



**Pacific Gas and
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April 15, 2006

Robert Perdue
Executive Officer
California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

**Subject: Board Order R7-2006-0008
PG&E Topock Compressor Station, Needles, California
Floodplain Reductive Zone In Situ Pilot Test
March 2006 Monitoring Report**

Dear Mr. Perdue:

Enclosed is the Board Order R7-2006-0008 March 2006 Monitoring Report for the Pacific Gas and Electric Company (PG&E) Topock Compressor Station, floodplain reductive zone in situ pilot test. This report is being submitted in compliance with the Waste Discharge Requirements (WDRs) issued by the Colorado River Basin Regional Water Quality Control Board (Water Board) under Board Order R7-2006-0008. WDRs under Board Order R7-2006-0008 apply to the floodplain reductive zone in situ pilot test only.

If you have any questions regarding this report, please call me at (805) 546-5243.

Sincerely,

Yvonne Meeks
Topock Project Manager

Enclosures:

Board Order R7-2006-0008 March 2006 Monitoring Report for the Floodplain Reductive Zone In Situ Pilot Test.

cc: José Cortez, Water Board
Liann Chavez, Water Board
Tom Vandenberg, Water Board
Norman Shopay, DTSC

Pacific Gas and Electric Company

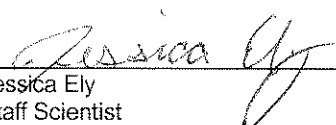
**March 2006 and First Quarter 2006
Monitoring Reports for the
Floodplain Reductive Zone In-Situ
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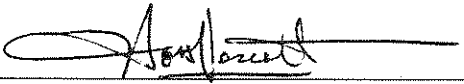
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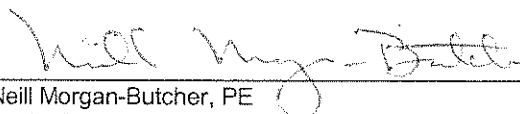
This report was prepared under the supervision of a California
licensed Professional Engineer (PE)



Jessica Ely
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**March 2006 and First Quarter
2006 Monitoring Reports for
the Floodplain Reductive Zone
In-Situ Pilot Test**

Waste Discharge Requirements
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Station
San Bernardino County,
California

Prepared for:
Pacific Gas and Electric Company

Prepared by:
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Our Ref.:
RC000689.0001.00007

Date:
15 April 2006

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of the individual or entity for which it was
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is privileged, confidential, and exempt from
disclosure under applicable law.*

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Acronyms and Abbreviations

RWQCB	California Regional Water Quality Control Board, Colorado River Basin Region
COC	Chain-of-Custody
ISPT	In-Situ Pilot Test
IDW	Investigation Derived Waste
MRP	Monitoring and Reporting Program
PG&E	Pacific Gas and Electric
SAFPM	Sampling, Analysis, and Field Procedures Manual, PG&E Topock Program, Revision 1
STL	Severn Trent Laboratories, Inc.
TOC	Total Organic Carbon
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency

1. Introduction

Pacific Gas and Electric (PG&E) is implementing a floodplain reductive zone in-situ pilot test (ISPT) to address chromium concentrations in groundwater at the Topock Compressor Station near Needles, California. The purpose of the floodplain ISPT is to evaluate the efficacy of using a food-grade reagent mixture to reduce hexavalent chromium in groundwater to form stable, insoluble trivalent chromium. The floodplain ISPT consists of injecting the reagent mixture into a well cluster (PTI-1S/M/D) and monitoring the results in six three-level well nests (PT-1 through PT-6). Figure 1 provides a map of the PG&E Topock Compressor Station and ISPT area. (All figures are provided at the end of the report).

California Regional Water Quality Control Board, Colorado River Basin Region (RWQCB) Order No. R7-2006-0008 authorizes PG&E to inject 6,000 gallons of blended groundwater and reagent mixture into the shallow, middle and deep depths of injection well cluster (PTI-1S/M/D) located in the Colorado River floodplain. Injection of the reagent mixture may occur one to four times during a six-month period.

The Monitoring and Reporting Program (MRP) under Order No. R7-2006-0008 requires monthly monitoring reports to be submitted by the 15th day of the following month. The MRP also requires quarterly reports to be submitted by the 15th day of the month following the end of each calendar quarter. This report describes monitoring activities related to the floodplain ISPT for March 2006 and the first quarter 2006, including those associated with the installation of injection well cluster (PTI-1S/M/D) and six three-level monitoring well nests (PT-1 through PT-6), and the subsequent baseline sampling.

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2. In-Situ Pilot Test Sampling Locations

Table 1 summarizes the well construction details of the recently installed injection well cluster (PTI-1S/M/D) and monitoring well nests (PT-1 through PT-6). Figure 2 provides a map of the sampling locations, including extraction wells TW-2D, TW-3D, and PE-1. (All figures are provided at the end of the report).

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3. Description of Activities

In order to complete the work presented in the In-Situ Hexavalent Chromium Reduction Plan, Floodplain Reductive Zone Enhancement (Work Plan), dated August 2005, and the Final Addendum to the In-Situ Hexavalent Chromium Reduction Plan, Floodplain Reductive Zone Enhancement (Work Plan Addendum), dated December 5, 2005, ARCADIS installed one injection well cluster and six monitoring well nests. These activities were conducted in January through February 2006. All drilling, well installation, well development and associated field activities were performed in accordance with the applicable procedures contained within the Sampling, Analysis, and Field Procedures Manual, PG&E Topock Program, Revision 1 (SAFPM).

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The first of two pre-injection (baseline) groundwater monitoring events was conducted during the week of March 13, 2006.

Sections 3.1 through 3.4 discuss the following activities: injection well installation, monitoring well installation, well surveying, and baseline groundwater sampling, respectively.

3.1 Injection Well Installation

From January 24 to 28, 2006, Prosonic Corporation of Mesa, Arizona (Prosonic) installed one injection well cluster (PTI-1S/M/D) using roto sonic drilling techniques (Figure 2). During the advancement of each boring, a field geologist, under the supervision of a California Professional Geologist, recorded the lithology of the subsurface state in accordance with United Soil Classification System (USCS) by observing continuous core samples retrieved from the boreholes. Soil samples were collected from PTI-1D and will be reported elsewhere. The injection wells were constructed and developed in accordance with the Work Plan and Work Plan Addendum.

Table 1 summarizes well construction details. Appendix A presents boring logs and well construction details, while Appendix B contains the well development logs.

3.2 Monitoring Well Installation

Prosonic installed six three-level monitoring well nests (PT-1 through PT-6) using roto sonic drilling techniques from January 28 to February 14, 2006 (Figure 2). During the advancement of each boring, a field geologist, under the supervision of a California

Professional Geologist, recorded the lithology of the subsurface state in accordance with the USCS by observing continuous core samples retrieved from the boreholes. Soil samples were collected from each boring and will be reported elsewhere. The three-level monitoring well nests were constructed and developed in accordance with the Work Plan and Work Plan Addendum. Each level was designated with S for the shallow screen interval, M for the middle screen interval or D for the deep screen interval.

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Table 1 summarizes well construction details. Appendix A presents boring logs and well construction details, while Appendix B contains the well development logs.

3.3 Well Surveying

PG&E, under the supervision of a California-licensed land surveyor, surveyed the longitude, latitude, top-of-casing, and ground surface elevation of each injection and monitoring well on March 2, 2006.

3.4 Baseline Groundwater Sampling

Prior to injection activities, two baseline sampling events are planned. The first baseline monitoring event was performed at the injection wells (PTI-1S/M/D), the monitoring wells (PT-1 through PT-6) and three extraction wells (TW-2D, TW-3D and PE-1) between March 13 and March 18, 2006. Groundwater samples from each well were analyzed for hexavalent chromium (USEPA Method 7199) by Truesdail Laboratories (Truesdail); fluorescein (in-house method) by Ozark Underground Laboratory (Ozark); iodide (USEPA Method 300) by STL Laboratory; total chromium, dissolved and total iron, manganese, calcium, magnesium, arsenic, potassium, sodium (USEPA Method 6010B) nitrate, nitrite, sulfate, carbonate, bicarbonate alkalinity, chloride, bromide, phosphorous (USEPA Method 300) TOC (USEPA Method 415.5), and sulfide (USEPA Method 376.1) by EMAX Laboratories, Inc. (EMAX). Samples were collected, labeled and packaged according to the SAFPM.

Table 3 and 4 present the groundwater analytical results. As required under the MRP, calibration logs for field-monitoring instruments are included in Appendix C. Groundwater sampling logs are included in Appendix D.

4. Sampling and Analytical Procedures

Groundwater sampling, and associated tasks, were performed in accordance with the applicable procedures contained in the SAFPM.

Prior to groundwater sampling, depth to waters were recorded for each well. This data was used to evaluate the volume of standing water in the well. Each well was purged using an in-series whale pump with dedicated polyethylene tubing. During the purge process, field parameters such as pH, specific conductance, temperature, color, odor, and depth to water were recorded (Table 2). Purging continued until 3-casing volumes had been removed and the field parameters were stabilized (+/- 10%). After completion of purging, the groundwater samples were collected into the appropriate containers. Monitoring wells PT-3M and PT-6S purged dry and were allowed to recover prior to sample collection. Extraction well (TW-2D, TW-3D and PE-1) samples were collected from dedicated sampling ports. Water was purged from the sample port prior to sampling the extraction wells, to remove any stagnant water from the port.

The samples were stored in coolers at 4° Celsius and transported to Truesdail, EMAX, STL and Ozark via a courier service under COC documentation. Truesdail, EMAX, and STL are certified by the California Department of Health Services (Certification #1247, #02116CA, and #2496, respectively) under the State of California's Environmental Laboratory Accreditation Program.

Analyses were performed in accordance with the latest edition of the "Guidelines Establishing Test Procedures for Analysis Pollutants" (40 CFR Part 136), or equivalent methods promulgated by the USEPA, as well as applicable procedures contained in the SAFPM.

Sampling of the injection well cluster (PTI-1S/M/D), three-level well nests (PT-1 through PT-6), and extraction wells (TW-2, TW-3, and PE-1) was conducted in accordance with the sampling frequency required by the MRP, as shown in Tables 2, 3 and 4. Sample results are summarized in Tables 3 and 4. As required by the MRP, calibration logs for field-monitoring instruments are presented in Appendix C. Sampling logs are presented in Appendix D. Copies of laboratory analytical results are presented in Appendix E.

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5. Analytical Results

Laboratory reports prepared by the certified analytical laboratories are presented in Appendix E. Summaries of field parameters and baseline parameters are presented in Tables 2, 3 and 4, respectively, for the injection well cluster (PTI-1S/M/D), the six three-level well nests (PT-1 through PT-6), and three extraction wells (TW-2, TW-3, and PE-1).

Table 5 identifies the laboratory that performed each analysis and lists the following required monitoring information:

- Sample Location
- Sample identification
- Sampler name
- Sample date
- Sample time
- Laboratory performing the analysis
- Analysis method
- Analysis date
- Laboratory technician

No operation or maintenance problems or other interruptions to remedial systems occurred during the reporting period.

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6. Conclusions

This report summarizes the results of the month of March 2006 and first quarter 2006, which included the installation of injection well cluster (PTI-1S/M/D) and six three-level monitoring well nests (PT-1 through PT-6) and the first baseline sampling event. Injections have not been initiated. No temporal trends were noted because this was the first groundwater monitoring event.

There were no incidents of non-compliance with respect to the Order.

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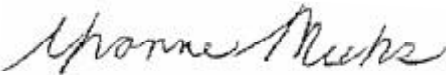
7. Certification

PG&E submitted a signature delegation letter to the RWQCB on August 12, 2005. The letter delegated PG&E's signature authority to Mr. Curt Russell and Ms. Yvonne Meeks.

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Certification Statement:

I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations.

Signature: 

Name: Yvonne Meeks

Company: PG&E

Title: Project Manager

Date: April 15, 2006

Table 1
Boring and Well Construction Detail Summary
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Well or Boring Designation	Date Completed	Aquifer Zone	Ground Elevation* (feet msl)	TOC Elevation** (feet msl)	Total Depth of Boring (feet bgs)	Casing Diameter (inches)	Boring Diameter (inches)	Well Completion Depth (feet bgs)	Well Completion Elevation (feet msl)	Screen Depth Interval (feet bgs)	Screen Elevation Interval (feet msl)	Sand Pack Depth Interval (feet bgs)	Sand Pack Elevation Interval (feet msl)	Bentonite Depth Interval (feet bgs)	Bentonite Elevation Interval (feet msl)	Well Permit Number	Distance From PTI-1 (feet)	Latitude	Longitude
PT-1S	31-Jan-06	S	472.239	474.644	125	2	10	45	430	35-45	440-430	32-47	443-428	28-32	447-443	2006010013	20	34° 43' 10.3"	114° 29' 25.8"
PT-1M	31-Jan-06	M	472.239	474.622	125	2	10	70	405	60-70	415-405	57-72	428-403	46-57	429-418	2006010013	23	34° 43' 10.3"	114° 29' 25.8"
PT-1D	31-Jan-06	D	472.239	474.627	125	2	10	105	370	95-105	380-370	92-125	383-350	72-92	403-383	2006010013	24	34° 43' 10.3"	114° 29' 25.8"
PT-2S	8-Feb-06	S	471.627	473.487	127	2	10	45	428	35-45	438-428	32-47	441-426	28-32	445-441	2006010012	45	34° 43' 10.3"	114° 29' 26.1"
PT-2M	8-Feb-06	M	471.627	473.587	127	2	10	70	404	60-70	414-404	57-72	423-402	46-57	428-417	2006010012	47	34° 43' 10.3 "	114° 29' 26.1"
PT-2D	8-Feb-06	D	471.627	473.522	127	2	10	105	369	95-105	379-369	92-127	382-347	72-92	402-382	2006010012	49	34° 43' 10.3"	114° 29' 26.1"
PT-3S	14-Feb-06	S	471.698	473.584	129	2	10	45	429	35-45	439-429	32-47	442-427	28-32	446-442	2006010011	12	34° 43' 10.2"	114° 29' 25.6"
PT-3M	14-Feb-06	M	471.698	473.520	129	2	10	70	404	60-70	414-404	57-72	427-402	46-57	428-417	2006010011	15	34° 43' 10.2"	114° 29' 25.6"
PT-3D	14-Feb-06	D	471.698	473.525	129	2	10	105	369	95-105	379-369	92-127	382-347	72-92	402-382	2006010011	13	34° 43' 10.2"	114° 29' 25.6"
PT-4S	12-Feb-06	S	471.79	474.430	127	2	10	45	429	35-45	439-429	32-47	442-427	28-32	446-442	2006010010	27	34° 43' 10.1"	114° 29' 25.4"
PT-4M	12-Feb-06	M	471.79	474.331	127	2	10	70	404	60-70	414-404	57-72	423-403	46-57	428-417	2006010010	29	34° 43' 10.1"	114° 29' 25.4"
PT-4D	12-Feb-06	D	471.79	474.299	127	2	10	105	369	95-105	379-369	92-127	382-347	72-92	402-382	2006010010	24	34° 43' 10.1"	114° 29' 25.4"
PT-5S	10-Feb-06	S	471.262	473.611	127	2	10	45	429	35-45	439-429	32-47	442-427	28-32	446-442	2006010009	54	34° 43' 10.1"	114° 29' 25.0"
PT-5M	10-Feb-06	M	471.262	473.630	127	2	10	70	404	60-70	414-404	57-72	427-402	46-57	428-417	2006010009	53	34° 43' 10.2"	114° 29' 25.0"
PT-5D	10-Feb-06	D	471.262	473.625	127	2	10	105	369	95-105	379-369	92-127	382-347	72-92	402-382	2006010009	49	34° 43' 10.2"	114° 29' 25.0"
PT-6S	28-Jan-06	S	474.441	475.981	137	2	10	45	431	35-45	441-431	32-47	444-429	28-32	448-444	2006010008	27	34° 43' 10.6"	114° 29' 25.4"
PT-6M	28-Jan-06	M	474.441	476.025	137	2	10	70	406	60-70	416-406	57-72	425-404	46-57	430-419	2006010008	23	34° 43' 10.6"	114° 29' 25.4"
PT-6D	28-Jan-06	D	474.441	476.013	137	2	10	105	371	95-105	381-381	92-137	384-339	72-92	444-384	2006010008	25	34° 43' 10.6"	114° 29' 25.4"
PTI-1S	28-Jan-06	S	472.751	475.035	47	4	10	45	430	35-45	440-430	32-47	443-428	28-32	447-443	2006010006	0	34° 43' 10.4"	114° 29' 25.5"
PTI-1M	26-Jan-06	M	472.938	475.087	77	4	10	70	405	60-70	415-405	57-72	428-403	46-57	429-418	2006010007	0	34° 43' 10.4"	114° 29' 25.6"
PTI-1D	26-Jan-06	D	472.573	474.762	137	4	10	105	370	95-105	380-370	92-137	383-338	72-92	403-383	2006010005	0	34° 43' 10.4"	114° 29' 25.6"
TW-2D	1-Apr-04	D	496.932	496.932	180	6	12	153	344	113-148	384-349	108-153	389-344	153-180, 101-108	344-317, 396-394	-	205	34° 43' 10.3"	114° 29' 28.0"
TW-3D	24-Oct-05	D	497.415	497.415	157	6	10	153	344	111-156	386-341	105-157	392-340	50-105	447-392	-	217	34° 43' 10.2"	114° 29' 28.1"
PE-1	2-Mar-05	D	466.879	496.549	105	6	10	110	387	79-89	418-408	76-99	421-398	99-105, 72-76	398-425, 392-421	2005101057	296	34° 43' 9.3"	114° 29' 22.2"

Notes:

feet bgs Feet below ground surface

feet msl Feet mean sea level

PTI- Pilot test injection well

PT- Pilot test monitoring well

S Shallow

M Middle

D Deep

TOC Top of casing

* Elevations are in feet, North American Vertical Datum of 1988 (NAVD 88), NGS data sheet EU0763.

** Reference elevation

- Not available

Table 2
Summary of Field Parameters
PG&E Topock
Needles, California

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Location Name	Sample Date	Sample Type	Screen Interval: (ft bgs)	ORP (mV)	pH	Specific Conductance (µS/cm)	Temperature (C°)	Hexavalent Chromium Field (µg/L)
PT-1S	17-Mar-06	N	35-45	-150.7	7.05	6,565	26.62	6
PT-1M	17-Mar-06	N	60-70	-211	7.46	7,000	26.21	3
PT-1D	17-Mar-06	N	95-105	-129.5	7.36	13,149	26.06	950
PT-2S	17-Mar-06	N	35-45	-204	7.27	6,273	26.87	5
PT-2M	17-Mar-06	N	60-70	-170.9	7.29	7,304	26.3	6
PT-2D	17-Mar-06	N	95-105	-100.5	7.21	12,626	26.17	8
PT-3S	16-Mar-06	N	35-45	-218.9	7.14	6,353	26.67	3
PT-3M	18-Mar-06	N	60-70	-249.1	7.96	7,232	26.19	3
PT-3D	18-Mar-06	N	95-105	-54.4	7.38	13,782	25.98	231
PT-4S	15-Mar-06	N	35-45	-257	7.32	7,072	26.16	3
PT-4M	15-Mar-06	N	60-70	-246.1	7.9	6,784	25.99	3
PT-4D	15-Mar-06	N	95-105	-98.4	7.4	15,180	26.02	293
PT-5S	16-Mar-06	N	35-45	-204.9	7.33	7,714	25.81	5
PT-5M	16-Mar-06	N	60-70	-184.6	7.29	6,989	25.48	4
PT-5D	16-Mar-06	N	95-105	-191.1	7.71	8,304	25.85	310
PT-6S	18-Mar-06	N	35-45	-91.7	6.99	10,053	25.49	7
PT-6M	16-Mar-06	N	60-70	-120.1	7.25	7,221	26.13	3
PT-6D	16-Mar-06	N	95-105	-118.9	7.73	13,489	25.9	169
PTI-1S	15-Mar-06	N	35-45	-203.1	7.1	6,390	26.83	4
PTI-1M	15-Mar-06	N	60-70	-220.1	7.38	7,338	26.17	140
PTI-1D	15-Mar-06	N	95-105	-89.9	7.37	13,018	26.04	890
PE-1	17-Mar-06	N	79-89	---	---	---	---	115
TW-2D	17-Mar-06	N	113-148	---	---	---	---	810
TW-3D	17-Mar-06	N	111-156	---	---	---	---	183

Notes:

ft bgs Feet below ground surface
µS/cm Microsiemens per centimeter
mg/L Micrograms per liter
mV Millivolts
C° Degrees Celsius
ORP Oxidation Reduction Potential
N Normal
--- Not available

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Iodide (µg/L)	Bromide (mg/L)	Fluorescein (ppb)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (mg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)
PT-1S	17-Mar-06	N	35-45	<1	1.3	<1000	<0.5	ND	<0.5	<0.1	3.05	1,930	1,320	198	2.98
PT-1M	17-Mar-06	N	60-70	<1	<1	<1000	<0.5	ND	<0.5	<0.1	<0.5	<500	1,330	411	1.14
PT-1D	17-Mar-06	N	95-105	2,470	2,270	<1000	0.581	ND	1.84	<0.5	<0.5	<500	88.2	943	1.07
	17-Mar-06	FD		2,460	2,230	<1000	<0.5	ND	1.84	<0.5	<0.5	<500	85.7	941	1.18
PT-2S	17-Mar-06	N	35-45	<1	<1	<1000	0.563	ND	<0.5	<0.1	34.3	976	1,170	11.7	7.42
PT-2M	17-Mar-06	N	60-70	<1	8.19	<1000	<0.5	ND	<0.5	<0.5	<0.5	<500	547	474	<1
PT-2D	17-Mar-06	N	95-105	1,660	1,580	<1000	<0.5	ND	1.23	<0.5	<0.5	<500	154	931	1.09
	17-Mar-06	FD		1,670	1,570	<1000	<0.5	ND	1.26	<0.5	<0.5	<500	161	924	1.24
PT-3S	16-Mar-06	N	35-45	<1	40.3	<1000	<0.5	ND	<0.5	<0.1	6.37	4,860	1,160	217	4.27
PT-3M	18-Mar-06	N	60-70	<1	<1	<1000	<0.5	ND	<0.5	<0.5	<0.5	<500	1,670	571	1.33
PT-3D	18-Mar-06	N	95-105	4,390	4,370	<1000	<0.5	ND	3.33	<0.5	<0.5	<500	16.7	984	<1
PT-4S	15-Mar-06	N	35-45	<1	3.83	714 J	<0.5	ND	<0.5	<0.1	4.06	713	919	474	1.69
PT-4M	15-Mar-06	N	60-70	<1	<1	750 J	<0.5	ND	<0.5	<0.1	<0.5	<500	966	609	<1
PT-4D	15-Mar-06	N	95-105	5,670	5,510	<1000	1.32	ND	4.28	<0.5	<0.5	<500	8.27	1,080	<1
PT-5S	16-Mar-06	N	35-45	<1	2.71	<1000	<0.5	ND	<0.5	<0.1	0.949	971	2,440	401	3.2
PT-5M	16-Mar-06	N	60-70	<1	<1	<1000	<0.5	ND	<0.5	<0.1	<0.5	<500	707	463	1.04
PT-5D	16-Mar-06	N	95-105	6,150	5,650	<1000	<0.5	ND	4.86	0.258	<0.5	<500	355	1,080	<1
PT-6S	18-Mar-06	N	35-45	<1	4.6	<1000	1.18	ND	<0.5	<1	4.56	3,530	9,260	60	13.4
PT-6M	16-Mar-06	N	60-70	<1	<1	<1000	<0.5	ND	<0.5	<0.1	<0.5	<500	56.1	486	<1
PT-6D	16-Mar-06	N	95-105	3,310	3,140	<1000	<0.5	ND	2.5	0.218	<0.5	<500	361	844	<1

Table 3
Summary of Primary Analytical Parameters
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	Hexavalent Chromium (µg/L)	Dissolved Chromium (µg/L)	Iodide (µg/L)	Bromide (mg/L)	Fluorescein (ppb)	Nitrate-N (mg/L)	Nitrite-N (mg/L)	Total Iron (mg/L)	Dissolved Iron (µg/L)	Dissolved Manganese (µg/L)	Sulfate (mg/L)	Total Organic Carbon (mg/L)
PTI-1S	15-Mar-06	N	35-45	<1	19.8	708 J	<0.5	ND	<0.5	<0.1	7.36	8,350	717	122	4.55
PTI-1M	15-Mar-06	N	60-70	4	8.2	718 J	<0.5	ND	<0.5	<0.1	<0.5	<500	141	510	<1
PTI-1D	15-Mar-06	N	95-105	1,620	1,580	<1000	2.63	ND	<0.5	<0.5	<0.5	<500	1,070	907	1.3
PE-1	17-Mar-06	N	79-89	148	138	<1000	<0.5	ND	<0.5	<0.5	<0.5	<500	12.7	900	2.14
TW-2D	17-Mar-06	N	113-148	1,430	1,530	<1000	<0.5	ND	1.67	<0.5	<0.5	<500	<5	501	<1
TW-3D	17-Mar-06	N	111-156	3,350	3,070	<1000	<0.5	ND	4.87	<0.2	<0.5	<500	<5	613	1.04
Field Blank	17-Mar-06	FB	NA	<0.2	<1	<1000	<0.5	ND	<0.5	<0.1	<0.5	<500	<5	<0.5	<1
Equipment Blank	17-Mar-06	EB	NA	<0.2	2.91	<1000	<0.5	ND	<0.5	<0.1	<0.5	<500	<5	<0.5	<1

Notes:

ft bgs	Feet below ground surface
mg/L	Milligrams per liter
µg/L	Micrograms per liter
ppb	Parts per billion
<	Symbol indicates not detected at or above laboratory detection limit as noted
N	Normal
EB	Equipment blank
FB	Field blank
FD	Field duplicate
J	Reported value is estimated
NA	Not applicable
ND	Not detected
Nitrate-N	Nitrate as Nitrogen
Nitrite-N	Nitrite as Nitrogen
---	Not analyzed
Dissolved	Samples were field filtered with a 0.45 micron filter

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	Dissolved Calcium (µg/L)	Dissolved Magnesium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Potassium (µg/L)	Dissolved Sodium (µg/L)	Alkalinity bicarbonate (mg/L)	Alkalinity carbonate (mg/L)	Chloride-Cl (mg/L)	Orthophosphate-P (mg/L)	Sulfide (mg/L)
PT-1S	17-Mar-06	N	35-45	262,000	74,700	<5	15,400	1,040,000	367	<5	1,710	<0.5	<2
PT-1M	17-Mar-06	N	60-70	229,000	40,100	<5	15,700	1,230,000	145	<5	1,790	<0.5	<2
PT-1D	17-Mar-06	N	95-105	321,000	24,900	<5	24,600	2,540,000	107	<5	3,650	<0.5	<2
	17-Mar-06	FD		316,000	24,900	<5	24,800	2,550,000	110	<5	3,610	<0.5	<2
PT-2S	17-Mar-06	N	35-45	273,000	92,700	<5	12,500	929,000	613	<5	1,630	<0.5	<2
PT-2M	17-Mar-06	N	60-70	227,000	35,600	<5	14,700	1,340,000	264	<5	1,880	<0.5	<2
PT-2D	17-Mar-06	N	95-105	314,000	25,700	<5	24,900	2,530,000	125	<5	3,530	<0.5	<2
	17-Mar-06	FD		315,000	26,300	<5	25,200	2,560,000	112	<5	3,560	<0.5	<2
PT-3S	16-Mar-06	N	35-45	244,000	85,600	<5	10,000	942,000	334	<5	1,740	<0.5	<2
PT-3M	18-Mar-06	N	60-70	162,000	32,600	<5	19,900	1,360,000	112	<5	1,830	<0.5	<2
PT-3D	18-Mar-06	N	95-105	273,000	19,200	<5	22,900	2,570,000	104	<5	3,920	<0.5	<2
PT-4S	15-Mar-06	N	35-45	261,000	64,300	6.22	14,100	1,180,000	184	<5	1,800	1.35	<2
PT-4M	15-Mar-06	N	60-70	148,000	25,700	<5	18,700	1,370,000	144	<5	1,800	<0.5	<2
PT-4D	15-Mar-06	N	95-105	334,000	20,700	5.13	24,800	3,150,000	79.4	<5	4,350	<0.5	<2
PT-5S	16-Mar-06	N	35-45	315,000	72,300	8.86	14,200	1,320,000	279	<5	2,050	<0.5	<2
PT-5M	16-Mar-06	N	60-70	196,000	33,000	<5	11,000	1,220,000	237	<5	1,740	<0.5	<2
PT-5D	16-Mar-06	N	95-105	317,000	21,000	<5	24,500	3,150,000	62.3	<5	4,460	<0.5	<2

Table 4
Summary of Secondary Analytical Parameters
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Location Name	Sample Date	Sample Type	Screen Interval (ft bgs)	Dissolved Calcium (µg/L)	Dissolved Magnesium (µg/L)	Dissolved Arsenic (µg/L)	Dissolved Potassium (µg/L)	Dissolved Sodium (µg/L)	Alkalinity bicarbonate (mg/L)	Alkalinity carbonate (mg/L)	Chloride-Cl (mg/L)	Orthophosphate-P (mg/L)	Sulfide (mg/L)
PT-6S	18-Mar-06	N	35-45	269,000	157,000	12.6	21,400	1,490,000	501	<5	2,870	<0.5	<2
PT-6M	16-Mar-06	N	60-70	230,000	39,700	<5	11,800	1,300,000	227	<5	1,840	<0.5	<2
PT-6D	16-Mar-06	N	95-105	245,000	16,200	<5	19,900	2,600,000	102	<5	3,630	<0.5	<2
PTI-1S	15-Mar-06	N	35-45	266,000	88,200	13.2	11,600	980,000	375	<5	1,730	<0.5	<2
PTI-1M	15-Mar-06	N	60-70	223,000	33,200	<5	12,200	1,360,000	179	<5	1,910	<0.5	<2
PTI-1D	15-Mar-06	N	95-105	289,000	21,500	<5	23,600	2,470,000	134	<5	3,420	<0.5	<2
PE-1	17-Mar-06	N	79-89	261,000	37,400	<5	19,700	2,200,000	277	<5	2,990	<0.5	<2
TW-2D	17-Mar-06	N	113-148	207,000	23,600	<5	13,200	1,240,000	110	<5	1,920	<0.5	<2
TW-3D	17-Mar-06	N	111-156	254,000	27,700	<5	15,900	1,540,000	97.3	<5	2,190	<0.5	<2
Field Blank	17-Mar-06	FB	NA	<1,000	<1,000	<5	<1,000	2,040	<5	<5	<0.5	<0.5	<2
Equipment Blank	17-Mar-06	EB	NA	<1,000	<1,000	<5	<1,000	5,360	<5	<5	<0.5	<0.5	<2

Notes:

ft bgs Feet below ground surface
mg/L Milligrams per liter
µg/L Micrograms per liter
< Symbol indicates not detected at or above laboratory detection limit as noted
EB Equipment blank
FB Field blank
FD Field duplicate
N Normal
Dissolved Samples were field filtered with a 0.45 micron filter

Table 5
Monitoring Information
PG&E Topock
Needles, California

March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-1S	N	PT-01S-20060317	Jessica Ely	3/17/2006	10:15 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
PT-1M	N	PT-01M-20060317	Jessica Ely	3/17/2006	11:15 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

Table 5
Monitoring Information
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March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-1D	N	PT-01D-20060317	Jessica Ely	3/17/2006	12:45 PM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/2/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/2/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

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Monitoring Information
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March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-1D	FD	PT-01D-20060317D	Jessica Ely	3/17/2006	12:00 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/2/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/2/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	TBD
PT-2S	N	PT-02S-20060317	Jessica Ely	3/17/2006	06:40 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/18/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos

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March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-2M	N	PT-02M-20060317	Jessica Ely	3/17/2006	07:55 AM	Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

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March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-2D	N	PT-02D-20060317	Jessica Ely	3/17/2006	09:00 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/2/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/2/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
PT-2D	FD	PT-02D-20060317D	Jessica Ely	3/17/2006	12:00 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos

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PT-3S	N	PT-03S-20060316	Jessica Ely	3/16/2006	02:55 PM	Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/2/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/2/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	TBD
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-3M	N	PT-03M-20060318	Jessica Ely	3/18/2006	07:45 AM	Emax	E300.0	Bromide	3/19/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/23/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/19/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/19/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/18/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/18/2006	Ali Kharrazi
PT-3D	N	PT-03D-20060318	Jessica Ely	3/18/2006	09:30 AM	Emax	E300.0	Bromide	3/19/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/23/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/19/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/19/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/18/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-4S	N	PT-04S-20060315	Jessica Ely	3/15/2006	09:00 AM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/5/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/18/2006	Ali Kharrazi
						Emax	E300.0	Bromide	3/17/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/26/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/17/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/17/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/26/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/15/2006	Jorge Arriaga

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-4M	N	PT-04M-20060315	Jessica Ely	3/15/2006	08:15 AM	Emax	E300.0	Bromide	3/17/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/26/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/20/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/17/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/17/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/26/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/15/2006	Jorge Arriaga
PT-4D	N	PT-04D-20060315	Jessica Ely	3/15/2006	10:30 AM	Emax	E300.0	Bromide	3/17/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/26/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	4/6/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/17/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/26/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

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PT-5S	N	PT-05S-20060316	Jessica Ely	3/16/2006	11:30 AM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/15/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

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PT-5M	N	PT-05M-20060316	Jessica Ely	3/16/2006	12:55 PM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
PT-5D	N	PT-05D-20060316	Jessica Ely	3/16/2006	02:15 PM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-6S	N	PT-06S-20060316	Jessica Ely	3/16/2006	07:30 AM	Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/23/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Emax	E300.0	Nitrate-n	3/23/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/27/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/23/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/19/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/23/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/19/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/28/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/19/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/18/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/31/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot

Table 5
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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PT-6M	N	PT-06M-20060316	Jessica Ely	3/16/2006	09:20 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
PT-6D	N	PT-06D-20060316	Jessica Ely	3/16/2006	10:55 AM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/27/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/27/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/23/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/16/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PTI-1S	N	PTI-01S-20060315	Jessica Ely	3/15/2006	01:15 PM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/17/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/26/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/17/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/17/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/26/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/16/2006	Jorge Arriaga

Table 5
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March 2006 and First Quarter 2006 Monitoring Reports for the Floodplain Reductive Zone In-Situ Pilot Test

Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PTI-1M	N	PTI-01M-20060315	Jessica Ely	3/15/2006	03:20 PM	Emax	E300.0	Bromide	3/17/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/26/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/20/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/17/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/17/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/26/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/16/2006	Jorge Arriaga
PTI-1D	N	PTI-01D-20060315	Jessica Ely	3/15/2006	11:50 AM	Emax	E300.0	Bromide	3/17/2006	Lab_tech_name
						Emax	E300.0	Chloride-cl	3/26/2006	Lab_tech_name
						Severn Trent	E300.0	Iodide	3/20/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/17/2006	Lab_tech_name
						Emax	E300.0	Nitrite-n	4/6/2006	Lab_tech_name
						Emax	E300.0	Orthophosphate-p	3/17/2006	Lab_tech_name
						Emax	E300.0	Sulfate	3/26/2006	Lab_tech_name
						Emax	E310.1	Alkalinity	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/21/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/22/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/15/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

Table 5
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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
PE-1	N	PE-01-20060317	Jessica Ely	3/17/2006	02:45 PM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/30/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/30/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/30/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/30/2006	Jon Elliot
						Emax	SW6020A	Magnesium	3/30/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/30/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/30/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/30/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/16/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/2/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	4/2/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
TW-2D	N	TW-02D-20060317	Jessica Ely	3/17/2006	03:15 PM	Emax	E300.0	Bromide	3/19/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/19/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/19/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
TW-3D	N	TW-03D-20060317	Jessica Ely	3/17/2006	03:00 PM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/28/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/19/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/19/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/28/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						FieldAnalysis	IM-3	Chromium, hexavalent-Field	3/17/2006	
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger

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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
Field Blank	FB	FB-20060317	Jessica Ely	3/17/2006	08:10 AM	Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga
						Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/19/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/19/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

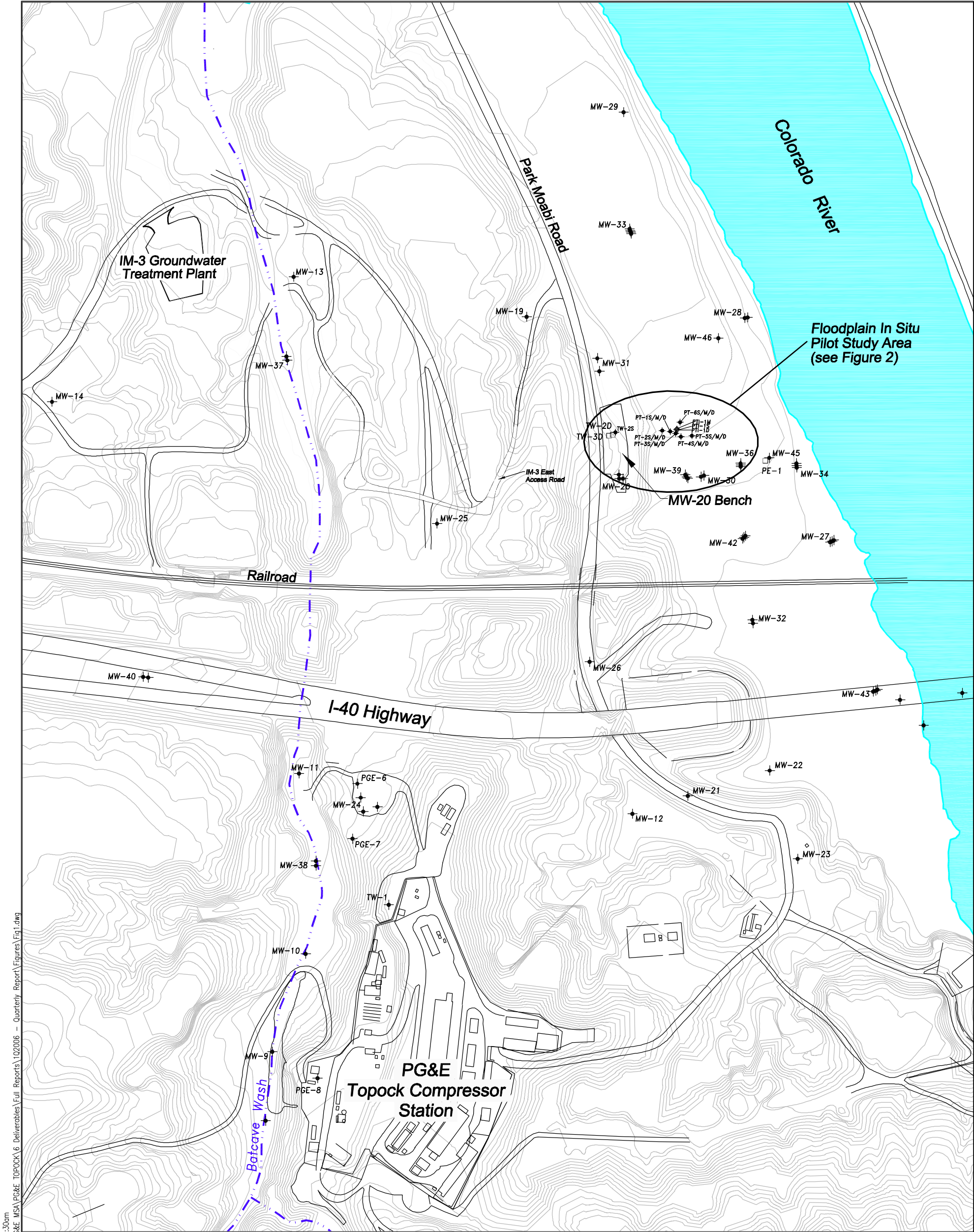
Table 5
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Sample Location	Sample Type	Laboratory Sample ID	Sampler Name	Sample Date	Sample Time	Laboratory	Analysis Method	Parameter	Analysis Date	Lab Technician
Equipment Blank	EB	EB-20060317	Jessica Ely	3/17/2006	01:15 PM	Emax	E300.0	Bromide	3/18/2006	Cherry Dam
						Emax	E300.0	Chloride-cl	3/19/2006	Cherry Dam
						Severn Trent	E300.0	Iodide	3/22/2006	Kristen Sporleder
						Emax	E300.0	Nitrate-n	3/18/2006	Cherry Dam
						Emax	E300.0	Nitrite-n	3/18/2006	Cherry Dam
						Emax	E300.0	Orthophosphate-p	3/18/2006	Cherry Dam
						Emax	E300.0	Sulfate	3/19/2006	Cherry Dam
						Emax	E310.1	Alkalinity	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity bicarbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E310.1	Alkalinity carbonate	3/24/2006	Romy Marasigan / Jin Liu
						Emax	E376.1	Sulfide	3/22/2006	Kam Ng
						Emax	E415.1	Total Organic Carbon	3/23/2006	Jay Kim
						Ozark	OHM In-House Method	Fluorescein	3/23/2006	Margaret Ridinger
						Emax	SW6010B	Iron-Total	3/24/2006	Gwen Ramos
						Emax	SW6020A	Arsenic	3/31/2006	Jon Elliot
						Emax	SW6020A	Calcium	3/31/2006	Jon Elliot
						Emax	SW6020A	Chromium	3/31/2006	Jon Elliot
						Emax	SW6020A	Iron-Dissolved	3/31/2006	Jon Elliot
						Emax	SW6020A	Magnesium	4/6/2006	Jon Elliot
						Emax	SW6020A	Manganese	3/31/2006	Jon Elliot
						Emax	SW6020A	Potassium	3/31/2006	Jon Elliot
						Emax	SW6020A	Sodium	3/31/2006	Jon Elliot
						Truesdail	SW7199	Chromium, hexavalent	3/17/2006	Jorge Arriaga

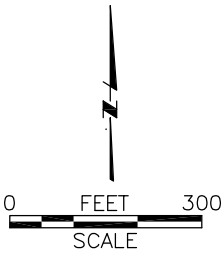
Notes:

N	Normal
EB	Equipment blank
FB	Field blank
FD	Field duplicate
Emax	Emax Laboratories, Inc
Severn Trent	Severn Trent Laboratories, Inc.
Ozark	Ozark Underground Laboratory
Truesdail	Truesdail Laboratory

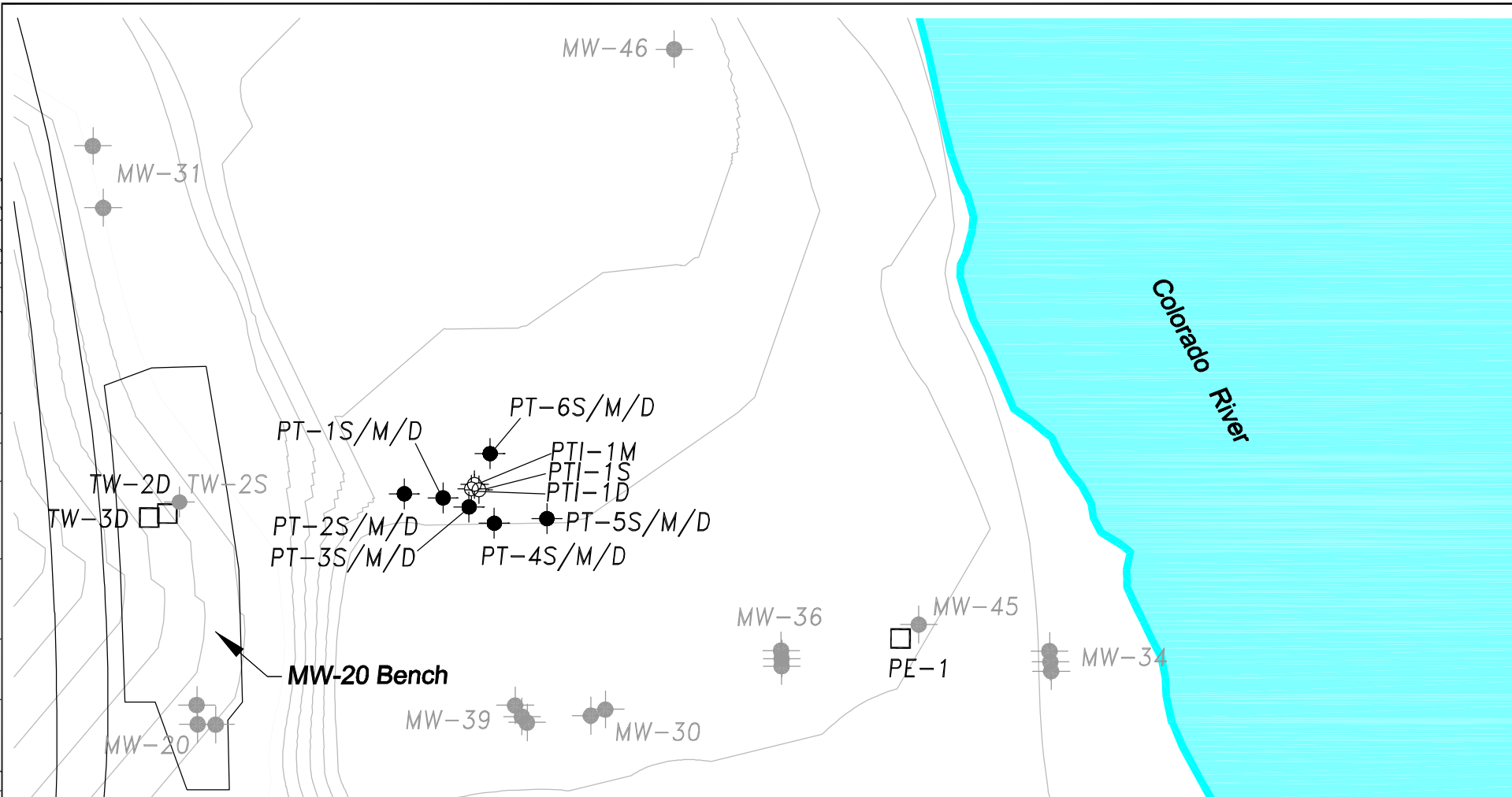


Source: MWH Draft In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan, Upland Plume Treatment, 2006.

- Legend**
- Monitoring Well Locations
 - Extraction Well Locations
 - Injection Well Locations



Project Director N. MORGAN-BUTCHER Task Manager H. VOSCOTT Drawing Date 05 APR 06		Area Manager J. PETERS Technical Review Drawn By M. CHIU		 ARCADIS G&M, Inc. 1050 Marina Way South Richmond, CA 94804 Tel: 510-233-3200 Fax: 510-233-3204 www.arcadis-us.com SITE PLAN PG&E TOPOCK FACILITY NEEDLES, CALIFORNIA	Project Number RC000689.0001 Figure 1	
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Source: MWH Draft In-Situ Hexavalent Chromium Reduction Pilot Test Work Plan, Upland Plume Treatment, 2006.

Legend

- Monitoring Well Locations
- Extraction Well Locations
- Injection Well Locations



0 FEET 100
SCALE

Project Director N. MORGAN-BUTCHER	Area Manager J. PETERS	 ARCADIS G&M, Inc. 1050 Marina Way South Richmond, CA 94804 Tel: 510-233-3200 Fax: 510-233-3204 www.arcadis-us.com	SAMPLE LOCATION MAP PG&E TOPOCK FACILITY NEEDLES, CALIFORNIA	Project Number RC000689.0001
Task Manager H. VOSCOTT	Technical Review			Figure 2
Drawing Date 05 APR 06	Drawn By M. CHIU			

Appendix A

Boring Logs/Well Construction Forms

LOG OF BORING PT-1

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

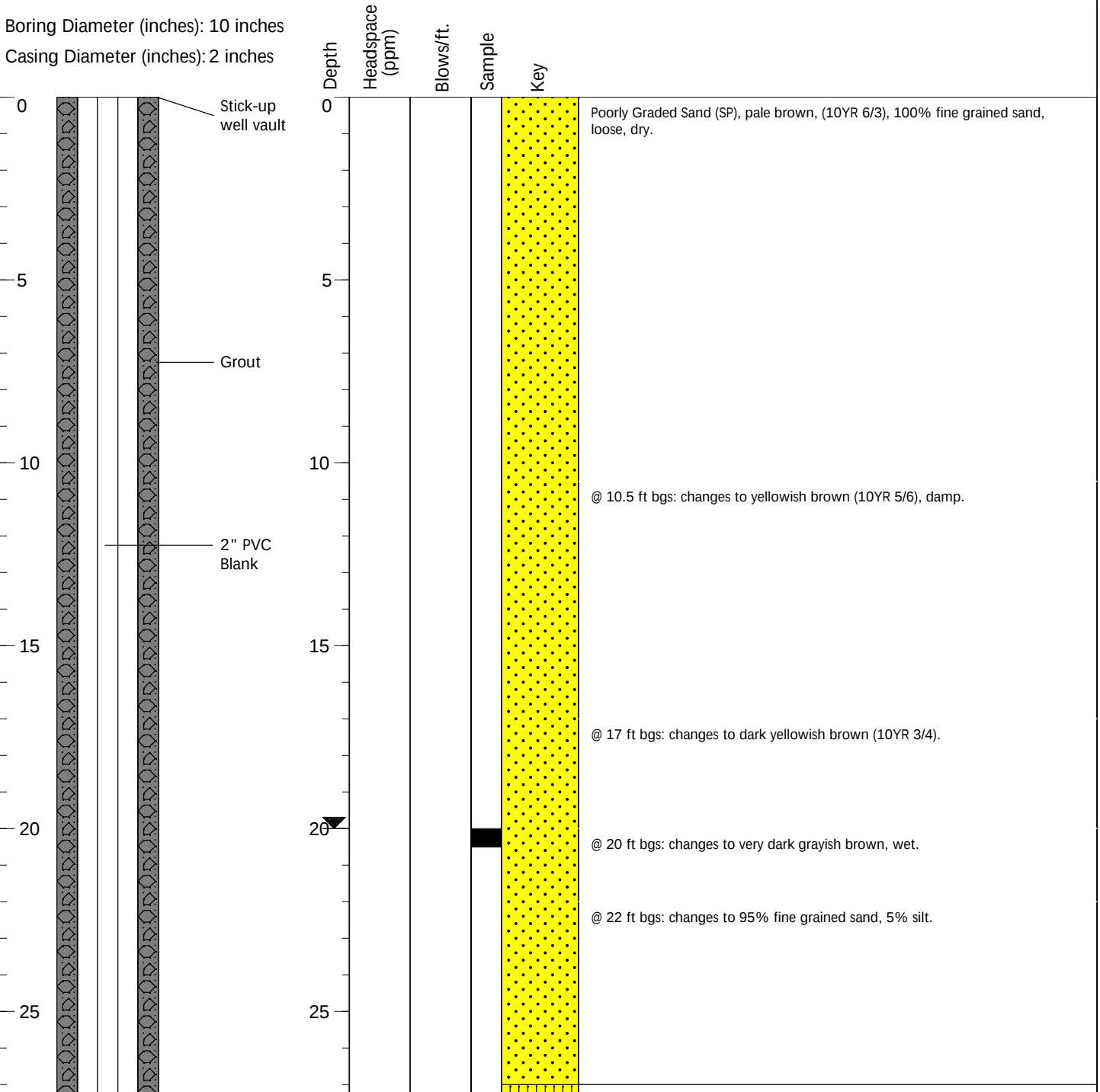
Project No.: RC000689.0001 Date Started: 31 January 2006
Logged by: J. Ely Date Completed: 31 January 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010013 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

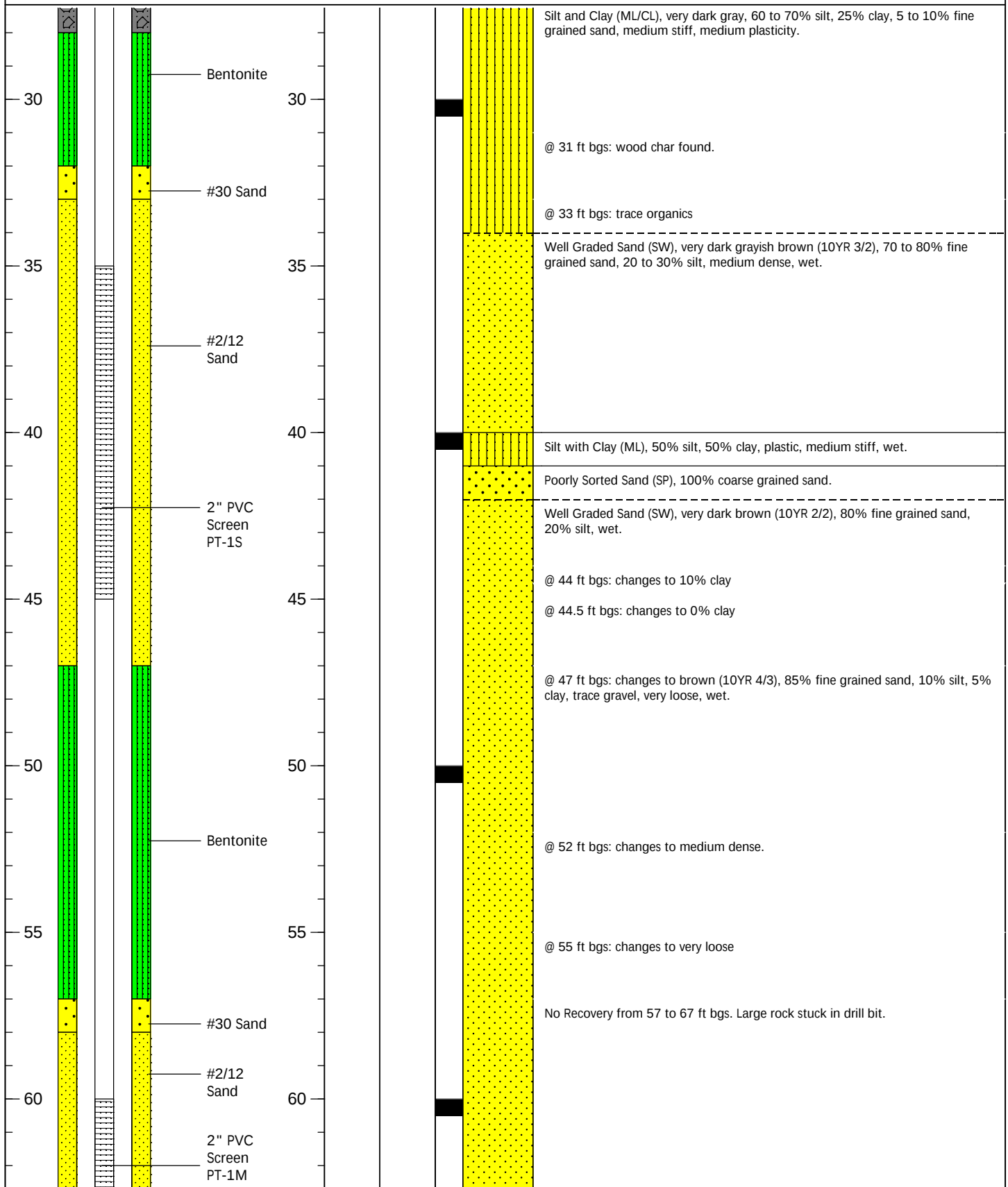
Casing Diameter (inches): 2 inches



LOG OF BORING PT-1 (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

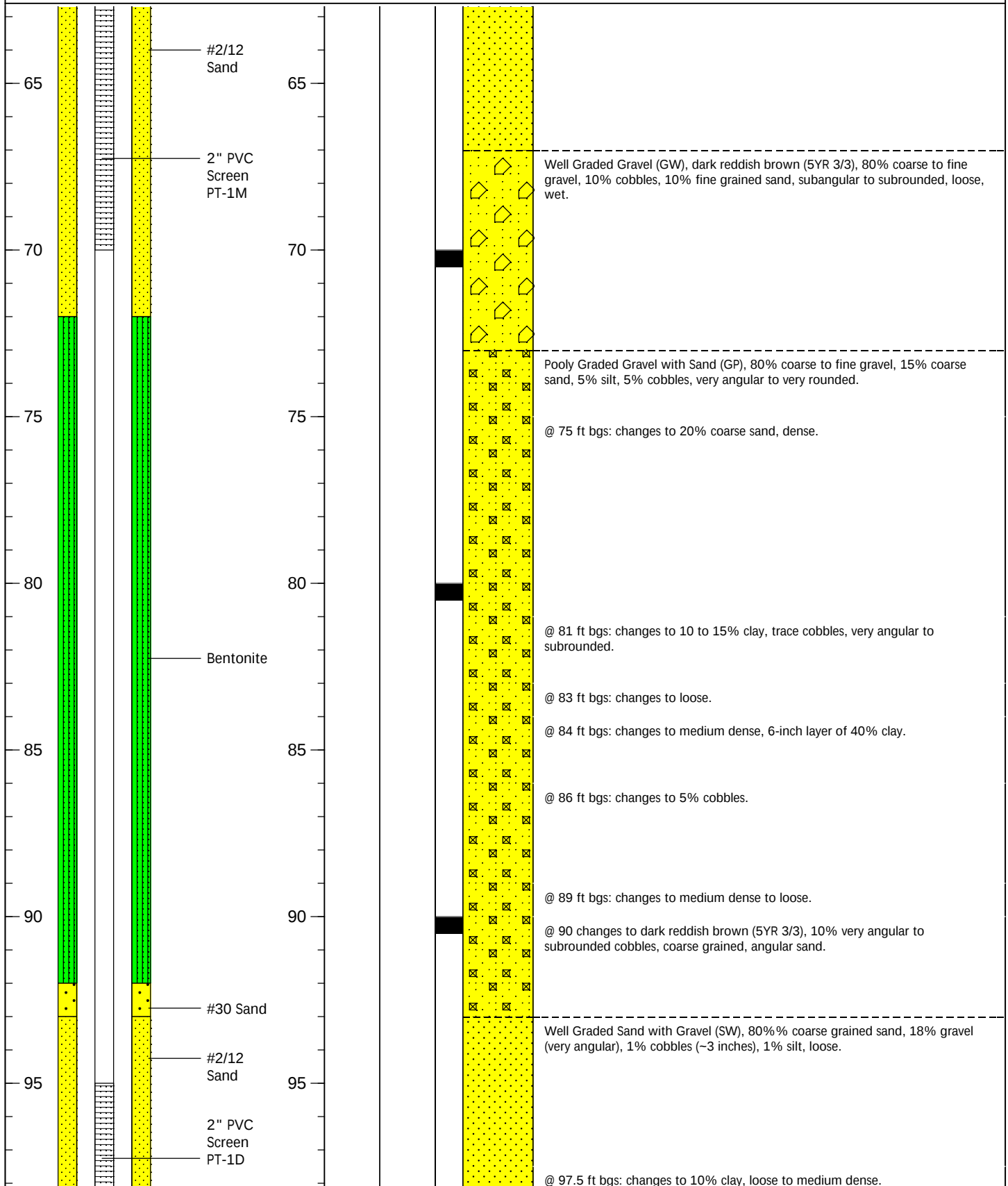


LOG OF BORING PT-1 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

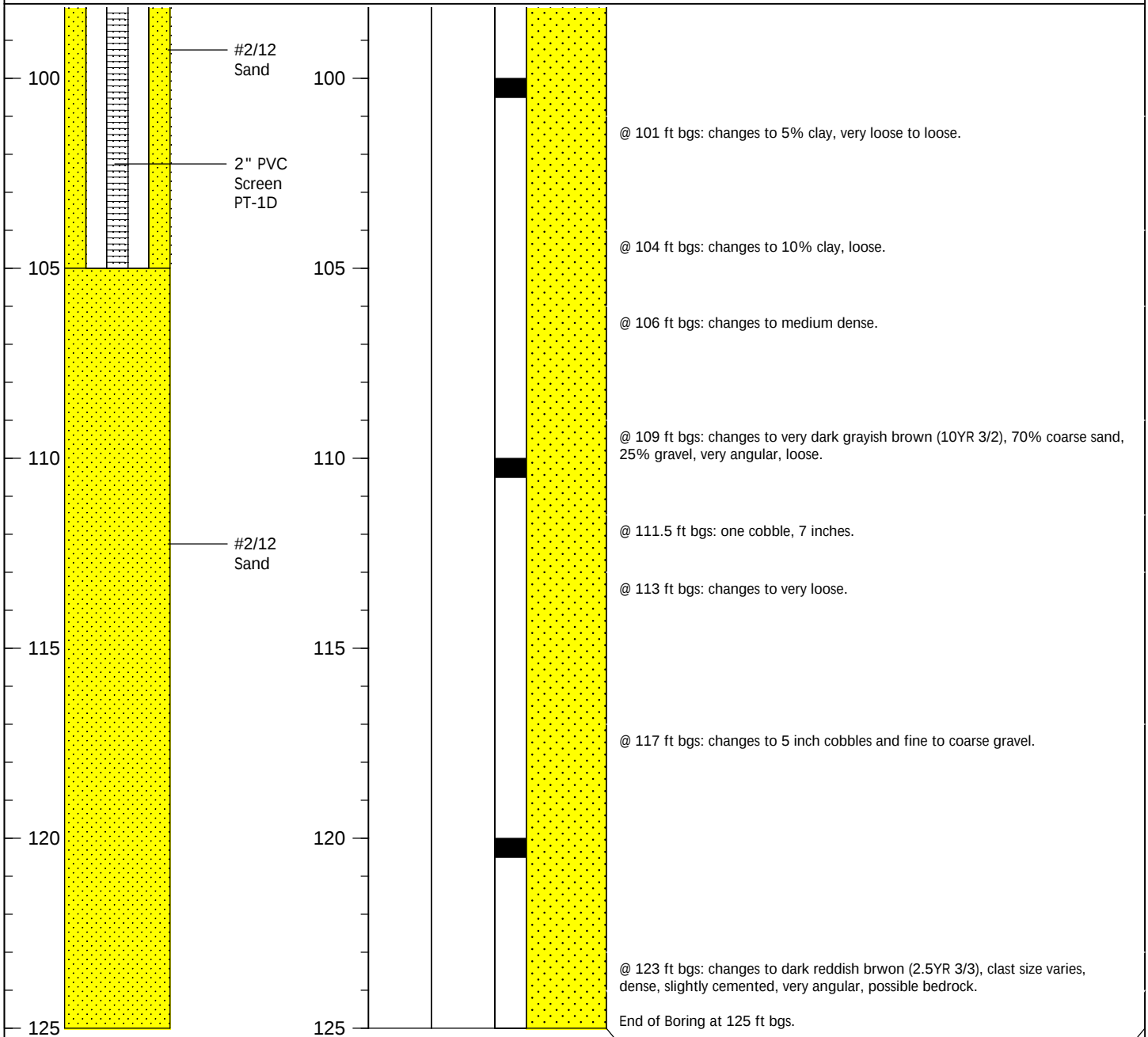


LOG OF BORING PT-1 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-2

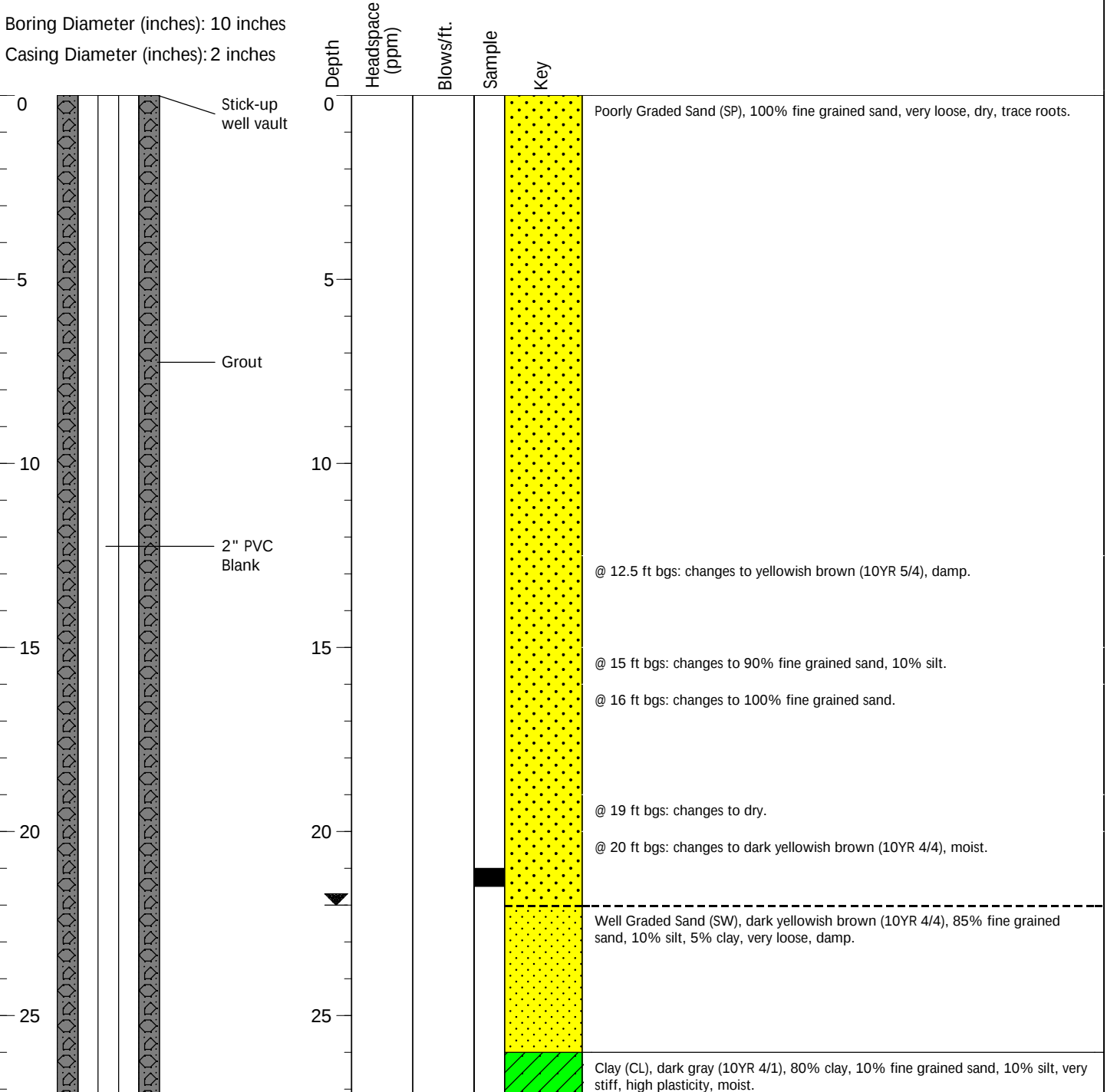
PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

Project No.: RC000689.0001 Date Started: 7 February 2006
Logged by: J. Ely Date Completed: 8 February 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010012 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

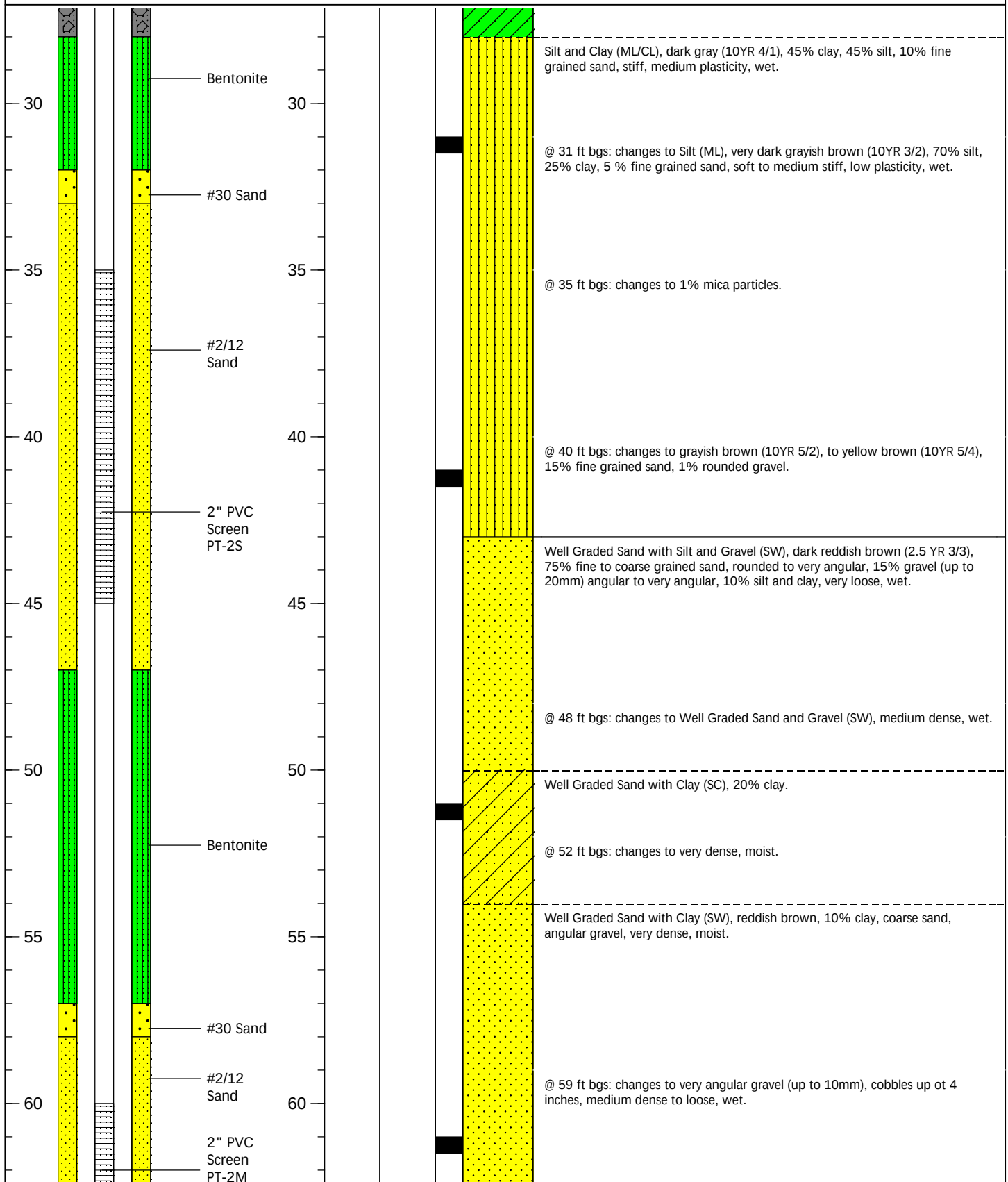
Boring Diameter (inches): 10 inches
Casing Diameter (inches): 2 inches



LOG OF BORING PT-2 (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

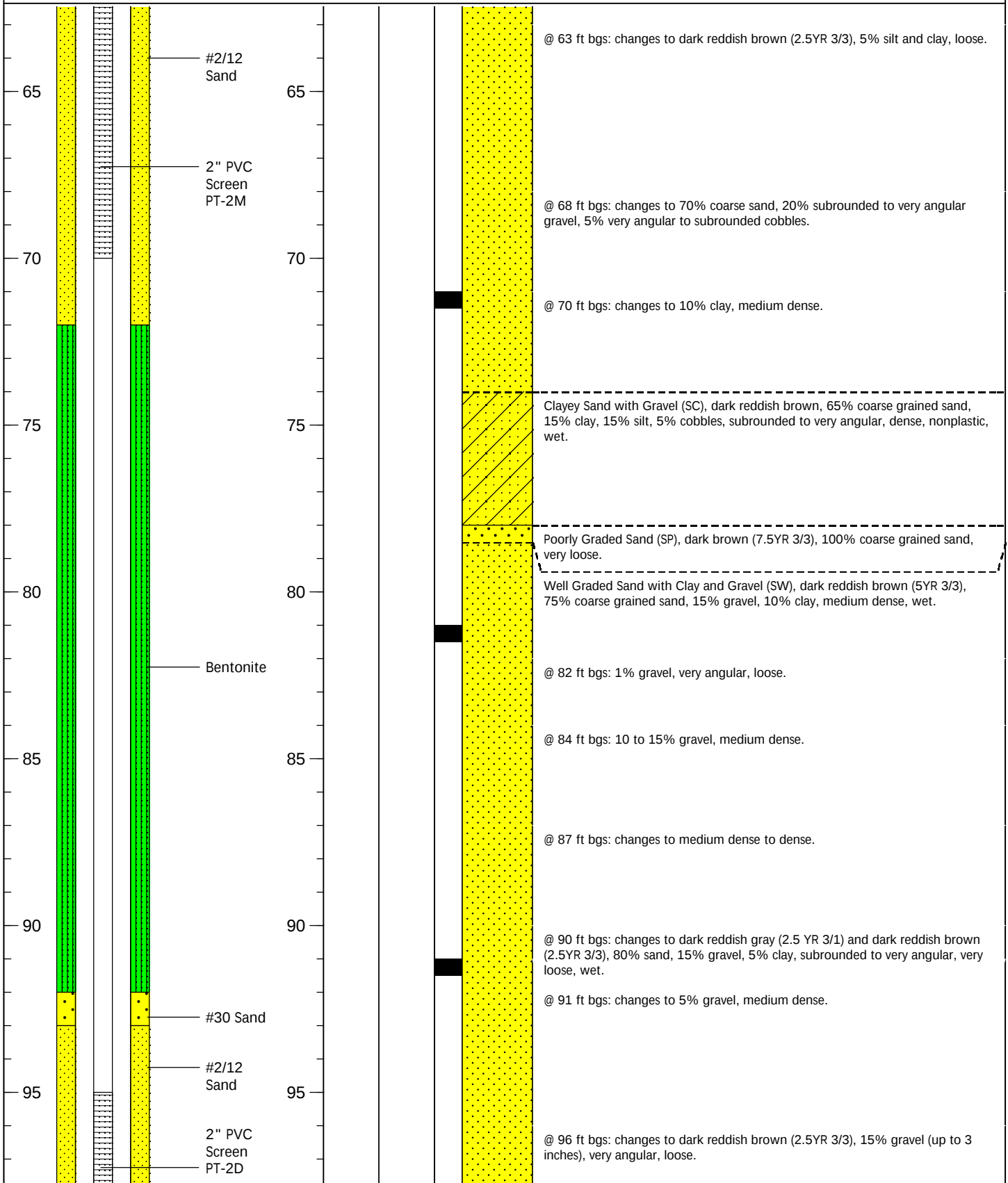


LOG OF BORING PT-2 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

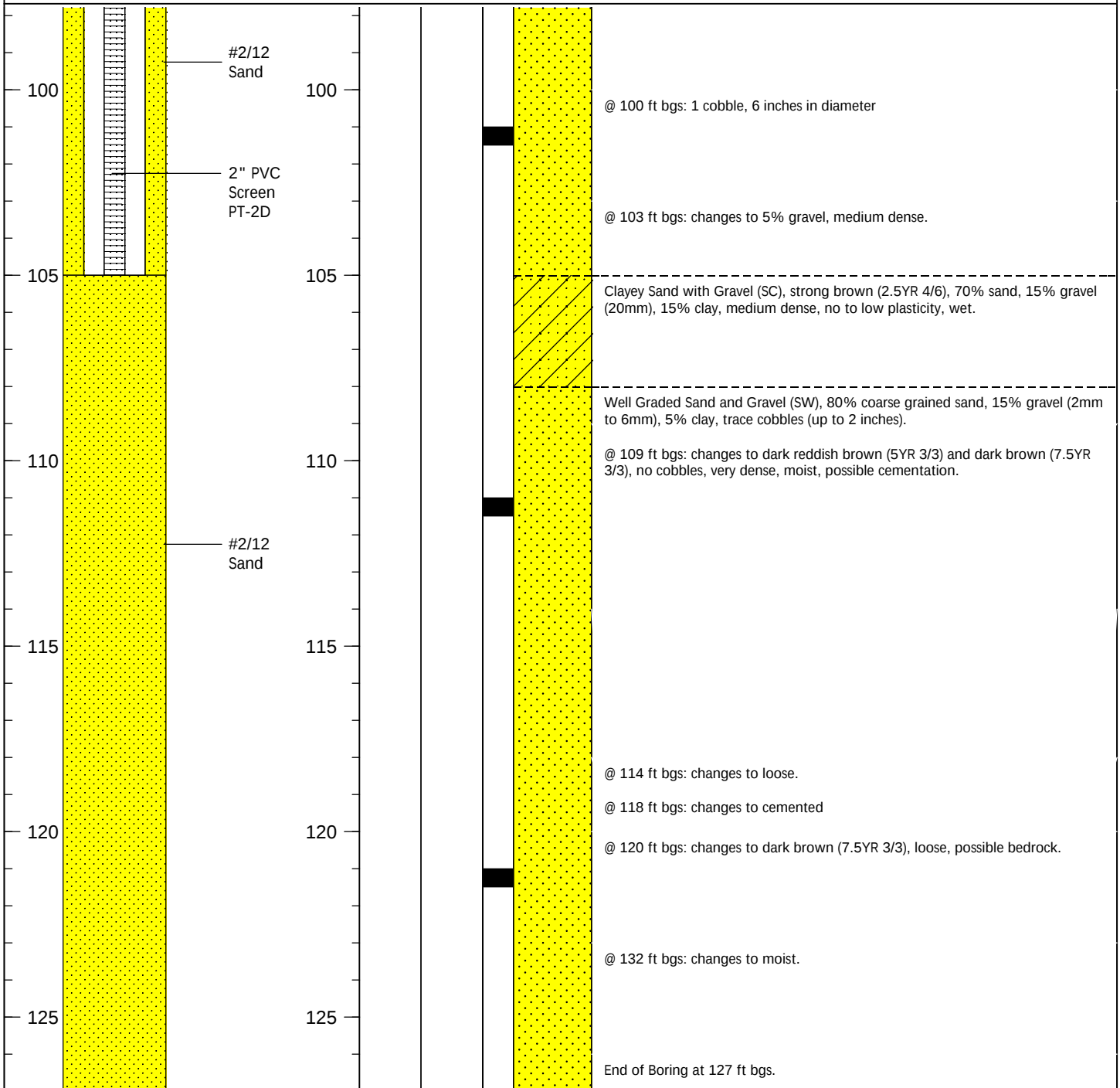


LOG OF BORING PT-2 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-3

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

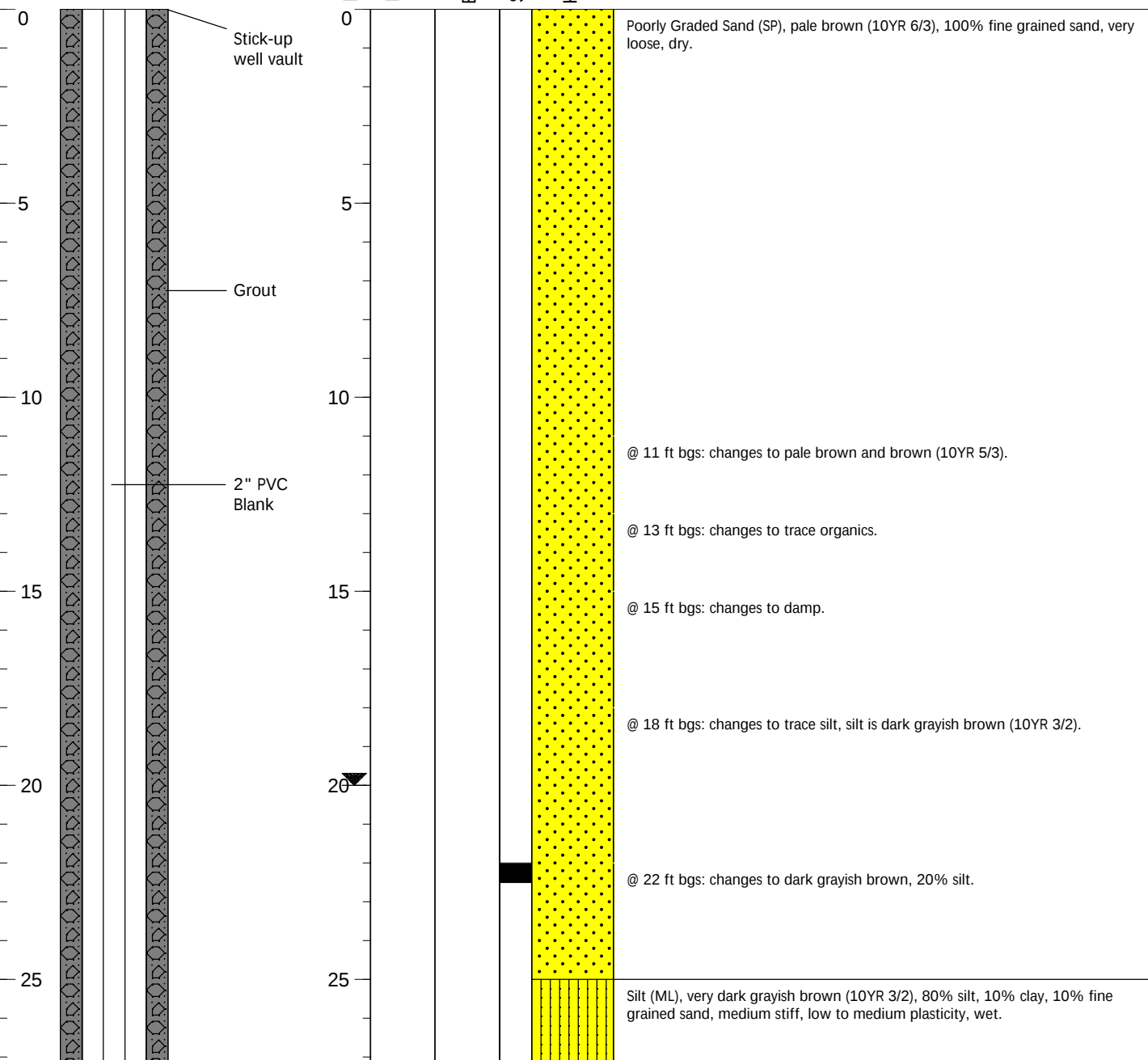
Project No.: RC000689.0001 Date Started: 13 Feb 2006
Logged by: J. Ely Date Completed: 14 Feb 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010011 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

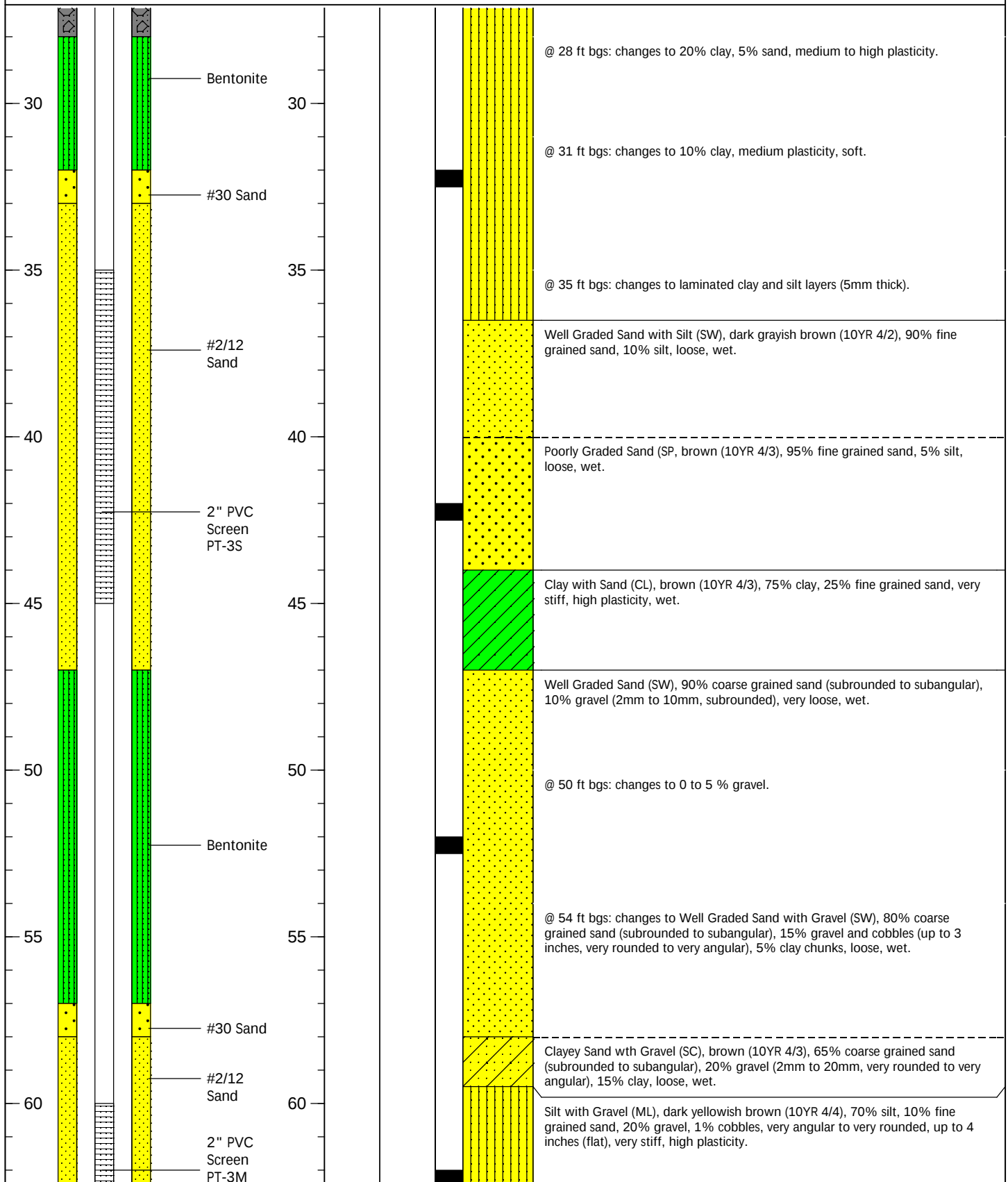
Casing Diameter (inches): 2 inches



LOG OF BORING PT-3 (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

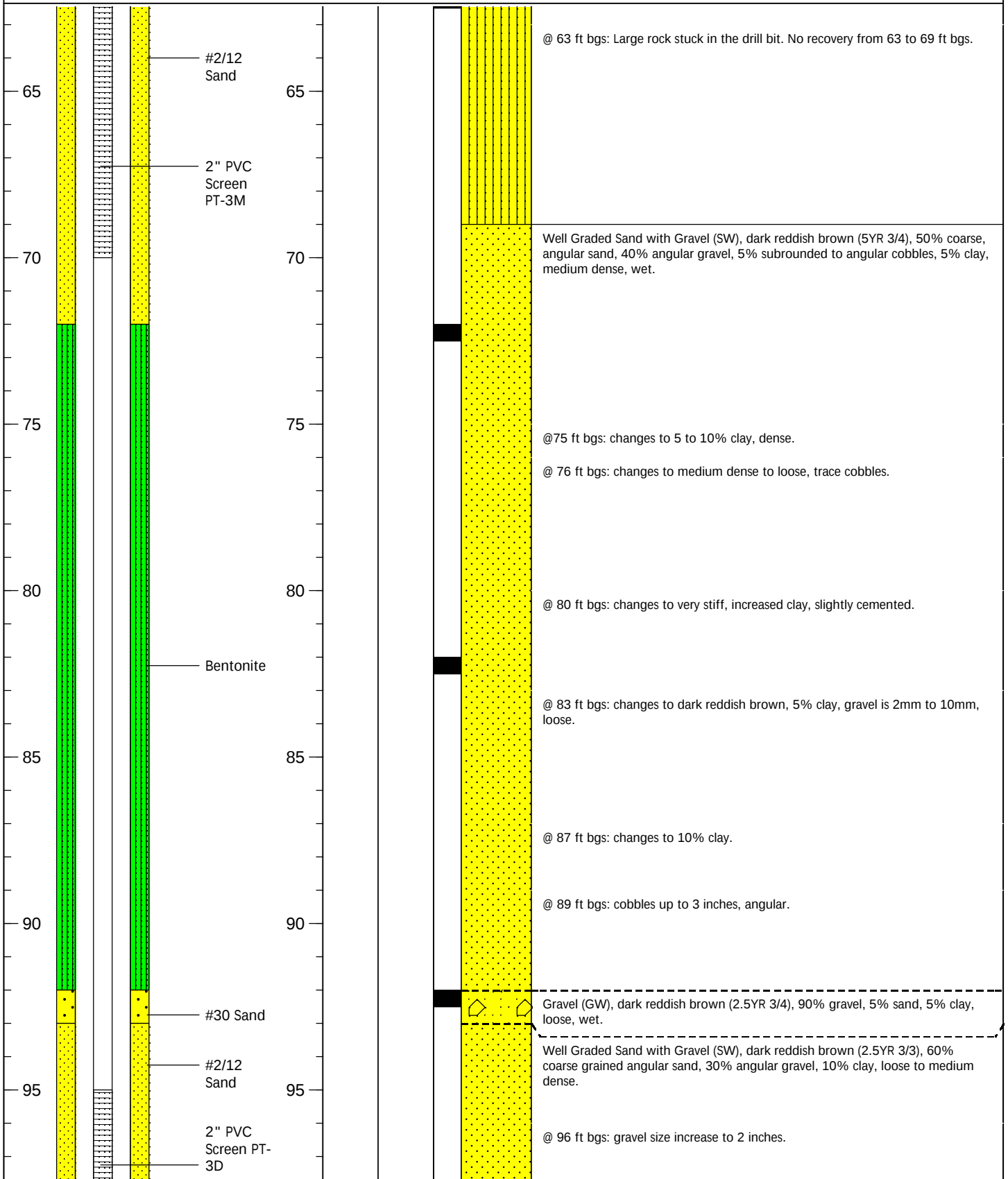


LOG OF BORING PT-3 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



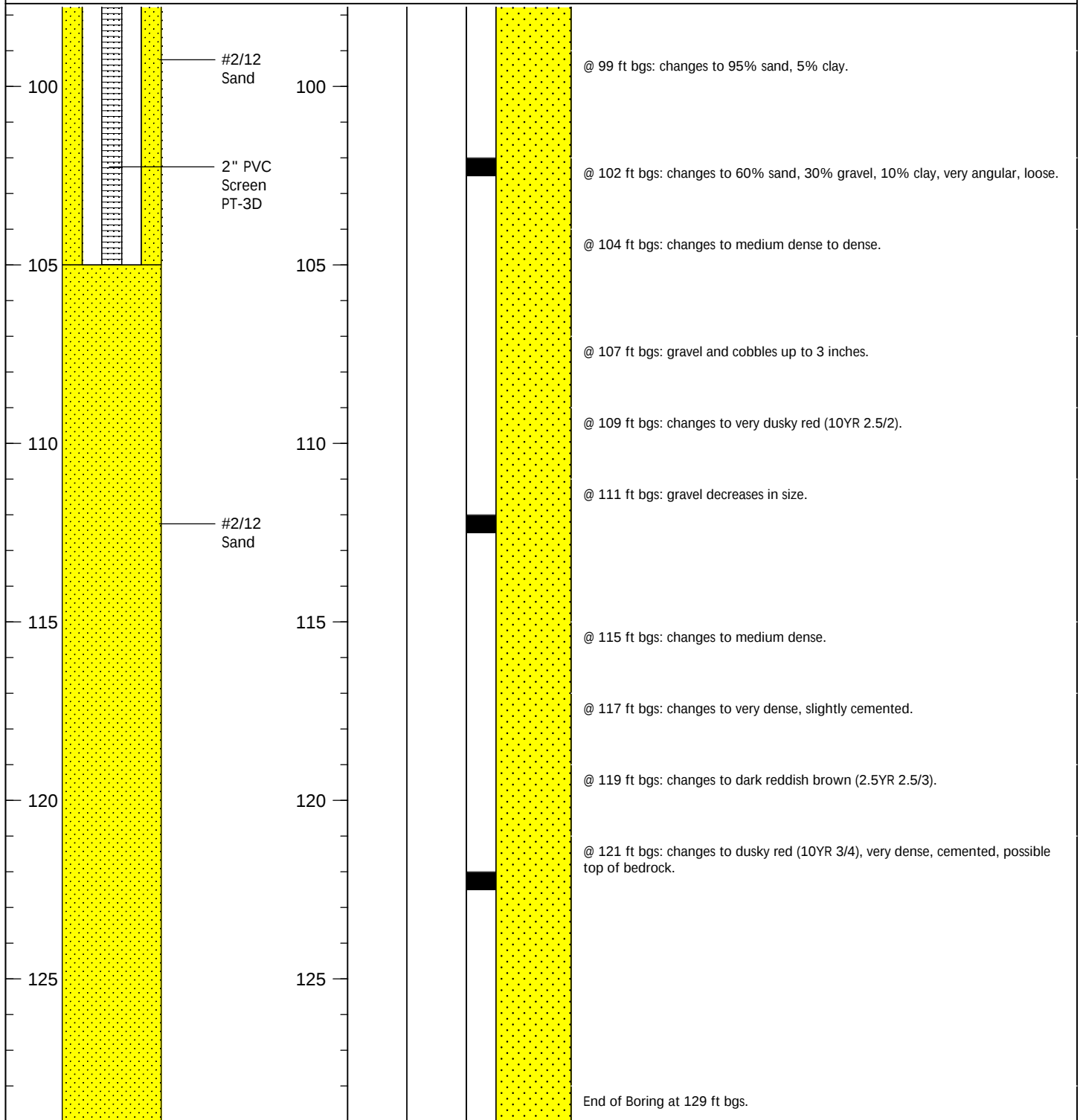
LOG OF BORING PT-3

(Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-4

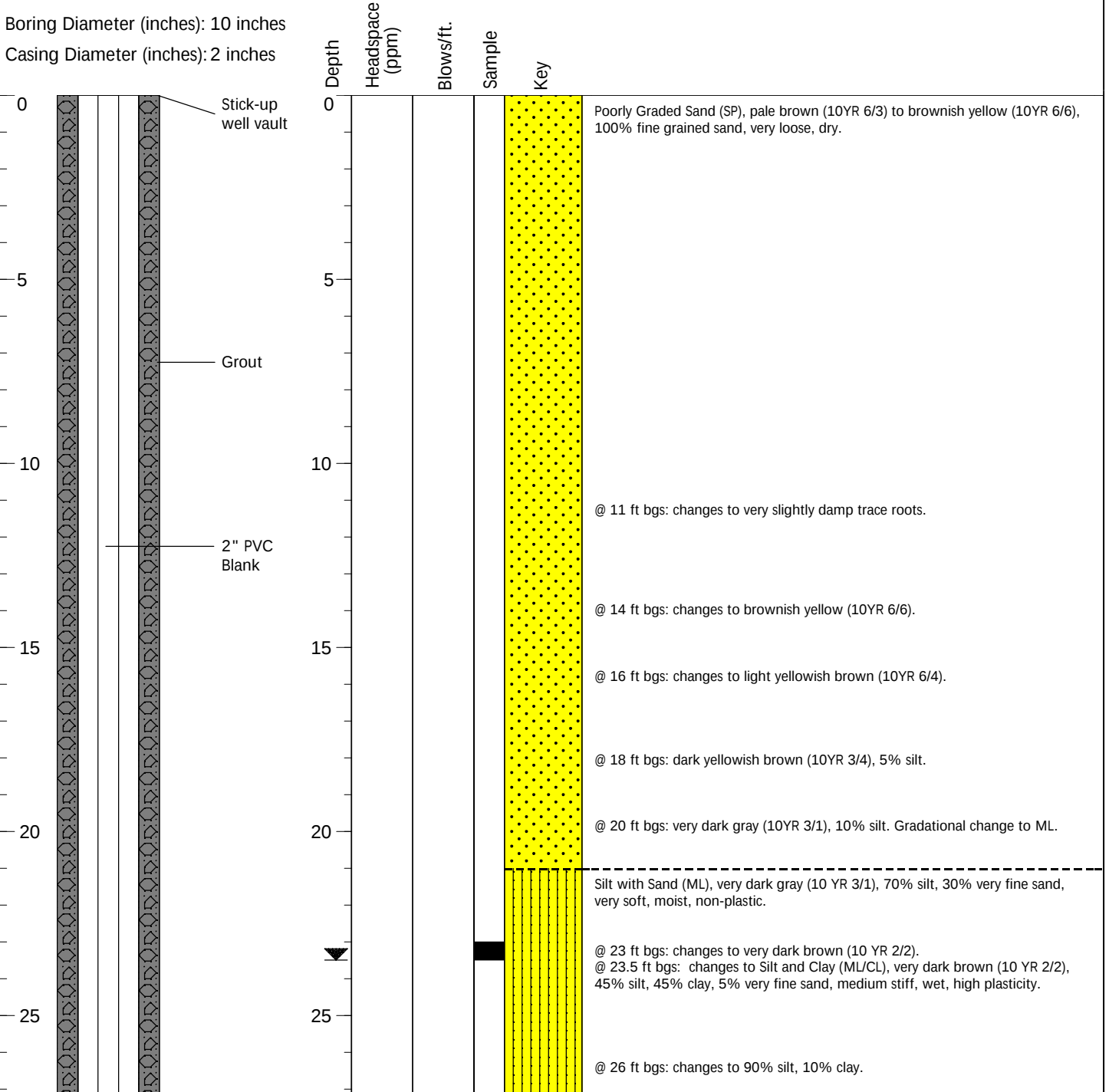
PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

Project No.: RC000689.0001 Date Started: 11 Feb 2006
Logged by: J. Ely Date Completed: 12 Feb 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010010 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches
Casing Diameter (inches): 2 inches



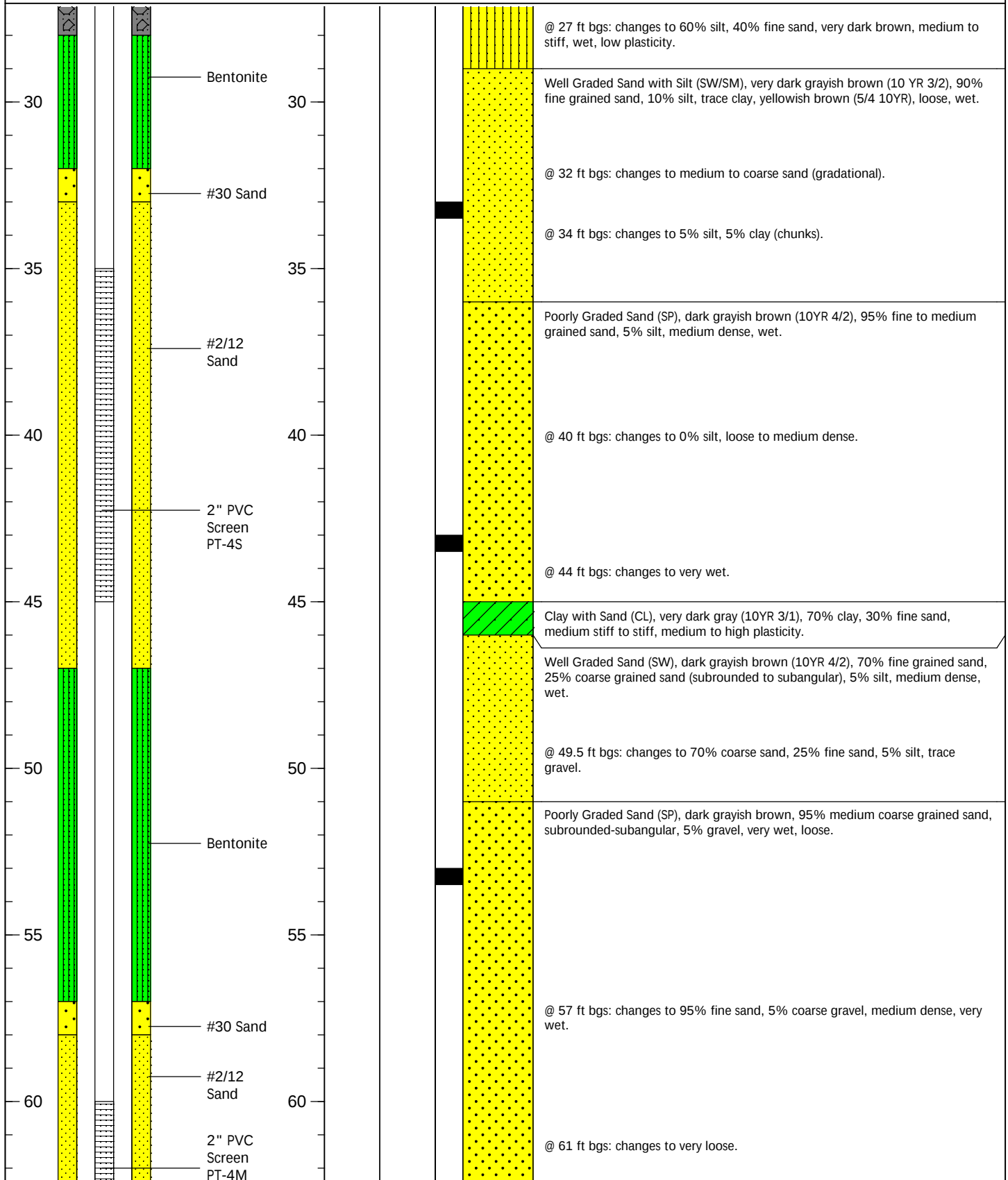
LOG OF BORING PT-4

(Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

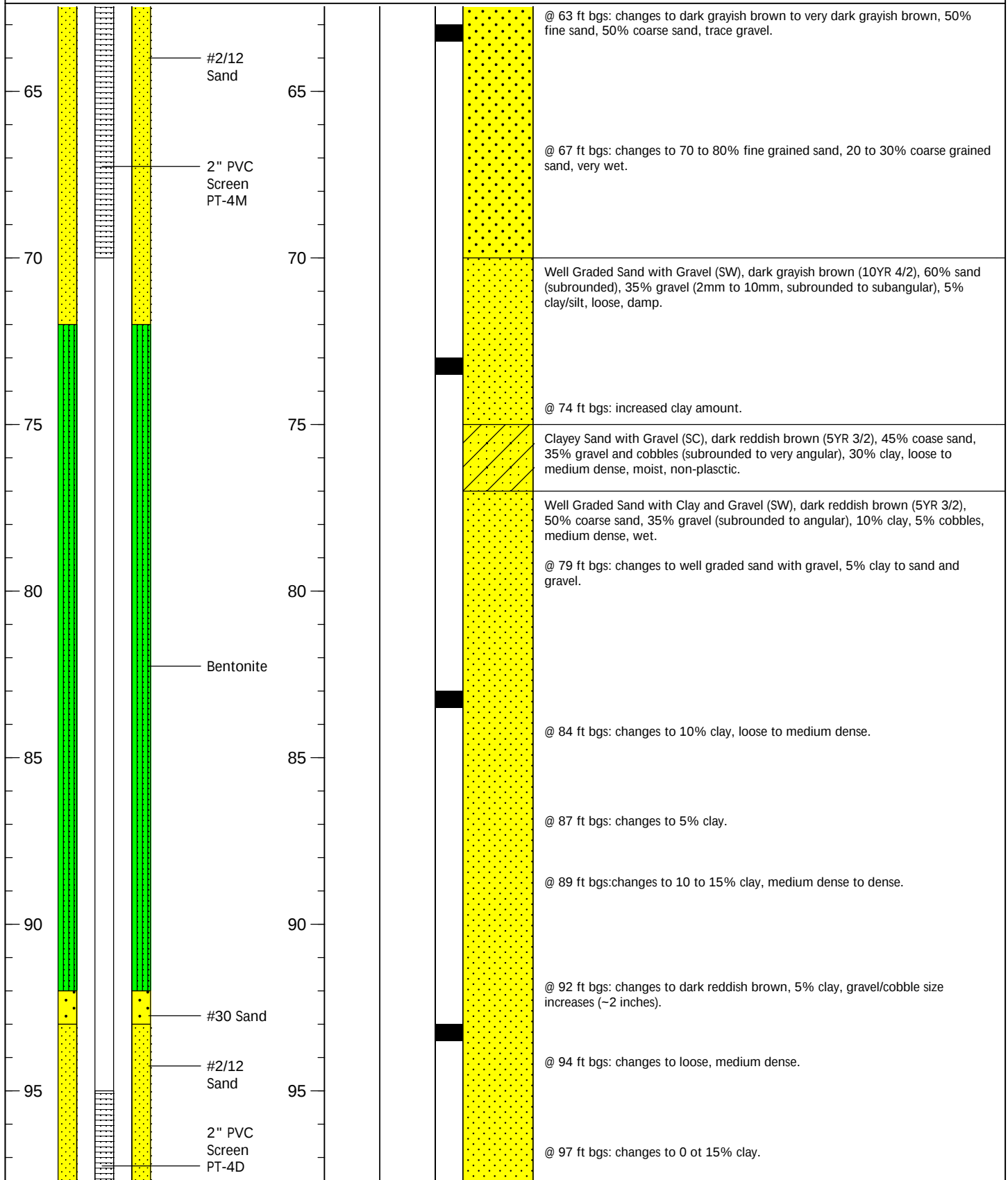


LOG OF BORING PT-4 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



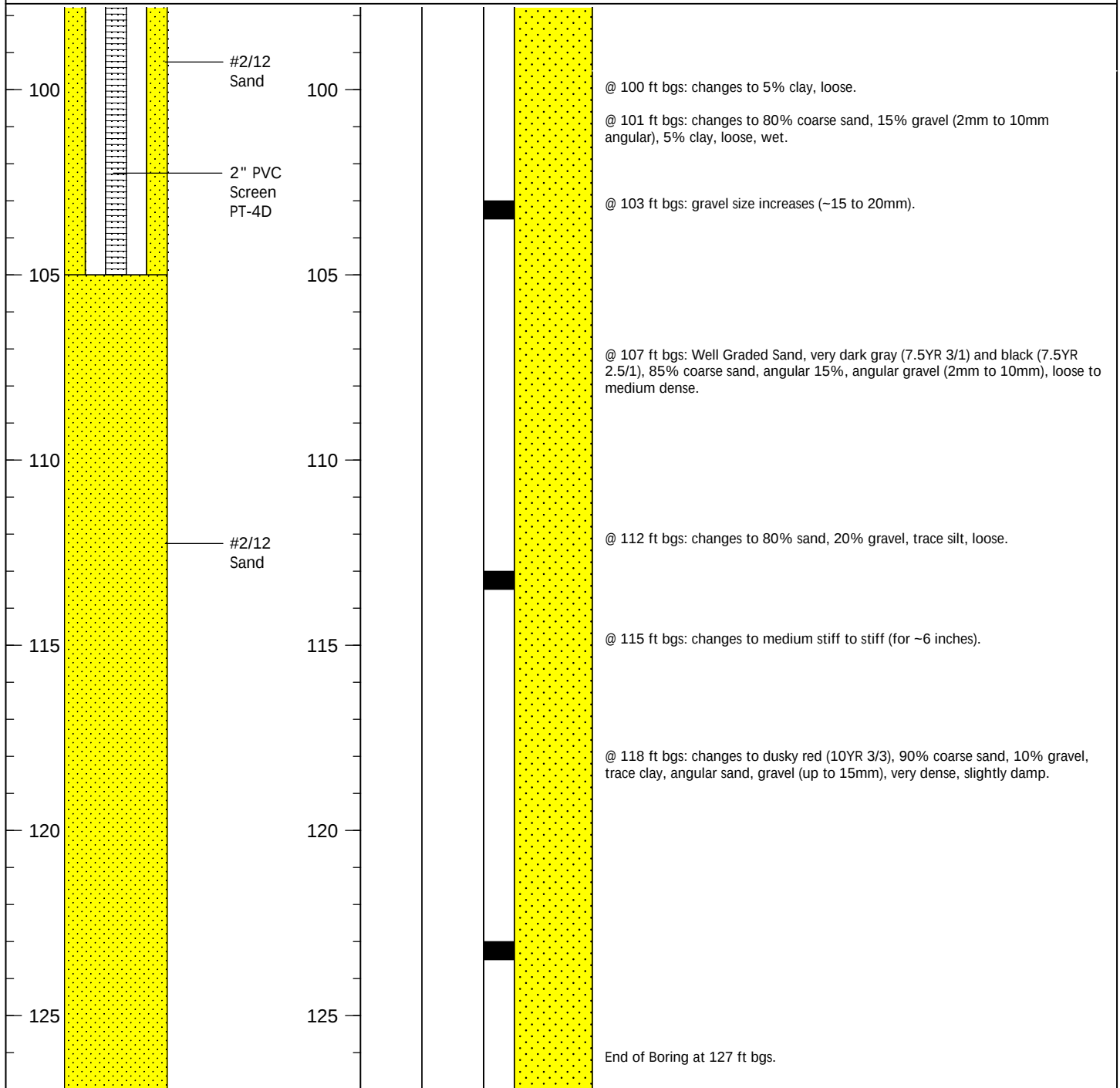
LOG OF BORING PT-4

(Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-5

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

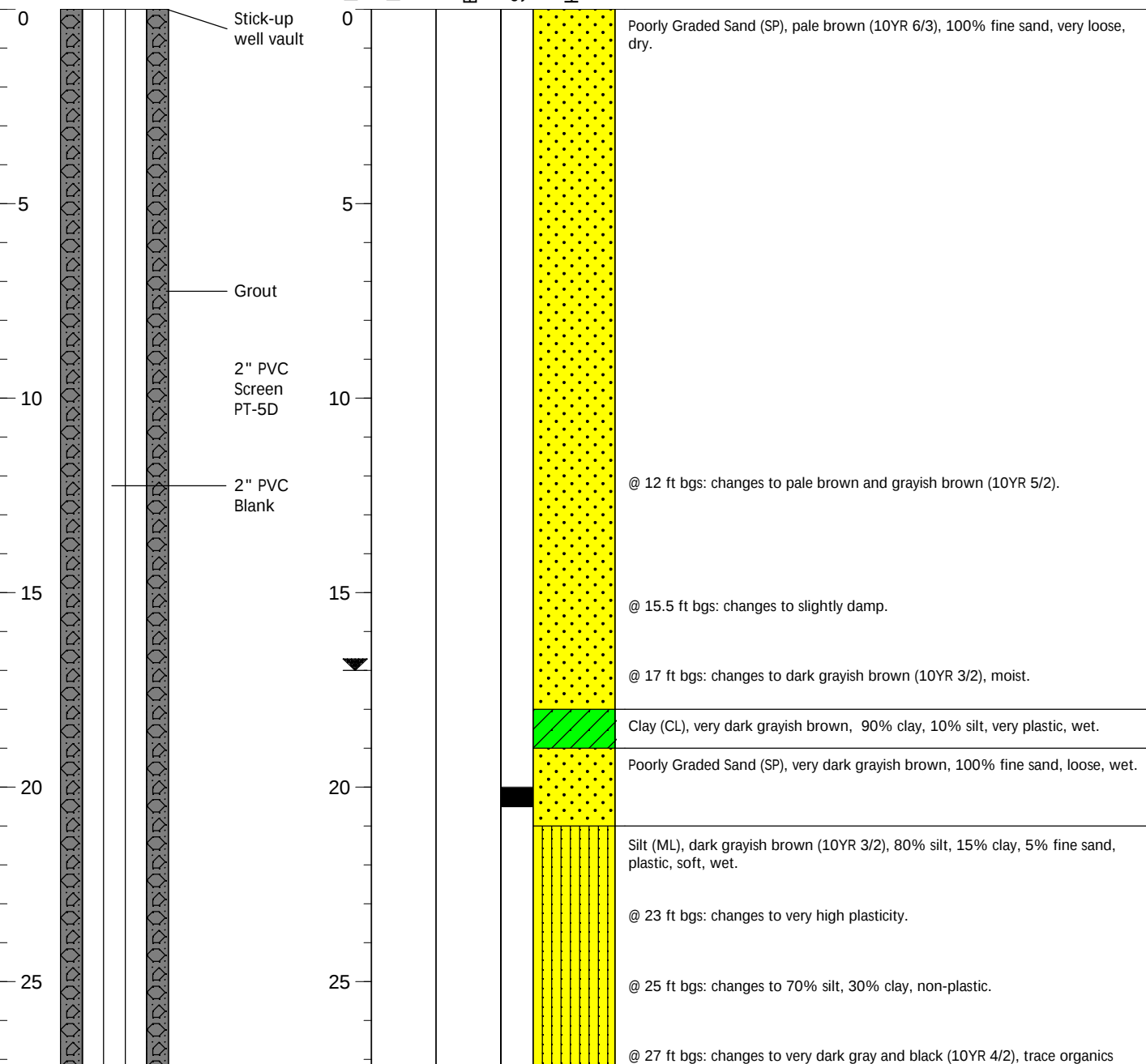
Project No.: RC000689.0001 Date Started: 9 Feb 2006
Logged by: J. Ely Date Completed: 10 Feb 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010009 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

Casing Diameter (inches): 2 inches



LOG OF BORING PT-5 (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

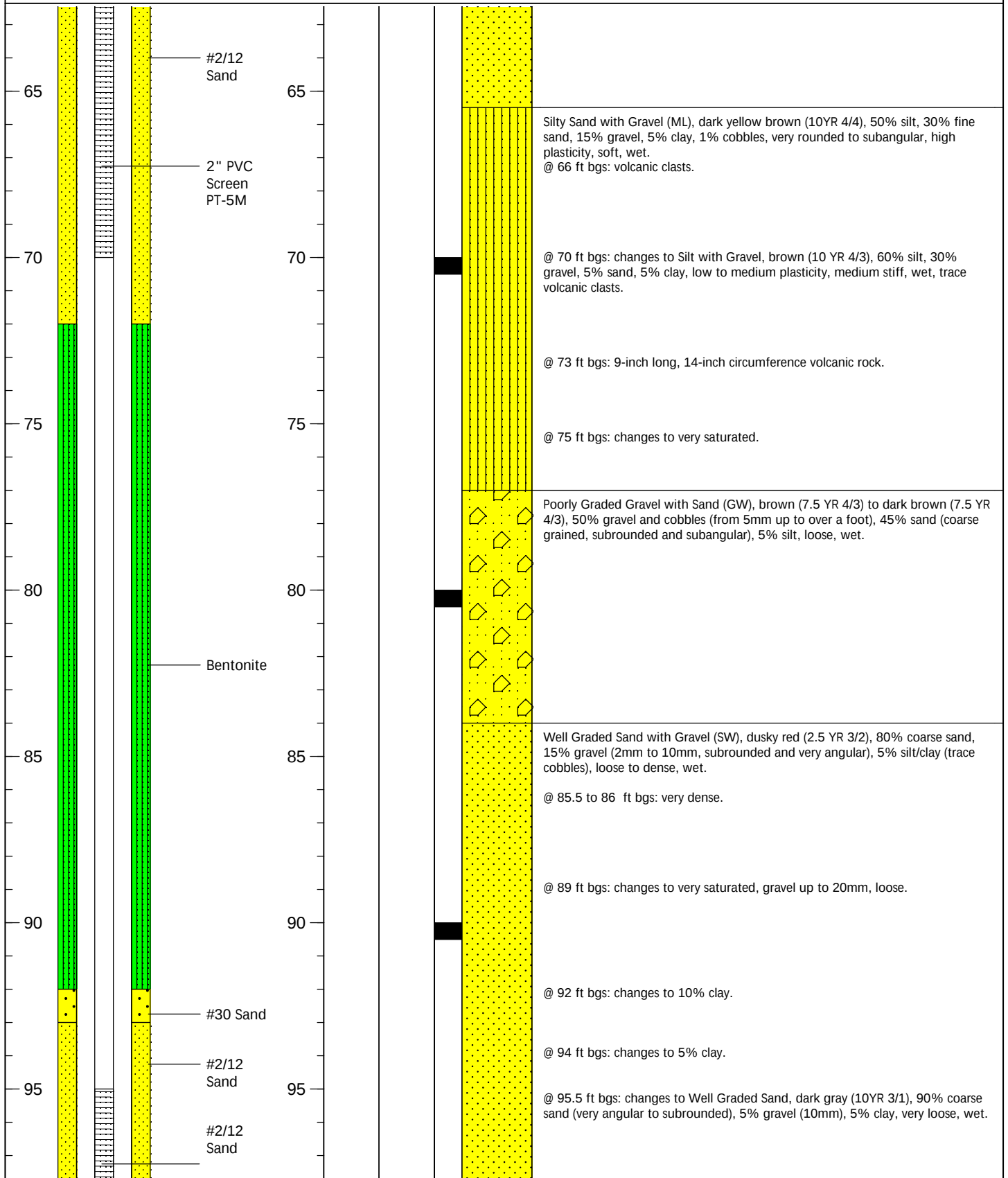
	Depth	Headspace (ppm)	Blows/ft.	Sample	Key	
						(roots), medium soft.
	30					Poorly Graded Sand (SP), dark grayish brown (10YR 4/2), 95% fine grained sand, 5% silt, loose, wet.
	35					Well Graded Sand with Silt (SW), dark grayish brown (10YR 4/2), 90% fine sand, 5% silt, 5% clay, loose, wet.
	40					@ 37 ft bgs: changes to the 5% clay (chunks), very loose.
	45					Sandy Clay (CL), very dark grayish brown (10YR 3/2), 80% clay, 20% fine sand, plastic, wet.
	50					Poorly Graded Sand (SP), dark grayish brown (10YR 4/2), 90% fine grained sand, 9% silt, 1% gravel (10mm rounded).
	55					@ 48 ft bgs: increases to coarse grained sand, subrounded, yellowish brown (10YR 5/4).
	60					@ 52 ft bgs: 6-inch layer of Sandy Clay (CL).
						Well Graded Gravel with Sand (GW), brown (10YR 4/3), 50% sand (subrounded to subangular), 30% gravel, 15% cobbles (subrounded to subangular, up to 5 inches), 5% silt, loose, wet.
						Well Graded Sand with Gravel (SW), yellowish brown (10YR 4/4), 80% coarse grained sand, 15% gravel (subrounded to subangular, 20mm), 5% cobbles (subrounded to subangular, up to 4 inches), very loose, wet.
						@ 63 ft bgs: changes to 5% clay (chunks).

LOG OF BORING PT-5 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

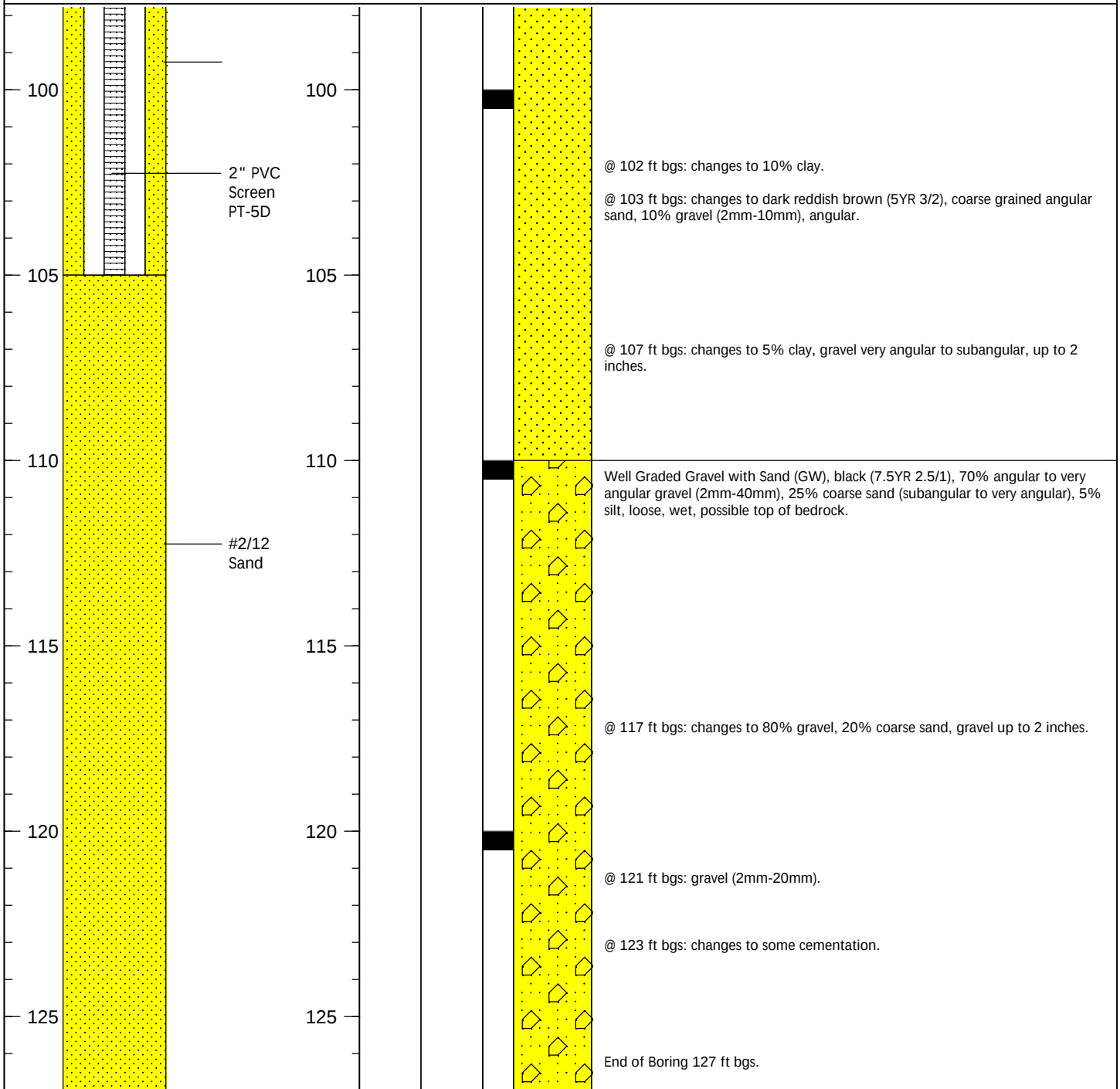


LOG OF BORING PT-5 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-6

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

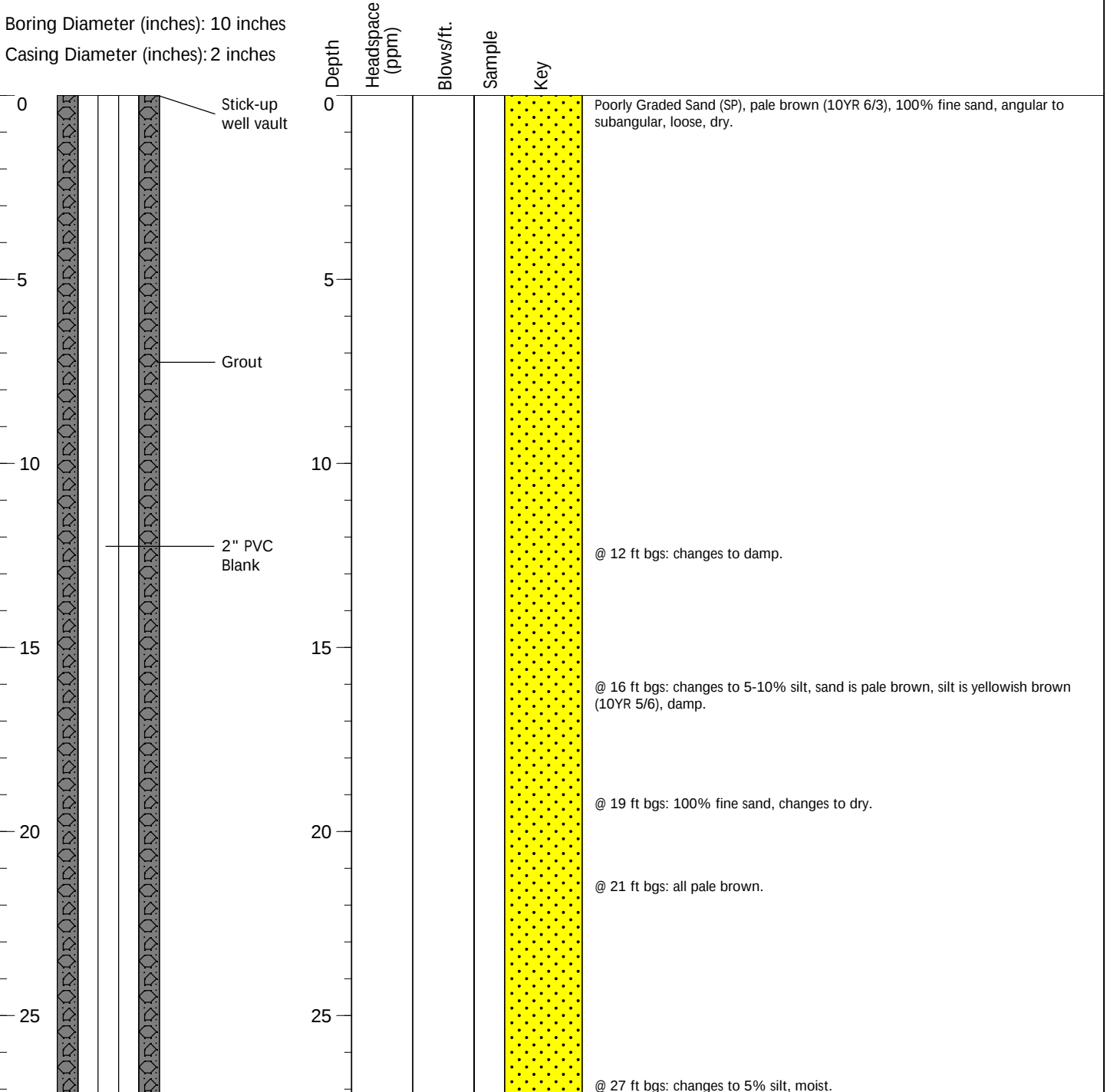
Project No.: RC000689.0001 Date Started: 28 Jan 2006
Logged by: J. Ely Date Completed: 28 Jan 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010008 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

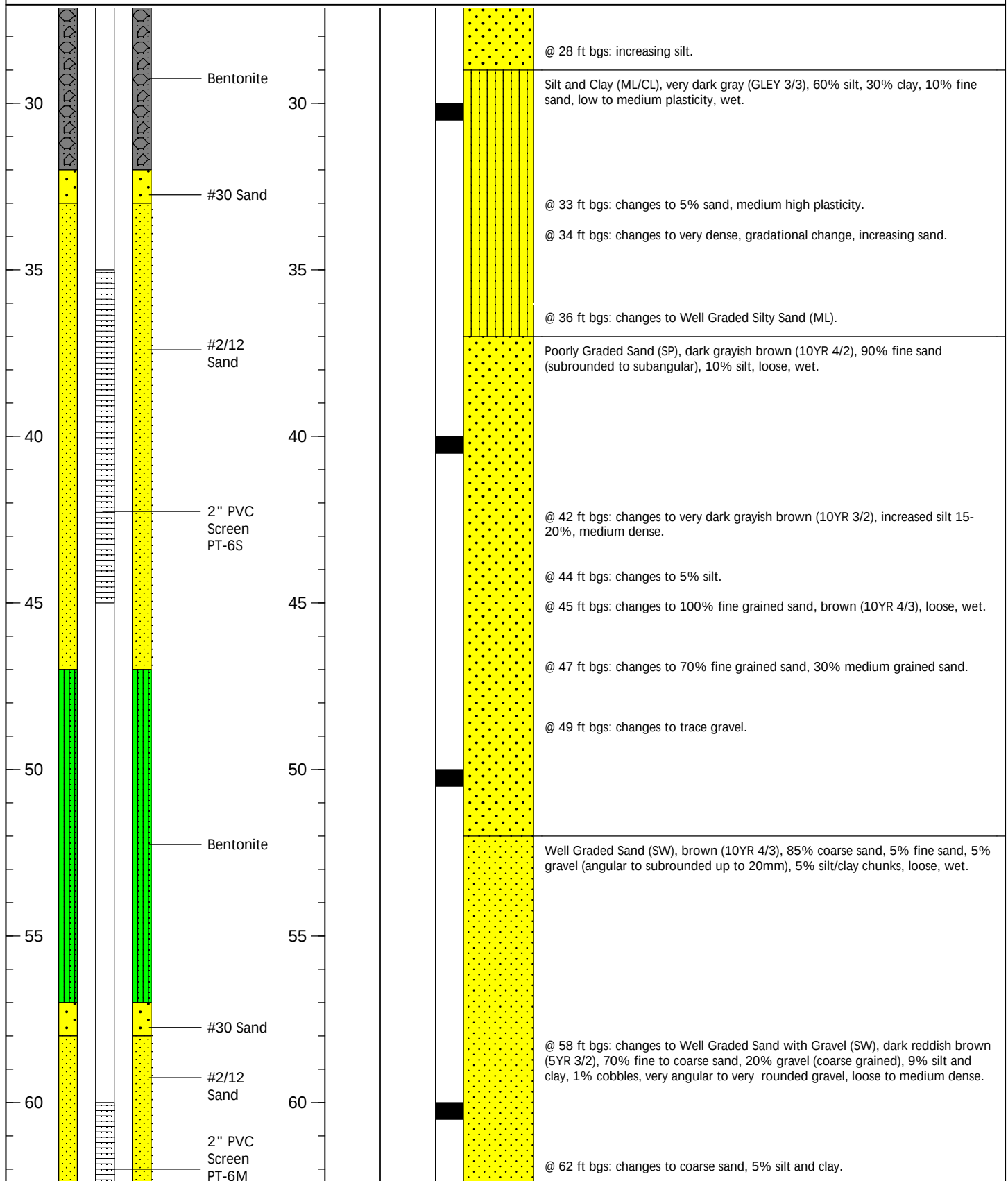
Casing Diameter (inches): 2 inches



LOG OF BORING PT-6 (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION



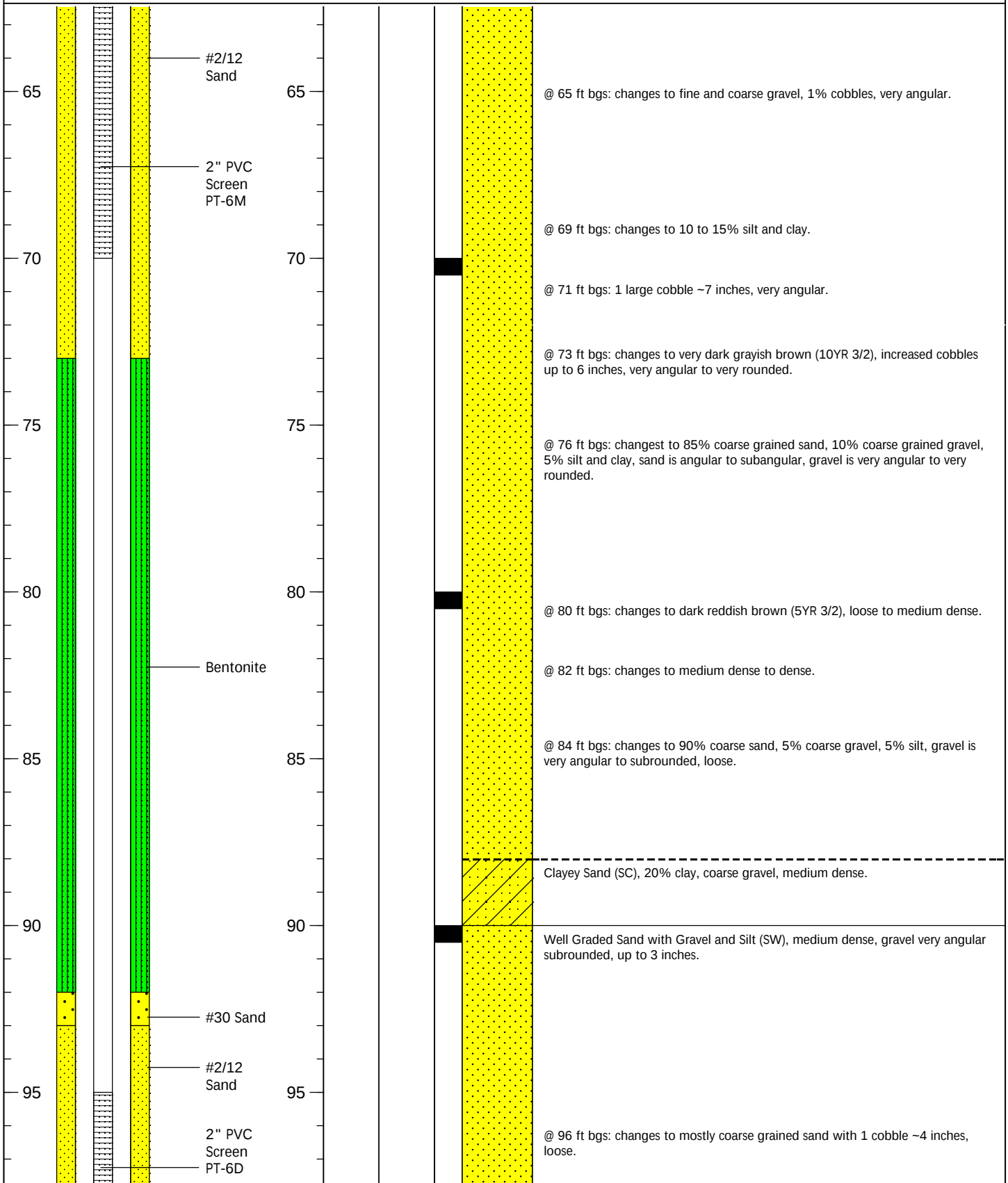
LOG OF BORING PT-6

(Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

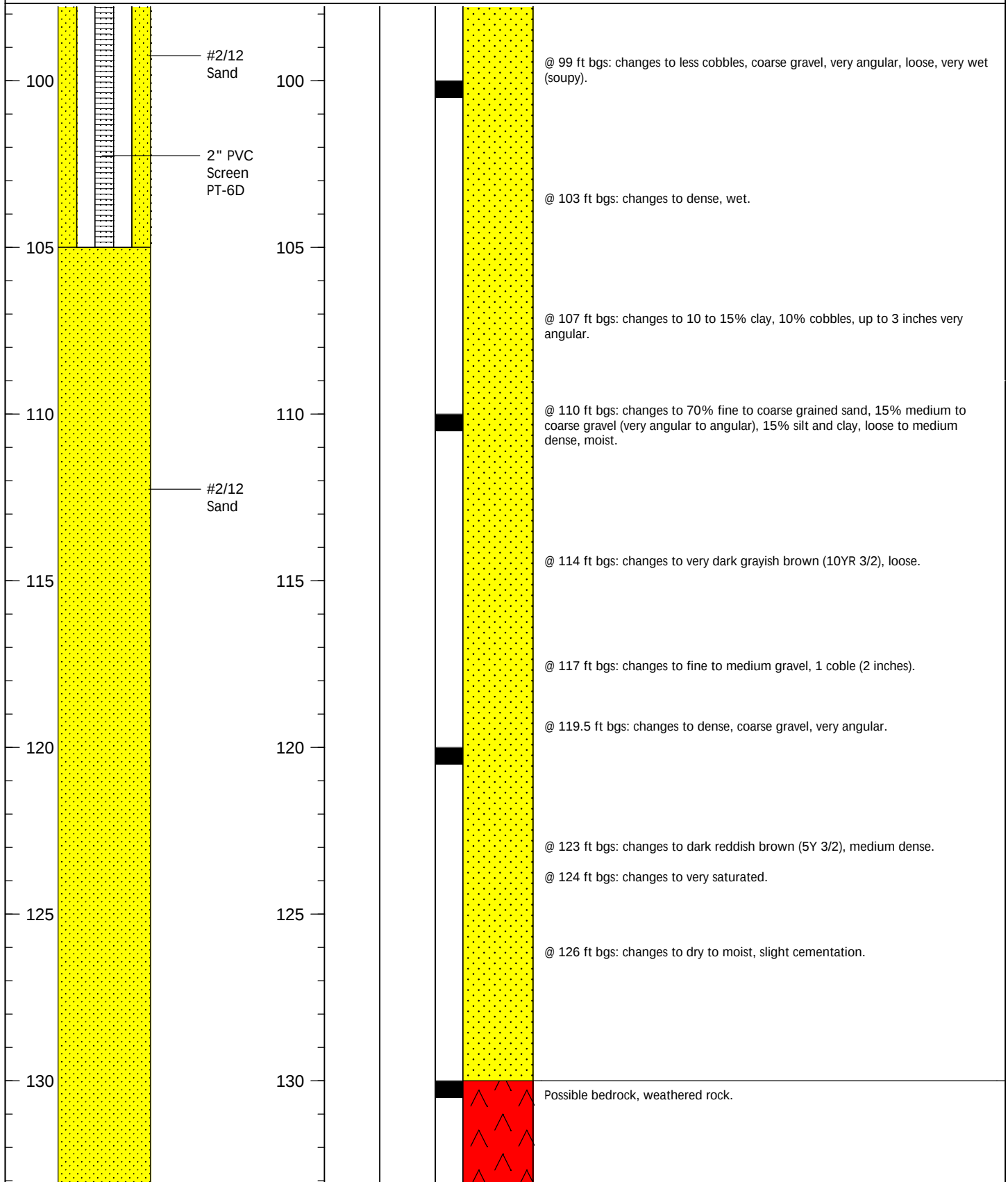


LOG OF BORING PT-6 (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PT-6

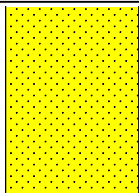
(Continued)

WELL CONSTRUCTION

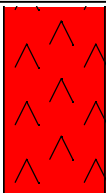
Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

135



135



End of Boring at 137 ft bgs.

LOG OF BORING PTI-1S

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

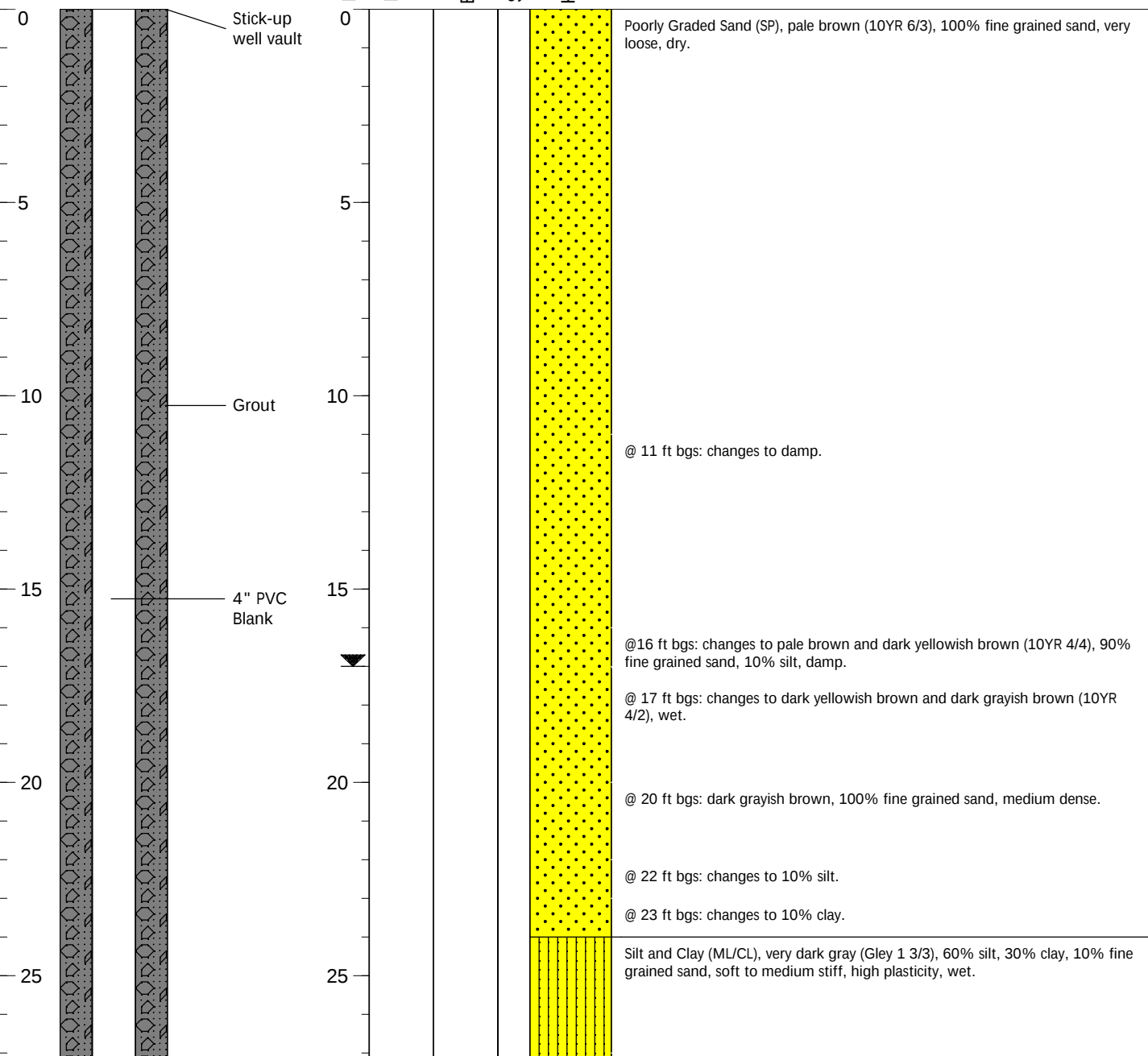
Project No.: RC000689.0001 Date Started: 28 January 2006
Logged by: J. Ely Date Completed: 28 January 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010006 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

Casing Diameter (inches): 4 inches



LOG OF BORING PTI-1S (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

	Depth	Headspace (ppm)	Blows/ft.	Sample	Key	
	30					@ 27 ft bgs: changes to dark grayish brown (10YR 4/2).
	30					@ 31 ft bgs: changes to 20% sand, stiff to very stiff.
	35					Silt with Sand (ML), dark grayish brown, 60% silt, 30% fine grained sand, 10% clay, medium dense, wet.
	35					Poorly Graded Sand (SP), dark brown, 90% fine grained sand, 10% silt, loose to medium dense.
	40					Well Graded Sand (SW), dark grayish brown (10YR 4/2), 80% fine grained sand, 10% gravel (up to 10mm, angular to subangular), 5% silt, 5% clay, loose, wet.
	40					@ 40 ft bgs: changes to medium dense.
	45					@ 43 ft bgs: changes to 10% silt, very wet, piece of wood chip.
	45					@ 45 ft bgs: changes to 5% silt.
						End of Boring at 47 ft bgs.

LOG OF BORING PTI-1M

PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

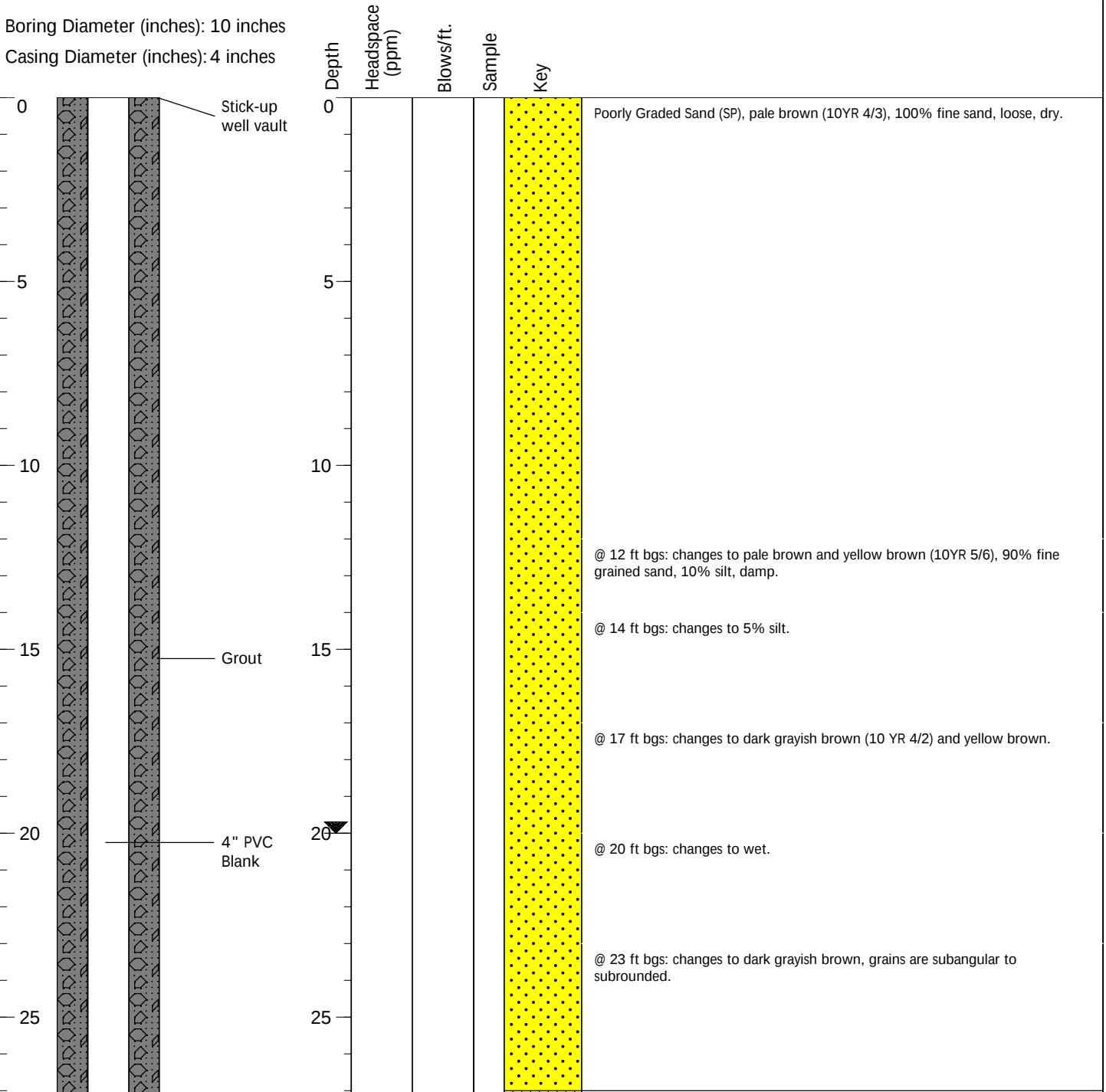
Project No.: RC000689.0001 Date Started: 26 January 2006
Logged by: J. Ely Date Completed: 26 January 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010007 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches

Casing Diameter (inches): 4 inches

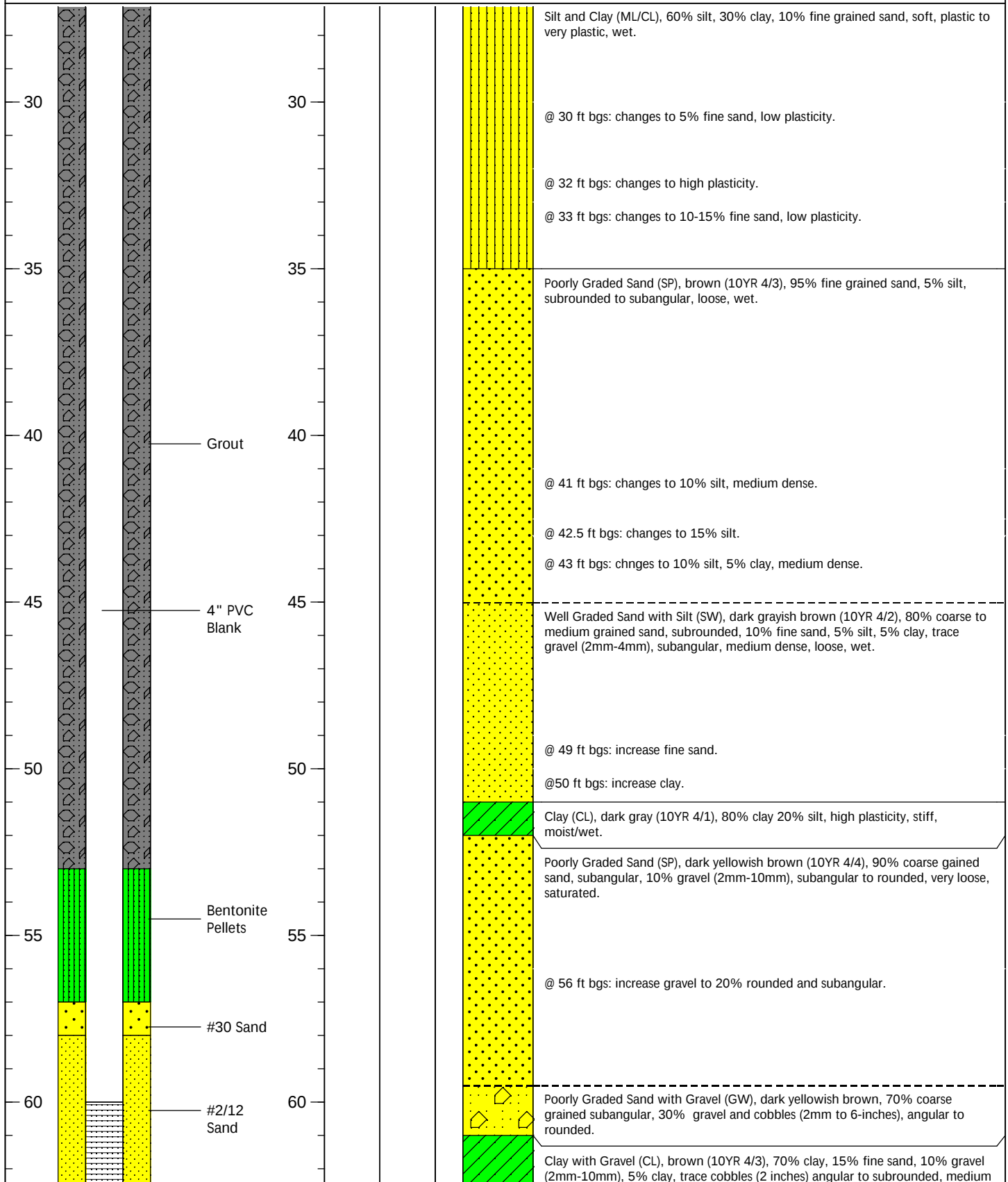


LOG OF BORING PTI-1M (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key



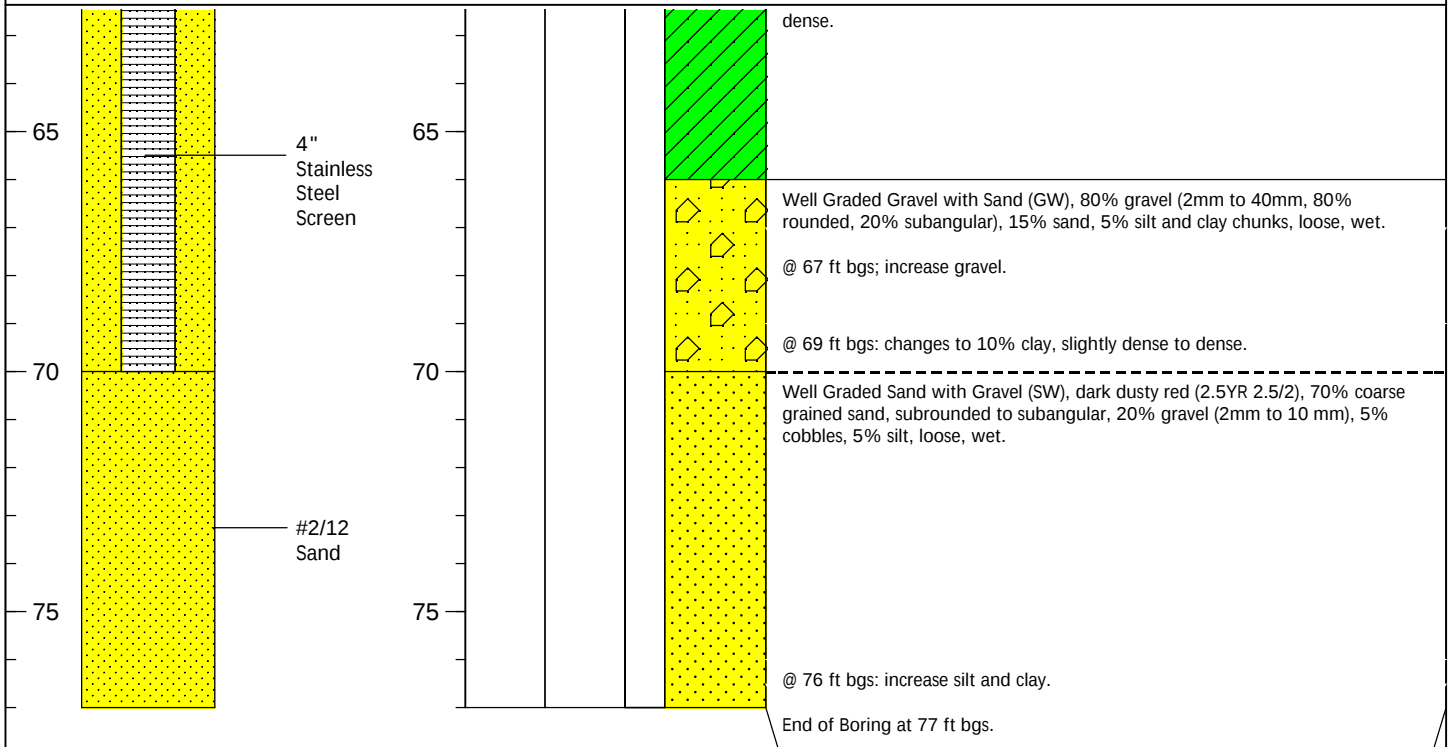
LOG OF BORING PTI-1M

(Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



LOG OF BORING PTI-1D

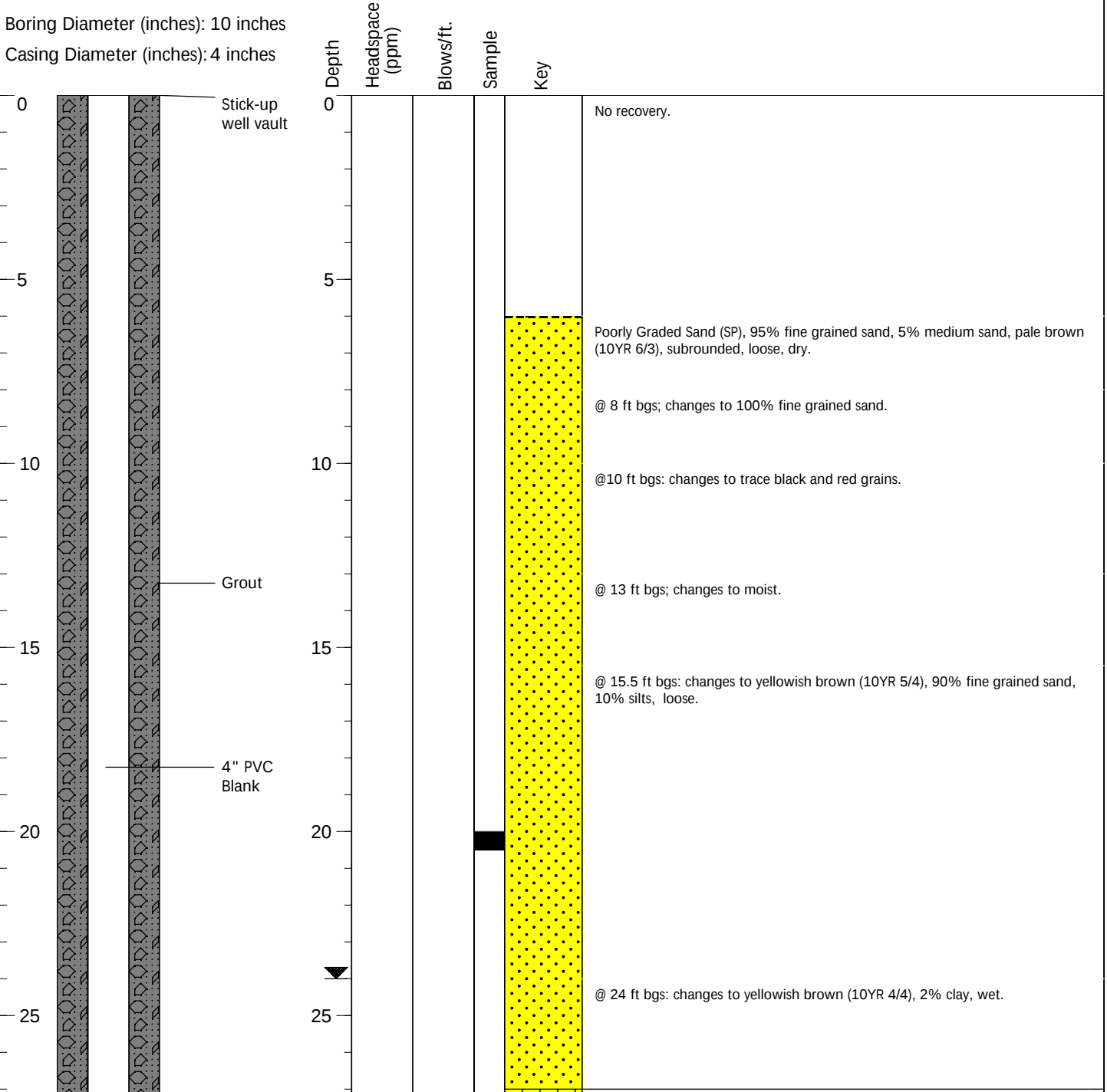
PG&E Topock
Interstate 40 and Park Moabi Road
Needles, California

Project No.: RC000689.0001 Date Started: 24 January 2006
Logged by: J. Ely Date Completed: 26 January 2006
Drilling Co.: Prosonic Corporation Drilling Method: Sonic
Driller: Don Youngblood Sample Method: Core
Well Permit #: 2006010005 Driller's License: C57-756217

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

Boring Diameter (inches): 10 inches
Casing Diameter (inches): 4 inches

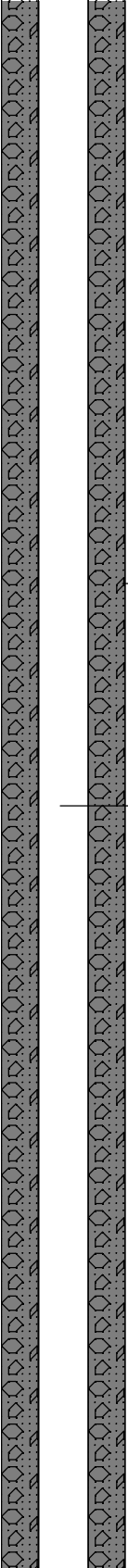
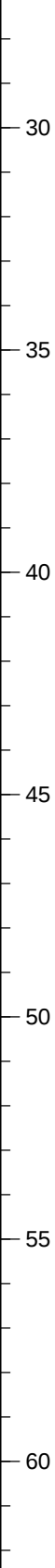
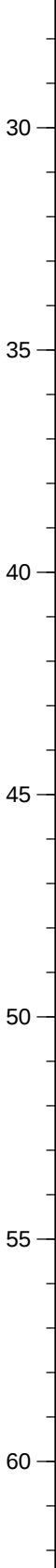
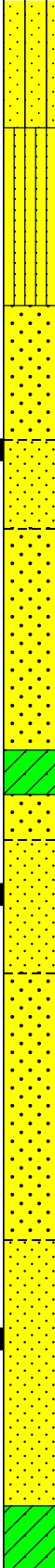


LOG OF BORING PTI-1D (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

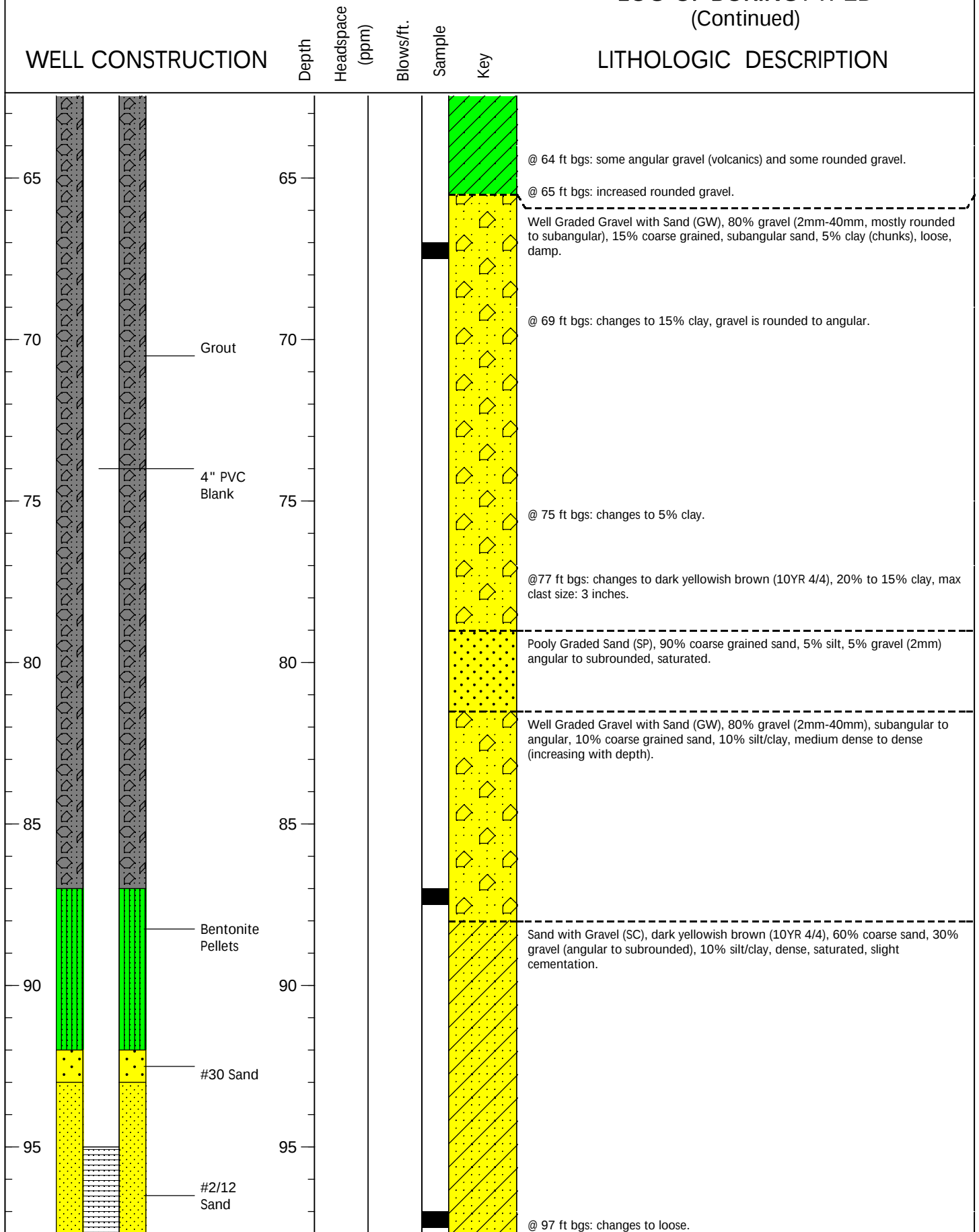
LITHOLOGIC DESCRIPTION

					Sandy silt (ML), dark yellowish brown (10YR 4/4), 85% fine sand, 10% silty, 5% clay, subangular grains, wet.
					Silt (SM), 70% silt, 20% clay, 10% fine sands, dary gray (10 YR 4/1), subangular grains, wet. @ 32 ft bgs: changes to Silt with Sand (ML) 25% fine sand, subangular, micacious, saturated.
					Poorly Graded Sand (SP), very dark grayish brown (10YR 4/2), 95% fine sand, 5% silt, subangular grains, saturated.
					Well Graded Sand with Silt (SW), very dark grayish brown (10YR 3/2), 90% sand, 10% silt, subangular grains, micacious, saturated.
					Poorly Graded Sand (SP), brown (10YR 5/3), 100% fine grained sand, subrounded to subangular, saturated.
					Clay with Sand (CL), dark gray (10YR 4/1), 85% clay, 15% fine grained sand, plastic, moist to saturated.
					Poorly Graded Sand (SP), dark grayish brown (10YR 4/2), 90% fine grained sand, 10% silt, subangular, moist.
					Well Graded Sand with Gravel (SW), 85% coarse grained sand, 15% gravel, subangular to subrounded, saturated, one piece of gravel at 4 inches in diameter.
					Poorly Graded Sand (SP), dark yellowish brown (10YR 4/4), 95% fine sand, 5% silt, subangular, loose, saturated. @ 52 ft bgs: changes to trace organics. @ 54 ft bgs: changes to trace gravel.
					Well Graded Sand (SW), 85% fine grained sand, 5% silt, 5% clay (in chunks), 5% gravel, up to 22mm, subrounded, loose, saturated. @ 58 ft bgs: changes to 10% gravel.
					Clay with Gravel (CL), brown (10YR 5/3), 70% clay, 20% gravel (subrounded), 10% fine grained sand, medium to high plasticity, soft to medium soft, saturated.

LOG OF BORING PTI-1D (Continued)

WELL CONSTRUCTION

LITHOLOGIC DESCRIPTION

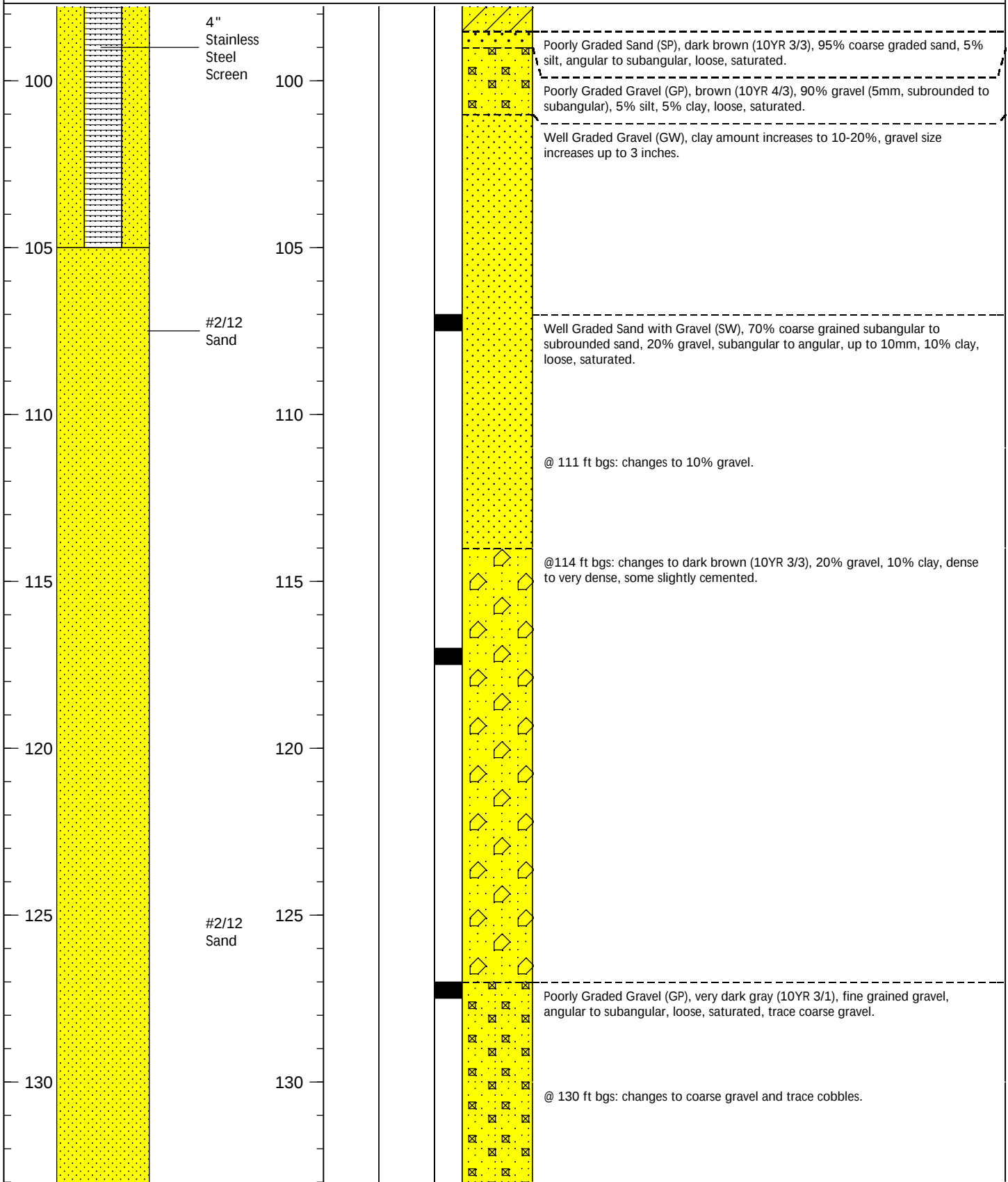


LOG OF BORING PTI-1D (Continued)

WELL CONSTRUCTION

Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION



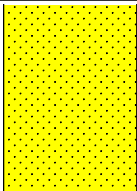
LOG OF BORING PTI-1D (Continued)

WELL CONSTRUCTION

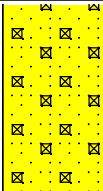
Depth
Headspace
(ppm)
Blows/ft.
Sample
Key

LITHOLOGIC DESCRIPTION

135



135



@ 133 ft bgs: changes to brown (10YR 4/3).
Note: Possible bedrock, broken conglomerate.
End of boring at 137 ft bgs.

Appendix B

Well Development Forms

Task: 00002 Well ID: PTI 15
Developed By: Gordon Leann
Recorded By: G. Leann

	PID	Water Quality Meter(s)
Model		
Serial #:		

Casing Material: PVC

Casing Diameter: 4"

Total Depth:

Depth to Water: 21.23

Water Column:

Gallons/Foot:

Gallons in Well:

Development Technique: Swab & Pump
Screen Interval: From: _____ To: _____
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: _____
Pump on: 1650 Off: 1729

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Developed by swabbing for 1 hour and then by pumping
until water was clear
4.47 ft / 6.75 gpm

Completed By: _____
Reviewed By: _____

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: 11111
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model:		
Serial #:		

Casing Material:	PVC
Casing Diameter:	4"
Total Depth:	72.20
Depth to Water:	22.10
Water Column:	
Gallons/Foot:	
Gallons in Well:	

Development Technique: Swab & Pump
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: 0900 Off: 1103

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Remarks / Comments:
Was snagged on 2/25/06 water levels recorded w/ level logger
19.07 ft / 6.7 gpm

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: PJT-1D
Developed By: _____
Recorded By: Gordon Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Casing Material: PVC w/ SS Screen
Casing Diameter: 4"
Total Depth: ≈ 103
Depth to Water: 20.47
Water Column: 82.53
Gallons/Foot: ~~57 gal~~ 0.65
Gallons in Well: 52 gal

Development Technique: Swab-Surge & Pump
Screen Interval: From: 9.5 To: 10.5
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: _____
Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
$95 \times 0.65 = 55.25$	$3\frac{1}{2}" = 0.50$	4" = 0.65
$97.53 \times 0.65 = 56.9$	6" = 1.46	

[illegible]

Remarks / Comments:
2.83 ft / 7.7 gpm

Signature: _____
Date: _____

Well Development Log

PT-15

Developed By:

Recorded By:

	PID	Water Quality Meter(s)
Model:		
Serial #:		

Casing Material: PVC

Casing Diameter: 2"

Total Depth: _____

Depth to Water: 21.12

Water Column: _____

Gallons/Foot: _____

Gallons in Well: _____

Development Technique: Ball Sand - Pump & surge

Screen Interval: From: _____ To: _____

Pump Intake Setting:

Volumes to be Purged:

Total Volume Purged: _____

Pump on: Off: 12 44

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Removed solids w/ sand pump; pumped & surged

8.76 A / 3.2 gms

Signature: _____

Date: _____

ARCADIS

Well Development Log

Project Number: RC000689.0001 Task: 00002 Well ID: PT 1-M
 Date: 01- -06 2/26/06 Developed By: Gordon Levin
 Weather: Cloudy & warm Recorded By: G. Levin

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: PVC Development Technique: Bail sand - Pump & Surge
 Casing Diameter: 2" Screen Interval: From: _____ To: _____
 Total Depth: _____ Pump Intake Setting: _____
 Depth to Water: 21.79 Volumes to be Purged: _____
 Water Column: _____ Total Volume Purged: _____
 Gallons/Foot: _____ Pump on: 1450 Off: 1715
 Gallons in Well: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/C)	pH (SI Units)	Turbidity (NTUs)	Spec Cond (µmhos/cm)	Comments / Observations
1220							Start Development w/ Sand pump
1450		22.10					Start Pump
	2.4 gpm	42.58					
1527	3 gpm		81.3	7.57	72.4	5230	
	2.0 gpm			7.56			
1602		21.93					Loggerset w/ pump off
1605							Start pump
1622	3 gpm		77.0	7.33	7.14	5360	
1630	2.4 gpm						
1633	3.16 gpm		75.8	7.58	6.01	5660	
1703	2.6 gpm		76.5	7.21	1.97	5750	
1715							pump off

Remarks / Comments:

well will ~~maintain~~ maintain 2.4-3.5 gpm w/ 20 feet drawdown
20.334 3 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: _____

Well Development Log

Task: 00002 Well ID: P71D
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Casing Material:	PVC
Casing Diameter:	2" PVC
Total Depth:	
Depth to Water:	21.37
Water Column:	
Gallons/Foot:	
Gallons in Well:	

Development Technique: Sand Pump $\Rightarrow$ Pump & Surge

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Cleaning up quickly. minimum drawdown
0.59 kT/3 gpm

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: PK 25
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Development Technique: Ball Sand - Pump & Surge

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

slow producer - very silty sand 10 feet drawdown @ 1.3 gpm
10.37 ft / 1.3 gpm $\rightarrow$ 13.45 ft / 1 gpm slow producer

Signature: _____
Date: _____

Object Number: RC000689.0001 Task: 00002 Well ID: PT 2 M
Date: ~~01~~ ~~06~~ 2/23/06 Developed By: Gordon Levin
Weather: Overcast Recorded By: G. Levin

Instrument Identification

	PID	
Model		Water Quality Meter(s)
Serial #:		

Purging Information

Casing Material: PVC
Casing Diameter: 2"
Total Depth:
Depth to Water: 20.21
Water Column:
Gallons/Foot:
Gallons in Well:

Development Technique: Ball Sand - Pump + Surge

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

[illegible]

Remarks / Comments:

10.65 ft / 2.5 gpm

Completed By: _____
Reviewed By: _____

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: 8121
Developed By: Gordon Levin
Recorded By: G. Levin

	PiD	Water Quality Meter(s)
Model		
Serial #:		

Casing Material:	PVC
Casing Diameter:	2"
Total Depth:	
Depth to Water:	29.10
Water Column:	
Gallons/Foot:	
Gallons in Well:	

Development Technique: Bailed Sand - Pump & Surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

2.4 ft / 5.7 gpm 1.32 ft / 3 gpm

Signature: _____
Date: _____

ARCADIS

Well Development Log

Project Number: RC000689.0001 Task: 00002 Well ID: PT-35
 Date: 01-06 2/22/06 Developed By: G. Levin
 Weather: Clear & Sunny 75°F Recorded By: G. Levin

Instrument Identification Bree27

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: PVC
 Casing Diameter: 2"
 Total Depth: 48.00
 Depth to Water: 20.10
 Water Column: 27.90
 Gallons/Foot: 0.16
 Gallons in Well: 4.5

Development Technique: Bailed - pump & surge
 Screen Interval: From: 48' bnc To: 38' bnc
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/°C)	pH (SI Units)	Turbidity (NTUs)	Spec Cond (umhos/cm)	Comments / Observations
1500		20.10	8				Bailed w/ hand pump
1551			82.3	4.60			Pump 1.25 gpm / Surge
1625	1.25 gpm	21.10	75.4	6.54	2.42	3950	
1649	1.0 gpm	20.87	73.5	6.70	1.77	4200	
1654	Stopped pumping						
2/23/06							
0400	start pump						w/ new battery set up
0902	4.2 gpm	21.47	70.5	5.64	4.3	4690	→ Nonpumping 4.2 gpm
0925	4.2 gpm	21.62	77.7	6.19	42.5	4920	surging w/ pump
0930	surge down						pump to empty water tank
1000							set up transition to observe drawdown
1002		14.76					
1003	start pump						4.2 gpm
1010							
1024		21.54	76.3	6.64	3.03	5200	surged well
1034	7.12 gpm	21.56	81.7	6.40	1.66	5170	
1034		21.56	76.2	6.24	1.58	4460	
1041	surge down						pump
1052		19.86					

Remarks / Comments:

The well cleaned up pretty quickly
 1.5 ft / 4.2 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: 2/22/06

ARCADIS

Well Development Log

Project Number: RC000689.0001 Task: 00002 Well ID: PT3 M
 Date: 01-06-2/23/06 Developed By: Gordon Levin
 Weather: Clear & Warm Recorded By: G. Levin

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: _____
 Casing Diameter: _____
 Total Depth: ≈ 73
 Depth to Water: 20.43
 Water Column: 52.57
 Gallons/Foot: 0.16
 Gallons in Well: _____

Development Technique: Bail Sand - Pump & Surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: 1314 Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/C)	pH (SI Units)	Turbidity (NTUs)	Spec Cond (µmhos/cm)	Comments / Observations
1314		20.13					Start pumping silty water
1327							127 sec / 5 gal
1333		61.52	77.8	6.43	106	5530	100 sec / 5 gal
1402		58.70	73.2	6.65	7.22	5420	103 sec / 5 gal
1435	2.9 gpm	58.70	74.1	6.45	8.41	5670	102 sec / 5 gal
Recovery measurements							
1444	Stop Pump						
1446	3	33.30					
1447		30.03					
1448		26.03					
1449		23.44					
1450		22.74					
1451		21.91					
1452		21.33					
1453		21.06					
1454		20.91					
1455		20.36					
1456		20.77					

Remarks / Comments:

Used sand pump to remove solids. Pumped & surged well with pump.
 33.27 ft / 2.9 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: _____

Well Development Log

Task: 00002 Well ID: PT30
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Development Technique: Bail Sand - Pump & Surge
Screen Interval: From: _____ To: _____
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: _____
Pump on: 1603 Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

0.73 ft / 3.6 gms

Signature: _____
Date: _____

ARCADIS

Well Development Log

Project Number: RC000689.0001
 Date: 01-06 2/24/06
 Weather: Clear & warm

Task: 00002 Well ID: PT4S
 Developed By: G. Levan
 Recorded By: _____

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: PVC w/ SS screen
 Casing Diameter: 2"
 Total Depth: _____
 Depth to Water: 20.34
 Water Column: _____
 Gallons/Foot: _____
 Gallons in Well: _____

Development Technique: Bail sand - pump & surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: ~~12:30~~ Off: 6

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/°C)	pH (SI Units)	Turbidity (NTUs)	Spec Cond (umhos/cm)	Comments / Observations
11:43	3.3 gpm						Stopped pumping after 40 minutes
1433	Restarted development pumping 3.3 gpm						Bailed w/ sand pump
1500		21.40	62.2	6.97	2370	5610	
2/25/06	Continue developing well						
0302	3.3 gpm	19.80	64.2	6.90	143	4160	Start pump
0320	3.3 gpm	21.02	65.7	6.45	4.36	5730	
0333					60.5 um	5990 um	Surged well
0340	3.3 gpm	21.04	67.3	6.77	60.5	5940	
0350		21.03	70.2	6.26	3.15	6110	
0355		21.02	70.4	6.82	3.20	6150	pump shut off
0930		20.46					

Remarks / Comments:

1.23 ft / 3.3 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: _____

Well Development Log

Task: 00002 Well ID: PT4m
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model:		
Serial #:		

Casing Material:	
Casing Diameter:	2"
Total Depth:	
Depth to Water:	20.21
Water Column:	
Gallons/Foot:	
Gallions in Well:	

Development Technique: Ball sand, Pump + Surge
Screen Interval: From: _____ To: _____
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: _____
Pump on: 11:06 Off: 12:15

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Very slow well. Not a good producer. Pump down to bottom of screen at 1.5 gpm. Recover at ≈ 1 ft/25 sec. Well maintains pumping of 0.5 to 9.6 gpm w/ draw 55 feet or ≈ 35 feet drawdown
34.44 ft / 0.5 gpm

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: P140
Developed By: Gordon Levin
Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model:		
Serial #:		

Development Technique: Bail sand - pump & surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: 15:17 Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

0.53 ft / 3 gpm

Signature: _____
Date: _____

Object Number: RC000689.0001 Task: 00002 Well ID: PT55
 Date: 02-06 2/28/06 Developed By: Gordon Levin
 Weather: Overcast Recorded By: G. Levin

Instrument Identification

Model	PID	Water Quality Meter(s)
Serial #:		

Purging Information

Casing Material: PVC
 Casing Diameter: 2"
 Total Depth: _____
 Depth to Water: 19.54
 Water Column: _____
 Gallons/Foot: _____
 Gallons in Well: _____

Development Technique: Bail Sand - Pump & Surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: _____ Off: _____

Well Casing Volumes (gal/ft): 2" = 0.16 3" = 0.37
 3 1/2" = 0.50 4" = 0.65
 6" = 1.46

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/°C)	pH (SI Units)	Turbidity (NTUs)	Spec Cond (umhos/cm)	Comments / Observations
1540		19.54					
1549							
1551	2.32 gpm	20.92					Start Pump - 12 volt
1602	Stop pump						pretty clear water, can't get much silt during surging
1610	Start						stop pumping
1617	6.67 gpm	22.24	77.2	7.28	3.70	5060	
1618							
1619							Shut down pump to surge
1622							Start Pump
1629	6.69 gpm	19.50					Shut down pump - install transducer
1639		22.58	76.3	7.29	2.95	5000	Start pump
1642			76.3	7.23	2.25	5040	
1700			76.3	7.33	1.97	5060	Pump off & on
1722			76.2				
1725							
1728		19.52					Shut off Pump

Remarks / Comments:

3.04 ft / 6.6 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: _____

Well Development Log

Task: 00002 Well ID: 11517
Developed By: G. Levin
Recorded By: Gordon Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Development Technique: Bail sand - pump & surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

12 ft / 2.4 gpm

Signature: _____
Date: _____

ARCADIS

Well Development Log

Project Number: RC000689.0001 Task: 00002 Well ID: PT5 D
 Date: 01/06 3/1/06 Developed By: G. Levin
 Weather: Overcast Recorded By: Gordon Levin

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: PVC
 Casing Diameter: 2"
 Total Depth: _____
 Depth to Water: 19.90
 Water Column: _____
 Gallons/Foot: _____
 Gallons in Well: _____

Development Technique: Bail Sand - Pump & Surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: _____
 Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

Time	Volume Purged (gallons)	DTW (ft)	Temp (°F/°C)	pH (St Units)	Turbidity (NTUs)	Spec Cond (µmhos/cm)	Comments / Observations
1025		19.90					Pump & surge well
1055							Start pumping
1105	3.45 gpm	21.97					
1200							Stopped pump & surging
1224		20.13					to Redi Flow 2 & logger
1225							start pump
1226							shut down to go get equipment
1237							pump on
1240	6.7 gpm	22.32	78.1	7.47	20.7	10300	
1253		22.34	77.5	7.45	7.05	9900	pump off & on several times to surge well
1315		22.28	76.6	7.43	6.64	10620	
1330	6.25 gpm	22.30	76.7	7.35	6.17	10620	
1331							pump off
1339		20.13					

Remarks / Comments:

2.4 ft / 6.25 gpm

Completed By: _____
 Reviewed By: _____

Signature: _____
 Date: _____

Well Development Log

Task: 00002 Well ID: F165
Developed By: G. Levin
Recorded By: _____

	PID	Water Quality Meter(s)
Model		
Serial #:		

Casing Material: PVC

Casing Diameter: 2"

Total Depth:

Depth to Water: 21.91

Water Column:

Gallons/Foot:

Gallons in Well:

Development Technique: _____
Screen Interval: From: _____ To: _____
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: 75
Pump on: 1342 Off: 1726

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Very slow producer. Very dirty if pumped fast. pump = dry easily.
10.02 ft / 0.24 gpm

Signature: _____
Date: _____

Well Development Log

Task: 00002 Well ID: P76/n
Developed By: Gordon Levin
Recorded By: G. Levin

Model	PID	Water Quality Meter(s)
Serial #:		

Casing Material:	PVC
Casing Diameter:	2"
Total Depth:	
Depth to Water:	22.26
Water Column:	
Gallons/Foot:	
Gallons in Well:	

Development Technique: Bail Sand - Pump & Surge
Screen Interval: From: _____ To: _____
Pump Intake Setting: _____
Volumes to be Purged: _____
Total Volume Purged: _____
Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

24.79 ft / 3.6 gpm

Signature: _____
Date: _____

Well Development Log

Well ID:

Developed By: Gordon Leblin

Recorded By: G. Levin

	PID	Water Quality Meter(s)
Model		
Serial #:		

Casing Material:	PVL
Casing Diameter:	2"
Total Depth:	
Depth to Water:	22.56
Water Column:	
Gallons/Foot:	
Gallons in Well:	

Development Technique: Sand pump → pump & surge
 Screen Interval: From: _____ To: _____
 Pump Intake Setting: _____
 Volumes to be Purged: _____
 Total Volume Purged: 302.5
 Pump on: 1643 Off: 1743

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3½" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

moderate to good producer - cleared up slowly

3.56 A / 5.5 gpm

Signature:

Date: 2/1/96

Appendix C

Calibration Log for Field Monitoring
Instruments

MULTIPARAMETER INSTRUMENT CALIBRATION RECORD

Project No.: RC000689.0001

Location: Topoc

Instrument: pH, conductivity meter
+ YSI

Serial Number: _____

Date	Calibrated by	Parameter	Standards Used	Calibrated Achieved (Y/N)	Remarks
2/22/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific DRT 15 CE
2/22/06		pH, Cond	7.00 pH + 10.00	Y N	was not able to get instrument adjusted to 0.
2/23/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
2/24/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
2/25/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
2/26/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
2/27	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
2/28/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE
3/1/06	G. Levin	Turbidity	0.02 NTU	Y	HF Scientific
		pH, Cond	7.00 pH	Y	DRT 15 CE

MULTIPARAMETER INSTRUMENT CALIBRATION RECORD

Project No.:

2000684.0001

Location:

Topack

Instrument:

YSI

Serial Number:

[illegible]

Appendix D

Groundwater Sampling Logs

Groundwater Sampling Form

Task: 00005 Well ID: P1-15
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

Instrument Identification		Water Quality Meter(s)
Model	PID	YSI
Serial #:		WLM

Casing Material:	PC
Casing Diameter:	2"
Total Depth:	125' 45
Depth to Water:	20.23
Water Column:	24.77
Gallons/Foot:	0.16
Gallons in Well:	3.96

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 35' To: 45'
Pump Intake Setting: ~ 40
Volumes to be Purged: ~ 12
Total Volume Purged: ~ 160
Pump on: 955 Off: _____

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

[illegible]

Condition: good
none

Purge Water Disposal: Im-3
Turbidity(qualitative): _____
Other (OVA, HNU, etc.): _____

e ID: PT-6S
as Analyzed For: See the COC

Sample Date & Time: 3.17.06 1015

Groundwater Sampling Form

Project Number: RC000689.0001.
Date: SE-03-~~14~~-06 13th
Weather: -SUNNY 70

Task: 00005 Well ID: PT-1D
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: Dup-2

Instrument Identification

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WLM

Purging Information

Casing Material:	72C
Casing Diameter:	21" 24
Total Depth:	125' 105'
Depth to Water:	20.92
Water Column:	84.08
Gallons/Foot:	16
Gallons in Well:	13.45

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: 95' To: 105'

Pump Intake Setting: 55

Volumes to be Purged: ~ 40

Total Volume Purged: 47

Pump on: 1130 Off:

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

Field Parameter Measurements Taken During Purging

[illegible]

Observations During Sampling

Well Condition: good
Color: _____
Odor: _____

Purge Water Disposal: IM-3
Turbidity(qualitative): _____
Other (OVA, HNU, etc.): _____

Sample ID: _____

Sample Date & Time: 5-17-06 12:43

Samples Analyzed For: See the COC

Groundwater Sampling Form

Project Number: RC000689.0001.
Date: 03 - 10 - 06
Weather: p. cloudy, 60s

Task: 00005 Well ID: PT-25
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

Instrument Identification

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WLm

Purging Information

Casing Material:	PVC
Casing Diameter:	2"
Total Depth:	127' 45
Depth to Water:	19.74
Water Column:	25.26
Gallons/Foot:	0.16
Gallons in Well:	4.04

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 35' To: 45'
Pump Intake Setting: 40
Volumes to be Purged: ~12
Total Volume Purged: 19
Pump on: Off:

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

Field Parameter Measurements Taken During Purging

[illegible]

Observations During Sampling

Well Condition: good
Color: light brown/gray
Odor: none

Purge Water Disposal: IM-3
Turbidity(qualitative): 5:1
Other (OVA, HNU, etc.): _____

Sample ID: _____

Sample Date & Time: 3-17-00 1046

Samples Analyzed For: See the COC

Groundwater Sampling Form

Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model:		YSI
Serial #:		WLM

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Other (OVA, HNU, etc.):

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-2D
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: Dub - 1

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WLM

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 95' To: 105'

Pump Intake Setting: 50

Volumes to be Purged: 40.8

Total Volume Purged: _____

Pump on: Off:

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Purge Water Disposal: Im-3
Turbidity(qualitative): _____
Other (OVA, HNU,etc.): _____

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-3S
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model:		VSI
Serial #:		WLM

Casing Material:	7" C
Casing Diameter:	2"
Total Depth:	129' 43
Depth to Water:	19.16
Water Column:	25.84
Gallons/Foot:	1.6
Gallons in Well:	4.13

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 35' To: 45'

Pump Intake Setting: 70

Volumes to be Purged: 2.4

Total Volume Purged: 16

Pump on: Off:

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Well Condition: good
Color: none
Odor: none

Purge Water Disposal: F m-3
Turbidity(qualitative): Silty
Other (OVA, HNU, etc.): _____

Sample Date & Time: 3-16-06 1455

Samples Analyzed For: See the COC

Groundwater Sampling Form

Coded Duplicate No.:

	PID	Water Quality Meter(s)
Model		WLM
Serial #:		YSI

Gallons in Well:

Pump on:

$$6'' = 1.46$$
[illegible]

Odor:

Other (OVA, HNU, etc.):

Sample Date & Time: 3.8.00

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-3D
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		VSI
Serial #:		WLM

Casing Material:	<u>PVC</u>
Casing Diameter:	<u>2"</u>
Total Depth:	<u>129' 105</u>
Depth to Water:	<u>19.80</u>
Water Column:	<u>85.2</u>
Gallons/Foot:	<u>1.4</u>
Gallons in Well:	<u>13.6</u>

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 95' To: 105'
Pump Intake Setting: _____
Volumes to be Purged: 40
Total Volume Purged: ~40
Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

[illegible]

Well Condition: good
Color: light green
Odor: slight

Purge Water Disposal: IM-3
Turbidity(qualitative): clear
Other (OVA, HNU,etc.): _____

Sample Date & Time: 3-18-06 9:30

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-45
 Sampled By: J.Ely
 Recorded By: _____
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		606M

Casing Material:	PVL
Casing Diameter:	2"
Total Depth:	127' 45
Depth to Water:	14.98
Water Column:	25.02
Gallons/Foot:	= 1.6
Gallons in Well:	4.

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 35' To: 45'

Pump Intake Setting: 37

Volumes to be Purged: 12

Total Volume Purged: 20

Pump on: Off:

Well Casing Volumes (gal/ft): $2'' = 0.16$ $3'' = 0.37$
 $3\frac{1}{2}'' = 0.50$ $4'' = 0.65$
 $6'' = 1.46$

[illegible]

Well Condition: good
Color: light brown
Odor: slight

Purge Water Disposal: Im-3
Turbidity(qualitative): Silty
Other (OVA, HNU, etc.): _____

Sample ID: DT-48

Sample Date & Time: 8-15 900

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-4M
 Sampled By: J.Ely
 Recorded By: _____
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		VSI
Serial #:		WLM

Casing Material:	PVC
Casing Diameter:	2"
Total Depth:	127' 70
Depth to Water:	19.58
Water Column:	50.42
Gallons/Foot:	7 8.06
Gallons in Well:	110

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer
Screen Interval: From: 60' To: 70'
Pump Intake Setting: 100
Volumes to be Purged: ~24
Total Volume Purged: 28
Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Well Condition: _____
Color: _____
Odor: _____

Purge Water Disposal: _____
 Turbidity(qualitative): _____
 Other (OVA, HNU,etc.): _____

Sample Date & Time: 8/15 3:30

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PT-4D
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WCm

Casing Material:	pvc
Casing Diameter:	2"
Total Depth:	127' 105
Depth to Water:	20.54
Water Column:	84.46
Gallons/Foot:	0.16
Gallons in Well:	13.5

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 95' To: 105'
Pump Intake Setting: 60
Volumes to be Purged: 40.5
Total Volume Purged: 34
Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

[illegible]

Well Condition: good
Color: clear / greenish
Odor: slight

Purge Water Disposal: IM-3
Turbidity(qualitative): clear
Other (OVA, HNU, etc.): 105

Sample Date & Time: 3-15-06 @ 1000

Samples Analyzed For: See the COC

Groundwater Sampling Form

Coded Duplicate No.:

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WLm

Gallons in Well:

4.15

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Odor:

Other (OVA, HNU, etc.):

Sample Date & Time: 3-16-06 10:1130

I:\Active\Lompoc\QAPP\Field Forms\WTR forms.xls
3/8/2006

Groundwater Sampling Form

Task: 00005 Well ID: PT-5M
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WLM

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 60' To: 70'
Pump Intake Setting: ~ 60
Volumes to be Purged: 24
Total Volume Purged: 27
Pump on: Off:

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Purge Water Disposal: Tm-3
 Turbidity(qualitative):
 Other (OVA, HNU,etc.):

Sample Date & Time: 3-16-06 p 1255

Groundwater Sampling Form

Coded Duplicate No.:

	PID	Water Quality Meter(s)
Model		WLM
Serial #:		VS1

Gallons in Well: 13.6

Pump on: _____ Off: _____

$$6'' = 1.46$$
[illegible]

Odor: slight

Other (OVA, HNU, etc.):

Samples Analyzed For: See the COC

ARCADIS

Groundwater Sampling Form

Project Number: RC000689.0001.
 Date: 03 - 15 - 06
 Weather: Sunny 70°

Task: 00005 Well ID: PT-65
 Sampled By: J.Ely
 Recorded By: J.Ely
 Coded Duplicate No.: _____

Instrument Identification

	PID	Water Quality Meter(s)
Model		<u>YSI</u>
Serial #:		<u>WLM</u>

Purging Information

Casing Material: PVC
 Casing Diameter: 2"
 Total Depth: 137' 45"
 Depth to Water: 22.04'
 Water Column: 22.96'
 Gallons/Foot: 1.10
 Gallons in Well: 3.67

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
 Purge Equipment (circle one): Submersible Centrifugal Biadder Peristaltic Bailer
 Screen Interval: From: 35' To: 45'
 Pump Intake Setting: 35'
 Volumes to be Purged: 11.02
 Total Volume Purged: 3 - dry
 Pump on: _____ Off: J

Well Casing Volumes (gal/ft): 2" = 0.16 3" = 0.37
 3 1/2" = 0.50 4" = 0.65
 6" = 1.46

Field Parameter Measurements Taken During Purging

Time	Minutes Elapsed	Flow Rate ()	Volume Purged ()	DTW (ft btoc)	Turbidity (NTUs)	ORP (mV)	pH (SI Units)	Spec Cond (µmhos/cm)	Temp (°C)	DO (mg/L)	Comments
<u>11:20</u>			<u>1.5</u>			<u>-93.1</u>	<u>7.02</u>	<u>993</u>	<u>26.47</u>		
<u>11:22</u>			<u>2</u>			<u>-91.7</u>	<u>7.09</u>	<u>1003</u>	<u>25.49</u>		

Observations During Sampling

Well Condition: good
 Color: light brown
 Odor: none

Purge Water Disposal: FM-3
 Turbidity(qualitative): clear / slightly silty
 Other (OVA, HNU, etc.): _____

Sample ID: PT-05
 Samples Analyzed For: See the COC

Sample Date & Time: 3/16/06 7:30

Groundwater Sampling Form

Task: 00005 Well ID: PT-6M
 Sampled By: J.Ely
 Recorded By: J.Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		664m

Casing Material:	9VC
Casing Diameter:	2"
Total Depth:	137' 70
Depth to Water:	21.44
Water Column:	48.56
Gallons/Foot:	0.16
Gallons in Well:	7.76

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 60' To: 70'

Pump Intake Setting: 50"

Volumes to be Purged: ~ 23.3

Total Volume Purged: 30

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

[illegible]

Well Condition: good
Color: none
Odor: none

Purge Water Disposal: IM-3
Turbidity(qualitative): _____
Other (OVA, HNU, etc.): _____

Sample Date & Time: 3-16-06 0940

Groundwater Sampling Form

Coded Duplicate No.:

	PID	Water Quality Meter(s)
Model		VSI
Serial #:		WQM

Gallons in Well: 13.25

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Odor: slight

Other (OVA, HNU, etc.): _____

Samples Analyzed For: See the COC

Groundwater Sampling Form

Task: 00005 Well ID: PTI-15
 Sampled By: J.Ely
 Recorded By: J.Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WQM

Casing Material: PVC

Casing Diameter: 4"

Total Depth: 47' 4.5

Depth to Water: 20.50

Water Column: 24.44

Gallons/Foot: 6.3

Gallons in Well: ~~344~~ 15.88

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 35' To: 45'

Pump Intake Setting: ~40

Volumes to be Purged: ~~12~~ 47.0

Total Volume Purged: 50

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):

2" = 0.16	3" = 0.37
3 1/2" = 0.50	4" = 0.65
6" = 1.46	

[illegible]

Well Condition: good
Color: light brn
Odor: none.

Purge Water Disposal: IM-3
Turbidity(qualitative): clear
Other (OVA, HNU, etc.):

Sample Date & Time: 3.15.06 1315

Groundwater Sampling Form

Task: 00005 Well ID: PTI-1M
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		WQM

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: 60' To: 70'

Pump Intake Setting: 50

Volumes to be Purged: 96.7

Total Volume Purged: 95

Pump on: Off:

[illegible]

Purge Water Disposal: DM-3
Turbidity(qualitative): clear
Other (OVA, HNU, etc.): _____

Sample Date & Time: 3-15-06 02:15:20

Groundwater Sampling Form

Task: 00005 Well ID: PTI-1D
 Sampled By: J.Ely
 Recorded By: S. Ely
 Coded Duplicate No.: _____

	PID	Water Quality Meter(s)
Model		YSI
Serial #:		Water level meter

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry
Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor
Screen Interval: From: 95' To: 105'
Pump Intake Setting: 105'
Volumes to be Purged: ~~3X~~ 147 143
Total Volume Purged: ~~147~~ 143
Pump on: 12:50 Off:

[illegible]

Purge Water Disposal: IM-3
Turbidity(qualitative): clear
Other (OVA, HNU, etc.):

3.1506 1150

Groundwater Sampling Form

Project Number: RC000689.0001.

Date: 03 - 17 -06

Weather: sunny 70s

Task: 00005

Well ID: TW-2D

Sampled By: **J.Ely**

Recorded By: J. Ely
Coded Duplicate No.:

Coded Duplicate No.: _____

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: _____

Casing Diameter:

Total Depth: _____

Depth to Water:

Water Column:

Gallons/Foot: _____

Gallons in Well: _____

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailer

Screen Interval: From: _____ To: _____

Pump Intake Setting:

Volumes to be Purged:

Total Volume Purged:

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft): 2" = 0.16 3" = 0.37

$$3\frac{1}{2}'' = 0.50 \qquad 4'' = 0.65$$
$$6'' = 1.46$$

Field Parameter Measurements Taken During Purging

[illegible]

Observations During Sampling

Well Condition:

Color: _____

Odor: _____

Purge Water Disposal:

Turbidity(qualitative): _____

Other (OVA, HNU, etc.):

Sample ID: Tw-2D

Sample Date & Time: 3/7/06 #5 1515

Samples Analyzed For: See the COC

Groundwater Sampling Form

Project Number: RC000689.0001.
Date: 03 - 17 -06
Weather: Sunny ↑ 70s

Task: 00005 Well ID: TW-3D
 Sampled By: J. Ely
 Recorded By: J. Ely
 Coded Duplicate No.: _____

Instrument Identification

	PID	Water Quality Meter(s)
Model		
Serial #:		

Purging Information

Casing Material: _____

Casing Diameter: _____

Total Depth: _____

Depth to Water: _____

Water Column: _____

Gallons/Foot: _____

Gallons in Well: _____

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

Field Parameter Measurements Taken During Purging

[illegible]

Observations During Sampling

Well Condition: _____
Color: _____
Odor: _____

Purge Water Disposal: _____
 Turbidity(qualitative): _____
 Other (OVA, HNU, etc.): _____

Sample ID: TW-3D 1500

Sample Date & Time: 3-17-06 1500

Samples Analyzed For: See the COC

Groundwater Sampling Form

Coded Duplicate No.:

	PID	Water Quality Meter(s)
Model:		
Serial #:		

Purge Technique (circle one): Low-Flow Remove 3 Well Volumes Bail Dry

Purge Equipment (circle one): Submersible Centrifugal Bladder Peristaltic Bailor

Screen Interval: From: _____ To: _____

Pump Intake Setting: _____

Volumes to be Purged: _____

Total Volume Purged: _____

Pump on: _____ Off: _____

Well Casing Volumes (gal/ft):	2" = 0.16	3" = 0.37
	3 1/2" = 0.50	4" = 0.65
	6" = 1.46	

[illegible]

Purge Water Disposal: _____
 Turbidity(qualitative): _____
 Other (OVA, HNU, etc.): _____

Sample Date & Time: 3-17-00 1940

Samples Analyzed For: See the COC

Appendix E

Analytical Reports and Chain-of
Custody Documentation