Log# 104268 Bsn 105 Pg1

Borehole Completion Report. Report Date: _____ Page 1 of 1

WELL No: MW54 Project Name: GTE Topaz Site. Douglas Co., Nv.

Location: NW 1/4; NW 1/4; NE 1/4; Sec 23, Twp 10 N, Rge 21 E; and 298.4 ft S, 1001.4 ft W

Description: MONITORING WELL

Drilling Summary

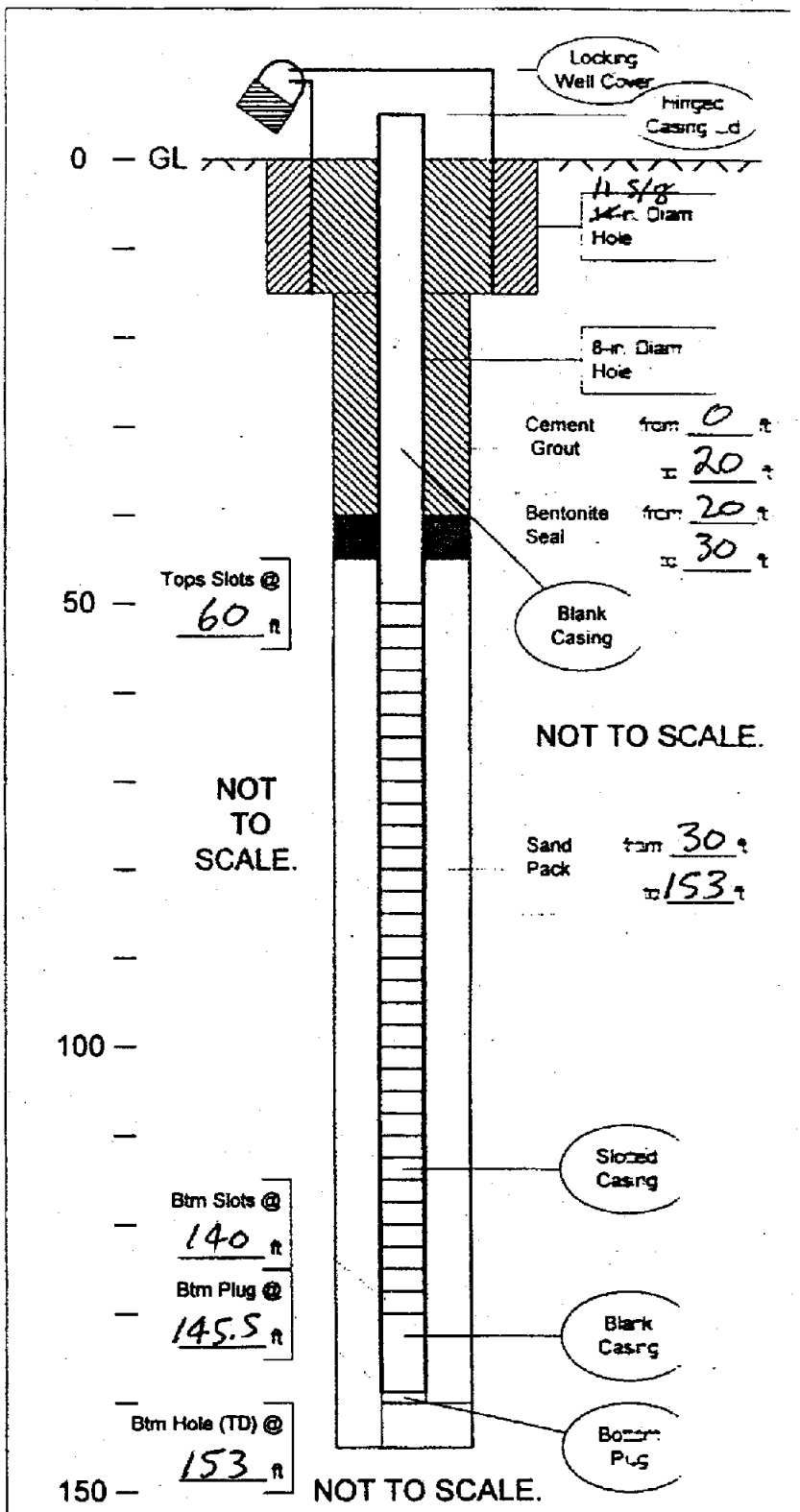
Spud Date:	14 NOV 99
Completion Date:	15 NOV 99
Drlg Contractor:	GUSTIN
Rig Type:	Schramm T685W
Hole Diameter:	8 5/8 in.
Casing Diameter:	4 in.
Tot. Drld Depth:	153 ft.
Wtr Entry Depth:	100 ± ft.
Static Wtr Depth:	86.86 ft.
Casing Lip Elev:	7362.9 ft.

Prepared by: RICREWDSON

Completion Record

	Diam (in)	Depth Top	Depth Btm	Length (ft)
Conductor	10 3/4	+0.8	4.2	5
Blank Csg	4	0	60	60
Slot'd Csg	4	60	140	80
Blank Csg	4	140	145	5
Btm Plug			145.5	
TD Drld:			153	
1st Water Entry:		100 ±		
Static Water Level:		86.86		

Legend.



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Log# 104268 Bsn 105 Pg 2

Time (0-2400) 14 Nov.	OVA (ppm) (PID)	HC Odor	HC Stain	DESCRIPTION Lith, properties, etc.	Depth (ft)	Sample No.	Core Only: Dip from Horiz. Bedding (deg)	Fractures (deg)	Diam: B:F Offset (in.clkwse)	Notes:
09:15	0.0	no		Slate 0-20' lt olive gry (DRY and POWDERY) 20-25' med gry (DRY), weathered, med gry to dk gry (WET), m-str fis, sft, abst-tr orange limonite and wht clay frac coatings.	0	636438				① Chip samples are composites of 5' intervals collected every 5' from surface to T.D. Drilling is dual tube reverse circulation rotary rig using air hammer to drill ahead. Samples are collected at cyclone. Drill fluid is air (0-98'), air-water (98-133') and foam (133'-153'). ② OVA is measured with a PID, Photovac 202 IT unit 703. Chip samples were collected in plastic bags and sealed for at least ½ hr before sniffing w/ PID.
09:22						636439				
09:57					10	636439				
10:03						636440				
10:09					20	636441				
10:15				Metasiltstone all chips-no powder, med lt-med dk gry (WET and DRY), hd, pr fis-mas, unweathered, uniform, abst-r limonite and wht clys on fracs.		636442				
10:22					30	636443				
10:29						636444				
10:36					40	636445				
10:43	0.0	no		45-50': commly-clr quartz veining.		636446				
10:50	0.1	no			50	636447				

Location: 313 ft S (N/S), 1012 ft W (E/W) of NE Cor Sec 23 (ref pt).

Location: NW 1/4, NE 1/4, Sec 23, Twp 10N, Rge 21E, MDBM.

Surface Elev: 7,362.9 ft — Total Depth: 153'

Hole Diam: 8 5/8" — Water Entry Depth: ~100'?

Date Drilled: 14 Nov. '99 — Static Water Level: 85.13 ft 07:10 16 Nov.

Logged By: Doug Goodwin

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Location: GTE Topaz Site

Figure ____. Page 1 of 3.

Drilling Log of Hole No. MW 54

Time (1-2400) 4 Nov	OVA (ppm)	HC Odor	HC Stain		DESCRIPTION Lith, properties, moisture content, etc	Depth (ft)	Sample No.	Core Only: Dip from Horiz. Bedding (deg)	Fractures (deg)	Diam: B:F Offset (in.clkwse)	
10:50	0.0	no			Metasiltstone mod lt-med dk gry (WET and DRY), mod hd-hd, pr fis-mas, un-weathered, uniform, 50-55': com-abun yel gry leaching of rox w/ assoc incr in limonite + wht clys - com, gen. r alteration. 60-75': mnr-com limon, wht cly frac ctgs.	50	636447				
10:58	↓	↓					636448				
11:06						60	636449				
11:14							636450				
11:22						70	636451				
11:27	0.0	no			75-80': weathered, powdery sample w/ abun lt olive gry clys, yel gry frac leaching.		636452				
11:33	1.4	vf				80	636453				
11:43	1.4	vf			below 85': hole unstable and washing out. Common rock fragments ≥1" ϕ.		636454				
11:53	11.1	m				90	636455				93': Lose dust while drilling w/
12:04	1.6	vf	(DRY)				636456				98': Damp wet sandy
12:15	2.7	no	(WET)			100	636457				No water produced surface.

no = no odor	pr = present	rock type, color, etc;
vf = very faint	abs = absent	clay, rust, qtz, other, if any.
f = faint	tr = trace	sed. type, gr. size, color, etc;
m = moderate	min = minor	dry = dusty
str = strong	mod = moderate	damp = some water
vs = very strong	abd = abundant	moist = more water
		wet = free water

Sample # 23075b = hole 23, depth 75 ft, 2nd split from top
Dip & B:F offset assume core is vertical, shallow end up.
B:F offset is distance measured along core circumference from axis of Bedding apex to axis of Fracture apex.

Logged By: Doug Goodwin Date: 14 Nov. 99

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Location: GTE Topaz Site
Figure ____. Page 2 of 3.
Field Log of Hole No. MW54

Log# 1041268 Bsn105 P54

Time 0-2400 14Nov	OVA (ppm)	HC Odor	HC Stain		DESCRIPTION Lith, properties, moisture content, etc	Depth (ft)	Sample No.	Core Only: Dip from Horiz. Bedding (deg)	Fractures (deg)	Diam: B:F Offset (in.clkwse)	
12:15	2.7	no			Metasiltstone med ltgry to med dkgry, mod hd-hd, mas, abst-r limonite and wht clys above 125'.	100	636457				Samples wet below 100'.
13:45	8.5	f					636458				
13:55	8.9	f				110	636459				
14:05	11	no					636460				
14:13	3.2	no				120	636461				
14:22	5.8	↓			125-130' and 135'-T.D.: common bleaching of rox w/assoc increase of orange limonite and wht clys.		636462				
14:30	2.2					130	636463				
14:45	3.1						636464				
14:55	7.0	no				140	636465				
15:05	40+	"foamy"					636466				
15:13	20+	"				150	636467				
15:18						153' T.D.					

Logged By: Doug Goodwin Date: 14Nov.'99

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Location: GTE Topaz Site
Figure ____. Page 3 of 3.
Field Log of Hole No. MW54