithology								
10									damp @ 7'
15									
20									
25									
30		TD 30'							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-12-00	PAGE 1 of 1
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	SPLIT BARREL	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
AUGER	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
ROCK CORE	NO RECOVERY				
CONTINUOUS SAMPLER					
DEPTH: Depth Top and Bottom of Sample REC.: Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



- DRILLING INFORMATION:**
- Borehole Diameter = 8 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
1 60 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:
Water Level Summary (From Top of Casing)

During Drilling 10' Ft. Date 5-12-00
Before Development 4.72' Ft. Date 5-13-00
After Development 4.77' Ft. Date 5-14-00

Driller/Firm COMPLIANCE Drill Rig Type MOBILE B-59 Date Installed 5-12-00
Drill Crew WELLS Well No. PC 92 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 93
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-15 sly GRAVEL, mod brn (5YR 4/2). 30% vf-vc, SA-SR sand and 10% silt. 60% SA-SR, volc granules and pebbles to 2"		GW							damp @ 6'
10										v @ 10'
15	15-40 silty gravelly SAND, mod brn (5YR 4/2). 20-25% silt in matrix 20-30% volc SA-SR granules and sm pebbles to 1/2-3/4". 50-60% vf-vc sand		SM-GM							
20										
25										
30	30-40 increase in silt content to 40%									
35	35-40 inc. in gravel size to 1-1/2" diam. Mod caliche cemented									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 5-13-00	PAGE 1 of 2
		Water Table (Time of Boring)			
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			DRILLED BY COMPLIANCE
					LOGGED BY ED KRISH
					EXISTING GRADE ELEVATION (FT. AMSL)
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				LOCATION OR GRID COORDINATES	

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 93
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (PPM)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
40-57	shy CLAY and clay SILT, interbedded - pale olive (10Y6/2) and lt grn gry (5GY8/1) to 43'; mod grn gry (5GY5/1) to 50'; pale olive to 57'		CL-ML							MCC @ 40'
50	5-15% dissem vf-cg caliche nodules throughout									
55	5-10% vfg sand dissem in matrix									
57	TD 57'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-13-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	SPLIT-BARREL	AUGER	ROCK CORE	LOGGED BY ED KRISH	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	EXISTING GRADE ELEVATION (FT AMSL)	
DEPTH REC.	Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet	SAND	CLAYEY SAND	LOCATION OR GRID COORDINATES	
		GRAVEL	SILTY CLAY		
		CLAYEY SILT			

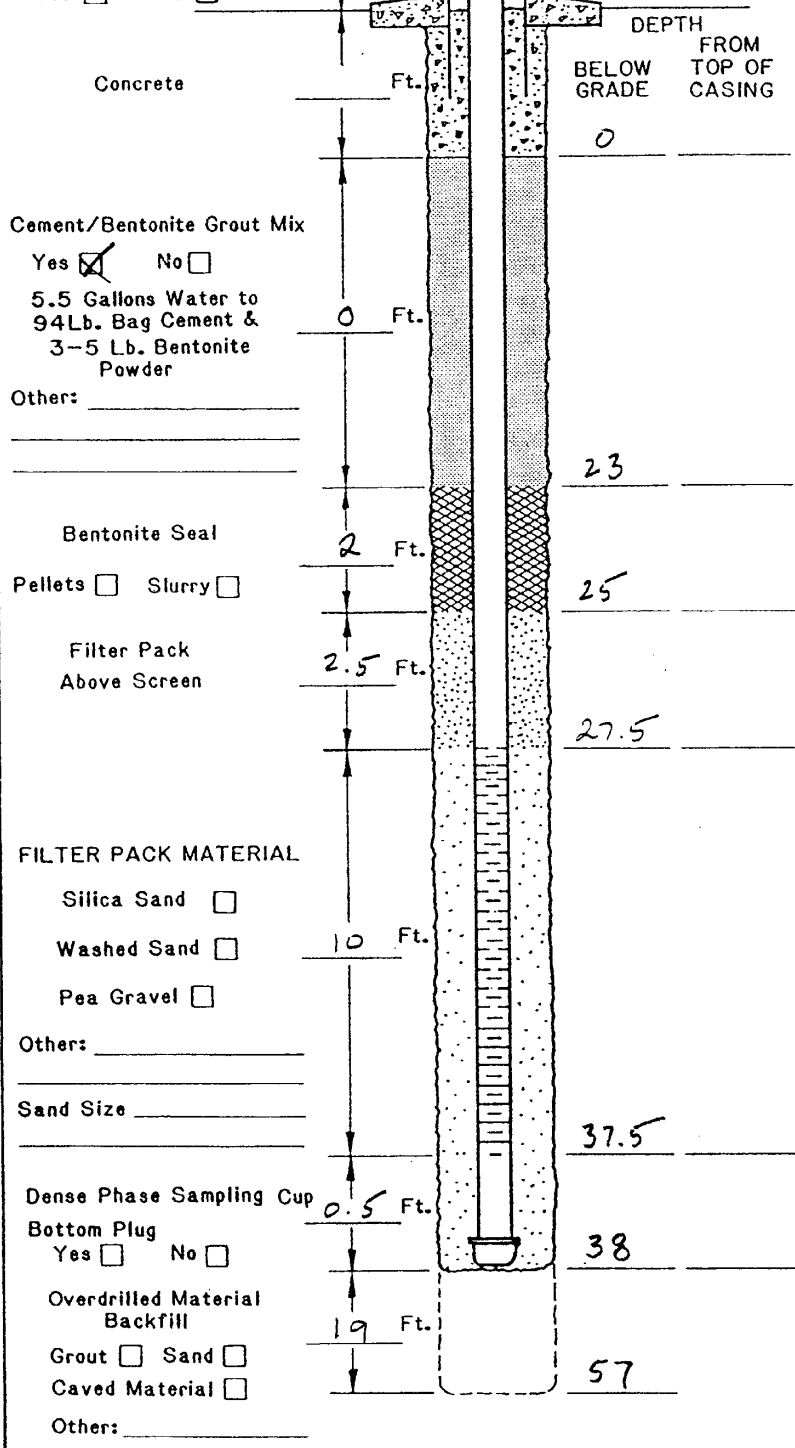
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 10' Ft. Date 5-13-00
Before Development 3.89' Ft. Date 5-15-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type _____ Date Installed 5-13-00
Drill Crew WELLS Well No. PC 93 Kerr-McGee Hydrologist ED KRISHI

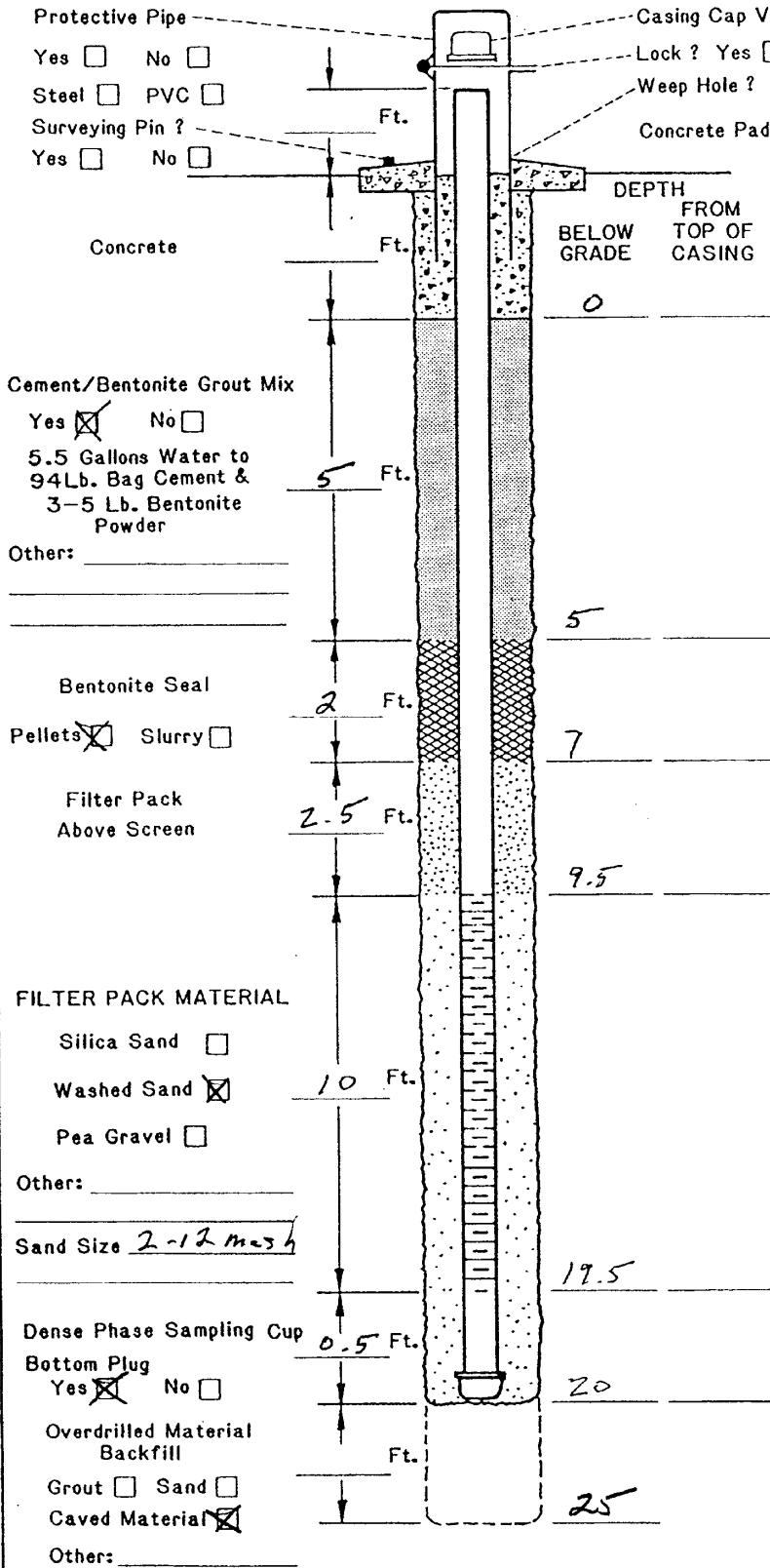
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KME LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 94					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
5	PC 94 located 10' east of PC 93. See log of PC 93 for lithology									damp @ 5'	
10										VE 10'	
15											
20											
25	TD 251										

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE		
	▽	Water Table (Time of Boring)			▨	CLAY	▩	DEBRIS FILL
	PID NO. TYPE	Photoionization Detection (ppm)	▨	SILT	▩	HIGHLY ORGANIC (PEAT)	DRILLING METHOD	HSA
	☒	SPLIT-BARREL	▨	SAND	▩	SANDY CLAY	DRILLED BY	COMPLIANCE
	▨	AUGER	▩	GRAVEL	▩	CLAYEY SAND	LOGGED BY	ED KRISH
▨	THIN-WALLED TUBE	▩	SILTY CLAY	□		EXISTING GRADE ELEVATION (FT AMSL)		
▨	CONTINUOUS SAMPLER	▩	CLAYEY SILT	□		LOCATION OR GRID COORDINATES		
▨	ROCK CORE	▩		□				
▨	NO RECOVERY	▩		□				
DEPTH		Depth Top and Bottom of Sample						
REC.		Actual Length of Recovered Sample in Feet						

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No
Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforations: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 10' Ft. Date 5-14-00
Before Development 4.54' Ft. Date 5-15-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-14-00
Drill Crew WELLS Well No. PC 94 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 95
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
0-7	BERM MATERIAL - silty gravelly SAND		SM-GM							WATER @ 2'
7-35	silty gravelly SAND, pale brn (5YR 5/2). 20% in matrix. 30% volc granule to sm pea gravel (SR-SA) to 1" diam. 50% SA-SR, vf-vcg sand		SM-GM							@10' WTR SMPL Field cond 13,000 PH 7.4
21-35	com. hard caliche cement. Inc in gravel size to 3". Com ls. pebbles									
35-38	silty SAND, pale yell brn (10YR 6/2). 30% silt in matrix. Sand is vf-mg, SA-SR		SM-GM							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-14-00	PAGE 1 of 2	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA		
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE		
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY ED KRISHA	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
	NO RECOVERY					
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY	LOCATION		BORING NUMBER PC 95					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
43	38-43 gravelly silty SAND, pale yellow brn and dusky yell grn (5GY 5/2). 35% silt, 25% granules and pea gravel to 1/2-3/4". 40% wf-mg SR-SA sand. Calcareous	[Symbol: Dotted]	SM-GM							
45	43-50 clay SILT and silty CLAY, interbedded. Mod gry yell grn (5GY 6/2). Dry. Com calcareous	[Symbol: Diagonal Lines]	ML-CL							MC @ 43
50	TD 50									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE		
	▽	Water Table (Time of Boring)			5-14-00	2 of 2		
	PID NO. TYPE	Photoionization Detection (ppm)	[Symbol: Diagonal Lines]	CLAY	[Symbol: Dotted]	DEBRIS FILL	[Symbol: Wavy]	HIGHLY ORGANIC (PEAT)
	[Symbol: X]	SPLIT-BARREL	[Symbol: Vertical Lines]	SILT	[Symbol: Diagonal Lines]	SANDY CLAY	[Symbol: Dotted]	CLAYEY SAND
[Symbol: Solid Black]	THIN-WALLED TUBE	[Symbol: Horizontal Lines]	SAND	[Symbol: Diagonal Lines]	CLAYEY SILT	[Symbol: Dotted]	GRAVEL	
[Symbol: Vertical Line]	AUGER	[Symbol: Diagonal Lines]	SANDY CLAY	[Symbol: Diagonal Lines]	CLAYEY SAND	[Symbol: Diagonal Lines]	SILTY CLAY	
[Symbol: Horizontal Line]	CONTINUOUS SAMPLER	[Symbol: Diagonal Lines]	CLAYEY SAND	[Symbol: Diagonal Lines]	CLAYEY SILT	[Symbol: Diagonal Lines]	NO RECOVERY	
[Symbol: Diagonal Line]	ROCK CORE	[Symbol: Diagonal Lines]	CLAYEY SILT	[Symbol: Diagonal Lines]		[Symbol: Diagonal Lines]		
[Symbol: Diagonal Line]	NO RECOVERY	[Symbol: Diagonal Lines]		[Symbol: Diagonal Lines]		[Symbol: Diagonal Lines]		
DEPTH		Depth Top and Bottom of Sample						
REC.		Actual Length of Recovered Sample in Feet						
				DRILLING METHOD				
				DRILLED BY				
				LOGGED BY				
				EXISTING GRADE ELEVATION (FT. AMSL)				
				LOCATION OR GRID COORDINATES				

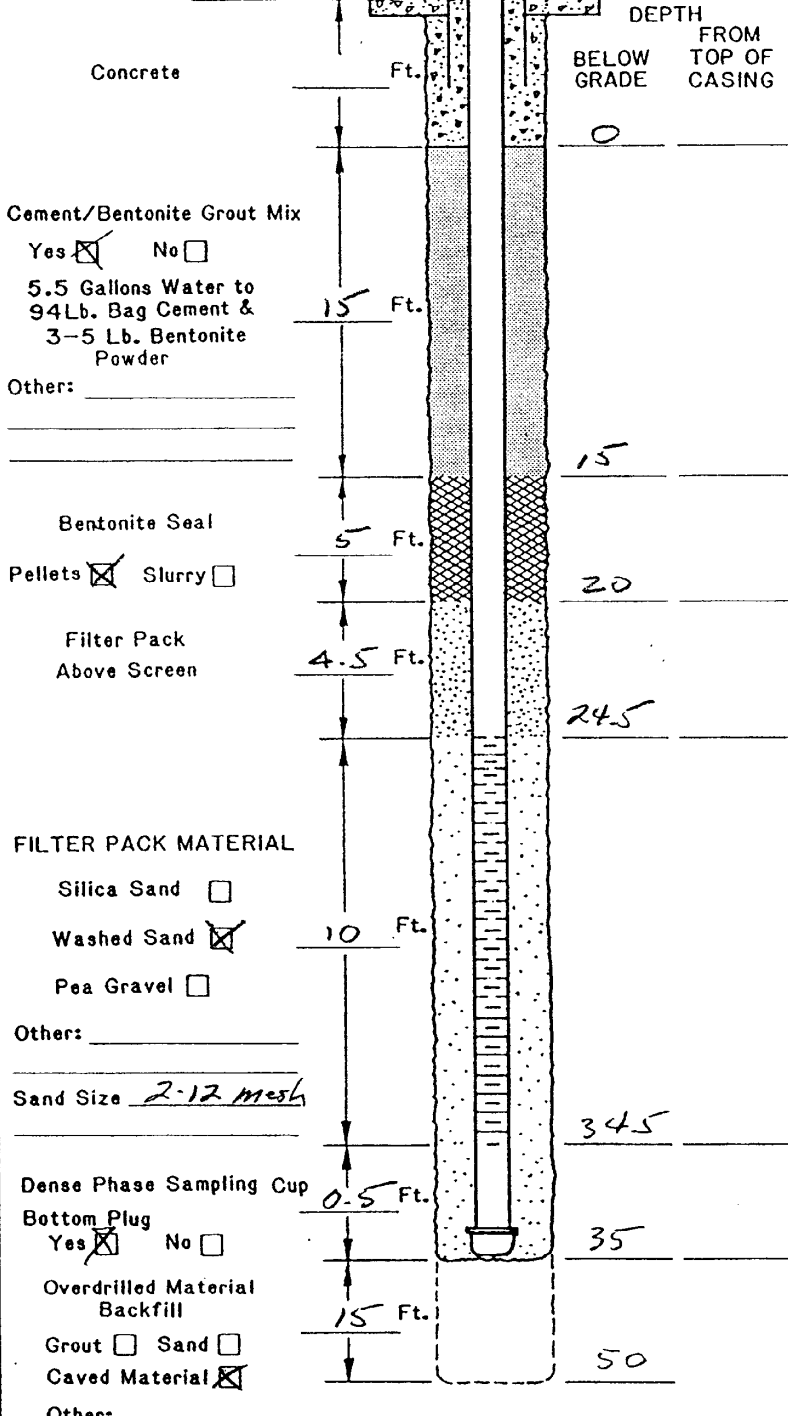
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
Mount

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



DRILLING INFORMATION:

- Borehole Diameter = 2 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 5' Ft. Date 5-14-00
Before Development 2.02' Ft. Date 5-17-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-15-00
Drill Crew WELLS Well No. PC-95 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV		BORING NUMBER PC 96					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
0-6	BERM MATERIAL Gravelly SAND, brn	[Symbol]	SW							damp @ 3'
6-7	Organic-rich silt, dk gray	[Symbol]	OL							▽ @ 6
7-44	silty gravelly SAND, med yell brn (10YR 5/2), 20-25% silt in matrix, 20-25% volc and ls granules and pebbles to 3" diam. Sand is rf-vc, SR-SA, w/ minor c-vc dissem caliche nodules	[Symbol]	SM-GM							
7-28	gravel is granules and pea gravel size to 1/2" diam, SR-R	[Symbol]								
28-31	hard zone - Caliche cemented	[Symbol]								
31-44	com gravel to 2" diam w/ minor 3"	[Symbol]								
35		[Symbol]								

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-15-00	PAGE 1 of 2
		Water Table (Time of Boring)			DRILLING METHOD HSA	
		Photoionization Detection (ppm)		DEBRIS FILL	DRILLED BY COMPLIANCE	
		Identifies Sample by Number		HIGHLY ORGANIC (PEAT)	LOGGED BY ED KRISH	
		Sample Collection Method		SANDY CLAY	EXISTING GRADE ELEVATION (FT AMSL)	
	SPLIT-BARREL		CLAYEY SAND	LOCATION OR GRID COORDINATES		
	AUGER		CLAYEY SILT			
	ROCK CORE					
	THIN-WALLED TUBE					
	CONTINUOUS SAMPLER					
DEPTH: Depth Top and Bottom of Sample						
REC.: Actual Length of Recovered Sample in Feet						

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 96			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
44	44-47 silty SAND, 17 gry orange (10YR 8/4). vf-fg, mod well sorted, SA-SR. Minor mg w/occ. thin granule beds. Very calcareous 47-50 silty sdy CLAY, mod yell grn (5GY 6/2) Matrix contains 20-30% silt and 10-20% vfg SA sand TD 50		SM-GM						
47			SM						
50			CL						mc @ 47'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-15-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY Compliance	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
SPLIT-BARREL	AUGER	SILTY CLAY	NO RECOVERY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	CLAYEY SILT			
ROCK CORE					
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
Mount

Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter= 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 6 Ft. Date 5-15-00

Before Development 2.89 Ft. Date 5-16-00

After Development _____ Ft. Date _____

Concrete
Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL

Silica Sand
Washed Sand
Pea Gravel

Other: _____

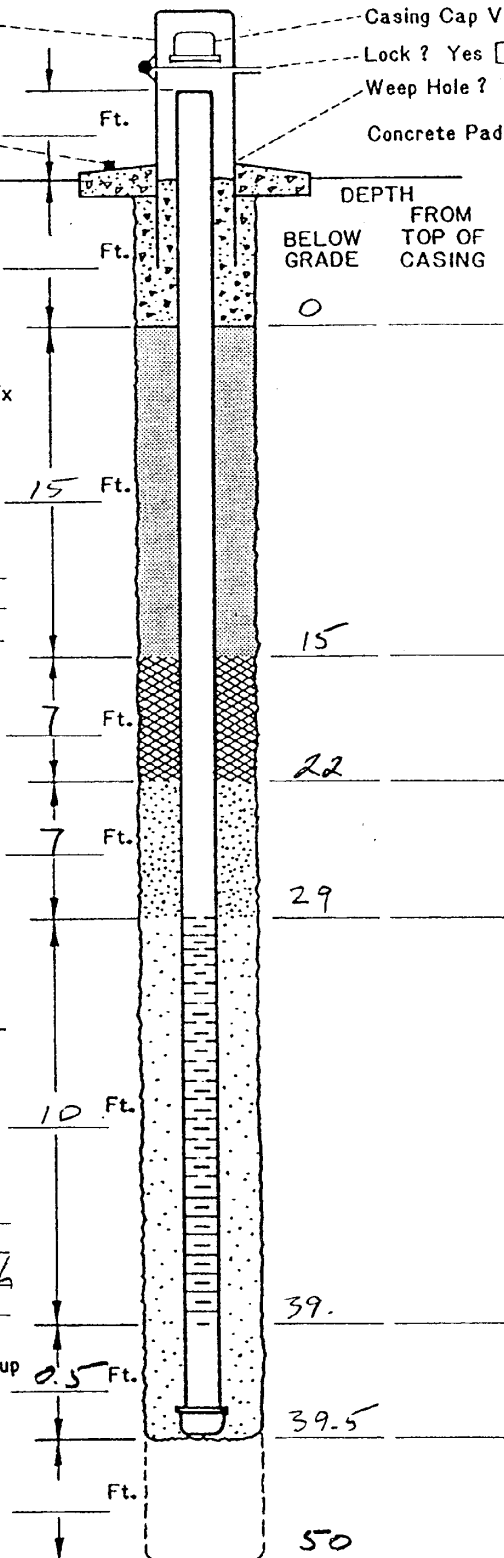
Sand Size 2-12 mesh

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill

Grout Sand
Caved Material

Other: _____



Driller/Firm COMPLIANCE

Drill Rig Type Mobile B-59

Date Installed 5-15-00

Drill Crew WELLS

Well No. PC 96

Kerr-McGee
Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC97				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-5 BERM material brn silty gravelly SAND	[Symbol]	SW							damp @ 3'
10	5-20 silty gravelly SAND, pale brn (5YR5/2) 10% silt, 25% volc granules and sm pebbles up to 1" diam Sand w vf-vc, SA-SR	[Symbol]	SW							▽ @ 6'
20	20-25 silty SAND w/ minor gravel. pale yell brn (10YR 6/2). Silt up to 25%, gravel (gran. + pea size up to 20%, Sand as above... rf-vc, SR-SA.	[Symbol]	SM							
30	25-36 silty silty GRAVEL pale yell brn (10YR 6/2). 25% silt, 25% vf-vc, SA-SR. Gravel 50%, SR-SA, granules and pebbles to 2" diam locally com caliche cement	[Symbol]	GW							
36	36-42 silty SAND pale yell brn (10YR 6/2) bimodal: rf-fg w/com.	[Symbol]	SM							

EXPLANATION	▼ Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-16-00	PAGE 1 of 2
	▽ Water Table (Time of Boring)			DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	[Symbol] CLAY [Symbol] SILT [Symbol] SAND [Symbol] GRAVEL [Symbol] SILTY CLAY [Symbol] CLAYEY SILT [Symbol] DEBRIS FILL [Symbol] HIGHLY ORGANIC (PEAT) [Symbol] SANDY CLAY [Symbol] CLAYEY SAND		DRILLED BY Compliance	
	NO. Identifies Sample by Number			LOGGED BY ED KRISH	
	TYPE Sample Collection Method			EXISTING GRADE ELEVATION (FT AMSL)	
[Symbol] SPLIT-BARREL	[Symbol] AUGER	[Symbol] ROCK CORE	LOCATION OR GRID COORDINATES		
[Symbol] THIN-WALLED TUBE	[Symbol] CONTINUOUS SAMPLER	[Symbol] NO RECOVERY			

DEPTH Depth Top and Bottom of Sample
 REC. Actual Length of Recovered Sample in Feet

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON NV		BORING NUMBER PC97				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
42	c-vc, SR, Sand, 25% silt in matrix. Calcareous		SM							
43	42-43 silty gravelly SAND pale yell brn. Gravels up to 3/4" diam w/ minor caliche cement, calcareous		SW							dense + dry
45	43-45 clay sdy SILT lt grn gry (5GY 8/1), 10-20% clay in matrix, 10-20% v-fz sand. Calcareous, w/ minor sm. caliche nodules		ML-CL							MC @ 43
	TD 45'									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-16-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD HSA	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY COMPLIANCE	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY ED KRIS 4	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	SILTY CLAY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	CLAYEY SILT		
DEPTH: Depth Top and Bottom of Sample					
REC.: Actual Length of Recovered Sample in Feet					

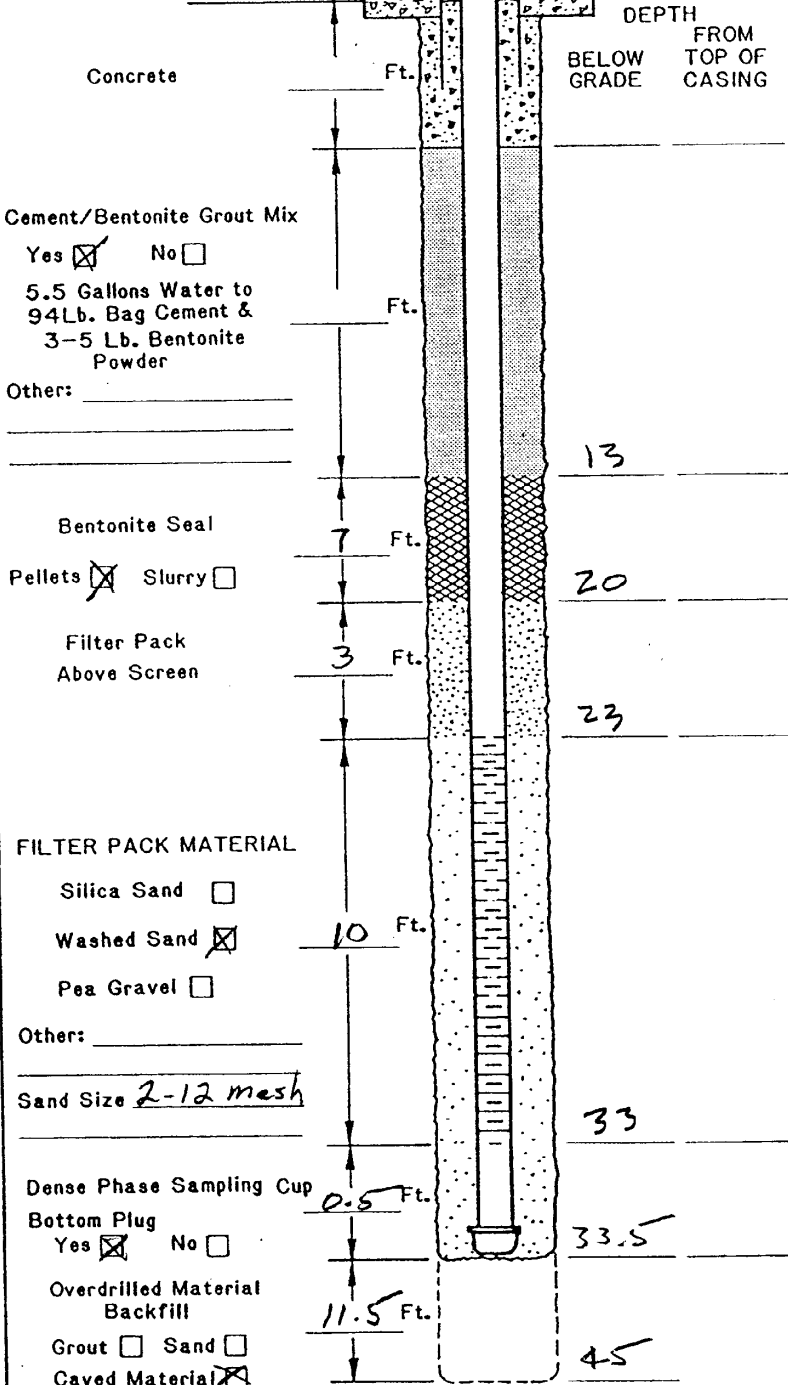
**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT

Protective Pipe
Yes No
Steel PVC
Surveying Pin ?
Yes No

Casing Cap Vent ? Yes No
Lock ? Yes No
Weep Hole ? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches



Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry
Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____
Sand Size 2-12 mesh

Dense Phase Sampling Cup
Bottom Plug
Yes No
Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:

- Borehole Diameter = 8 Inches.
- Were Drilling Additives Used ? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used ? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed ? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development ?
1 60 Minutes/Hours
- Approximate Water Volume Removed ? _____ Gallons
- Water Clarity Before Development ? Clear
Turbid Opaque
- Water Clarity After Development ? Clear
Turbid Opaque
- Did Water have Odecr ? Yes No
If Yes, Describe _____
- Did Water have any Color ? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 6' Ft. Date 5-16-00
Before Development 0.26' Ft. Date 5-17-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mob. B-29 Date Installed 5-16-00
Drill Crew WELLS Well No. PC 97 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 100				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-18 gravelly SAND, mod yell brn (10YR5/4). 10% silt, 25% volc granules & sm pebbles up to 1"	[Symbol]	SW							
10		[Symbol]								
15		[Symbol]								damp @ 16'
20	18-29 silty sdy GRAVEL 1+ brn (5YR5/4). 20-25% silt, 20-25% poorly sorted, SA-SR, vf-vc sd	[Symbol]	SW							
25	50% volc granules and pebbles to 3" Locally hard thin caliche zones	[Symbol]								▽ @ 25'
29	29-36 silty SAND, lt. yell brn (10YR6/4). vf-fg w/com m-eg, SR-SA, 25-30% silt. Very calcareous. Minor m-vc size caliche nodules	[Symbol]	SM							
36	36-45 silty grav SAND, mod yell brn (10YR5/4) 25% silt, 25% volc granules	[Symbol]	SW							
EXPLANATION	▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method		GRAPHIC LOG LEGEND [Symbol] CLAY [Symbol] DEBRIS FILL [Symbol] SILT [Symbol] HIGHLY ORGANIC (PEAT) [Symbol] SAND [Symbol] SANDY CLAY [Symbol] GRAVEL [Symbol] CLAYEY SAND [Symbol] SILTY CLAY [Symbol] _____ [Symbol] CLAYEY SILT [Symbol] _____				DATE DRILLED 5-18-00 PAGE 1 of 2			
	[Symbol] SPLIT-BARREL [Symbol] AUGER [Symbol] ROCK CORE [Symbol] THIN-WALLED TUBE [Symbol] CONTINUOUS SAMPLER [Symbol] NO RECOVERY						DRILLING METHOD HSA			
							DRILLED BY COMPLIANCE			
							LOGGED BY ED KRISH			
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet						EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES			

SOIL BORING LOG KM-5655-B

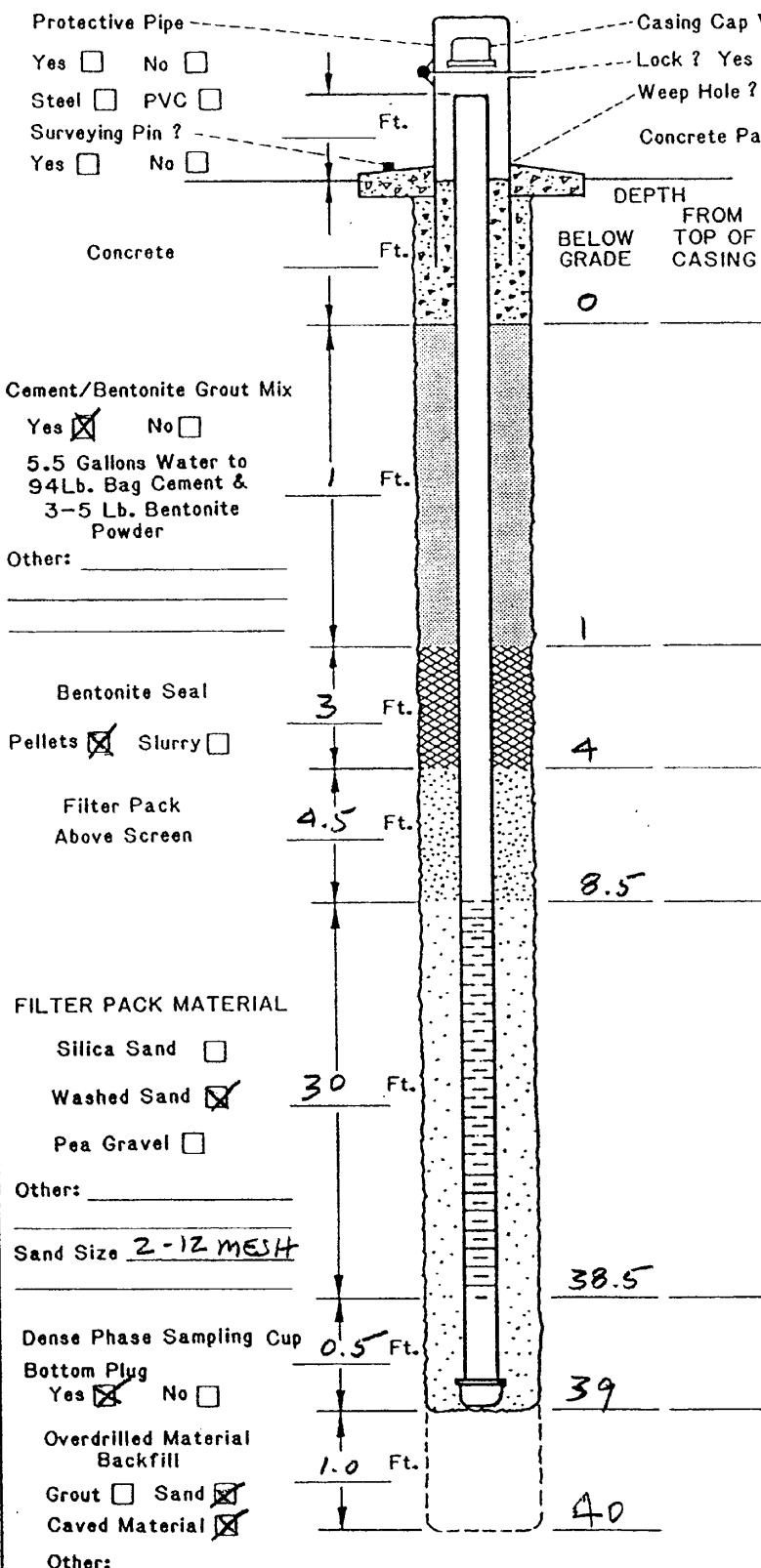
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 100
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	and sm pebbles; vf-vc sd 42-45 silty gravelly SAND, gry oran pink (SYR 6/2) 10% clay, 20% silt, 20% volc + ls granules to 1/8"-1/2" dissem throughout Very calcareous w/ minor sm. caliche nodules TD 45'		SW							MC not reached

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 5-18-00	PAGE 2 of 2
	Water Table (Time of Boring) PID NO. Identifies Sample by Number TYPE Sample Collection Method		DRILLING METHOD HSA	
	SPLIT-BARREL	AUGER	ROCK CORE	DRILLED BY COMPLIANCE
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	LOGGED BY ED KRISH
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES		

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



DRILLING INFORMATION:

- Borehole Diameter= 8 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
1 60 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 25 Ft. Date 5-18-00
Before Development 14.03 Ft. Date 5-19-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile B-59 Date Installed 5-18-00
Drill Crew LOYA Well No. PC 100 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION Henderson, NV		BORING NUMBER PC100R				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
4	0-4 gravelly SAND, gry brn w/ 10-15% silt. 20-30% volc granules to pea gravel. vf-vc SA sd		SW							start drilling @ 8:30 am finish @ 9:00
7	4-7 SAND, gry brn w/ 10% silt and 5-10% v. sm granules to 1/10". f-vc SA-SR sand.		SW							
9	7-9 sdy GRAVEL, brn, A-SA to 1". 30-35% vf-vc sand		SW							damp @ 12'
15	9-11 SAND, brn, w/ 10% silt + 5-10% v. sm gran. f-vc, SA sand		GW							∇ @ 18'
20	11-25 sdy GRAVEL brn w/ 5-10% silt + 25-30% vf-vc, SR-SA sd. Grav. up to 2" (ave 1/10" - 3/4") volc w/ minor caliche coatings		GW							
25	25-27 SAND brn, mod silty (15-20%). Calcareous. w/ 10-15% sm volc granules vf-vc, SA-SR		SW							
27	27-30 sdy GRAVEL, brn, volc up to 2" (ave 3/4") clean, vf-vc sd		GW							
30	30-35 SAND, brn, vf-c w/ minor vc, SA-SR. 10-15% silt, calcareous		SW							
35	35-38 silty SAND/sdy SILT var amts of silt in vf-fg SA-SR sd		SM							
38			GM/SM							

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED 8-16-00 PAGE 1 of 2

DRILLING METHOD PERCUSSION

DRILLED BY LAYNE

LOGGED BY ED KRISH

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

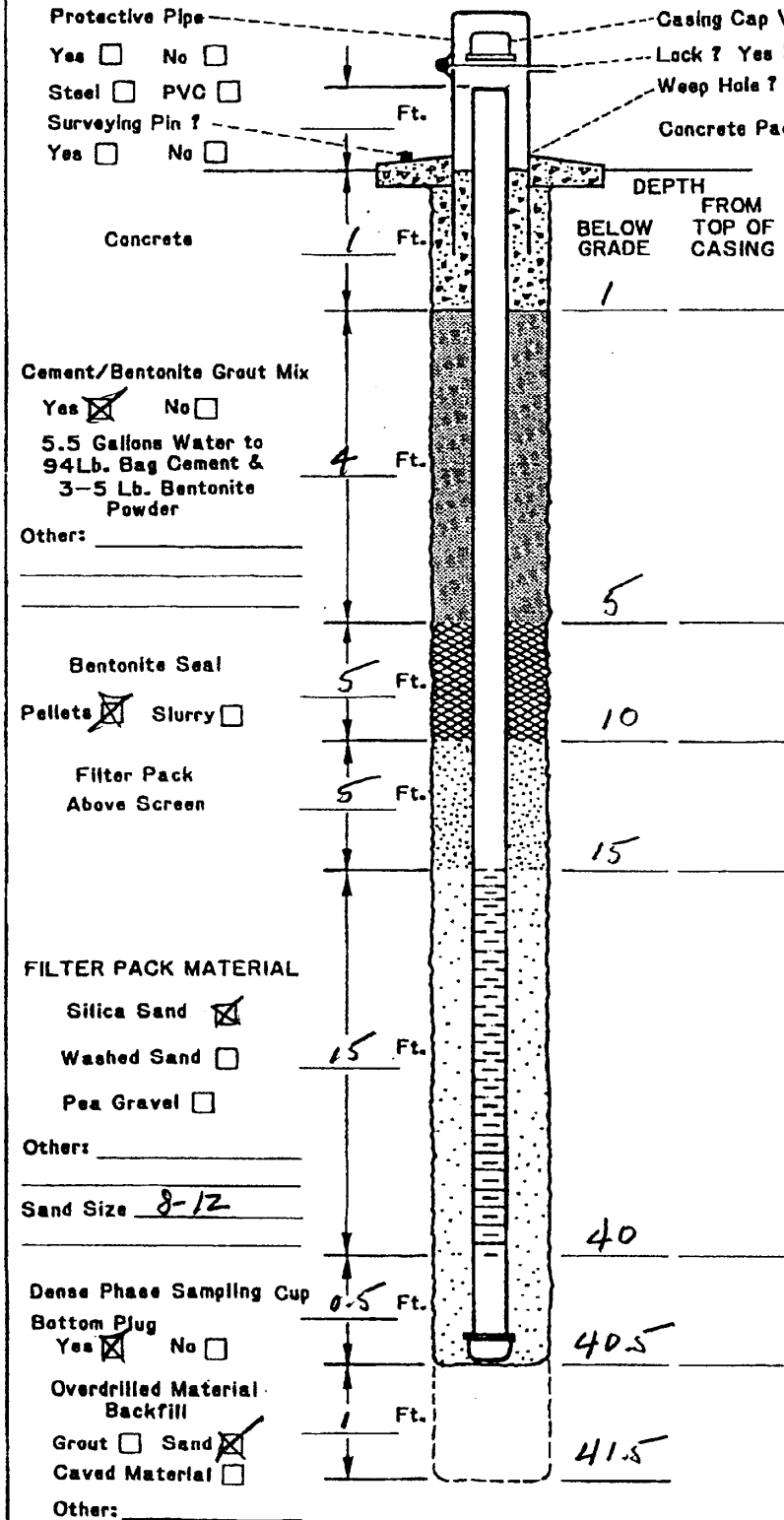
KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC100R
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
40.5	38-40.5 gravelly sly SAND, brn. 20-25% silt and 10-20% volc sm granules. SA-SR wf-ve sd. 40.5-41.5 lt grn sly CLAY w/ gyp xtals TD 41.5'		CL							MC @ 40.5'
45										

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 8-16-00	PAGE 2 of 2	
	Water Table (Time of Boring)		CLAY	DEBRIS FILL	
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT	HIGHLY ORGANIC (PEAT)	DRILLING METHOD PERCUSSION
	SPLIT-BARREL		SAND	SANDY CLAY	DRILLED BY LAYNE
	AUGER		GRAVEL	CLAYEY SAND	LOGGED BY ED KRISH
	THIN-WALLED TUBE		SILTY CLAY	CLAYEY SILT	EXISTING GRADE ELEVATION (FT. AMSL)
ROCK CORE	NO RECOVERY		LOCATION OR GRID COORDINATES		
CONTINUOUS SAMPLER					
DEPTH REC. Actual Length of Recovered Sample in Feet					

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

FLUSH
MOUNT



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No
 Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casings: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.040
- Type of Screen Perforation: Factory Slotted
 Hackaw Drilled Other _____
- Installed Protector Pipe w/Locks: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? 2 1 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe Pesticide
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 18' Ft. Date 8-16-00
 Before Development _____ Ft. Date _____
 After Development 13.64 Ft. Date 8-17-00

Driller/Firm HOERMANN/LAYNE Drill Rig Type AP-1000 Date Installed 8-16-00
 Drill Crew _____ Well No. PC 100R Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV			BORING NUMBER PC 101				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
5	0-15 gravelly SAND. lt brn (5YR 5/4). 10% silt in sd matrix. Sand is poorly sorted, A-SR, vf-vc. 15-20% volc granules and sm pebbles to 3/4", A-SA Locally com. caliche cement	[Graphic Log: Sand with pebbles]	SW							30 FT N30E OFFSET TO PC-70	
20	15-25 sdy GRAVEL lt brn (5YR 5/4). 50% volc granules and pebbles to 3". A-SR. locally hard thin calichified zones. 10-20% silt in sd matrix poorly sorted, vf-vc, SA-SR	[Graphic Log: Gravel with pebbles]	GM							damp @ 17' ▽ @ 25'	
35	25-50 silty gravelly SAND, med yell brn (10YR 6/4). 10-20% silt in vf-vc, SR-SA sd matrix 30% volc granules and sm pebbles ave. to 1" but w/ minor pebbles to 3". Very calcareous. Locally hard caliche cemented * Probably alternating fining upward fluvial sequences (ie grav. → silt)	[Graphic Log: Silty sand with pebbles]	SW								
EXPLANATION ▼ Water Table (24 Hour) ▽ Water Table (Time of Boring) PID Photoionization Detection (ppm) NO. Identifies Sample by Number TYPE Sample Collection Method [Symbol] SPLIT-BARREL [Symbol] AUGER [Symbol] ROCK CORE [Symbol] THIN-WALLED TUBE [Symbol] CONTINUOUS SAMPLER [Symbol] NO RECOVERY						GRAPHIC LOG LEGEND [Symbol] CLAY [Symbol] DEBRIS FILL [Symbol] SILT [Symbol] HIGHLY ORGANIC (PEAT) [Symbol] SAND [Symbol] SANDY CLAY [Symbol] GRAVEL [Symbol] CLAYEY SAND [Symbol] SILTY CLAY [Symbol] _____ [Symbol] CLAYEY SILT [Symbol] _____				DATE DRILLED 5-18-00 PAGE 1 of 2 DRILLING METHOD HSA DRILLED BY COMPLIANCE LOGGED BY ED KRISH EXISTING GRADE ELEVATION (FT AMSL) _____ LOCATION OR GRID COORDINATES _____	
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet											

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER PC 101
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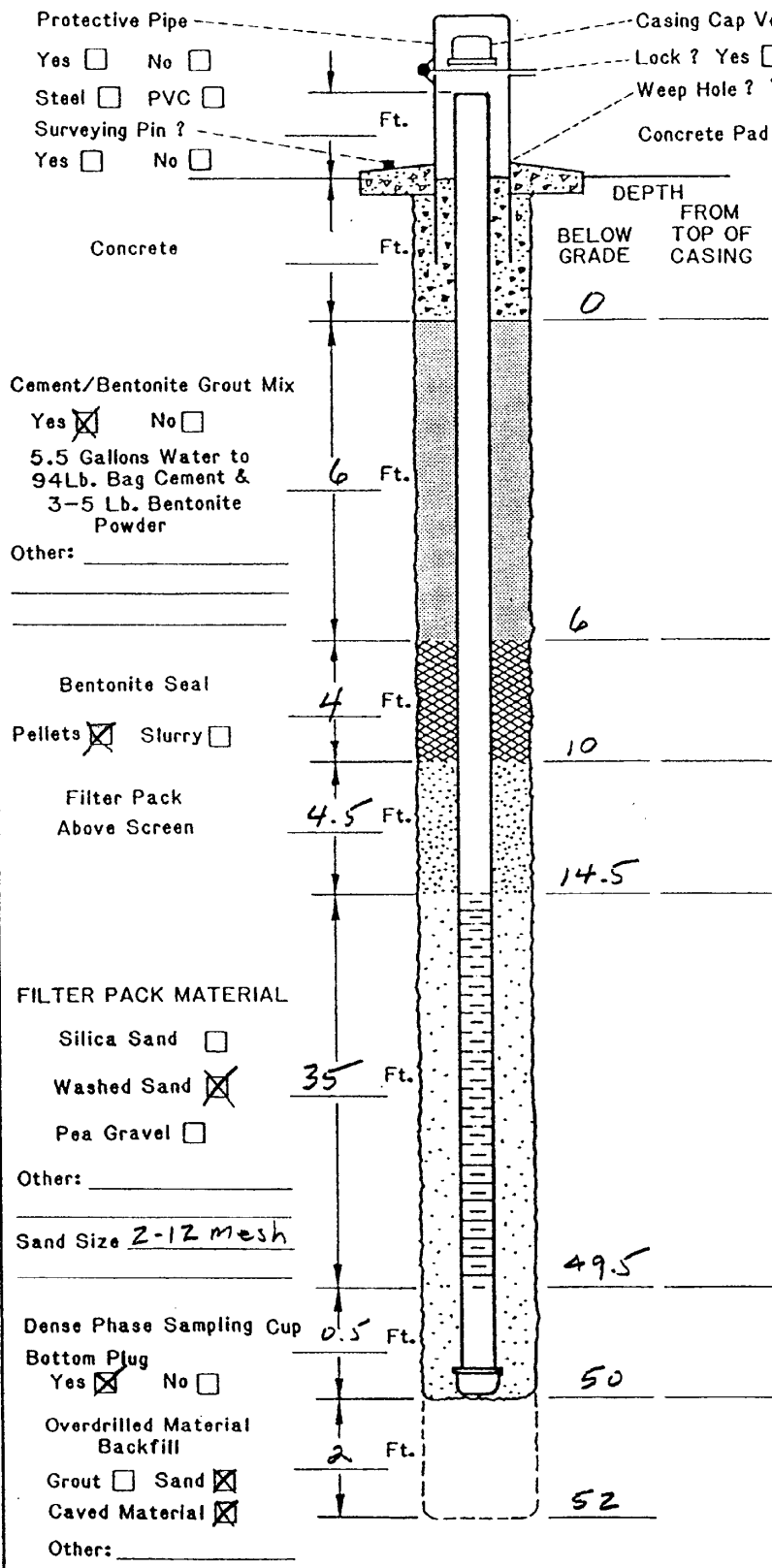
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	48-50 hard, calcified gravelly SAND. Com. CaCO ₃ cement but still porous.		SW							
50	50-52 silty CLAY, lt grn gry (SGY 8/1). non-calcareous. sticky dense, dry. Minor gypsum x'tals.		CL							MC @ 50'
52	52 TD									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 5-18-00	PAGE 2 of 2											
	Water Table (Time of Boring)		<table border="0" style="width:100%;"> <tr> <td> CLAY</td> <td> DEBRIS FILL</td> </tr> <tr> <td> SILT</td> <td> HIGHLY ORGANIC (PEAT)</td> </tr> <tr> <td> SAND</td> <td> SANDY CLAY</td> </tr> <tr> <td> GRAVEL</td> <td> CLAYEY SAND</td> </tr> <tr> <td> SILTY CLAY</td> <td></td> </tr> <tr> <td> CLAYEY SILT</td> <td></td> </tr> </table>	CLAY	DEBRIS FILL	SILT	HIGHLY ORGANIC (PEAT)	SAND	SANDY CLAY	GRAVEL	CLAYEY SAND	SILTY CLAY		CLAYEY SILT	
	CLAY	DEBRIS FILL													
	SILT	HIGHLY ORGANIC (PEAT)													
	SAND	SANDY CLAY													
GRAVEL	CLAYEY SAND														
SILTY CLAY															
CLAYEY SILT															
PID	Identifies Sample by Number	SPLIT-BARREL	AUGER	ROCK CORE											
NO.	Identifies Sample by Number	THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY											
TYPE	Sample Collection Method	DRILLED BY COMPLIANCE LOGGED BY ED KRISH EXISTING GRADE ELEVATION (FT AMSL) LOCATION OR GRID COORDINATES													

DEPTH Depth Top and Bottom of Sample
REC. Actual Length of Recovered Sample in Feet

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DEPTH
FROM
TOP OF
CASING
BELOW
GRADE
0

Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____
Sand Size 2-12 mesh

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:
1. Borehole Diameter= 8 Inches.
2. Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
3. Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.

4. Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

1. Type of Casing: PVC Galvanized Teflon
Stainless Other _____
2. Type of Casing Joints: Screw-Couple Glue-Couple Other _____
3. Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
4. Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
5. Slot Size of Screens: 0.020
6. Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
7. Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

1. How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
2. Time Spent on Well Development?
1.60 Minutes/Hours
3. Approximate Water Volume Removed? _____ Gallons
4. Water Clarity Before Development? Clear
Turbid Opaque
5. Water Clarity After Development? Clear
Turbid Opaque
6. Did Water have Odeur? Yes No
If Yes, Describe _____
7. Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 25 Ft. Date 5-18-00
Before Development 19.01 Ft. Date 5-19-00
After Development _____ Ft. Date _____

Driller/Firm COMPLIANCE Drill Rig Type Mobile 6-59 Date Installed 5-18-00
Drill Crew LUYA Well No. PC 101 Kerr-McGee Hydrologist ED KRISHN

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 101R			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
0-5	0-5 sdy GRAVEL gry brn, volc, 25-30% SA, vf-vc sd in granule pea gravel to 3/4", w/ 10-20% silt		GW						Start hole @ 1PM, end 1:45P
5-10	5-10 grav. silty SAND gry brn, 20-30% silt, 20- 30% granules/sm pea gravel in vf-vc, SA sd. 9-10' calichified		GM/ SM						
10-26	10-26 sdy GRAVEL brn to gry brn, 25-30% vf-vc, SA sand w/var. amts of thin (2-3") silt- rich layers. Gravel is vole granule-pea gravel size up to 3/4", A-SA		GW						damp @ 14' WTR @ 20'
20-22	20-22' 70% f-vc sd w/ 30% granules								
22-23	22-23' volc cobble layer up to 4"								
23-26	23-26' HAcD, calichified sd and granules		SM						
26-30	26-30 silty SAND, brn, 20-25% silt in f-vc SA-SR sand w/ 10-15 1/10" granules		GW						
30-38	30-38 sdy GRAVEL, brn. Coarsens downward. Sandier (60%) [30'-34'] on top... vf-vc, SR-SA w/granule grading down to sdy pea gravel. 37-38' 1"-4" cobbles		GM/ SM						

EXPLANATION

- Water Table (24 Hour)
- Water Table (Time of Boring)
- PID
- Identifies Sample by Number
- Sample Collection Method
- SPLIT-BARREL
- AUGER
- ROCK CORE
- THIN-WALLED TUBE
- CONTINUOUS SAMPLER
- NO RECOVERY

DEPTH: Depth Top and Bottom of Sample
REC.: Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED: 8-16-00 PAGE: 1 of 2

DRILLING METHOD: PERCUSSION

DRILLED BY: LAYNE

LOGGED BY: ED KRISH

EXISTING GRADE ELEVATION (FT. AMSL):

LOCATION OR GRID COORDINATES:

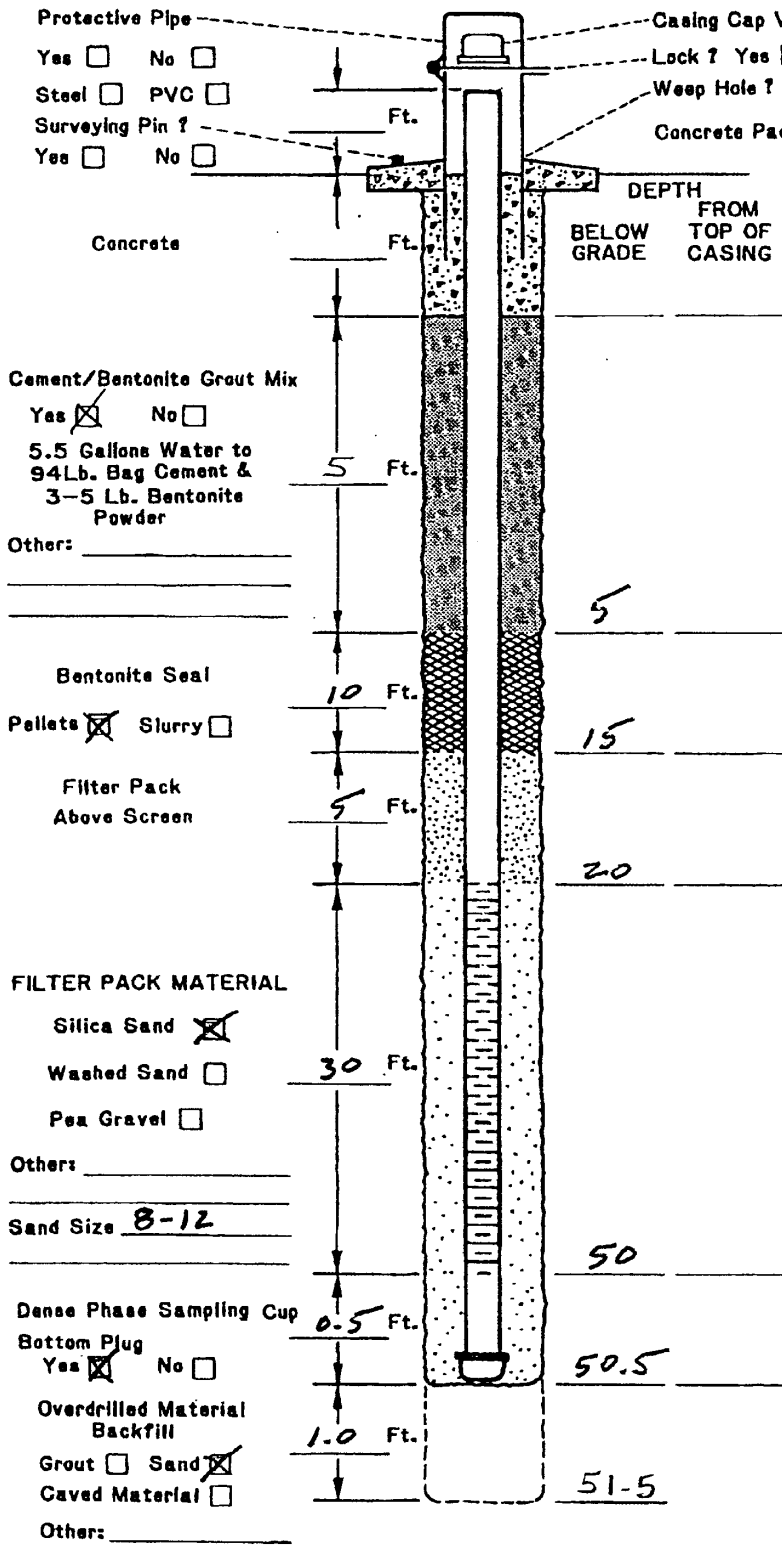
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 101R				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
43	38-40 silty gravelly SAND, gry brn. 20-25% silt and 20% volc granules to 1/4" SA-SR, in vf-vc SR sand		GM/SM							
47	40-43 sdy GRAVEL, gry brn. 25-30% vf-vc, SR sd in gran./pea grav to 1/2" w/minor 1-2"		GM/SM							
51	43-47 silty gravelly SAND, brn, 20-25% silt, 20-25% gran. to 1/4" in vf-vc SR sd		GM/SM							Muddy Creek @ 51'
	47-51 sdy GRAVEL, brn 25% vf-vc SR sd in gran/pea gravel, SR-SA, to 1/2"		GM/SM							
	49-51 hard calichified		CL/ML							
	51-51.5 clay SILT/silty CLAY, lt grn, minor root traces, sp. gypsum xtals									
	51.5' TD									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 8-16-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	SPLIT-BARREL	AUGER	ROCK CORE	SANDY CLAY	LOGGED BY ED KRISH
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet	SANDY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES	

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

FLUSH
MOUNT



- DRILLING INFORMATION:**
- Borehole Diameter = 9 inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
 Casing 2 inches, Screen 2 inches.
 - Slot Size of Screens: 0.040
 - Type of Screen Perforations: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Locks: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
1 hr 45 min Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before-Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe organics
 - Did Water have any Color? Yes No
 If Yes, Describe whitish
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
 During Drilling 20 Ft. Date 8-16-00
 Before Development _____ Ft. Date _____
 After Development 19.54 Ft. Date 8-18-00

Driller/Firm Harmann/Layhe Drill Rig Type AP-1000 Date Installed 8-16-00
 Drill Crew _____ Well No. PC 101R Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC102				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
0-8	GRAVEL, gry brn, sl. sdy (10-15) m-vc & sl sily (10%). Grav. up to 4", ave 1/2"		GP							start 11AM, finish 11:30 am wet @ 0' WTR @ 2'
8-14	sily SAND & sily sdy GRAVEL, interbedded		SM/ GM							dry 8-9' wet @ 9'
8-9	brn, sily (40%) vf-f sd		GM							
9-11	brn sily sdy gravel, 30% silt, 20% f-c sd, 50% pea gravel to 1"		ML/ SM							
11-14	brn, sily vf-f sd		SM							
14-19	sdly SILT and sily SAND, interbedded, brn to Hgryish brn. vf-f sd		GW							
19-22	sdly GRAVEL, gry brn, 30-40% vf-vc, A-SR sd in gran./pea gravel, SR-R, to 1/2" (volc)		SM							
22-24	sily SAND, brn 30% silt in vf-fg sd		GM/ SM							
24-28	sily sdy GRAVEL, dec silt from 30% @ 24 to 15% @ 28'. brn, f-mw/cg SR sd in pea grav/gran to 1/2-3/4"		GW							
28-36	sdly GRAVEL, gry brn & whitish. Contains abu 15. gravels. 20-30% f-vc, SR sd in gran/peagravel ave 1" w/up to 6" locally		GM/ SM							
36-39			GW							

EXPLANATION

- ▼ Water Table (24 Hour)
- ∇ Water Table (Time of Boring)
- PID Photoionization Detection (ppm)
- NO. Identifies Sample by Number
- TYPE Sample Collection Method.
- ⊗ SPLIT-BARREL
- ▬ AUGER
- ▬ ROCK CORE
- ▬ THIN-WALLED TUBE
- ▬ CONTINUOUS SAMPLER
- ▬ NO RECOVERY
- DEPTH Depth Top and Bottom of Sample
- REC. Actual Length of Recovered Sample in Feet

GRAPHIC LOG LEGEND

- CLAY
- SILT
- SAND
- GRAVEL
- SILTY CLAY
- CLAYEY SILT
- DEBRIS FILL
- HIGHLY ORGANIC (PEAT)
- SANDY CLAY
- CLAYEY SAND

DATE DRILLED 8-17-00 PAGE 1 of 2

DRILLING METHOD PERCUSSION

DRILLED BY LAYNE

LOGGED BY ED KRISH

EXISTING GRADE ELEVATION (FT. AMSL)

LOCATION OR GRID COORDINATES

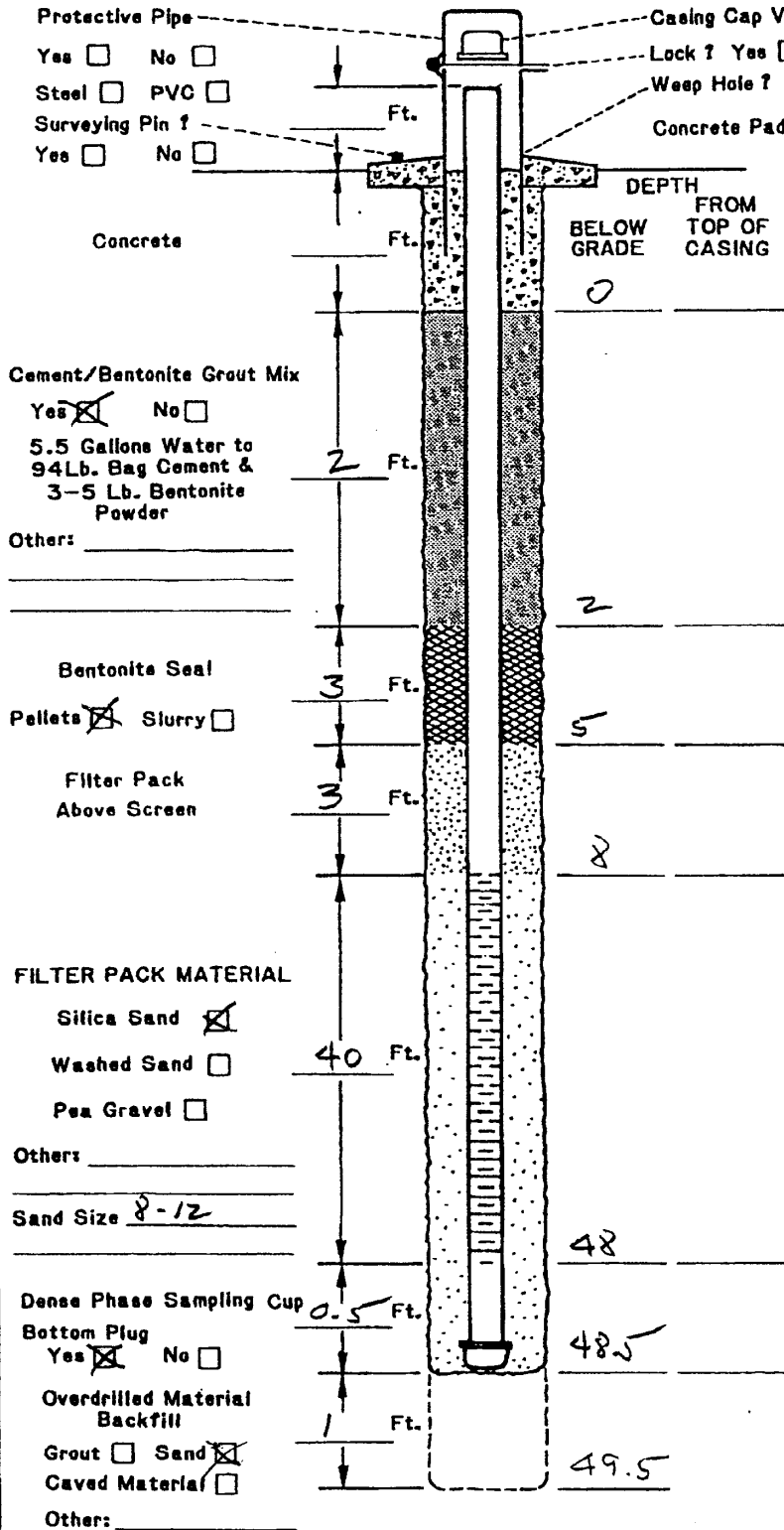
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 102				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	28-30 volc, no ls. below 30'... 50/50 volc & ls. @ 33' cobbles to 4" @ 36' cobbles to 6"	GW								
50	36-39 silty sdy GRAVEL gry brn & whitish. Com ls. gran/pea gravel contains 20-30% silt & 20-30% f-vc SR sd 38-39 volc cobbles to 6"	SM								Did not reach Muddy Creek
	39-50 sdy GRAVEL, gry wht + brn, SR. gravels of ls + volc to 2-3". w/ 20-30% f-vc, SR sd. Locally caliche coated.									
	@ 47-49 com silt in matrix to 25-30% no hard caliche like in PC 99R									
	TD @ 50'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE		
		Water Table (Time of Boring)			8-17-00	2 of 2	
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method				DRILLING METHOD	
		SPLIT-BARREL				PERCUSSION	
		AUGER				DRILLED BY	
	THIN-WALLED TUBE			LAYNE			
	CONTINUOUS SAMPLER			LOGGED BY			
	ROCK CORE			ED KRISH			
	NO RECOVERY			EXISTING GRADE ELEVATION (FT. AMSL)			
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES			

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

Flush
Mount



- DRILLING INFORMATION:**
- Borehole Diameter = 9 inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
 Casing 2 inches, Screen 2 inches.
 - Slot Size of Screens: 0.040
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Locks: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development?
2 hr / 20 Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before-Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe lt brn (silt)
- WATER LEVEL INFORMATION:**
 Water Level Summary (From Top of Casing)
- During Drilling 2 Ft. Date 8-17-00
 Before Development _____ Ft. Date _____
 After Development 0.81 Ft. Date 8-18-00

Driller/Firm HORMANN/LAYNE Drill Rig Type AP 1000 Date Installed 8-17-00
 Drill Crew _____ Well No. PC 102 Kerr-McGee Hydrologist ED KRISH

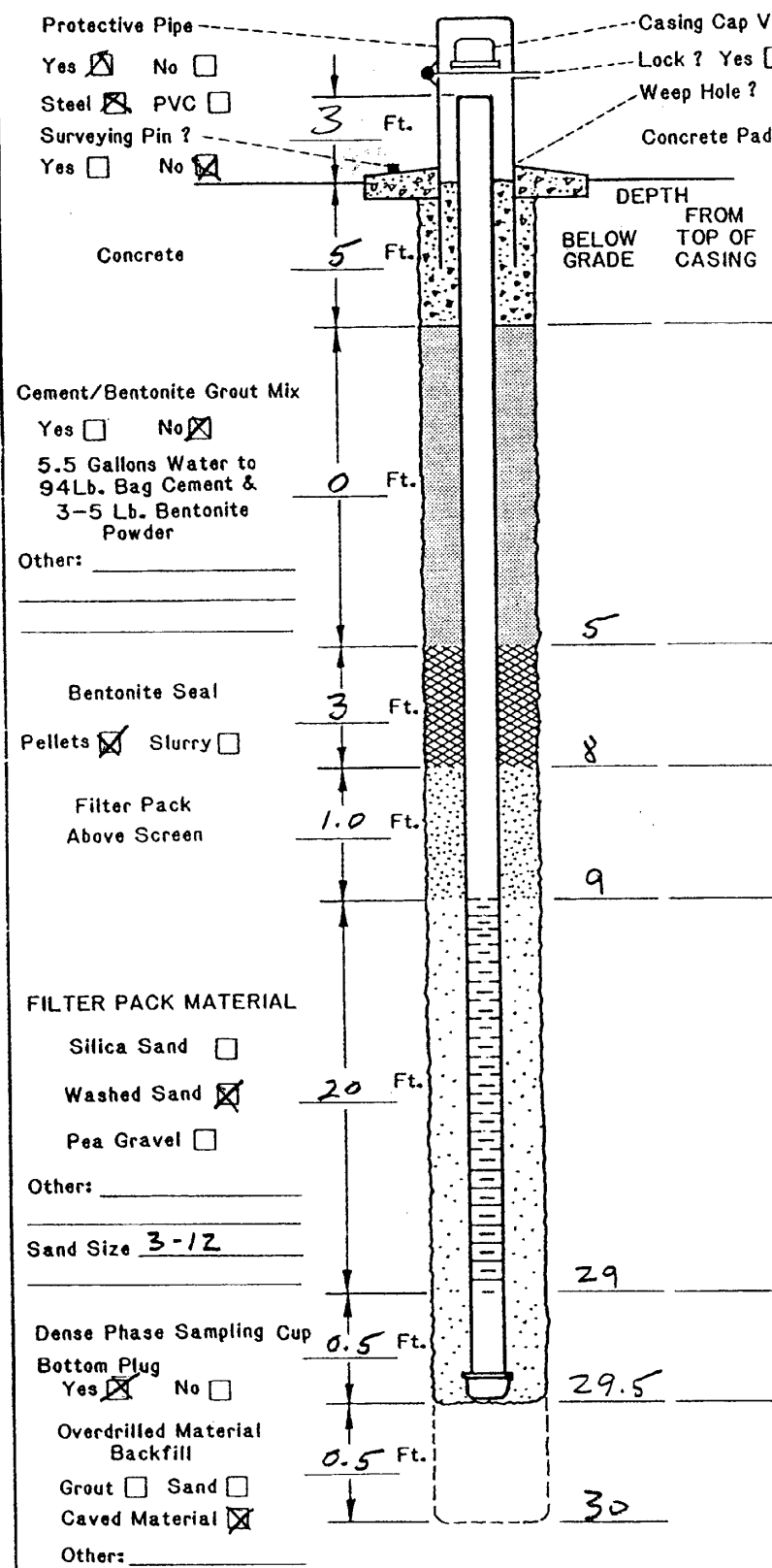
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <i>KMC LLC</i>	LOCATION <i>Henderson NV</i>	BORING NUMBER <i>PC 103</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
0-6	BERM. Com construction material	/								
6-10	SAND, gravelly, brn (5YR5/4), 10-20% volc pea gravel to 1/4" in vf-vc, A-SR sd	●●●●	SW							
10-17	GRAVEL, sdy, silty, brn, 10-20% silt & 20-30% vf-vc, SA-SR sd in volc gravel to 1". Sl. calcareous. [Prob. series of fining-up. alluvial beds]	●●●●	GM							damp @ 14'
17-29	Gravel, sl. sdy tr silt. 10-15% vf-vc sd, A-SR, volc SA-SR pea gravel to 1/2" w/ local thin beds up to 4"	●●●●	GP							WTR @ 17'
25-28	com lg volc gravel to 4"	●●●●								
28-29	gravel w/ 20-30% silt in matrix	●●●●								
29-30	CLAY, silty & CLAY, lt grngry (5GY8/1), 10-20% silt in matrix, non-calcareous, tr-sp gypsum		CL							MC @ 29'
TD 30'										

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED <i>2-3-01</i>	PAGE <i>1 of 1</i>
		Water Table (Time of Boring)		CLAY		DEBRIS FILL
	PID	Photoionization Detection (ppm)		SILT		HIGHLY ORGANIC (PEAT)
	NO.	Identifies Sample by Number		SAND		SANDY CLAY
	TYPE	Sample Collection Method		GRAVEL		CLAYEY SAND
	SPLIT-BARREL		AUGER		SILTY CLAY	
	THIN-WALLED TUBE		CONTINUOUS SAMPLER		CLAYEY SILT	
	ROCK CORE		NO RECOVERY			
DEPTH		Depth Top and Bottom of Sample		LOGGED BY <i>Ed KRISH</i>		
REC.		Actual Length of Recovered Sample in Feet		EXISTING GRADE ELEVATION (FT. AMSL)		
LOCATION OR GRID COORDINATES						

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odeur? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)
 During Drilling 17 Ft. Date 2-3-01
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 2-3-01
 Drill Crew Perry Well No. PC-103 Kerr-McGee Hydrologist Ed Krish

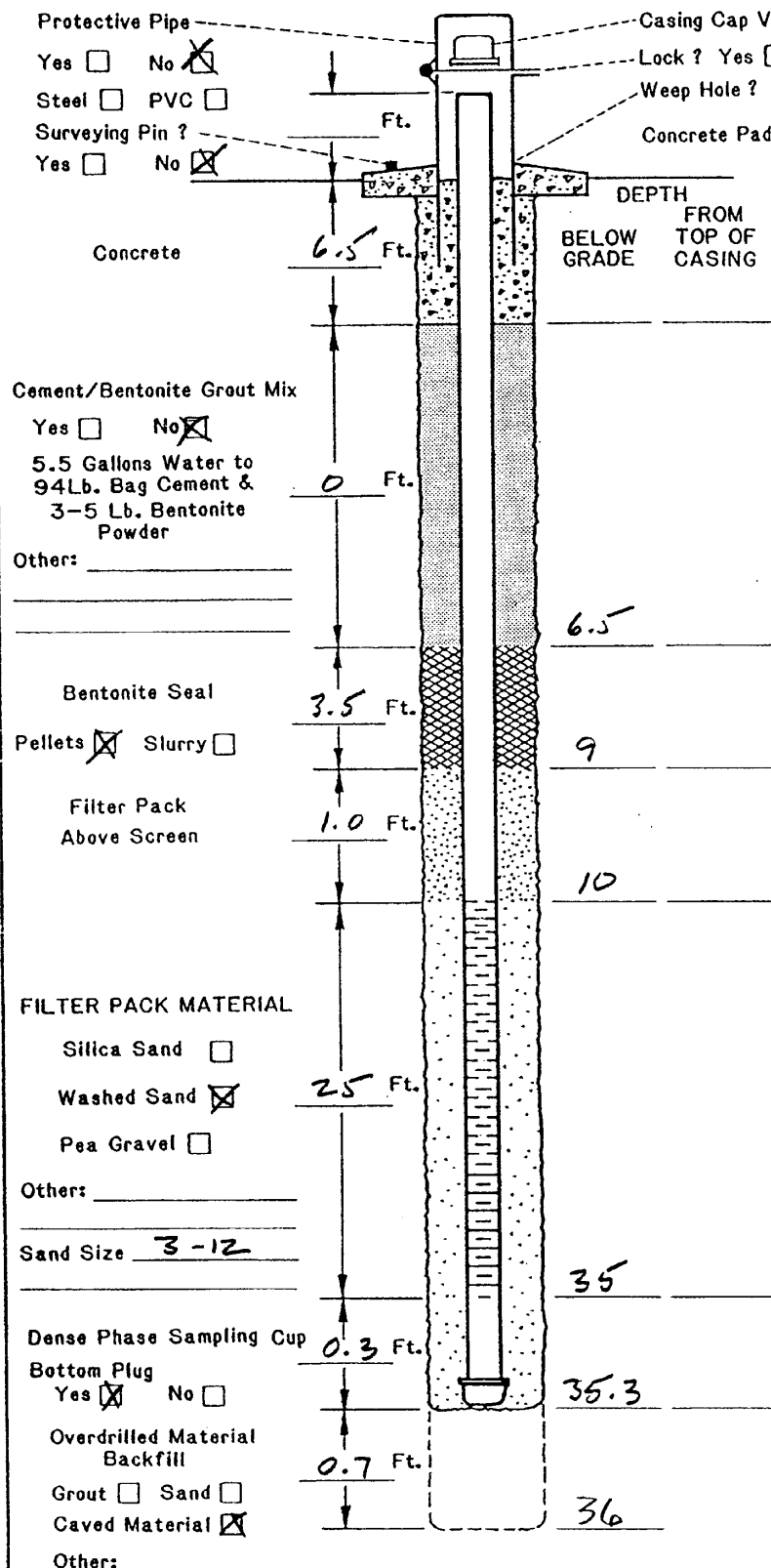
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION Henderson, NV		BORING NUMBER PC 104				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
6	0-6 Berm Material sdy, gravelly mix	/								
10	6'-21' SAND, gravelly & silty. Brn (5YR5/4). 10-20% silt in sd matrix of f-c g w/mm or veg. SA-SR. 20-30% SA-SR, volc pea gravel to 3/4" w/ locally thin zones to 2". Non-calcareous. 6'-12' com gravel to 2"	[Symbol]	SW							
21	21-35 GRAVEL & sdy GRAVEL, interbedded, brn (5YR5/4). Volc clasts up to 1" except locally to 5", SA-SR, contains var. amts of vf-vc, SA-SR sd. + silt 23-26' com lg gravel to 4"	[Symbol]	GP/GM							damp @ 21' wet @ 22'
30	29-30 silty gravelly SAND vf-vc w/ 20-30% silt	[Symbol]								
35	34-35' com lg gravel to 5"	[Symbol]								
36	35'-36' CLAY, silty, gry yell grn (5GY7/2). 10-20% silt in matrix, non-calcareous. Tr-sp gypsum TD @ 36'	[Symbol]	CL							ML @ 35'

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE	
		Water Table (Time of Boring)					2-3-01
		Photoionization Detection (ppm)			DRILLING METHOD		
		Identifies Sample by Number			PERCUSSION		
	Sample Collection Method			DRILLED BY			
	SPLIT-BARREL			LOGGED BY			
	AUGER			LAYNE			
	THIN-WALLED TUBE			LOGGED BY			
	CONTINUOUS SAMPLER			Ed Krish			
	DEPTH Depth Top and Bottom of Sample			EXISTING GRADE ELEVATION (FT AMSL)			
	REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES			

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM

FLUSH
MOUNT



DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Odor? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 22 Ft. Date 2-3-01
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm Layne

Drill Rig Type AP-1000

Date Installed 2-3-01

Drill Crew Perry

Well No. PC-104

Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION Henderson, NV	BORING NUMBER PC 105
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-5 Disturbed fill material, local origin	/								
11	5-11 SAND, gravelly, brn (5YR 5/4). vf-vc w/ 20-30% pea gravel to 1/2" s)-mod calcareous	SW								
30	11-37 GRAVEL, sdy yellow brn (10YR 5/2). 20-40% vf-vc, SA-SR sd matrix to volc & minor ls pea gravel 1/2"-1". Locally com thin gravel beds up to 6". Hard and cemented. Com calcification. sp-mod silica cement	GW								damp @ 13' WTR @ 16'
30	11-12 com lg gravel to 6" 12-15' 50% sd and 20% silt in matrix									
37	37-42 SAND, silty, pale yell brn (10YR 6/2). vf-fg, SA-SR w/20-30% silt. Calcareous	SM								

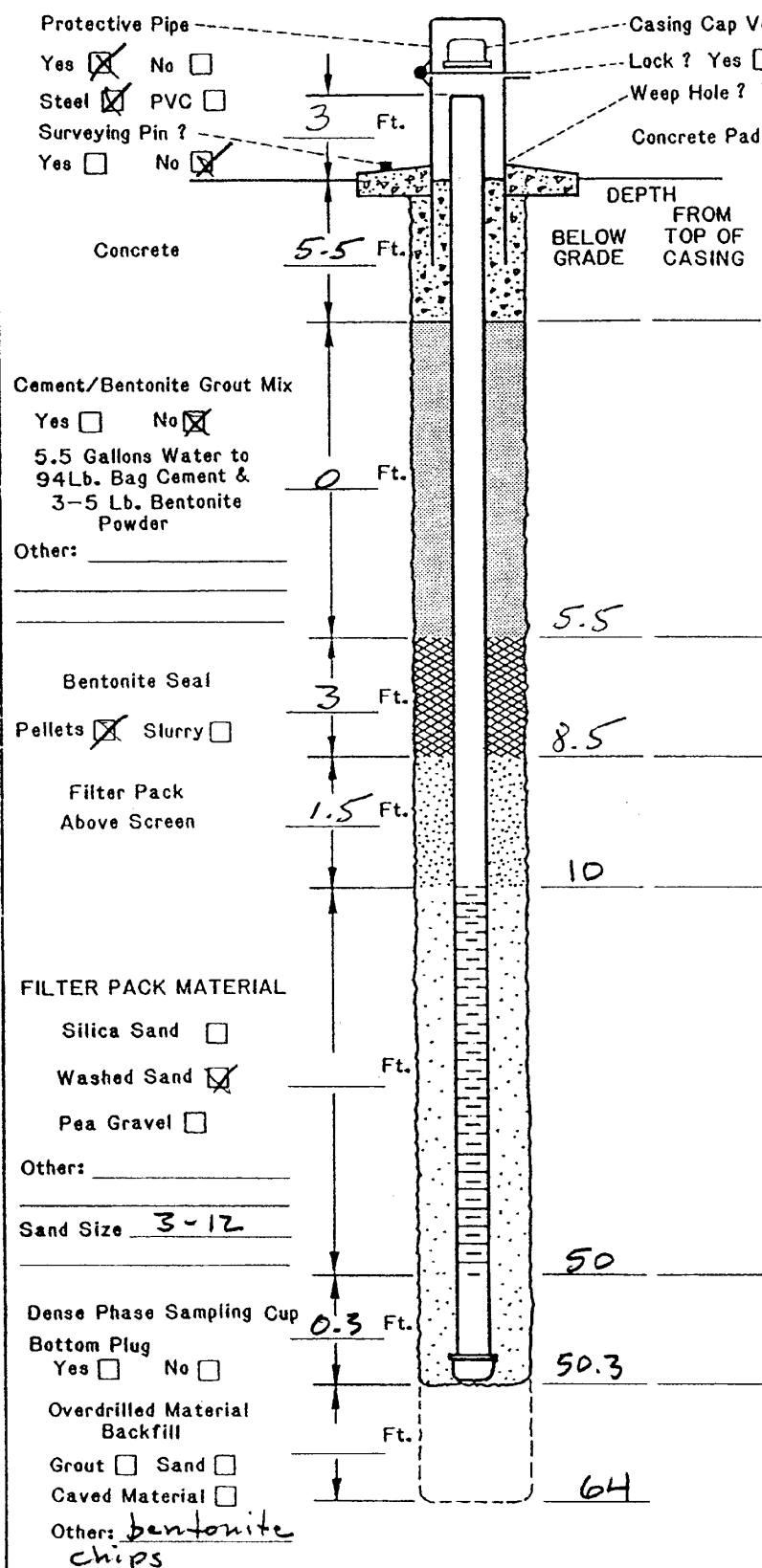
EXPLANATION	<input checked="" type="checkbox"/> Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2/4/01	PAGE 1 of 2
	<input checked="" type="checkbox"/> Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	<input type="checkbox"/> PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)		
	<input checked="" type="checkbox"/> SPLIT-BARREL	SAND	SANDY CLAY	DRILLED BY LAYNE	
	<input type="checkbox"/> THIN-WALLED TUBE	GRAVEL	CLAYEY SAND	LOGGED BY Ed Krish	
<input type="checkbox"/> AUGER	SILTY CLAY	<input type="checkbox"/>	EXISTING GRADE ELEVATION (FT AMSL)		
<input type="checkbox"/> CONTINUOUS SAMPLER	CLAYEY SILT	<input type="checkbox"/>	LOCATION OR GRID COORDINATES		
<input type="checkbox"/> ROCK CORE					
<input type="checkbox"/> NO RECOVERY					
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION Henderson NV		BORING NUMBER PC 105				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
42			SM							
46	42-46 SILT, brn (5YR 5/4) locally 10-20% vfg, SA sd in matrix, non-calcareous		ML							MC ?
50	46-50 GRAVEL, pale yell brn (10YR 6/2) - 10% vf-vc SA sd in volc pea gravel to 1/2" w/minor 2-3" sl. calcareous									
55	50-63 SILT w/minor sdy SILT, interbedded. gry oran (10YR 7/4) and dk gry oran (10YR 6/4). 10-20% vfg A-SA sd in silt locally. Mod scattered blk organics and sp-mod gypsum. Sl-mod calcareous @ 50' v. thin bed of lt. grn gry silty clay		ML							MC @ 50'
63	63-64 Clay w/minor silty clay, lt grn gry (5GY 8/1). Non-calcareous, mod-com organics (grass blades). Tr. ash clasts. Tr gypsum		CL							
	TD 641									

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2-4-01	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	SPLIT-BARREL	AUGER	SANDY CLAY	LOGGED BY Ed Krish	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	GRAVEL	CLAYEY SILT	LOCATION OR GRID COORDINATES	
	NO RECOVERY	SILTY CLAY			
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**



Protective Pipe
 Yes No
 Steel PVC
 Surveying Pin?
 Yes No

Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DEPTH FROM TOP OF CASING
 BELOW GRADE

Concrete 3 Ft.
 5.5 Ft.
 0 Ft.
 3 Ft.
 1.5 Ft.
 5.5
 8.5
 10
 50
 50.3
 64

Cement/Bentonite Grout Mix
 Yes No
 5.5 Gallons Water to
 94Lb. Bag Cement &
 3-5 Lb. Bentonite
 Powder
 Other: _____

Bentonite Seal
 Pellets Slurry

Filter Pack Above Screen

FILTER PACK MATERIAL
 Silica Sand
 Washed Sand
 Pea Gravel
 Other: _____

Sand Size 3-12

Dense Phase Sampling Cup
 Bottom Plug
 Yes No
 Overdrilled Material
 Backfill
 Grout Sand
 Caved Material
 Other: bentonite
chips

DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
 Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
 _____ / _____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
 Turbid Opaque
- Water Clarity After Development? Clear
 Turbid Opaque
- Did Water have Oder? Yes No
 If Yes, Describe _____
- Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
 During Drilling 13 Ft. Date 2-4-01
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm LAYNE Drill Rig Type AP 1000 Date Installed 2-4-01
 Drill Crew Perry Well No. PC 105 Kerr-McGee Hydrologist Ed Krish

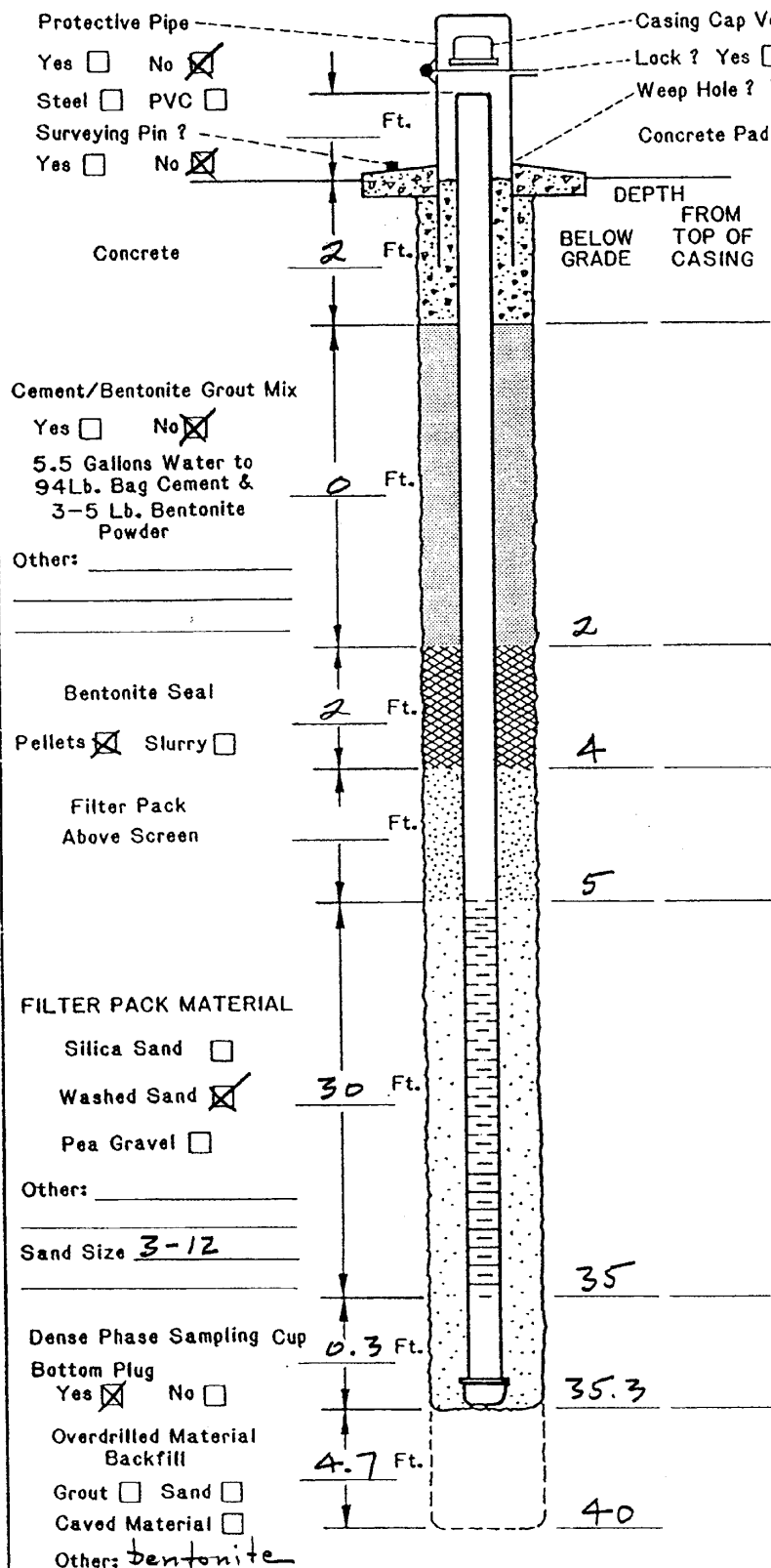
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMCLLC	LOCATION Henderson NV		BORING NUMBER PC 106					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-7 GRAVEL, sdy, brn gry (5YR 4/1). 30-40% vf-vc, SA-SR sd in volc pea gravel to 3/4". 6'-7' com lg volc gravel to 4"		GP							Damp @ 1' WTR @ 4' perched WTR
8	7'-8' CLAY, silty, mottled v. pale orn (10YR 8/2) & brn (5YR 5/4)		CL							damp @ 7' WTR @ 8'
15	8-25' SAND, gravelly & silty. dk gry orn (10YR 6/4). 20-30% silt in matrix. sd is vf-vc, SA-SR. 20-30% pea gravel to 1/2"-3/4", volc, com. calcareous		GM							
25	25-28 SAND, sl. silty, pale yell brn. vf-eg, SA-SR. com calc. locally hard, cement		SW							
28	28-33 SAND, silty, pale yell brn (10YR 6/2). 30-40% silt, sl. calcareous; vfg, SA-SR sd		SM							damp @ 28'
33	33-40 CLAY and minor silty clay. Mod yell-brn (10YR 5/4) to 35' then yell gry (5Y 7/2) to 40'. sl. calcareous. Tr gypsum, Tr organics		CL							MC @ 33' TDC @ 40'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2-4-01	PAGE 1 of 1	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION		
	PID TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE		
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY Ed Krish	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	SILTY CLAY	NO RECOVERY	LOCATION OR GRID COORDINATES		
	NO RECOVERY	CLAYEY SILT				
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No
Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforations: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____/_____/_____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 4 Ft. Date 2-4-01
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Driller/Firm LAYNE

Drill Rig Type AP 1000

Date Installed 2-4-01

Drill Crew Perry Horman

Well No. PC-106

Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

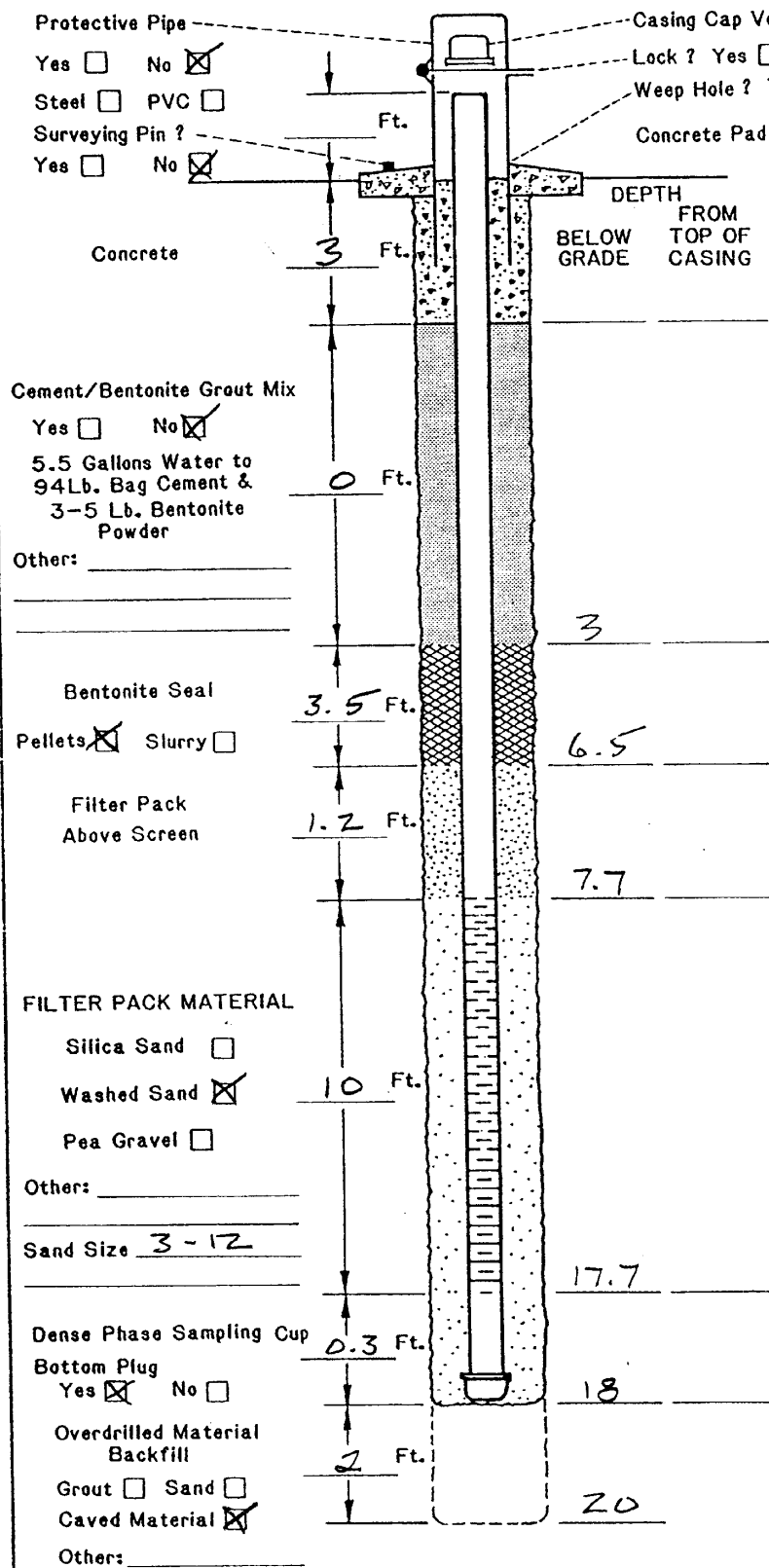
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION <i>Henderson NV</i>	BORING NUMBER <i>PC 107</i>
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
	0-4 BERM - disturbed									
4	4'-8' SAND, silty, brn, calcareous. vf-vc. SA-FR, w/minor granules & pea gravel to 1". 7-8' con lg void gravel zone to 4"		SM							
8	8-12 GRAVEL, sdy. gry/oran (10YR 7/4). HARD. abn calc. cement. Granule-pea grav to 3/4"		GW							
16	12-16 SAND, silty, brn (5YR 5/4). Calcareous. vf-m, cemented to 14', vf-vc, sl. calc cement to 16'		SM							DAMP @ 12' WTR @ 14'
20	16-20 CLAY; lt grn gry (5GY 8/1). Non-calcareous, tr. gypsum. tr. ashy laminae. Damp		CL							
	TD 20'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED <i>2-5-01</i>	PAGE <i>1 of 1</i>
		Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD <i>PERCUSSION</i>
		PID Photoionization Detection (ppm)			SPLIT-BARREL
		NO. TYPE Identifies Sample by Number Sample Collection Method		AUGER	LOGGED BY <i>ED KRISHN</i>
	THIN-WALLED TUBE		ROCK CORE	EXISTING GRADE ELEVATION (FT. AMSL)	
	CONTINUOUS SAMPLER		NO RECOVERY	LOCATION OR GRID COORDINATES	
	DEPTH Depth Top and Bottom of Sample				
	REC. Actual Length of Recovered Sample in Feet				

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Casing Cap Vent? Yes No
 Lock? Yes No
 Weep Hole? Yes No

- DRILLING INFORMATION:**
- Borehole Diameter = 9 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
 Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.020
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Oder? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)
 During Drilling 14 Ft. Date 2-5-01
 Before Development _____ Ft. Date _____
 After Development _____ Ft. Date _____

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 2-5-01
 Drill Crew PERRY HORMAN Well No. PC 107 Kerr-McGee Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KM C LLC	LOCATION HENDERSON, IN	BORING NUMBER PC 108
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-8 SAND, gravelly and silty. dk yell brn (10YR 4/2) f-vc, SA-SR w/ 20-30% silt & 10-20% pea gravel to 1", volc.		SW/SM							
8	7-8 com lg gravel to 3"									
15	8-19 GRAVEL, sdy & silty. Granule to pea gravel to 1/2", volc SA-SR w/ 30-40% f-vc SA-SR sd and 20% silt. calcareous.		GW/GM							damp @ 8' WTR @ 9'
19	19-28 SAND, silty, mod yell brn (10YR 5/4). vf-fg, SA, w/ 20-30% silt. calcareous. Contains minor thin interbeds of sdy SILT @ 28' well cemented, CaO ₃		SM							
25										
28										
29	28-29 CLAY, lt grn gry (SGY 8/1)		CL							
33	29-33 SAND and sdy SILT. Partly oxidized-yell gry (5Y 7/2) & dk yell orange (10YR 6/6). vf-fg, SA		SW/SM							
35	33-45 SAND, silty w/ minor interbeds of sdy SILT. brn. Calcareous. (20%-30% silt in vf-g, A-SA sd and 20-30%		SM							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED	PAGE	
	Water Table (Time of Boring)		2-5-01	1 of 2	
	PID NO. TYPE	Identifies Sample by Number Sample Collection Method	CLAY	DEBRIS FILL	DRILLING METHOD
	SPLIT-BARREL	AUGER	SILT	HIGHLY ORGANIC (PEAT)	PERCUSSION
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	SAND	SANDY CLAY	DRILLED BY
	ROCK CORE	GRAVEL	CLAYEY SAND	LOGGED BY	
	NO RECOVERY	SILTY CLAY	CLAYEY SILT	ED Krish	
DEPTH	Depth Top and Bottom of Sample			EXISTING GRADE ELEVATION (FT AMSL)	
REC.	Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES	

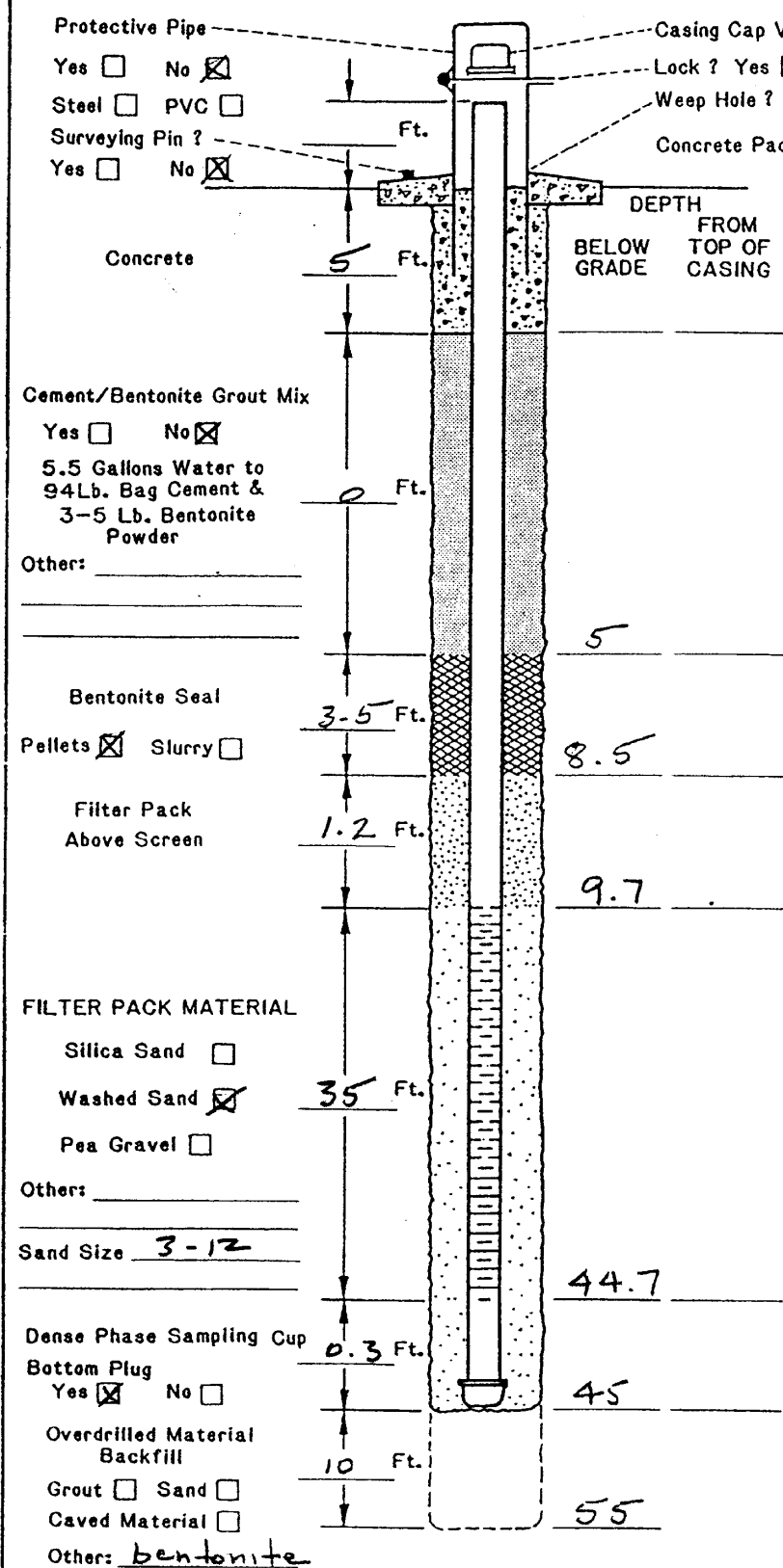
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON NV		BORING NUMBER PC 108					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
45	vf g, A-SR sd in silt.		SM								
45	45-50 SILT, clay, mod oran pink (10R 7/4). 30-40% clay in matrix		ML								MC @ 45
50	50-55 CLAY, silty, lt gray (5GY 8/1). Sp blk organics, tr gypsum		CL								
55	TD @ 55										

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2-5-01	PAGE 2 of 2
		Water Table (Time of Boring)			DRILLING METHOD PERCUSSION	
		Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			DRILLED BY LAYNE	
		SPLIT-BARREL			LOGGED BY Ed Krish	
		AUGER			EXISTING GRADE ELEVATION (FT AMSL)	
	THIN-WALLED TUBE			LOCATION OR GRID COORDINATES		
	ROCK CORE					
	CONTINUOUS SAMPLER					
	NO RECOVERY					
DEPTH	Depth Top and Bottom of Sample					
REC.	Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH MOUNT

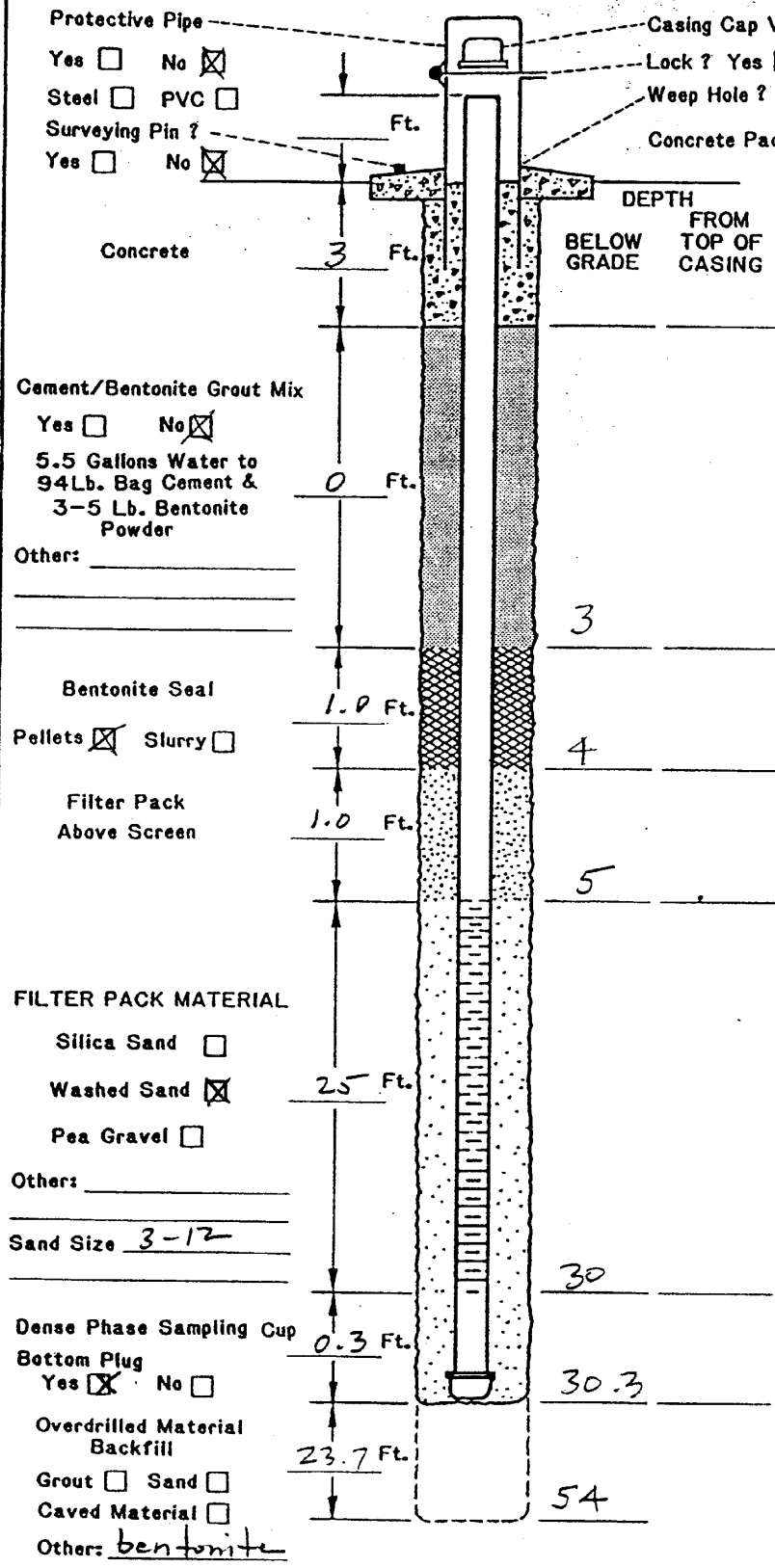


- DRILLING INFORMATION:**
- Borehole Diameter= 9 Inches.
 - Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.
- WELL CONSTRUCTION INFORMATION:**
- Type of Casings: PVC Galvanized Teflon
Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
 - Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
 - Slot Size of Screens: 0.020
 - Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
 - Installed Protector Pipe w/Lock: Yes No
- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
 - Time Spent on Well Development? _____ / _____ Minutes/Hours
 - Approximate Water Volume Removed? _____ Gallons
 - Water Clarity Before Development? Clear
Turbid Opaque
 - Water Clarity After Development? Clear
Turbid Opaque
 - Did Water have Odor? Yes No
If Yes, Describe _____
 - Did Water have any Color? Yes No
If Yes, Describe _____
- WATER LEVEL INFORMATION:**
Water Level Summary (From Top of Casing)
- During Drilling 9 Ft. Date 2-5-01
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Driller/Firm LAYNE Drill Rig Type AP 1000 Date Installed 2-5-01
Drill Crew PERRY HORMAN Well No. PC 108 Kerr-McGee Hydrologist ED KRISH

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
MOUNT



Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete 3 Ft.

Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
0 Ft.

Bentonite Seal
Pellets Slurry
1.9 Ft.

Filter Pack
Above Screen
1.0 Ft.

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Others: _____
Sand Size 3-12

Dense Phase Sampling Cup
Bottom Plug
Yes No
0.3 Ft.

Overdrilled Material
Backfill
Grout Sand
Caved Material
Others: bentonite
23.7 Ft.

DEPTH
BELOW GRADE FROM TOP OF CASING
3
4
5
30
30.3
54

DRILLING INFORMATION:

- Borehole Diameter= 9 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth= _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.02
- Type of Screen Perforations: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____/_____/_____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 10 Ft. Date 2-8-01
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 2-8-01
Drill Crew PERRY HORMAN Well No. PC 113 Kerr-McGee Hydrologist Ed Krish

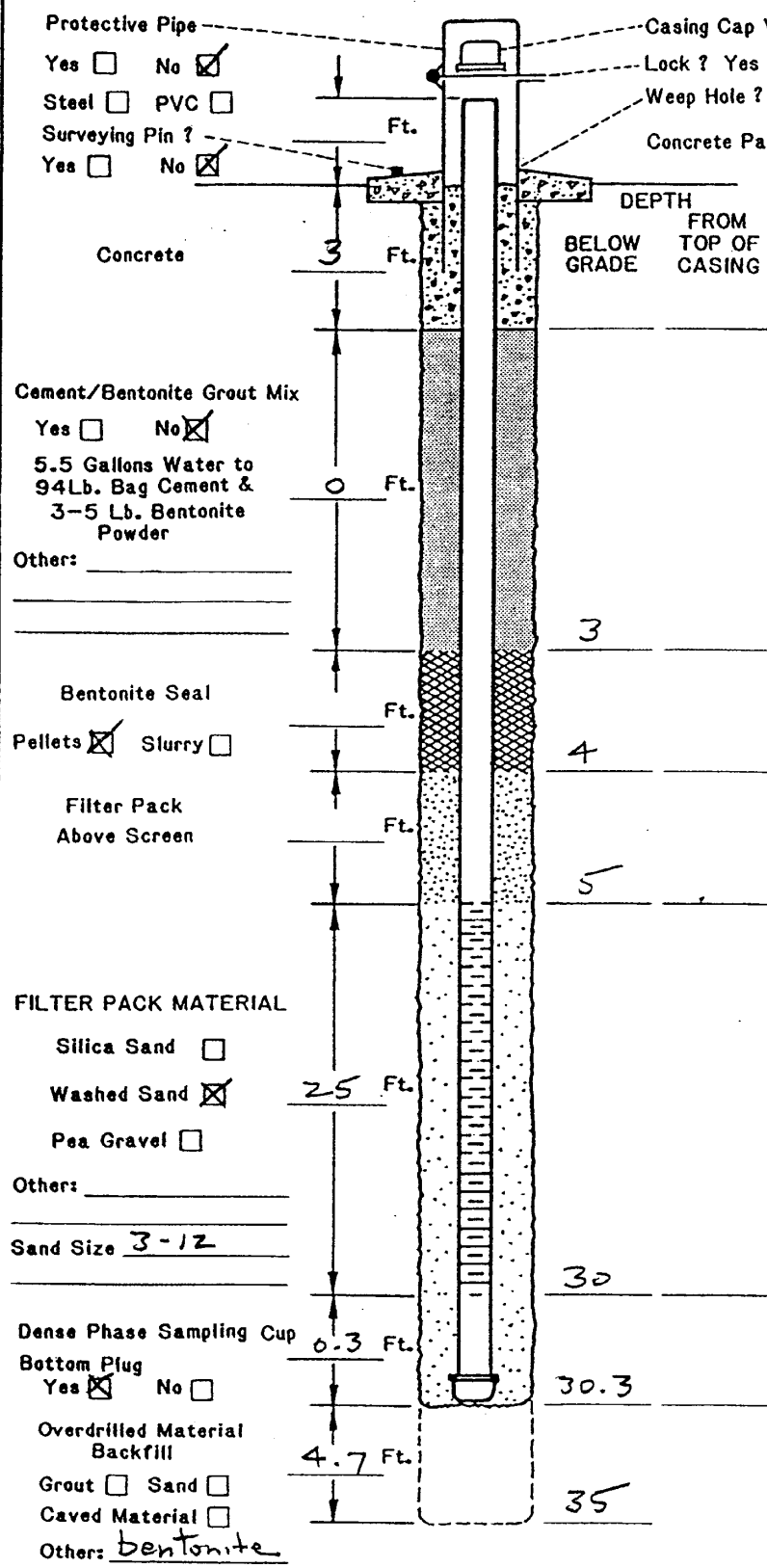
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 114				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
3	0-3 SAND, silty, mod yell brn (). vf-vc, A-SR, 30-40% silt		SM							
10	3-10 SAND, gravelly w/ thin interbeds of silty sand. dk yell brn (), vf-vc, SA-SR w/ 20-30% volc gran. to 3/8". 20-30% silt in sdy zones. Com calc. 9-10 lg cobbles to 4"		SW							
16	10-16 GRAVEL, sdy w/ thin interbeds of sdy SILT, brn. 30-40%, vf-vc, SA-SR sd. sl. calc. PEA Grwel to 1"		GW							WTR @ 15'
21	16-21 SAND, silty, brn f-vc, SA-SR w/ minor (10-20%) granules. 20-30% silt. sl. calcareous		SM							
29	21-29 GRAVEL, sdy w/ minor silty SAND interbeds brn. sl. calc. 20-30% vf-vc, SA-SR sd ± 20-30% silt in coarsening downward volc, SA-SR gravel... 3/8" - 1/2" to 25' then 3/4" - 1" to 29'		GW							
32	29'-29' 28'-29' com cobbles 3"		CL							MCE @ 29'
35	29-32 CLAY, lt grn gry. sp vf gyp xtals, fr-sp oxid. organic frags		CL							
	32-35 CLAY, silty, pale olive (10YR 6/2), 10-20% silt sp gyp, sp blk organics									TD 35'

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 2-8-01	PAGE 1 of 1	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION		
	PID NO. identifies Sample by Number TYPE Sample Collection Method	SILT	SAND	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	SPLIT-BARREL	AUGER	GRAVEL	SANDY CLAY	LOGGED BY ED KRISH	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	SILTY CLAY	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	CLAYEY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
	NO RECOVERY					
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

*FLUSH
Mount*



Protective Pipe
Yes No
Steel PVC
Surveying Pin?
Yes No

Casing Cap Vent? Yes No
Lock? Yes No
Weep Hole? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

DRILLING INFORMATION:

- Borehole Diameter = 9 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screen: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 2 Inches, Screen 2 Inches.
- Slot Size of Screens: 0.020
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Lock: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development?
_____ / _____ Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 15' Ft. Date 2-8-01
Before Development _____ Ft. Date _____
After Development _____ Ft. Date _____

Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry

Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Others: _____

Sand Size 3-12

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Others: bentonite

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 2-8-01
Drill Crew PERRY HORMAN Well No. PC 114 Kerr-McGee Hydrologist EJ Krish

SOIL BORING LOG KM-5655-B

KERR-MCGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV
		BORING NUMBER PC 115

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-15 SAND, v. silty, brn, w/ 20-30% silt in matrix, locally calcareous SD is vf-fg, SA-A	[Symbol]	SM							MOIST @ 1' PERCHED WTR 2'-12'
10	8-15 mod-com wht caliche nodules to 3/4"	[Symbol]								damp/wet 12'-18'
18	15-18 SILT, sdy, brn, w/ 20-30% vfg sd	[Symbol]	ML							
26	18-26 GRAVEL, lt brn, pea gravel to 1" w/ 10-20% f-vc sd in matrix, volc gravel SA-SR	[Symbol]	GW							WTR @ 18'
28	26-28 SAND, silty, pale brn, 20% silt in vf-vc sd w/ 10-20% volc granules and caliche nodules	[Symbol]	SM							
35	28-42 GRAVEL, locally sdy and silty, pale brn, up to 6" cobbles, SR-SA, volc and ls. 28'-32' volc ls to 2", 10-20% vf-vc sd	[Symbol]	GP							

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-16-01	PAGE 1 of 1
		Water Table (Time of Boring) Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		CLAY		DEBRIS FILL
		SPLIT-BARREL		SILT		HIGHLY ORGANIC (PEAT)
		AUGER		SAND		SANDY CLAY
		ROCK CORE		GRAVEL		CLAYEY SAND
	THIN-WALLED TUBE		SILTY CLAY		CLAYEY SILT	
	CONTINUOUS SAMPLER		NO RECOVERY			
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet				DRILLED BY LAYNE		LOGGED BY E KRISH
				EXISTING GRADE ELEVATION (FT. AMSL)		LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

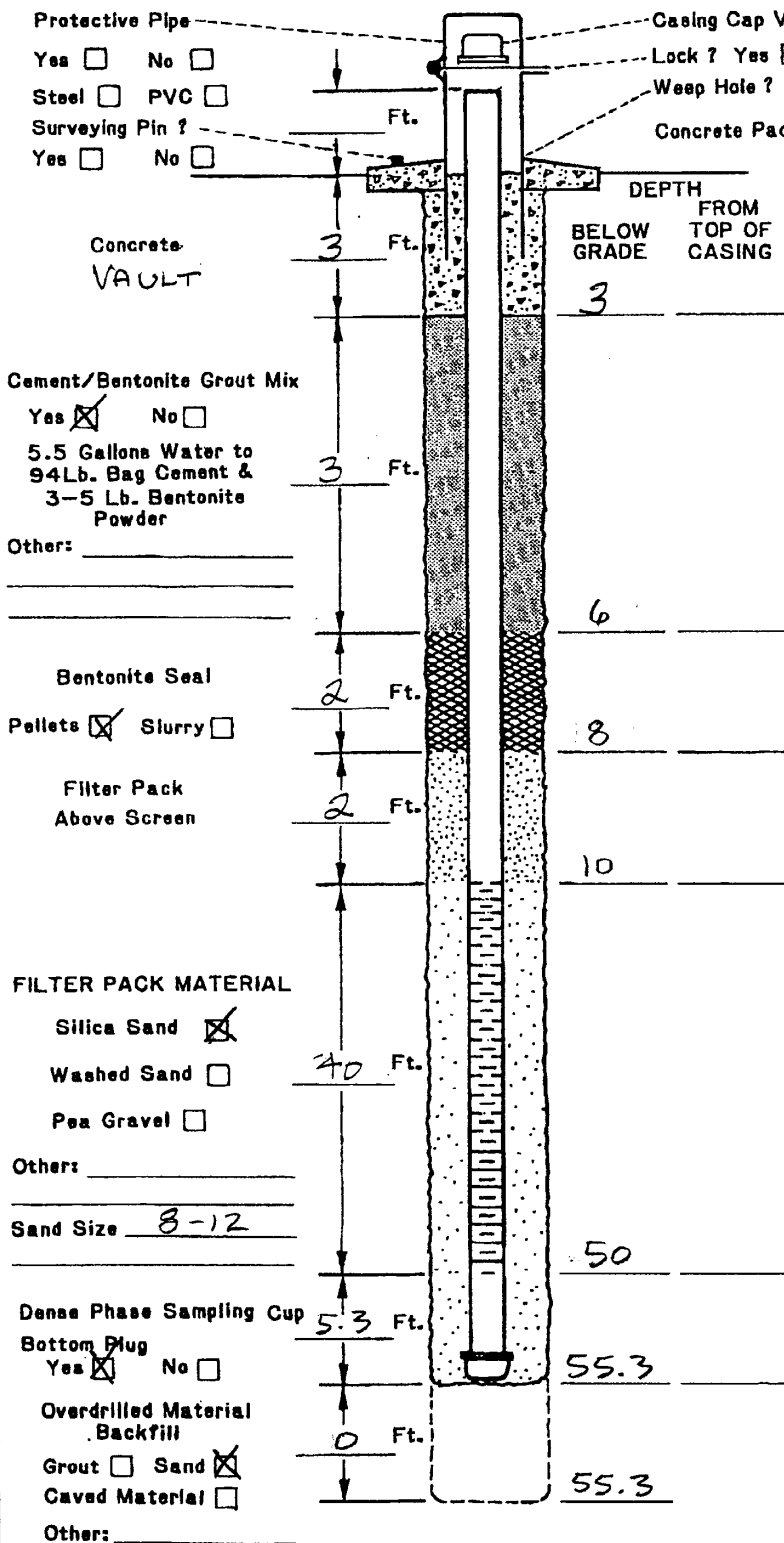
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION Henderson NV	BORING NUMBER PC 115
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
42	32-36 silty zone. Com thin interbeds of silty, vf-m sd w/ minor caliche nodules. 20-30% silt. Cubbles to 4"		GP							
43			ML							
45	36'-42' Smaller pebbles ave 1/2"-2", volc + ls, SA-SR		GM							
49	42-43 SILT, sdy, lt brn, w/ 20-30% vfg sd		CL							TOP MC @ 49
55	43-49 GRAVEL, sdy, pale brn w/ 25-35% vf-vc SR-SA sd and 10-15% silt. Gravel ave 3/4"-2" w/ minor 4"-6". volc + ls, SA-SR 48.5-49 Hard calichified gravel 49-55 CLAY, silty green. sp. root traces, tr-sp gyp xtals							TD 55'		

EXPLANATION	▼ Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 5-16-01	PAGE 2 of 2
	∇ Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	PID Photoionization Detection (ppm)	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	NO. Identifies Sample by Number	SAND	SANDY CLAY	LOGGED BY E. KRISH	
	TYPE Sample Collection Method	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	SPLIT-BARREL	AUGER	ROCK CORE	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY			
DEPTH Depth Top and Bottom of Sample	REC. Actual Length of Recovered Sample in Feet	SILTY CLAY	CLAYEY SILT		

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

FLUSH
Mount
IN
VAULT



DRILLING INFORMATION:

- Borehole Diameter = 11.5 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screen:
Casing 6 Inches, Screen 6 Inches.
- Slot Size of Screens: 0.040
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Locks: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development? 160 Minutes/Hours
- Approximate Water Volume Removed? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)

During Drilling 18 Ft. Date 5-16-01

Before Development _____ Ft. Date _____

After Development _____ Ft. Date _____

Driller/Firm MARTIN / Layne Drill Rig Type AP-1000 Date Installed 5-23-01

Drill Crew Jose / Don Well No. PC 115 Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 115R			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
0-5	SAND, brn, m-vc w/ 10-20% silt		SM						0-4 damp
5-9	Gravel, sdy, f-vc sand 10-30%; gravel mostly 1/4"-1"		GP						4-9 wet
9-27	SAND, silty w/ minor interbedded sdy SILT, brn, vf-m. Varying silt 20-50%		SM						9-25 damp moist
22-24	Can. sd size caliche nodules								@ 25' wet
27-44	Gravel, sdy w/minor local silty sd layers Series of fining-upward channel deposits		GP						
35	Gravel, volc, SA-SR, 1/4"-1" w/ minor 4-8" Sand 20-60% vf-vc silt 10-30% locally								

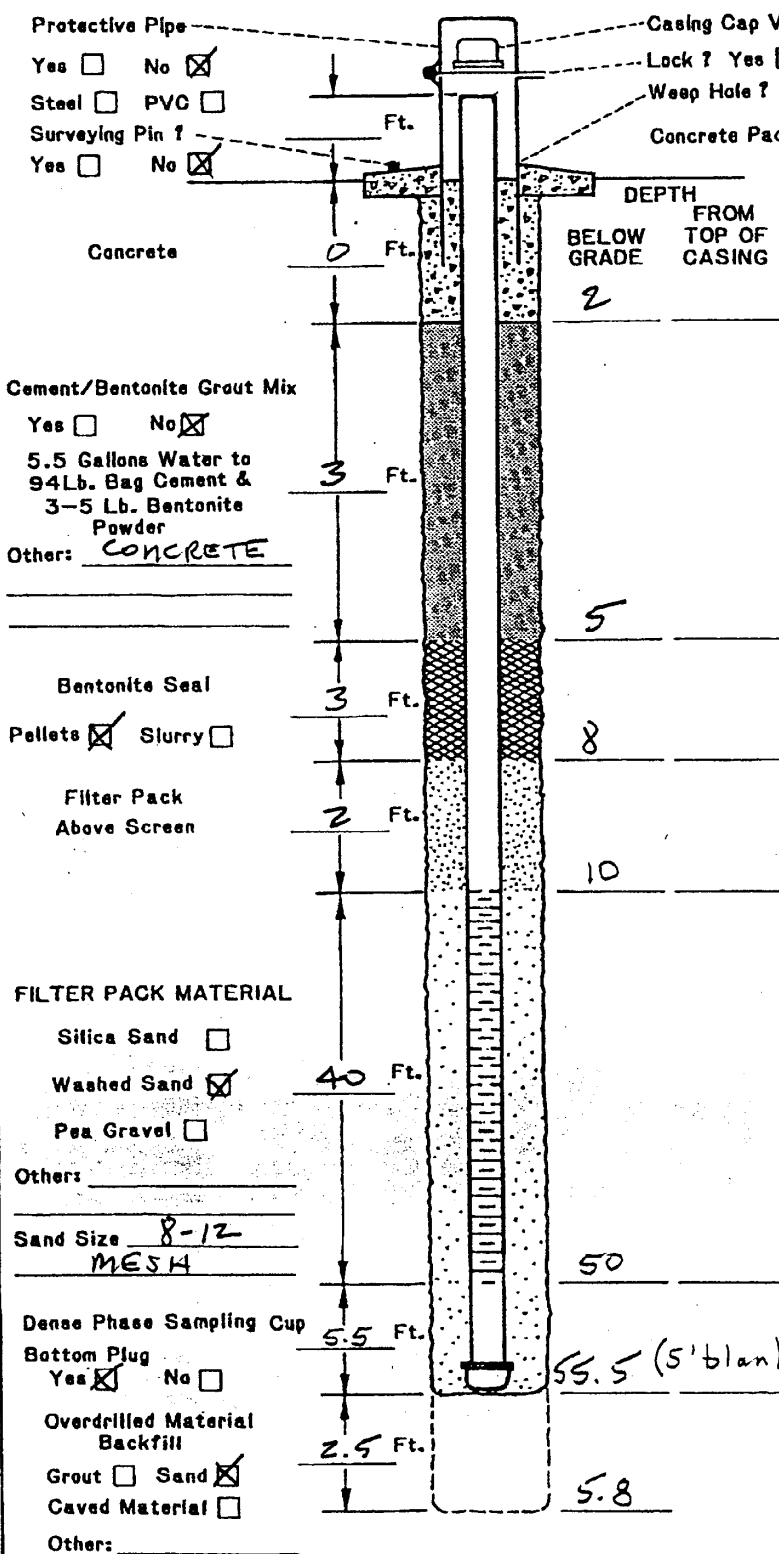
EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 7-18-01	PAGE 1 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	PID NO. Identifies Sample by Number TYPE Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	SPLIT-BARREL	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	AUGER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
THIN-WALLED TUBE	SILTY CLAY	CLAYEY SILT	LOCATION OR GRID COORDINATES		
ROCK CORE	NO RECOVERY				
CONTINUOUS SAMPLER					
DEPTH DEPTH Top and Bottom of Sample					
REC. REC. Actual Length of Recovered Sample in Feet					

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON		BORING NUMBER PC 15R					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS	
						NO.	TYPE	DEPTH	REC.		
44	44-50 GRAVEL, sdy 14 brn, inc in ls pebbles and caliche nodules no lg cobbles as above (max 2")		GW								
50				50-58 CLAY, silty gnish + blue gnish		CL					
58	TD 58										

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 7-18-01	PAGE 2 of 2
		Water Table (Time of Boring)			DRILLING METHOD
		Photoionization Detection (ppm)		DRILLED BY	
		Identifies Sample by Number		LOGGED BY	
		Sample Collection Method		EXISTING GRADE ELEVATION (FT. AMSL)	
		SPLIT-BARREL		LOCATION OR GRID COORDINATES	
		AUGER			
		ROCK CORE			
		THIN-WALLED TUBE			
		CONTINUOUS SAMPLER			
		NO RECOVERY			
		DEPTH Depth Top and Bottom of Sample			
		REC. Actual Length of Recovered Sample in Feet			

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



- DRILLING INFORMATION:**
- Borehole Diameter = 1 3/4 Inches.
 - Were Drilling Additives Used? Yes No
 Revert Bentonite Water
 Solid Auger Hollow Stem Auger
 - Was Outer Steel Casing Used? Yes No
 Depth = _____ to _____ Feet.
 - Borehole Diameter for Outer Casing _____ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC Galvanized Teflon
 Stainless Other _____
 - Type of Casing Joints: Screw-Couple Glue-Couple Other _____
 - Type of Well Screens: PVC Galvanized
 Stainless Teflon Other _____
 - Diameter of Casing and Well Screen:
 Casing 8 Inches, Screen 8 Inches.
 - Slot Size of Screen: 0.040
 - Type of Screen Perforation: Factory Slotted
 Hacksaw Drilled Other V-WIRE
 - Installed Protector Pipe w/ Locks: Yes No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing Pumping
 Air Surging (Air or Nitrogen) Other SURGE BLOCK
 - Time Spent on Well Development? 1 3/2 Minutes/Hours
 - Approximate Water Volume Removed 12000 Gallons
 - Water Clarity Before-Development? Clear
 Turbid Opaque
 - Water Clarity After Development? Clear
 Turbid Opaque
 - Did Water have Odor? Yes No
 If Yes, Describe _____
 - Did Water have any Color? Yes No
 If Yes, Describe _____

WATER LEVEL INFORMATION:
 Water Level Summary (From Top of Casing)

During Drilling _____ Ft. Date _____
 Before Development _____ Ft. Date _____
 After Development 5.46 Ft. Date 7-24-01

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 7-19-01
 Drill Crew P. HORMAN Well No. PC 115R Kerr-McGee Hydrologist ED KRISHI

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV		BORING NUMBER PC 116					
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
3	0-3 GRAVEL, sdy & slty, brn. 70% volc, SA-SR gran. + pebbles to 2" w/ 20% vf-vc SA SR sd + 10% silt		GM							moist @ 1'
9	3-9 SAND, grav. & slty, brn. 70% vf-vc, SA-SR sd w/ 10% volc grav. and 20% silt.		SP/SM							perched wtr 2'-9'
18	9-18 SAND, slty, brn vf-fg w/minor m-c g w/ 20% silt in matrix and a thin SILT interbeds. Contains dissem. 1/2"-1" caliche nodules		SM							damp/wet 9'-20'
20	18-20 SILT, sdy, gry grn + wht. Com caliche nodules (sd size) and stringers. w/ 20% vf-fg sd in matrix		ML							WTR @ 20'
26	20-26 SAND, slty, brn 80% vf-m w/minor c-vc + minor volc granules. 20% silt		SM							
30	26-47 GRAVEL, sdy & slty, pale brn. 70-80% volc + ls granules to cobbles w/ 20-30% vf-vc SA SR sd + 10-20% silt		GM							
35	26-37 granules + pea grav to 1" 37-47 cobbles up to 6"		GM							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 5-17-01	PAGE 1 of 2	
	Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT	DRILLING METHOD PERCUSSION	
	PID NO. TYPE			DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLED BY LAYNE
	SPLIT-BARREL		AUGER	ROCK CORE	LOGGED BY ED KRISH
	THIN-WALLED TUBE		CONTINUOUS SAMPLER	NO RECOVERY	EXISTING GRADE ELEVATION (FT. AMSL)
DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet			LOCATION OR GRID COORDINATES		

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERS-N NV	BORING NUMBER PC116
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DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45		(Symbol: circles in a column)	GM							
47										
50	47-55 CLAY and silty clay. Root traces & sm. gyp x'tals 47-51 green 51-55 blue green	(Symbol: diagonal lines)	CL							MC @ 47'
55	TD @ 55'									

EXPLANATION	▼	Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED	PAGE	
	▽	Water Table (Time of Boring)	(Symbol: diagonal lines)	CLAY	(Symbol: squares)	DEBRIS FILL	of
	PID	Photoionization Detection (ppm)	(Symbol: horizontal lines)	SILT	(Symbol: wavy lines)	HIGHLY ORGANIC (PEAT)	
	NO.	Identifies Sample by Number	(Symbol: dots)	SAND	(Symbol: diagonal lines)	SANDY CLAY	DRILLING METHOD
TYPE	Sample Collection Method	(Symbol: vertical lines)	GRAVEL	(Symbol: diagonal lines)	CLAYEY SAND	DRILLED BY	
(Symbol: X)	SPLIT-BARREL	(Symbol: vertical bar)	AUGER	(Symbol: diagonal lines)	SILTY CLAY	LOGGED BY	
(Symbol: solid black)	THIN-WALLED TUBE	(Symbol: vertical bar)	CONTINUOUS SAMPLER	(Symbol: diagonal lines)	CLAYEY SILT	EXISTING GRADE ELEVATION (FT. AMSL)	
(Symbol: vertical bar)	ROCK CORE	(Symbol: diagonal lines)	NO RECOVERY	(Symbol: empty box)		LOCATION OR GRID COORDINATES	
DEPTH	Depth Top and Bottom of Sample						
REC.	Actual Length of Recovered Sample in Feet						

**KERR-McGEE CORPORATION
HYDROLOGY DEPARTMENT
MONITORING WELL INSTALLATION DIAGRAM**

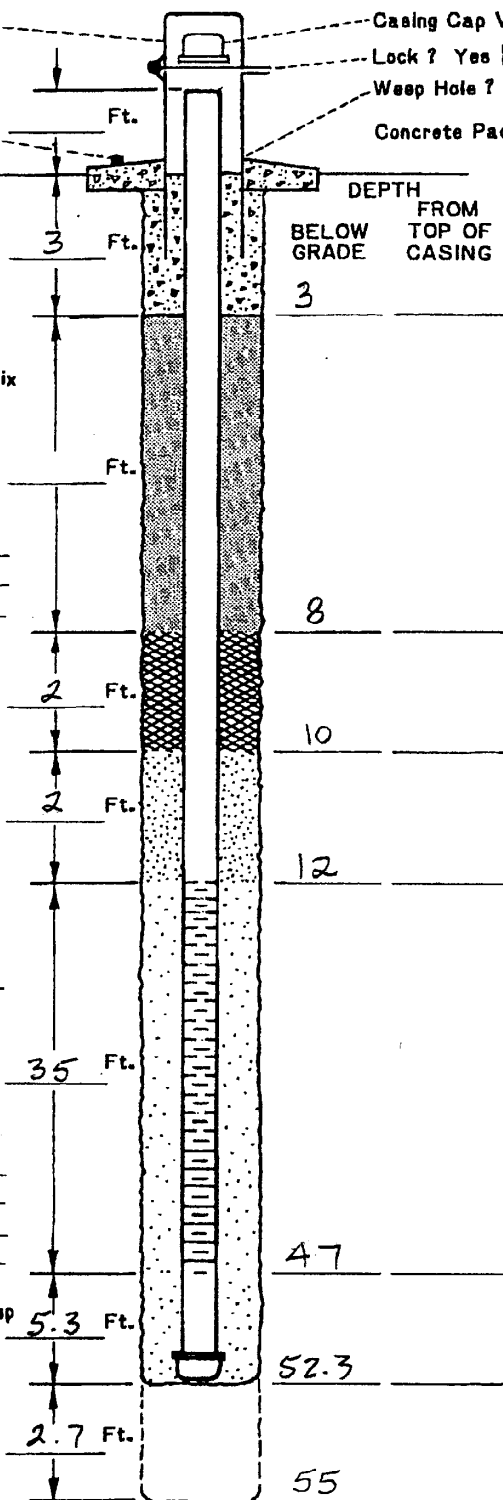
FLUSH
MOUNT
IN
VAULT

Protective Pipe
Yes No
Steel PVC
Surveying Pin ?
Yes No

Casing Cap Vent ? Yes No
Lock ? Yes No
Weep Hole ? Yes No

Concrete Pad _____ Ft. x _____ Ft. x _____ Inches

Concrete
VAULT



DEPTH
FROM
BELOW
GRADE
TOP OF
CASING

3
8
10
12
47
52.3
55

Cement/Bentonite Grout Mix
Yes No
5.5 Gallons Water to
94Lb. Bag Cement &
3-5 Lb. Bentonite
Powder
Other: _____

Bentonite Seal
Pellets Slurry
Filter Pack
Above Screen

FILTER PACK MATERIAL
Silica Sand
Washed Sand
Pea Gravel
Other: _____

Sand Size 8x12

Dense Phase Sampling Cup
Bottom Plug
Yes No

Overdrilled Material
Backfill
Grout Sand
Caved Material
Other: _____

DRILLING INFORMATION:

- Borehole Diameter = 11.5 Inches.
- Were Drilling Additives Used? Yes No
Revert Bentonite Water
Solid Auger Hollow Stem Auger
- Was Outer Steel Casing Used? Yes No
Depth = _____ to _____ Feet.
- Borehole Diameter for Outer Casing _____ Inches.

WELL CONSTRUCTION INFORMATION:

- Type of Casing: PVC Galvanized Teflon
Stainless Other _____
- Type of Casing Joints: Screw-Couple Glue-Couple Other _____
- Type of Well Screens: PVC Galvanized
Stainless Teflon Other _____
- Diameter of Casing and Well Screens:
Casing 6 Inches, Screen 6 Inches.
- Slot Size of Screens: 0.040
- Type of Screen Perforation: Factory Slotted
Hacksaw Drilled Other _____
- Installed Protector Pipe w/Locks: Yes No

WELL DEVELOPMENT INFORMATION:

- How was Well Developed? Bailing Pumping
Air Surging (Air or Nitrogen) Other _____
- Time Spent on Well Development ?
1.60 Minutes/Hours
- Approximate Water Volume Removed ? _____ Gallons
- Water Clarity Before Development? Clear
Turbid Opaque
- Water Clarity After Development? Clear
Turbid Opaque
- Did Water have Odor? Yes No
If Yes, Describe _____
- Did Water have any Color? Yes No
If Yes, Describe _____

WATER LEVEL INFORMATION:

Water Level Summary (From Top of Casing)
During Drilling 20 Ft. Date 5-17-01
Before Development 0.90 Ft. Date 5-18-01
After Development _____ Ft. Date _____

Driller/Firm MARTIN / LAYNE

Drill Rig Type AP 1000

Date Installed 5-25-01

Drill Crew JOSE / DON

Well No. PC 116

Kerr-McGee
Hydrologist Ed Krish

SOIL BORING LOG KM-5655-B

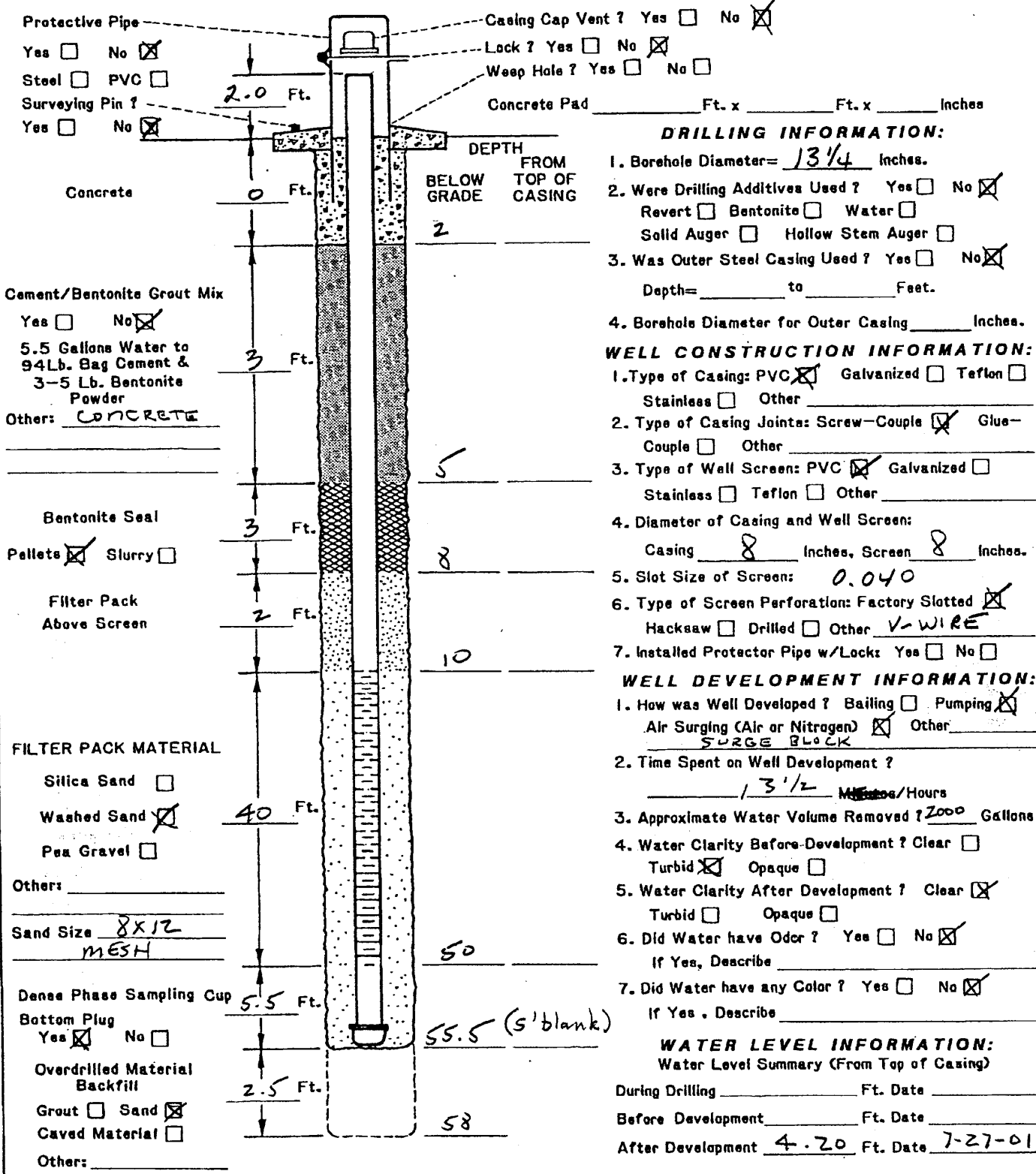
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON		BORING NUMBER PC 116 R		
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE		REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	
5	0-10 GRAVEL, sdy and SAND, gravelly - interbedded. Minor thin silty layers. Brn. 50-80% gran → 2" peb. 10-30% silt in sdy matrix 20-50% vf-vc, SA sd.		GW/SW					damp @ 1' Wet 2-18'
15	10'-18' SAND, silty brn, vf-c g, SA 10-30% silt in matrix locally com. sd-size caliche nodules		SM					
18	18-20 SILT, sdy, gry grn, com caliche nods, 20-30% vt-fcd		ML					damp
20	20-27 SAND, silty, lt. brn. vf-mg w/minor c-vc. 20-30% silt in matrix		SM					WTR @ 20'
27	27-49 GRAVEL, sdy w/minor gravelly sand and silty sand. pale brn (Series of fining-up seq.) 70% vol + ls. granules → cobbles. 20-30% f-vc sd and thin layers w/ 20-30% silt in sdy matrix		GP/GM					
35	27-38 pea gravel							

EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND	DATE DRILLED 7-25-01	PAGE 1 of 2
	Water Table (Time of Boring)		CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DRILLING METHOD PERCUSSION
	PID NO. TYPE Identifies Sample by Number Sample Collection Method	SPLIT-BARREL AUGER THIN-WALLED TUBE ROCK CORE CONTINUOUS SAMPLER NO RECOVERY		DRILLED BY LAYNE
	DEPTH REC. Depth Top and Bottom of Sample Actual Length of Recovered Sample in Feet		EXISTING GRADE ELEVATION (FT. AMSL)	LOCATION OR GRID COORDINATES

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 116R			
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 5'	PID (ppm)	SOIL SAMPLE			REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	
45	38'-49' con. cobbles to 6"	[Graphic: circles of various sizes]	GP / GM						
49	49-58 CLAY & silty clay, w/ root traces & sm. gyp x fols. greenish and blue green	[Graphic: diagonal hatching]	CL						MCE 49' damp
58	TD 58'								
EXPLANATION	Water Table (24 Hour)	GRAPHIC LOG LEGEND			DATE DRILLED 7-25-01	PAGE 2 of 2			
	Water Table (Time of Boring)				DRILLING METHOD PERCUSSION				
	PID Photoionization Detection (ppm)	CLAY	DEBRIS FILL	DRILLED BY LAYNE					
	NO. Identifies Sample by Number	SILT	HIGHLY ORGANIC (PEAT)	LOGGED BY Ed KRISH					
TYPE Sample Collection Method	SAND	SANDY CLAY	EXISTING GRADE ELEVATION (FT. AMSL)						
SPLIT-BARREL	GRAVEL	CLAYEY SAND	LOCATION OR GRID COORDINATES						
AUGER	SILTY CLAY	CLAY							
ROCK CORE	CLAYEY SILT	NO RECOVERY							
THIN-WALLED TUBE									
CONTINUOUS SAMPLER									
DEPTH Depth Top and Bottom of Sample									
REC. Actual Length of Recovered Sample in Feet									

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



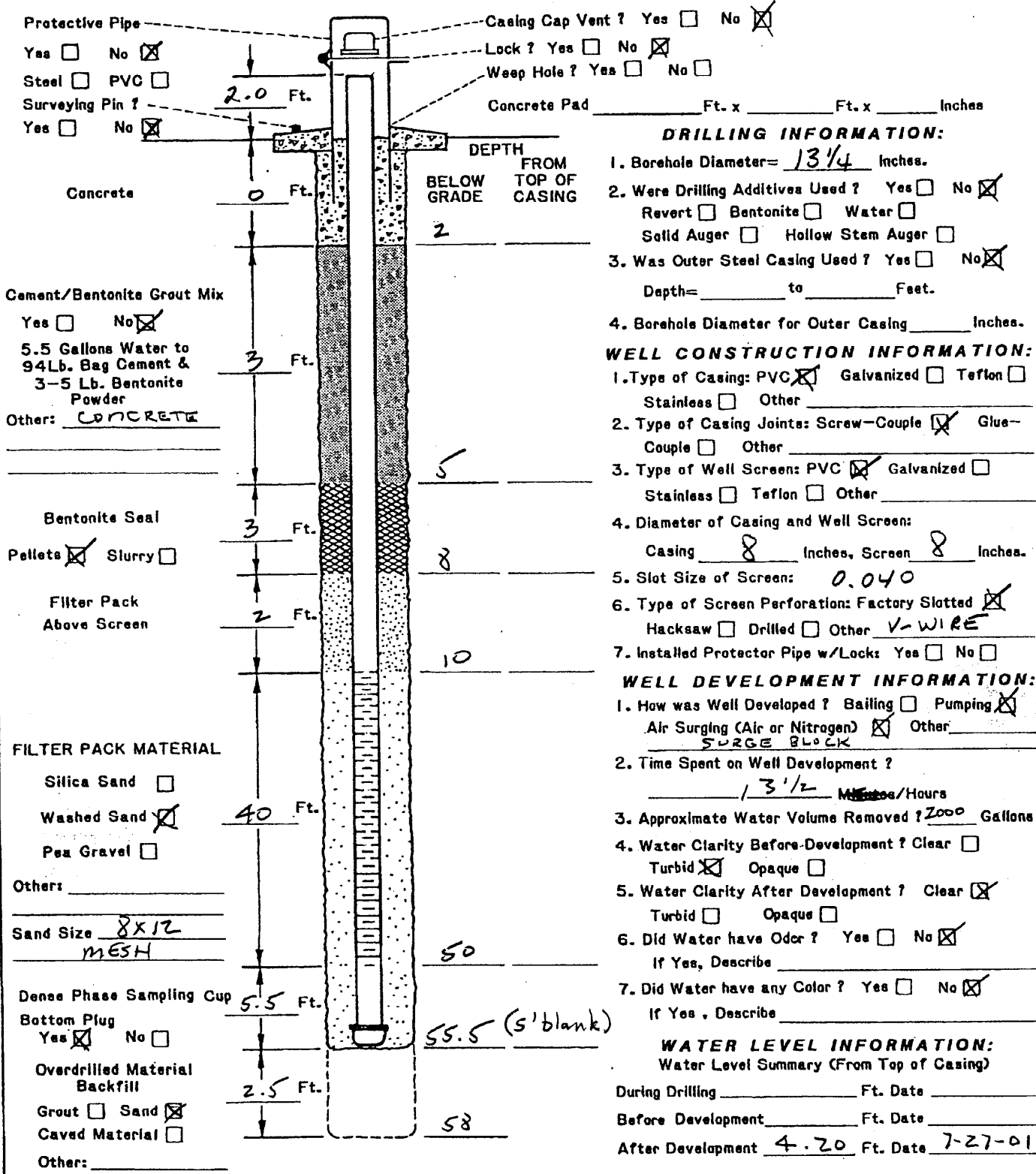
Driller/Firm LAYNE Drill Rig Type AP 1000 Date Installed 7-26-01
 Drill Crew P. HORMAN Well No. PC116R Kerr-McGee Hydrologist ED KRISH

SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division		KM SUBSIDIARY KMC LLC		LOCATION HENDERSON, NV		BORING NUMBER PC 116R				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	38'-49' com. cobbles to 6"		GP / GM							
49	49-58 CLAY & silty clay, w/ root traces & sm. gyp x fols. greenish and blue green		CL							MC @ 49' damp
58	TD 58'									

EXPLANATION		Water Table (24 Hour)	GRAPHIC LOG LEGEND		DATE DRILLED 7-25-01	PAGE 2 of 2
		Water Table (Time of Boring)			DRILLING METHOD PERCUSSION	DRILLED BY LAYNE
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method			LOGGED BY Ed KRISH	EXISTING GRADE ELEVATION (FT. AMSL)
		SPLIT-BARREL			LOCATION OR GRID COORDINATES	
	THIN-WALLED TUBE					
	NO RECOVERY					
	ROCK CORE					
DEPTH Depth Top and Bottom of Sample		REC. Actual Length of Recovered Sample in Feet				

KERR-McGEE CORPORATION HYDROLOGY DEPARTMENT MONITORING WELL INSTALLATION DIAGRAM



Driller/Firm LAYNE Drill Rig Type AP 1000 Date Installed 7-26-01
 Drill Crew P. HORMAN Well No. PC116R Kerr-McGee Hydrologist ED KRISH

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry, no matter how small, should be recorded to ensure the integrity of the financial statements. This includes not only sales and purchases but also expenses and income. The document provides a detailed list of items that should be tracked, such as inventory levels, accounts payable, and accounts receivable. It also outlines the procedures for recording these transactions, including the use of double-entry bookkeeping to ensure that the books balance.

The second part of the document focuses on the analysis of the recorded data. It explains how to calculate key financial ratios and metrics, such as the gross profit margin, operating profit, and return on investment. These calculations are essential for understanding the company's financial performance and identifying areas for improvement. The document also discusses the importance of comparing the company's performance to industry benchmarks and providing a clear explanation of any variances.

The final part of the document covers the preparation of financial statements. It provides a step-by-step guide to creating the income statement, balance sheet, and cash flow statement. It emphasizes the need for accuracy and transparency in these reports, as they are used by management, investors, and other stakeholders to make informed decisions. The document also includes a checklist of items to verify before finalizing the statements, such as ensuring that all transactions are properly recorded and that the accounts are balanced.

- Excerpt -
 See H-series
 for full table

TABLE 3.3 (Cont'd)

WELL	TOTAL DEPTH	SCREENED OR OPEN HOLE INTERVAL	DEPTH TO WATER AND YEAR MEASURED				DEPTH OF MUDDY CREEK FORMATION
			1971	1980	1982	1983	
LG-33 deepened to 60 in May 1980	45 old 60 new	35-45 50-60	38 March Dry April	Dry May 49 May	50.72 Jun 51.03 Aug 51.31 Oct 51.47 Dec	51.94 Feb	52
LG-151 LG-165				49.7 25			
PG-101	41	31-41		22.3			
PG-102	26	16-26		26	Abd.		
PG-103	16	6-16		4.3			
PG-104	25	15-25		12			
PG-105	25	15-25		13.5			
PG-106	21	11-21		6			
PG-107	22	12-22		15	Abd.		
PG-108	20	10-20		12	Abd.		
PG-109	26	16-26		20.5			
PG-110	21	11-21		11	Abd.		
PG-111	21	11-21		9.8			
PG-112	21	11-21		16.5			
PG-220					47.1		
PG-233					22.2		25
PG-235					24.2		35.6
PG-237					18.3		16.2

Well Owners:

- H - Stauffer's 'H' Series Monitoring Wells
- LG - Desert Research Institute Monitoring Wells, L.V.
- PG - Pittman Groundwater Monitoring Wells, by EPA

LOG OF TEST PIT OR AUGER HOLE FOR BORROW AND FOUNDATION INVESTIGATIONS				
Feature - <u>Pittman Ground Water Study</u>		North of Valley Liquidations		
Note No. <u>PG 101</u>		Area Designation <u>6" X 41'</u>		
Coordinates N. <u>T22S, R62E, 1 Sec 2 ADC</u>		Approx. Dimensions <u>6" X 41'</u>		
Depth to Water Level: <u>26'</u>		Logged by <u>Russell and Trudeau</u>		
Method of Excavation <u>6" flite Auger</u>		Ground Elevation <u>1669.8</u> Date <u>5/5/80</u>		
CLASSIFICATION SYMBOL LETTER	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION"; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **
GM	0-34'		Poorly Graded GRAVEL: Sandy; Approximately 50% fine gravel* with 30% sand and 20% non plastic fines. Interspersed with basalt cobbles, more sandy at about 20' with gravel dropping to about 40%. From 24' depth to 34' depth is layer of caliche dense, fine grained and hard. Limy, tan, dry to wet. Quaternary Alluvial Sand and Valley Fill mixtures (Qsmg)	
CL	34-41'		Lean CLAY: Sandy; Approximately 70% medium plastic fines with 30% fine sand. Limy, reddish brown, wet. Tertiary Muddy Creek Formation (Tmc)	
REMARKS: Hole is on edge of city street. Hole was difficult to auger. Paved and caved. Water at 26'. Set stand pipe 6" below ground surface. Marked area with paint 15 minutes after installing standpipe water level was 28.5. *This machine will not recover material much over 1 1/2".				

NOTES: Record water test and density test data, if applicable, under remarks.

* Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.

** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

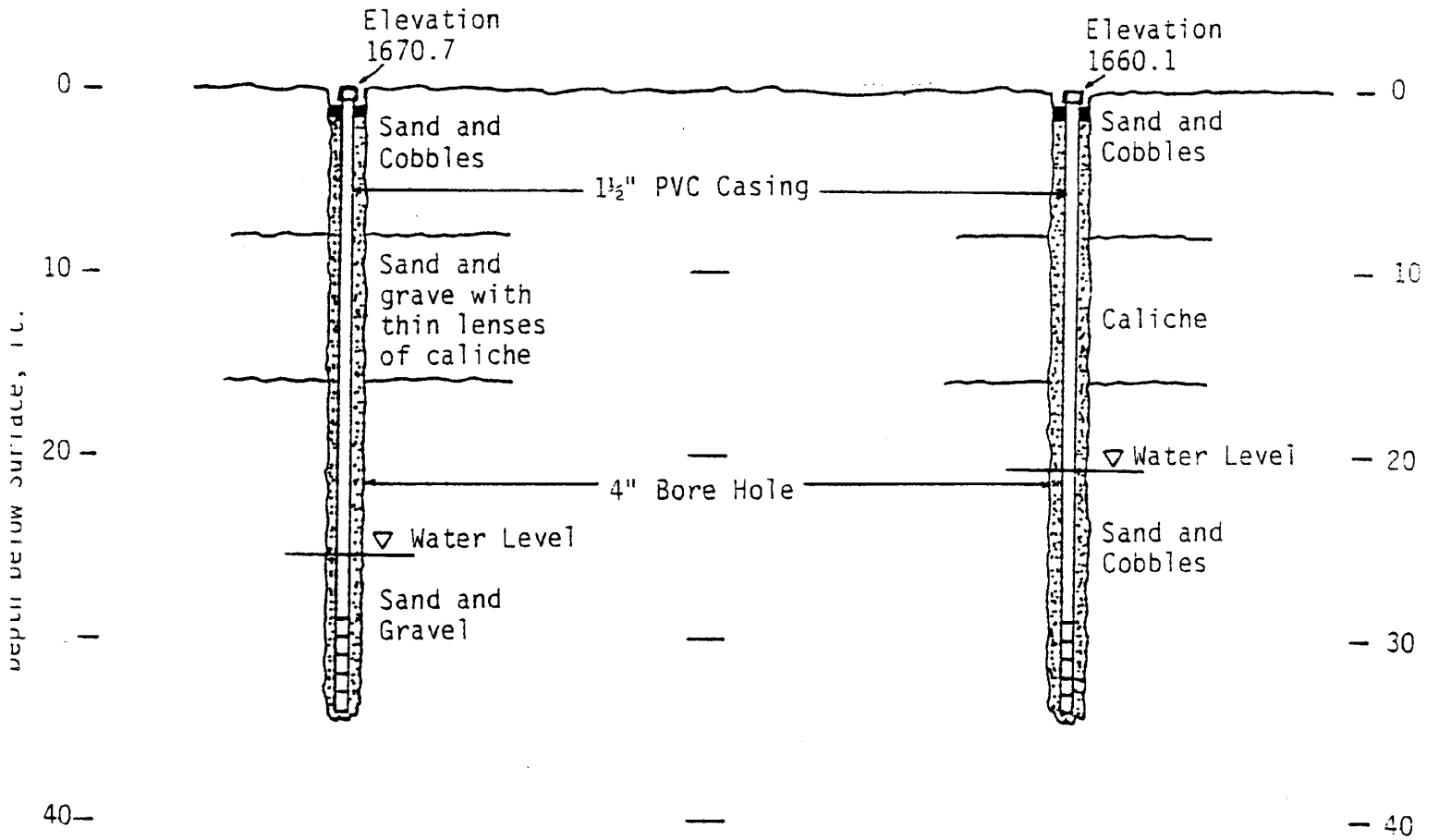
(Lbs. of rock sampled) 100

** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)

Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

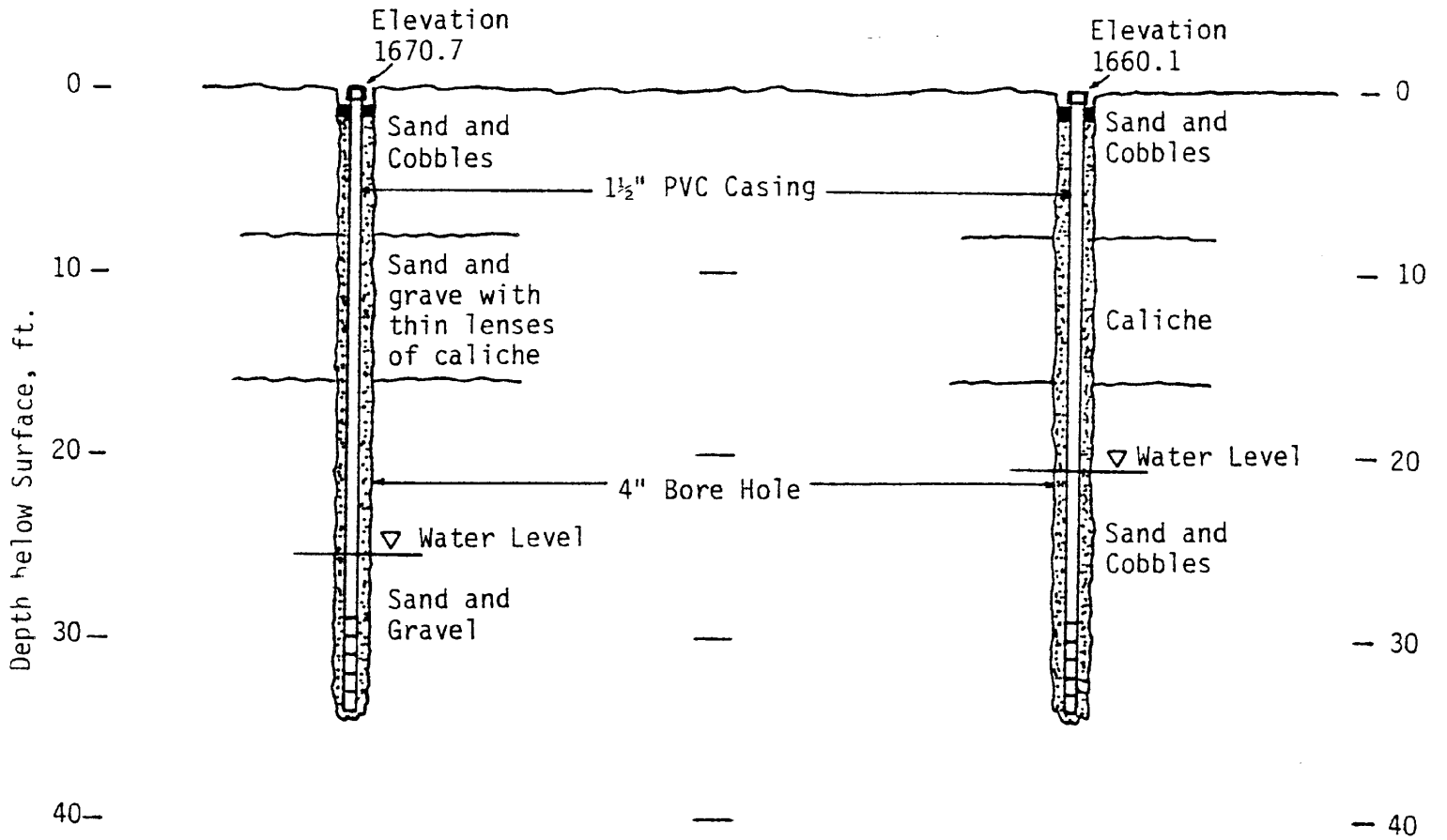
Temporary
Well PG 101-W

Temporary
Well PG 101-N



Temporary
Well PG 101-W

Temporary
Well PG 101-N



CLASSIFICATION SYMBOL		DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **			
LETTER	GRAPHIC				VOLUME OF HOLE SAMPLED (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.)	PERCENTAGE OF VOLUME OF HOLE SAMPLED PLUS 5-INCH TO 5-INCH SAMPLED (LBS.)	WEIGHT OF PLUS 5-INCH SAMPLED (LBS.)
SM		0-36'		Silty SAND: Approximately 60% fine sand, 20% fine gravel and 20% low to non plastic fines. Limy, dry to damp. Quaternary Valley and Eolian Mixtures (Qsm)				

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

SW corner of American auto wrecking

Area Designation: auto wrecking

Approx. Dimensions: 6" X 26"

Logged by: Russell

Feature: Pittman Ground Water Study Project

Coordinates: N. T22S, R62E, Sec. 1, CCD

Ground Elevation: 1695.8

Method of Excavation: 6" Flite Auger

Date: 5/6/80

Depth to Water Level: 26'

PG 102

REMARKS: Surface is inside junkyard. Hole augered easily. Stands vertical. Water at 26'. Installed slotted standpipe. Covered with soil and marked with red flourescent paint.

NOTES: Record water test and density test data, if applicable, under remarks.
* Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks.
** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

(Lbs. of rock sampled) 100
*** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

CLASSIFICATION SYMBOL		DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
LETTER	GRAPHIC				VOLUME OF HOLE SAMPLED (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.) PLUS 5-INCH VOLUME OF SAMPLED (LBS.)	PERCENTAGE OF VOLUME OF HOLE SAMPLED (LBS.) PLUS 5-INCH VOLUME OF SAMPLED (LBS.)
SC		0-16'		Clayey SAND: Approximately 70% fine sand with 20% low to medium plastic fines and 10% fine gravel. Limy, tan, damp. Note: Bottom 2 ft. has increased clay content. Quaternary Alluvial Fan and Valley Fill Mixtures (Qsmg)			

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS
 Boulder Highway
 Las Vegas Wash Title II
 Area Designation and Wells Street
 PG 103
 149075
 1694-AS
 6" X 16"
 Approx. Dimensions
 Russell
 Logged by

Project: Pittman Ground Water Study
 Coordinates: N. T22S, R62E, Sec 1 DCC
 Ground Elevation: 1694-AS
 Date: 5/6/80
 Depth to Water Level: 8' - after 20 min. 4.1'
 Method of Excavation: 6" Flite Auger

REMARKS: Surface is edge of city street. Hole augered easily. Stands vertical. Installed slotted PVC pipe. Water at 8' - after 20 min 4.9'. Marked area with red fluorescent paint.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)
 (Lbs. of rock sampled) 100
 (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sawed)

LOG OF TEST PIT OR AUGER HOLE FOR BORROW AND FOUNDATION INVESTIGATIONS		Edge of Pittman Playground Area				
Feature	Pittman Ground Water Study	Area Designation	6" X 25'			
Site No.	PG 104	Approx. Dimensions	Russell			
Depth to Water Level	13'	Logged by				
Coordinates N	T22S, R62E, Sec 1 CAA	Ground Elevation	1647.35			
Method of Excavation	6" Flite Auger	Date	5/7/80			
CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	VOLUME OF COBBLES AND BOULDERS **	PERCENTAGE BY WEIGHT OF PLUS 5-INCH VOLUME OF SAMPLED (LBS.) TO 5-INCH VOLUME OF SAMPLED (LBS.) PLUS 5-INCH HKS
SC	0-25'		Clayey SAND: Approximately 60% fine sand with 20% low plastic fines and 20% fine gravel*. At 23.5 depth to 25' encountered caliche conglomerate, moderately hard. Sample is limy, tan, dry to wet. Quaternary Alluvial fan and Valley Fill Mixtures (Qsmg)			

REMARKS: Surface is level edge of city st. Hole stands vertical. Augered easily except caliche interval. Stopped at desired depth. Installed slotted PVC pipe to 23' after 10 min. water at 13' - Covered pipe with soil and wrote offset distance on roadway.
*This machine will not recover material much over 1 1/2"

NOTES: Record water test and density test data, if applicable, under remarks.
* Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
** Applicable only to borrow pits and to foundations which are potential sources of construction materials.
(Lbs of rock sampled) 100
** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
** (Record bulk specific gravity in Remarks, stating how obtained (measured or estimated))

CLASSIFICATION SYMBOL		DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
LETTER	GRAPHIC				VOLUME OF HOLE SAMPLED (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.) TO 5-INCH PLUS 5-INCH HRS
SC		0-25		Clayey SAND: Approximately 80% fined sand with 20% low plastic fines and a trace of fine gravel. Limy, tan, dry to wet. Quaternary Alluvial Fan and Valley Fill Mixtures (Qsmg)		

feature Pittman Ground Water Study Area Designation Pittman
 Hole No. PG 105 Coordinates N 1652.17 T22XR62E r Sec 1 DAB Las Vegas Wash Title II 6" X 25'
 Depth to Water Level 15.3' Method of Excavation 6" Flite Auger Ground Elevation 4654+5 Date 5/7/80 Logged by Russell

REMARKS: Surface is edge of vacant lot. Hole augered easily. Stands vertical. Stopped at desired depth. Installed slotted PVC pipe. Covered top with soil. Used red fluorescent paint to mark area.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. (Record bulk specific gravity in Remarks, stating how obtained (measured or estimated))

(Lbs of rock sampled) 100
 *** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
 Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

feature Pittman Ground Water Study Area Designation Pittman
 Hole No. PG 106 Coordinates T22S, R62E, Sec 12 AAB Ground Elevation 1698.75
 Depth to Water Level' 7.2' Method of Excavation 6" Flite Auger Date 5/6/80 Logged by Russell

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	VOLUME OF HOLE SAMPLED 3 TO 5-INCH (CUBIC FEET)	WEIGHT OF HOLE SAMPLED (LBS.)	PERCENTAGE BY VOLUME OF PLUS 5-INCH SAMPLED (LBS.)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH SAMPLED (LBS.) PLUS 5-INCH HRS
LETTER	GRAPHIC							
SC	0-21'		<p>Clayey SAND: Approximately 80% sand with 20% low plastic fines and a trace of fine gravel. Limy, tan, dry to wet. Quaternary Alluvial Fan and Valley Fill mixtures (Qsmg)</p>					

REMARKS: Surface is a vacant lot. Heavy brush and level. Hole augered easily, no caving stand vertical. Water at 7.2' installed slotted standpipe. Covered with top soil. Set old masonry rubble on top with + painted on. Stopped at desired depth.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

(Lbs of rock sampled) 100
 *** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
 Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Feature Pittman Ground Water Study Project CRBSCP-Las Vegas Wash Unit Kerr McGee Well
 Site No. PG 107 Coordinates N. T22S, R62E, Sec 12 BCB Area Designation 1/2 mile west of Swanky Club
 Depth to Water Level 15' Date 6/10/80 Ground Elevation 1727.0 Approx. Dimensions 5" x 22"
 Method of Excavation 5" flite auger Date 6/10/80 Logged by Trudeau & Edmondson

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION"; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF COBBLES 3 TO 5-INCH VOLUME OF SAMPLED LESS 3 TO 5-INCHES (CUBIC FEET)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH VOLUME OF SAMPLED LESS 3 TO 5-INCHES (CUBIC FEET)
SC	0-19		Clayey Sand - Approximately 20%, mostly fine subrounded to subangular igneous gravel, maximum size 1"; 60% sand, fine to coarse, mostly medium grained; 20% clay of low plasticity. Color tan to brown. Violent HCl, reaction. Note: coarser grained sample at 19'. No sample 19-25'. Quarternary Alluvial Fan and Valley Fill Mixtures (Qsmg)		
CL	25' to 26'		Augers to Lean Clay - About 40% fine to medium; mostly fine grained sand; 60% clay of low to medium plasticity. Color light brown. Low HCl reaction. Tertiary Muddy Creek Fm. (Tmc)		

REMARKS: Water encountered 15-16 ft. Drilled to 26' had sluff to 22'. Installed 22' of 2" pipe with 10' preforation on bottom.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

BMI Property below
plants 1/4 mile W.

feature Pittman Ground Water Study Project CRBSCP, Las Vegas Wash Unit

Area Reservoir Swanky Club

Site No. PG 108

Ground Elevation 1725.38

Approx. Dimensions 5'x20'

Depth to Water Level' 12-14 ft. Date 6/10/80 Method of Excavation 5" flite auger

Ground Elevation 1729.0

Logged by Trudeau & Edmondson

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF COBBLES SAMPLED (CUBIC FEET) 3 TO 5-INCH	WEIGHT OF COBBLES SAMPLED (LBS.) PLUS 5-INCH VOLUME OF SOIL
SC	0-21		<p><u>Clayey Sand</u> - About 20% fine subrounded to subangular igneous gravel, maximum size 3/4 inch; 60% fine to coarse, mostly medium grained sand; 20% Clays of medium plasticity. Color brown. Violent HCl reaction. Increasing clay content with depth.</p> <p>Quaternary Alluvial Fan and Valley Fill Mixtures (Qsmg)</p>		

REMARKS: Depth to water 12-14 ft. Installed 20' of 2" pipe with 10' perforation on bottom. Hole stands open.

NOTES: Record water test and density test data, if applicable, under remarks.
* Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Station 667+00
Offset 140' south
Area Designation Pittman Lateral
Approx. Dimensions 5"x26'
logged by Edmondson & Trudeau

Pittman Ground Water Study Project CSBSCP, Las Vegas Wash Unit
Certificate # T22S, R62E 1 Sec 2 AAA Ground Elevation 1637.7
Hole No. PG 109 Date 6/10/80
Method of Excavation Auger 5" flite auger

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	VOLUME OF HOLE SAMPLED 3 TO 5-INCH CUBIC FEET) SAMPLER (LESS 3 TO 5-INCH PLUS 8-INCH VOLUME OF HOLE SAMPLED)	WEIGHT OF SAMPLED (LBS) PLUS VOLUME OF HOLE SAMPLED (CUBIC FEET) TIMES 128.58
GP	0-20		<u>Sandy Gravels With Cobbles and Caliche</u> - About 75% mostly fine subrounded to subangular igneous gravels, maximum size 1 3/8"; 20% sands, fine to coarse, mostly medium; 5% clays/silt of low plasticity. Color tan. Violent HCl reaction. Caliche encountered in 8" bed at 9 ft. and 18 ft. Minute trace of gypsum from 5-10'. Roughness in drilling indicate presence of cobbles or boulders to 18'. Quarternary Alluvial Fan Deposit (Qsmg)			
ML	21-26		<u>Augers to Sandy Silt</u> - About 30% poorly graded fine sand and 70% silt. Color light brown. Little or no HCl reaction. Tertiary Muddy Creek Fm (Tmc)			

REMARKS: Water encountered at 21'. Drilled to 26', placed 2" pipe to 26' with 10' perforation on bottom. Hole stands open.

NOTES: Record water test and density test data, if applicable, under remarks.
* Record of water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
** Applicable only to borrow pits and to foundations which are potential sources of construction materials. (Lbs. of rock sampled) 100
*** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Station Pittman Ground Water Study Project CRBSCP, Las Vegas Wash Unit Offset 140' north
 Station PG 110 Station 653+30
 Area Designation Pittman Lateral
 Coordinates N 21 S, R 62 E, Sec 36 CCD Ground Elevation 1629.2
 Depth to Water Level 11 ft. Date 6/10/80 Method of Excavation 5" flite auger
 Logged by G. Edmondson Approx. Dimensions 5" x 21"

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF HOLE SAMPLED 3 TO 5-INCH (CUBIC FEET)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH SAMPLED (LBS. TO 5-INCH)
SW	0-12'		Gravelly Sand - About 15% mostly fine subrounded to sub-angular igneous gravel, maximum particle size 1/2"; 75% fine to coarse, mostly medium grained sand; 10% silt with low plasticity. Color tan - brown. High HCl reaction. Caliche encountered at 10 ft approx. 1.5 ft. thick as indicated by roughness in drilling. Quaternary Alluvial Fan and Valley Fill Deposits (Qsmg).		
ML	12-19'		Sandy Silt - About 30% sand, fine to medium, mostly medium grained; 70% silt with low plasticity. Color brown. Faint HCl reaction. Quaternary Alluvial Fan and Valley Fill Deposits (Qsmg).		
CL	19-21'		Augers to Lean Clay - About 25% fine to medium grained sand, mostly medium; 75% clay with low plasticity. Color turquoise. No HCl reaction. Tertiary Muddy Creek. FM		

REMARKS: Water encountered at 11 ft. Drilled to 21', placed pipe to 21' with 10' perforation on bottom. Hole stands open.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. (Lbs. of rock sampled) 100
 *** (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled) Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Offset 140 North
station 640+00

Feature Pittman Ground Water Study CRBSCP, Las Vegas Wash Unit

Area Designation Pittman Lateral

Plot No. PG 111

16717

Coordinates N. T21S, R62E, T Sec 36 CDD

Approx. Dimensions 5"x21'

Depth to Water Level 10.5'

Date 6/11/80

Bit

6/11/80

Logged by G. Edmondson

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF HOLE SAMPLED (CUBIC FEET) 3 TO 5-INCH SAMPLED (LESS 3 TO 5-INCHES)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH VOLUME OF PLUS 5-INCH SAMPLED (LESS 3 TO 5-INCHES)
SC	0-21		Clayey Sands - About 75% sand, fine to coarse, mostly medium grained; maximum particle size - 3/16 inch and 25% clay with low plasticity. Color brown. Low to moderate HCl reaction. Note: Increasing clay content with depth. Quarternary Alluvial Fan and Valley Fill Deposits (Qsmg)		

REMARKS: Water encountered at 10.5'. Drilled to 21' placed 2" pipe to 21' with bottom 10' perforated. Hole stands open.

NOTES: Record water test and density test data, if applicable, under remarks.
* Record of water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
** Applicable only to borrow pits and to foundations which are potential sources of construction materials.
(Lbs. of rock sampled) 100
Bulk specific gravity of rock) 62.4 (Cubic feet) 2.65 (measured or estimated)
Record bulk specific gravity in Remarks, stating test method (measured or estimated)

CLASSIFICATION SYMBOL		DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS *#*
LETTER	GRAPHIC				VOLUME OF HOLE SAMPLED 3 TO 5 INCH CUBIC FEET; SAMPLES LESS THAN 5 INCHES CUBIC PLUS SPECIFIC GRAVITY
SW		0-14		Gravelly Sand - Consists of 20% gravel fine to coarse mostly coarse, subrounded to subangular igneous material, maximum particle size 1 3/8"; 65% sand fine to coarse mostly medium grained; 15% clay low plasticity. Color brown. Violent NCl reaction. Quaternary Alluvial Fan Deposits. (Qsmg)	
SC		14-21		Clayey Sands - Consists of about 5% fine to coarse, subrounded to subangular igneous gravel; 80% sand from fine to coarse mostly medium grained; and 15% clay of low plasticity. Color brown. Moderate HCl reaction. Quaternary Alluvial Fan and Valley Fill Deposits. (Qsmg)	

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

Feature Pittman Ground Water Study Project CRBSCP, Las Vegas Wash Unit 1615.33
 Station PG 112 1616.4
 Coordinates N 21S, R62E, Sec 36 DDC Ground Elevation
 Depth to Water Level 16' 6/11/80 Method of Excavation 5" flite auger Date 6/11/80
 Area Location Pittman Lateral
 Offset 140' north station 627+25
 Depth Dimensions 5" x 19.5'
 Logged by G. Edmondson

REMARKS: Water encountered between 15 and 16'. Drilled to 21' set 2" pipe to 19.5' with 10' perforation on bottom. Had 1.5' sluff.

NOTES: Record water test and density test data, if applicable, under remarks
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (method).

(Lbs. of rock sample) 100
 (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
 (Bulk specific gravity in Remarks, stating how obtained (method))

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Feature Las Vegas Wash Unit Project Rittman Verification Program Area Designation _____
 Hole No. PG 203 Coordinates N. _____ E. _____ Ground Elevation 7" Pit 4/1/82 Appor. Dimensions 7" by 47
 Depth to Water Level _____ Method of Excavation 7" Power Auger Logged by D. Russell

CLASSIFICATION SYMBOL LETTER GRAPHIC	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF 3 TO 5-INCH HOLES SAMPLED (CUBIC FEET)	PERCENTAGE BY VOLUME OF 3 TO 5-INCH SAMPLED (LBS)	PERCENTAGE BY VOLUME OF PLUS 9-INCH SAMPLED (LBS) PLUS 5-INCH
Qsmg	0-46.4		Quaternary Alluvial Fan and Valley Fill Mixtures: Augers to poorly graded sand and interbedded gravel, approximately 20% fine igneous gravel max. size 1 1/2" *, 70% poorly graded sand, up to 10% plastic fines. Limy. Dry to wet. Brown.			
Tmc	46.4-47.0		Tertiary Muddy Creek Formation: Augers to cream to brown clay. No HCL reaction. Augers smooth but resistant to drilling.			

REMARKS: Installed 27.58 feet of 4" PVC pipe with cap on bottom and concrete box with cast iron lid over pipe.
*This machine will not recover material over 1 1/2".

** - Record water test and density test data, if applicable, under remarks.
 Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks.
 Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE FOR BORROW AND FOUNDATION INVESTIGATIONS		Area Designation <u>7" x 53'</u>		
Project <u>Las Vegas Wash</u>		Apprx. Dimensions <u>7" x 53'</u>		
Coordinates <u>N 21' E</u>		Logged by <u>D. Russell</u>		
Method of Installation <u>7" Power Auger</u>		Date <u>4/16/82</u>		
CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **
LETTER	GRAPHIC			VOLUME OF HOLE SAMPLED (CUBIC FEET) 3 TO 5-INCH (ICUBIC FEET) 3 TO 5-INCH PLUS 5-INCH
Qsmg	0'-50'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded sand. About 10% cobbles, 20% fine hard subangular gravel, maximum size recovered 1-1/2", 70% poorly graded fine sand. Sample is Limy. Dry to wet. Brown.</p>	
Tmc	50'-53'		<p><u>Tertiary Muddy Creek Formation:</u> Augers to red clay. No HCL reaction. Augers smooth but resistant.</p>	

REMARKS: Rough Drilling. Installed 30' 2" PVC, with bottom 20' slotted. Backfilled hole, installed concrete water meter box over pipe.

NOTES: Record water test and density test data, if applicable, under remarks.
 ** Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks.
 *** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated).
 (Lbs. of rock sampled) 100

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Feature Pittman Verification Project Las Vegas Wash Area Description _____
 Well No. PG 206 Coordinates N. _____ E. _____
 Depth to Water Level 6.8' Method of Installation 6-3/4" Power Auger Date 2/18/83 Applied Dimensions 7" x 38"
 Logged by D. Russell

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS	PERCENTAGE OF COBBLES AND BOULDERS IN*		
				VOLUME OF HOLE SAMPLED (CUBIC FEET)	PERCENTAGE BY VOLUME OF PLUS 3-INCH SAMPLED (LBS.)	PERCENTAGE BY WEIGHT OF PLUS 3-INCH SAMPLED (LBS.)
SC	0'-38'		<p>Clayey SAND: Approximately 70% poorly graded sand skip graded, with 20% fine, hard, subrounded, subangular gravel maximum size recovered 2", about 10% low plastic fines. Some cobbles, none recovered. Limy, damp to wet, brown.</p> <p>Classified as Quaternary Valley Fill & Fan deposits</p>			

REMARKS: Surface is fairly level desert. Hole augered rough in spots, will not stand vertical below water table. Stopped by cobbles or rock at 38', water at 4-8'. Installed 36.4' of 2" PVC with bottom 20' slotted. Installed 3/4 concrete meter box flush with ground.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated).
 (Lbs of rock sampled) 100
 *11" (Bulk specific gravity of rock) 82.4 (Cubic feet of hole sampled)
 Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Loc: **Las Vegas Wash** Project: **Pittman Verification** Area Designation: **7" x 46.3'**
 Hole No.: **RG 207** Contribution No.: **1** Based Elevations: **3/27/82** Logged by: **D. Russell**
 Depth to Water Level: **6.2'** Method of Excavation: **7" Power Auger**

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	VOLUME OF SAMPLES TO 8-INCH CUBIC FEET	PERCENTAGE OF LUBRICATION	WEIGHT OF SAMPLES PLUS 8-INCH VOLUMES OF LUBRICANT
OSNG	0-46.3'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u></p> <p>Poorly graded SAND. About 70% fine sand with 20% fine gravel* and 10% silty fines. Maximum size recovered 1-1/2". Lily. Dry to wet. Brown.</p> <p><u>Tertiary Muddy Creek Formation, Augers to fat clay.</u></p>			
TMC	46.3					

REMARKS: Drilled easily. Installed 20' of 2" PVC pipe with 10' to 20' depth slotted and a concrete box with steel lid installed over top of pipe.
 *This machine will not recover material over 1-1/2".

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated).

(Lbs of rock sampled) 100

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

State Las Vegas Wash Project Pittman Verification Area Designation 7" x 33'
 Hole No. PG-210 Coordinates N. 1 East 1 Approx. Dimensions
 Depth to Water Level 25.5 Method of Installation 7" Power Auger Bit 1 Logged by D. Russell

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED (CUBIC FEET)	PERCENTAGE BY VOLUME OF SAMPLED (LBS.) TO 5-INCHES	PERCENTAGE BY WEIGHT OF PLUS 8-INCH SAMPLED (LBS.) PLUS 5-INCH
Qsmg	0'-30'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded sand. Approximately 20% hard, subangular gravel, maximum size recovered 1 1/2" with 80% fine sand. Interbedded small lens of sand and gravel. Limy. Dry to wet. Brown.</p>			
Tmc	30'-32'		<p><u>Tertiary Muddy Creek Formation:</u> Augers smooth but very resistant.</p>			

REMARKS: Installed 26' of 2" PVC pipe - slotted 10' to 20' and a concrete box with steel lid over top of pipe. Hole augered easily.
*This machine will not recover rock over 1 1/2".

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE

FOR BORROW AND FOUNDATION INVESTIGATIONS

Area Designation: Las Vegas Wash
 Project: Pittman Verification
 Approx. Dimensions: 7" x 43'
 Logged by: D. Russell
 Date: PG-211
 Method of Installation: 7" Power Auger
 Date Installed: 3/25/82

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" - GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED (CUBIC FEET)	PERCENTAGE OF VOLUME OF SAMPLED (LBS.)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH SAMPLED (LBS.) PLUS 5-INCH (LBS.)
Qsmg	0-35		<u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded gravel or sand. About 50% skip graded sand with 50% fine, hard subangular gravel. Interbedded layers. Limy. Dry to wet. Brown.			
Tmc	35-43		<u>Tertiary Muddy Creek Formation:</u> Augers to cream colored clayie sand.			

REMARKS: Augered easily. Installed 35' of 2" PVC pipe - slotted from 15' to 35' depth, a concrete box with steel lid over top of pipe.
 *This machine will not recover material over 1".

** (Lbs. of rock sampled) / 100
 *** (Bulk specific gravity of rock) / 62.4 (Cubic feet of hole sampled)
 Record bulk specific gravity in Remarks. Record bulk specific gravity of construction materials.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level, give date of recording and location of construction materials.

GPO 644-514

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

City Las Vegas Wash Project Pittman Verification Area Designation _____
 Pit No. PG-214 Station 16.2 Bound Station 7" by 20'
 Method of Excavation 7" Power Auger Date 3/22/82 Logged by D. Russell

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF HOLE SAMPLED (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.)
Qsmg	0-20		<u>Quaternary Valley Fan and Valley Fill Mixtures:</u> Augers to poorly graded sand. About 40% hard gravel, maximum size recovered 1-1/2" interbedded with 60% skip graded sand. Lens to caliche at 4' to 5' depth and 16' to 18' depth. Hard drilling. Dry to wet. Limy. Brown.		
Tmc	20		<u>Tertiary Muddy Creek Formation:</u> Augers to sandy clay. Red brown in color. No HCL reaction. Augers smooth but hard.		

REMARKS: Rough Drilling. Installed 20' of 2" PVC, 10' to 20' depth slotted, a concrete water meter box with lid was set over pipe.

NOTES: Record water level and density test data, if applicable, under remarks.
 * " " (Bulk specific gravity of rock) S_rA. (Cubic feet of hole sampled)
 ** " " (Lbs. of rock sampled) 100
 Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Location Las Vegas Wash Project Pittman Verification Area Designation _____
 Hole No. PG-215 Coordinates N. _____ E. _____ S. _____
 Depth to Water Level' 10.6' Method of Excavation 7" Power Auger Date 3/22/82 Approx. Dimensions 7" by 20"
 Logged by D. Russell

CLASSIFICATION SYMBOL LETTER GRAPHIC	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF COBBLES SAMPLED (CUBIC FEET) (1) PLUS 5-INCH HOLE SAMPLED (CUBIC FEET) (2)	PERCENTAGE BY VOLUME OF COBBLES SAMPLED (LBS.) PLUS 5-INCH HOLE SAMPLED (LBS.) (3)	PERCENTAGE BY VOLUME OF BOULDERS SAMPLED (LBS.) PLUS 5-INCH HOLE SAMPLED (LBS.) (4)
Qsmg	0'-20'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> <u>Augers to poorly graded sand. About 40% hard gravel, maximum size recovered 1-1/2"* with 60% skip graded sand. Sample is limy. Dry to wet. Brown.</u></p>			

REMARKS: Installed 20' of 2" PVC pipe - 5' to 20' depth slotted, set concrete water meter box with steel lid installed over pipe.
*This machine will not recover rock over 1-1/2" size.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

Location Las Vegas Wash Project Pittman Verification Program Area Designation _____
 Site No. PG-219 Coordinates: N. _____ E. _____ Grid Elevation 6.75 by 52.8'
 Depth to Water Level 49.8' Method of Excavation 7" Power Auger Date 4/26/82 Logged by D. Trudeau

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - "UNIFIED SOIL CLASSIFICATION" GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLER 3 TO 5-INCH (CUBIC FEET) SAMPLED (LBS)	PERCENTAGE BY VOLUME OF PLUS 5-INCH (LBS)	PERCENTAGE BY VOLUME OF PLUS 5-INCH (LBS) PLUS 5-INCH (LBS)
Q _{amg}	0-52.2		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to alternating beds of poorly graded sand and gravel. Gravel is fine to coarse*, subrounded to subangular. Color Brown. Limy.</p> <p><u>Tertiary Muddy Creek Fan:</u> Augers slow and smooth but very resistant. Augers to sandy clay. Red brown in color. NO HCL reaction.</p>			
Tmc	52.2-52.8 (?)					

REMARKS: Installed 52' of 2" PVC pipe, the bottom 30' was slotted. Set concrete water meter box with cast iron lid over the top.
*Maximum size recoverable 1.5".

NOTES: Record water test and density test data, if applicable, under remarks.
 Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Site: Las Vegas Wash Project: Pittman Verification Program Area Designation: 6.75 by 65.6'
 Hole No.: FG-220 Consultant: Grand Rapids Date: 4/26/82 Apprx. Dimensions:
 Depth to Water Level: 52.65' Method of Installation: 7" Power Auger Bit: 4/26/82 Logged by: D. Trudeau

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF HOLE SAMPLED (CUBIC FEET) 3 TO 5-INCH SAMPLED (LBS) 3 TO 5-INCH	PERCENTAGE BY VOLUME OF PLUS 5-INCH (LBS) PLUS 5-INCH
Qsmg	0-65.5'		<u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to alternating beds of poorly graded sand and gravel. Gravel is fine to coarse*, subrounded to subangular. Color Brown. Limy.		
Tmc	65.6'		<u>Tertiary Muddy Creek Fan:</u> Augers to sandy clay. Red Brown in color. Augers slow smooth and very resistant.		

REMARKS: Installed 65.5' of 2" PVC pipe, the bottom 40' was slotted. Set concrete water meter box with cast iron lid over the top.
*Maximum size recoverable 1.5".

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

Name Las Vegas Wash Project Pittman Verification Area Designation _____
 Site No. PG 221 Coordinates N. _____ E. _____ Grid Elevation 33' Date 3/31/82 Approx. Dimensions 7" x 60.6'
 Depth to Water Level: _____ Method of Excavation 7" Power Auger Logged by D. Russell

CLASSIFICATION SYMBOL LETTER	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED 3 TO 5-INCH (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.)	PERCENTAGE BY VOLUME OF PLUS 5-INCH (LBS.) PLUS 5-INCH (LBS.)
GP	0'-55		<u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded gravel. Approximately 80% fine* hard subangular gravel, with 20% skip graded sand. Sample is dry to wet brown. <u>Tertiary Muddy Creek Formation:</u> Augers to red brown to grey clay. No HCL reaction. Smooth drilling but very resistant to drilling			
Tmc	55-60.6					

REMARKS: Rough drilling. Hole caved in. Redrilled hole on 4/30/82, installed 37.6' of 2" PVC pipe bottom 10' slotted, set concrete water meter box with lid over pipe
 *This machine will not recover gravel over 1-1/2'

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level, give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

Project **Las Vegas Wash** Area Designation _____
 Site No. **PG 222** Coordinates N. _____ E. _____ S. _____
 Method of Excavation **7" Power Auger** Date **3/30/82**
 Depth to Water Level **27.8'** Approx. Dimensions **7" by 52.6'**
 Logged by **D. Trudeau & D. Russell**

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS!	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED 3 TO 5-INCH (CUBIC FEET)	PERCENTAGE BY VOLUME OF 5-INCH-HIGH SAMPLED (LBS)	PERCENTAGE BY VOLUME OF PLUS 5-INCH PLUS 5-INCH-HIGH (LBS)
	0-50.6'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to a poorly graded sand. Occasional cobble (?), 40% fine hard gravel, maximum size 1-1/2"**, 60% poorly graded sand. Limy. Dry to wet. Brown in color.</p> <p><u>Tertiary Muddy Creek Formation:</u> Augers to brown to cream colored clay. No HCL reaction. Augers smooth but resistant to drilling.</p>			
	50.6'					
	52.6'					

REMARKS: Hole drilled easy. Try to install 4" PVC pipe, however, had collapse to 24: Re augered to 50' again had collapse to 25'. Estimated depth to water 33'. 4/21/82 redrilled hole, set 40' of 2" PVC - Bottom 20' slotted. Installed concrete box with steel lid over top of pipe.
 *This machine will not recover material over 1-1/2".

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
 FOR BORROW AND FOUNDATION INVESTIGATIONS

Project Las Vegas Wash Site No. PG-231 Date of Installation 7" Power Auger Method of Installation 3/23/82 Area Designation 7" by 20.0'
 Location Pittman Verification Program Apprx. Dimensions D. Trudeau

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF GOBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED 3 TO 5-INCH (CUBIC FEET)	WEIGHT OF VOLUME OF SAMPLED (LBS)	PERCENTAGE OF VOLUME OF PLUS 5-INCH (LBS) PLUS 5-INCH (MM)
Qsmg	0'-18.6'		<p><u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded gypsiferous sand. About 40% hard subangular gravel, maximum size recovered 1-1/2", 60% skip graded sand. Gypsum makes up an estimated 20% of the sand. Sample limy. Dry to wet. Light Brown to brown in color.</p>			
Tmc	18.6'-20.0'		<p><u>Tertiary Muddy Creek Formation:</u> Augers to Gypsiferous Sand Clay. Limy. White in color. Augers slow and smooth but highly resistant to drilling.</p>			

REMARKS: First water at 9 to 10'. Installed 17' of 2" PVC pipe, 7' to 17' depth slotted. A concrete meter box with cast iron lid set over pipe.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated).
 *** (Lbs. of rock sampled) 100 (Bulk specific gravity of rock) 62.4 (Cubic feet of hole sampled)
 Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Feature Las Vegas Wash Project Pittman Verification Program Area Designation
 Hole No. RG-232 Station Ground Station Date 3/23/82
 Depth to Water Level 12.8' Method of Excavation 7" Power Auger Bit 3/23/82
 Logged by D. A. Trudeau

CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION; GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **		
				VOLUME OF HOLE SAMPLED (CUBIC FEET)	WEIGHT OF SAMPLED (LBS.)	PERCENTAGE BY WEIGHT OF PLUS 5-INCH VOLUME OF SAMPLED (LBS.) PLUS 5-INCH HMK
Qsmg	0'-15.6'		<u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded sand, well graded sand, and gypsiferous gravel. Augers to poorly graded sand. Approximately 50% hard subangular gravel, 50% skip graded sand. Augers to well graded sand. Approximately 5% hard subangular gravel, 95% well graded sand. Gypsiferous gravel. Color light brown. Limy.			
Tmc	15.6' to 17'		<u>Tertiary Muddy Creek Formation:</u> Augers to Gypsiferous Sandy Clay. Limy. Cream to light brown. Gypsum recovered as crystal up to 1/2". Augers slow and smooth but highly resistant to drilling.			

REMARKS: First water at 15: Installed 17' of 2" PVC pipe with lower 10' slotted. Set concrete water meter box with cast iron lid over pipe.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give date of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)

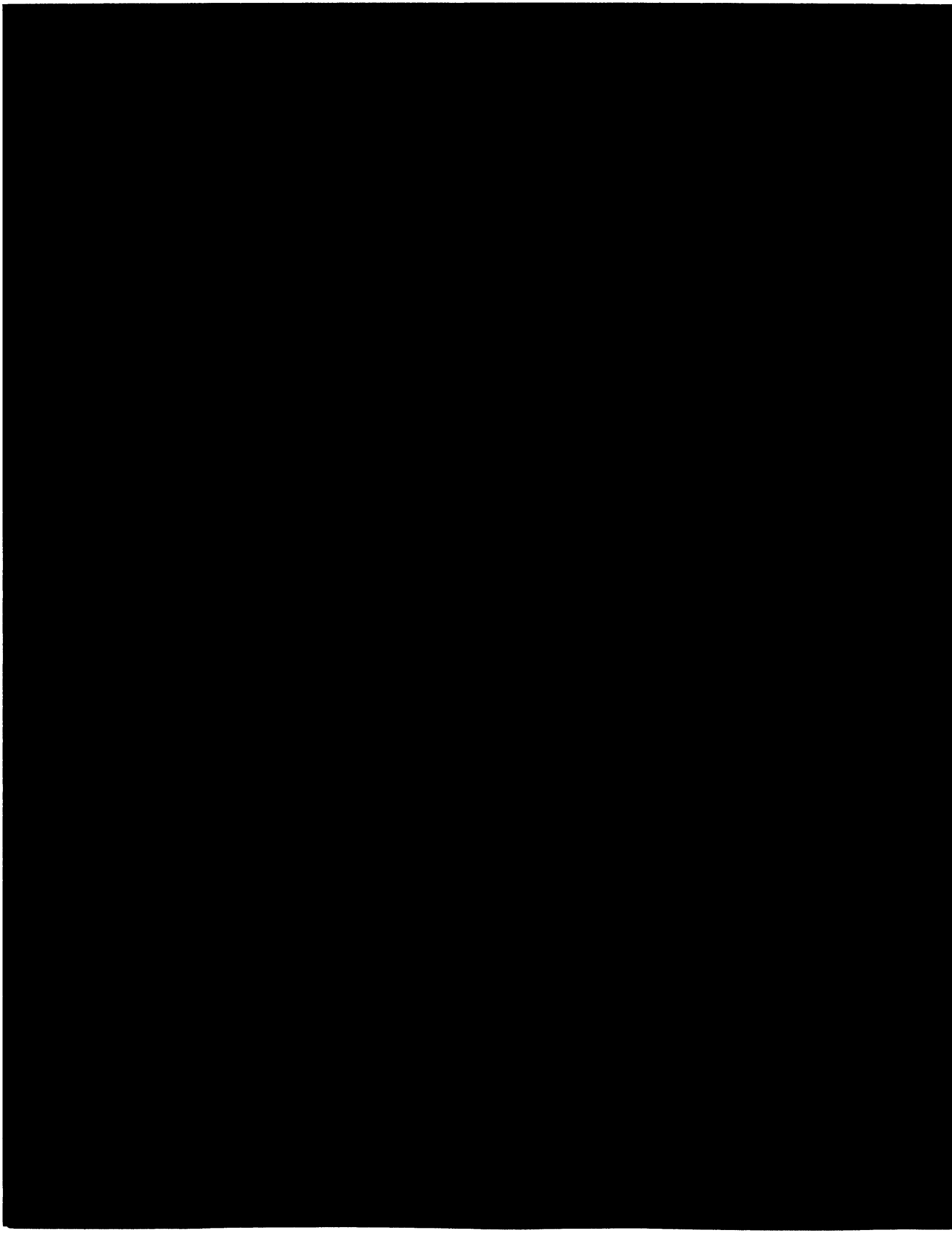
LOG OF TEST PIT OR AUGER HOLE
FOR BORROW AND FOUNDATION INVESTIGATIONS

Project Las Vegas Wash Method of Installation 7" Power Auger Date 3/25/82
 Site No. PG-233 Coordinates N. 12.6' Easting 7" x 30'
 Title Pittman Verification Issued by D. Russell

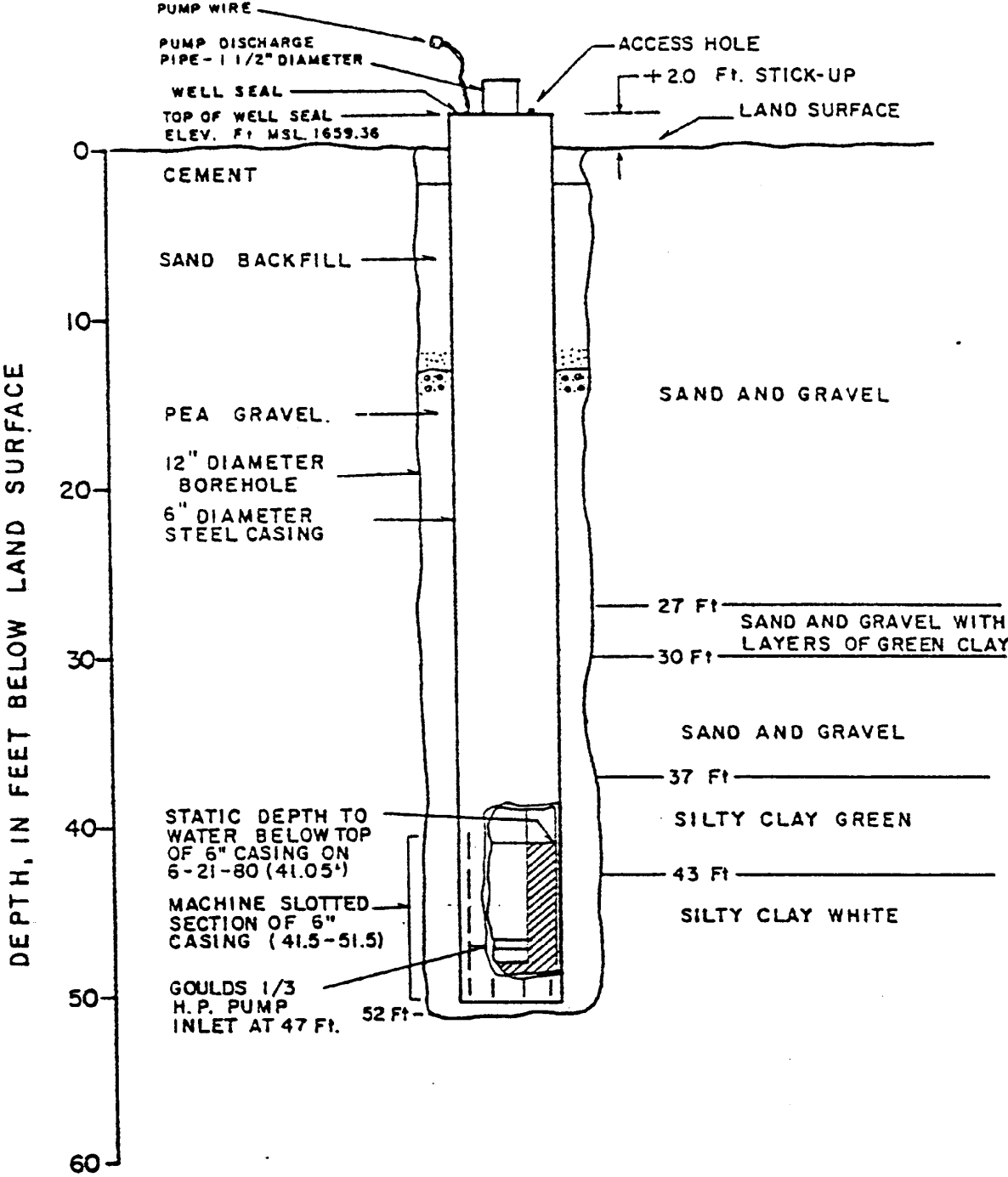
CLASSIFICATION SYMBOL	DEPTH (FEET)	SIZE AND TYPE OF SAMPLE TAKEN	CLASSIFICATION AND DESCRIPTION OF MATERIAL (SEE CHART - UNIFIED SOIL CLASSIFICATION) GIVE GEOLOGIC AND IN-PLACE DESCRIPTION FOR FOUNDATION INVESTIGATIONS)	PERCENTAGE OF COBBLES AND BOULDERS **	
				VOLUME OF HOLE SAMPLED (CUBIC FEET) 3 TO 5-INCH PLUS 5-INCH	WEIGHT OF PLUS 5-INCH SAMPLED (LBS.) PLUS 5-INCH
Qsmg	0'-25'		<u>Quaternary Alluvial Fan and Valley Fill Mixtures:</u> Augers to poorly graded sand and gravel. Augers to poorly graded sand and gravel. About 50% fine hard subangular gravel, maximum size 1-1/2"* , and 50% skip graded sand. Limy. Dry. Brown. Augers to poorly graded gravel. Dry. Brown. Augers to poorly graded sand. About 60% skip graded sand with 40% fine * hard subangular gravel. Limy. Dry to damp. Brown. Gypsiferous.		
Tmc	25-30'		<u>Tertiary Muddy Creek Formation:</u> Augers to gypsiferous sandy clay. Limy. Cream colored. Wet. Augers smooth but very resistant (hard).		

REMARKS: Drills easily. Installed 30' of 2" PVC pipe slotted, 20' to 30' depth and a concrete box with steel lid around top of pipe.
*This machine will not recover rock over 1-1/2" size.

NOTES: Record water test and density test data, if applicable, under remarks.
 * Record after water has reached its natural level; give dots of reading adjacent to graphic symbol or in remarks.
 ** Applicable only to borrow pits and to foundations which are potential sources of construction materials. Record bulk specific gravity in Remarks, stating how obtained (measured or estimated)



WELL POD-1



PREPARED FOR
TIMET CORPORATION
 HENDERSON, NEVADA

BY GERAGHTY & MILLER, INC.

DATE DRILLED: 4/27/82

BORING NO. POD-2

ELEVATION: 1673.94

LOCATION: See Attached Aerial Photo

S S A R Y L I E S Y A I I S I O P A E T O F I N G N D I M I F F T C

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS *	BLOWS/FT. **	SAMPLES SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
0					SP-SM	GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl. moist	
5								
10							moist to	
15							very moist	
20								med.
25								dense
30								to
35						-slight cementation from 34 to 34½ feet		dense
40							wet	
45								
50					CL	SILTY CLAY-with sand, light brown		stiff

* OTHER TESTS: C-CONSOLIDATION, A-ATTERBERG, S-SHEAR
 G-GRAIN SIZE, E-EXPANSION, CH-CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
 DIAMETER SAMPLER

NOTES:
 1. Bottom of casing at 49 feet.
 2. Well screen from 41 to 46 ft.
 3. Water level at 25'6" on 5/6/8

BORING LOG AND TEST SUMMARY

PLATE 1
6A

DATE DRILLED: 4/27/82

BORING NO. POD-2

ELEVATION:

LOCATION: See Attached Aerial Photo

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND MAY CHANGE AT OTHER LOCATIONS WITH TIME. DATA PRESENTED IS A SIMPLIFIED REPRESENTATION OF THE RECORDING CONDITION.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS	BLOWS/FT. SAMPLES	SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
50					CL	SILTY CLAY-gray	wet	stiff
55				25		Bottom at 56 feet		
60								
65								
70								
75								
80								
85								
90								
95								
100								

* OTHER TESTS: C-CONSOLIDATION, A-ATTERBERG, S-SHEAR
G-GRAIN SIZE, E-EXPANSION, CH-CHEMICAL

** USING 350 LB. DRIVING WEIGHT AND 2.625 INCH (I.D.) DIAMETER SAMPLER

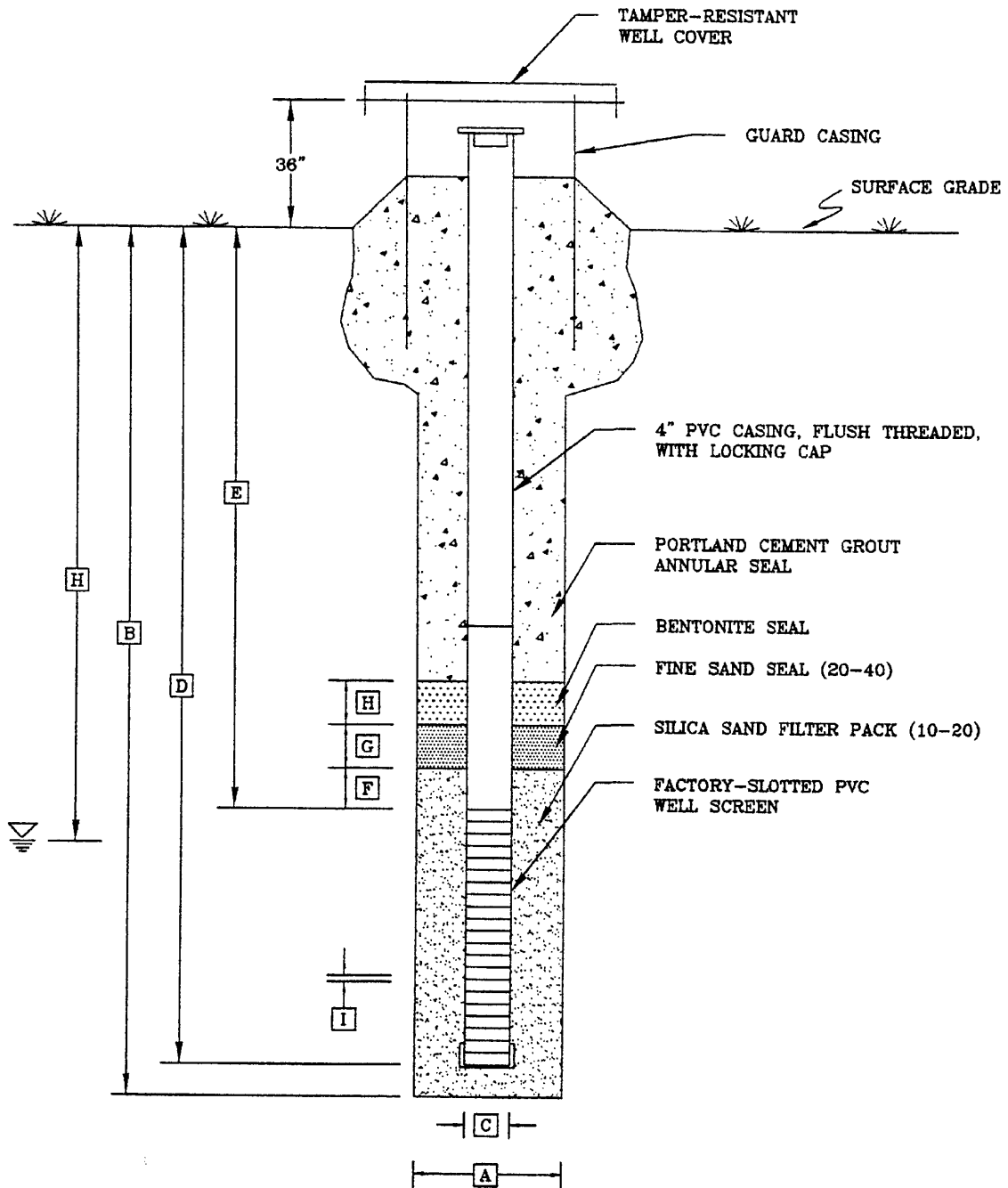
NOTES:

See Plate 6A

BORING LOG AND TEST SUMMARY

PLATE N
6B

J.H. KLEINFIELDER & ASSOCIATES



DIMENSIONS

- (A) BOREHOLE DIAMETER 11 INCHES
- (B) BOREHOLE DEPTH 70 FEET
- (C) CASING DIAMETER 4 INCHES
- (D) DEPTH TO BOTTOM OF SCREEN 60 FEET
- (E) DEPTH TO TOP OF SCREEN 45 FEET
- (F) TOP OF SCREEN TO TOP OF FILTER PACK 5 FEET
- (G) TOP OF FILTER PACK TO TOP OF SAND 2 FEET
- (H) THICKNESS OF BENTONITE SEAL 3 FEET
- (I) DEPTH TO WATER TABLE 52.66 FEET (5/3/99)
- (J) SLOT APERTURE .020 INCHES

Not to Scale

ENVIRONMENTAL CONDITION INVESTIGATION ADDENDUM REPORT TITANIUM METALS CORPORATION HENDERSON, NEVADA	DATE: 09/01/99
GROUNDWATER MONITOR WELL POD2-R2	DESIGNED: —
	CHECKED: WPG
	APPROVED: KTA
	DRAWN: RTF
	PROJ.: P0655-04

TT TETRA TECH EMI
A Tetra Tech Company

Figure 2.2a

BOREHOLE LOG

Sheet 1 OF 2



Location of Borehole:		Job No.:	P065502	Borehole Designation:	POD2-R2
		Client:	Timet	Surface Elevation:	
		Site:	Henderson, Nevada	Depth to Water:	
		Subsite:		Logged by:	W.P. Gagnon
		Drilling Co.:	Best Drilling Services	Drilling Date(s):	03/25/99 and 03/26/99
		Drilling Method:	Hollow-stem auger. Split Spoon Sampler (SS)		

Sampler Type	Sample Depth Top to Bottom	Blows	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
									45		- Not logged, drilled 0 to 45 feet; see POD2 for lithologic description
SS	45-47'	90	16/24			0			45-46	SM	Silty coarse sand, brown, minor gravel (< 0.25"), loose, nonplastic, moist, bottom 3" of interval cemented with gypsum, poorly sorted
									47		
									48		
									49		
SS	50-52'	65	15/24			0			50-51	CL	Silty clay, brown, minor pebbles (< 0.25"), rounded, plastic, moderately well sorted, saturated, abrupt contact with:
									51	CL	Clay, greenish white, very hard, dense, nonplastic, dry, laminated at top 2", possible ash
									52		
									53		
									54		
SS	55-57'	55	8/24			0			55-56	CL	Clay, greenish white, very hard, dense, nonplastic, dry
									57		
									58		
									59		
SS	60-62'	100	12/24			0			60-61	CL	Clay, greenish white, very hard, dense, nonplastic, dry, gradational contact with:
									61		Silty clay, brownish gray, slightly plastic, moist, dense, trace iron oxide staining
									62		
									63		
									64		
									65		
	65-67'	90	6/24			0			65-66	ML	Clayey silt, brownish gray, slightly plastic, moist to wet
									66		
									67		
SS	68-70'	75	8/24			0			68	ML	Clayey silt, brownish gray, slightly plastic, moist to wet

BOREHOLE LOG

Sheet 2 OF 2

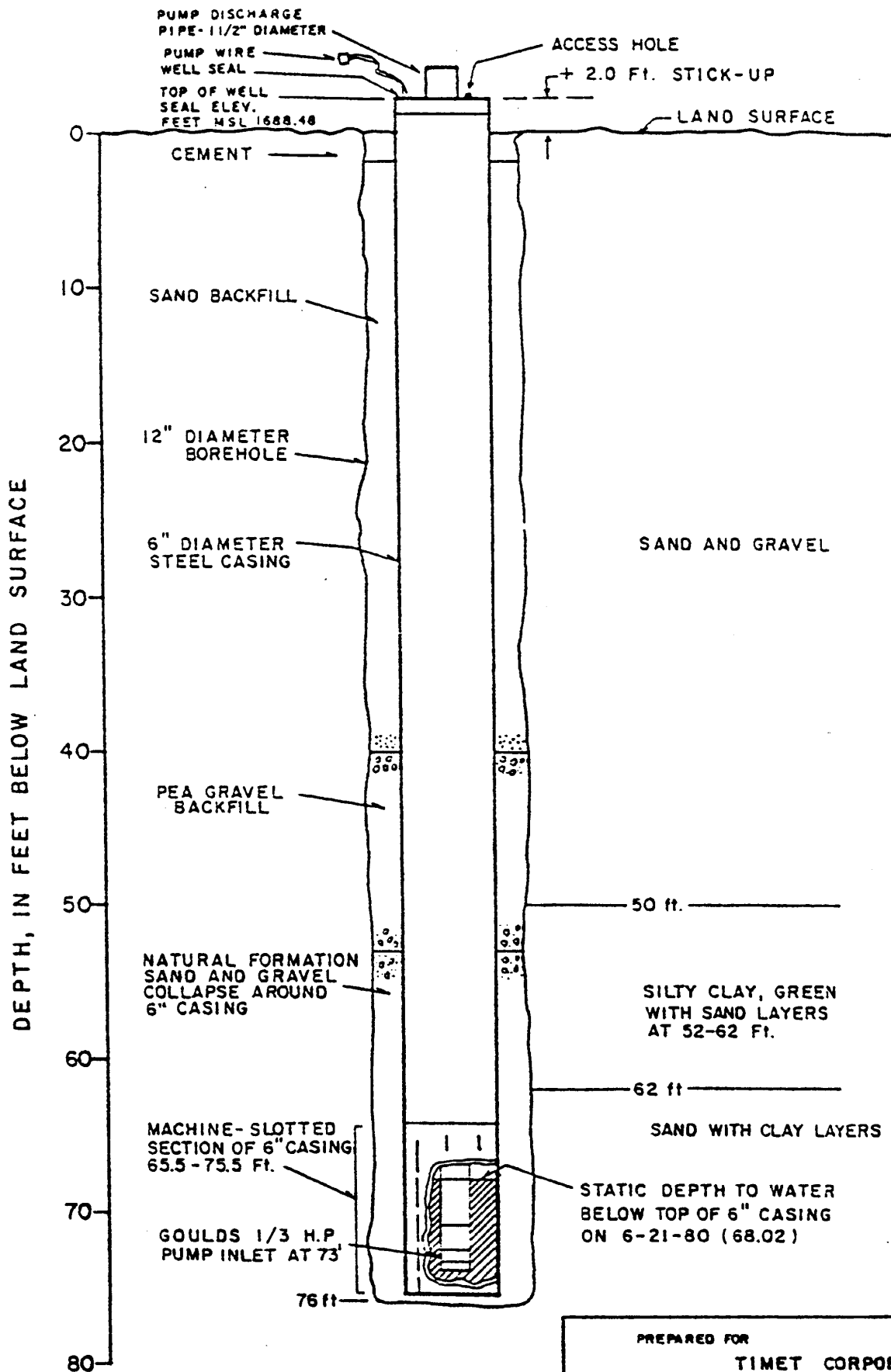


Location of Borehole:	Job No.:	P065502	Borehole Designation:	POD2-R2
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	W.P. Gagnon
	Drilling Co.:	Best Drilling Services	Drilling Date(s):	03/25/99 and 03/26/99
	Drilling Method:	Hollow-stem auger. Split Spoon Sampler (SS)		

Sampler Type	Sample Depth Top to Bottom	Blows Recovered	Blows Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
SS	68-70'	75	8/24		0			69	ML	Clayey silt, brownish gray, slightly plastic, moist to wet
								70		- Total depth of boring: 70 feet
								71		
								72		
								73		
								74		
								75		
								76		
								77		
								78		
								79		
								80		
								81		
								82		
								83		
								84		
								85		
								86		
								87		
								88		
								89		
								90		
								91		
								92		
								93		

WELL POD-3

Elevation 1688.48



PREPARED FOR
TIMET CORPORATION
HENDERSON, NEVADA

BY GERAGHTY & MILLER, INC.

DATE DRILLED: 4/26/82

BORING NO. POD-4

ELEVATION: 1690.01

LOCATION: See Attached Aerial Photo

THIS SUMMARY LIES ONLY AT THIS LOCATION AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFIED REPRESENTATION OF THE BORING. LOCATION AND DATE OF BORING. N. T. C. 3 M

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS *	BLOWS/FT ***	SAMPLES SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
0					SP-SM	GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl. moist	
5								
10								
15							moist	
20							to	med.
25							very	dense
30						-coarser sands	moist	to
35								dense
40								
45							wet	
50								

* OTHER TESTS: C- CONSOLIDATION, A- ATTERBERG, S-SHEAR
 G- GRAIN SIZE, E- EXPANSION, CH- CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
 DIAMETER SAMPLER

NOTES:
 1. Bottom of casing at 55 feet.
 2. Well screen from 47 to 52 ft
 3. Water level at 33'11" on 5/6/82.

BORING LOG AND TEST SUMMARY

PLATE 5A

DATE DRILLED: 1/26/82

BORING NO. POD-4

ELEVATION:

LOCATION: See Attached Aerial Photo

DEPTH IN FEET

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS *	BLOWS/FT. **	SAMPLES SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
50					SP-SM	GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	wet	med. dense to dense
55					CL	SILTY CLAY-with sand, light brown		stiff
60						-brown and white		
65						Bottom at 60 feet		
70								
75								
80								
85								
90								
95								
100								

* OTHER TESTS: C-CONSOLIDATION, A-ATTERBERG, S-SHEAR
G-GRAIN SIZE, E-EXPANSION, CH-CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
DIAMETER SAMPLER

NOTES:

See Plate 5A

BORING LOG AND TEST SUMMARY

PLATE NO
5B

DATE DRILLED: 4/22/82

BORING NO. POD-5

ELEVATION: 1594.93

LOCATION: See Attached Aerial Photo

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS AND LOCATIONS MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS *	BLOWS/FT. **	SAMPLES	SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
0							GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl.moist	
5								moist	
10								to	
15							-slight cementation from 13½ to 14 feet.	very moist	med.
20									dense
25									to
30								wet	dense
35							-coarser sands		
40						CL	SILTY CLAY-with sand, light brown		stiff
45							Bottom at 44 feet		
50									

* OTHER TESTS: C- CONSOLIDATION, A- ATTERBERG, S- SHEAR
 G- GRAIN SIZE, E- EXPANSION, CH- CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.) DIAMETER SAMPLER

NOTES:

1. Bottom of casing at 39 feet
2. Well screen from 31 to 36 feet
3. Water level at 16'3" on 5/6/82

BORING LOG AND TEST SUMMARY

PLATE 4

DATE DRILLED: 4/21/82

BORING NO. POD-6

ELEVATION: 1699.13

LOCATION: See Attached Aerial Photo

THIS SUMMARY LIES ONLY A SUMMARY OF THE DATA AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFIED SUMMARY OF THE DATA AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFIED SUMMARY OF THE DATA AT THIS LOCATION WITH TIME.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS *	BLOWS/FT. **	SAMPLES SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
0					SP-SM	GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl. moist	
5								
10						-slight cementation from 9½ to 17 feet	moist to very moist	med.
15								
20								dense
25								
30								to dense
35						-coarser sands	wet	
40								
45								
50					SM-ML	SILTY SAND to SANDY SILT-brown		dense or stiff

* OTHER TESTS: C - CONSOLIDATION, A - ATTERBERG, S - SHEAR
 G - GRAIN SIZE, E - EXPANSION, CH - CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.) DIAMETER SAMPLER

NOTES:

1. Bottom of casing at 69 feet.
2. Well screen from 61 to 66 feet
3. Water level at 23'0" on 5/6/82

BORING LOG AND TEST SUMMARY

PLATE 3A

DATE DRILLED: 4/21/82

BORING NO. POD-6

ELEVATION:

LOCATION: See Attached Aerial Photo

SAMPLING LOCATION MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION OF RECORDING CONDITIONS.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS	BLOWS/FT. **	SAMPLES	SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
50						SP-SM	GRAVELLY SAND-with up to 12 percent silt, brown		dense
55						ML-CL	SILTY CLAY to CLAYEY SILT-with sand, brown		
60									
65						CL	SILTY CLAY-brown		
70							-light gray		
75							-light brown	wet	
80							-light gray and white		stiff
85									
90							-white		
95							-green and white		
100							Bottom at 101 feet		

* OTHER TESTS: C-CONSOLIDATION, A-ATTERBERG, S-SHEAR
G-GRAIN SIZE, E-EXPANSION, CH-CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
DIAMETER SAMPLER

NOTES:
See Plate 3A

BORING LOG AND TEST SUMMARY

PLATE NO.
3B

DATE DRILLED: 4/25/82

BORING NO. POD-7

ELEVATION: 1699.92

LOCATION: See Attached Aerial Photo

THIS SUMMARY MAY VARY AS THIS LOCATION AT THE TIME OF DRILLING. LOCATION AND TIME DATA PRESENTED IS A SIMPLIFIED SUMMARY OF THE DATA AND MAY CHANGE AT THIS LOCATION AT THE TIME OF DRILLING.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS*	BLOWS/FT. SAMPLES	SYMBOL	SOIL DESCRIPTION	MOISTURE		CONSIST.	
0						GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl. moist			
5						-slight cementation from 2 to 2½ feet	moist			
10							to			med.
15							very			
20							moist			dense
25										
30										to
35						-coarser sands	wet			dense
40						-occasional thin slightly cemented layers				
45										
50						-with some silty clay				

* OTHER TESTS: C- CONSOLIDATION, A- ATTERBERG, S- SHEAR
 G- GRAIN SIZE, E- EXPANSION, CH- CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
 DIAMETER SAMPLER

NOTES:
 1. Bottom of casing at 56 feet
 2. Well screen from 48 to 53
 3. Water level at 25'10" on 5/6/82.

BORING LOG AND TEST SUMMARY

PLATE 2A

DATE DRILLED: 4/23/82

BORING NO. POD-7

ELEVATION:

LOCATION: See Attached Aerial Photo

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS.

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS	BLOWS/FT.**	SAMPLES SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
50					SP- SM	GRAVELLY SAND-with some silty clay		
55					CL	SILTY CLAY-white	wet	stiff
60	Bottom at 60 feet							
65								
70								
75								
80								
85								
90								
95								
100								

* OTHER TESTS: C-CONSOLIDATION, A-ATTERBERG, S-SHEAR
 G-GRAIN SIZE, E-EXPANSION, CH-CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.)
 DIAMETER SAMPLER

NOTES:
 See Plate 2A

BORING LOG AND TEST SUMMARY

PLATE NO
 2B

BOREHOLE LOG

Sheet 1 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	08/20/97
	Drilling Method:	Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.		

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp. Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	0-3.5'							1		- Not logged; drilled through from 0 to 3.5 feet
								2		
								3		
SS	3.5-5'		14/18	0755				4	SM-GM	Silty fine sand with abundant gravel (0.1 to 1 inch), brown (7.5 YR 4/3), moderately sorted, nonplastic, dry to moist, medium dense, volcanics, caliche rind, subangular to subrounded
								5		- Not logged; drilled through from 5 to 8 feet
								6		
	5-8'							7		
SS	8-10'	10 22 16	18/24	0803				8	SM-GM	Silty fine sand with abundant gravel (0.1 to 1 inch), brown (7.5 YR 4/3), moderately sorted, nonplastic, dry to moist, medium dense, volcanics, caliche rind, subangular to subrounded
								9		Not logged; drilled through from 10 to 13.5 feet
								10		
	10-13.5'							11		
								12		

BOREHOLE LOG

Sheet 2 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	08/20/97
	Drilling Method: Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.			

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp.	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	10-13.5'								13		
SS	13.5-15'	14 14 15	18/18		0810				14	SM-GM	Silty fine sand with abundant gravel (0.1 to 1 inch), dark yellowish brown (10 YR 4/4), moderately sorted, nonplastic, dry to moist, medium dense, volcanics, caliche rind, subangular to angular
	15-18'								15		- Not logged; drilled through from 15 to 18 feet
									16		
									17		
SS	18-20'	30 37 45	20/24		0816				18	SM	Silty fine to coarse sand with some gravel (0.1 to 1 inch), brown (7.5 YR 4/3), moderately sorted, nonplastic, dry to moist, dense, volcanics, caliche rind, caliche fragments, subangular to angular
									19		
									20		- Not logged; drilled through from 20 to 23.5 feet
									21		
	20-23.5'								22		
									23		
SS	23.5-25'	30 60	15/18		0824				24	SM	Silty fine to coarse sand with some gravel (0.1 to 1 inch), brown (7.5 YR 4/3), moderately sorted, nonplastic, dry to moist, dense, volcanics, caliche rind, subrounded to subangular

BOREHOLE LOG

Sheet 3 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	06/20/97
	Drilling Method:	Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.		

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp. Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	25-28'							25		- Not logged; drilled through from 25 to 28 feet
								26		
								27		
SS	28-30'	22 60	12/18	0830				28	SM-GM	Silty fine sand with abundant gravel (0.1 to 1.5 inches), yellowish brown (10 YR 5/4), moderately sorted, medium dense to dense, volcanics, caliche rind, caliche fragments, subrounded to subangular
								29		
								30		- Not logged; drilled through from 30 to 33.5 feet
								31		
	30-33.5'							32		
								33		
SS	33.5-35'	67	5/18	0840				34	SM-GM	Silty fine to coarse sand with gravel (0.1 to 1.5 inches), brown (10 YR 4/3), poorly sorted, dense, volcanics, caliche, subrounded to subangular
								35		- Not logged; drilled through from 35 to 38 feet
								36		
	35-38'							37		

BOREHOLE LOG

Sheet 4 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	08/20/97
	Drilling Method:	Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.		

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp.	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	35-38'										
		36							38	SM-GM	Silty fine to coarse sand with gravel (0.1 to 1 inch), dark yellowish brown (10 YR 4/4), moderately sorted, medium dense to dense, moist, volcanics, caliche, subangular to subrounded, nonplastic
SS	38-40'	50		9/24	0848			39			
									40		- Not logged; drilled through from 40 to 43.5 feet
	40-43.5'								41		
									42		
									43		
									44	SM-GM	Silty fine to coarse sand with gravel (0.1 to 1 inch), dark yellowish brown (10 YR 4/4), poorly sorted, dense, moist, volcanics, caliche rinds, subangular to subrounded, nonplastic
SS	43.5-45'	40		9/24	0856				45		- Not logged; drilled through from 45 to 48.5 feet
									46		
	45-48.5'								47		
									48		
									49	SM-GM	Silty fine to coarse sand with gravel (0.1 to 1.5 inches), dark yellowish brown (10 YR 4/4), poorly sorted, dense, moist, volcanics, caliche rinds, subangular to subrounded, nonplastic
SS	48.5-50'	70		6/18	0906						

BOREHOLE LOG

Sheet 5 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	06/20/97
	Drilling Method:	Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.		

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp.	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	50-53'								50		- Not logged; drilled through from 50 to 53 feet
									51		
									52		
SS	53-55'	36 50		12/24	1024				53	SM-GM	Gravelly fine to coarse sand (0.1 to 2 inches) with some silt, dark grayish brown (10 YR 4/2), nonplastic, poorly sorted, dense, wet to saturated, volcanics, plutonics, subrounded to angular
									54		
									55		- Not logged; drilled through from 55 to 58 feet
									56		
									57		
SS	58-60'	14 89		13/24	1200				58	SM-GM	Medium to coarse sand with abundant gravel and some silt (0.1 to 2 inches), dark grayish brown (10 YR 4/2), moderately sorted, nonplastic, medium to very dense, saturated, volcanics (basalt), plutonics, caliche fragments, subangular to angular
									59		
									60		- Not logged; drilled through from 60 to 63.5 feet
									61		
	60-63.5'								62		

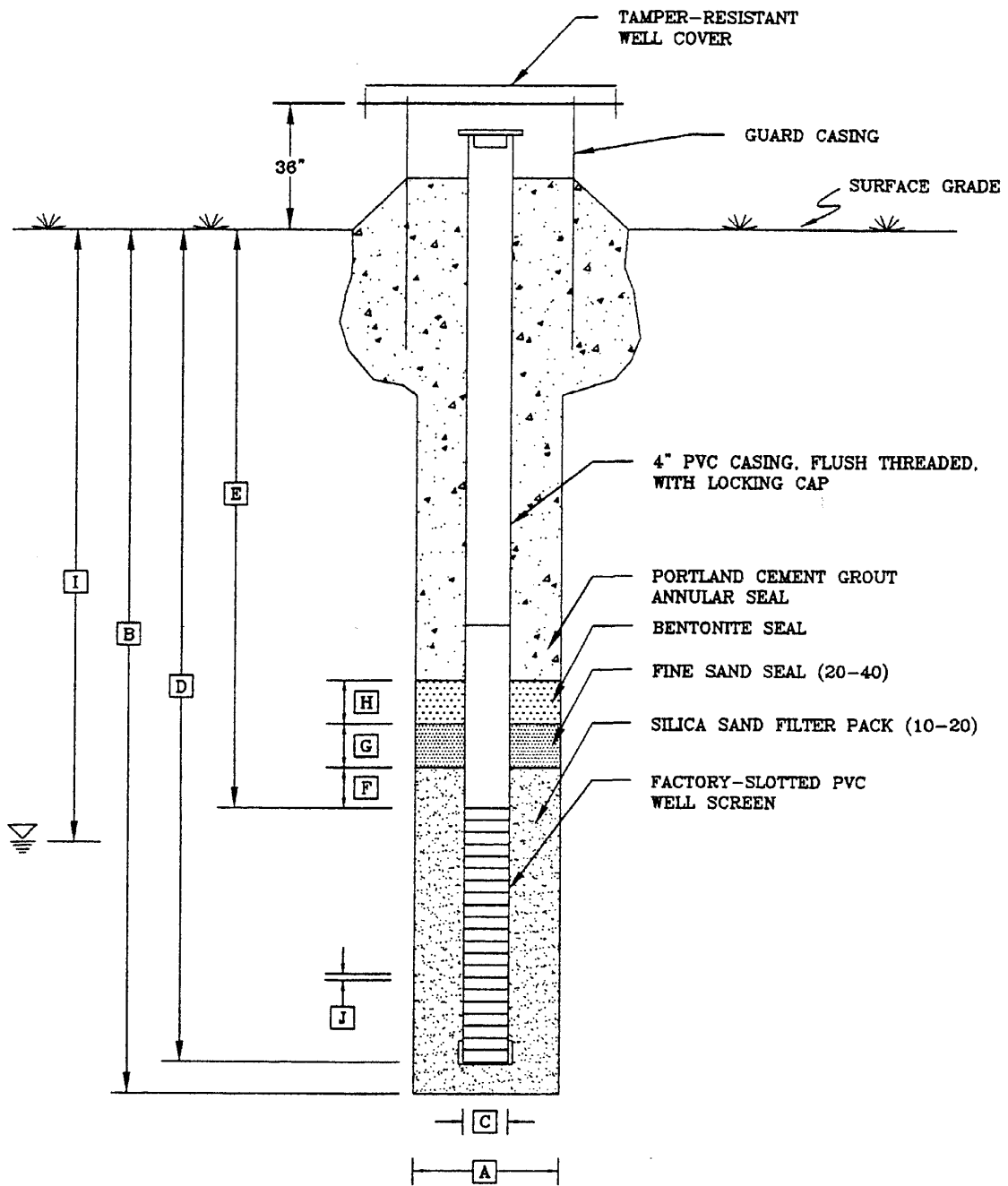
BOREHOLE LOG

Sheet 6 OF 6



Location of Borehole:	Job No.:	001-063304	Borehole Designation:	POD-8
	Client:	Timet	Surface Elevation:	
	Site:	Henderson, Nevada	Depth to Water:	
	Subsite:		Logged by:	D. Venable
	Drilling Co.:	The Verde Companies	Drilling Date(s):	08/20/97
	Drilling Method:	Hollow-stem auger drill rig equipped with a California modified split-spoon (SS) sampler.		

Sampler Type	Sample Depth Top to Bottom	Blows 6-in. Samp. Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
	60-63.5'							63		
SS	63.5-65'	10 60	4/18	1213				64	SM	Silty fine to coarse sand with gravel (0.1 to 0.5 inch), dark grayish brown (10 YR 4/2), well sorted, nonplastic, medium to very dense, saturated, volcanics (basalt), subrounded to subangular
	65-68'							65		- Not logged; drilled through from 65 to 68 feet
								66		
								67		
SS	68-70'	15 70	13/18	1230				68	SM	Silty fine to coarse sand with gravel (0.1 to .3 inch), brown (7.5 YR 4/4), moderately sorted, nonplastic, medium to very dense, saturated, basalt grains, subrounded
								69		- Gravelly sand at 69.5 feet (coursing downward)
								70		- Not logged; drilled through from 70 to 73.5 feet
	70-73.5'							71		
								72		
								73		
SS	73.5-75'	15 23	16/18	1310				74	SP	Fine to medium sand with a trace of silt and gravel (0.1 inch), brown (10 YR 4/5), well sorted, nonplastic, saturated, medium to dense, basalt grains - Medium to coarse sand at 74 to 74.2 feet
		37						75	CL	Silty clay with a trace of sand, light greenish gray (10 YR 8/1), plastic, hard, moist
										Total depth of boring = 75 feet



DIMENSIONS

- (A) BOREHOLE DIAMETER 11 INCHES
- (B) BOREHOLE DEPTH 73 FEET
- (C) CASING DIAMETER 4 INCHES
- (D) DEPTH TO BOTTOM OF SCREEN 72.5 FEET
- (E) DEPTH TO TOP OF SCREEN 42.5 FEET
- (F) TOP OF SCREEN TO TOP OF FILTER PACK 3.1 FEET
- (G) TOP OF 10-20 FILTER PACK TO TOP OF 20-40 FILTER PACK 2 FEET
- (H) THICKNESS OF BENTONITE SEAL 3 FEET
- (I) DEPTH TO WATER TABLE 53 FEET (8/21/97)
- (J) SLOT APERTURE .020 INCHES

Not to Scale

TITANIUM METALS CORPORATION
HENDERSON, NEVADA

DATE: 08/27/97

**GROUNDWATER
MONITOR
WELL POD-8**

DESIGNED:

CHECKED:

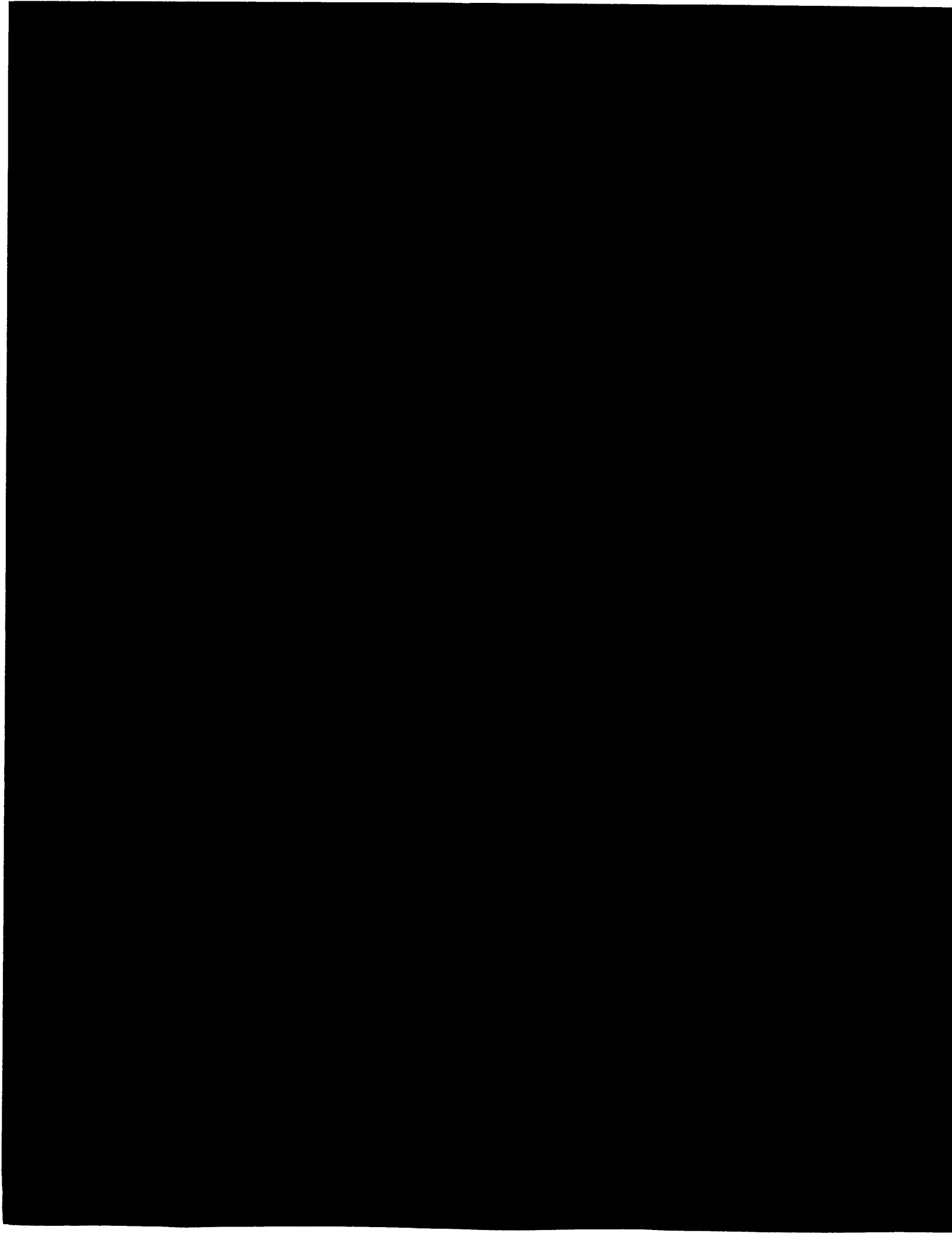
APPROVED:

DRAWN: RTF

PROJ.: 001-062109



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ERM-West, Inc.

Drilling Log

Project BMI Upper Ponds Owner BMI
 Location PUB-10 Project Number 2855-#27
 Boring Number PUB-10 Total Depth of Auger _____ Auger Diameter _____
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Total Depth of Soil Sampler _____ Total Depth of Ground Water Sampler _____
 Ground Water Sample Interval(s) _____
 Drilling Company _____ Drilling Method _____
 Driller _____ Log By Ryan Bennett Date Drilled 10-19-99

Sketch Map

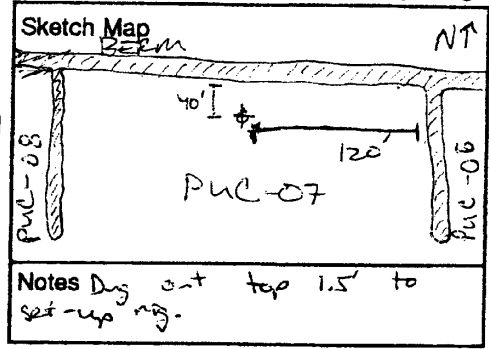
Notes

Depth (Feet)	Graphic Log and USCS Designation	Flow PID (ppm) Counts	PID (ppm)	Sample Interval	Soil Description and Observations (Color, Texture, Structures, Odor, Foreign Matter)
26					
28					
30		36 597			PUB-10-29-30: Hard bedrock, calcified aggregate.
32					
34		597			PUB-10-34-35: <u>No Recovery</u>
36					
38					
40		39 597			PUB-10-39-40 : very dense calcified aggregate. very slow drilling. PUB-10-39-40 DUP
42					
44		597			PUB-10-44-45 - <u>No Recovery</u>
46					
48					
50		31 38 597			PUB-10-49-50 : As above. B OF B @ 50.5' BGS.

ERM-West, Inc.

Drilling Log

Project BMI Upper Ponds Owner BMI
 Location PUC-07 Project Number 2855.27
 Boring Number PUC-07 Total Depth of Auger 50' Auger Diameter 6 5/8" ID = 4 1/4"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Total Depth of Soil Sampler 50.5' Total Depth of Ground Water Sampler _____
 Ground Water Sample Interval(s) _____
 Drilling Company GES Drilling Method Hollow Stem
 Driller Craig Chacee Log By Ryan Bennett Date Drilled 10-20-99



Depth (Feet)	Graphic Log and USCS Designation	Flow Point (ppm) Comments	PID (ppm)	Sample Interval	Soil Description and Observations (Color, Texture, Structures, Odor, Foreign Matter)
0					START: 1000 Dig out 1.5 feet below original grade to set-up rig.
2					Surface: Grey, dry, spongy, very fine evaporate silt. Surface covered with plates of mud-cracked fibrous silt.
4		17 25 22			PUC-07-4-5: Transition from surface evaporate (1024) to native soil @ 4.5' bgs. Native soil is tan sandy gravel, few large rock clasts.
6					
8					
10		21 25 30			PUC-07-9-10 - Native soil as above. (1033)
12					
14		57			PUC-07-14-15 - As above. (1046)
16					
18					
20		29 32 31			PUC-07-19-20 As above. (1057)
22					
24		57			PUC-07-24-25 As above. (1114)
26					

ERM-West, Inc.

Drilling Log

Project BMI Upper Ponds Owner BMI
 Location PUC-07 Project Number _____
 Boring Number PUC-07 Total Depth of Auger _____ Auger Diameter _____
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Total Depth of Soil Sampler _____ Total Depth of Ground Water Sampler _____
 Ground Water Sample Interval(s) _____
 Drilling Company GES Drilling Method Hollow Stem
 Driller Craig Chaffee Log By Ryan Bennett Date Drilled 10-20-99

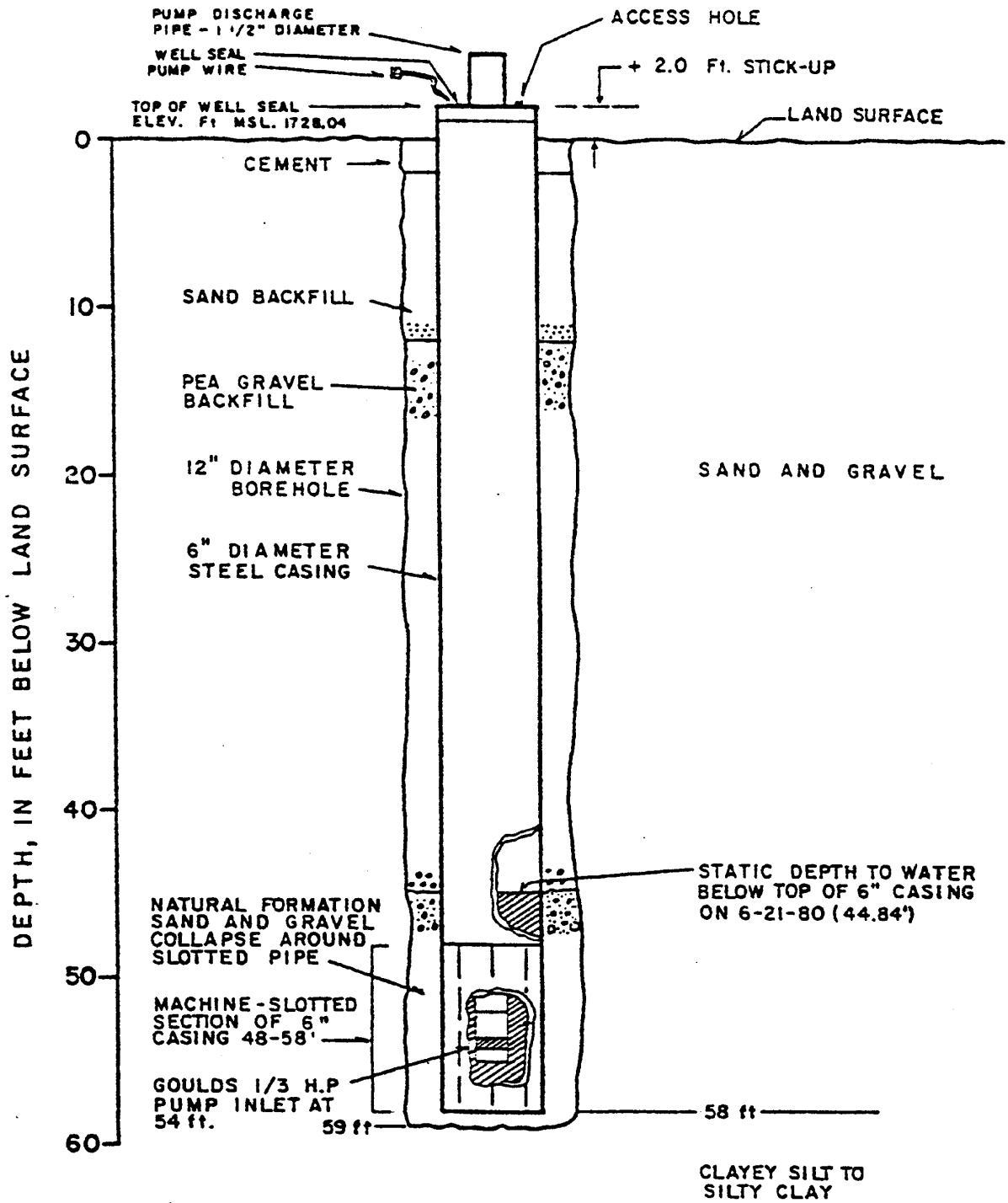
Sketch Map

Notes

Depth (Feet)	Graphic Log and USCS Designation	Blow Counts	PID (ppm)	Sample Interval	Soil Description and Observations (Color, Texture, Structures, Odor, Foreign Matter)
26					
28					
30		50/			PUC-07-29-30 As above. (1127)
32					
34		50/			PUC-07-34-35 <u>No Recovery</u>
36					
38					
40					PUC-07-39-40 Transition from sandy gravels (1147) to white dense clay at 40 39.5' bgs. Clay is possibly the Muddy Creek Formation, moist, white (possibly containing gypsum?), with few fine black specks probably resultant from weathering.
42					
44		14 17 22			↳ PUC-07-44-45 As above (1205)
46					
48					
50		59			(1206) PUC-07-49-50 As above, only 6" recovery. will send to NEL for metals, Pesticides, perchlorate. B of B @ 50.5' bgs.

Elevation 1728.04

WELL POU-1



PREPARED FOR

TIMET CORPORATION

HENDERSON, NEVADA

BY GERAGHTY & MILLER, INC.

DATE DRILLED: 4/28/82

BORING NO. POU-2

ELEVATION: 1725.55

LOCATION: See Attached Aerial Photo

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

DEPTH IN FEET	FIELD MOISTURE %	DRY DENSITY PCF	OTHER TESTS	BLOWS/FT. SAMPLES	SYMBOL	SOIL DESCRIPTION	MOISTURE	CONSIST.
0					SP-SM	GRAVELLY SAND-with up to 12 percent silt, occasional cobbles, brown	sl. moist	
5								
10						-slight cementation from 9 to 9½ feet	moist	med.
15							to	
20							very	dense
25							moist	to
30						-coarser sands		dense
35						-slight cementation from 31½ to 32½ feet		
40					CL	SANDY CLAY-brown	wet	stiff
45						Bottom at 45 feet		

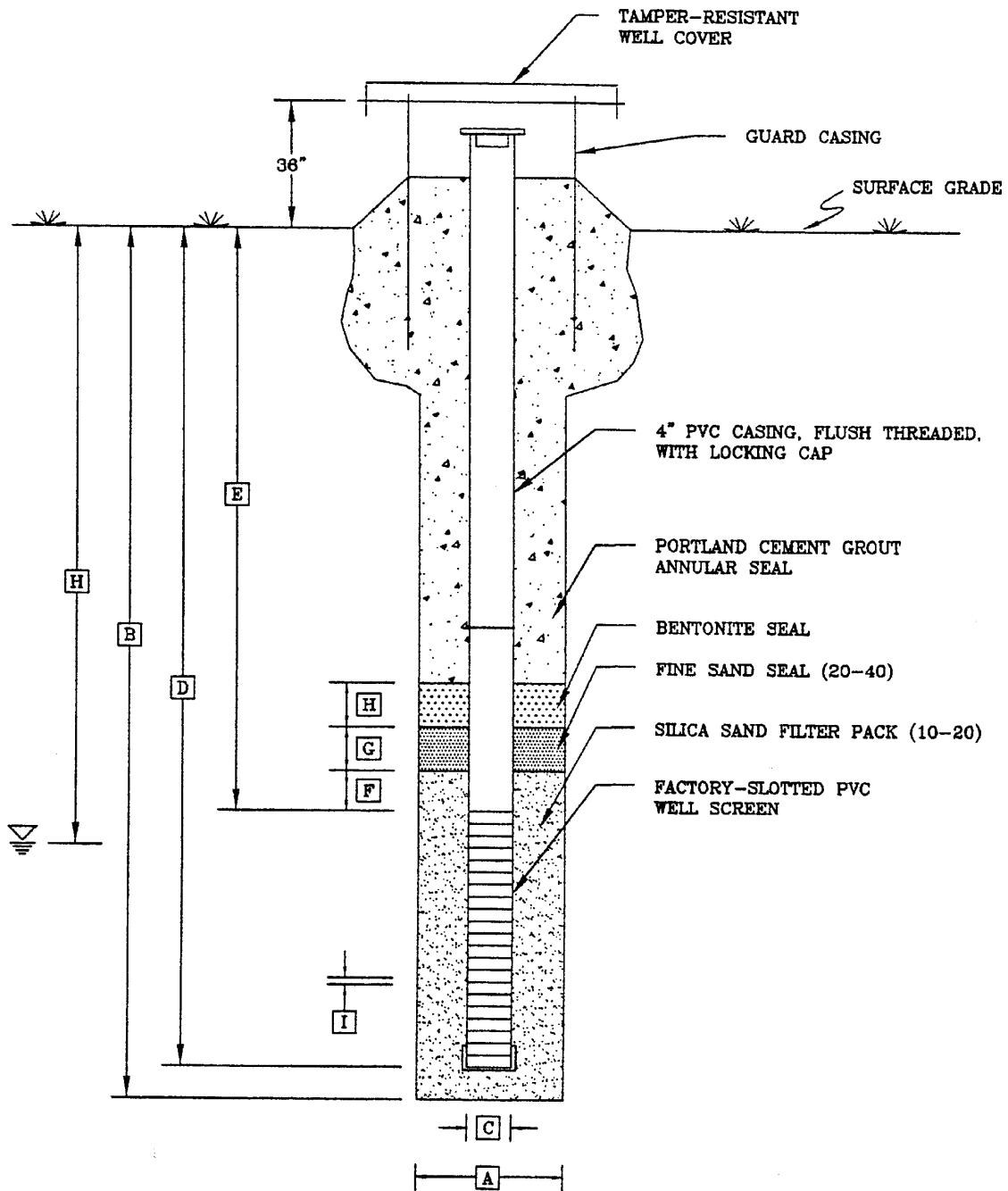
* OTHER TESTS: C- CONSOLIDATION, A- ATTERBERG, S- SHEAR
 G- GRAIN SIZE, E- EXPANSION, CH- CHEMICAL

** USING LB. DRIVING WEIGHT AND 2.625 INCH (I.D.) DIAMETER SAMPLER

NOTES:
 1. Bottom of casing at 41 feet
 2. Well screen from 33 to 38 f
 3. Water level at 28'8" on 5/6

BORING LOG AND TEST SUMMARY

PLATE 1



DIMENSIONS

- (A) BOREHOLE DIAMETER 11 INCHES
- (B) BOREHOLE DEPTH 70 FEET
- (C) CASING DIAMETER 4 INCHES
- (D) DEPTH TO BOTTOM OF SCREEN 65 FEET
- (E) DEPTH TO TOP OF SCREEN 35 FEET
- (F) TOP OF SCREEN TO TOP OF FILTER PACK 2 FEET
- (G) TOP OF FILTER PACK TO TOP OF SAND 2 FEET
- (H) THICKNESS OF BENTONITE SEAL 2.5 FEET
- (I) DEPTH TO WATER TABLE 30.26 FEET (5/3/99)
- (J) SLOT APERTURE .020 INCHES

Not to Scale

ENVIRONMENTAL CONDITION INVESTIGATION ADDENDUM REPORT TITANIUM METALS CORPORATION HENDERSON, NEVADA	DATE: 09/01/99
GROUNDWATER MONITOR WELL POU3	DESIGNED: —
	CHECKED: WPG
	APPROVED: KTA
	DRAWN: RTF
	PROJ.: P0855-04



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Figure 2.2g

BOREHOLE LOG

Sheet 1 OF 3



Location of Borehole:

Job No.:	P065502	Borehole Designation:	POU3
Client:	Timet	Surface Elevation:	
Site:	Henderson, Nevada	Depth to Water:	
Subsite:		Logged by:	David Broermann
Drilling Co.:	The Verde Companies	Drilling Date(s):	04/19/99 and 04/20/99
Drilling Method:			
Hollow-stem auger.			
Split Spoon Sampler (SS)			

Sampler Type	Sample Depth Top to Bottom	Blows	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
									1		- Not logged, drilled 0 - 5 feet
									2		
									3		
									4		
SS	5-6.5'	92	18/18						5	SM	Silty sand, brown, dry, fine sand to coarse sand, trace gravel
									6		
									7		
									8		
									9		
SS	10-11.5'	95	18/18						10	SM	Silty sand, some gravel, brown, moist to dry fine to coarse sand, trace caliche, gravel (0.5 - 2.0 inch)
									11		
									12		
									13		
									14		
SS	15-16.5'	50	5/5						15	SM-GM	Silty sand and gravel, brown, dry to moist, fine to coarse sand, gravel (0.5 - 2.0 inch), caliche/cemented
									16		
									17		
									18		
									19		
SS	20-21.5'	60	6/6						20		Sandy silt/silty sand, brown, moist to dry, fine to medium sand, trace coarse sand, trace gravel
									21		
									22		
									23		
									24		

BOREHOLE LOG

Sheet 2 OF 3



Location of Borehole:

Job No.: P065502 Borehole Designation: POU3
 Client: Timet Surface Elevation:
 Site: Henderson, Nevada Depth to Water:
 Subsite: Logged by: David Broermann
 Drilling Co.: The VerdeCompanies Drilling Date(s): 04/19/99 and 04/20/99
 Drilling Method:
 Hollow-stem auger.
 Split Spoon Sampler (SS)

Sampler Type	Sample Depth Top to Bottom	Blows	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
SS	25-26.5'	60	6/6						25 26		Silty sand, moist to dry, fine to medium sand, strongly cemented/caliche
									27 28 29		
SS	30-31.5'	50	4/4						30 31		Silty sand (caliche), brown, fine to medium sand
									32 33 34		
SS	35-36.5'	50	6/6						35 36		Silty sand, brown, fine to medium sand, angular to subangular, trace gravel
									37 38 39		
SS	40-41.5'	50	6/6						40 41	SM	Silty sand, brown, fine to medium sand, angular to subangular, trace coarse sand, trace gravel
									42 43 44		
SS	45-46.5'	50	6/6						45 46		Sandy gravel/gravelly sand, brown, fine to coarse sand, gravel (0.5 - 1.0 inch), angular to rounded sand gravel
									47 48 49		

BOREHOLE LOG

Sheet 3 OF 3



Location of Borehole:

Job No.:	P065502	Borehole Designation:	POU3
Client:	Timet	Surface Elevation:	
Site:	Henderson, Nevada	Depth to Water:	
Subsite:		Logged by:	David Broermann
Drilling Co.:	The Verde Companies	Drilling Date(s):	04/19/99 and 04/20/99
Drilling Method:			
Hollow-stem auger.			
Split Spoon Sampler (SS)			

Sampler Type	Sample Depth Top to Bottom	Blows	Recovered	Driven	Time	PID Info. (ppm)	Analysis	Lithology	Depth	USCS Soil Type	Soil Description
SS	50-51.5'	125	12/12						50	SW	Gravelly sand, brown, fine to coarse sand, gravel (0.5 - 1.0 inch), angular to rounded sand and gravel
									51		
									52		
									53		
									54		
SS	55-56.5'	100	6/6						55	SC	Clayey sand, brown, wet, fine to medium sand
									56		
									57		
									58		
									59		
SS	60-61.5'	100	6/6						60	SC	Clayey sand, brown, wet, fine to medium sand
									61		
									62		
									63		
									64		
SS	65-65.5'	100	6/6						65	SC	Clayey sand, brown, wet, fine to medium sand
									66		- Total depth of boring: 70 feet
									67		
									68		
									69		
									70		
									71		
									72		
									73		
									74		

ERM-West, Inc.

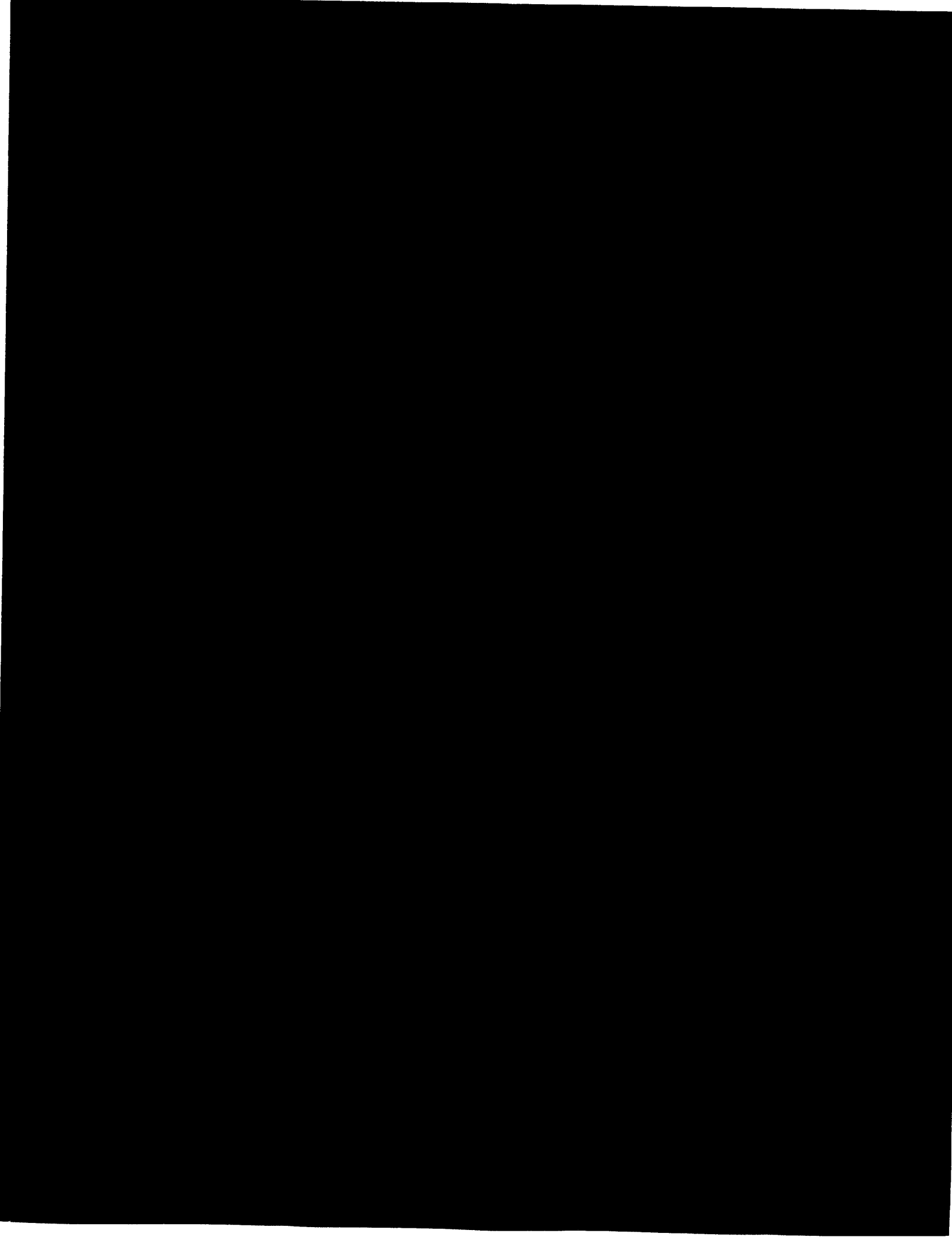
Drilling Log

Project BMT Upper Ponds Owner BMI
 Location PUB-10 Project Number 2855.27
 Boring Number PUB-10 Total Depth of Auger 50' Auger Diameter 6 5/8" ID = 4 1/4"
 Surface Elevation _____ Water Level: Initial _____ 24-hrs. _____
 Total Depth of Soil Sampler 50.5' Total Depth of Ground Water Sampler _____
 Ground Water Sample Interval(s) _____
 Drilling Company GES Drilling Method Hollow stem
 Driller Craig Chafee Log By Ryan Bennett Date Drilled 10-19-99

Sketch Map

Notes Ground surface leveled to 3' bgs before drilling.

Depth (Feet)	Graphic Log and USCS Designation	Blow Counts PID (ppm)	PID (ppm)	Sample Interval	Soil Description and Observations (Color, Texture, Structures, Odor, Foreign Matter)
0					START 1430
2					Surface: loose, grey evaporate. Very soft, dry and dusty.
4		28 31 39			Ground surface leveled to 3' bgs. prior to drilling. - 3.5' bgs native soil horizon. Tan, dry, sandy gravel. Few large coarse clasts.
6					PUB-10-4-5 (2 sleeves collected at 5' interval) Dense sandy gravel, few fines, coarse rock frags.
8					
10		50// terminate			PUB-10-9-10 As above, contains large quartz frags.
12					
14		21 50//			PUB-10-14-15 Driller informs that a very dense, possibly caliche layer is encountered during sample drive. Very dense, carbonate-solidified strata.
16					
18		51//			
20					PUB-10-19-20 As above, weathered ^{carbonate?} aggregate, (bedrock)
22					
24		33 59			PUB-10-24-25 much softer than above, looser aggregate, slightly moist. Gravelly coarse sand.
26					



EXPLORATION LOG PRMA-16

PROJECT: MOHAWK & BACKGROUND

PROJECT NO.: 20011152V2

HOLE LOCATION: SEE FIGURE 1

EXPLORATION DATE: 05/02/01

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

EQUIPMENT: DIEDRICH D-50 TURBO

ELEVATION: EGS

DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 48.0 FEET

DATE MEASURED: 5/3/00

FINAL DEPTH TO WATER: 42.76 FEET

DATE MEASURED: 5/8/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWEL (%)
0		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand, some cobbles, dry and very dense. PID = 0.0 ppmV. No odors or stains.</p> <p>...PID = 0.0 ppmV. No odors or stains</p> <p>...PID = 0.0 ppmV. No odors or stains</p> <p>...rock encountered at 19.0 feet; drill to</p>					

EXPLORATION LOG PRMA-16

PROJECT: MOHAWK & BACKGROUND

PROJECT NO.: 20011152V2

HOLE LOCATION: SEE FIGURE 1

EXPLORATION DATE: 05/02/01

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

EQUIPMENT: DIEDRICH D-50 TURBO

ELEVATION: EGS

DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 48.0 FEET

DATE MEASURED: 5/3/00

FINAL DEPTH TO WATER: 42.76 FEET

DATE MEASURED: 5/8/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWEL (%)
20	100 100 130		20.0 feet to start sampling interval ...PID = 0.0 ppmV. No odors or stains					
22.5	125 100							
25								
27.5								
30	150 125 150		...soil is borderline SM. PID = 0.0 ppmV. No odors or stains					
32.5								
35								
37.5		SM	Yellowish brown (10 YR 5/4) silty sand with gravel, slightly moist and very dense.					

EXPLORATION LOG PRMA-16

PROJECT: MOHAWK & BACKGROUND

PROJECT NO.: 20011152V2

HOLE LOCATION: SEE FIGURE 1

EXPLORATION DATE: 05/02/01

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

EQUIPMENT: DIEDRICH D-50 TURBO

ELEVATION: EGS

DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 48.0 FEET

DATE MEASURED: 5/3/00

FINAL DEPTH TO WATER: 42.76 FEET

DATE MEASURED: 5/8/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWEL (%)
40			...PID = 0.0 ppmV. No odors or stains					
42.5			...trace of clay					
45			...wet					
47.5								
50		CL-ML	Light olive gray (5Y 6/2) silty clay with sand, wet and very stiff.					
52.5								
55			END OF BORING AT 55 FEET GROUNDWATER ENCOUNTERED AT APPROXIMATELY 48.0 FEET					
57.5								

EXPLORATION LOG PREA3-02

PROJECT: SUNSET NORTH

PROJECT NO.: 20011152V1

HOLE LOCATION: SEE FIGURE 1

EXPLORATION DATE: 05/17/01

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

EQUIPMENT: DIEDRICH D-50 DRILL RIG

ELEVATION: EGS

DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE

DATE MEASURED: NA

FINAL DEPTH TO WATER: NGE

DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0 2.5 5 7.5 10 12.5 15 17.5	<p>The diagram shows a vertical soil profile. From 0 to approximately 3.5 feet depth, there are several soil samples represented by small circles. Sample depths are marked on the right as 41, 44, and 90. From approximately 3.5 to 6 feet depth, there is a different soil material, with sample depths marked as 38, 45, 65, and 63.</p>	GM	Pale brown (10 YR 6/3) silty gravel with sand and cobbles, dry and very dense.					
END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED								

EXPLORATION LOG PREA3-03

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/17/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.5; font-size: small; padding-left: 5px;"> 15 15 18 19 22 28 30 39 </div> </div>		GM SM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and medium dense. Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense.					
			END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PREU-02

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/23/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.5; font-size: small; margin-left: 5px;"> <p>25 35 46 52</p> <p>30 43 45 40</p> </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand, dry and very dense. ...brown (10 YR 4/4)					
			END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PREU-03

PROJECT: SUNSET NORTH
 HOLE LOCATION: SEE FIGURE 1
 EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER
 ELEVATION: EGS

PROJECT NO.: 20011152V1
 EXPLORATION DATE: 05/23/01
 EQUIPMENT: DIEDRICH D-50 DRILL RIG
 DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 18.0 FEET
 FINAL DEPTH TO WATER: 15.14 FEET

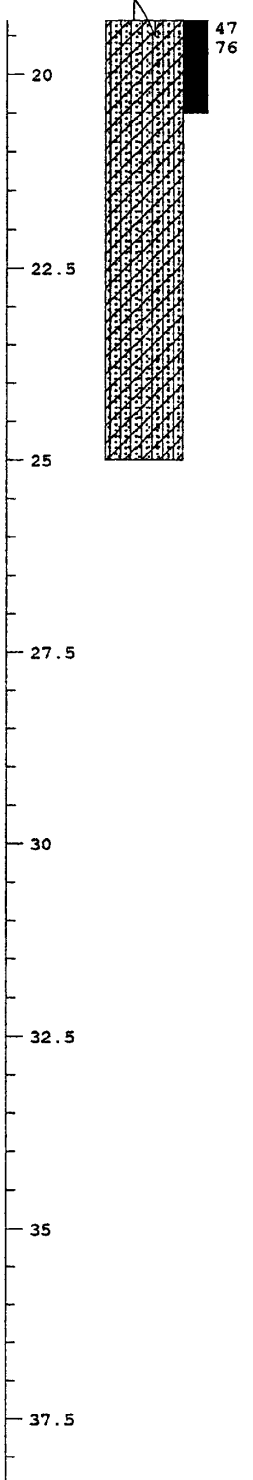

DATE MEASURED: 05/23/01
 DATE MEASURED: 06/07/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0	9 10 19 27	GM	Pale brown (10 YR 6/3) silty gravel with sand, dry and loose. No odor or stain. PID = 0.0 ppmV.					
2.5		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and dense.					
5	49 43 41		...no odor or stain. PID = 0.0 ppmV					
7.5			...brown (7.5 YR 5/4) and slightly moist					
10	44 47 48 56		...dark yellowish brown (10 YR 3/4). No odor or stain. PID = 0.0 ppmV					
12.5								
15	25 39 30 25		...moist to wet. no odor or stain. PID = 0.0 ppmV					
17.5			...wet					
	22	CL	Light olive gray (5Y 6/2) to light gray (5Y 7/2) sandy lean clay, wet and very stiff.					

EXPLORATION LOG PREU-03

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/23/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>18.0 FEET</u>	DATE MEASURED: <u>05/23/01</u>
FINAL DEPTH TO WATER: <u>15.14 FEET</u>	DATE MEASURED: <u>06/07/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>20</p> <p>22.5</p> <p>25</p> <p>27.5</p> <p>30</p> <p>32.5</p> <p>35</p> <p>37.5</p> </div> </div>	<div style="display: flex; align-items: center;">  <div style="margin-left: 5px;"> <p>47</p> <p>76</p> </div> </div>	SC-SM	Dark yellowish brown (10 YR 3/4) silty, clayey sand with gravel, wet and very dense.					
			<p>END OF BORING AT 25 FEET GROUNDWATER AT 18.0 FEET</p>					

EXPLORATION LOG PREU-05

PROJECT: SUNSET NORTH **PROJECT NO.:** 20011152V1
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 05/23/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER **EQUIPMENT:** DIEDRICH D-50 DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** CLINE/COOKE

INITIAL DEPTH TO WATER: 9.0 FEET **DATE MEASURED:** 05/23/01
FINAL DEPTH TO WATER: 8.06 FEET **DATE MEASURED:** 06/07/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 2; border-left: 1px solid black; border-right: 1px solid black; position: relative;"> <!-- Soil Profile Diagram --> </div> <div style="flex: 1; font-size: small;"> <p>11 22 30 21</p> <p>25 50 68</p> <p>25 82</p> </div> </div>	<p>GM</p> <p>SC-SM</p> <p>CL-ML</p>	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...no odor or stain. PID = 0.0 ppmV. Slightly moist</p> <p>...moist</p> <p>...wet</p> <p>Brown (10 YR 5/3) silty, clayey sand with gravel, wet and very dense. No odor or stain. PID = 0.0 ppmV.</p> <p>Dark yellowish brown (10 YR 4/4) silty clay with sand, wet and very stiff. No odor or stain. PID = 0.0 ppmV.</p>	<p>END OF BORING AT 15 FEET GROUNDWATER AT 9.0 FEET</p>					

EXPLORATION LOG PRNBA-01

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 06/01/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 10px;"> <p>9 18 32 40</p> <p>27 26 28</p> </div> </div>		SM	Pale brown (10 YR 6/3) silty sand with gravel and organic material, slightly moist and loose to medium dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNBA-03

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/31/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

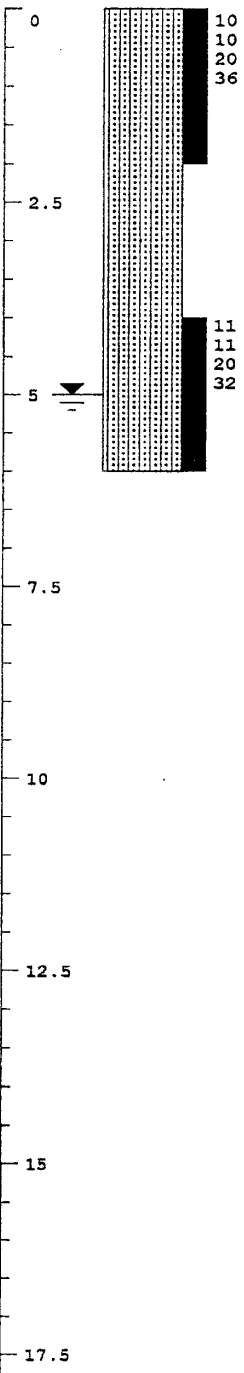
INITIAL DEPTH TO WATER: <u>3.5 FEET</u>	DATE MEASURED: <u>05/31/01</u>
FINAL DEPTH TO WATER: <u>3.5 FEET</u>	DATE MEASURED: <u>05/31/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 10px;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> </div>	<div style="display: flex; align-items: center;"> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; height: 100%; position: relative;"> <div style="position: absolute; top: 0; right: 0; padding: 2px;">9</div> <div style="position: absolute; top: 10%; right: 0; padding: 2px;">12</div> <div style="position: absolute; top: 20%; right: 0; padding: 2px;">14</div> <div style="position: absolute; top: 30%; right: 0; padding: 2px;">15</div> <div style="position: absolute; top: 40%; right: 0; padding: 2px;">7</div> <div style="position: absolute; top: 45%; right: 0; padding: 2px;">6</div> <div style="position: absolute; top: 50%; right: 0; padding: 2px;">20</div> </div> </div>	SM	<p>Pale brown (10 YR 6/3) silty sand with gravel, slightly moist and medium dense.</p> <p>...brown (7.5 YR 4/3)</p> <p>...organic material (peat, roots)</p> <p>...dark yellowish brown (10 YR 4/4)</p> <p>...wet</p>					
			<p>END OF BORING AT 5.5 FEET</p> <p>GROUNDWATER AT 3.5 FEET</p>					

EXPLORATION LOG PRNBA-04

PROJECT: SUNSET NORTH **PROJECT NO.:** 20011152V1
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 05/31/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER **EQUIPMENT:** DIEDRICH D-50 DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** CLINE/COOKE

INITIAL DEPTH TO WATER: 5.0 FEET **DATE MEASURED:** 05/31/01
FINAL DEPTH TO WATER: 5.0 FEET **DATE MEASURED:** 05/31/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  </div>	<p>SM</p>	<p>Pale brown (10 YR 6/3) silty sand with gravel, dry to slightly moist and dense.</p> <p>...dark yellowish brown (10 YR 4/4)</p> <p>...wet</p>						
			<p>END OF BORING AT 6 FEET GROUNDWATER AT 5.0 FEET</p>					

EXPLORATION LOG PRNBA-06

PROJECT: SUNSET NORTH **PROJECT NO.:** 20011152V1
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 06/01/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER **EQUIPMENT:** DIEDRICH D-50 DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** CLINE/COOKE

INITIAL DEPTH TO WATER: 3.5 FEET **DATE MEASURED:** 06/01/01
FINAL DEPTH TO WATER: 3.5 FEET **DATE MEASURED:** 06/01/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; padding-left: 10px;"> <p>20 33 33 39</p> <p>20 75 120 90</p> </div> </div>	SM	<p>Pale brown (10 YR 6/3) silty sand with gravel and some organic material, slightly moist and loose to medium dense. ...brown (10 YR 5/3) and moist</p> <p>...wet</p>	<p style="text-align: center;">END OF BORING AT 6 FEET GROUNDWATER AT 3.5 FEET</p>					

EXPLORATION LOG PRNBA-07

PROJECT: SUNSET NORTH **PROJECT NO.:** 20011152V1
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 05/31/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER **EQUIPMENT:** DIEDRICH D-50 DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** CLINE/COOKE

INITIAL DEPTH TO WATER: NGE **DATE MEASURED:** NA
FINAL DEPTH TO WATER: NGE **DATE MEASURED:** NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<p style="font-size: small;"> 0 2.5 5 7.5 10 12.5 15 17.5 </p>	<p style="font-size: small;"> 50 50 7 14 15 </p>	SM	Pale brown (10 YR 6/3) silty sand with gravel, dry to slightly moist and medium dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNSNP-01

PROJECT: SUNSET NORTH
 HOLE LOCATION: SEE FIGURE 1
 EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER
 ELEVATION: EGS

PROJECT NO.: 20011152V1
 EXPLORATION DATE: 05/18/01
 EQUIPMENT: DIEDRICH D-50 DRILL RIG
 DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE
 FINAL DEPTH TO WATER: NGE


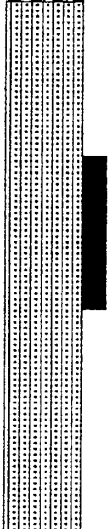
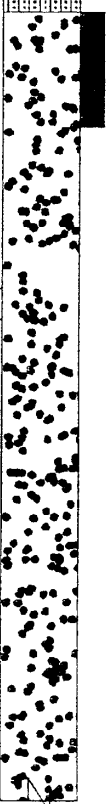

DATE MEASURED: NA
 DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense.					
2.5		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense. ...slightly moist					
5		END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED						
7.5								
10								
12.5								
15								
17.5								

EXPLORATION LOG PRNSNP-04

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>MOBILE B-90 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>HEURTA/COOKE</u>


INITIAL DEPTH TO WATER: <u>12.60 FEET</u>	DATE MEASURED: <u>05/18/01</u>
FINAL DEPTH TO WATER: <u>13.00 FEET</u>	DATE MEASURED: <u>06/07/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0	 32 75 200	GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and very dense. No odor or stain. PID = 0.0 ppmV.			3.5	107.8	
2.5	 38 32 67 82	SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense. ...no odor or stain			4.0	112.1	
5								
7.5								
10	 100 200 200	GP	Brown (10 YR 4/3) poorly graded gravel with sand, slightly moist and very dense. ...wet with moderate to strong chemical odor. No staining observed. PID = 0.0 ppmV			4.4	111.7	
12.5								
15								
17.5								

EXPLORATION LOG PRNSNP-04

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>MOBILE B-90 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>HEURTA/COOKE</u>

INITIAL DEPTH TO WATER: <u>12.60 FEET</u>	DATE MEASURED: <u>05/18/01</u>
FINAL DEPTH TO WATER: <u>13.00 FEET</u>	DATE MEASURED: <u>06/07/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>20</p> <p>22.5</p> <p>25</p> <p>27.5</p> <p>30</p> <p>32.5</p> <p>35</p> <p>37.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; position: relative;"> <div style="position: absolute; top: -20px; left: 50%; transform: translate(-50%, -50%);">  </div> </div> </div>			<p>END OF BORING AT 20 FEET GROUNDWATER AT 12.6 FEET</p>					

EXPLORATION LOG PRNSNP-05

PROJECT: SUNSET NORTH
 HOLE LOCATION: SEE FIGURE 1
 EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER
 ELEVATION: EGS

PROJECT NO.: 20011152V1
 EXPLORATION DATE: 05/17/01
 EQUIPMENT: DIETRICH D-50 DRILL RIG
 DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE _____ DATE MEASURED: NA _____
 FINAL DEPTH TO WATER: NGE _____ DATE MEASURED: NA _____

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense.					
		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense.					
		END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED						

EXPLORATION LOG PRNSNP-06

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/24/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 2; text-align: center;"> </div> <div style="flex: 1; font-size: small;"> <p>12 30</p> <p>78 84 75</p> </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand, dry and dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNSNP-08

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/17/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.2; font-size: 8px; margin-left: 5px;"> 20 36 42 71 26 40 98 </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense.					
		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNSNP-12

PROJECT: SUNSET NORTH
 HOLE LOCATION: SEE FIGURE 1
 EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER
 ELEVATION: EGS

PROJECT NO.: 20011152V1
 EXPLORATION DATE: 05/24/01
 EQUIPMENT: DIEDRICH D-50 DRILL RIG
 DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE
 FINAL DEPTH TO WATER: NGE

DATE MEASURED: NA
 DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and loose.					
2.5		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and dense.					
5		END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED						
7.5								
10								
12.5								
15								
17.5								

EXPLORATION LOG PRNSNP-14

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/24/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

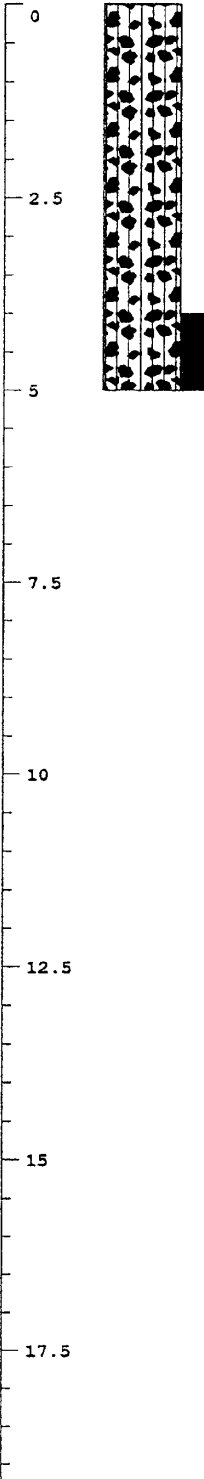
INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.5; text-align: right; padding-right: 5px;"> <p>11 15 15 16</p> <p>20 25 32 32</p> </div> </div>	SM	SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and loose.					
7.5 10 12.5 15 17.5			END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNSNP-16

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/31/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...weak chemical odor, no stain. PID = 0.0 ppmV</p> <p>...no odor or stain. PID = 0.0 ppmV</p>					
			<p>END OF BORING AT 5 FEET NO GROUNDWATER ENCOUNTERED</p>					

EXPLORATION LOG PRNSNP-18

PROJECT: SUNSET NORTH _____ **PROJECT NO.:** 20011152V1 _____
HOLE LOCATION: SEE FIGURE 1 _____ **EXPLORATION DATE:** 06/01/01 _____
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER _____ **EQUIPMENT:** DIEDRICH D-50 DRILL RIG _____
ELEVATION: EGS _____ **DRILLER/LOGGER:** CLINE/COOKE _____

INITIAL DEPTH TO WATER: 2.0 FEET _____ **DATE MEASURED:** 06/01/01 _____
FINAL DEPTH TO WATER: 2.0 FEET _____ **DATE MEASURED:** 06/01/01 _____

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry to slightly moist and loose to medium dense. ...brown (10 YR 5/3) and moist ...wet ...dark yellowish brown (10 YR 4/4) ...no odor or stain					
2.5								
5		GM	Dark yellowish brown (10 YR 4/4) silty gravel with sand, wet and very dense.					
			END OF BORING AT 5.5 FEET GROUNDWATER AT 2.0 FEET					
7.5								
10								
12.5								
15								
17.5								

EXPLORATION LOG PRNSNP-20

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 06/01/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 3.0 FEET	DATE MEASURED: 06/01/01
FINAL DEPTH TO WATER: 3.0 FEET	DATE MEASURED: 06/01/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; font-size: small;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> </div>	<p>17 34 37 41</p> <p>7 12 97</p>	<p>SM</p> <p>GM</p>	<p>Pale brown (10 Yr 6/3) to brown (10 YR 5/3) silty sand with gravel, slightly moist and medium dense.</p> <p>Brown (10 YR 5/3) silty gravel with sand, moist and dense.</p> <p>...wet</p> <p style="text-align: center;">END OF BORING AT 5.5 FEET GROUNDWATER AT 3.0 FEET</p>					

EXPLORATION LOG PRNSNP-23

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/21/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

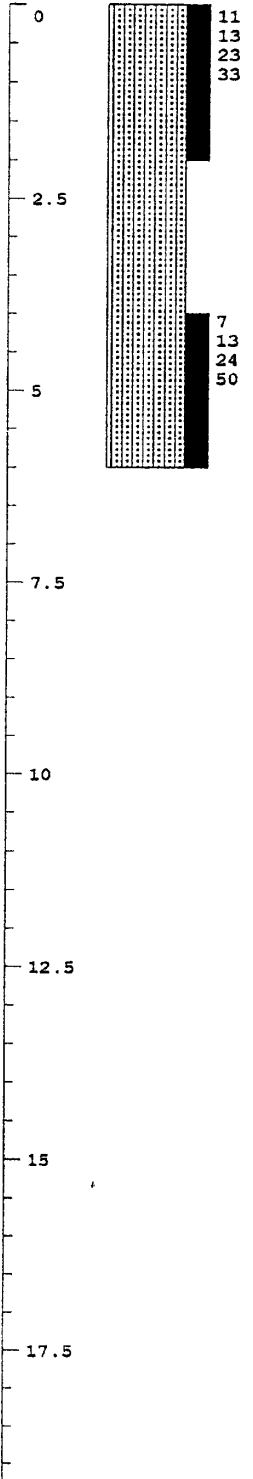
INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">20</div> <div style="margin-bottom: 10px;">22.5</div> <div style="margin-bottom: 10px;">25</div> <div style="margin-bottom: 10px;">27.5</div> <div style="margin-bottom: 10px;">30</div> <div style="margin-bottom: 10px;">32.5</div> <div style="margin-bottom: 10px;">35</div> <div style="margin-bottom: 10px;">37.5</div> </div>								

EXPLORATION LOG PRNSNP-25

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/21/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  </div>		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and dense. ...brown (10 YR 4/4) and slightly moist ...moist					
			END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRNU-02

PROJECT: SUNSET NORTH **PROJECT NO.:** 20011152V1
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 05/22/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER **EQUIPMENT:** DIEDRICH D-50 DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** CLINE/COOKE

INITIAL DEPTH TO WATER: 6.00 FEET **DATE MEASURED:** 05/22/01
FINAL DEPTH TO WATER: 6.81 FEET **DATE MEASURED:** 06/07/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.2; font-size: 8px; margin-left: 5px;"> 30 75 84 54 30 29 53 46 12 30 51 </div> </div>	SM	SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense. No odor or stain. PID = 0.0 ppmV. ...brown (10 YR 5/3) and slightly moist ...moist ...trace of gypsum ...no odor or stain. PID = 0.0 ppmV			8.5	107.3	
			...dark yellowish brown (10 YR 4/4) ...moist to wet			16.0	109.5	
		SC-SM	Dark yellowish brown (10 YR 4/4) silty, clayey sand with gravel, wet and very dense. No odor or stain.					
			END OF BORING AT 15 FEET GROUNDWATER AT 5.67 FEET					
17.5								

EXPLORATION LOG PRSSNP-01

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; text-align: center;"> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and very dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...no odor or stain. PID = 0.0 ppmV</p>					
			<p>END OF BORING AT 5 FEET NO GROUNDWATER ENCOUNTERED</p>					

EXPLORATION LOG PRSSNP-04

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/14/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: 20.00 FEET	DATE MEASURED: 05/14/01
FINAL DEPTH TO WATER: 22.16 FEET	DATE MEASURED: 05/15/01

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p><p>2.5</p><p>5</p><p>7.5</p><p>10</p><p>12.5</p><p>15</p><p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; text-align: center;"> </div> <div style="flex: 1; padding-left: 10px;"> <p>10 19 40 55</p> <p>29 39 62 69</p> <p>54 88 106 127</p> <p>50</p> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and medium dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...brown (7.5 YR 5/3) and slightly moist</p> <p>...no odor or stain. PID = 0.0 ppmV</p> <p>...no odor or stain. PID = 0.0 ppmV.</p>			6.0 7.0 7.9 8.0	100.3 104.0 100.1 100.5	

EXPLORATION LOG PRSSNP-04

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/14/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

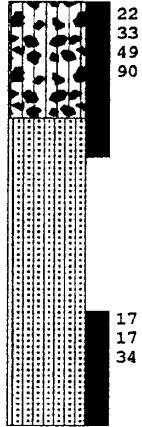
INITIAL DEPTH TO WATER: <u>20.00 FEET</u>	DATE MEASURED: <u>05/14/01</u>
FINAL DEPTH TO WATER: <u>22.16 FEET</u>	DATE MEASURED: <u>05/15/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
			<p>...wet ...sampler could not penetrate soil. Drill to 22.0</p>					
22.5		CL	Light reddish brown lean clay with sand, moist to wet and very stiff.					
25			<p>END OF BORING AT 24 FEET GROUNDWATER AT 20.0 FEET</p>					
27.5								
30								
32.5								
35								
37.5								

EXPLORATION LOG PRSSNP-08

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/17/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div>  </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense to very dense.					
		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRSSNP-10

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/17/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; position: relative;"> <div style="position: absolute; top: 0; right: 0; padding: 2px;">13 24 32 55</div> <div style="position: absolute; bottom: 0; right: 0; padding: 2px;">34 42 72</div> </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRSSNP-12

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/17/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>


INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">20</div> <div style="margin-bottom: 10px;">22.5</div> <div style="margin-bottom: 10px;">25</div> <div style="margin-bottom: 10px;">27.5</div> <div style="margin-bottom: 10px;">30</div> <div style="margin-bottom: 10px;">32.5</div> <div style="margin-bottom: 10px;">35</div> <div style="margin-bottom: 10px;">37.5</div> </div>								

EXPLORATION LOG PRSSNP-14

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/17/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIETRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; text-align: center;">  </div> <div style="flex: 1; font-size: small;"> <p>25 64 87 94</p> <p>31 27 37</p> </div> </div>	GM		Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRSSNP-15

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/14/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 0.2; font-size: 8px; margin-left: 5px;"> <p>12 28 36 49</p> <p>42 60 72 90</p> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...no odor or stain. PID = 0.0 ppmV</p>					
			<p>END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED</p>					

EXPLORATION LOG PRSSNP-17

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/17/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; padding: 0 5px;"> </div> </div>	<p>15 29 30 22</p> <p>114 120 104</p>	GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense.					
<p>END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED</p>								

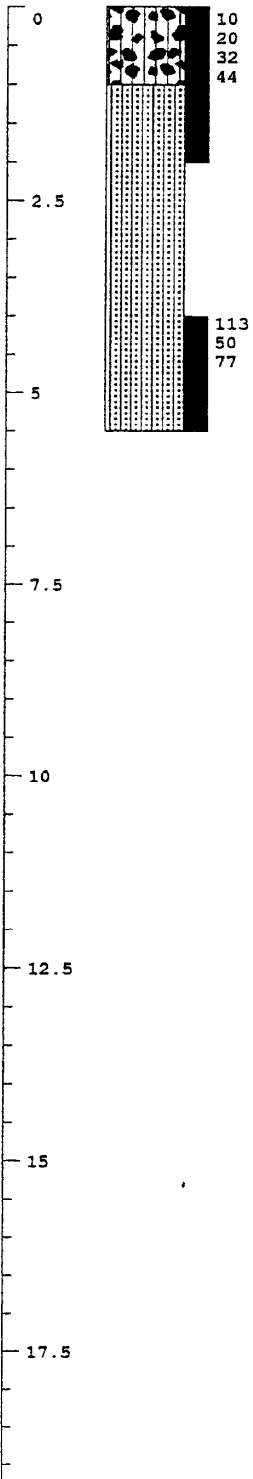
EXPLORATION LOG PRSSNP-18

PROJECT: SUNSET NORTH
 HOLE LOCATION: SEE FIGURE 1
 EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER
 ELEVATION: EGS

PROJECT NO.: 20011152V1
 EXPLORATION DATE: 05/17/01
 EQUIPMENT: DIEDRICH D-50 DRILL RIG
 DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE
 FINAL DEPTH TO WATER: NGE

DATE MEASURED: NA
 DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>10 20 32 44</p> <p>113 50 77</p> </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense.					
		SM	Pale brown (10YR 6/3) silty sand with gravel, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRSSNP-21

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>50.00 FEET</u>	DATE MEASURED: <u>05/15/01</u>
FINAL DEPTH TO WATER: <u>47.78 FEET</u>	DATE MEASURED: <u>06/05/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p><p>2.5</p><p>5</p><p>7.5</p><p>10</p><p>12.5</p><p>15</p><p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; text-align: center;"> </div> <div style="flex: 1; padding-left: 10px;"> <p>14 50 73 75</p> <p>66 121 56 67</p> <p>30 75 200</p> <p>61</p> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and dense. No odor or stain. PID = 0.0 ppmV.</p> <p>...no odor or stain</p> <p>...no odor or stain</p> <p>...no odor or stain</p>			<p>0.9</p> <p>3.5</p> <p>2.1</p> <p>3.6</p>	<p>108.5</p> <p>111.8</p> <p>107.2</p> <p>115.4</p>	

EXPLORATION LOG PRSSNP-21

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>50.00 FEET</u>	DATE MEASURED: <u>05/15/01</u>
FINAL DEPTH TO WATER: <u>47.78 FEET</u>	DATE MEASURED: <u>06/05/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
30	46 80	GP	Pale brown (10 YR 6/3) poorly graded gravel with sand, slightly moist and very dense. No odor or stain. PID = 0.0 ppmV.			4.4	99.8	
37.5		CL-ML	Brown (10 YR 4/3) silty clay with sand,					

EXPLORATION LOG PRSSNP-21

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/15/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>50.00 FEET</u>	DATE MEASURED: <u>05/15/01</u>
FINAL DEPTH TO WATER: <u>47.78 FEET</u>	DATE MEASURED: <u>06/05/01</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
			slightly moist and very stiff. ...no odor or stain			34.4	72.1	
42.5		CL	Light olive gray sandy lean clay, slightly moist and very stiff.					
47.5			...brown (10 YR 4/3) ...no odor or stain. PID = 0.0 ppmV			17.0	85.8	
50			...wet at 50.0. Gypsiferous: gypsum is approximately 30 % of soil with clear crystals to 1.5" in clay matrix					
52.5								
55			END OF BORING AT 55 FEET GROUNDWATER AT 50.0 FEET					
57.5								

EXPLORATION LOG PRWU-03

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/31/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; border-left: 1px solid black; border-right: 1px solid black; text-align: center;"> </div> </div>		GM	<p>Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and very dense.</p> <p>...very pale brown (10 YR 8/2), gypsiferous and partially cemented</p> <p>...pale brown and very dense</p>					
			<p>END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED</p>					

EXPLORATION LOG PRWU-04

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/22/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		GM	Pale brown (10 YR 6/3) silty gravel with sand, dry and dense.					
2.5		SM	Pale brown (10 YR 6/3) silty sand with gravel, dry and dense.					
5		GM	Pale brown (10 YR 6/3) silty gravel with sand, dry and very dense.					
7.5	END OF BORING AT 6 FEET NO GROUNDWATER ENCOUNTERED							
10								
12.5								
15								
17.5								

EXPLORATION LOG PRWU-06

PROJECT: <u>SUNSET NORTH</u>	PROJECT NO.: <u>20011152V1</u>
HOLE LOCATION: <u>SEE FIGURE 1</u>	EXPLORATION DATE: <u>05/24/01</u>
EXPLORATION SIZE: <u>4 1/4" I.D. H.S. AUGER</u>	EQUIPMENT: <u>DIEDRICH D-50 DRILL RIG</u>
ELEVATION: <u>EGS</u>	DRILLER/LOGGER: <u>CLINE/COOKE</u>

INITIAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>
FINAL DEPTH TO WATER: <u>NGE</u>	DATE MEASURED: <u>NA</u>

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>0</p> <p>2.5</p> <p>5</p> <p>7.5</p> <p>10</p> <p>12.5</p> <p>15</p> <p>17.5</p> </div> <div style="flex: 1; text-align: center;"> </div> </div>		GM	Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and very dense.					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRWU-07

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/22/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIEDRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; font-size: small;"> <p>28 50 34 28</p> <p>13 26 24</p> </div> </div>		GM SM	<p>Pale brown (10 YR 6/3) silty gravel with sand, dry and dense.</p> <p>Pale brown (10 YR 6/3) silty sand with gravel, dry and very dense.</p>					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

EXPLORATION LOG PRWU-10

PROJECT: SUNSET NORTH	PROJECT NO.: 20011152V1
HOLE LOCATION: SEE FIGURE 1	EXPLORATION DATE: 05/31/01
EXPLORATION SIZE: 4 1/4" I.D. H.S. AUGER	EQUIPMENT: DIETRICH D-50 DRILL RIG
ELEVATION: EGS	DRILLER/LOGGER: CLINE/COOKE

INITIAL DEPTH TO WATER: NGE	DATE MEASURED: NA
FINAL DEPTH TO WATER: NGE	DATE MEASURED: NA


ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p style="font-size: small;">0 2.5 5 7.5 10 12.5 15 17.5</p> </div> <div style="flex: 0.5; text-align: center; font-size: x-small;"> <p>15 17 20 26</p> <p>32 74 97</p> </div> </div>		<p>GM</p> <p>SM</p>	<p>Pale brown (10 YR 6/3) silty gravel with sand and some cobbles, dry and medium dense.</p> <p>Pale brown (10 YR 6/3) silty sand with gravel, dry and medium dense.</p>					
			END OF BORING AT 5.5 FEET NO GROUNDWATER ENCOUNTERED					

KEY TO SYMBOLS

Symbol Description

Symbol Description

Strata symbols

 Boring continues




Silty gravel

Soil Samplers



Silty sand

 California sampler



Low plasticity
clay



Silty, clayey sand



Silty low plasticity
clay



Poorly graded gravel

Misc. Symbols



Water table at date
indicated



Water table at date
indicated

Notes:

1. Exploratory borings were drilled on date shown on the logs with a Diedrich D-50 drill rig using 4 1/4 inch inside diameter hollow stem augers. The borings advanced on 05/18/01 were drilled using a Mobile B-90 drill rig.
2. California sampler driven with a 140 pound hammer falling 30 inches.
3. Boring locations shown on site plan estimated by pacing from existing features.
4. This log is 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.

LETTER OF TRANSMITTAL

GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.

7150 Placid Street
Las Vegas, Nevada 89119
(702) 365-1001 (702) 341-7120 (FAX)

TO: Basic Environmental Company Date: July 10, 2001
875 W Warm Springs PROJECT: Sunset North
Henderson Nevada 89015
ATTN: Mr Ranajit Sahu GES PROJECT # 20011152V1

WE ARE FORWARDING THE ITEMS LISTED BELOW VIA:

 MESSENGER PICK UP x U.S. MAIL "NEXT DAY"

<u>COPIES</u>	<u>DESCRIPTION</u>
<u>1</u>	<u>Boring Logs, Sunset North, Henderson, Nevada</u>

THESE ITEMS ARE SENT FOR: REVIEW COMMENT APPROVAL USE
 SIGN & RETURN OTHER:

REMARKS:

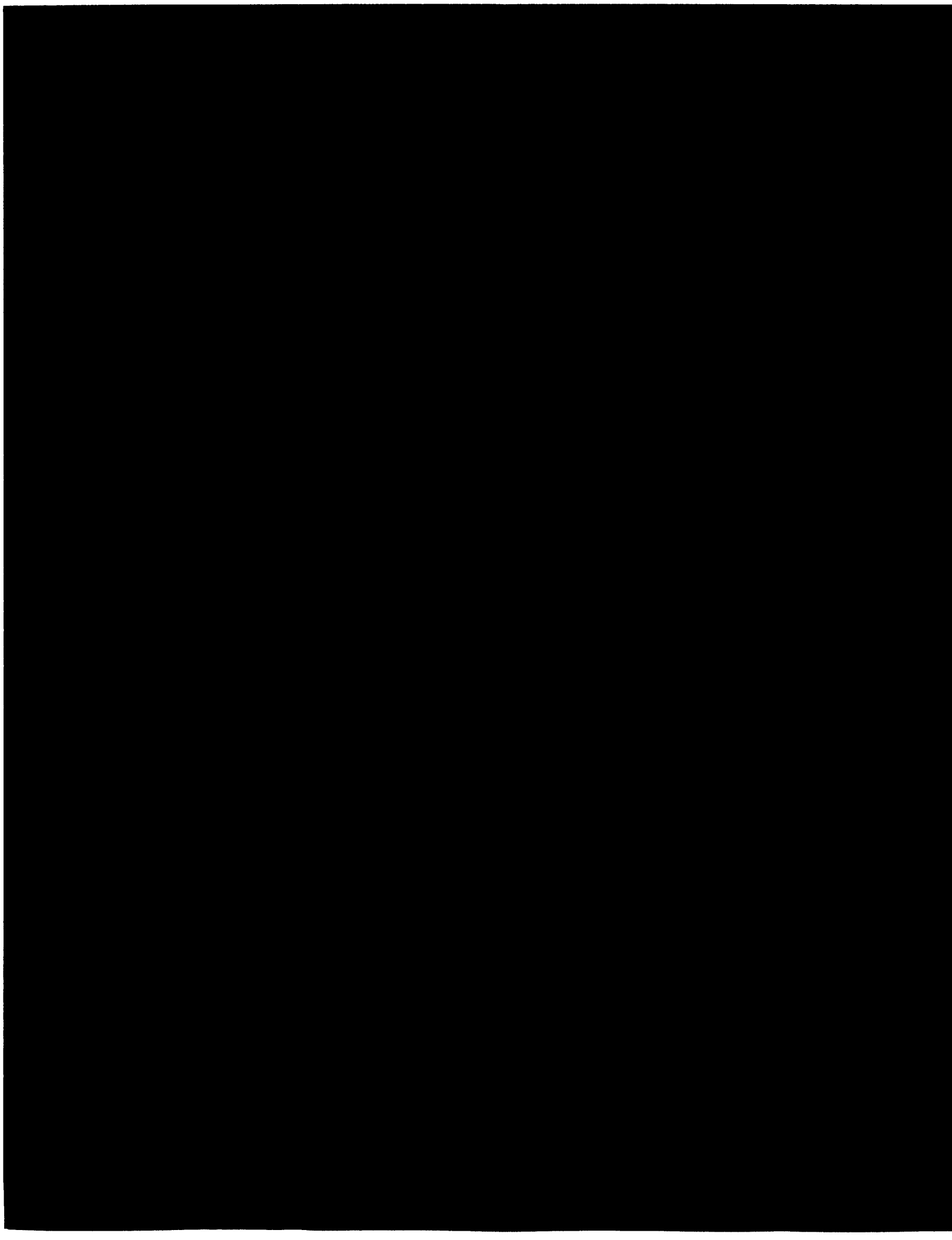
THIS MATERIAL IS SENT BY: Daniel C. Burns, C.E.M.

PLEASE SIGN AND RETURN ONE COPY OF TRANSMITTAL.

RECEIVED BY: TIME: DATE:

OTHER DISTRIBUTION:

If enclosures are not as noted, please notify us at once.



BORING #:	P-1	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	09:15	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	PROJECT: Henderson, NV
		CASE # 01-2131F
		COMMENTS:
		Pond 1.

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	0.7	P-1 (0-1)	Tan to light brown fine-grained sandy silt with gravel (ML).
2-4		24	0.5		Light tan to light brown medium- and fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		20	0.7		Same as above.
6-8		24	0.6		Same as above, slightly increasing gravel content.
8-10		18	0.5		Same as above.
10-12		20	0.5	P-1 (10-12)	Same as above, slightly calcified ("pre-caliche").
12-14		20	0.4		Sandy gravel, sub-rounded and poorly sorted, light brown, tan, and reddish brown (GP).
14-16		24	0.5		Fine to medium-grained sub-angular sand with gravel, brown to reddish brown; hard caliche layer at 15' to 16' (SW).
16-18		22	0.4		Same as above, no caliche.
18-20		20	0.4	P-1 (18-20)	Same as above; brownish green WET silty clay at 19.5' (CL-ML).

COMMENTS:

Borehole P-1 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-2	ENVIRON BORING LOG
DATE:	5/20/01	
START TIME:	11:15	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 2.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH:	18'	
ORGANIC VAPOR EQUIPMENT:	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	0.9	P-2 (0-1)	Tan to light brown very fine-grained silty sand (SW-SM).
2-4		20	0.5		Light tan to light brown medium- and fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		24	0.7		Same as above.
6-8		20	0.7		Same as above.
8-10		14	0.7		Same as above, becoming more calcified ("pre-caliche").
10-12		16	1.3	P-2 (10-12)	Same as above.
12-14		20	0.8		Sandy gravel, sub-rounded and poorly sorted, light brown, tan, and reddish brown (GP).
14-16		14	0.7		Fine- to medium-grained sub-angular sand with gravel, brown to reddish brown (SW).
16-18		22	0.9	P-2 (16-18)	Same as above; hard caliche at 18' (Geoprobe refusal).

COMMENTS:
Borehole P-2 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-3	ENVIRON BORING LOG
DATE:	5/20/01	
START TIME:	09:05	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 3.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	1.0	P-3 (0-1)	Tan to light brown very fine-grained silty sand (SW-SM).
2-4		24	0.5		Light tan to light brown medium- and fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		22	0.5		Light brown to reddish brown gravelly sand, subangular (SP).
6-8		20	0.5		Same as above.
8-10		18	0.5		Same as above.
10-12		20	1.4	P-3 (10-12)	Same as above, becoming more calcified ("pre-caliche").
12-14		18	0.5		Same as above, grain size increasing slightly, increasing silty sand content, some gravel (SP-SM).
14-16		14	0.5		Fine- to medium-grained sub-angular sand with gravel, brown to reddish brown (SW).
16-18		24	0.7		Same as above to 16.5'. Dark greyish brown moist silty clay at 16.5' (CL-ML).
18-20		24	0.5	P-3 (18-20)	Same clay as above, WET and loose at 19.5'.

COMMENTS:
Borehole P-3 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-4	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	14:55	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 4.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	22'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	0.8	P-4 (0-1)	Tan to light brown very fine-grained silty sand with some gravel (SP-SM).
2-4		22	0.5		Light tan to light brown and reddish brown medium- to fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		22	0.5		Same as above.
6-8		20	0.6		Same as above.
8-10		18	0.5		Reddish brown mottled fine to medium sand with minor gravel, moderately sorted and sub-angular (SW).
10-12		16	0.6	P-4 (10-12)	Same as above.
12-14		18	0.8		Same as above, grading to a gravelly sand (SW).
14-16		20	0.6		Light brown to reddish brown mottled sand and gravel, moderately rounded and poorly sorted (SW).
16-18		20	0.8		Light brown to tan sandy silt with gravel (ML).
18-20		14	0.6		Same as above, trace gravel (ML).
20-22		10	0.5	P-4 (20-22)	Same as above, WET at 21.6'.

COMMENTS:
Borehole P-4 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-5	ENVIRON BORING LOG
DATE:	5/19/01	
START TIME:	10:55	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	PROJECT: Henderson, NV
RIG:	Geoprobe 66 DT	CASE # 01-2131F
SAMPLING METHOD:	2-foot continuous stainless steel soil core	COMMENTS: Pond 5.
BORING DIA:	2-inch internal diameter	
BORING DEPTH	18'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	2.2	P-5 (0-1)	Tan to light brown very fine-grained silty sand with some gravel (SP-SM).
2-4		22	1.0		Light tan to light brown and reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		18	0.4		Same as above.
6-8		20	0.8		Same as above.
8-10		1	0.6		Reddish brown mottled fine to medium sand with minor gravel, moderately sorted and sub-angular (SW).
10-12		10	1.2	P-5 (10-12)	Same as above.
12-14		19	0.8		Same as above, grading to a gravelly sand (SW).
14-16		22	0.6		Light brown to reddish brown mottled sand and gravel, moderately rounded and poorly sorted (SW).
16-18		20	1.4	P-5 (16-18)	Light brown to tan sandy gravel (GP); WET at core tip.

COMMENTS:
Borehole P-5 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-6	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	07:30	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 6.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	1.2	P-6 (0-1)	Tan to light brown very fine-grained sandy silt with gravel (SP-SM).
2-4		24	0.9		Light tan to light brown medium- and fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		20	0.7		Same as above.
6-8		24	0.9		Same as above, slightly increasing gravel content (SP-SM).
8-10		18	0.5		Same as above.
10-12		20	0.9	P-6 (10-12)	Same as above, slightly calcified ("pre-caliche").
12-14		20	0.7		Sandy gravel, sub-rounded and poorly sorted, light brown, tan, and reddish brown (GP).
14-16		24	0.7		Fine to medium grained sub-angular sand with gravel, brown to reddish brown (SP).
16-18		22	0.7		Same as above.
18-20		20	0.7	P-6 (18-20)	Medium and fine sand, moderately sorted and sub-rounded (SW), slightly calcified; WET at 20'.

COMMENTS:
Borehole P-6 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-7	ENVIRON BORING LOG
DATE:	5/17/01 and 5/21/01	
START TIME:	16:01	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 7.
SAMPLING METHOD:	4-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	24	6.0	P-7 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	9.2	P-7 (2-3)	Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		18	2.0		Same as above, tan to light brown.
5-7		12	0.1		Same as above, slightly calcified (caliche).
7-9		9	0.0		Same as above, well calcified white to light tan caliche.
9-10		16	0.1	P-7 (10-12)	Same as above, very little calcification.
10-12		18	0.0		Same as above, increasing gravel content (SP-SM).
12-14		20	0.0		Brown to reddish brown gravelly sand, sub-rounded and poorly sorted (GP).
14-16		10	0.2		Same as above.
16-18		18	0.0		Same as above.
18-20		18	0.1	P-7 (19-21)	Same as above.
20-22		20	0.0		Greenish grey moist plastic silty clay (CL-ML), WET at 20.5'.

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
<p>COMMENTS:</p> <p>Collected intervals deeper than 5' below ground surface on 5/21/01.</p> <p>Borehole P-7 plugged on 5/22/01 using dry bentonite pellets, filled to grade.</p>					

BORING #:	P-8	ENVIRON BORING LOG
DATE:	5/19/01	
START TIME:	09:30	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 8.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	18'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	0.4	P-8 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
2-4		24	0.4		Light tan to light brown and reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		20	0.4		Same as above.
6-8		20	0.3		Same as above.
8-10		14	0.6	P-8 (10-12)	Reddish brown mottled fine sand, well sorted and sub-angular, calcified (caliche) in the 9' to 11' interval (SW).
10-12		10	0.3		Same as above.
12-14		19	0.5		Same as above, grading to a gravelly sand (SP).
14-16		22	0.4		Light brown to reddish brown mottled sand and gravel, moderately rounded and poorly sorted (SP).
16-18		20	0.5	P-8 (16-18)	Same as above to 16.5'; dark brownish grey moist clay interface at 16.5' (CL-ML). WET at 17.8'.

COMMENTS:

Borehole P-8 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-9	ENVIRON BORING LOG
DATE:	5/17/01	
START TIME:	16:01	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	
SAMPLING METHOD:	4-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	PROJECT: Henderson, NV CASE # 01-2131F

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	24	0.8	P-9 (0-1)	Brown medium-grained gravelly sand, unsorted (SP).
1-3		24	1.8	P-9 (2-3)	Same as above, gravel to 1" diameter.
3-5		18	0.6		Same as above, tan to light brown.
5-7		12	0.0		Brown fine- to medium-grained moderately sorted sub-angular sand, slightly calcified (caliche) (SW).
7-9		12	1.2		Same as above, well calcified white to light tan caliche.

COMMENTS:

Boring terminated at 9' below ground surface due to refusal.
Borehole P-9 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-10	ENVIRON BORING LOG
DATE:	5/17/01	
START TIME:	10:55	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 10 near western entrance to site.
SAMPLING METHOD:	4-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	19'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	19	1.1	P-10 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		16	0.2		Brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		23	0.4		Same as above.
5-7		24	0.0		Same as above.
7-10		32	0.0		Same as above, slightly calcified (caliche).
10-11		13	0.4	P-10 (10-11)	Same as above, still calcified.
11-13		17	0.0	P-10 (12-12.5)	Mottled brown and reddish brown medium-grained sub-angular sand with little gravel (SW).
13-15		22	0.0		Same as above.
15-17		21	0.0	P-10 (16.5-17.5)	Same as above.
17-19		24	0.0		Same as above; WET at 17.5'.

COMMENTS:

Borehole P-10 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-11	ENVIRON BORING LOG
DATE:	5/18/01 and 5/22/01	
START TIME:	07:40	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	COMMENTS: Pond 11.
SAMPLING METHOD:	4-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH:	17'	
ORGANIC VAPOR EQUIPMENT:	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.3	P-11 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	0.4		Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		20	0.0	P-11 (4-5)	Same as above, tan to light brown.
5-7		24	0.4		Same as above.
7-9		20	0.2		Same as above, slightly more gravel (SP-SM).
9-11		18	0.5		Light brown and reddish brown gravelly sand, gravel to 1/2" diameter, sub-angular and poorly sorted (SP).
11-13		22	0.9		Same as above, slightly calcified.
13-15		24	0.7		Light brown large-grained sand with some gravel (SW).
15-17		24	2.1	P-11 (15-17)	Same as above, WET at 16.8'.

COMMENTS:

Collected intervals deeper than 5' below ground surface on 5/22/01.
Borehole P-11 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-12	ENVIRON BORING LOG
DATE:	5/18/01	
START TIME:	08:15	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	PROJECT: Henderson, NV
RIG:	Geoprobe 66 DT	CASE # 01-2131F
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	5'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	
		COMMENTS: Pond 12.

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.3	P-12 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	0.4		Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		22	0.0	P-12 (4-5)	Same as above.

COMMENTS:

Borehole P-12 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-13	ENVIRON BORING LOG
DATE:	5/18/01	
START TIME:	13:20	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 13.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	5'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.5	P-13 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	0.3		Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		20	0.3	P-13 (4-5)	Same as above.

COMMENTS:
Borehole P-13 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-14	ENVIRON BORING LOG
DATE:	5/18/01	
START TIME:	09:45	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	PROJECT: Henderson, NV
RIG:	Geoprobe 66 DT	CASE # 01-2131F
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	5'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	
		COMMENTS: Pond 14.

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.5	P-14 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	0.4		Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		24	0.4	P-14 (4-5)	Same as above.

COMMENTS:
Borehole P-14 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-15	ENVIRON BORING LOG
DATE:	5/18/01	
START TIME:	14:30	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	COMMENTS: Pond 15.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	5'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.5	P-15 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		24	0.3		Tan, brown, and reddish brown medium- to fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		22	0.3	P-15 (4-5)	Same as above.

COMMENTS:
Borehole P-15 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-16	ENVIRON BORING LOG
DATE:	5/18/01	
START TIME:	09:45	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	PROJECT: Henderson, NV CASE # 01-2131F COMMENTS: Pond 16.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	5'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.4	P-16 (0-1)	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		23	0.3		Brown to reddish brown medium- to fine-grained silty sand with occasional gravel to ¼-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		24	0.0	P-16 (4-5)	Same as above, slightly more gravelly (SP-SM).

COMMENTS:

Borehole P-16 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	P-17	ENVIRON BORING LOG
DATE:	5/18/01 and 5/22/01	
START TIME:	15:15	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	PROJECT: Henderson, NV
RIG:	Geoprobe 66 DT	CASE # 01-2131F
SAMPLING METHOD:	2-foot continuous stainless steel soil core	COMMENTS: Pond 17.
BORING DIA:	2-inch internal diameter	
BORING DEPTH	9'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.7	P-17 (0-1) DUP-2	Tan to light brown very fine-grained sandy silt, well sorted (ML).
1-3		22	0.4		Light tan to light brown and reddish brown medium- to fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		24	0.4	P-17 (4-5)	Same as above.
5-7		22	0.5		Dark brown gravelly sand, poorly sorted and sub-angular (SP).
7-9		22	0.6	P-17 (6-8)	Same as above, WET at 8.5'.

COMMENTS:

Collected intervals deeper than 5' below ground surface on 5/22/01.
Borehole P-17 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	S-1	ENVIRON BORING LOG
DATE:	5/19/01	
START TIME:	15:25	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	COMMENTS: Future "A" Street alignment, sampling location 1.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	17'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	
PROJECT: Henderson, NV		
CASE # 01-2131F		

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.7	S-1 (0-1)	Tan to light brown very fine-grained silty sand (SW-SM).
1-3		22	0.5		Light tan to light brown medium- and fine-grained sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
3-5		24	0.3		Same as above.
5-7		22	0.7		Same as above, slightly more gravel (SP-SM).
7-9		22	0.7		Same as above.
9-11		20	0.5	S-1 (10-12)	Well sorted sub-angular large-grained brown to reddish-brown sand (SW).
11-13		14	0.9		Same as above.
13-15		18	0.5		Same as above.
15-17		24	0.1	S-1 (16-17)	Same as above to 17'. Refusal at 17'; hard dry white caliche.

COMMENTS:
Borehole S-1 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	S-2	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	11:00	
LOGGED BY:	Doug Errett (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	COMMENTS: Future "A" street alignment, sampling location 2.
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	20'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-2	N/A	24	0.9	S-2 (0-1)	Light brown silty fine sand, well sorted (SW-SM).
2-4		22	0.8		Light tan to light brown medium- and fine-grained silty sand with occasional gravel to 1/4-inch diameter, poorly sorted and sub-angular (SP-SM).
4-6		24	0.8		Same as above.
6-8		20	0.9		Same as above, slightly increasing gravel content.
8-10		18	0.7		Same as above.
10-12		20	0.8	S-2 (10-12)	Brown and reddish brown sandy gravel, gravel to 1/4" diameter (GP).
12-14		18	0.7		Sandy gravel, sub-rounded and poorly sorted, light brown, tan, and reddish brown (GP).
14-16		16	0.5		Fine- to medium-grained sub-angular sand with gravel, brown to reddish brown (SP).
16-18		22	0.7		Same as above.
18-20		20	0.7	S-2 (18-20)	Calcified gravelly sand, poorly sorted and sub-angular, gravel to 1/4" diameter; WET at bottom of core (20') (SP).

COMMENTS:
Borehole S-2 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	WTP-1	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	09:40	
LOGGED BY:	Sarah Libeau (ENVIRON)	
DRILLING CO:	VIRONEX	
DRILLER:	Bruce Ashmore	PROJECT: Henderson, NV
RIG:	Geoprobe 66 DT	CASE # 01-2131F
SAMPLING METHOD:	2-foot continuous stainless steel soil core	COMMENTS: Water reclamation facility, surface soil sampling location 1 (southeast of facility).
BORING DIA:	2-inch internal diameter	
BORING DEPTH	1'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

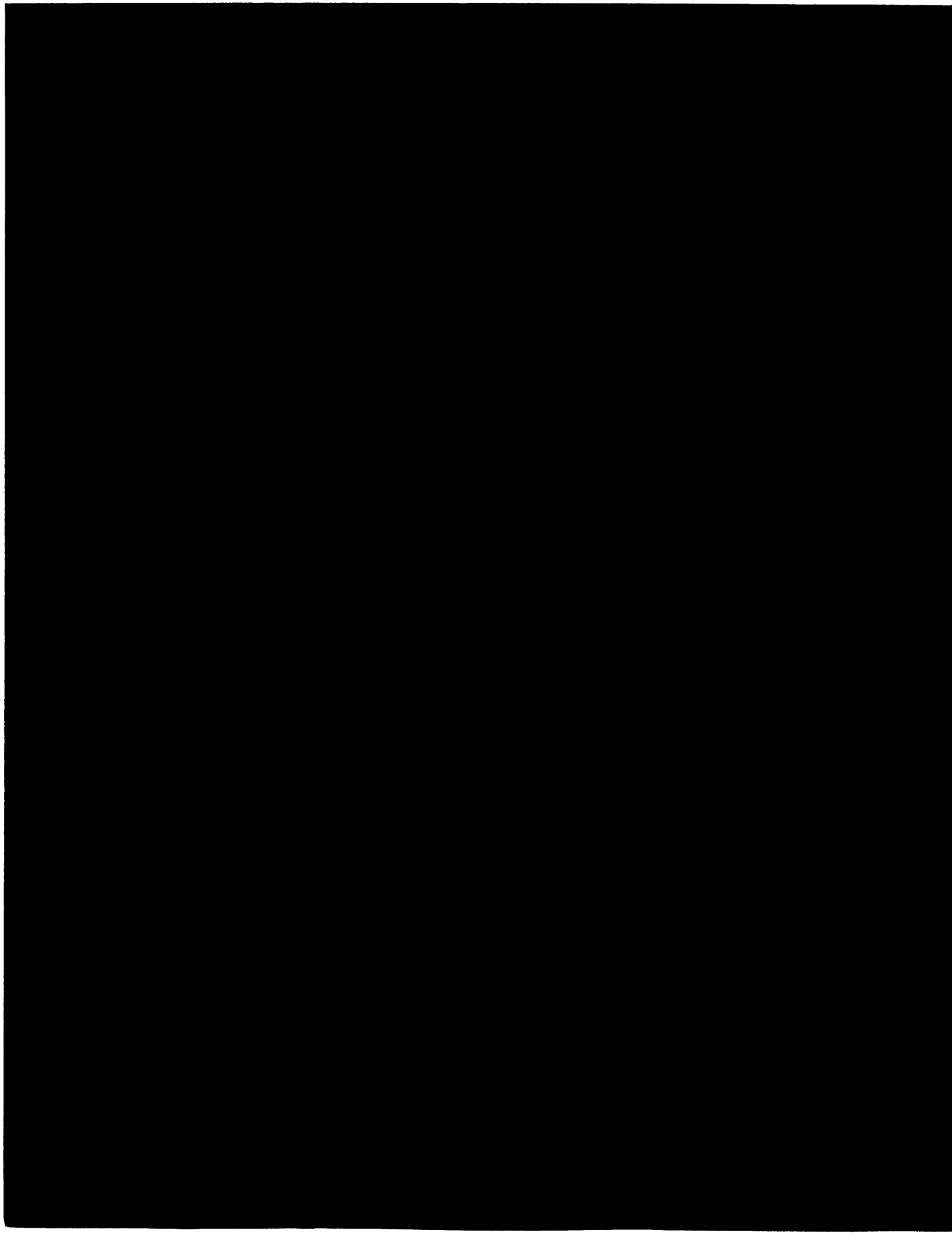
DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.7	WTP-1 (0-1)	Tan to light brown very fine-grained silty sand with occasional gravel (SP-SM).

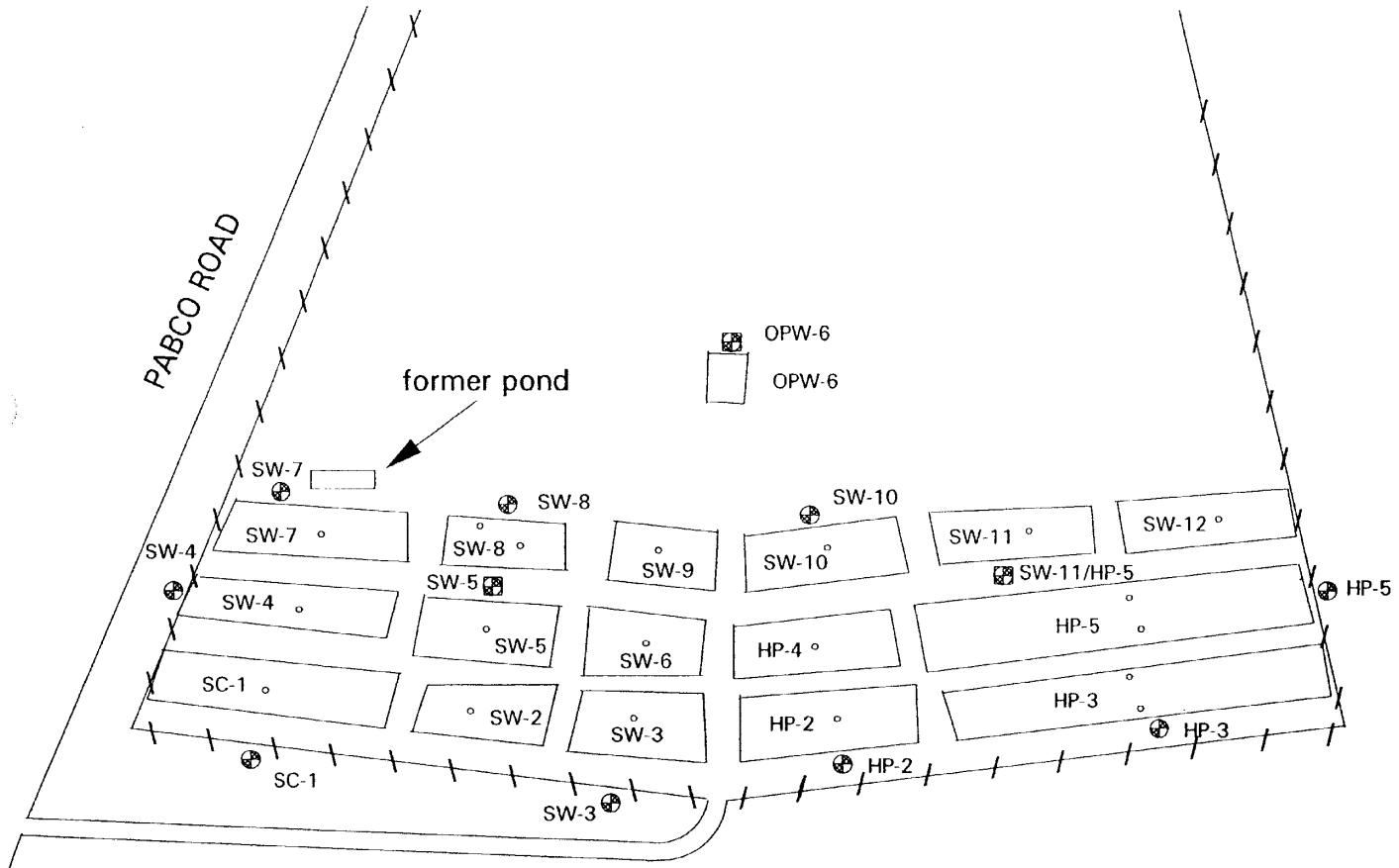
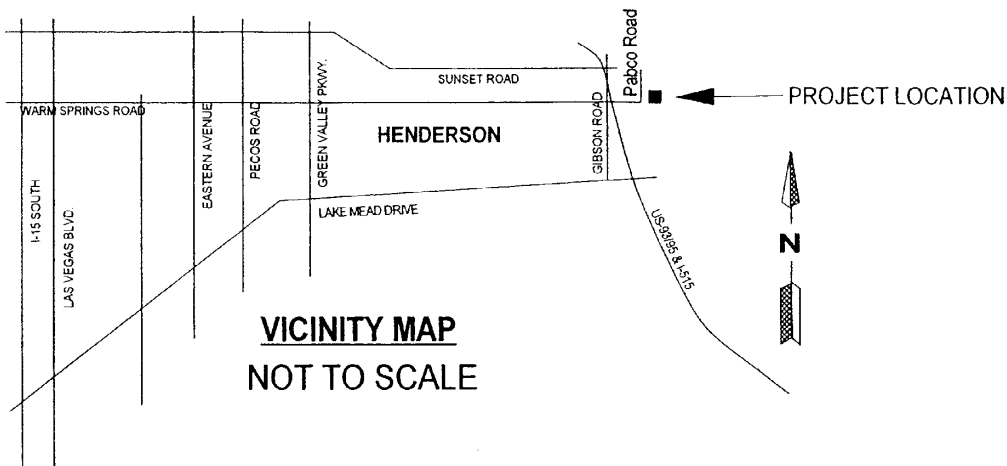
COMMENTS:
Borehole WTP-1 plugged on 5/22/01 using dry bentonite pellets, filled to grade.

BORING #:	WTP-2	ENVIRON BORING LOG
DATE:	5/21/01	
START TIME:	09:55	
LOGGED BY:	Sarah Libeau (ENVIRON)	
DRILLING CO.:	VIRONEX	
DRILLER:	Bruce Ashmore	
RIG:	Geoprobe 66 DT	COMMENTS: Water reclamation facility, surface soil sampling location 2 (northwest of facility).
SAMPLING METHOD:	2-foot continuous stainless steel soil core	
BORING DIA:	2-inch internal diameter	
BORING DEPTH	1'	
ORGANIC VAPOR EQUIPMENT	MiniRAE 2000 Photoionization Detector	

DEPTH (feet)	BLOW COUNTS	RECOVERY (inches)	ORGANIC VAPORS (ppm)	SAMPLE(S) DESIGNATION	DESCRIPTION
0-1	N/A	12	0.4	WTP-2 (0-1)	Tan to light brown very fine-grained silty sand with occasional gravel (SP-SM).

COMMENTS:
Borehole WTP-2 plugged on 5/22/01 using dry bentonite pellets, filled to grade.





APPROXIMATE SCALE: 1 INCH = 1600 FEET

LEGEND

- Pond Location and Designation
- Fence
- Slant Borehole
- Approximate Pond Sample Location(s)
- Vertical Borehole

GEOTECHNICAL & ENVIRONMENTAL SERVICES, INC.
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 Las Vegas, NV 89117

GES

SITE AND VICINITY MAP
TIMET PABCO ROAD PONDS
LAS VEGAS, NEVADA

JOB NO. 99949V3

FIG. 1

EXPLORATION LOG SC1

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/04/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-80 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/BURNS

INITIAL DEPTH TO WATER: 33.5 FEET BGS **DATE MEASURED:** 02/04/00
FINAL DEPTH TO WATER: 33.5 **DATE MEASURED:** 02/04/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt and gravel, dry to slightly moist and dense. No odor or staining.					
2.5								
5		SP	Reddish brown (5 YR 5/4) gravelly sand, dry and dense. No odor or staining. PID = 0.0 ppmV.					
7.5								
10		SP-SM	Reddish brown (5 YR 5/4) sand with silt, dry and dense. No odor or staining. PID = 0.0 ppmV.					
12.5								
15								
17.5		GP-GM	Brown (7.5 YR 5/3) poorly graded gravel with silt, slightly moist and dense.					

EXPLORATION LOG SC1

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/04/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-80 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/BURNS

INITIAL DEPTH TO WATER: 33.5 FEET BGS **DATE MEASURED:** 02/04/00
FINAL DEPTH TO WATER: 33.5 **DATE MEASURED:** 02/04/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20		SM	Reddish brown (5 YR 5/4) silty sand with gravel, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
22.5								
25								
27.5		SP-SC	Dark brown (7.5 YR 4/4) sandy silt with gravel, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
30								
32.5								
35		CL	Dark brown (7.5 YR 4/4) lean clay with sand, wet and stiff. No odor or staining. PID = 0.0 ppmV. GROUNDWATER AT 33.5 FEET BGS. END OF BORING AT 34.5 FEET					
37.5								

EXPLORATION LOG SW3

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
SOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0 -2.5 -5 -7.5 -10 -12.5 -15 -17.5		SP- SM	Brown (7.5 YR 6/3) poorly graded sand with silt and gravel, dry to slightly moist and medium dense. No odor or staining. PID=0.0 ppmV. ...Brown (7.5 YR 3/5), very dense ...No odor or staining. PID=0.0 ppmV. ...No odor or staining. PID=0.0 ppmV. ...more gravel, minor amounts of gypsum					

EXPLORATION LOG SW3

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

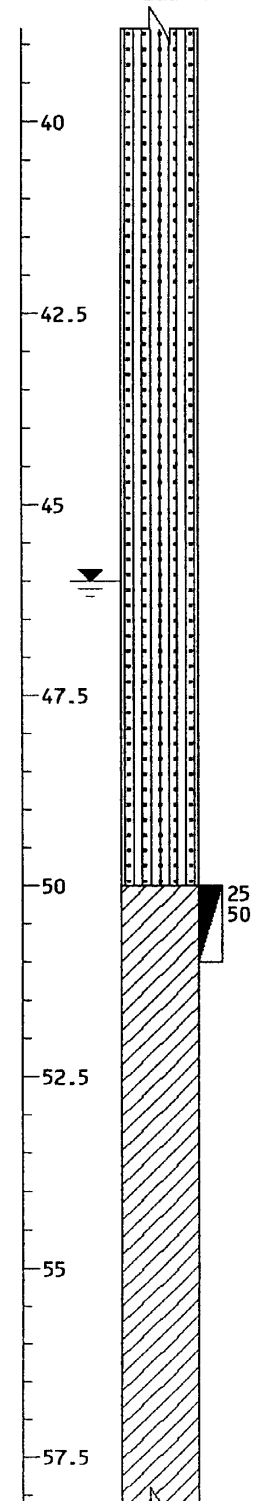
INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">20</div> <div style="margin-bottom: 10px;">22.5</div> <div style="margin-bottom: 10px;">25</div> <div style="margin-bottom: 10px;">27.5</div> <div style="margin-bottom: 10px;">30</div> <div style="margin-bottom: 10px;">32.5</div> <div style="margin-bottom: 10px;">35</div> <div style="margin-bottom: 10px;">37.5</div> </div>	<div style="margin-bottom: 10px;">30 50 50</div> <div style="margin-bottom: 10px;">50 50 40</div>	<div style="margin-bottom: 10px;">SP- SM</div>	<div style="margin-bottom: 10px;">...No odor or staining. PID = 1.5 ppmV.</div> <div style="margin-bottom: 10px;">...Dark brown (7.5 YR 3/3)</div> <div style="margin-bottom: 10px;">...No odor or staining. PID = 2.8 ppmV.</div>					

EXPLORATION LOG SW3

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

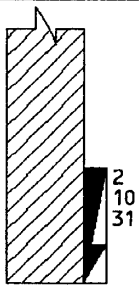
INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; flex-direction: column; align-items: center;"> <div style="margin-bottom: 10px;">40</div> <div style="margin-bottom: 10px;">42.5</div> <div style="margin-bottom: 10px;">45</div> <div style="margin-bottom: 10px;">47.5</div> <div style="margin-bottom: 10px;">50</div> <div style="margin-bottom: 10px;">52.5</div> <div style="margin-bottom: 10px;">55</div> <div style="margin-bottom: 10px;">57.5</div> </div> 			<p>...No odors or staining. GROUNDWATER AT 46.0- FEET BGS</p>					
		CL	<p>Brown (5 YR 5/3) lean clay with sand, slightly moist and very stiff. No odor or staining. PID = 1.0 ppmV.</p>					

EXPLORATION LOG SW3

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
SOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

INITIAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00
FINAL DEPTH TO WATER: 46.0 FEET BGS **DATE MEASURED:** 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>60</p> <p>62.5</p> <p>65</p> <p>67.5</p> <p>70</p> <p>72.5</p> <p>75</p> <p>77.5</p> </div> </div>			<p>No odor or staining. PID = 1.4 ppmV.</p> <p>END OF BORING AT 61.5 FEET</p>					

EXPLORATION LOG SW4

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/03/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

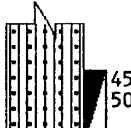

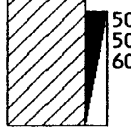
INITIAL DEPTH TO WATER: 27.0 FEET BGS **DATE MEASURED:** 02/03/00
FINAL DEPTH TO WATER: 27.0 FEET BGS **DATE MEASURED:** 02/03/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0								
		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt and gravel, dry to slightly moist and medium dense. No odor or staining. PID=0.0 ppmV.					
2.5								
5	33 28 35		...No odor or staining. PID=0.2 ppmV.					
7.5								
10	29 33 35		...No odor or staining. PID = 2.8 ppmV. ...Less gravel					
12.5								
15								
17.5								

EXPLORATION LOG SW4

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/03/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/COOKE

INITIAL DEPTH TO WATER: 27.0 FEET BGS **DATE MEASURED:** 02/03/00
FINAL DEPTH TO WATER: 27.0 FEET BGS **DATE MEASURED:** 02/03/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20			...Brown (7.5 YR 5/2. No odor or staining. PID = 1.6 ppmV.					
22.5		SP-SC	Dark brown (7.5 YR 4/4) poorly graded sand with silty clay, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
25		CL	Dark brown (7.5 YR 4/4) sandy lean clay with gravel, wet and very stiff. No odor or staining. PID = 0.0 ppmV.					
27.5			GROUNDWATER AT 27.0- FEET BGS. Insufficient groundwater at 27.0 feet BGS for sample collection. Drill to 30.0 feet BGS.					
30			...No odor or staining. PID = 0.0 ppmV.					
31.5			END OF BORING AT 31.5 FEET					
32.5								
35								
37.5								

EXPLORATION LOG SW5

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
SOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-90 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/COOKE

INITIAL DEPTH TO WATER: 50.0 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 50.0 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt and gravel, dry to slightly moist and medium dense. No odor or staining. PID=0.0 ppmV.					
2.5			...No odor or staining. PID=0.0 ppmV.					
5			...No odor or staining. PID=0.0 ppmV.					
7.5								
10								
12.5								
15								
17.5		GP-GM	Brown (7.5 YR 5/2) poorly graded gravel with silt and sand, slightly moist and dense. No odor or staining. PID=0.0 ppmV.					

EXPLORATION LOG SW5

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
BOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-90 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/COOKE

INITIAL DEPTH TO WATER: 50.0 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 50.0 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20			...No odor or staining. PID = 0.0 ppmV.					
22.5		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
32.5		CL	Brown (7.5 YR 5/3) sandy lean clay with gravel, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
35			...No odor or staining. PID = 0.0 ppmV.					
37.5								

EXPLORATION LOG SW7

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
BOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 6/4) poorly graded sand with silt and gravel, dry to slightly moist and medium dense. No odor or staining. PID = 0.0 ppmV.					
2.5			...No odor or staining. PID = 10.0 ppmV.					
5		SM	Brown (7.5 YR 5/2) silty sand with gravel, slightly moist and dense. No odor or staining. PID = 0.0 ppmV.					
7.5								
10								
12.5								
15								
17.5								

EXPLORATION LOG SW7

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
HOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20	34 55	SP	Light brown to dark brown (7.5 YR 6/4-5/6) poorly graded sand with gravel, dry and dense. No odor or staining. PID = 0.3 ppmV					
22.5								
25								
27.5								
30								
32.5		GM	Brown (7.5 YR 5/2) silty gravel, moist and dense.					
			GROUNDWATER AT 33.0- FEET BGS.					
		CL	Light brown to brown (7.5 YR 6/3-5/3) lean clay with sand, wet and dense.					
			END OF BORING AT 33.5 FEET					
35								
37.5								

EXPLORATION LOG SW8

PROJECT: TIMET PABCO ROAD PONDS PROJECT NO.: 99949V3
 HOLE LOCATION: SEE FIGURE 1 EXPLORATION DATE: 02/02/00
 EXPLORATION SIZE: 4 1/4" I.D. H.S.A. EQUIPMENT: B-90 MOBILE DRILL RIG
 ELEVATION: EGS DRILLER/LOGGER: SORRELL/COOKE

INITIAL DEPTH TO WATER: 32.5 FEET BGS DATE MEASURED: 02/02/00
 FINAL DEPTH TO WATER: 32.5 FEET BGS DATE MEASURED: 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 6/3) poorly graded sand with silt and gravel, dry to slightly moist and medium dense. No odor or staining. PID=0.0 ppmV.					
2.5			...Light brown (7.5 YR 6/3). No odor or staining. PID=2.5 ppmV.					
5			...Brown (7.5 YR 5/3) ..No odor or staining. PID=1.7 ppmV.					
7.5								
10								
12.5								
15								
17.5								

EXPLORATION LOG SW8

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
BORE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-90 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** SORRELL/COOKE

INITIAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/02/00
FINAL DEPTH TO WATER: 32.5 FEET BGS **DATE MEASURED:** 02/02/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20		GP-GM	Dark brown (7.5 YR 4/3) poorly graded gravel with silt and sand, slightly moist and dense. No odor or staining. PID=0.0 ppmV.					
22.5								
25								
27.5								
30								
32.5		GM	Dark brown (7.5 YR 5/4) silty gravel, slightly moist to wet and very dense. No odor or staining. PID=0.0 ppmV. GROUNDWATER AT 32.0-FEET BGS.					
35		SP-SC	Brown (7.5 YR 5/4) poorly graded sand with silty clay and gravel, wet and dense. No odor or staining. PID = 0.0 ppmV. ...No odor or staining. PID = 0.0 ppmV.					
			END OF BORING AT 35.5 FEET					
37.5								

EXPLORATION LOG SW10

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
FILE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: NGE **DATE MEASURED:** NA
FINAL DEPTH TO WATER: NGE **DATE MEASURED:** NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Brown (7.5 YR 5/3) poorly graded sand with silt and gravel, dry and medium dense. No odor or staining. PID=0.0 ppmV.					
2.5		SP	Light olive brown (2.5 Y 5/3) poorly graded sand with gravel, dry and dense. No odor or staining. PID=0.5 ppmV.					
5		SP-SM	Light olive brown (2.5 Y 5/3) poorly graded sand with silt and gravel, dry and dense. No odor or staining. PID=0.8 ppmV. ...more gravel					
7.5			...with cobbles					
10			...less gravel					
12.5			...more silt					
15								
17.5								

EXPLORATION LOG SW10

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: NGE **DATE MEASURED:** NA
FINAL DEPTH TO WATER: NGE **DATE MEASURED:** NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
<div style="display: flex; align-items: center;"> <div style="flex: 1;"> <p>20</p> <p>22.5</p> <p>25</p> <p>27.5</p> <p>30</p> <p>32.5</p> <p>35</p> <p>37.5</p> </div> <div style="flex: 2; border-left: 1px solid black; border-right: 1px solid black; position: relative;"> </div> </div>								
		SP-SC	Reddish brown (7.5 YR 4/3) poorly graded sand with silty clay and gravel, moist and dense. No odor or staining. PID=0.4 ppmV. ...more gravel					
		GP-GM	Reddish brown (2.5 YR 4/3) poorly graded gravel with silt and sand, moist and dense.					
		GP-GC	Reddish brown (2.5 YR 4/3) poorly graded gravel with silty clay and sand, moist and dense. ...more gravel and sand					
		SC-SM	Light olive brown (2.5 YR 5/3) silty clayey sand, dry and dense. ...No odor or staining. PID=0.1 ppmV.					

EXPLORATION LOG SW10

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

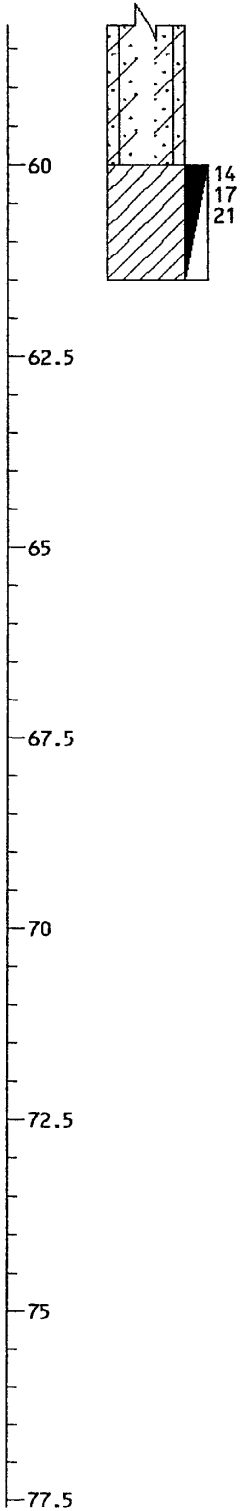
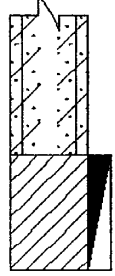
INITIAL DEPTH TO WATER: NGE **DATE MEASURED:** NA
FINAL DEPTH TO WATER: NGE **DATE MEASURED:** NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
42.5		CL	Light gray (2.5 Y N7/0) lean clay with sand, dry to slightly moist and stiff. ...less clay, more sand					
45		SC-SM	Light gray (2.5 Y N7/0) silty clayey sand, slightly moist and dense. ...No odor or staining. PID=0.0 ppmV. ...more gravel ...more silt, less gravel					
47.5								
50								
52.5								
55								
57.5								

EXPLORATION LOG SW10

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/02/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

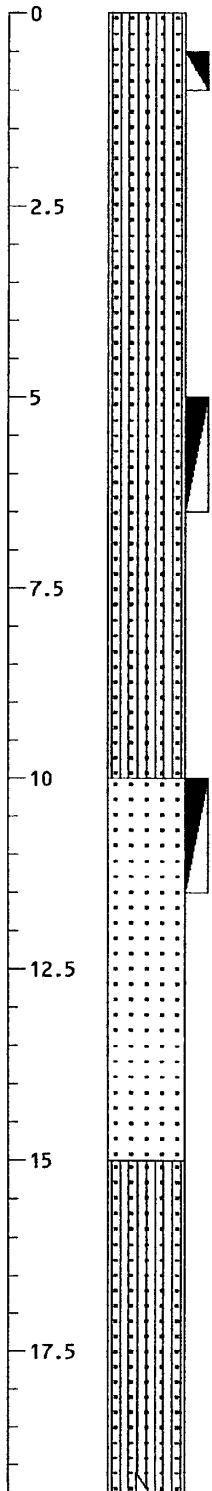
INITIAL DEPTH TO WATER: NGE **DATE MEASURED:** NA
FINAL DEPTH TO WATER: NGE **DATE MEASURED:** NA

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
								
60		CL	Light gray (2.5 Y N7/0) lean clay with sand, moist and stiff. No odor or staining. PID=0.0 ppmV.					
62.5			END OF BORING AT 61.5 FEET					
65								
67.5								
70								
72.5								
75								
77.5								

EXPLORATION LOG SW11/HP5

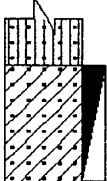

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
0		SP-SM	Very dark gray (2.5 Y 3/0) poorly graded sand with silt and gravel, dry and medium dense. No odor or staining. PID=0.0 ppmV.					
2.5			...Very dark gray (2.5 Y 3/0), slight odor and stain. PID=18 ppmV.					
5								
7.5								
10		SP	Dark brown (7.5 YR 4/2) poorly graded sand with gravel, dry and dense. No odor or staining. PID=6 ppmV.					
12.5			...more dark brown (7.5 YR 4/2) gravel changing to brown (7.5 YR 5/3)					
15		SP-SM	Light brown (7.5 YR 6/3) poorly graded sand with silt and gravel, slightly moist and dense. No odor or staining.					
17.5								

EXPLORATION LOG SW11/HP5

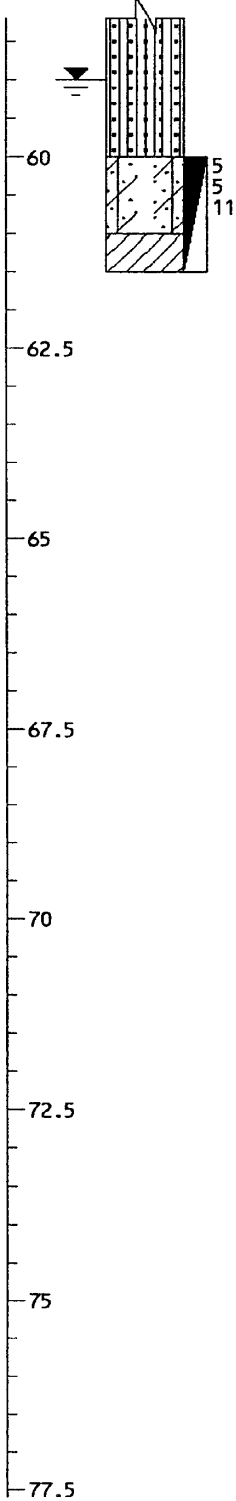
PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
SOLE LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS
INITIAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00

ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
20		SP-SC	Light brown (7.5 YR 6/3) poorly graded sand with silty clay and gravel, dry and dense. No odor or staining. PID = 0.0 ppmV.					
22.5			...more gravel					
25			...gravel with cobbles					
27.5			...with sandy gravel					
30			...with gravelly sand					
32.5								
35		SP	Light brown (7.5 YR 6/3) poorly graded sand with gravel, dry and dense. No odor or staining.					
37.5								

EXPLORATION LOG SW11/HP5

PROJECT: TIMET PABCO ROAD PONDS **PROJECT NO.:** 99949V3
WELL LOCATION: SEE FIGURE 1 **EXPLORATION DATE:** 02/01/00
EXPLORATION SIZE: 4 1/4" I.D. H.S.A. **EQUIPMENT:** B-4500 MOBILE DRILL RIG
ELEVATION: EGS **DRILLER/LOGGER:** DUGAN/BURNS

INITIAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00
FINAL DEPTH TO WATER: 59.0 FEET BGS **DATE MEASURED:** 02/01/00

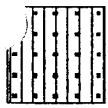
ELEVATION/ DEPTH	SOIL & SAMPLE SYMBOLS	USCS	DESCRIPTION	PI	LL	MOISTURE CONTENT (%)	DRY DENSITY (pcf)	SWELL (%)
								
60		SC- SM	Light yellowish brown (2.5 Y 6/3) silty clayey sand changing to clayey silt, wet and stiff. No odor or staining. PID = 0.0 ppmV.					
		CL	Light gray (2.5 Y N7/0) lean clay with sand, wet and stiff.					
62.5			END OF BORING AT 61.5 FEET					
65								
67.5								
70								
72.5								
75								
77.5								

KEY TO SYMBOLS

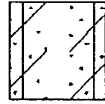
Symbol Description

Symbol Description

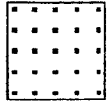
Strata symbols



Poorly graded sand with silt



Silty clayey sand



Poorly graded sand

Misc. Symbols



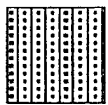
Boring continues



Poorly graded gravel with silt



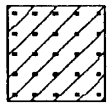
Water table at date indicated



Silty sand



Water table at date indicated

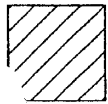


Poorly graded sand with clay

Soil Samplers



Bulk/Grab sample



Low plasticity clay



Standard penetration test



Poorly graded gravel with clay



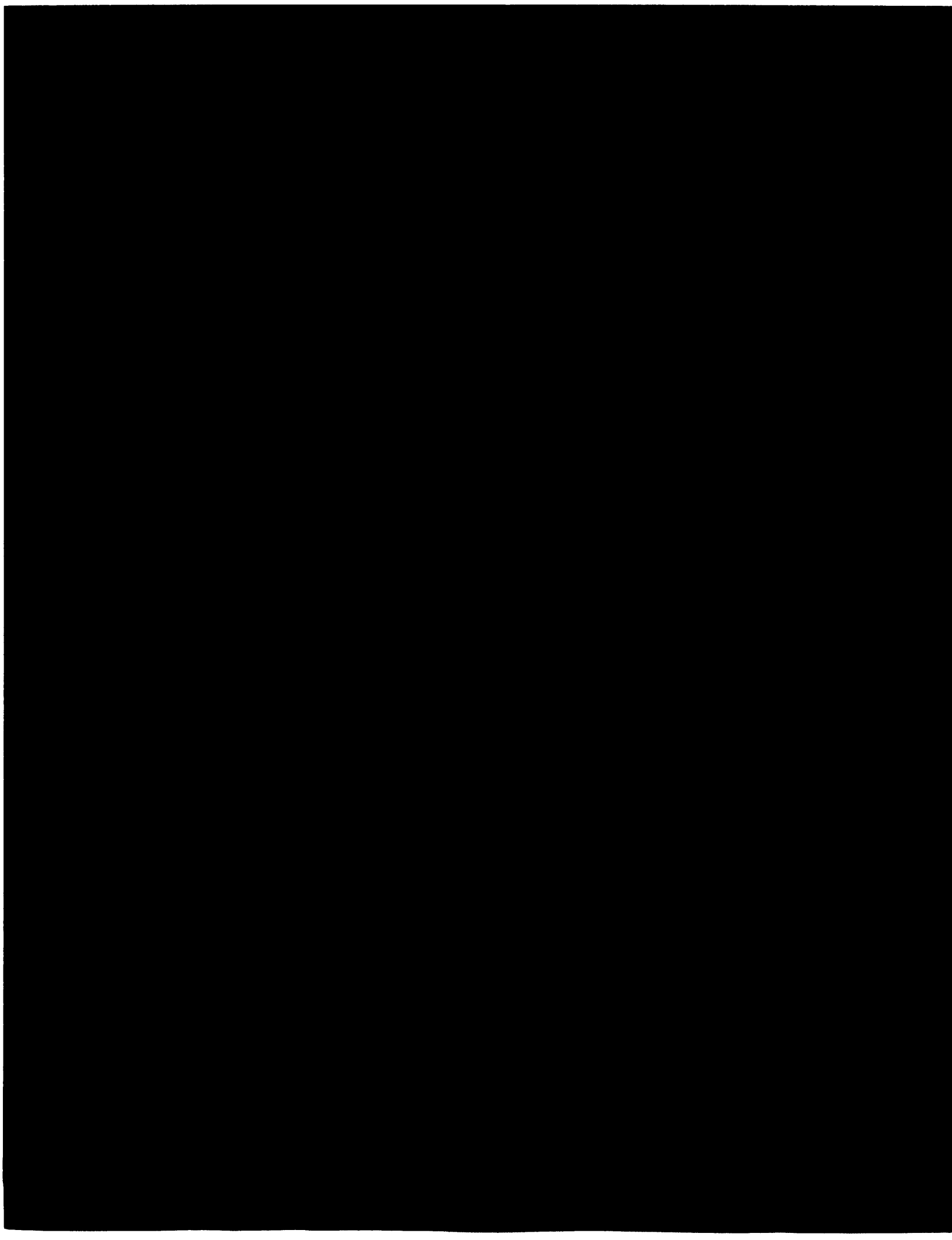
Auger



Silty gravel

Notes:

1. Exploratory borings were drilled with either a Mobile B-4500 or Mobile B-90 Hollow Stem auger equipped drill rig on the date shown.
2. Standard Penetration test and California samplers 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.



DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 1 WTB-1 ELEVATION: 1741.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						GM		SANDY GRAVEL -w/silt, brown		loose
						SW		GRAVELLY SAND -w/trace silt, brown	sl.	med. dense
					5				moist	dense
					10					very dense
								Cemented SAND & GRAVEL -lt. brown	dry-sl.moist	very hard
						SW		GRAVELLY SAND -w/trace silt, brn.		
						GP		SANDY GRAVEL -w/trace silt, brown	sl. moist	very dense
						SW		GRAVELLY SAND -w/tr. silt, brn.		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG




PLATE
 A-1

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 1
 (Cont'd)

ELEVATION: 1741.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					20	SW		GRAVELLY SAND -w/trace silt, brown	sl. moist	very dense
								SAND -w/gravel and trace silt, brown		
					25			GRAVELLY SAND -w/trace silt, brown w/small gravel layers		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.



WESTERN
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 INC.


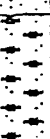

BORING LOG

PLATE

A-2

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90 BORING NO. 1 ELEVATION: 1741.2
 LOCATION: See Plate No. 1 (Cont'd)

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					35	SW		GRAVELLY SAND -w/trace silt, brown	wet	very dense
						GP		SANDY GRAVEL -w/trace silt, brown		
					40	SW		GRAVELLY SAND -w/trace silt, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE A-3

PROJECT NO. 4120K178



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

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 1
 (Cont'd)

ELEVATION: 1741.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown		very dense
				50				partially cemented, lt. brown	wet	v.dense-m.hard
				55						very dense
						SC		GRAVELLY SAND -w/some clay, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE

A-4

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 1
 (Cont'd)

ELEVATION: 1741.2

MOISTURE CONTENT (% OF DRY WT.)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY	
						SC	[Hatched Column]	CLAYEY SAND -brown	very	dense	
						CL		SANDY CLAY -brown lt. green		stiff	
				65		SC		CLAYEY SAND -brown		very dense	
						CL		SANDY CLAY -w/gypsum, brown		moist	stiff
				70		SC		CLAYEY SAND -brown		dense	

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

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.





WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
 A-5

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90 BORING NO. 1 ELEVATION: 1741.2
 LOCATION: See Plate No. 1 (Cont'd)

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SC		CLAYEY SAND -brown	very moist	dense
						CL		SANDY CLAY -brown		stiff
					80			Bottom at 80 feet		
					85					

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

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 31.2 ft. on 4-26-90.
 Muddy Creek formation at 59 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE
A-6

DATE DRILLED: 4-25-90 BORING NO. 2 WTB-2 ELEVATION: 1732.5
 LOCATION: See Plate No. 1

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		SAND -w/some gravel and trace silt, brown	sl. moist	very loose
								GRAVELLY SAND -w/trace silt, brown		loose-m.dense
					5					med. dense
						GP		SANDY GRAVEL -w/trace silt, brown		dense
					10	SW		GRAVELLY SAND -w/trace silt, brown		very dense
						GP		SANDY GRAVEL -w/trace silt, brown		
						SW		GRAVELLY SAND -w/trace silt, brown		
						GP		SANDY GRAVEL -partially cemented, lt. brown	dry-sl.moist	v.dense-m.hard

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT 1 TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 29.1 ft. on 4-26-90.
 Muddy Creek formation at 52 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
 A-7

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90

4-25-90

BORING NO. 2

ELEVATION: 1732.5

LOCATION: See Plate No. 1

See Plate No. 1


(Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						GP		SANDY GRAVEL -partially cemented, lt. brown	dry-sl.moist	v.dense-m.hard
						SW		GRAVELLY SAND -w/trace clay, brown		
						GP		SANDY GRAVEL -w/clay, brown	sl.	very
					20	SW		GRAVELLY SAND -w/trace silt, brown	moist	dense
								w/small gravel layers		
					25				moist	
									wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 29.1 ft. on 4-26-90.
 Muddy Creek formation at 52 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE A-8

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 2
 (Cont'd)

ELEVATION: 1732.5

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						GP		SANDY GRAVEL -w/trace silt, brown	wet	
						SW		GRAVELLY SAND -w/trace silt, brown		very dense
								Cemented SAND & GRAVEL -lt. brown		hard
						SW		GRAVELLY SAND -w/trace silt, brown		very dense
					35					
					40					

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 29.1 ft. on 4-26-90.
 Muddy Creek formation at 52 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE

A-9



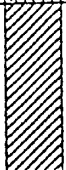

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 2
 (Cont'd)

ELEVATION: 1732.5

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown	wet	very dense
					50			w/clay, partially cemented		v.dense-m.hard
						SM		SILTY SAND -w/gravel, brown	very moist	dense
							w/clay			
					55	CL		SILTY CLAY -w/sand, brown		very stiff
								SANDY CLAY -w/trace gravel, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 29.1 ft. on 4-26-90.
 Muddy Creek formation at 52 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
A-10

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90 BORING NO. 2 ELEVATION: 1732.5
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						CL		SILTY CLAY -brown w/sand, gravel	very	very
				65		SANDY CLAY -lt. brown				
				70		SILTY CLAY -w/sand, lt. gray		moist	stiff	
								Bottom at 72 feet		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 29.1 ft. on 4-26-90.
 Muddy Creek formation at 52 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE
A-11

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 3 WT8-3

ELEVATION: 1725.1

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						GP		SANDY GRAVEL -w/trace silt, brown		very loose
					5	SW		GRAVELLY SAND -w/trace silt, brown	sl. moist	med. dense
					10	GP		SANDY GRAVEL -w/trace silt, brown		
						SW		GRAVELLY SAND -w/occ. cobble, brown		very dense

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 47 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
A-12



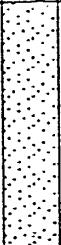

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 3
 (Cont'd)

ELEVATION: 1725.1

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					20	SW		GRAVELLY SAND -w/occ. cobble, brown	sl.	very
						GP		SANDY GRAVEL -w/trace silt, brown		
					25	SW		GRAVELLY SAND -w/trace silt, brown	moist	dense
						GP		SANDY GRAVEL -w/trace silt, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 47 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
 A-13

PROJECT NO. 4120K178

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 3
 (Cont'd)

ELEVATION: 1725.1

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THIS LOCATION WITH TIME. DATA PRESENTED IS A SIMPLIFICATION.

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW	[Stippled pattern]	GRAVELLY SAND -w/trace silt, brown	sl. moist	
					35		[Stippled pattern]	SAND -w/some gravel and silt, lt. brown	moist	very dense
					40		[Stippled pattern]	GRAVELLY SAND -w/trace silt, brown		
						SM	[Vertical lines pattern]	SILTY SAND -w/gravel and gypsum, red brown	wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 47 ft.



BORING LOG

PROJECT NO. 4120K178

PLATE
 A-14

DATE DRILLED: 4-25-90
 LOCATION: See Plate No. 1

BORING NO. 3
 (Cont'd)

ELEVATION: 1725.1

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SM		SILTY SAND -w/gravel and gypsum, red brown		
					50	SC		CLAYEY SAND -w/gravel and gypsum, red brown	wet	very dense
					55	CL		SILTY CLAY -w/gypsum, brown		
								SILTY CLAY -w/gypsum, brown	very moist	very stiff
Bottom at 60 feet										

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 47 ft.

PROJECT NO. 4120K178

BORING LOG





PLATE
 A-15



WESTERN TECHNOLOGIES INC.

DATE DRILLED: 4-24-90 BORING NO. 4 *WTB-4* ELEVATION: 1742.0
 LOCATION: See Plate No. 1

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SM		SAND -w/some gravel and silt, brown		loose
					5	SW		GRAVELLY SAND -w/trace silt, brown	sl. moist	med. dense
						GP		SANDY GRAVEL -w/trace silt, brown		
					10	SW		GRAVELLY SAND -w/trace silt, brown	moist	dense
									very moist	very dense

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 50.4 ft. on 4-26-90.
 Muddy Creek formation encountered at 67 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG

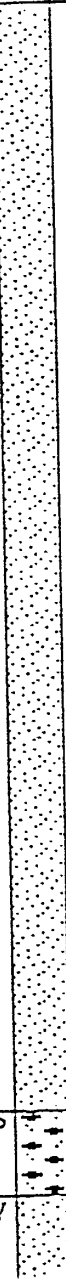


PLATE
 A-16

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 4
 (Cont'd)

ELEVATION: 1749.0

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					20	SW		GRAVELLY SAND -w/trace silt, brown	very	very
					25				moist	dense
						GP		SANDY GRAVEL -w/trace silt, brown		
						SW		GRAVELLY SAND -w/tr. silt, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 50.4 ft. on 4-26-90.
 Muddy Creek formation encountered at 67 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG


PLATE
A-17

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 4
 (Cont'd)

ELEVATION: 1749.0

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					35	SW		GRAVELLY SAND -w/trace silt, brown	very	very
					40			w/small gravel layer	moist	dense
									v.moist-wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 50.4 ft. on 4-26-90.
 Muddy Creek formation encountered at 67 ft.



WESTERN TECHNOLOGIES INC.

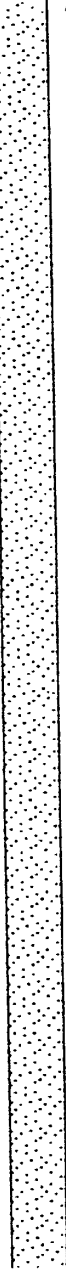
BORING LOG

PLATE
 A-18

PROJECT NO. 4120K178


DATE DRILLED: 4-24-90 **BORING NO. 4** ELEVATION: 1749.0
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown	v.moist-wet	very
					50			w/small gravel layer		dense
					55			w/small gravel layer	wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 50.4 ft. on 4-26-90.
 Muddy Creek formation encountered at 67 ft.

 **WESTERN TECHNOLOGIES INC.**
 PROJECT NO. 4120K178




BORING LOG PLATE A-19

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 4
 (Cont'd)

ELEVATION: 1749.0

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt and small gravel layers, lt. brown	wet	very cense
					65			CALICHE -lt. gray	very moist	mod. hard
						CL		SILTY CLAY -w/gypsum and sand, brown	moist	very stiff
					70					
								Bottom at 72 feet		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 50.4 ft. on 4-26-90.
 Muddy Creek formation encountered at 67 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE
 A-20

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 5 WTB-5 ELEVATION: 1766.3

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						GP		SANDY GRAVEL -w/occ. cobble and silt, brown		loose
						SW		GRAVELLY SAND -w/trace silt, brown	sl.	med. dense
					5				moist	dense
						GP		SANDY GRAVEL -w/trace silt, brown		dense
					10					
						SW		GRAVELLY SAND -w/trace silt, brown	moist	very dense

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370




NOTES: Water level measured at 42.6 ft. on 4-26-90.
 Muddy Creek formation encountered at 65 ft.

WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG
 PLATE A-21

DATE DRILLED: 4-24-90 BORING NO. 5 ELEVATION: 1766.3
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown	moist	very dense
						GP		SANDY GRAVEL -w/trace silt, brown		
						SW		GRAVELLY SAND -w/trace silt, brown		
					20					
					25					

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 42.6 ft. on 4-26-90.
 Muddy Creek formation encountered at 65 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG
 PLATE A-22

DATE DRILLED: 4-14-90
 LOCATION: See Plate No. 1

BORING NO. 5
 (Cont'd)

ELEVATION: 1766.3

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					SW		GRAVELLY SAND -w/trace silt, brown	moist	very dense
					GP		SANDY GRAVEL -w/trace silt, brown		
				35	SW		GRAVELLY SAND -w/trace silt, brown		
				40			w/occ. small gravel layer	very moist	
								wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 42.6 ft. on 4-26-90.
 Muddy Creek formation encountered at 65 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE
 A-23

DATE DRILLED: 4-24-90

BORING NO. 5

ELEVATION: 1766.3

LOCATION: See Plate No. 1 (Cont'd)

MOIS. CONT. (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown	moist	very dense
						GP		SANDY GRAVEL -w/trace silt, brown		
					35	SW		GRAVELLY SAND -w/trace silt, brown		
					40			w/occ. small gravel layer	very moist	
									wet	

THIS SUMMARY APPLIES ONLY AT THIS LOCATION AND AT THE TIME OF LOGGING. CONDITIONS AND DATA PRESENTED IS A SIMPLIFICATION. LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH TIME

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 42.6 ft. on 4-26-90. Muddy Creek formation encountered at 65 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
A-23





PROJECT NO. 4120K178

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 5
 (Cont'a)

ELEVATION: 1766.3

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown		
						GP		SANDY GRAVEL -w/cobbles, brown		
					50	SW		GRAVELLY SAND -w/trace silt, brown	wet	very dense
					55	SM		GRAVELLY SAND -w/silt, red brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 42.6 ft. on 4-26-90.
 Muddy Creek formation encountered at 65 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178



BORING LOG
 PLATE A-24

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 5
 (Cont'd)

ELEVATION: 1766.3

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SM		SILTY SAND -w/gravel, red brown w/clay	very moist	very dense
					65	CL		SANDY CLAY -w/gypsum and silt, red brown	sl. moist	very stiff
					70			Bottom at 70 feet		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 42.6 ft. on 4-26-90.
 Muddy Creek formation encountered at 65 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE
 A-25

PROJECT NO. 4120K178

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 6 WTB-6 ELEVATION: 1761.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SM		SILTY SAND -w/some gravel, brown	sl.	loose
						SW		GRAVELLY SAND -w/trace silt, brown		loose-m.dense
				5		GP		SANDY GRAVEL -w/trace silt, brown		dense
						SW		GRAVELLY SAND -w/trace silt, brown		dense
				10		GP		SANDY GRAVEL -w/trace silt, brown		
						SW		SAND -w/some gravel, brown		very dense
								GRAVELLY SAND -w/trace silt, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 53.0 ft. on 4-26-90.
 Muddy Creek formation encountered at 64 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178


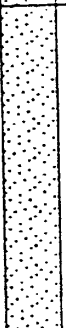


BORING LOG

PLATE

A-26

DATE DRILLED: 4-24-90 BORING NO. 6 ELEVATION: 1761.2
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown		
					20			SAND -w/some gravel and trace silt, lt. brown	sl. moist	very dense
								Cemented SAND & GRAVEL -lt. brn.	d.-sl.m.	hard
					25	SW		GRAVELLY SAND -brown w/small gravel layers	sl. moist	very dense

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370


NOTES: Water level measured at 53.0 ft. on 4-26-90.
 Muddy Creek formation encountered at 64 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG
 PLATE A-27

DATE DRILLED: 4-24-90 BORING NO. 6 ELEVATION: 1761.2
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
				35	SW		GRAVELLY SAND -brown	sl.	very
				40			w/trace silt and small gravel layers	moist	dense
							partially cemented		v.dense-m.hard

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 53.0 ft. on 4-26-90.
 Muddy Creek formation encountered at 64 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178





BORING LOG
 PLATE A-28

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 6
 (Cont'd)

ELEVATION: 1761.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					50	SW		GRAVELLY SAND -w/trace silt and small gravel layers, lt. brown	sl. moist	very dense
						GP		SANDY GRAVEL -w/trace silt, lt. brown	very moist	
					55	SW		GRAVELLY SAND -w/trace silt, brown		
								SAND -w/gravel and trace silt, brown	wet	

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 53.0 ft. on 4-26-90.
 Muddy Creek formation encountered at 64 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG

PLATE
 A-29

DATE DRILLED: 4-24-90
 LOCATION: See Plate No. 1

BORING NO. 6
 (Cont'd)

ELEVATION: 1761.2

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY	
						SW		SAND -w/gravel and trace silt, brown	wet	very dense	
					65	SC		CLAYEY SAND -w/gypsum, brown			
						CL		SANDY CLAY -w/silt and gypsum, brown	moist	very stiff	
					70			SILTY CLAY -w/some sand and gypsum, lt. brown			
								Bottom at 75 feet			

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level measured at 53.0 ft. on 4-26-90.
 Muddy Creek formation encountered at 64 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE
 A-30

DATE DRILLED: 4-23-90
 LOCATION: See Plate No. 1

BORING NO. 7 WTB-7

ELEVATION: 1768.9

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SM		GRAVELLY SAND -w/silt and cobbles at surface, lt. brown	sl. moist	loose
						GP		SANDY GRAVEL -brown		med. dense
					5	SP		GRAVELLY SAND -w/trace silt, brown	dry-sl.moist	dense
						SW		Cemented SAND & GRAVEL -lt. brn.		mod. hard
					10	SW		GRAVELLY SAND -w/trace silt, lt. brown	sl. moist	dense
						SW		Cemented SAND & GRAVEL -lt. brn.	d.-sl.m.	m.hard
						SW		GRAVELLY SAND -w/occ. cobble, brown	moist.	very dense

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 40.5 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG

PLATE

A-31



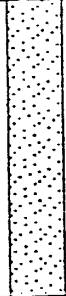


PROJECT NO. 4120K178

DATE DRILLED: 4-23-90
 LOCATION: See Plate No. 1

BORING NO. 7
 (Cont'd)

ELEVATION: 1768.9

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					20	SW		GRAVELLY SAND -w/occ. cobble, brown w/trace silt	moist	dense
						GP		SANDY GRAVEL -w/trace silt, brown		
					25	SW		SAND -w/some gravel, brown	very moist	
						GP		SANDY GRAVEL -w/trace silt, brown		
						SW		GRAVELLY SAND -w/trace silt, brown		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 40.5 ft.



WESTERN TECHNOLOGIES INC.

BORING LOG






PLATE

A-32

PROJECT NO. 4120K178

DATE DRILLED: 4-23-90 BUREAU NO. 7 ELEVATION: 1768.9
 LOCATION: See Plate No. 1 (Cont'd)

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
						SW		GRAVELLY SAND -w/trace silt, brown	very moist	very dense
						SP		SANDY GRAVEL -w/occ. cobble and trace silt, brown		
				35		SW		GRAVELLY SAND -w/trace silt, brown	wet	
						SP		SAND -w/gravel, brown		
						CL		SANDY CLAY -w/caliche gravel, lt. green	very moist	stiff
							SANDY CLAY -w/gypsum, brown			
							SILTY CLAY -w/sand and gypsum, green			

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 40.5 ft.

 WESTERN TECHNOLOGIES INC.
 PROJECT NO. 4120K178

BORING LOG


PLATE A-33

DATE DRILLED: 4-23-90
 LOCATION: See Plate No. 1

BORING NO. 7
 (Cont'd)

ELEVATION: 1768.9

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU. FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					50	CL		SILTY CLAY -w/sand and gypsum, green no gypsum, brown	very moist	stiff

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 40.5 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE


A-34

DATE DRILLED: 4-23-90
 LOCATION: See Plate No. 1

BORING NO. 7
 (Cont'd)

ELEVATION 1768.9

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

MOISTURE CONTENT (% OF DRY WT)	DRY DENSITY (LBS/CU.FT.)	SAMPLE TYPE	SAMPLE	BLOWS/FT.	DEPTH	USCS	GRAPHIC	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
					65	CL		SILTY CLAY -w/gypsum, brown	very moist	stiff
					70			Bottom at 70 feet		

SPT- STANDARD PENETRATION TEST
 R- RING SAMPLE (2.40 in. I.D.)
 C- DYNAMIC CONE
 B- BAG
 DRIVING WEIGHT (LBS) 370

NOTES: Water level not established. Muddy Creek formation encountered at 40.5 ft.



WESTERN TECHNOLOGIES INC.

PROJECT NO. 4120K178

BORING LOG

PLATE

A-35

DIVISION OF WATER RESOURCES

WELL DRILLERS REPORT

Please complete this form in its entirety

OFFICE USE ONLY
Log No. 56737
Permit No. 212
Basin. 212

(Radio Station)

1. OWNER Al Williams ADDRESS wwb6

2. LOCATION SW 1/4 SW 1/4 Sec. 32 T. 21 N/S R. 63 E. Clark Cou PERMIT NO.

3. TYPE OF WORK: New Well [X], Recondition [], Deepen [], Other []
4. PROPOSED USE: Domestic [], Irrigation [], Municipal [], Industrial [X], Stock []
5. TYPE WELL: Cable [], Rotary [], Other []

6. LITHOLOGIC LOG table with columns: Material, Water Strata, From, To, Thickness. Entries include Sand & Gravel, Rhyolite boulder, Gray clay, Red clay, Sandy clay w/sand ledgers, Red clay, Sand & sandy clay.

8. WELL CONSTRUCTION: Diameter hole 12 1/4 inches, Total depth 200 f, Casing record, Weight per foot, Thickness, Diameter 8 5/8 inches, From 0 feet, To 200 f, Surface seal: Yes [X] No [], Type Cement, Depth of seal 75, Gravel packed: Yes [X] No [], Gravel packed from 75 feet to 200 f, Perforations: Type perforation Slot-torch cut, Size perforation 1/8 x 6, From 120 feet to 200 f.

RECEIVED
OCT 15 1974
Div. of Water Resources
Branch Office - Las Vegas, Nev.

Date started Aug. 27, 1974
Date completed Sept. 7, 1974

7. WELL TEST DATA table with columns: Pump RPM, G.P.M., Draw Down, After Hours Pump

BAILER TEST: G.P.M. 12, Draw down 158 feet, 1 hours

9. WATER LEVEL: Static water level 32 Feet below land surface, Flow G.P.M., Water temperature ° F. Quality

10. DRILLERS CERTIFICATION: This well was drilled under my supervision and the report is true the best of my knowledge. Name Drilling & Pumps, Inc., Address 3521 Spring Mountain Road, Nevada contractor's license number 6294A, Nevada driller's license number 693, Signed Dale Bruin, Date 10-10-74

WU-7

STATE OF NEVADA
 DIVISION OF WATER RESOURCES

OFFICE USE ONLY
 Log No. 36562
 Permit No. 212
 Basin 212

WELL DRILLER'S REPORT

Please complete this form in its entirety in accordance with NRS 534.170 and NAC 534.340

PRINT OR TYPE ONLY
 DO NOT WRITE ON BACK

NOTICE OF INTENT NO. 9187

1. OWNER CITY OF HENDERSON ADDRESS AT WELL LOCATION Bomb Shelter Site
 MAILING ADDRESS 240 WATER STREET Yucca Rd + Lake Mead Blvd
HENDERSON NV 89015 HENDERSON NV
 2. LOCATION 1/4 Sec. 87 T. 22 N/S R. 63 E CLARK County
 PERMIT NO. SE NO-2266 Issued by Water Resources Parcel No. Subdivision Name

3. WORK PERFORMED
 New Well Replace Recondition
 Deepen Abandon Other temp.

4. PROPOSED USE
 Domestic Irrigation Test
 Municipal/Industrial Monitor Stock

5. WELL TYPE
 Cable Rotary RVC
 Air Other

6. LITHOLOGIC LOG

Material	Water Strata	From	To	Thick-ness
Silty Sand		0'	2'	2'
Sandy silt		2	21	19'
SANDY GRAVEL		21	30	9'
Coarsely Sand		30	40	10'
SANDY GRAVEL		40	56	16'
CLAY w/ silt		56	70	14'
Clayey silt		70	74	4'
CLAY		74	87	13'
elev 1822 ?				

8. WELL CONSTRUCTION
 Depth Drilled 87 Feet Depth Cased 85 Feet

HOLE DIAMETER (BIT SIZE)
 From 6 Inches To _____ Feet
 _____ Inches _____ Feet
 _____ Inches _____ Feet

CASING SCHEDULE

Size O.D. (Inches)	Weight/Ft. (Pounds)	Wall Thickness (Inches)	From (Feet)	To (Feet)

Perforations:
 Type perforation Factory Slotted
 Size perforation 0.020
 From 85 feet to 50 feet
 From _____ feet to _____ feet
 From _____ feet to _____ feet
 From _____ feet to _____ feet
 From _____ feet to _____ feet

Surface Seal: Yes No Seal Type:
 Neat Cement
 Cement Grout
 Concrete Grout

Placement Method: Pumped
 Poured

Gravel Packed: Yes No
 From 85 feet to 50 feet

RECEIVED
 FEB 11 1992

Date started 4-22, 1992
 Date completed 4-22, 1991

7. WELL TEST DATA

TEST METHOD: Bailer Pump Air Lift

G.P.M.	Draw Down (Feet Below Static)	Time (Hours)

9. WATER LEVEL
 Static water level ~54 feet below land surface
 Artesian flow _____ G.P.M. _____ P.S.I.
 Water temperature _____ °F Quality _____

10. DRILLER'S CERTIFICATION
 This well was drilled under my supervision and the report is true to the best of my knowledge.
 Name Don Wilson Contractor
 Address 4670 S. Polaris Ave
LAS VEGAS NV. 89103
 Nevada contractor's license number _____
 issued by the State Contractor's Board.
 Nevada driller's license number issued by the
 Division of Water Resources, the on-site driller M1589
 Signed Don Wilson
 By driller performing actual drilling on site or contractor
 Date _____

