

Date 10/22/04

Driller Air Rotary

Drilling Method ARCH

Sampler Continuous Core

Hammer Weight NA Drop NA

Logged by Datum

Surface Elevation 723.68 Hole Dia. 8.5 in.

Northing 507351.782 Easting 1237020.307

Well Construction Details

Top of PVC Casing
Elev. 725.60 ft.

GROUND SURFACE

4" DIA. SCHED.
40 PVC CASING:
+1.9 to 60 ft.

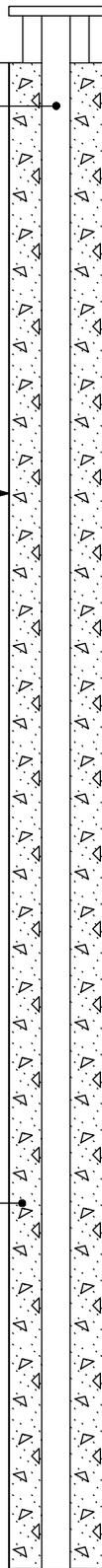
8.5" DIA.
BOREHOLE: 0 to
80.5 ft.

BENTONITE-
CEMENT SEAL: 0
to 53 ft.

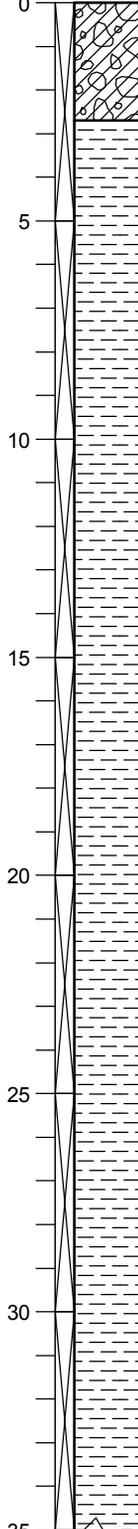
Recovery
(inches)

PID Reading
(ppm)

Depth (ft.)
Sample



Recovery (inches)	PID Reading (ppm)
0	0
51	0
51	0
36	0
3	0
60	0
60	0
60	0
54	0



Light Olive Brown Clayey Gravel with Sand (GC) (2.5Y 5/3) Dense, moist, 60% fine, angular mudstone gravel, 20% sand, 20% clay (Fill)

Light Olive Gray Weathered Mudstone (2.5Y 6/2), Poorly to moderately consolidated, massive, closely to intensely fractured, low hardness, weak, deeply weathered, strong iron oxide along subhorizontal fractures, with some liesegang banding between 3.8 and 5.8 ft.

@ 7.4 ft.: Intensely fractured in all directions with iron oxide staining from 7.4 - 9.9 ft.

@ 11.7 ft.: Abundant low and high angle fractures from 11.7 - 15 ft.

@ 14 ft.: More competent, change to Olive Brown (2.5Y 4/3)

@ 16.2 ft.: Fractured throughout with mostly iron oxide and black manganese from 16.2 - 19.7; gypsum at 16.2, 18.2, and 18.7 ft.

@ 20.8 ft.: Series of subhorizontal fractures with gypsum in-filling from 20.8 - 24.5 ft.

@ 25 ft.: Series of subangular fractures
@ 25 - 30 ft.: 35-45° off vertical fractures with iron oxide and gypsum

@ 31 ft.: Vertical and subangular fractures with iron oxide and gypsum from 31 - 33 ft.

@ 33.8 ft.: Subhorizontal fractures with gypsum and iron oxide from 33.8 - 35.5 ft.

BORING_WELL2_CASMALIA_RIFS.GPJ_GEOLOGDT_12/14/10

Well Construction Details and Log of Boring RG-11B-2

PLATE

Final Remedial Investigation Report
Casmalia Resources Superfund Site
Casmalia, California

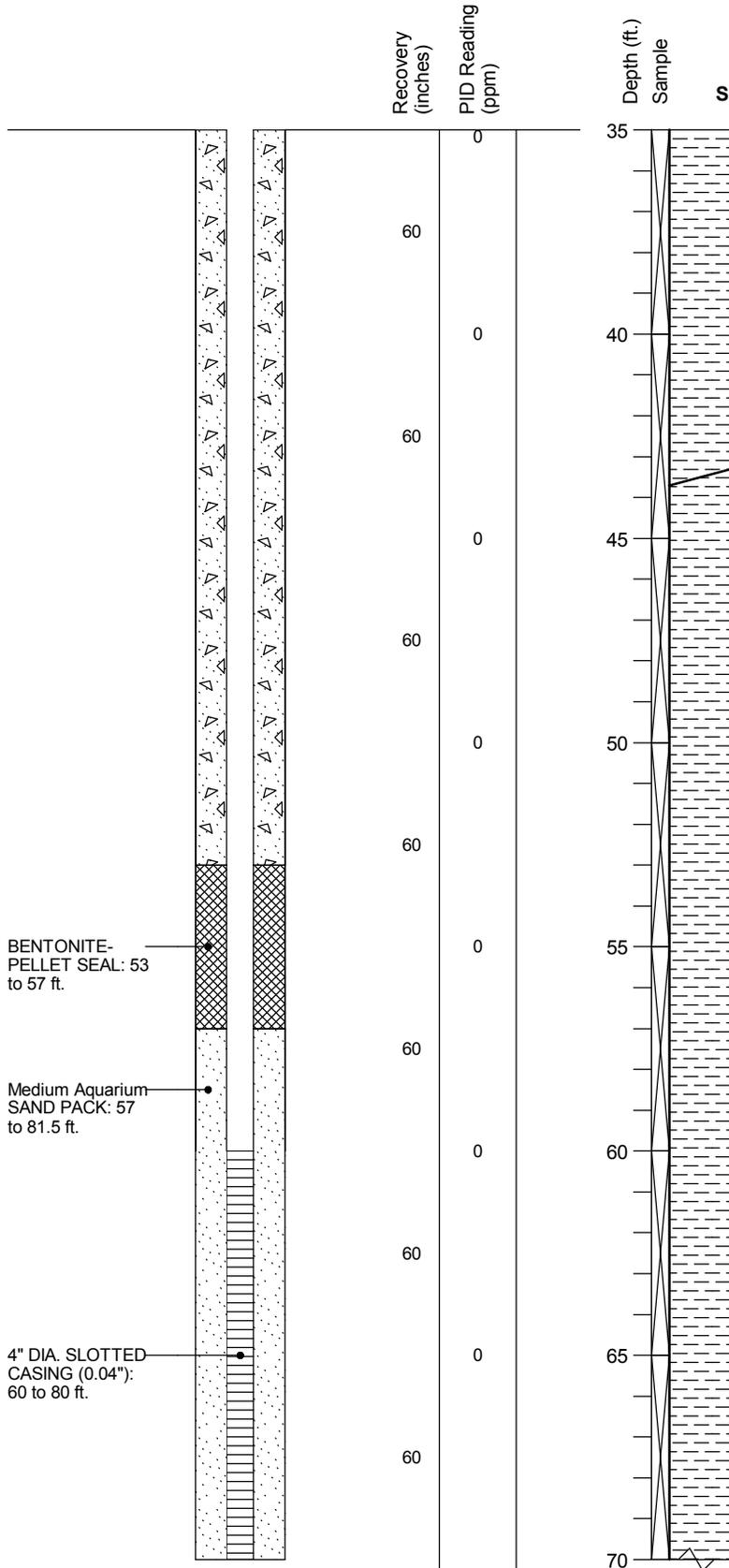
E9-51

DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPR'V'D DATE
CN	4088097619	WJF	1/11	WBC	1/11

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BORING_WELL2_CASMALIA.RIF5.GPJ_GEOL.GDT 12/14/10



@ 35.7 - 43 ft.: Multiangular fractures; iron oxide at 36.5 and 40 ft.; iron oxide and gypsum at 38 ft.

Dark Gray to Very Dark Gray Unweathered Mudstone (5Y 4/1 - 4Y 3/1), Moderately consolidated, massive, low hardness, weak to moderately strong, moderate to little weathering

@ 50 - 54 ft.: Harder
 @ 50.8 ft.: White layer
 @ 51.5 - 52.5 ft.: High angle fracture; some iron oxide staining; no moisture seen in video

@ 57.5 ft.: White inclusion
 @ 58 ft.: White layer

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PLATE

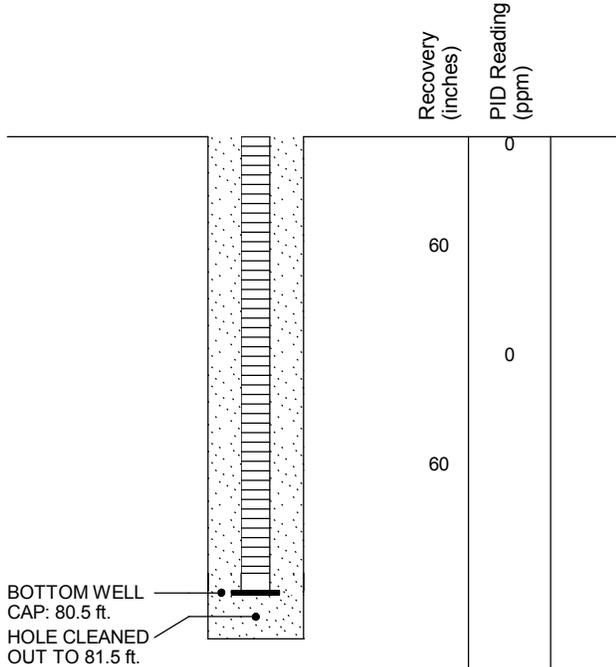
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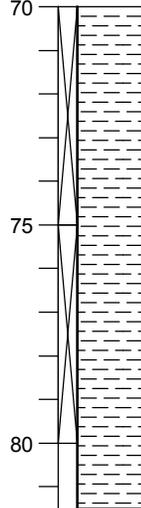
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Depth (ft.)
 Sample



@ 70.8 - 71.4 ft.: High angle 30° from vertical fracture

@ 72.5 ft.: Video shows fracture with white oxides

@ 78 ft.: Water seen flowing on video

@ 79.1 ft.: White layer

Bottom of boring at 80 ft.
 Hole opened to 81.5 ft

BORING_WELL2_CASMALIARIFS.GPJ_GEOL.GDT 12/14/10

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 Casmalia, California

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