

Date 11/18/04

Driller Air Rotary

Drilling Method ARCH

Sampler Continuous Core

Hammer Weight NA Drop NA

Logged by Datum

Surface Elevation 757.59 Hole Dia. 6.5 in.

Northing 507602.281 Easting 1236538.02

Well Construction Details

Top of PVC Casing
Elev. **759.40 ft.**

GROUND SURFACE

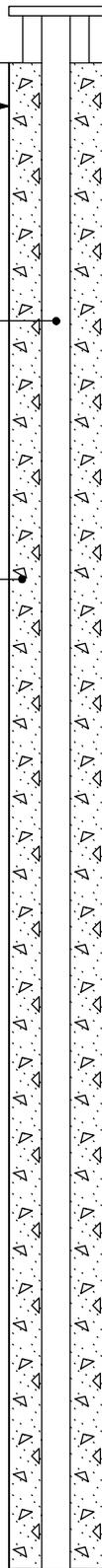
6.5" DIA.
BOREHOLE: 0 to
160 ft.

2" DIA. SCHED.
40 PVC CASING:
+1.8 to 149.5 ft.

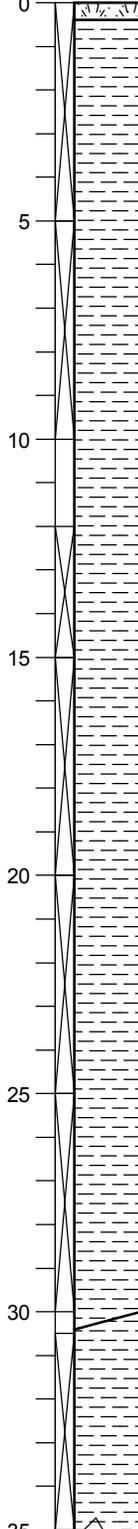
BENTONITE-
CEMENT SEAL: 0
to 143.5 ft.

Recovery
(inches)
PID Reading
(ppm)

Depth (ft.)
Sample



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



Topsoil

Light Yellowish Brown Weathered Mudstone (2.5Y 6/4), Moderately consolidated, closely to intensely fractured, low hardness, weak, deeply weathered, iron oxide staining throughout, some black oxides

@ 5.5 and 6.5 ft.: Iron oxide concretion

@ 9 - 10 ft.: More massive, less fractures

@ 13 ft.: Vertical to horizontal fractures with iron oxide

@ 15 ft.: Change to Light Yellowish Brown (2.5Y 5/3), massive, moderately to closely fractured, deep to moderate weathering

@ 15.3, 16.2, 17.5, 17.8 and 19 ft.: Subhorizontal fractures

@ 17 ft.: Video shows fracture with voids

@ 21.7 ft.: Iron and manganese oxide along fracture surfaces, on subangular fractures from 21.7 - 25.2 ft.

@ 23 ft.: Video shows high angle fracture with oxidation, no visible water

@ 26 ft.: Change to Olive Brown (2.5Y 4/3), subangular fractures at 26, 27, and 29 ft.

Gray Unweathered Mudstone (2.5Y 4/1), Moderately consolidated, massive, moderately fractured, low hardness, moderately strong, little to no weathering

@ 33.5 - 34.5 ft.: Vertical fracture with iron oxide

BORING_WELL2_CASMALIARIFS.GPJ_GEOL.GDT 12/13/10

Well Construction Details and Log of Boring RIPZ-17

PLATE

Final Remedial Investigation Report
Casmalia Resources Superfund Site
Casmalia, California

E9-28

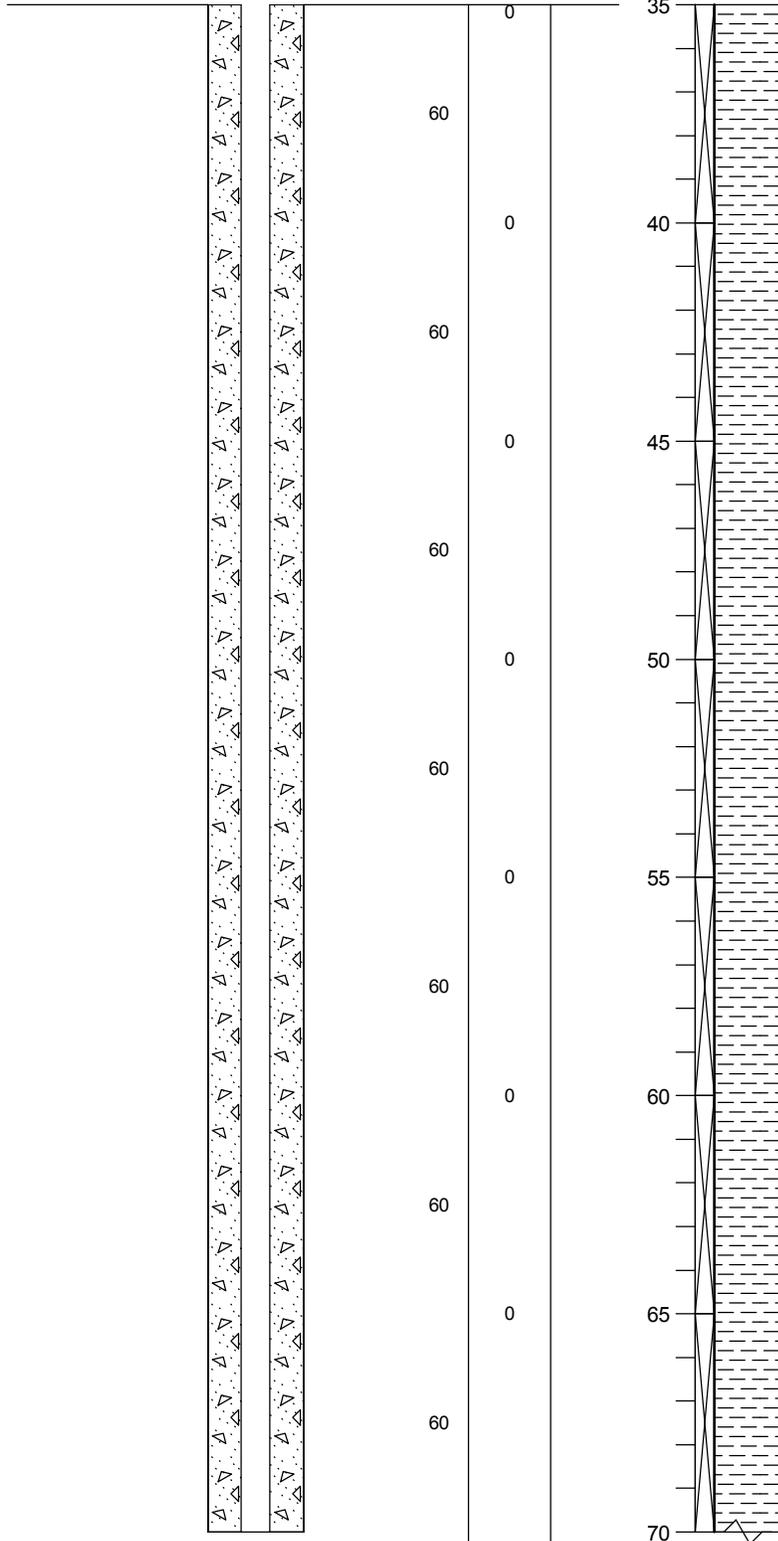
DRAWN	JOB NUMBER	CHECKED	CHK'D DATE	APPROVED	APPR'V'D DATE
CN	4088097619	WJF	1/11	WBC	1/11

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Recovery (inches)
 PID Reading (ppm)

Depth (ft.)
 Sample



@ 35 - 36 ft.: High angle parallel fractures

@ 37 - 38.2 ft.: High angle fracture with iron oxide

@ 38.8 ft.: White layer, video shows fracture with dark oxides

@ 40 ft.: Subangular fracture with iron oxide

Massive, unfractured from 41 ft.

@ 50 ft.: White zone

@ 55.7 - 56.7 ft. and 57.8 - 59 ft.: High angle fractures

@ 63.2 ft.: White layer

@ 67 and 67.5 ft.: White layers

BORING_WELL2_CASMALIA_RIFS.GPJ_GEOLOGDT_12/13/10

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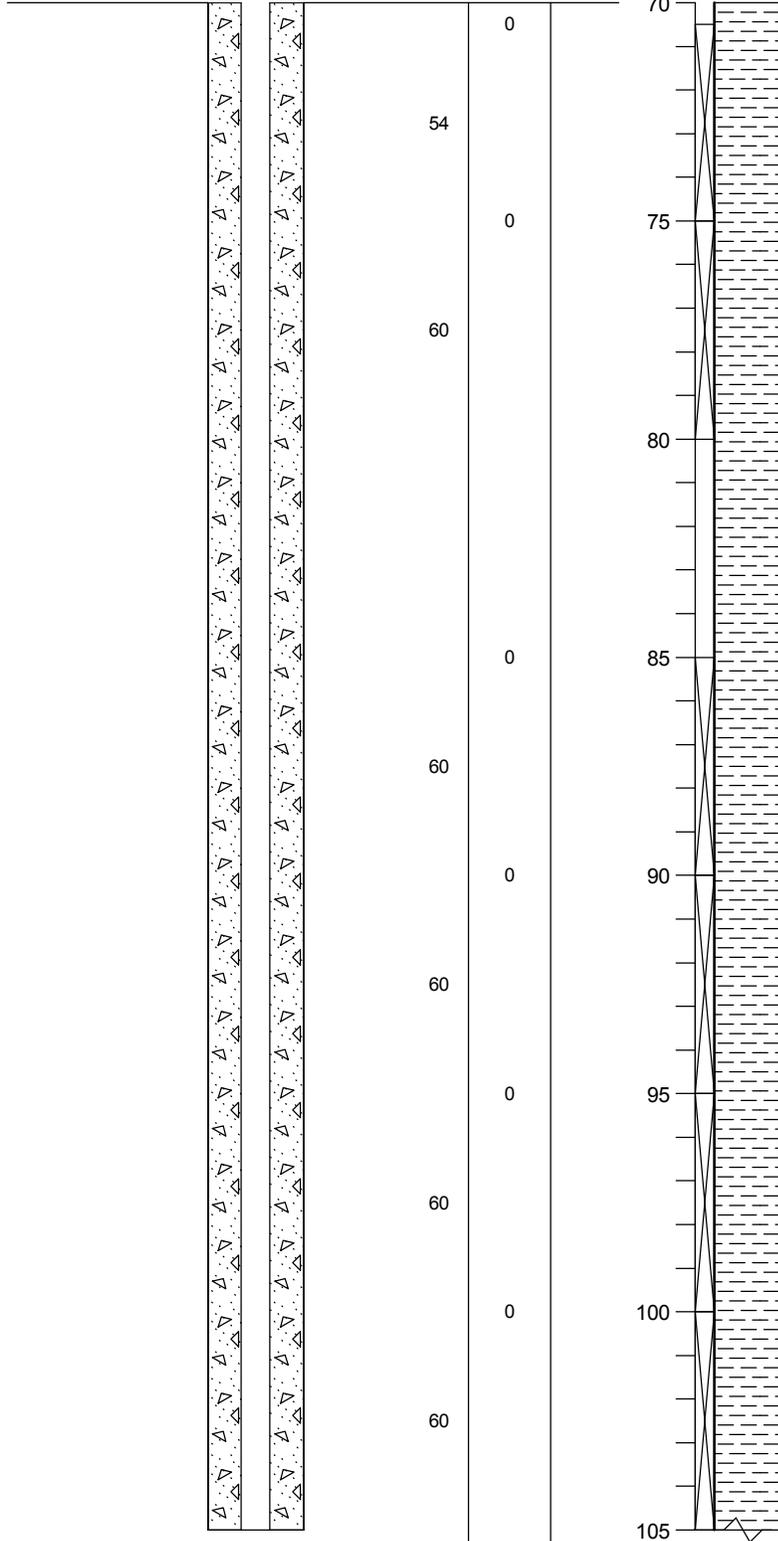
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Depth (ft.)
 Sample



@ 76.2 ft.: Small subhorizontal fractures

@ 79.8 ft.: White layer

@ 91.7 ft.: Hard, white layer

@ 92.7 - 93.7 ft.: Crushed zone, video shows vertical fracture below large void

@ 95.7, 96.2, and 96.7 ft.: Subangular fractures

@ 99.1, 99.9, 101 and 101.3 ft.: Subhorizontal fractures

@ 100 ft.: Fracture with iron oxide

@ 101 ft.: White layer

@ 104.7 and 105.5 ft.: White layers

BORING_WELL2_CASMALIA_RIFS.GPJ_GEOL.GDT 12/13/10

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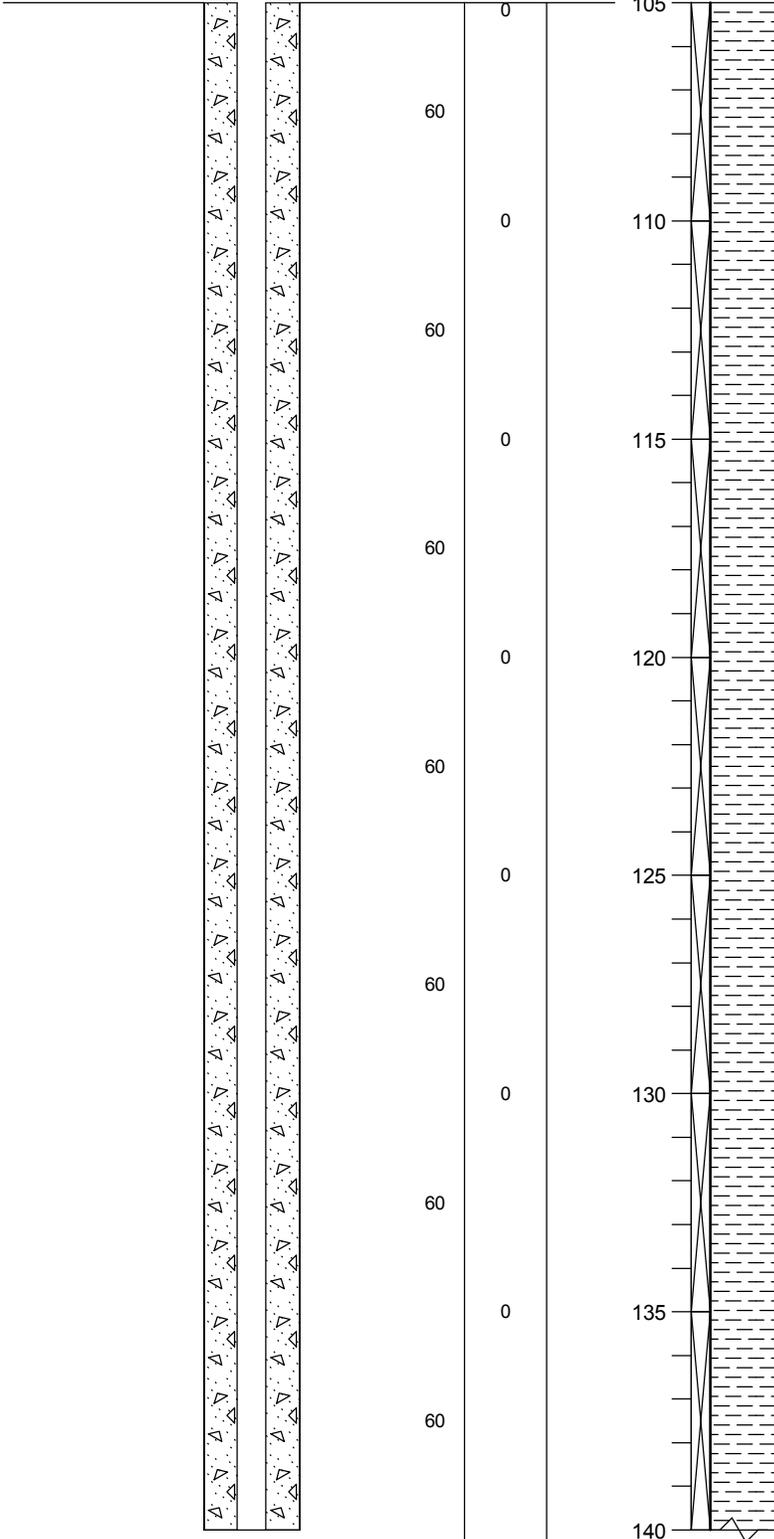
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 Sample



@ 109.1 ft.: Subhorizontal fracture
 @ 109.4 ft.: White layer

@ 124 ft.: Small subhorizontal fracture

@ 136.5 ft.: Small subhorizontal fracture

BORING_WELL2_CASMAILARIFS.GPJ_GEOL.GDT 12/13/10

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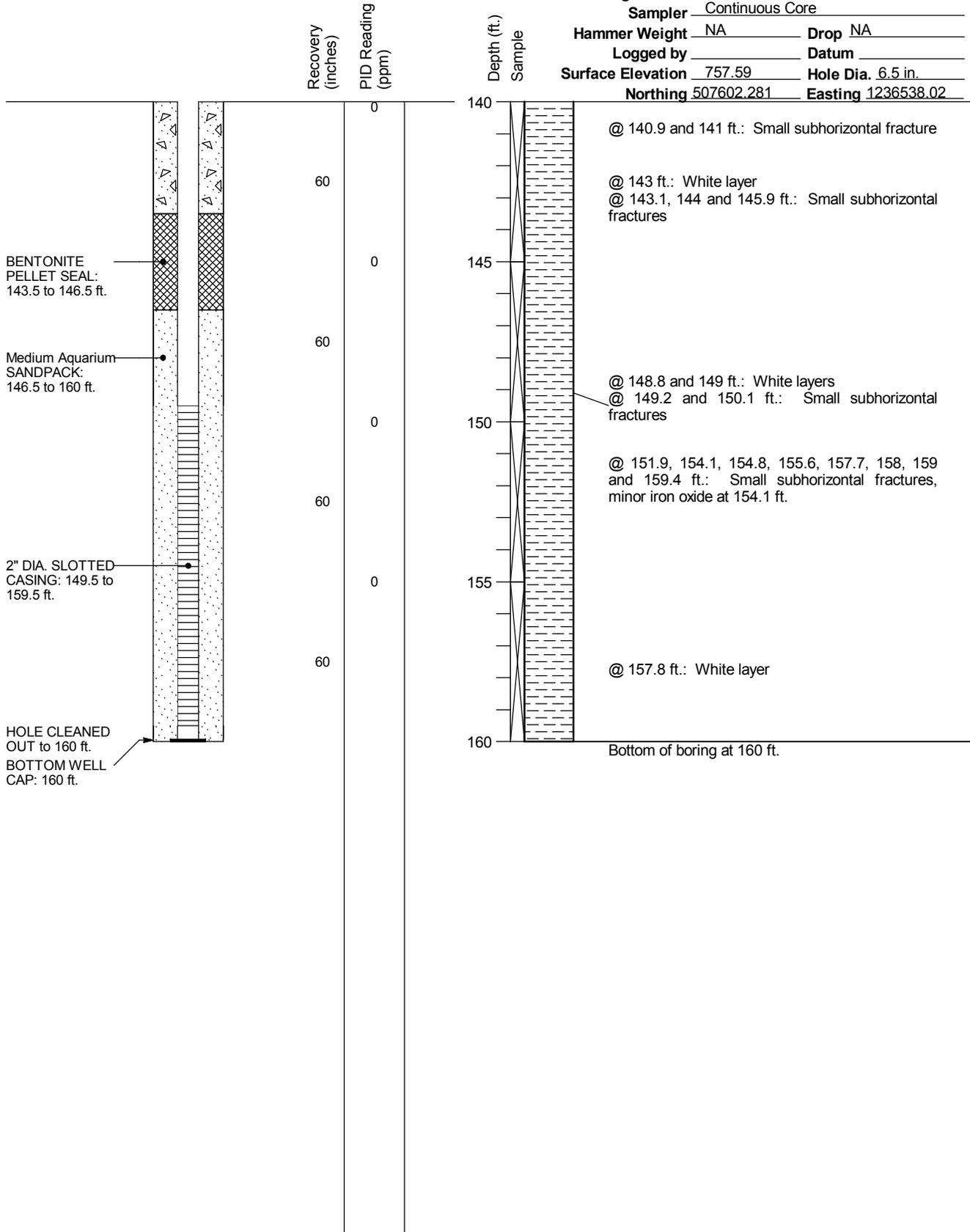
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