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COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY

CLEAN II

AQUIFER TEST REPORT
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

CTO-0073/0185

November 1996

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TABLE OF CONTENTS

Section Page

1 INTRODUCTION

1.1 Site Description 1-1
1.2 Purpose 1-1
1.3 Guidance and Agreements 1-7
1.4 Background 1-8
1.5 Hydrogeologic Conditions 1-11
1.5.1 Shallow Groundwater Unit 1-11
1.5.2 Intermediate Zone 1-12
1.5.3 Principal Aquifer 1-12

2 WELL INSTALLATION AND SAMPLING

2.1 Predrilling Operations 2-1
2.2 Observation Well Installation 2-1
2.2.1 Soil Sampling and Geotechnical Analyses 2-1
2.2.2 Observation Well Construction 2-5
2.3 Test Well Installation 2-6
2.4 Groundwater Sampling 2-6
2.5 Groundwater Sample Laboratory Analyses 2-6
2.6 Investigation-Derived Wastes 2-7

3 DESCRIPTIONS OF AQUIFER TESTS

3.1 Aquifer Test Objectives 3-1
3.2 Step-Drawdown and Step-Buildup Testing 3-1
3.2.1 Well 24EX1 Step Test Description 3-1
3.2.2 Well 24EX2 Step Test Description 3-1
3.2.3 Well 24IN1 Step Test Description 3-3
3.3 Constant-Rate Aquifer Pumping and Injection Test Descriptions 3-3
3.3.1 Well 24EX1 Test Description 3-3
3.3.2 Well 24EX2 Test Description 3-6
3.3.3 Well 24IN1 Test Description 3-6

TABLE OF CONTENTS (continued)

Section | Page

4 AQUIFER TEST ANALYSES AND RESULTS

4.1 Analyses of Aquifer Pumping Test Data 4-1

4.2 Casing-Storage Effects 4-1

4.3 Drawdown, Buildup, and Recovery Test Calculations 4-3

4.3.1 Well 24EX1 4-3

4.3.1.1 Well 24EX1 Test No. 1 4-3
4.3.1.2 Well 24EX1 Test No. 2 4-3
4.3.1.3 Well 24EX1 Test No. 3 4-3

4.3.2 Well 24EX2 Drawdown and Recovery Test Calculations 4-7
4.3.3 Well 24IN1 Buildup and Recovery Test Calculations 4-7

5 EVALUATION AND CONCLUSIONS

5.1 Evaluation of Data 5-1

5.1.1 Evaluation of Well 24EX1 Aquifer Pumping and Recovery Tests 5-1
5.1.2 Evaluation of Well 24EX2 Aquifer Pumping and Recovery Tests 5-2
5.1.3 Evaluation of Well 24IN1 Aquifer Pumping and Recovery Tests 5-7

6 REFERENCES

APPENDICES

Appendix

A SURVEY DATA

B SOIL BORING LOGS AND WELL CONSTRUCTION DETAILS

C GEOTECHNICAL AND SIEVE ANALYSES RESULTS

D ANALYTICAL RESULTS

E AQUIFER TEST ANALYTICAL METHODS

TABLE OF CONTENTS (continued)

Appendix

F AQTESOLV PLOTS

G AQUIFER TESTING DATA

FIGURES

Figure		Page
1-1	Location Map	1-2
1-2	Site Plan - Site 24	1-3
1-3	Benzene Concentrations in Shallow Groundwater	1-5
1-4	Location of Groundwater Extraction/Injection Test Wells	1-9
1-5	Conceptual Model of VOC Source Area	1-13
2-1	Injection Test Well 24IN1 and Observation Well Locations	2-2
2-2	Extraction Test Well 24EX1 and Observation Well Locations	2-3
2-3	Extraction Test Well 24EX2 and Observation Well Locations	2-4
3-1	Step-Drawdown Test – Well 24EX1	3-2
3-2	Step-Drawdown Test – Well 24EX2	3-4
3-3	Step-Drawdown Test – Well 24IN1	3-5
4-1	Neuman-Type Curves for Fully Penetrating Wells	4-2
4-2	Drawdown in Well 24EX1 With and Without Vacuum Enhancement	4-6
5-1	Stratigraphic Relationship of 24EX1 and Observation Wells	5-3
5-2	Boundary Condition – Well 24EX1 Constant-Rate Drawdown Test No. 1	5-5
5-3	Stratigraphic Relationship of 24EX2 and 24EX20B	5-9
5-4	Stratigraphic Relationship of 24IN1 and 24IN10B	5-13

TABLE OF CONTENTS (continued)

TABLES

Table		Page
2-1	Summary of Geotechnical Results	2-5
2-2	Summary of Groundwater Results—Volatile Organic Compounds	2-8
2-3	Summary of Groundwater Results—Semivolatile Organic Compounds	2-9
2-4	Summary of Groundwater Results—Metals	2-10
2-5	Summary of Groundwater Results—General Chemicals	2-13
3-1	Radial Distance from Observation Wells to Well 24EX1	3-6
4-1	Casing-Storage Effect Estimates	4-2
4-2	Summary of Results from Well 24EX1 Constant-Rate Aquifer Pumping Test No. 1	4-4
4-3	Summary of Results from Well 24EX1 Constant-Rate Aquifer Pumping Test No. 2	4-5
4-4	Comparison of Maximum Drawdown/Buildup Vacuum-Enhanced Constant-Rate Aquifer Test With Nonvacuum-Enhanced Tests	4-7
4-5	Summary of Results from Well 24EX2 Constant-Rate Aquifer Pumping Test	4-8
4-6	Summary of Results from Well 24IN1 Constant-Rate Injection Test	4-9
5-1	Evaluation of Well 24EX1 Aquifer Pumping and Recovery Tests	5-6
5-2	Evaluation of Well 24EX2 Aquifer Pumping and Recovery Tests	5-11
5-3	Evaluation of Well 24IN1 Aquifer Injection and Recovery Tests	5-15

ACRONYMS/ABBREVIATIONS

AOC	area of concern
ASTM	American Society for Testing and Materials
b	aquifer thickness
bgs	below ground surface
BNI	Bechtel National, Inc.
CLEAN	Comprehensive Long-Term Environmental Action Navy
CLP	(U.S. EPA) Contract laboratory Program
CME	Central Mining Equipment
cm/s	centimeters per second
CPT	cone penetrometer test
CTO	Contract Task Order
DCE	dichloroethene
DON	U.S. Department of the Navy
DQO	data quality objective
ft/day	feet per day
FS	Feasibility Study
gpm	gallons per minute
h	height of groundwater drawdown or buildup
IAFS	Interim-Action Feasibility Study
ICP	inductively coupled plasma
IDW	investigation-derived waste
IRP	(Navy) Installation Restoration Program
Irvine Subbasin	Irvine Groundwater Subbasin
K	hydraulic conductivity
LUFT	(California) Leaking Underground Fuel Tank
MCAS	Marine Corps Air Station
MSL	(feet above) mean sea level
NPL	National Priorities List
OCWD	Orange County Water District
OU	operable unit

ACRONYMS/ABBREVIATIONS (continued)

PCE	tetrachloroethene
pcf	pounds per cubic foot
PPE	personal protective equipment
PVC	polyvinyl chloride
Q	flow rate
R	radius of influence
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facilities Assessment
RI	Remedial Investigation
RWQCB	(California) Regional Water Quality Control Board
S	storativity
SOP	Standard Operating Procedure
SOW	(U.S. EPA) Statement of Work
SWDIV	Southwest Division Naval Facilities Engineering Command
SWMU	solid waste management unit
T	transmissivity
TAL	target analyte list
TCE	trichloroethene
TDS	total dissolved solids
TIC	The Irvine Company
TSP	trisodium phosphate
U.S. EPA	United States Environmental Protection Agency
VOC	volatile organic compound

Section 1
INTRODUCTION

This report presents the results of the aquifer testing at Site 24, the Volatile Organic Compound (VOC) Source Area portion of operable unit (OU)-2A, and one location near Tank Farm 2 at the Marine Corps Air Station (MCAS) El Toro in Orange County, California (Figure 1-1). Groundwater extraction and groundwater injection tests were conducted to help evaluate remedial technologies described in the OU-1 Interim-Action Feasibility Study (IAFS) (SWDIV 1995a) and the draft OU-2A FS (SWDIV 1996). The aquifer tests were conducted by Bechtel National, Inc. (BNI), on behalf of the U.S. Department of the Navy (DON), Southwest Division Naval Facilities Engineering Command (SWDIV) in accordance with Contract Task Order (CTO)-0073. This CTO was issued under the Comprehensive Long-Term Environmental Action Navy (CLEAN) II Program, contract No. N68711-92-D-4670.

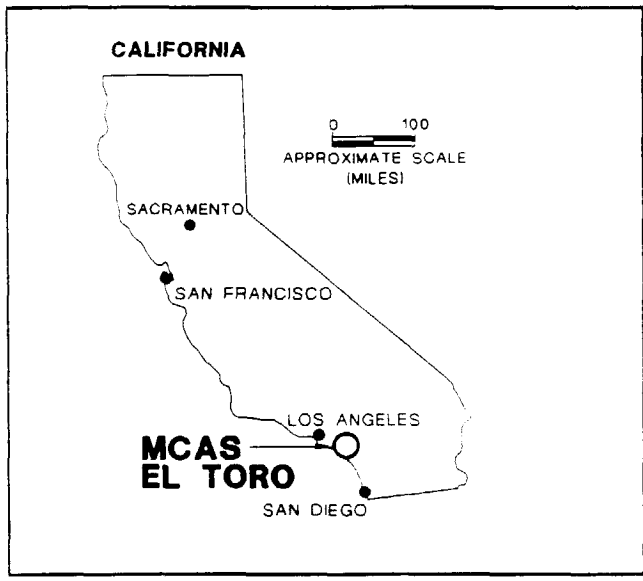
1.1 SITE DESCRIPTION

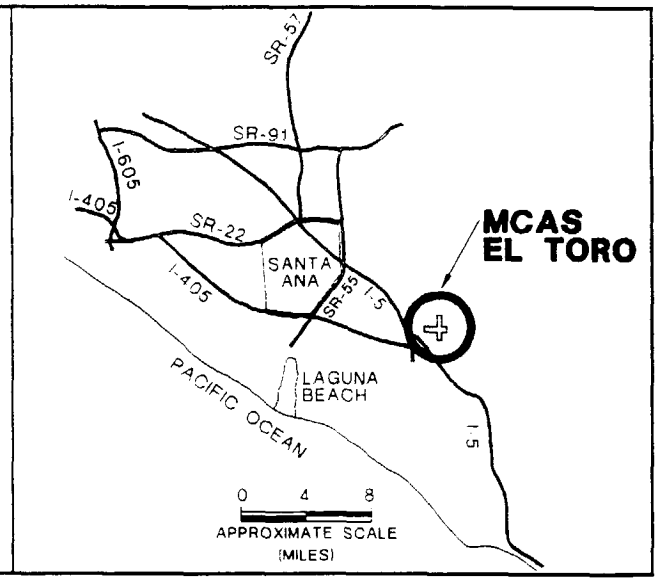
One extraction and one injection well were drilled at Site 24. Site 24 comprises approximately 200 acres in the southwestern quadrant of MCAS El Toro. The boundaries of Site 24 were drawn to include potential sources of regional VOC contamination in groundwater based on Phase I Remedial Investigation (RI) data (Jacobs Engineering 1994a), Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) data (Jacobs Engineering 1993), soil-gas survey data (Jacobs Engineering 1994b), aerial photograph interpretation (SAIC 1993), discussions with regulatory agencies, and former employee interviews at MCAS El Toro (Jacobs Engineering 1994c). Site 24 encompasses existing Navy Installation Restoration Program (IRP) Sites 7, 8, 9, 10, 11, 12, and 22 and several solid waste management units (SWMUs) and areas of concern (AOCs) investigated during the RFA where VOCs were detected. The VOC detected most often and at the highest concentration was trichloroethene (TCE). A site plan of Site 24 that shows the TCE distribution in shallow groundwater and soil gas near the water table is included as Figure 1-2.

One extraction well was drilled near Fuel Farm 2 to evaluate aquifer properties in the benzene plume area (Figure 1-3). According to the IAFS, the area around Fuel Farm 2 near the western Station perimeters seems to be a source of fuel hydrocarbon contamination. Tank Farm 2 is near Site 15. It contains JP-5 and fuel oil No. 2. Further investigation of underground storage tanks in this area is being conducted under the California Leaking Underground Fuel Tank (LUFT) program, which will also require evaluation and implementation of remedial responses to potential sources (Jacobs Engineering 1995a).

1.2 PURPOSE

The aquifer tests were performed as part of an effort to evaluate sustainable extraction and injection rates, the radius of influence, and hydraulic characteristics of the shallow groundwater unit. Groundwater extraction and injection tests were conducted in two wells installed at Site 24, and one well near Fuel Farm 2 to help evaluate the feasibility of using groundwater extraction and injection to remediate shallow groundwater beneath





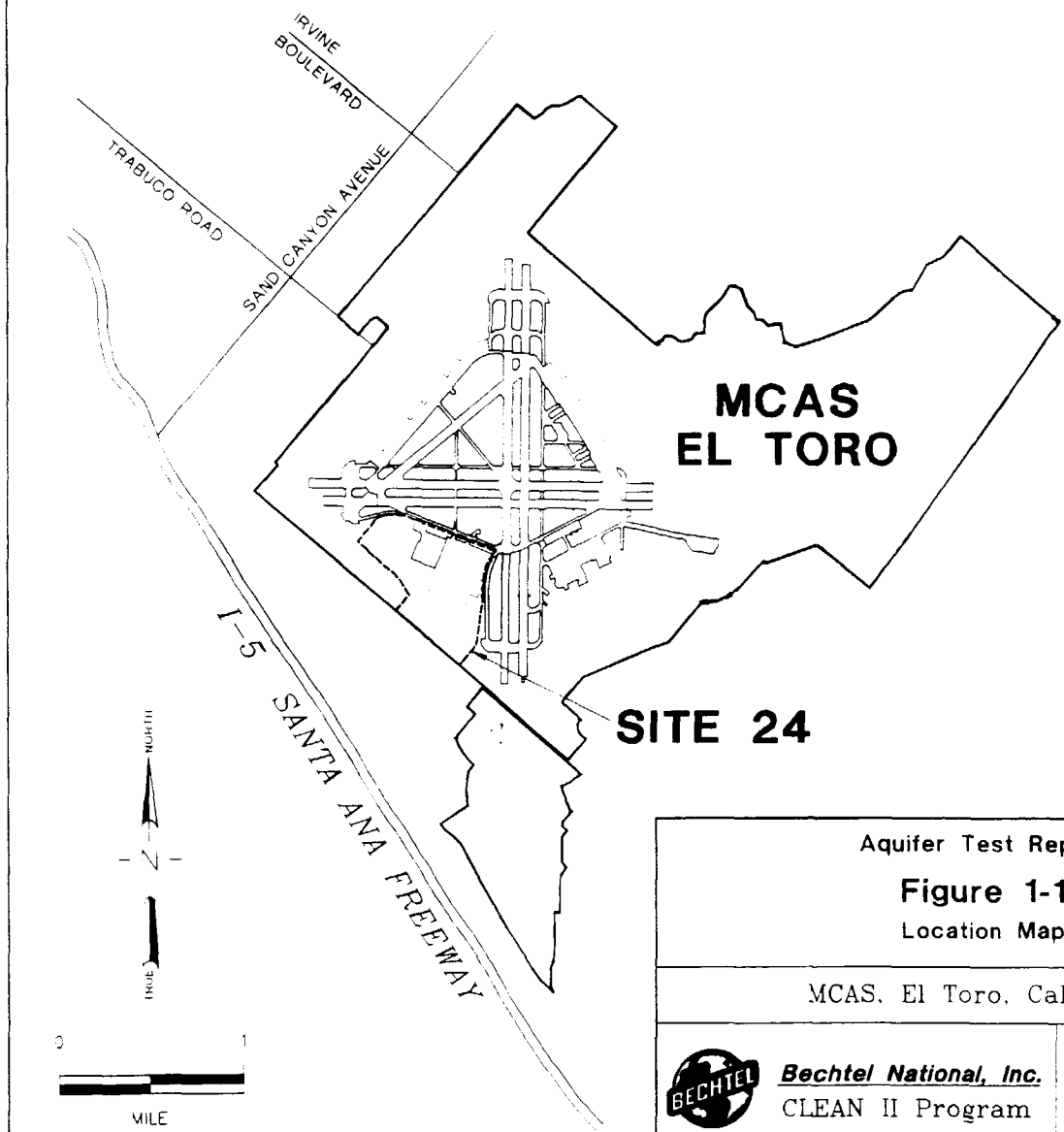


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Figure 1-1

Location Map

MCAS, El Toro, California

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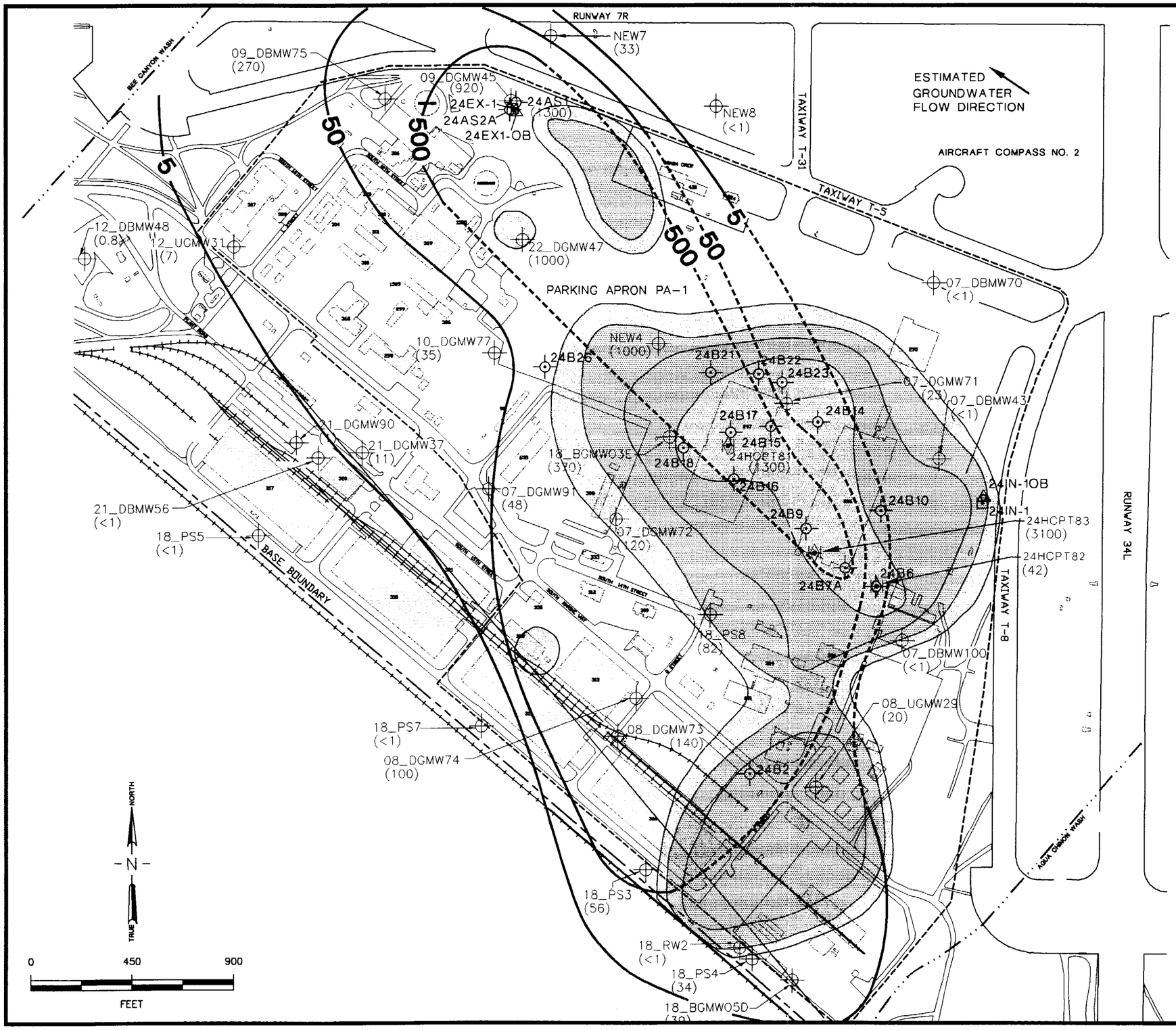

LEGEND

- BUILDING OR PAD
- STREAMS OR WASH
- IMPROVED ROADS
- RAILROAD
- PHASE II UNIT BOUNDARY
- BASE BOUNDARY
- –500– ISOCONCENTRATION CONTOUR OF TCE IN GROUNDWATER (µg/L) (FROM SAMPLES COLLECTED JULY 1992 TO JANUARY 1993. RESULTS IN TABLE C-1 PHASE I T.M.)
- --500-- REDEFINED ISOCONCENTRATION CONTOUR OF TCE IN GROUNDWATER (µg/L) (FROM PHASE II RI SAMPLES COLLLECTED OCTOBER 1995 TO JANUARY 1996)

SOIL GAS CONCENTRATIONS NEAR WATER TABLE:

- 1.0 TO 5.0 µg/L TCE
- 5.0 TO 50.0 µg/L TCE
- 50.0 TO 500.0 µg/L TCE
- GREATER THAN 500.0 µg/L TCE

EXISTING:

- MONITORING WELL (WITH HIGHEST TCE CONCENTRATION IN µg/L)
- AIR SPARGING WELL
- HYDROPUNCH SAMPLE (WITH HIGHEST TCE CONCENTRATION IN µg/L)
- SOIL VAPOR EXTRACTION WELL
- EXTRACTION TEST WELL
- OBSERVATION WELL

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Figure 1-2

Site Plan

MCAS, El Toro, California

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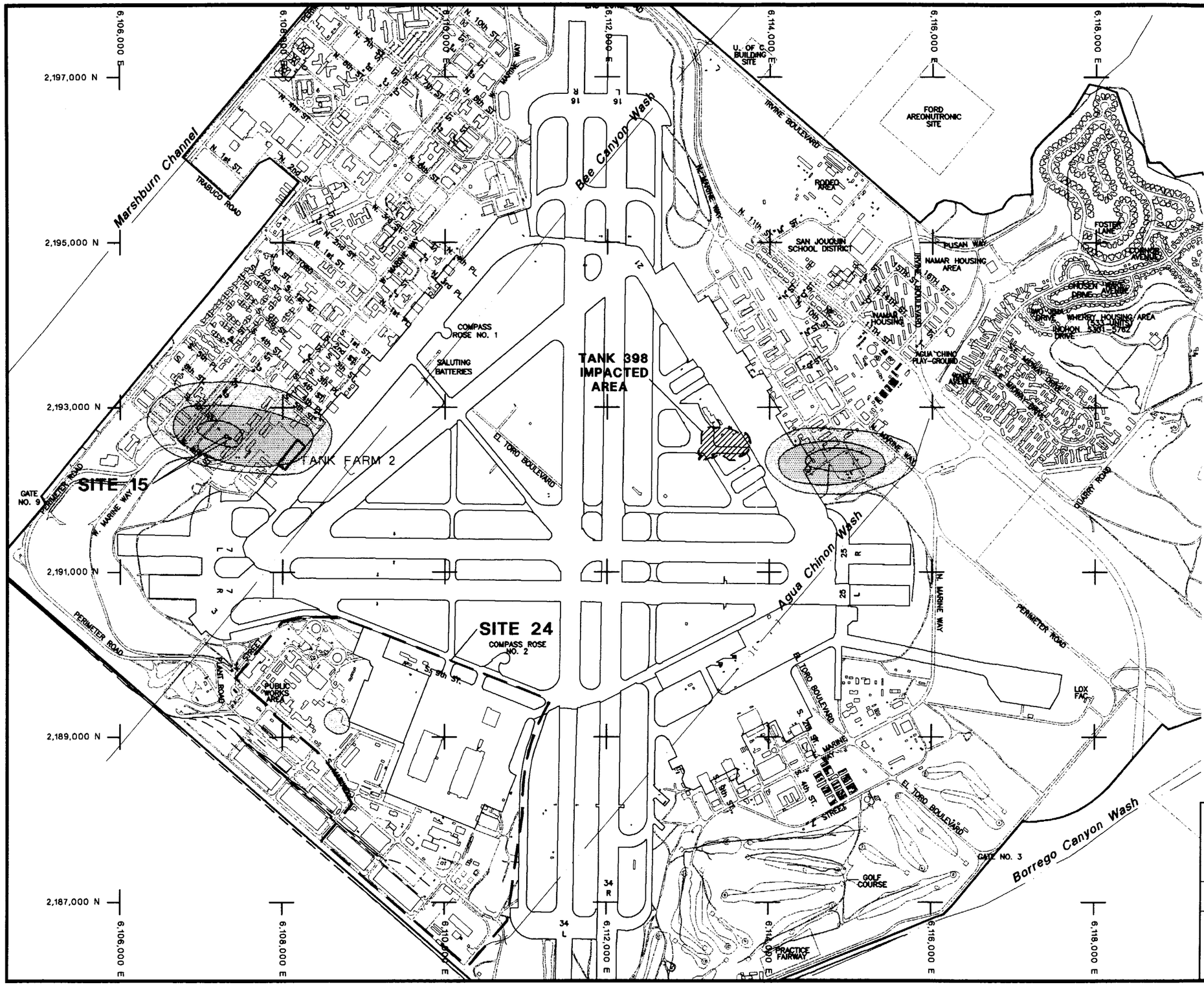

LEGEND

- BUILDING OR PAD
- IMPROVED/UNIMPROVED ROADS
- AIRFIELD
- WASH OR STREAM
- MCAS ELTORO BOUNDARY
- RAILROAD

BENZENE CONCENTRATIONS IN GROUNDWATER

- 0.5 TO 5.0 µg/L
- 5.0 TO 50.0 µg/L
- 50.0 TO 500.0 µg/L
- GREATER THAN 500.0 µg/L

NORTH
NORTH
N
STATION
TRUE

0 1,200 2,400
FEET

Aquifer Test Report
Figure 1-3
Benzene Concentrations in Shallow Groundwater

MCAS, El Toro, California

Bechtel National, Inc.
CLEAN II Program

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File No: 073H1798
Job No: 22214-073
Rev No: B

MCAS El Toro as described in the final Work Plan for the Phase II RI/Feasibility Study (FS) (BNI 1995a), the draft Groundwater Extraction and Injection Well Aquifer Tests Work Plan (BNI 1996b), and the draft OU-1 IAFS (Jacobs Engineering 1995a). The OU-1 IAFS assumed that extraction and injection wells screened across the shallow groundwater unit would be able to sustain 40 gallons per minute (gpm). Aquifer testing at Site 24 was designed, in part, to test this assumption. The wells were installed at locations identified by the CLEAN I contractor (Figure 1-4).

1.3 GUIDANCE AND AGREEMENTS

Guidance to implement the RI/FS is provided in the Installation Restoration Program Manual (DON 1992), which defines how the DON will satisfy guidelines, regulations, and criteria associated with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 and the Superfund Amendments and Reauthorization Act (SARA) of 1986 (DON 1994); the Marine Crops Environmental Compliance and Protection Manual (DON 1990); and the United States Environmental Protection Agency (U.S. EPA) Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA 1988).

This report was prepared in accordance with the October 1990 Federal Facilities Agreement (FFA) between the DON, U.S. EPA Region IX, California Department of Health Services (now referred to as the California Environmental Protection Agency [Cal-EPA]), represented by the Department of Toxic Substances Control (DTSC) and the California Regional Water Quality Control Board (RWQCB) Santa Ana Region. The FFA is a cooperative agreement between the DON, U.S. EPA, and Cal-EPA (DTSC and RWQCB Santa Ana Region) that:

- assures environmental impacts are investigated and appropriate response actions are taken to protect public health and the environment;
- establishes a procedural framework and schedule for developing, implementing, and monitoring appropriate response actions;
- facilitates cooperation, exchange of information, and participation of the parties; and
- assures adequate assessment, prompt notification, cooperation, and coordination between federal and state agencies.

The implementation of the FFA is included as one of the responsibilities of the Base Realignment and Closure (BRAC) Cleanup Team (BCT). The BCT consists of representatives from SWDIV, U.S. EPA, and Cal-EPA (DTSC and RWQCB Santa Ana Region). It was established to manage and coordinate environmental restoration and compliance programs related to closure and disposal of MCAS El Toro by July 1999. In addition, the MCAS El Toro BCT has specified in its mission and vision statement that:

- fast-track remediation of sites is necessary to expedite reuse; and
- restoration and reuse is to be maximized by 1999.

Additional guidance was obtained from the Phase II RI/FS Work Plan (BNI 1995a), Field Sampling Plan (BNI 1995b), Data Quality Assurance Plan (BNI 1995c), Quality Assurance Project Plan (BNI 1995d), Waste Management Plan (BNI 1995e), and Site-Specific Health and Safety Plan (BNI 1995f).

1.4 BACKGROUND

In March 1943, MCAS El Toro was commissioned as a Marine Corps pilot fleet operation training facility. In 1950, the Station was selected for development as a master jet station and permanent center for Marine Corps aviation on the west coast to support the operations and combat readiness of Pacific Fleet Marine Forces. Since 1985, the Station has taken action to assess effects of its operations on the surrounding environment and to remediate areas adversely affected.

In June 1985, the Orange County Water District (OCWD) discovered TCE in agricultural well TIC 47, located approximately 3,000 feet west of the Station. The well belongs to The Irvine Company (TIC). The OCWD installed a network of monitoring wells and soil vapor probes to assess TCE concentrations in soil and groundwater, and their study concluded that MCAS El Toro was the source of the regional VOC groundwater contamination. In June 1987, the RWQCB Santa Ana Region issued a cleanup and abatement order to the Marine Corps requiring the Station to initiate a perimeter groundwater VOC investigation (Herndon and Reilly 1989; Herndon 1990).

In 1988, the Marine Corps conducted a Perimeter Study Investigation of VOC contamination along the southwestern boundary of the Station. The results indicated the presence of VOCs in shallow groundwater near the southwestern Station boundary (JMM 1989). As a result, an interim groundwater pump-and-treat system was installed near the Station boundary. The system operated from June 1989 to September 1993, pumping approximately 30 gpm from three extraction wells (PS-1, PS-2, and PS-4).

Following the request of the U.S. EPA in June 1988, the Station was listed on the Superfund Program National Priorities List (NPL) in February 1990 (SWDIV 1995a). The Phase I RI concluded that the source of VOC contamination for regional groundwater is in the southwest quadrant of the station, but no specific sources were identified. Site 24 was defined to locate the VOC source in this area of the Station. The Phase II RI identified the VOC source at Site 24 and linked it to the regional VOC groundwater contamination.

A benzene-contaminated groundwater plume was also identified beneath Site 15 from a groundwater sample collected at well 15_DBMW51, which is near Tank Farm 2.

The Navy conducted an IAFS to evaluate interim remedial actions for the regional groundwater contamination. If the Desalter Project facility is approved, it is designed to extract groundwater at a rate of approximately 5,700 gpm from the Irvine Groundwater Subbasin (Irvine Subbasin). Following treatment, the groundwater will be used to augment the potable water supply. The capture zones of the proposed Desalter Project wells partially coincides with the area of groundwater contamination, and IAFS computer modeling suggests that the well field will influence groundwater flow beneath the Station

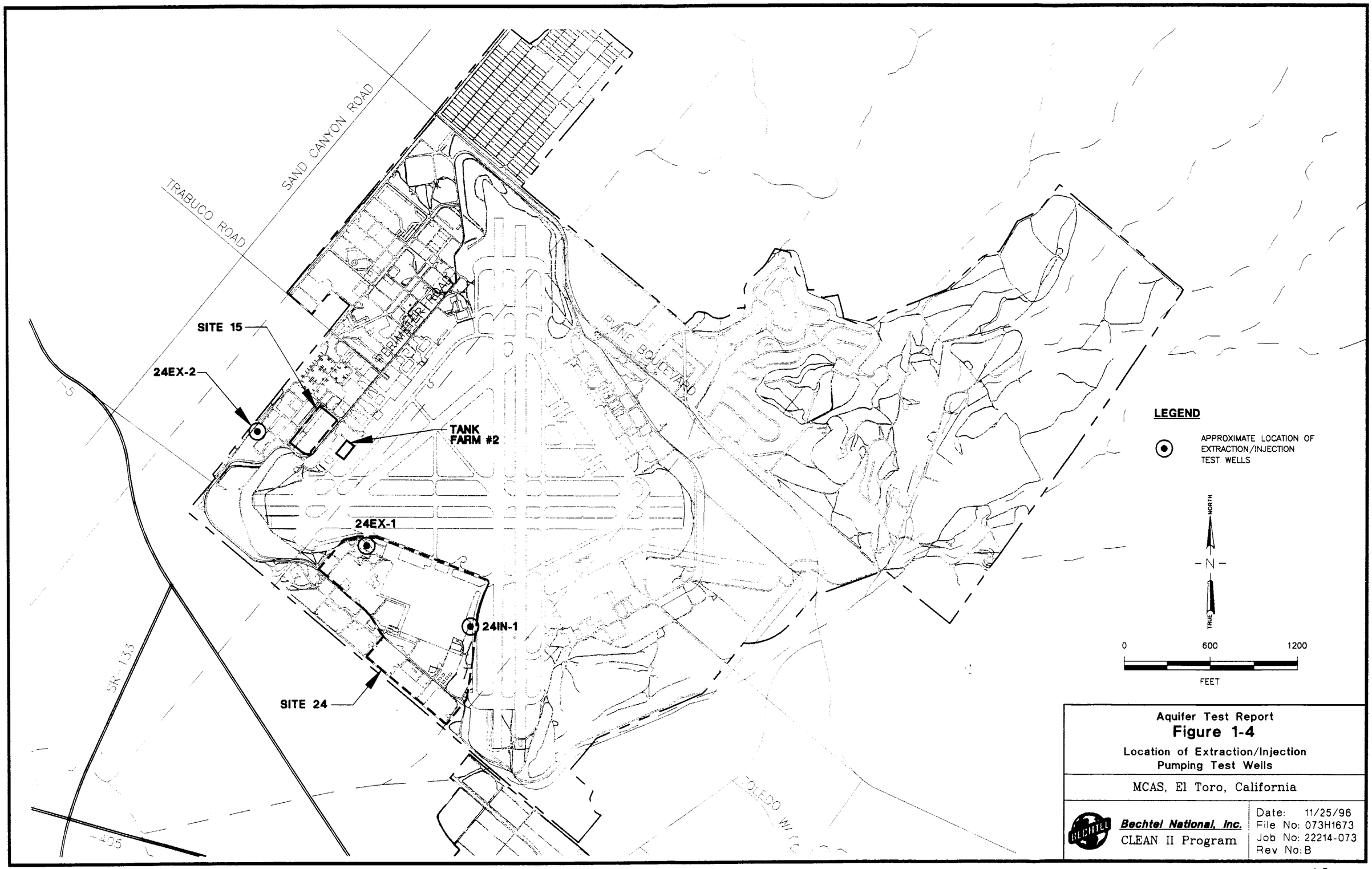

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Figure 1-4

Location of Extraction/Injection Pumping Test Wells

MCAS, El Toro, California

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(Jacobs Engineering 1996). Based on the analysis presented in the IAFS, several alternatives were considered to prevent VOC groundwater contamination beneath MCAS El Toro from migrating off-Station.

1.5 HYDROGEOLOGIC CONDITIONS

Regional aquifer systems in the Irvine Subbasin have been described as a series of discontinuous lenses of clayey sands and gravels contained within an assemblage of sandy clay and silt. Aquifer materials in the Irvine Subbasin were deposited in an alluvial environment. Due to the depositional environment, small-scale aquifer heterogeneities are common (interbedded sands, silts, and clays). On a large scale, stratigraphic units within the aquifer are considered to be somewhat homogeneous and laterally extensive. Regionally, the lenticular nature of the sandy silts and clays that separate the more permeable lenses probably allows groundwater to flow between the aquifer zones. The vertical leakage is documented from the pumping of agricultural wells off-Station.

The uppermost sediments, comprising the main hydrogeological units beneath MCAS El Toro, are identified as a generally coarse-grained layer (the shallow groundwater unit), a deeper layer of gravel-containing sediments (the principal aquifer), and a fine-grained intermediate zone that appears to separate the two hydraulically. Figure 1-5 depicts a conceptual model of this regional aquifer system based on the findings of the Phase I and Phase II RIs. Underlying the principal aquifer are semiconsolidated materials, the contact of which is referred to as the base of the water-bearing zone (Jacobs Engineering 1994a).

1.5.1 Shallow Groundwater Unit

Groundwater is first encountered approximately 85 to 120 feet beneath Site 24 in the shallow groundwater unit. This first water-bearing unit appears to be generally coarse-grained with some silty interbeds. The total thickness of the unit appears to be greater than 100 feet based on boring logs from wells 24NEW1 and 24NEW5. The upper 40 to 50 feet is relatively sandy with some fine-grained interbeds. The lower portion (the bottom 50 to 120 feet) of the unit becomes increasingly interbedded with finer-grained sediments as depth increases, although well 24NEW1 contains a gravelly sand unit in the lower 100 to 120 feet.

Phase I and II RI groundwater analytical data from the shallow groundwater unit show TCE concentrations to be relatively consistent (within an order of magnitude) in the upper 50 feet. TCE concentrations decrease approximately two orders of magnitude in the lower portion of the water-bearing unit. This suggests that the upper half of the shallow groundwater unit is laterally continuous, and that a vertical discontinuity separates the upper 50 feet from the remaining lower portion of the shallow groundwater unit on Site 24 where high TCE concentrations are not present.

Shallow groundwater unit aquifer tests conducted at various locations at the Station during the Phase I RI indicated values of hydraulic conductivity that range between 0.01 and 174 feet per day (ft/day) (Jacobs Engineering 1994a). At Site 24, aquifer pumping and slug tests performed during the Phase I RI yielded hydraulic conductivity

estimates in the shallow groundwater unit ranging from 0.22 to 65.1 ft/day with a geometric average of approximately 7.5 ft/day (Jacobs Engineering 1993a). Porosity was measured in Phase II RI geotechnical samples collected from sands in the saturated zone as ranging from 15.3 to 28 percent, with a geometric average of approximately 22 percent.

1.5.2 Intermediate Zone

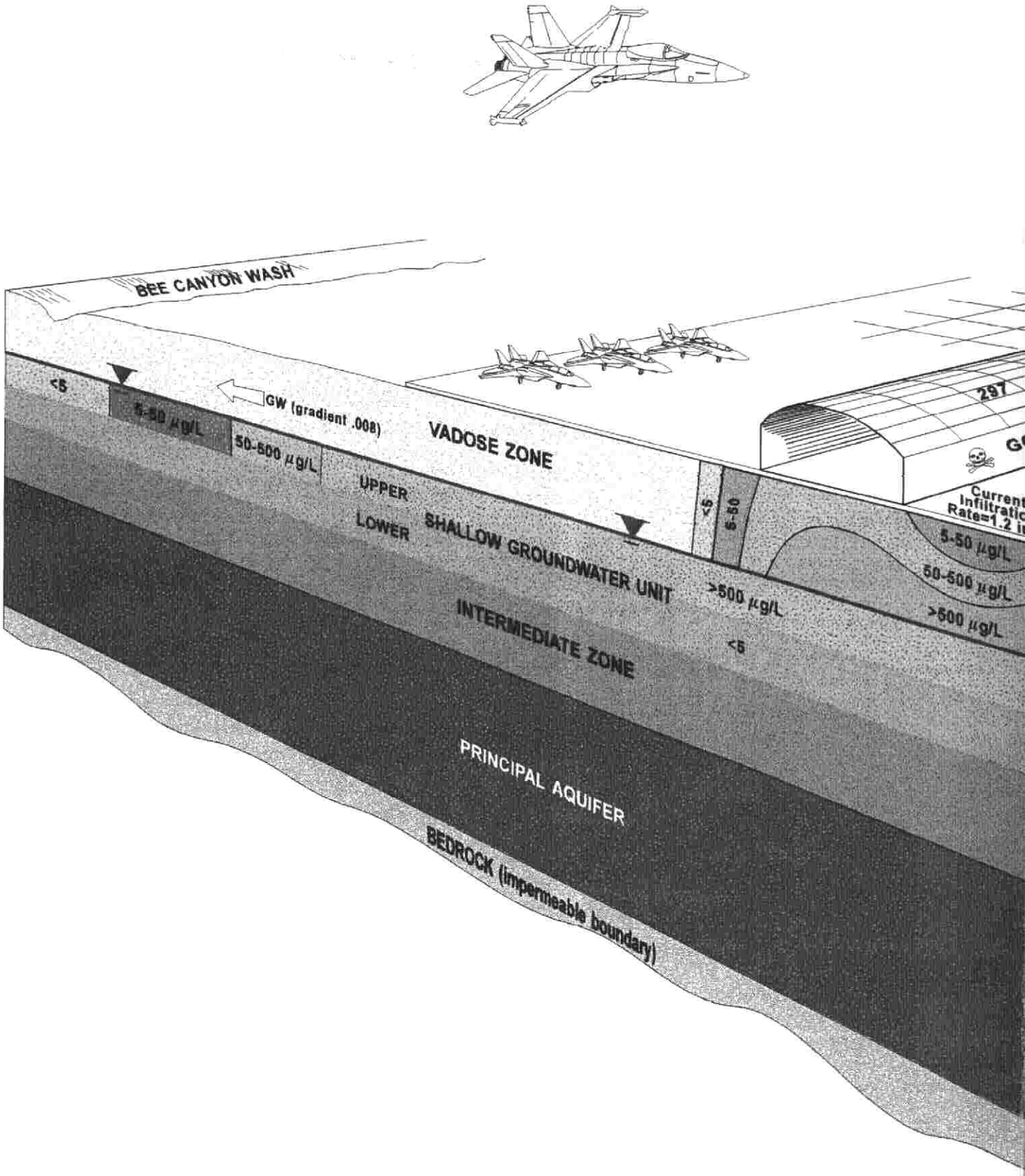
The intermediate zone beneath MCAS El Toro consists of finer-grained alluvial sediments, and it is estimated to be approximately 90 feet thick (Jacobs Engineering 1994). This unit separates the shallow groundwater unit from the deeper principal aquifer. Separation of the shallow groundwater unit from the principal aquifer at Site 24 is supported by lithologic, geochemical, and cone penetrometer test (CPT) data. Geotechnical analytical results from the shallow groundwater unit, intermediate zone, and principal water-bearing zone indicate hydraulic conductivities for the intermediate zone that are several orders of magnitude lower than the two water-bearing zones (BNI 1996b).

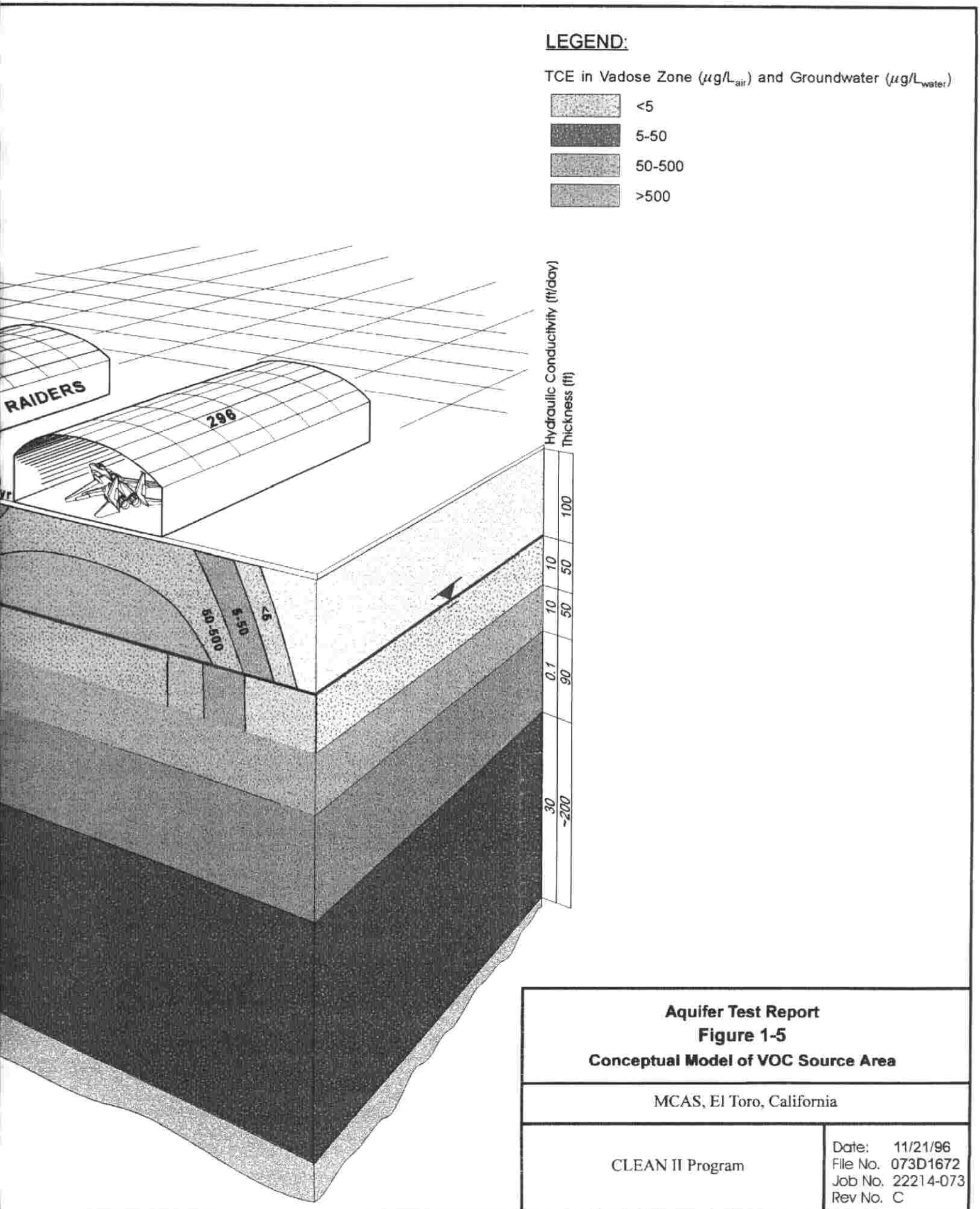
Although in an alluvial depositional environment the intermediate zone may not be laterally extensive, the general absence of TCE in the principal aquifer beneath Site 24 suggests that low-permeability layers within the shallow groundwater unit and intermediate zone are acting as aquitards. Under these conditions, groundwater movement below the water table would primarily be lateral along preferred pathways through the more permeable zones. Vertical migration would be limited by individual low-permeability zones but could be enhanced due to vertical gradients developed by off-Station agricultural well pumping.

The most likely source of TCE in the principal aquifer is the contaminated shallow groundwater unit. This suggests that at some point between Site 24 and the observed principal aquifer contamination, the intermediate zone no longer acts as a competent aquitard.

1.5.3 Principal Aquifer

The principal aquifer comprises the early Pleistocene San Pedro Formation and is the main water-production zone for the Irvine area. In general, deep-screened wells located near pumping centers in the main portion of the Irvine Subbasin indicate seasonal fluctuations in piezometric pressure more than shallow-screened intervals in the same wells (Jacobs Engineering 1994a). These water-level data from multiport monitoring and cluster wells in the Irvine Subbasin support hydraulic separation between the shallow water-bearing zone and the deeper, principal aquifer zone of the regional aquifer system. Although small vertical hydraulic head differences exist between shallow and deeper water-bearing intervals on Site 24 (e.g., in cluster well 18_BGMW03), the RI analytical data do not indicate downward migration of VOCs from the shallow groundwater unit to the principal aquifer on Site 24. However, the off-Station TCE contamination of the principal aquifer is verification that some migration has occurred, probably due to vertical gradients developed by agricultural well pumping.


BEE CANYON WASH
<5
5-50 µg/L
GW (gradient .008)
50-500 µg/L
VADOSE ZONE
UPPER
LOWER
SHALLOW GROUNDWATER UNIT
<5
5-50
>500 µg/L
<5
INTERMEDIATE ZONE
PRINCIPAL AQUIFER
BEDROCK (impermeable boundary)
297
5-50 µg/L
50-500 µg/L
>500 µg/L



Aquifer Test Report
Figure 1-5
Conceptual Model of VOC Source Area

MCAS, El Toro, California

CLEAN II Program

Date: 11/21/96
File No. 073D1672
Job No. 22214-073
Rev No. C

Section 2
WELL INSTALLATION AND SAMPLING

This section describes the drilling and construction of test and observation wells, and collection and analyses of soil and groundwater samples. All procedures were completed in accordance with the Phase II RI/FS Final Field Sampling Plan (BNI 1995).

2.1 PREDRILLING OPERATIONS

The observation and test well locations were surveyed by a licensed land surveyor. The data are shown in Appendix A. After surveying, utility clearance was performed at each drilling location to protect the field crew and reduce the potential for damage to utility lines and drilling equipment. Immediately prior to drilling at each of the six well locations, each boring was hand-augered to a depth of approximately 5 feet to check for subsurface utility lines.

2.2 OBSERVATION WELL INSTALLATION

The three observation wells were drilled and constructed prior to the installation of the test wells to evaluate the stratigraphy at each of the test well areas. The location of the observation wells are shown in Figures 2-1, 2-2, and 2-3. These borings were drilled using a continuous-flight hollow-stem auger drill rig and were continuously sampled.

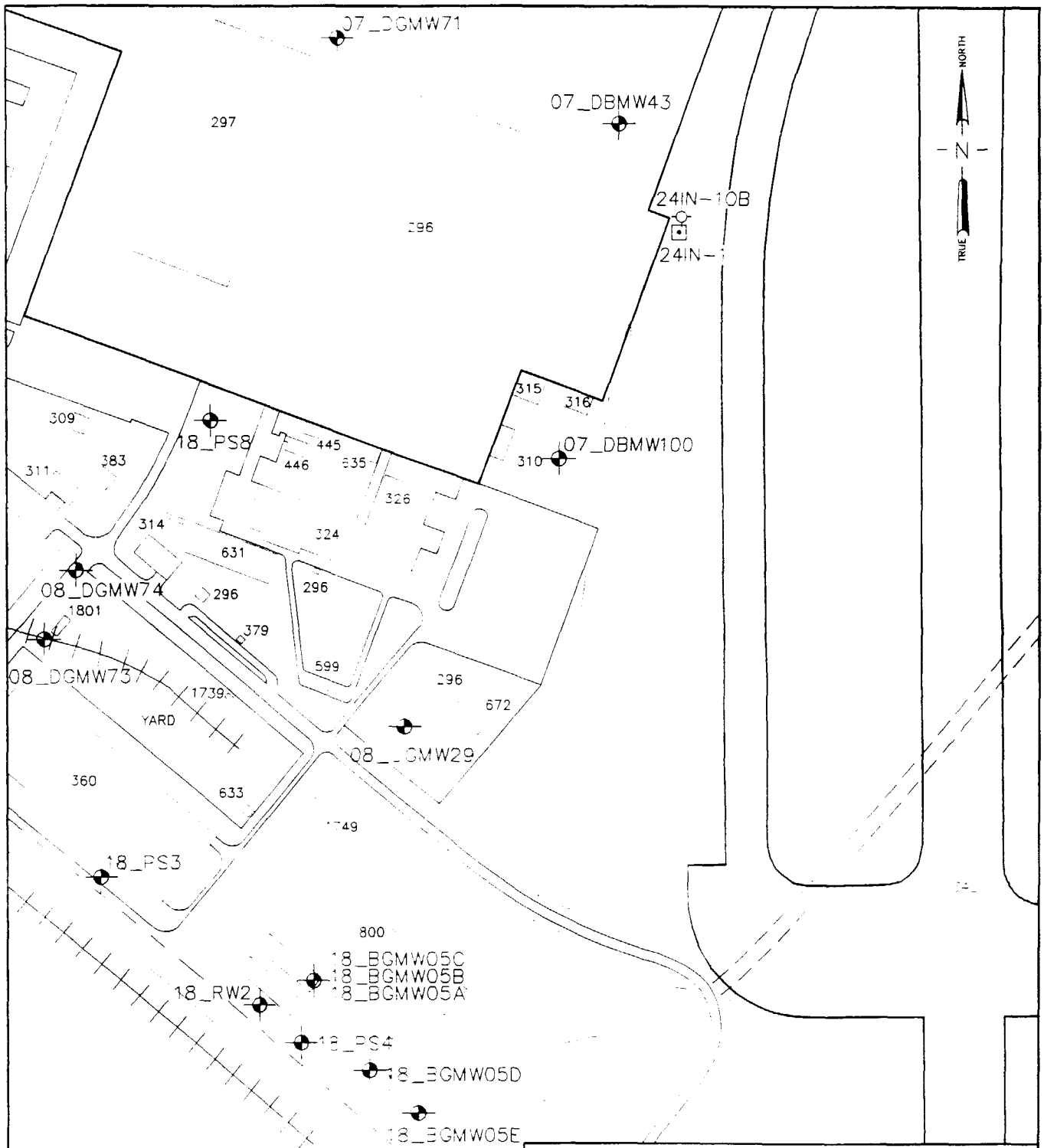
2.2.1 Soil Sampling and Geotechnical Analyses

Continuous soil samples were collected using an unlined 5-foot-long, 2.5-inch-diameter Central Mining Equipment (CME) split-spoon sampler. These samples were used for continuous lithologic logging. Soil samples for geotechnical analyses were collected in 2.5-foot-long thin-walled Shelby tube samplers. Three samples were collected in each observation well boring by pushing the sampler into undisturbed soil at the bottom of the boring. Boring logs are presented in Appendix B.

Soil samples collected for geotechnical analyses were submitted to BSK Laboratory for testing of the following physical parameters:

- moisture content American Society for Testing and Materials (ASTM) D2216;
- bulk density;
- vertical permeability (fine-grained, ASTM D5084; course-grained, ASTM D2434);
- porosity; and
- particle-size distribution (sieve analysis ASTM D422).

The summary of geotechnical analytical results are presented in Table 2-1. Geotechnical laboratory reports are included in Appendix C.



LEGEND

APPROXIMATE LOCATION OF EXISTING MONITORING WELLS

APPROXIMATE LOCATION OF INJECTION TEST WELL

APPROXIMATE LOCATION OF OBSERVATION WELL

0 300 600

FEET

Aquifer Test Report

Figure 2-1

Injection Test Well 24IN1 and Observation Well Locations

MCAS, El Toro, California

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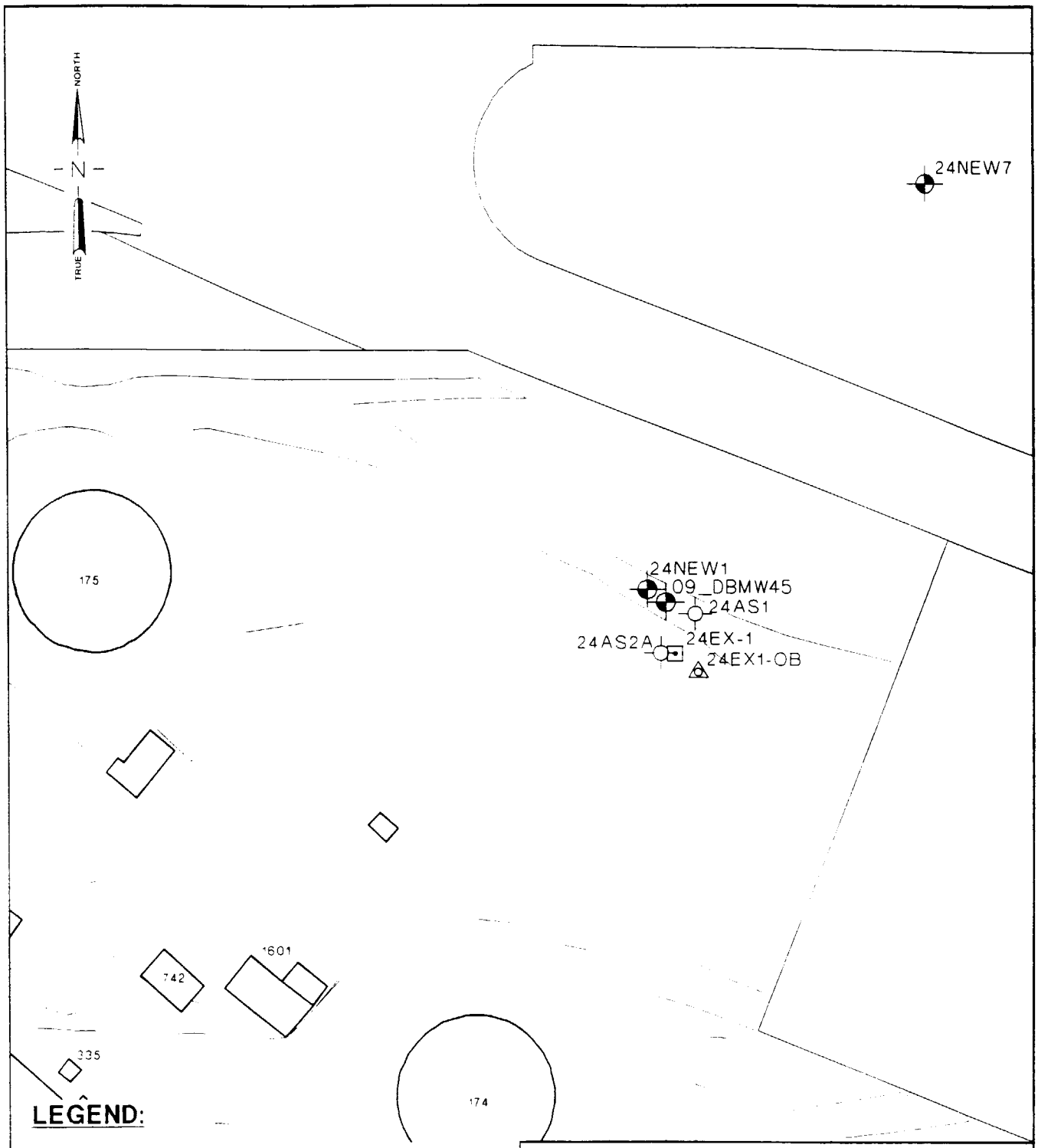
CLEAN II Program

Date: 11/21/96
File No: 073L1674
Job No: 22214-073
Rev No: B



LEGEND:

- APPROXIMATE LOCATION OF EXISTING MONITORING WELLS
- APPROXIMATE LOCATION OF EXTRACTION TEST WELL
- APPROXIMATE LOCATION OF OBSERVATION WELL
- APPROXIMATE LOCATION OF AIR SPARGING WELL

0 100 200

FEET

Aquifer Test Report

Figure 2-2

Extraction Test Well 24EX1 and Observation Well Locations

MCAS, El Toro, California

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CLEAN II Program

Date: 11/21/96
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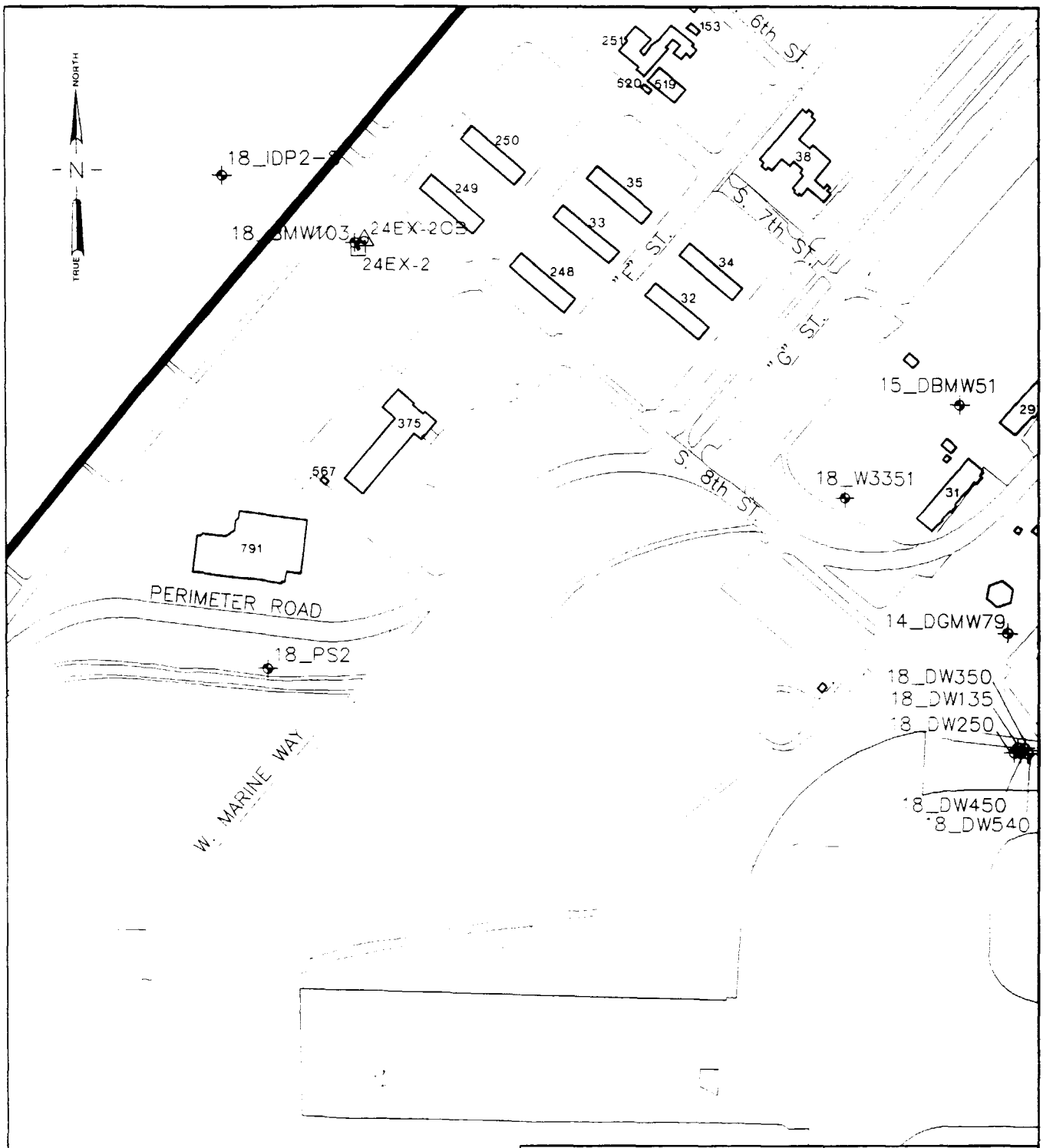
Job No: 22214-073
Rev No: D



LEGEND:

- APPROXIMATE LOCATION OF EXISTING MONITORING WELLS
- APPROXIMATE LOCATION OF EXTRACTION TEST WELL
- APPROXIMATE LOCATION OF OBSERVATION WELL

0 300 600

FEET

Aquifer Test Report

Figure 2-3

Extraction Test Well 24EX2 and Observation Well Locations

MCAS, El Toro, California

Bechtel National, Inc.

CLEAN II Program

Date: 11/21/96
File No: 073L1676
Job No: 22214-073
Rev No: C

Table 2-1
Summary of Geotechnical Results

Boring/ Depth (feet)	Dry Density (pcf)[a]	Visual Soil Description	Water Content (percent by weight)	Porosity (percent by volume)	Vertical Permeability (cm/s)[b]
Well 24IN1OB					
89.0 to 91.9	102	Sandy clay	19.7	38	1.9×10^{-9}
134.0 to 136.3	108	Sandy silt	18.6	35	4.0×10^{-9}
184.0 to 186.3	110	Silty sand	15.2	33	3.7×10^{-6}
Well 24EX1OB					
139.0 to 141.3	102	Silty sand	21.5	38	3.6×10^{-4}
189.0 to 191.3	118	Silty sand	15.3	29	2.1×10^{-9}
209.0 to 211.3	113	Sandy silt	16.6	32	1.0×10^{-8}
Well 24EX2OB					
144.0 to 146.3	118	Silty sand	16.6	29	1.5×10^{-6}
174.0 to 176.3	108	Silty sand	13.6	35	6.9×10^{-6}
199.0 to 201.3	108	Sandy clay	18.6	35	2.8×10^{-9}

Notes:
[a] pcf – pounds per cubic foot
[b] cm/s – centimeters per second

Field sieve analyses were used to confirm the selected screen and filter pack size for the observation and test wells. The grain-size distribution analyses were conducted on soil samples considered to be representative of the range of formation material grain sizes encountered during drilling in and adjacent to the screened intervals. Results of the field sieve analyses, grain-size distribution plots, and a brief description of the methodology used are presented in Appendix C.

2.2.2 Observation Well Construction

Observation wells were constructed using 2-inch-diameter schedule 40 polyvinyl chloride (PVC) casing with 0.020-inch PVC machine-cut screens. A commercial No. 2/16 sand filter pack was used to fill the annular space between the screen and borehole wall. A 2.5-foot sump was installed below the well screen to catch accumulated sediments. The well was completed with an aboveground protective steel box, approximately 2 by 2 feet and 2 feet high, set into a 5- by 5-foot by 7-inch-thick concrete pad. Three traffic posts approximately 3 feet high were set into concrete surrounding the concrete pad. Construction logs for the observation wells are shown in Appendix B.

2.3 TEST WELL INSTALLATION

Aquifer test wells were drilled using an air-rotary casing hammer rig. The wells were constructed inside nominal 12-inch-diameter well casing. The test wells were constructed of 6-inch-diameter Schedule 40 PVC casing with 0.020-inch stainless steel wire-wrapped screens. A commercial No. 2/16 sand filter pack was used to fill the annular space between the screen and borehole wall. A 2.5-foot sump was installed below the well screen, to catch accumulated sediments. The well was completed with an aboveground protective steel box, approximately 2 by 2 by 2 feet, set into a 5- by 5-foot by 7-inch-thick concrete pad. Three traffic posts approximately 3 feet high were set into concrete surrounding the concrete pad. Construction details of the aquifer test wells are shown in Appendix B.

Soil cuttings produced from the boring were circulated up the annulus into a hose and expelled through a "cyclone" into a portable bin. Discrete soil samples were not collected from the three test well borings since they were located near the continuously sampled observation wells. Grab samples from the cyclone were collected and visually classified.

2.4 GROUNDWATER SAMPLING

Groundwater sampling was conducted to assess groundwater quality at the test wells. Groundwater samples were collected from test wells 24EX1, 24EX2, and 24IN1 using methods described in detail in the CTO-0073 Phase II RI/FS Final Field Sampling Plan (BNI 1995). After each test well was purged, a disposable bailer was used to collect groundwater samples for analyses of VOCs, after which a pump was used to collect groundwater samples for semivolatile organic compounds (SVOCs), general chemistry, and metals. Filtered and unfiltered samples were collected for metals analyses.

2.5 GROUNDWATER SAMPLE LABORATORY ANALYSES

Groundwater samples were submitted to Inchcape Analytical Laboratory for the following chemical analyses:

- VOCs by U.S. EPA Contract Laboratory Program (CLP) Statement of Work (SOW) Method 624 Modified,
- fuel hydrocarbons by U.S. EPA Method 8015,
- aromatic VOCs by U.S. EPA Method 8020,
- SVOCs by U.S. EPA Method 8270,
- pesticides and polychlorinated biphenyls (PCBs) by U.S. EPA Methods 8080/8140,
- chlorinated herbicides by U.S. EPA Methods 8150 /615,
- total analyte list (TAL) metals by U.S. EPA CLP/SOW,

- four inductively coupled plasma (ICP) metals scan-total by U.S. EPA Method 200.7,
- California Title 22 metals,
- cyanide by U.S. EPA Method 9010,
- alkalinity, carbonate and bicarbonate by U.S. EPA Method 310.1 Modified,
- chloride by U.S. EPA Method 300.0,
- fluoride by U.S. EPA Method 300.0,
- hardness-bicarbonate by U.S. EPA Method 130.1,
- nitrate, by U.S. EPA Method 354.1,
- nitrate by U.S. EPA Method 353.2,
- nitrite by U.S. EPA Method 353.2,
- sulfate by U.S. EPA Method 300.0,
- total dissolved solids by U.S. EPA Method 160.1, and
- total suspended solids by U.S. EPA Method 160.2.

Groundwater analytical results are summarized in Tables 2-2, 2-3, 2-4, and 2-5, and presented in full in Appendix D.

2.6 INVESTIGATION-DERIVED WASTES

Investigation derived wastes were handled in accordance with the CTO-0073 Phase II RI/FS Final Investigation-Derived Waste Plan (BNI 1995).

Table 2-2
Summary of Groundwater Results—Volatile Organic Compounds
(results in micrograms per liter)

Well Number	Sample Number	Date (1996)	Analyte	Result/ Laboratory Qualifier
24EX1	73W1114	19 April	Trichloroethene	340 P[a]
24EX1	73W1123	29 May	Trichloroethene	780 P
24EX2	73W1121	29 May	Carbon tetrachloride	0.87
			Toluene	0.68
			Trichloroethene	13 P
24EX2	73W1118	24 April	Carbon tetrachloride	1.8
			Toluene	1.3
			Trichloroethene	42 E[b]
24IN1	73W1116	23 April	Trichloroethene	0.94
24IN1[c]	73W1119	02 May	2-butanone	93
			Acetone	6
			Tetrahydrofuran	4 N[d]J[e]
09DBMW45	73W1124	29 May	Trichloroethene	720 P

Notes:
[a] P – target analyte with greater than 25-percent difference for detected concentration
[b] E – compound concentration exceeded the calibration range of the gas chromatography/mass spectroscopy instrument
[c] sample 73W1119 is from 24EX1, after carbon treatment and before injection into well 24IN1
[d] N – presumptive evidence to make a tentative identification of the analyte
[e] J – estimated value

Table 2-3
Summary of Groundwater Results—Semivolatile Organic Compounds
(results in micrograms per liter)

Well Number	Sample Number	Date (1996)	Analyte	Result/ Laboratory Qualifier
24EX1	73W1114	19 April	Butyl benzyl phthalate	0.6 J[a]D[b]
			di-n-butyl phthalate	2.0 JB[c]D
			di-n-octyl phthalate	0.6 JD
			2-ethyl-hexanoic acid	2 N[d]JD
			bis(2-ethylhexyl)phthalate	10 BD
24EX2	73W1118	24 April	2-methylnaphthalene	0.4 J
			bis(2-ethylhexyl)phthalate	3 B
			di-n-butyl phthalate	1.0 JB
			Naphthalene	0.5 J
24IN1	73W1116	23 April	bis(2-ethylhexyl)phthalate	2 B

Notes:
[a] J – estimated value
[b] D – compound identified in an analysis at a secondary dilution factor
[c] B – present in blank
[d] N – presumptive evidence to make a tentative identification of the analyte

Table 2-4
Summary of Groundwater Results—Metals
(results in micrograms per liter)

Well Number	Sample Number/ Container	Date (1996)	Analyte	Results/ Laboratory Qualifier
24EX1	73W1114 unfiltered	19 April	Antimony	1.7 B[a]
			Barium	19.6 B
			Cadmium	0.41 B
			Calcium	249,000
			Chromium	42.7
			Cobalt	1.1 B
			Copper	5.5 B
			Iron	306
			Magnesium	73,200
			Manganese	57.9
			Molybdenum	17.9
			Nickel	88.8 E[b]
			Potassium	3,190 BE
			Selenium	62.1
			Sodium	123,000 E
			Vanadium	12.9 B
			Zinc	15.6 BE
24EX1	73W1114 filtered	4/19/96	Barium	19.7 B
			Cadmium	0.45 B
			Calcium	246,000
			Chromium	4.6 B
			Cobalt	2.5 B
			Copper	6.7 B
			Iron	111
			Magnesium	71,900
			Manganese	62
			Molybdenum	16.5
			Nickel	100 E
			Potassium	3,300 BE
			Selenium	59.9
			Sodium	117,000 E
			Vanadium	11.2 B
			Zinc	21.6 E

(table continues)

Table 2-4 (continued)

Well Number	Sample Number/ Container	Date (1996)	Analyte	Results/ Laboratory Qualifier
24IN1	73W1116 unfiltered	23 April	Aluminum	457
			Antimony	1.3 B
			Barium	53.8 B
			Calcium	125,000
			Chromium	88.6 E
			Cobalt	1.6 B
			Copper	4.8 B
			Iron	943
			Magnesium	35,300
			Manganese	33.5
			Molybdenum	30
			Nickel	69.9
			Potassium	3,420 B
			Selenium	20.1
			Sodium	87,300
			Vanadium	18.2 B
			Zinc	6.2 B
24IN1	73W1116 filtered	4/23/96	Antimony	4 B
			Barium	51.2 B
			Calcium	126,000
			Chromium	5.1 BE
			Cobalt	2.4 B
			Copper	2.8 B
			Iron	102
			Magnesium	35,400
			Manganese	25.7
			Molybdenum	30.6
			Nickel	62.3
			Potassium	3,370 B
			Selenium	21.3
			Silver	1.3 B
			Sodium	87,500
			Vanadium	15.1 B
			Zinc	5.3 B

(table continues)

Table 2-4 (continued)

Well Number	Sample Number/ Container	Date (1996)	Analyte	Results/ Laboratory Qualifier
24EX2	73W1118 filtered	24 April	Antimony	3.2 B
			Barium	24.2 B
			Cadmium	0.69 B
			Calcium	408,000
			Chromium	3.3 BE
			Cobalt	2.9 B
			Copper	3.1 B
			Iron	225
			Magnesium	153,000
			Manganese	144
			Molybdenum	29.8
			Nickel	189
			Potassium	5,510
			Selenium	174
			Sodium	172,000
			Vanadium	11.6 B
			Zinc	5.5 B
24EX2	73W1118 unfiltered	24 April	Aluminum	35.6 B
			Barium	24.7 B
			Cadmium	0.73 B
			Calcium	422,000
			Chromium	38.3 E
			Cobalt	3 B
			Copper	4.3 B
			Iron	538
			Magnesium	153,000
			Manganese	149
			Molybdenum	30.7
			Nickel	213
			Potassium	5,710
			Selenium	177
			Sodium	168,000
			Vanadium	13.5 B
			Zinc	4 B

Notes:
[a] B – present in blank
[b] E – compound concentration exceeded the calibration range of the gas chromatography/mass spectroscopy instrument

Table 2-5
Summary of Groundwater Results—General Chemicals
(results in milligrams per liter)

Well Number	Sample Number/ Container	Date (1996)	Analyte	Results
24EX1	73W1114	19 April	Chloride	333
			Sulfate	505
			Bicarbonate	168
			Total alkalinity	168
			Nitrite	0.016
			Nitrate/nitrite	22.7
			Total dissolved solids	1,820
			Total suspended solids	4.5
			Total hardness ($CaCO_3$)	876
24EX2	73W1118	24 April	Chloride	477
			Sulfate	1,000
			Bicarbonate	220
			Total alkalinity	220
			Nitrite	0.064
			Nitrate/nitrite-N	36.3
			Total dissolved solids	2,910
			Total suspended solids	5.7
			Total hardness ($CaCO_3$)	1,290
24IN1	73W1116	23 April	Chloride	239
			Fluoride	0.2
			Sulfate	149
			Bicarbonate	136
			Total alkalinity	136
			Nitrite	0.005
			Nitrate/nitrite	11.8
			Total dissolved solids	1,020
			Total suspended solids	17.4
			Total hardness ($CaCO_3$)	448

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Section 3
DESCRIPTIONS OF AQUIFER TESTS

This section describes the objectives, step, and constant-rate aquifer tests performed at Site 24, MCAS El Toro.

3.1 AQUIFER TEST OBJECTIVES

Aquifer pumping and injection tests were conducted to estimate aquifer parameters in the Site 24 and Site 15 areas. Specific objectives of the aquifer tests included:

- obtaining transmissivity and storage coefficient estimates for the shallow groundwater unit;
- estimating the radius of influence at specified pumping rates; and
- assessing the feasibility of reinjecting treated groundwater, obtained from extraction wells, into the shallow groundwater unit.

3.2 STEP-DRAWDOWN AND STEP-BUILDUP TESTING

Step-drawdown tests were completed on extraction wells 24EX1, and 24EX2. A step-buildup test was conducted on injection well 24IN1. The purpose of the step tests were to assess aquifer pumping and injection rates that could be maintained for the duration of the constant-rate tests.

3.2.1 Well 24EX1 Step Test Description

The step test at well 24EX1 was conducted in four steps, each lasting 65 minutes, except for step 4, which lasted 30 minutes. At the end of Step 4, the water level in the well was nearly at the pump. Total pumping time was 210 minutes, and recovery was measured for 213 minutes. The pumping rates and resulting drawdown for each of the four steps were as follows:

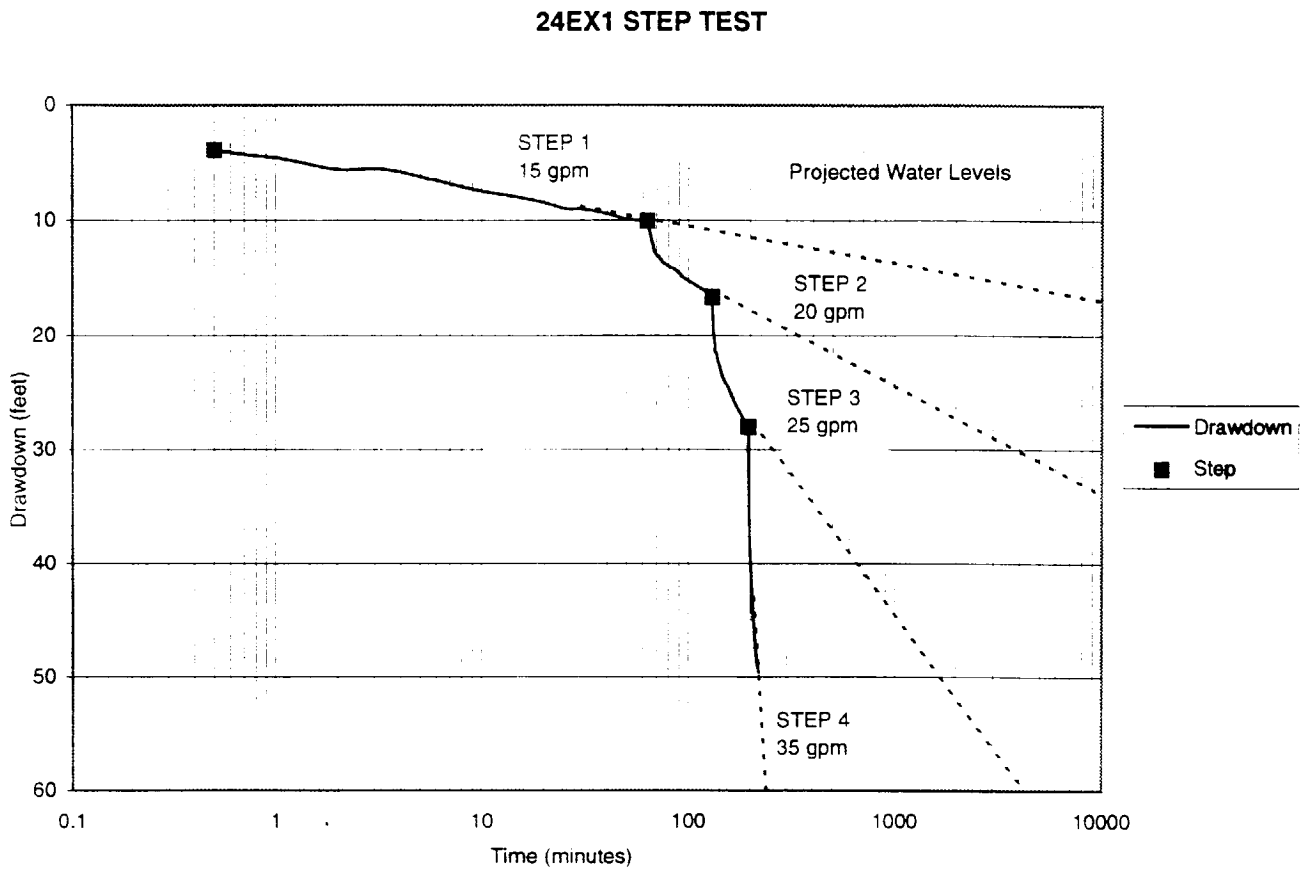
- Step 1: 15 gpm, resulting in 10 feet of drawdown after 65 minutes;
- Step 2: 20 gpm, resulting in 15.8 feet of drawdown after 65 minutes;
- Step 3: 25 gpm, resulting in 28.4 feet of drawdown after 65 minutes; and
- Step 4: 35 gpm, resulting in 49.2 feet of drawdown after 30 minutes.

Based on the step test results, a pumping rate of 20 gpm was selected for the constant rate pumping test at well 24EX1. The data from this test are shown on Figure 3-1.

3.2.2 Well 24EX2 Step Test Description

The step test at well 24EX2 was conducted in four steps. The pumping rates and resulting drawdown for each of the four steps were as follows:

- Step 1: 10 gpm, resulting in 6.3 feet of drawdown after 60 minutes;
- Step 2: 20 gpm, resulting in 14.9 feet of drawdown after 90 minutes;



Aquifer Test Report

Figure 3-1

Step-drawdown Test Well 24EX1

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Rev No B

- Step 3: 30 gpm, resulting in 30.0 feet of drawdown after 120 minutes; and
- Step 4: 40 gpm, resulting in 85.0 feet of drawdown after 110 minutes.

Based on the step test results, a pumping rate of 15 gpm was selected for the constant rate pumping test at well 24EX2. The data from this test are shown on Figure 3-2.

3.2.3 Well 24IN1 Step Test Description

The step test at well 24IN1 was conducted in four steps, each lasting 60 minutes, except for step 4, which was conducted for 180 minutes. The injection rates and resulting drawdown for each of the four steps were as follows:

- Step 1: 4 gpm, resulting in 2.7 feet of buildup after 60 minutes;
- Step 2: 8 gpm, resulting in 4.7 feet of buildup after 60 minutes;
- Step 3: 16 gpm, resulting in 7.9 feet of buildup after 60 minutes; and
- Step 4: 25 gpm, resulting in 12.1 feet of buildup after 180 minutes.

Based on the step test results, an injection rate of 15 gpm was selected for the long-term injection test at well 24IN1. The data from this test are shown on Figure 3-3.

3.3 CONSTANT-RATE AQUIFER PUMPING AND INJECTION TEST DESCRIPTIONS

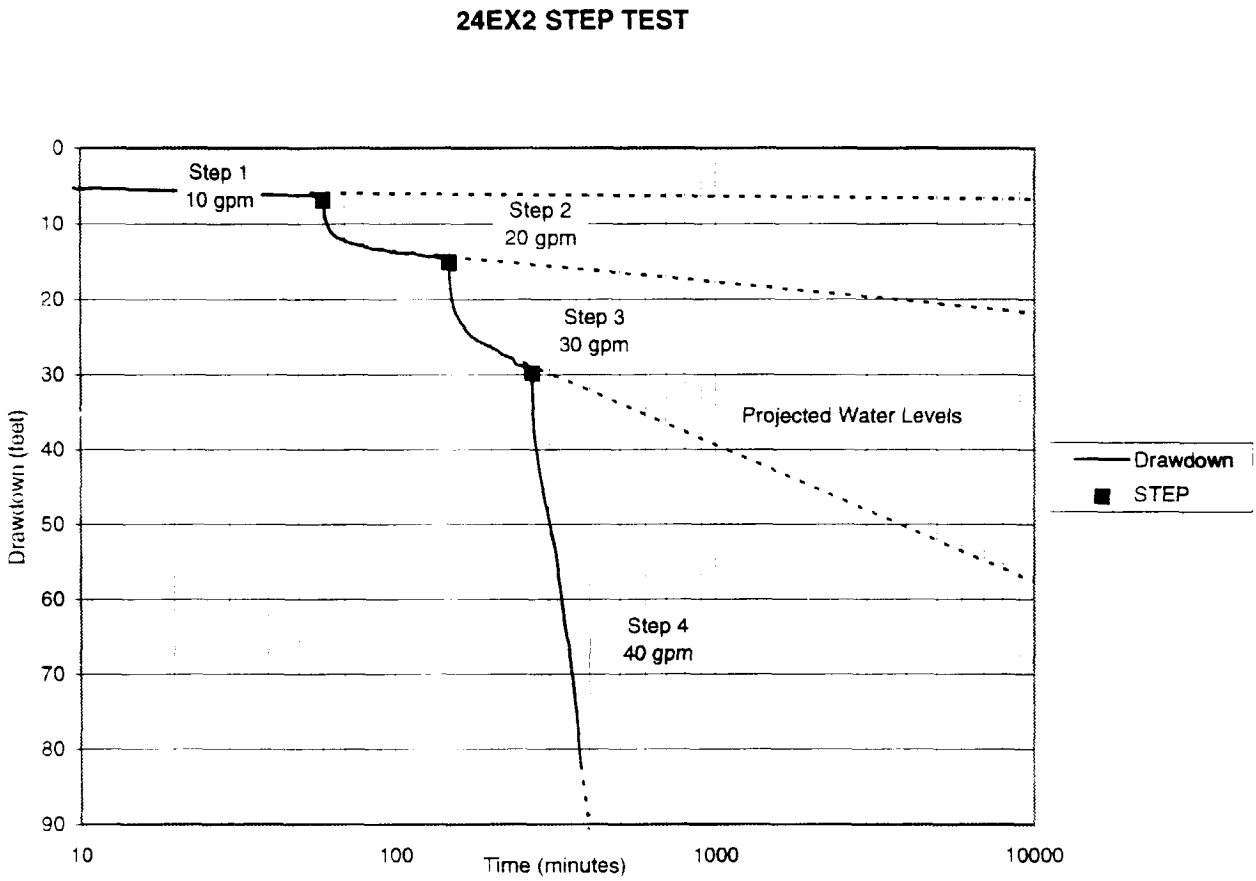
This section describes the constant-rate aquifer pumping and injection tests.

3.3.1 Well 24EX1 Test Description

The original length of each constant-rate aquifer test was intended to be 3 days; however, aquifer properties limited the duration of the drawdown test in well 24EX1. Consequently, two approximately one-day constant-rate aquifer pumping tests were conducted in well 24EX1, each followed by a recovery test. A third, variable-rate drawdown test with vacuum enhancement was then conducted in well 24EX1 to determine the effect of applied vacuum on the drawdown in the nearby observation wells. The vacuum-enhanced test was conducted for approximately 3 days.

The statistics for each of the three constant-rate aquifer pumping tests performed on well 24EX1 are shown below.

- Test 1, aquifer pumping rate: 20 gpm for 1,015 minutes; recovery period: 436 minutes.
- Test 2, aquifer pumping rate: 15 gpm for 1,351 minutes; recovery period: 1105 minutes.
- Test 3, aquifer pumping rate: 15 to 20 gpm for 4,105 minutes; recovery period: 1,826 minutes.



Aquifer Test Report

Figure 3-2

Step-drawdown Test Well 24EX2

MCAS. El Toro. California

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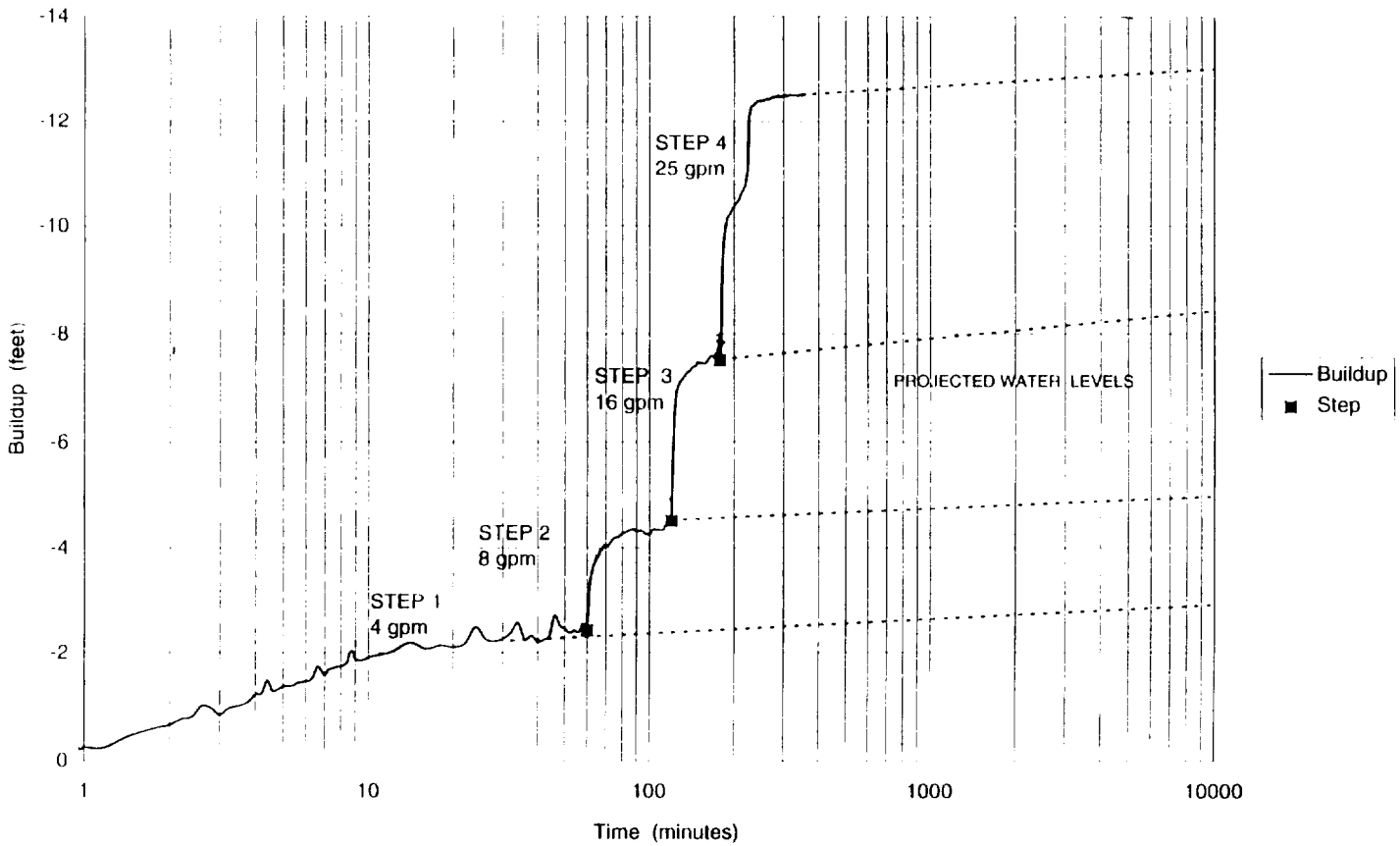
CLEAN II Program

Date: 11/15/96
File No: -
Job No: 22214-073
Rev No: B



Aquifer Test Report

Figure 3-3

Step-buildup Test Well 24IN1

MCAS, El Toro, California

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CLEAN II Program

Date: 11/15/96
File No: -
Job No: 22214-073
Rev No: B

Data were recorded in wells 24EX1, 24EX1OB, 24NEW1, 24AS2A, 24AS1, and 09_DBMW45 for all tests with the following exceptions:

- Test 1: no data were recorded in wells 24AS1 and 09_DBMW45.
- Test 2: no aquifer recovery data were recorded in wells 09_DBMW45, 24AS1, and 24AS2A.

The radial distance from the observation wells to extraction well 24EX1 is shown in Table 3-1.

Table 3-1
Radial Distance from Observation Wells to Well 24EX1
(in feet)

WELL NUMBER				
24AS2A	24EX1OB	24AS1	09_DBMW45	24NEW1
10.5	20.0	31.5	33.8	40.5

3.3.2 Well 24EX2 Test Description

A three-day constant rate aquifer test, followed by an aquifer recovery test was conducted in extraction well 24EX2. Statistics for this test are shown below.

- Aquifer pumping rate: 15 gpm for 4,330 minutes; recovery period: 5,440 minutes.
- Water-level data were recorded in wells 24EX2 and 24EX2OB.
- The distance from observation well 24EX2OB to well 24EX2 is 20.5 feet.

3.3.3 Well 24IN1 Test Description

Originally planned as a three-day test, the injection well test on well 24IN1 was limited by the availability of treated groundwater. Statistics for this test are shown below.

- Aquifer pumping rate: 15 gpm for 2,340 minutes; recovery period: 830 minutes.
- Water-level data were recorded in wells 24IN1 and well 24IN1OB.
- The distance from observation well IN1OB to well 24IN1 is 24.7 feet.

Section 4
AQUIFER TEST ANALYSES AND RESULTS

This section describes the methods of analysis used to estimate aquifer properties and presents the results of those analyses. The aquifer testing evaluation and conclusions are presented in Section 5.

4.1 ANALYSES OF AQUIFER PUMPING TEST DATA

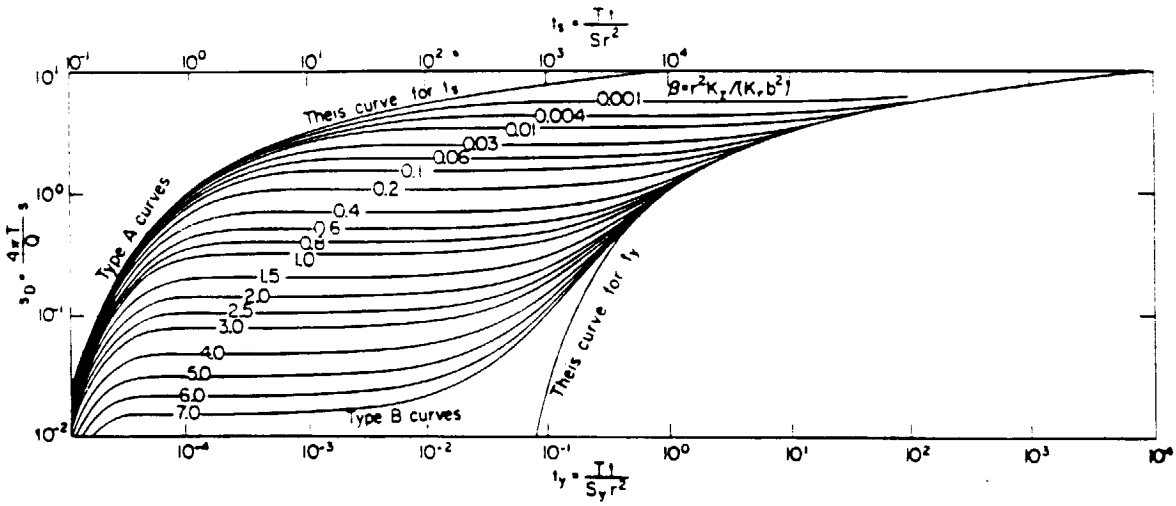
The drawdown data from each of the pumping tests were first analyzed to determine casing storage effects using the Schafer casing storage method. This method is used to estimate the time into a constant-rate test that the casing storage effects can be considered negligible. After the casing storage effects became negligible, the drawdown data were analyzed using the Neuman and Cooper-Jacob methods. The recovery data from each test were analyzed using the Theis recovery method. The Neuman, Cooper-Jacob, and Theis methods are described in Appendix E. These analytical methods were conducted using AQTESOLV® software and checked by hand using standard curve-fitting techniques.

The initial method for determining aquifer parameters from drawdown and buildup data was the Neuman method for unconfined aquifers. Drawdown data from unconfined aquifers plotted versus time on logarithmic paper usually form an S-shaped curve, consisting of a steep segment at early times, a flat segment at intermediate times, and a somewhat steeper segment at later times (Neuman 1975). The phenomenon that causes this behavior is known as delayed gravity response. Neuman's model treated the unconfined aquifer as a compressible system and the water table as a moving material boundary. Using this approach, Neuman created a series of type curves for aquifer test analysis (Figure 4-1). The early data are represented by Type A curves, and the later data are represented by Type B curves. The curves lying to the left of β in Figure 4-1 are called Type A curves; Type B curves are to the right of the β values. By superimposing drawdown data on the Neuman type curves, transmissivity, storativity (early time) and specific yield (late time) can be calculated. The Cooper-Jacob and Theis recovery methods were also used to compare against the Neuman calculations.

4.2 CASING-STORAGE EFFECTS

Early drawdown data in a pumping well will reflect at least to some extent, the removal of water stored in the casing rather than the actual reduction of head or lowering of the water table in the aquifer. As the water level in the casing falls, the influx of water from the formation should gradually begin to supply a greater percentage of the well yield. The Schafer method estimates the period of time at the beginning of an aquifer pumping or injection test in which casing storage affects transmissivity calculations (Driscoll 1986). For a complete description of the casing-storage calculations, see Appendix E. A summary of casing-storage-effect calculations is given in Table 4-1.

TYPE CURVES FOR FULLY PENETRATING WELLS



Source: Neuman 1975

Aquifer Test Report

Figure 4-1

Neuman Type Curves For Fully Penetrating Wells

MCAS, El Toro, California

Bechtel National, Inc.

CLEAN II Program

Date 11/15/96
File No. -
Job No. 22214-073
Rev No. A

Table 4-1
Casing-Storage Effect Estimates

	WELL NUMBER				
	24EX1 Test No. 1	24EX1 Test No. 2	24EX1 Test No. 3	24EX2	24IN1
Casing-storage Effect (t_c)*	13.5 minutes	22.0 minutes	13.0 minutes	17.5 minutes	6.3 minutes

Note:
* t_c – time (in minutes) when casing-storage effect becomes negligible according to Schafer (Driscoll 1986)

4.3 DRAWDOWN, BUILDUP, AND RECOVERY TEST CALCULATIONS

Analyses of the drawdown and buildup data first take into consideration the casing-storage effect by neglecting early-time drawdown data prior to the critical times calculated using the Schafer casing-storage calculations. Transmissivity values were estimated by curve matching using the Neuman, Cooper-Jacob, and Theis recovery methods. These calculations were performed on the extraction, injection, and observation wells.

4.3.1 Well 24EX1

Two constant-rate drawdown and their associated recovery tests were conducted at well 24EX1. A third, variable-rate drawdown test was conducted with vacuum applied to the extraction well to see if the applied vacuum would enhance the drawdown in the nearby observation wells and increase the well yield. Because test No. 3 used a variable pumping rate, the pumping and recovery data were not analyzed to estimate aquifer properties.

4.3.1.1 WELL 24EX1 TEST NO. 1

This section presents the results of pumping and observation well data analysis for well 24EX1 test No. 1. A boundary condition (Section 5.1.1) was encountered that caused drawdown to exceed that estimated by the step-drawdown test. Test No. 1 was continued until the water level reached the pump. The observation well drawdown data are difficult to interpret when the drawdown is less than 0.5 feet. This is apparent in curve-fitting plots for wells 2EX1OB and 24AS2A where the maximum drawdown observed was 0.22 feet. A summary of the results is presented in Table 4-2. Curve fittings for the pumping and observation wells using the Neuman, Cooper-Jacob, and Theis methods are shown in Appendix F (Figures F-1 through F-12).

4.3.1.2 WELL 24EX1 TEST NO. 2

A second constant-rate test was conducted using a reduced pumping rate and a lower pump setting to account for the boundary condition. This section presents the results of

pumping and observation well data analysis for well 24EX1 (Test No. 2). The observation well drawdown data are difficult to interpret when the drawdown is less than 0.5 feet. A summary of the results is presented in Table 4-3. Curve fitting for pumping well 24EX1 using the Neuman, Cooper-Jacob, and Theis recovery methods is shown in Appendix F (Figures F-13 through F-27).

4.3.1.3 WELL 24EX1 TEST NO. 3

A vacuum-enhanced pumping test was conducted to see if the applied vacuum would enhance drawdown in the nearby observation wells and increase the well yield. Figure 4-2 compares the well drawdown from test No. 2 to test No. 3. This figure shows that the well yield was increased. These data are shown in Table 4-4. A corresponding increase in observation well drawdown was not observed over the duration of the test.

Table 4-2
Summary of Results from Well 24EX1 Constant-Rate Aquifer Pumping Test No. 1[a]

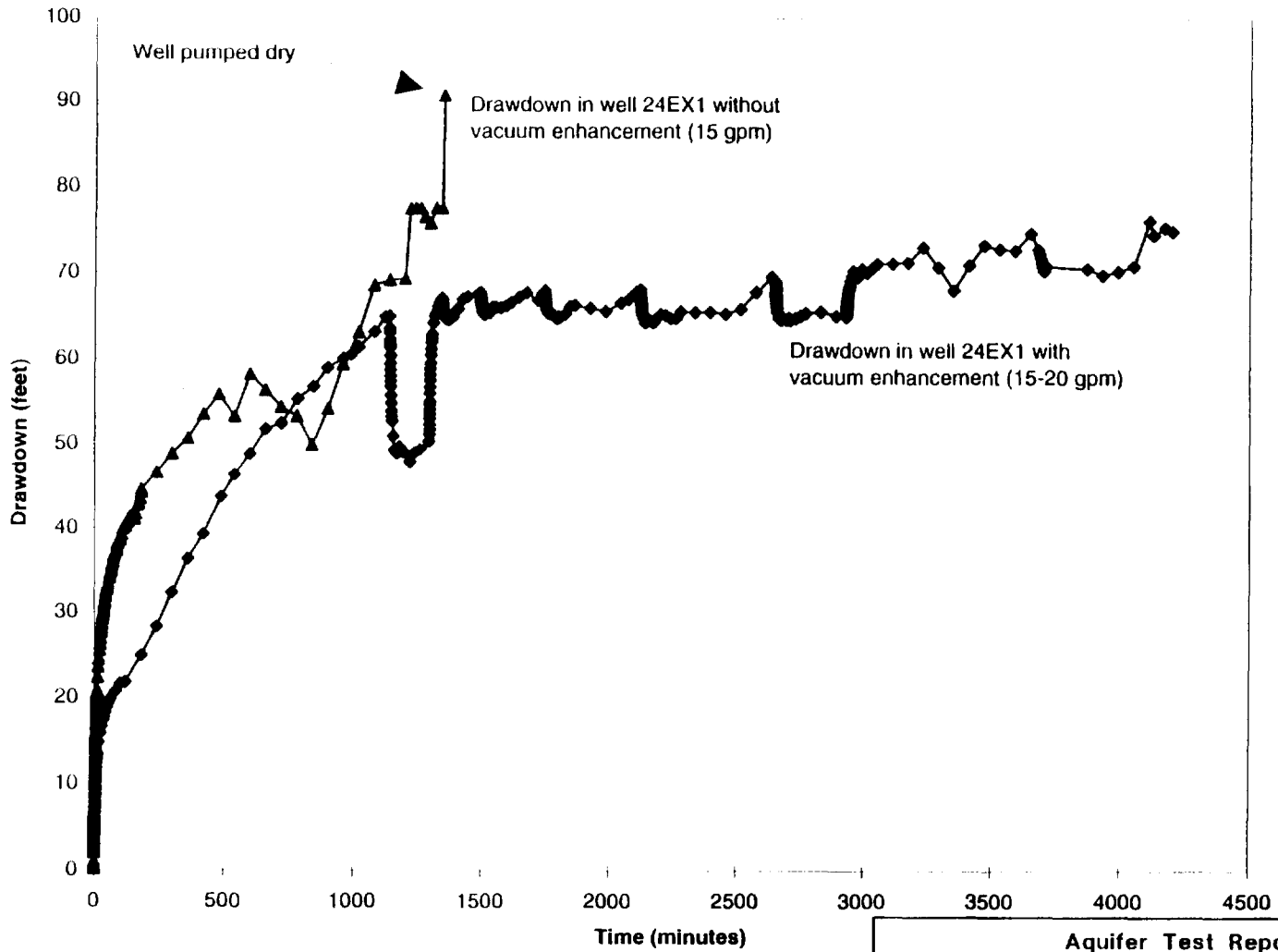
Test	Maximum Drawdown (feet)	T[b] (ft^2/min)[c]	K(ave)[d] (ft/min)[e]	K(ave) (ft/day)[f]	Storage Coefficient	Method of Analysis	Critical[g] Time (min)	Curve Fit
WELL 24EX1 CONSTANT RATE								
Well 24EX1	38	0.06	0.0006	0.86	NA[h]	Neuman	NA	Good
	38	0.062	0.00062	0.89	NA	Cooper-Jacob	8.9	Good
	38	0.022[i]	0.00022	0.32	NA	Cooper-Jacob	NA	Good
Well 24NEW1	0.58	0.70	0.007	10.1	0.11	Neuman	NA	Good
	0.58	0.7	0.007	10.1	0.11	Cooper-Jacob	1,288.8	Good
Well 24EX1OB	0.22	5.5	0.055	79.2	0.15	Neuman	NA	Fair
	0.22	NI[i]	NI	NI	NI	Cooper-Jacob	NA	Poor
Well 24AS2A	0.15	NI	NI	NI	NI	Neuman	NA	Poor
	0.15	NI	NI	NI	NI	Cooper-Jacob	NA	Poor
WELL 24EX1 RECOVERY								
Well 24EX1	38	0.051	0.00051	0.73	NI	Theis	NA	Fair
Well 24EX1OB	0.22	0.68	0.0068	9.8	NI	Theis	NA	Fair
Well 24AS2A	0.15	0.68	0.0068	9.8	NI	Theis	NA	Fair
Well 24NEW1	0.58	1.97	0.0197	28.4	NI	Theis	NA	Fair

Notes:
[a] aquifer pumping rate: 20 gallons per minute for 1,015 minutes; recovery period: 436 minutes
[b] T – transmissivity
[c] ft^2/min – square feet per minute
[d] K(ave) – average hydraulic conductivity
[e] ft/min – feet per minute
[f] ft/day – feet per day
[g] critical time applicable to Cooper-Jacob method (see Appendix E, Section E2.4.1)
[h] NA – not applicable
[i] effective transmissivity/conductivity value due to boundary condition
[i] NI – not interpretable

Table 4-3
Summary of Results from Well 24EX1 Constant-Rate Aquifer Pumping Test No. 2[a]

Test	Maximum Drawdown (feet)	T[b] (ft^2/min)[c]	K(ave)[d] (ft/min)[e]	K(ave) (ft/day)[f]	Storage Coefficient	Method of Analysis	Critical[g] Time (min)	Curve Fit
WELL 24EX1 CONSTANT RATE								
Well 24EX1	80	0.02	0.0002	0.29	NA[h]	Neuman	NA	Good
	80	0.024	0.00024	0.35	NA	Cooper-Jacob	8.3	Good
	80	0.01[i]	0.0001	0.14	NA	Cooper-Jacob	NA	Good
Well 24EX1OB	0.24	4.2	0.042	60.5	0.14	Neuman	NA	Fair
	0.24	NI[j]	NI	NI	NI	Cooper-Jacob	NA	Poor
Well 24AS2A	0.25	NI	NI	NI	NI	Neuman	NA	Poor
	0.25	NI	NI	NI	NI	Cooper-Jacob	NA	Poor
Well 24AS1	0.18	NI	NI	NI	NI	Neuman	NA	Poor
	0.18	NI	NI	NI	NI	Cooper-Jacob	NA	Poor
Well 24NEW1	0.7	0.6	0.006	8.6	0.04	Cooper-Jacob	546.8	Good
	0.7	0.46	0.0046	6.6	0.03	Neuman	NA	Good
09DBMW45	0.22	NI	NI	NI	NI	Neuman	NA	Poor
	0.22	NI	NI	NI	NI	Cooper-Jacob	NA	Poor
WELL 24EX1 RECOVERY								
Well 24EX1	80	0.044	0.00044	0.63	NA	Theis	NA	Fair
Well 24EX1OB	0.24	5.3	0.053	76.3	NA	Theis	NA	Fair
Well 24NEW1	0.7	0.85	0.0085	12.24	NI	Theis	NA	Fair

Notes:
- [a] aquifer pumping rate: 15 gallons per minute for 1,351 minutes; recovery period: 1,105 minutes
- [b] T – transmissivity
- [c] ft^2/min – square feet per minute
- [d] K(ave) – average hydraulic conductivity
- [e] ft/min – feet per minute
- [f] ft/day – feet per day
- [g] critical time applicable to Cooper-Jacob method (see Appendix E, Section E2.41)
- [h] NA – not applicable
- [i] effective transmissivity/conductivity value due to boundary condition
- [j] NI – not interpretable



Aquifer Test Report

Figure 4-2

Drawdown in Well 24EX1 With and Without Vacuum Enhancement

MCAS, El Toro, California

Bechtel National, Inc.
CLEAN II Program

Date: 10/15/96
File No: -
Job No: 22214-073
Rev No: A

Table 4-4
Comparison of Maximum Drawdown/Buildup Vacuum-Enhanced Constant-Rate Aquifer Test With Nonvacuum-Enhanced Tests

	WELL NUMBER		
	24EX1 (Test No. 1)	24EX1 (Test No. 2)	24EX1 (Test No. 3)
Rate[a] (gpm)[b]	20	15	15 – 20
Drawdown (feet)	38	80	65
Duration (minutes)	1,051	1,351	4,105

Notes:
[a] average pumping rate: 15 to 20 gpm for 4,105 minutes, recovery period 1,826 minutes
[b] gpm – gallons per minute

4.3.2 Well 24EX2 Drawdown and Recovery Test Calculations

This section presents the results of pumping and observation well data analysis for extraction well 24EX2. The observation well drawdown data are difficult to interpret when the drawdown is less than 0.5 feet. A summary of the results is presented in Table 4-5. Curve fitting for pumping well 24EX2 using the Neuman, Cooper-Jacobs, and Theis methods is shown in Appendix F (Figures F-28 through F-33).

4.3.3 Well 24IN1 Buildup and Recovery Test Calculations

This section presents the results of injection and observation well data analysis for injection well 24IN1. A summary of the results is presented in Table 4-6. Curve fitting for injection well 24IN1 using the Neuman, Cooper-Jacob, and Theis methods is shown in Appendix F (Figures F-34 through F-39).

Table 4-5
Summary of Results from Well 24EX2 Constant-Rate Aquifer Pumping Test[a]

Test	Maximum Drawdown (feet)	T[b] (ft^2/min)[c]	K(ave)[d] (ft/min)[e]	K(ave) (ft/day)[f]	Storage Coefficient	Method of Analysis	Critical[g] Time (min)	Curve Fit
WELL 24EX2 CONSTANT RATE								
Well 24EX2	20.5	0.065	0.00065	0.94	NA[h]	Neuman	NA	Good
	20.5	0.092	0.00092	1.3	NA	Cooper-Jacob	0.8	Good
Well 24EX2OB	0.85	1.06	0.0106	15.3	0.016	Neuman	NA	Good
	0.85	1.03	0.0103	14.8	0.015	Cooper-Jacob	30.6	Good
WELL 24EX2 RECOVERY								
Well 24EX2	20.5	0.15	0.0015	2.2	NA	Theis	NA	Fair
Well 24EX2OB	0.85	0.77	0.007	11.1	NA	Theis	NA	Good

Notes:
- [a] aquifer pumping rate: 15 gallons per minute for 4,330 minutes; recovery period: 5,440 minutes
- [b] T – transmissivity
- [c] ft^2/min – square feet per minute
- [d] K(ave) – average hydraulic conductivity
- [e] ft/min – feet per minute
- [f] ft/day – feet per day
- [g] critical time applicable to Cooper-Jacob method (see Appendix E, Section E2.4.1)
- [h] NA – not applicable

Table 4-6
Summary of Results from Well 24IN1 Constant-Rate Injection Test[a]

Test	Maximum Buildup (feet)	T[b] (ft^2/min)[c]	K(ave)[d] (ft/min)[e]	K(ave) (ft/day)[f]	Storage Coefficient	Method of Analysis	Critical[g] Time (min)	Curve Fit
WELL 24IN1 CONSTANT RATE								
Well 24IN1	7.0	0.026	0.00026	0.37	NA[h]	Neuman	NA	Good
	7.0	0.086	0.00086	1.2	NA	Cooper-Jacob	1.5	Good
Well 24IN1OB	1.6	0.30	0.0030	4.3	0.03	Neuman	NA	Good
	1.6	0.4	0.004	5.8	0.025	Cooper-Jacob	190.7	Good
WELL 24IN1 RECOVERY								
Well 24IN1	7.0	0.33	0.0033	4.8	NA	Theis	NA	Fair
Well 24IN1OB	1.6	0.54	0.0054	7.8	NA	Theis	NA	Fair

Notes:
[a] aquifer injection rate: 15 gallons per minute for 2,340 minutes; recovery period: 830 minutes
[b] T – transmissivity
[c] ft^2/min – square feet per minute
[d] K(ave) – average hydraulic conductivity
[e] ft/min – feet per minute
[f] ft/day – feet per day
[g] critical time applicable to Cooper-Jacob method (see Appendix E, Section E2.4.1)
[h] NA – not applicable

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Section 5
EVALUATION AND CONCLUSIONS

This section discusses the evaluation and conclusions of the aquifer pumping and injection testing. Several assumptions are inherent in applying nonequilibrium flow equations to estimate aquifer parameters. These assumptions are seldom, if ever, completely satisfied, but recognition of them highlights the approximations necessary to employ nonequilibrium flow equations to field conditions. Of the assumptions listed below, the lack of aquifer homogeneity probably has the greatest influence on the outcome of the aquifer tests described in this section.

The assumptions include:

1. The aquifer is homogeneous, isotropic, of uniform thickness, and of infinite areal extent.
2. Before pumping, the pieozmetric surface is horizontal.
3. The well is pumped at a constant discharge rate.
4. The pumped well penetrates the entire aquifer, and flow is everywhere horizontal within the aquifer to the well.
5. The well diameter is infinitesimal so that storage within the well can be neglected.
6. Water removed from storage is discharged instantaneously with decline of head.

5.1 EVALUATION OF DATA

The evaluation of aquifer test data to estimate transmissivity and storativity was based on the level of confidence in which the test data matched the Neuman-type curves and straight-line approximations using the Cooper-Jacob and Theis recovery methods. The confidence of curve fitting is a subjective evaluation conducted by the project hydrogeologists. The degree of curve fitting is expressed as good, fair, or poor for each data plot. Transmissivity and storativity values generated with poor or fair curve-fitting confidence are weighted accordingly in the evaluation. Values generated from data sets with good curve-fitting confidence are weighted highest.

5.1.1 Evaluation of Well 24EX1 Aquifer Pumping and Recovery Tests

Aquifer pumping and recovery testing at well 24EX1 indicates that the hydraulic conductivity value estimates range from 0.14 to 0.89 feet/day with good correlation between the Neuman and Cooper-Jacob methods. However, the estimated transmissivity is considered to be lower than the true value due to pumping well efficiency effects. For example, if a well is less than 100-percent efficient, the water level in the pumping well will be lower than the water level in the formation. Because transmissivity is calculated with the drawdown term in the denominator, an exaggerated drawdown value yields a transmissivity that is lower than the actual value. Decreased well efficiency is probably intensified at the site because the aquifer is stratified and the water production of individual strata is highly variable. Transmissivity estimates for the pumping well are weighted less than estimates obtained from observation wells. The Neuman plot for well 24EX1 does not have the characteristic "S"-shaped time-drawdown curve of an

unconfined aquifer. This also is probably due to the highly stratified conditions in the aquifer.

Observation wells 24AS2A, 24AS1, and 09DBMW45 are screened in the upper portion of the shallow groundwater unit. These wells had very little drawdown (less than 0.25 feet) during aquifer pumping tests Nos. 1 and 2 at well 24EX1. As a result of the small amount of drawdown, these data had poor-to-fair curve fitting confidence.

Observation wells 24EX1OB and 24NEW1 are screened across the upper and lower portion of the shallow groundwater unit and are 20 and 40.5 feet from well 24EX1, respectively. Well 24NEW1 had moderate drawdown (0.6 feet), and well 24EX1OB had little drawdown (0.22 feet), even though it was closer to pumping well 24EX1. This suggests that the lower portion of the shallow groundwater unit is highly heterogeneous in the test area and that some vertical flow is probably occurring from 24NEW1 toward the pumping well. The stratigraphic relationship between aquifer pumping well 24EX1 and the observation wells is shown in Figure 5-1.

The hydraulic conductivity estimated from well 24NEW1 (moderate drawdown and good curve fit) generated from well 24EX1 aquifer test Nos. 1 and 2 ranges from 6.6 to 10.1 feet/day. The hydraulic conductivity values generated from observation well drawdowns are considered to be closer to true values because observation wells are not affected by well efficiency.

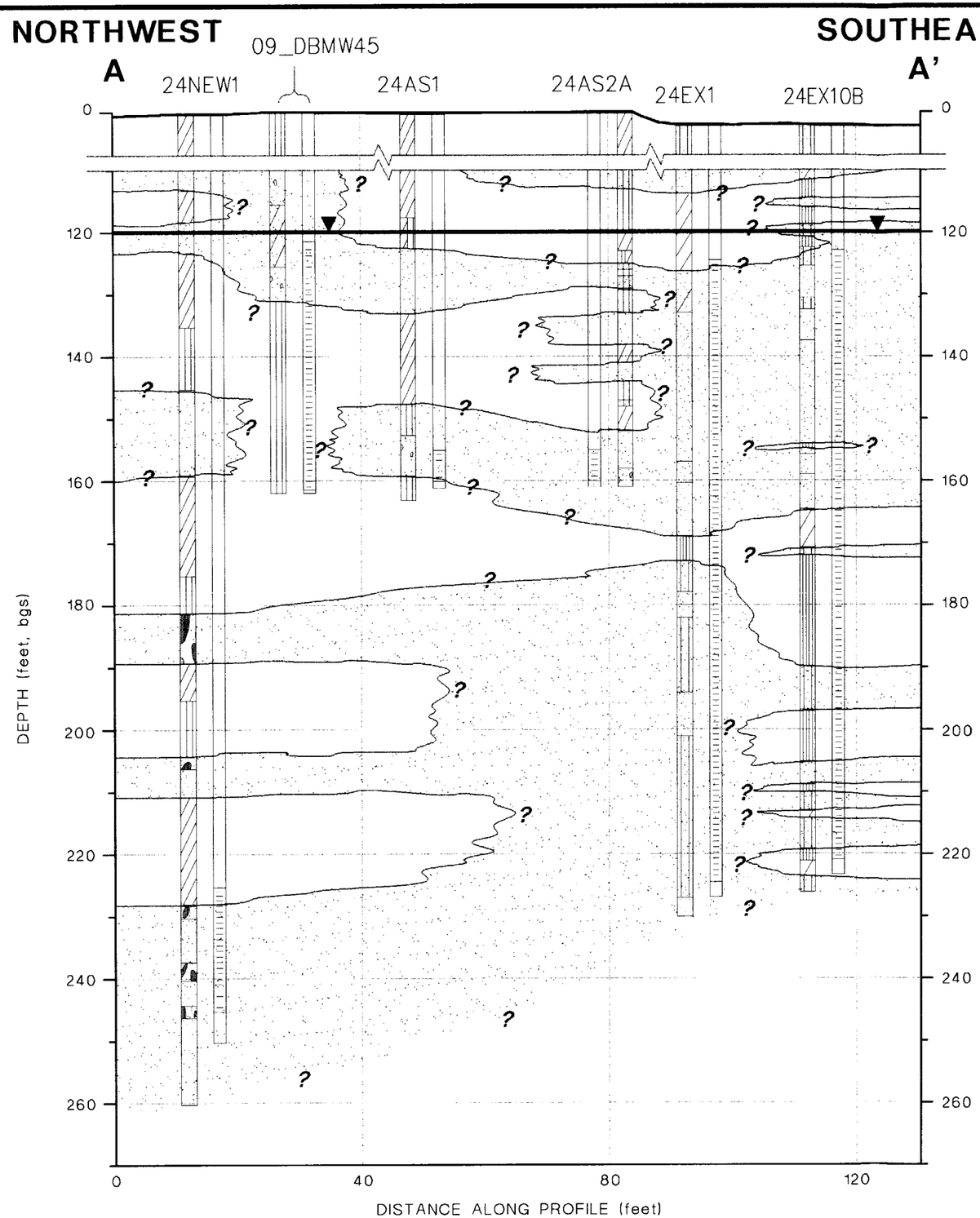
A boundary condition encountered at approximately 250 minutes can be seen on the Cooper Jacob plots for well 24EX1 (Figure 5-2). The boundary condition is indicated by an increase of the time-drawdown slope. The steepened slope represents the portion of the plot used to estimate the effective transmissivity, which, due to the boundary condition, is slightly lower than that estimated using earlier time data. The distance from the pumping well to the boundary could not be estimated because this response was not apparent in data obtained from observation wells.

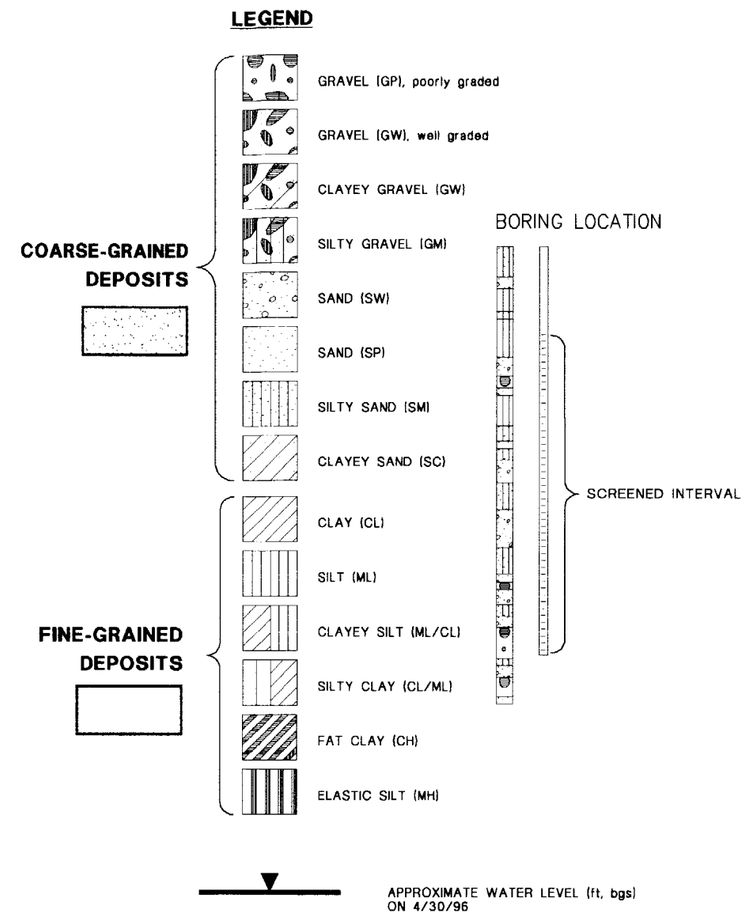
Based on this analysis, hydraulic conductivity in the lower portion of the shallow groundwater unit in the test area is estimated to be approximately 6.6 to 10.1 feet/day with storativity values ranging between 0.03 and 0.11. Values for hydraulic conductivity based on observation well data with lower confidence ratings ranged from 9.8 to 76 feet/day. A summary of values generated from data sets, with good curve-fitting confidence for aquifer test Nos. 1 and 2 at well 24EX1, is shown in Table 5-1.

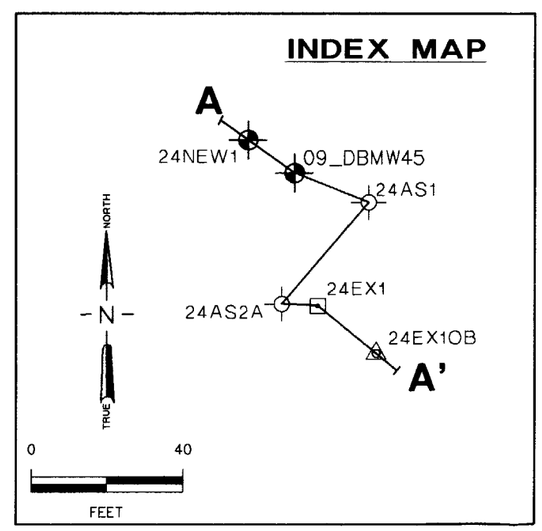
Test No. 3 was conducted with approximately 130 inches (water) negative pressure. Although well yield was increased, a corresponding increase in observation well drawdown was not observed over the duration of the test. Longer-duration vacuum-enhanced pumping tests are recommended.

5.1.2 Evaluation of Well 24EX2 Aquifer Pumping and Recovery Tests

Aquifer pumping and recovery testing at well 24EX2 indicate a hydraulic-conductivity value between 0.94 and 1.3 feet/day using the Neuman and Cooper-Jacob methods of







VERTICAL EXAGGERATION
1:1

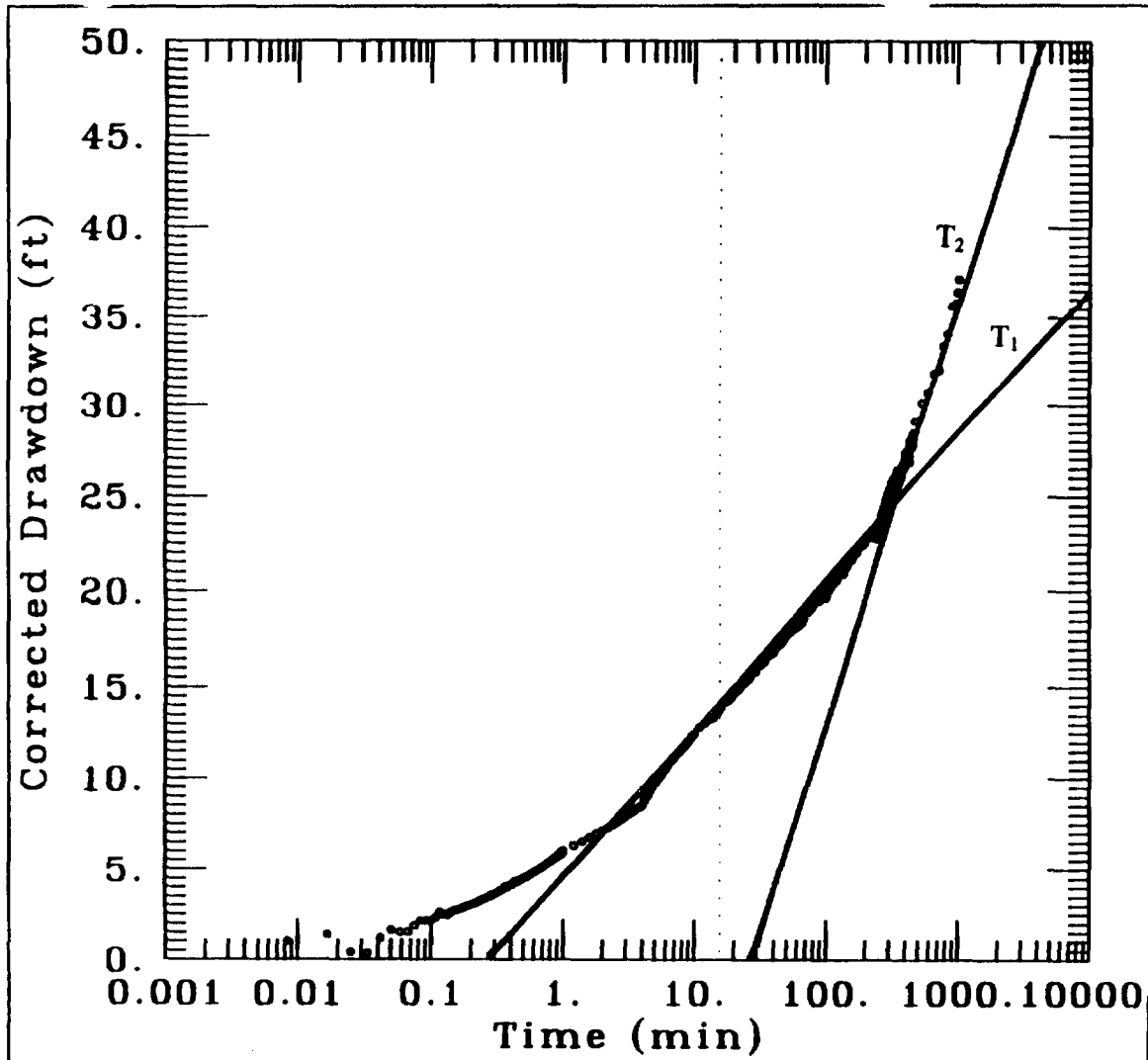
0 20 40
HORIZONTAL SCALE (FEET)

Aquifer Test Report
Figure 5-1
Stratigraphic Relationship of 24EX1 and Observation Wells

MCAS, El Toro, California

Bechtel National, Inc.
CLEAN II Program

Date: 11/21/96
File No: 073X1720
Job No: 22214-073
Rev No: G



Aquifer Test Report

Figure 5-2

Boundary Condition - Well 24EX1

Constant-Rate Drawdown Test No. 1

MCAS, El Toro, California

Bechtel National, Inc.

CLEAN II Program

Date: 11/26/96
File No: -
Job No: 22214-073
Rev No: A

Table 5-1
Evaluation of Well 24EX1 Aquifer Pumping and Recovery Tests

Test	Maximum Drawdown (feet)	T[a] (ft^2/min)[b]	K(ave)[c] (ft/min)[d]	K(ave) (ft/day)[e]	Storage Coefficient	Method of Analysis	Curve Fit
Well 24EX1 (test No. 1)	38	0.062	0.00062	0.89	NA[f]	Cooper-Jacob	Good
	36	0.022[g]	0.00022	0.32	NA	Cooper-Jacob	Good
Well 24EX1 (test No. 1)	38	0.060	0.00060	0.86	NA	Neuman	Good
Well 24EX1 (test No. 2)	80	0.020	0.00024	0.29	NA	Neuman	Good
Well 24EX1 (test No. 2)	80	0.024	0.00024	0.35	NA	Cooper-Jacob	Good
Well 24 EX1 (test No. 2)	80	0.010[g]	0.0001	0.14	NA	Cooper-Jacob	Good
Well 24NEW1(test No. 1)	0.58	0.70	0.0070	10.1	0.11	Cooper-Jacob	Good
Well 24NEW1(test No. 1)	0.58	0.70	0.0070	10.5	0.22	Neuman	Good
Well 24NEW1 (test No. 2)	0.7	0.46	0.0046	6.6	0.03	Neuman	Good
Well 24NEW1 (test No. 2)	0.7	0.6	0.006	8.60	0.04	Cooper-Jacob	Good

Notes:
[a] T – transmissivity
[b] ft^2/min – square feet per minute
[c] K(ave) – average horizontal conductivity
[d] ft/min – feet per minute
[e] ft/day – feet per day
[f] NA – not applicable
[g] effective transmissivity/conductivity value due to boundary condition

analysis. These values are considered to be lower than the true hydraulic conductivity of the aquifer due to the pumping well efficiency effects described earlier.

Observation well 24EX2OB is screened across the shallow groundwater unit. This well had moderate drawdown in response to pumping at well 24EX2. The hydraulic-conductivity value estimated from well 24EX2OB is between 11.1 and 15.3 feet/day using the Neuman, Cooper-Jacob, and Theis recovery methods. The stratigraphic relationship of wells 24EX2 and 24EX0B2 is shown in Figure 5-3.

Based on this analysis, hydraulic conductivity in the vicinity of wells 24EX2 and 24EX2OB in the shallow groundwater unit is estimated to be approximately 11.1 to 15.3 feet/day with a storativity value of approximately 0.015. A summary of values generated from data sets, with good curve-fitting confidence for the aquifer pump test at well 24EX2, is shown in Table 5-2.

5.1.3 Evaluation of Well 24IN1 Aquifer Injection and Recovery Tests

Aquifer injection and recovery testing at injection well 24IN1 indicates a hydraulic-conductivity value between 0.37 to 1.2 feet/day using the Neuman and Cooper-Jacob methods of analysis. These values are considered to be slightly lower than the true hydraulic conductivity of the aquifer due to injection well efficiency effects. Because the buildup in well 24IN1 was much less than the drawdown in extraction well 24EX1, the conductivity estimates obtained from the pumping well and observation well are more similar.

Observation well 24INIOB is screened across the shallow groundwater unit. This well had moderate buildup in response to injection at well 24INI. The hydraulic conductivity value estimated from well 24INIOB is between 4.3 and 5.8 feet/day with storativity values between 0.025 to 0.03. The stratigraphic relationship of wells 24IN1 and 24INIOB is shown in Figure 5-4. A summary of values generated from data sets with good curve-fitting confidence for aquifer pump test at well 24IN1 is shown in Table 5-3.

Groundwater injection at well 24IN1 was conducted at 15 gpm for 2,340 minutes. Groundwater extracted from well 24EX1 was transported to the 24IN1 well area and stored in portable 21,000 gallon tanks. The water was then pre-filtered with 50-micron filters and treated with activated carbon. Pretreated groundwater TCE concentrations ranged from 340 µg/L to 780 µg/L. After treatment, TCE was not detected. Therefore, based on a buildup of only 7 feet in the injection well and 1.6 feet in the observation well, injection of treated groundwater appears feasible for short durations. Longer duration injection testing that includes evaluation of potential encrustation is recommended.

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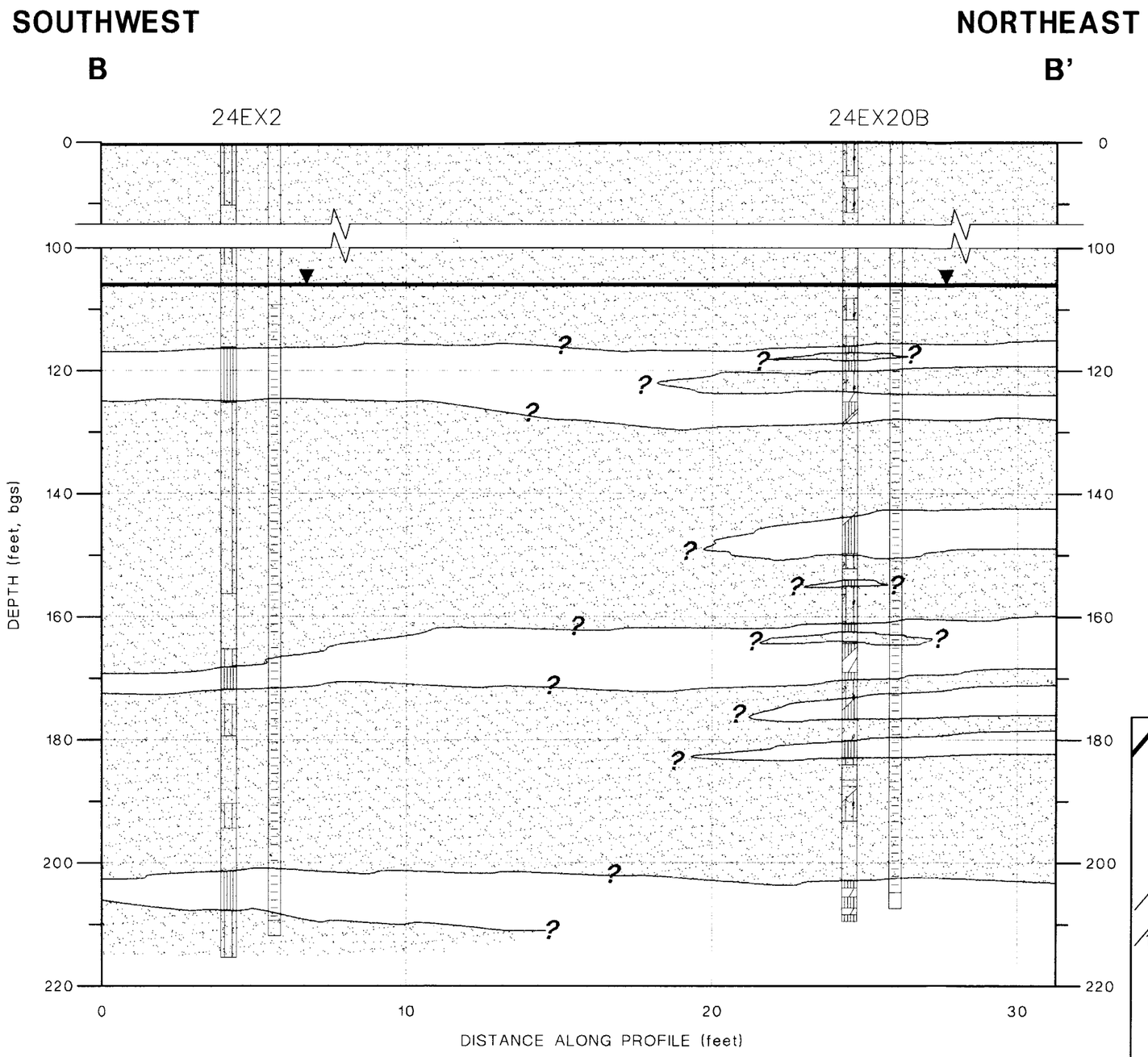

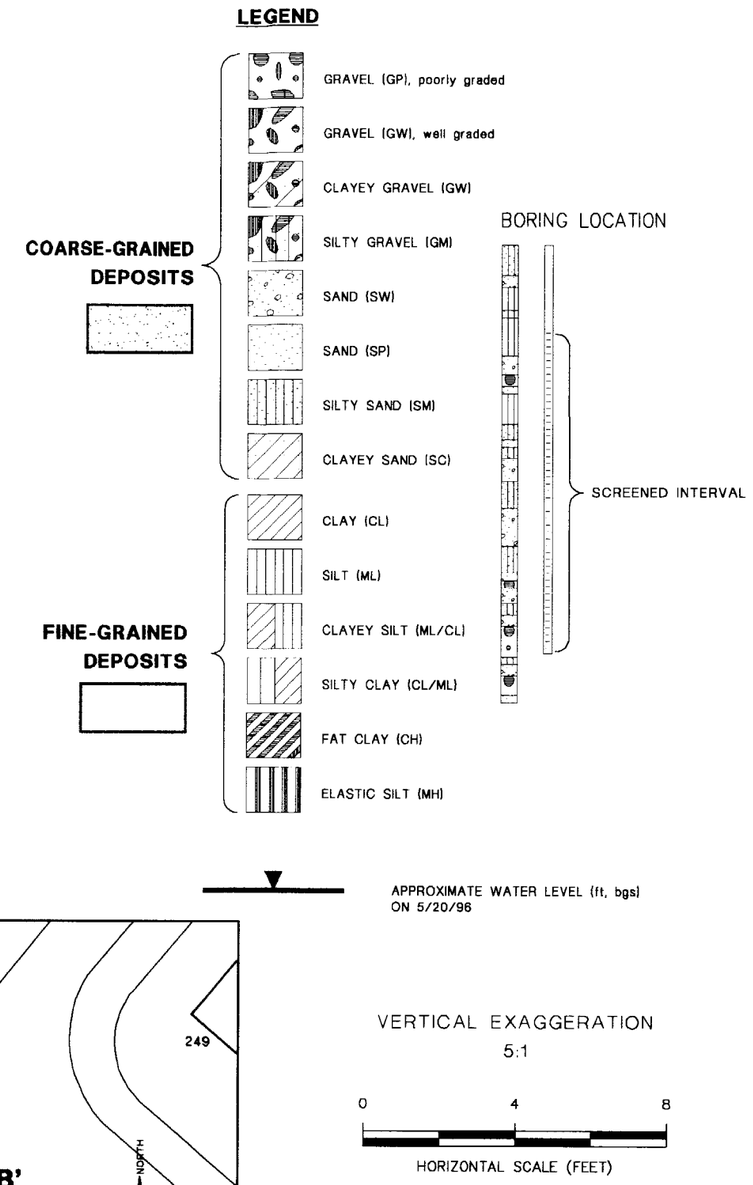

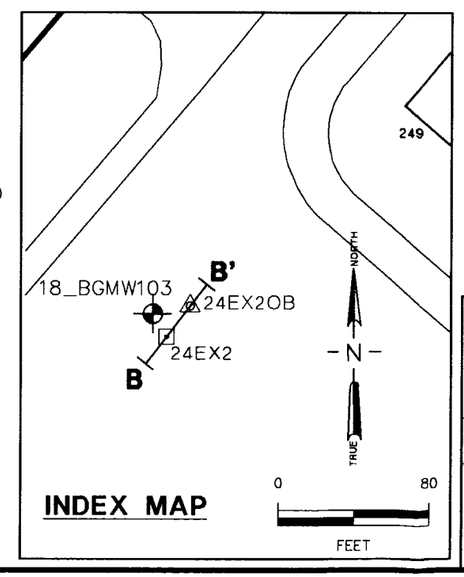

Aquifer Test Report

Figure 5-3

Stratigraphic Relationship of 24EX2 and 24EX20B

MCAS, El Toro, California

Bechtel National, Inc.
CLEAN II Program

Date: 11/21/96
File No: 073X1722
Job No: 22214-073
Rev No: E

Table 5-2
Evaluation of Well 24EX2 Aquifer Pumping and Recovery Tests

Test	Maximum Drawdown (feet)	T[a] (ft^2/min)[b]	K(ave)[c] (ft/min)[d]	K(ave) (ft/day)[e]	Storage Coefficient	Method of Analysis	Curve Fit
Well 24EX2	20.5	0.065	0.00065	0.94	NA[f]	Neuman	Good
	20.5	0.092	0.00092	1.3	NA	Cooper-Jacob	Good
Well 24EX2OB	0.85	1.06	0.0106	15.3	0.016	Neuman	Good
	0.85	1.03	0.0103	14.8	0.015	Cooper-Jacob	Good
	0.85	0.77	0.0077	11.1	NA	Theis	Good

Notes:
[a] T – transmissivity
[b] ft^2/min – square feet per minute
[c] K(ave) – average hydraulic conductivity
[d] ft/min – feet per minute
[e] ft/day – feet per day
[f] NA – not applicable

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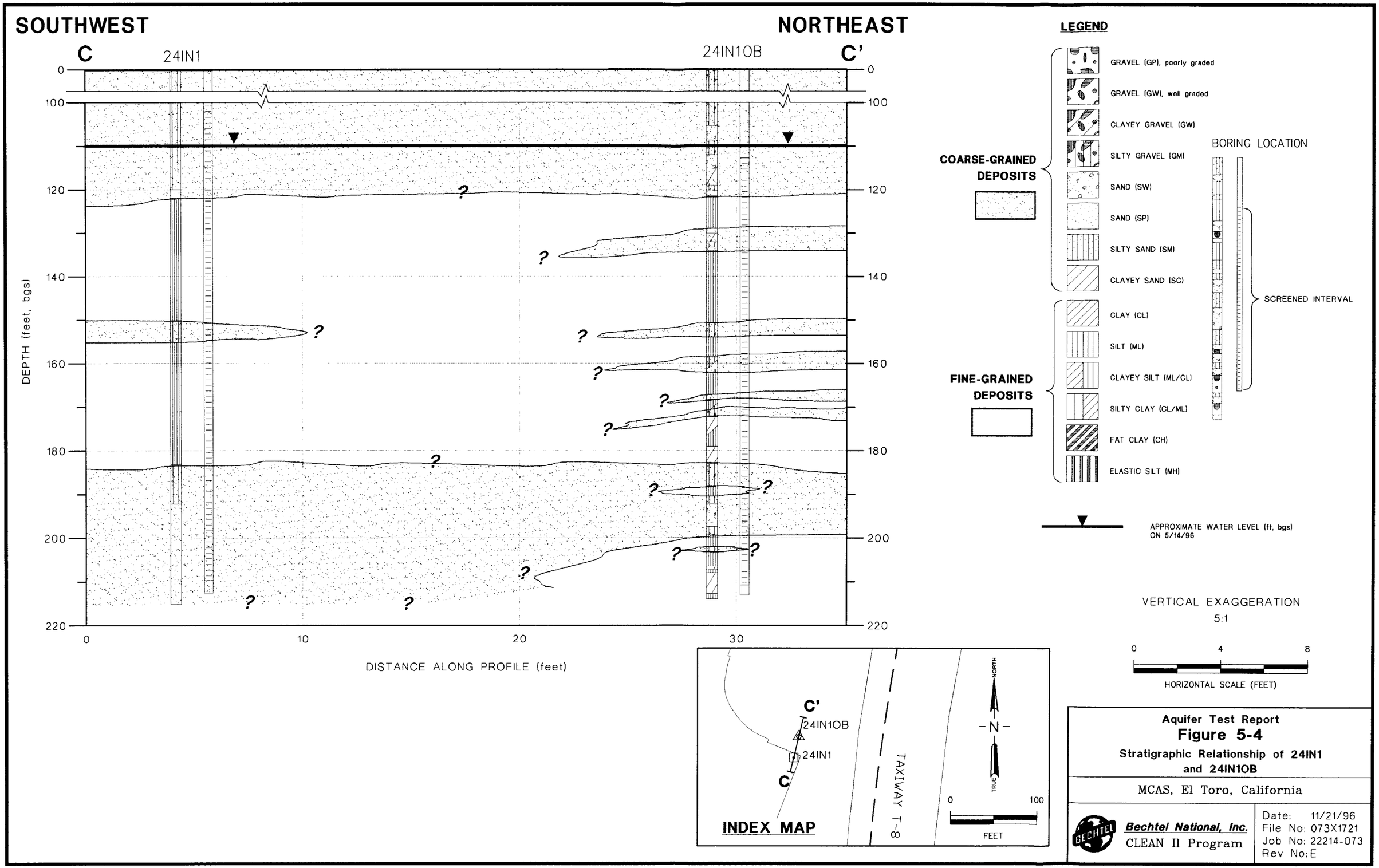

Aquifer Test Report

Figure 5-4

Stratigraphic Relationship of 24IN1 and 24IN10B

MCAS, El Toro, California

Bechtel National, Inc.
CLEAN II Program

Date: 11/21/96
File No: 073X1721
Job No: 22214-073
Rev No: E

Table 5-3
Evaluation of Well 24IN1 Aquifer Injection and Recovery Tests

Test	Maximum Drawdown (feet)	T[a] (ft^2/min)[b]	K(ave)[c] (ft/min)[d]	K(ave) (ft/day)[e]	Storage Coefficient	Method of Analysis	Curve Fit
WELL 24IN1 CONSTANT RATE							
Well 24IN1	-7.0	0.086	0.00086	1.2	NA[f]	Cooper-Jacob	Good
	-7.0	0.026	0.00026	0.37	NA	Neuman	Good
Well 24IN1OB	-1.6	0.4	0.004	5.8	0.025	Cooper-Jacob	Good
	-1.6	0.3	0.00030	4.3	0.03	Neuman	Good

Notes:
[a] T – transmissivity
[b] ft^2/min – square feet per minute
[c] K(ave) – average hydraulic conductivity
[d] ft/min – feet per minute
[e] ft/day – feet per day
[f] NA – not applicable

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Section 6
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APPENDIX A

SURVEY DATA

NICKLAUS ENGINEERING, INC.
1851 W. 24TH ST. YUMA, AZ 85364

JOB NUMBER: 96-050

06-21-1996
14:02:49

EL TORO MCAS BECHTEL
LOMELI APRIL 3, 1996

PT.#	NORTHING	EASTING	TOP OF CASING ELEVATION	DESCRIPTION
118	2188750.6727	6110694.6377	292.1700	07 DBMW 43 293.40 GROUND
119	2188562.7736	6110895.6288	292.4300	24 IN 1 OB 290.70 CONC.
120	2188538.7634	6110889.8326	291.0600	24 IN 1 290.52 CONC.
121	2190245.3025	6108828.8484	280.7900	24 EX 1 OB 279.58 CONC.
122	2190257.8444	6108813.4989	281.3400	24 EX 1 279.64 CONC.
123	2192979.5052	6106098.3876	252.0000	24 EX 2 OB 251.63 CONC
124	2192963.4513	6106085.9496	252.5300	24 EX 2 251.28 CONC
125	2192975.3590	6106078.6459	252.1000	18 BG MW 103 251.15 CONC.

LICENSED LAND SURVEYOR
JUAN N LOMELI
Exp. 3/99
No. 6472
STATE OF CALIFORNIA

APPENDIX B

SOIL BORING LOGS AND WELL CONSTRUCTION DETAILS

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24EX1	SHEET NO. 1 OF 2
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 12"	BEGUN 4-1-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,190,257.84 E 6,108,813.50	LOGGED BY: W. McConihe	TD OF WELL 224.9 / COMPLETED 4-2-96
ELEV.: TOP of RISER CASING / GROUND: 281.34 / 279.64	GROUND WATER DEPTH / ELEVATION: ▼ 121.30/158.34 4-30-96	CHECKED BY: P. Brooks	TD of HOLE 228.0 / UPDATE 11-7-96

Well Construction Details

SURFACE COMPLETION
Dia. & Type: 2 ft. square steel box

GROUT SEAL
Type: Cement w/ ~5% Bentonite

RISER CASING
Dia. & Type: 6" Schedule 40 PVC

BENTONITE SEAL
Top of Seal = 112.0 ft.
Type: Enviroplug medium chips

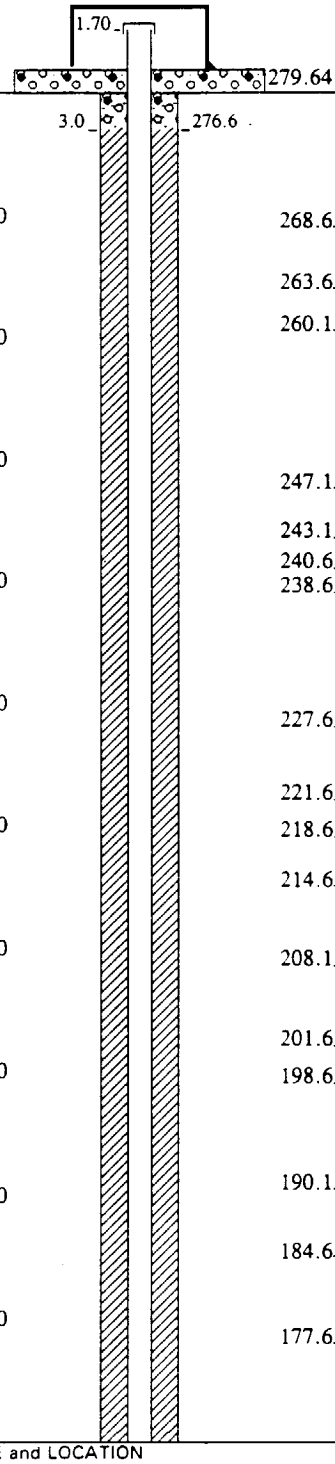
TRANSITION SAND
Top of Sand = 115.0 ft.
Type: #0/30 Silica

FILTER PACK
Top of Filter Pack = 117.0 ft.
Type: #2/16 Lonestar

SCREEN
Top of Screen = 122.5 ft.
Dia. & Type: 6" Stainless steel
Slot Size & Type: 0.02" wire-wrap
Bottom of Screen = 222.5 ft.

SUMP
Dia. & Type: 6" Stainless steel
Bottom of Sump = 224.9 ft.

Well Graphics



Geologic Description and Classification

Depth in Feet	Elevation in Feet	Description
		0-11.0 ft: SILTY SAND (SM): Dark brown [7.5YR 3/2], moist, fine to medium, ~20% gravel up to 1.5 inch diameter, some rootlets down to 4.0 ft. at 4.0 ft: color change to Grayish brown [10YR 5/2], fine with ~5% medium and ~5% coarse, trace clay.
10	268.6	11.0-16.0 ft: SILTY CLAY (CL): Brown [7.5YR 5/2], moist, fine to medium, trace coarse sand and gravel up to 3/8 inch diameter, trace caliche.
	263.6	16.0-19.5 ft: SAND (SP): Brown [10YR 4/3], moist, fine with ~5% medium, trace mica.
20	260.1	19.5-32.5 ft: SILTY SAND (SM): Brown [10YR 4/3], moist, fine with ~5% medium, trace mica.
30	247.1	32.5-36.5 ft: SILTY CLAY (CL): Dark brown [7.5YR 3/2], moist, some medium to coarse sand.
	243.1	36.5-39.0 ft: SILTY SAND (SM): Brown [10YR 5/3], dry, fine to medium, trace mica.
40	240.6	39.0-41.0 ft: SAND (SP): Brown [10YR 5/3], moist, fine with < 5% medium.
	238.6	41.0-52.0 ft: SILTY SAND (SM): Pale brown [10YR 6/3], moist, fine, some mica; some sand lenses.
50	227.6	52.0-58.0 ft: SILTY CLAY (CL): Dark brown [10YR 4/3], moist, low plasticity, micaceous.
	221.6	58.0-61.0 ft: SILTY SAND with Clay (SM): Dark brown [7.5YR 3/4], moist, fine to medium.
60	218.6	61.0-65.0 ft: SILTY CLAY (CL): Dark brown [7.5YR 3/4], moist, some fine to medium sand.
	214.6	65.0-71.5 ft: SANDY CLAY (CL): Dark brown [7.5YR 3/4], moist, fine to medium.
70	208.1	71.5-78.0 ft: CLAYEY SAND (SC): Dark brown [10YR 4/3], moist, fine to medium.
	201.6	78.0-81.0 ft: SAND (SW): Yellowish brown [10YR 5/4], moist, fine to medium with some coarse.
80	198.6	81.0-89.5 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], moist, fine to medium with some coarse.
90	190.1	89.5-95.0 ft: SAND (SP): Yellowish brown [10YR 5/4], moist, fine to medium with trace coarse.
	184.6	95.0-102.0 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], moist, fine with ~20% medium and trace coarse.
100	177.6	102.0-112.0 ft: SAND (SP): Yellowish brown [10YR 5/4], moist, fine to medium with 5-10% silt.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX1

Project ID: EL073, dpk G:\gmt

CONSTRUCTION DETAILS (cont.)

PROJECT and JOB NUMBER: *CLEAN II* 22214-073

HOLE NO. 24EX1

SHEET NO. 2 OF 2

Construction Details

Graphics

Depth in Feet	Elevation in Feet	Geologic Description and Classification
112.0 / 167.6	167.6	
115.0 / 164.6		112.0-124.5 ft: SILTY CLAY (CL): Brown [10YR 5/3], moist, low plasticity, some sand.
117.0 / 162.6		
120		
122.5 / 157.1	155.1	
		124.5-131.0 ft: CLAYEY SAND (SC): Yellowish brown [10YR 5/4], moist, fine to medium.
130	148.6	at 129.0 ft: saturated, medium to coarse sand layer.
		131.0-155.0 ft: SAND (SW): Yellowish brown [10YR 5/4], saturated, fine to coarse.
140		
150		at 150.0 ft: grades to fine to medium with ~5% coarse.
	124.6	
	121.1	155.0-158.0 ft: GRAVELLY SAND (SW): Light olive brown [2.5Y 5/3], saturated, fine to coarse, with subrounded to rounded gravel up to 1.25 inch diameter.
160		158.0-167.0 ft: SAND (SP): Light olive brown [2.5Y 5/3], saturated, fine with ~5% medium, some silt.
	112.6	
		167.0-171.0 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], saturated, some fine sand.
170	108.6	
		171.0-176.0 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], saturated, fine, with ~5% medium.
	103.6	
	101.6	176.0-178.0 ft: SAND (SW): Olive brown [2.5Y 4/3], saturated, fine to coarse, some silt.
	99.6	
180		178.0-180.0 ft: CLAYEY SAND (SC): Olive brown [2.5Y 4/3], wet, fine.
		180.0-192.0 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], saturated, fine with ~5% medium. at 185.0 ft: less silt with depth, fine to medium. at 188.0 ft: more silt, fine.
190		at 191.0 ft: 10-15% medium, <5% gravel, trace clay.
	87.6	
		192.0-199.0 ft: SAND (SW): Olive brown [2.5Y 4/3], saturated, fine to coarse, <5% fine gravel. below 196.0 ft: interbedded with clayey silt, silty clay, fine sand, and fine to medium sand layers.
	80.6	
200		199.0-225.0 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], saturated, fine.
		at 205.0 ft: with ~5% medium, trace clay at 207.0 ft: fine to medium, less silt.
210		at 210.0 ft: 5-10% medium, more silt.
		at 213.0 ft: fine to coarse, 5-10% gravel up to 3/4 inch diameter, less silt.
		at 217.0 ft: more silt, fine, ~5% medium. at 218.0 ft: fine to coarse, with 5-10% subrounded gravel up to 1.25 inch diameter.
220		
222.5 / 57.1		at 222.0 ft: interbedded with clayey layers.
224.9 / 54.7	54.6	
228.0 / 51.6	51.6	225.0-228.0 ft: GRAVELLY SAND (SW): Olive brown [2.5Y 4/3], saturated, fine to coarse, with subrounded gravel up to 1 inch diameter; 5% cobbles up to 3.5 inch diameter at 227.0 ft.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX1

Project ID: EL073; dpk-G:\gint template WELL.S; 11/96

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24EX1OB	SHEET NO. 1 OF 4
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 8.25"	BEGUN 3-22-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,190,245.30 E 6,108,828.85	LOGGED BY: S. Blanchard	TD OF WELL 221.2 / COMPLETED 3-27-96
ELEV.: TOP of RISER CASING / GROUND: 280.79 / 279.58	GROUND WATER DEPTH / ELEVATION: ▼ 118.80/160.78 4-30-96	CHECKED BY: P. Brooks	TD of HOLE 224.0 / UPDATE 11-7-96

Well Construction Details	Depth in Feet	Well Graphics	Elevation in Feet	Graphics	Geologic Description and Classification
SURFACE COMPLETION Dia. & Type: 2 ft. square steel box		1.21; 1.0; 278.6	279.58		0-8.8 ft: SILTY SAND (SM): Dark brown [10YR 3/3], loose, dry to moist, fine to medium, trace clay and gravel up to 1.75 inch diameter.
GROUT SEAL Type: Cement w/ ~5% Bentonite					at 6.0 ft: medium dense. between 6.6 - 8.5 ft: with 5-15% rootlets < 1mm diameter, with white caliche in cracks.
			270.8		8.8-11.7 ft: SAND (SP): Brown [10YR 4/3], medium dense, dry to moist, fine to medium, subangular, some silt.
RISER CASING Dia. & Type: 2" Schedule 80 PVC	10		267.9		11.7-13.2 ft: CLAYEY SILT (ML): Brown [10YR 4/3], stiff, dry to moist.
			266.4		13.2-18.3 ft: SAND (SP): Brown [10YR 4/3], medium dense, dry to moist, fine to medium, subangular, some silt. at 14.5 ft: trace silt. at 16.5 ft: some silt. at 17.2 ft: trace silt. at 17.9 ft: 5-10% coarse.
BENTONITE SEAL Top of Seal = 109.5 ft. Type: Enviroplug medium chips			261.3		
	20		260.4		18.3-19.2 ft: SANDY CLAYEY SILT (ML): Dark brown [7.5YR 4/3], soft, moist, fine.
TRANSITION SAND Top of Sand = 112.5 ft. Type: #0/30 Silica			255.6		19.2-24.0 ft: SAND (SP-SW): Yellowish brown [10YR 5/4], loose, moist, fine to medium, subangular, trace silt. at 22.5 ft: 2-20% coarse. at 23.5 ft: fine to coarse, <5% gravel up to 3/8 inch diameter.
			252.3		24.0-27.3 ft: CLAYEY SILT (ML): Brown [10YR 4/3], soft, moist.
FILTER PACK Top of Filter Pack = 114.5 ft. Type: #2/16 Lonestar	30		250.8		27.3-28.8 ft: SILTY SAND (SM): Brown [10YR 5/3], medium dense, moist, fine, subangular.
			246.6		28.8-33.0 ft: CLAYEY SILT (ML): Dark yellowish brown [10YR 3/4], soft, moist, some fine sand. at 30.0 ft: less silt, more clay. at 31.0 ft: less clay, ~5-10% caliche filling in cracks, weak blocky structure.
SCREEN Top of Screen = 120.8 ft. Dia. & Type: 2" Schedule 80 PVC Slot Size & Type: 0.02" wire-wrap Bottom of Screen = 218.8 ft.	40		240.9		33.0-38.8 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], medium dense, dry to moist, fine, less silt with depth. at 37.0 ft: more silt, less sand, some clay.
SUMP Dia. & Type: 2" Schedule 80 PVC Bottom of Sump = 221.2 ft.	50		226.9		38.8-52.7 ft: SAND (SP): Pale brown [10YR 6/3], loose, moist, fine, subangular, trace silt. at 42.6 ft: medium dense, silty 10-20% silt, with indistinct Light olive brown [2.5Y 5/6] laminations. between 44.0 - 46.0 ft: loose, little to no silt, 5-10% medium. at 47.8 ft: silty, fine sand. at 51.0 ft: weakly laminated.
			225.8		52.7-53.8 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], soft, moist, laminated < 1mm thick.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX1OB

Project ID: EL073, dpk G:\gmt

CONSTRUCTION DETAILS (cont.)

PROJECT and JOB NUMBER: *CLEAN II* 22214-073

HOLE NO. 24EX1OB

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		222.1		53.8-57.5 ft: SILTY SAND (SM): Dark brown [10YR 3/3], medium dense, moist, fine, trace clay. at 55.5 ft: dense, trace medium.
	60	215.9		57.5-63.7 ft: SANDY SILT (ML): Dark yellowish brown [10YR 3/4], medium stiff, moist, fine. between 59.0 - 61.5 ft: clayey silt. at 61.5 ft: color change to Strong brown [7.5YR 4/6].
		215.6		63.7-64.0 ft: SAND (SW): Yellowish brown [10YR 5/4], moist, loose, moderately well graded, fine to medium, 5% coarse, subangular.
		213.9		64.0-65.7 ft: CLAYEY SAND (SC): Yellowish brown [10YR 5/4], very dense, moist, fine to medium, with ~25% gravel up to 1.5 inch diameter.
	70	210.4		65.7-69.2 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], dense, moist, fine, ~5% medium, 5-10% coarse, <5% fine gravel, some clay.
		208.1		69.2-71.5 ft: SANDY SILT (ML): Light olive brown [2.5Y 5/3], soft, moist, fine to medium, trace coarse, gradational change to silty sand.
		205.1		71.5-74.5 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/6], dense, moist, fine to coarse, subrounded to subangular. at 73.0 ft: fine, less silt with depth.
	80			74.5-101.3 ft: SAND (SP-SW): Dark yellowish brown [10YR 4/6], medium dense, moist, fine, some silt. at 77.5 ft: fine to coarse, trace fine gravel. at 81.4 ft: fine. at 84.0 ft: color change to Light olive brown [2.5Y 5/], trace medium, some silt. at 87.5 ft: trace silt. at 88.6 ft: some silt.
	90			
	100	178.3		at 99.8 ft: color change to Light yellowish brown [2.5Y 6/3], loose, moist, fine to coarse, subangular, weakly laminated.
		177.1		101.3-102.5 ft: SILT (ML): Brown [10YR 4/3], very stiff, moist, some fine sand and clay.
		175.9		102.5-103.7 ft: SILTY SAND (SM): Brown [10YR 4/3], medium dense, moist, fine to medium, ~5% fine gravel
		172.3		103.7-107.3 ft: SAND (SP-SW): Dark yellowish brown [10YR 4/4], loose, moist, fine to coarse, with gravel up to 2.75 inches, some silt. at 105.3 ft: color change to Light olive brown [2.5Y 5/4], fine, silt content decreasing with depth.
	109.5	170.1		107.3-109.5 ft: SILTY CLAY (CL): Olive brown [2.5Y 4/4], very stiff, moist, ~5-10% fine sand.
	110			109.5-112.5 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], stiff, moist, weakly laminated, crumbles along laminae and fractures.
	112.5	167.1		112.5-114.0 ft: SAND (SP): Light olive brown [2.5Y 5/6], loose, moist, fine, trace silt and clay.
	114.5	165.6		114.0-116.7 ft: SANDY CLAYEY SILT (ML): Olive brown [2.5Y 4/4], stiff, moist, fine to medium, less clay with depth.
		162.9		116.7-118.7 ft: CLAYEY SILTY SAND (SM): Olive brown

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO: 24EX1OB

Project ID: EL073; dpk-G:\grint template: WELLS, 11/96

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24EX1OB SHEET NO. 3 OF 4

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		160.9		[2.5Y 4/4], medium dense, moist, fine, trace medium.
	120	159.1		118.7-120.5 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/4], stiff, moist.
	120.8	158.8		120.5-123.5 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], loose, saturated, fine, trace medium and coarse.
		156.1		at 122.7 ft: 4 inch thick bed with 20-25% gravel up to 1.25 inch diameter.
				123.5-128.6 ft: SAND (SW): Light olive brown [2.5Y 5/4], loose, saturated, fine to coarse, subrounded to subangular.
				at 127.5 ft: trace fine gravel to 3/8 inch.
		151.0		128.6-130.5 ft: SILTY SAND (SM): Brown [10YR 5/3], medium dense, saturated, fine to coarse, subrounded to subangular.
	130	149.1		130.5-135.5 ft: SAND (SW): Light yellowish brown [2.5Y 6/3], loose, saturated, fine to coarse, subrounded to subangular.
				at 132.5 ft: 5-10% gravel up to 1.25 inch diameter.
				at 133.6 ft: minor silt, trace clay, weakly laminated.
				below 134.5 ft: little to no silt and clay.
		144.1		135.5-152.0 ft: SAND (SP): Light olive brown [2.5Y 5/4], medium dense, saturated, fine to medium, subrounded to subangular, less silt with depth.
				at 138.1 ft: 0.7 feet thick silt bed, weakly laminated.
	140			
				at 142.0 ft: some silt.
				at 143.5 ft: less silt, ~10% medium.
				at 146.0 ft: fine to medium with 5-15% coarse.
				at 147.5 ft: <5% subrounded gravel up to 1 inch diameter.
	150			
		127.6		
		126.8		152.0-152.8 ft: CLAYEY SILT (ML): Light olive brown [2.5Y 5/4], medium stiff, wet.
		125.8		152.8-153.8 ft: SAND (SP): Light yellowish brown [2.5Y 6/3], loose, saturated, fine to medium, subrounded to subangular, <5% gravel up to 2 inch diameter.
		122.6		153.8-157.0 ft: SILTY SAND (SM): Light yellowish brown [2.5Y 6/4], medium dense, saturated, fine with 5-10% medium.
	160			157.0-162.6 ft: SAND (SP): Light yellowish brown [2.5Y 6/3], loose, saturated, fine to coarse, subrounded to subangular, 5-15% gravel up to 1.5 inch diameter.
				at 158.5 ft: less gravel, trace silt.
		117.0		at 161.5 ft: fine to medium sand, trace coarse, some silt.
				162.6-168.8 ft: SILTY CLAY (CL): Light olive brown [2.5Y 5/3], very stiff, wet.
		110.8		
		109.6		168.8-170.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], medium dense, saturated, fine, subangular.
	170			170.0-187.8 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], very stiff, wet.
				at 176.8 ft: 5 inch thick clayey silty sand bed, fine; sandy below 177.2 ft.
				below 179.0 ft: no sand.
	180			

See key for graphic symbols.

SITE and LOCATION: **Site 24, VOC Source Area MCAS El Toro**

HOLE NO. **24EX1OB**

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24EX1OB SHEET NO. 4 OF 4

Construction Details	Depth in Feet	Elevation in Feet	Geologic Description and Classification
		91.9	below 187.0 ft: sandy, fine to medium.
	190		187.8-194.7 ft: SILTY SAND (SM) Dark yellowish brown [10YR 3/4], medium dense, saturated, fine to coarse, subangular, 10-20% subrounded gravel up to 2.25 inch diameter.
			at 192.5 ft: color change to Olive Brown [2.5Y 4/3], fine to medium, trace clay and gravel up to 5/8 inch diameter.
		84.9	194.7-203.0 ft: CLAYEY SANDY SILT (ML): Dark yellowish brown [10YR 4/4], hard, wet, fine to medium, <5% coarse.
			at 197.5 ft: more clay, less sand.
			at 198.5 ft: no sand.
	200		
			at 201.0 ft: 5-10% fine to medium sand, less clay with depth.
		76.6	203.0-206.9 ft: SAND (SW): Light olive brown [2.5Y 5/3], loose, saturated, fine to medium, 5-10% coarse, subangular, some silt.
		72.8	
		71.6	206.9-208.0 ft: SANDY CLAYEY SILT (ML): Dark yellowish brown [10YR 4/4], hard, wet, fine to medium.
	210		208.0-211.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], medium dense, wet, fine, trace medium.
		68.6	
		67.6	211.0-212.0 ft: SILTY CLAY (CL): Dark yellowish brown [10YR 4/4], hard, wet.
			212.0-217.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], dense, saturated, fine.
		62.6	
	218.8	60.8	217.0-219.0 ft: CLAYEY SANDY SILT (ML): Light olive brown [2.5Y 5/3], hard, wet, fine to medium, trace coarse.
		60.6	
	220		219.0-221.5 ft: SILTY CLAY (CL): Light olive brown [2.5Y 5/3], hard, wet.
	221.2	58.4	
		58.1	221.5-224.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], dense, wet, fine.
	224.0	55.6	
		55.6	

See key for graphic symbols.

SITE and LOCATION: **Site 24, VOC Source Area MCAS El Toro**

HOLE NO. **24EX1OB**

Project ID: EL071; dpk-G \gint template WELLS, 11/96

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24EX2	SHEET NO. 1 OF 2
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 12"	BEGUN 4-5-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,192,963.45 E 6,106,085.95	LOGGED BY: S. Blanchard	TD OF WELL 211.5 / COMPLETED 4-6-96
ELEV.: TOP of RISER CASING / GROUND: 252.53 / 251.23	GROUND WATER DEPTH / ELEVATION: ▼ 106.30/144.93 5-20-96	CHECKED BY: P. Brooks	TD of HOLE 215.0 / UPDATE 11-7-96

Well Construction Details

SURFACE COMPLETION
Dia. & Type: 2 ft. square steel box

GROUT SEAL
Type: Cement w/ ~5% Bentonite

RISER CASING
Dia. & Type: 6" Schedule 40 PVC

BENTONITE SEAL
Top of Seal = 100.0 ft.
Type: Enviroplug medium chips

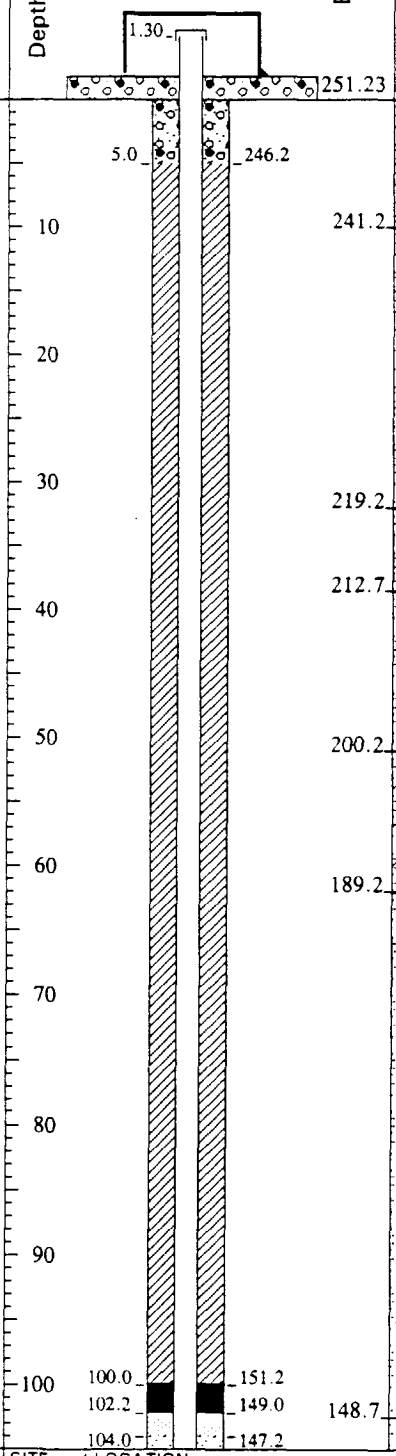
TRANSITION SAND
Top of Sand = 102.2 ft.
Type: #0/30 Silica

FILTER PACK
Top of Filter Pack = 114.0 ft.
Type: #2/16 Lonestar

SCREEN
Top of Screen = 108.9 ft.
Dia. & Type: 6" Stainless steel
Slot Size & Type: 0.02" wire-wrap
Bottom of Screen = 209.0 ft.

SUMP
Dia. & Type: 6" Stainless steel
Bottom of Sump = 211.5 ft.

Well Graphics



Geologic Description and Classification

0-10.0 ft: SILTY SAND (SM): Dark brown [10YR 3/3], dry to moist, fine, with organic material.

at 6.0 ft: medium to coarse, clayey with depth.

10.0-32.0 ft: SAND (SP): Dark yellowish brown [10YR 4/4], dry to moist, fine, trace silt.

at 15.0 ft: moist.

at 18.0 ft: fine to medium, with 10-20% fine gravel.

at 20.0 ft: fine, with some silt, trace clay.

at 27.0 ft: trace silt, little to no clay.

32.0-38.5 ft: SILTY SAND (SM): Brown [10YR 4/3], moist, fine, trace medium, trace clay.

38.5-51.0 ft: SAND (SW-SP): Brown [10YR 5/3], moist, fine to medium, with ~5% coarse, silt, gradational change to poorly graded.

at 42.0 ft: fine with some medium, some silt.

at 44.0 ft: poorly graded.

51.0-62.0 ft: CLAYEY SAND (SC): Brown [10YR 3/3], moist, fine to medium.

62.0-102.5 ft: SILTY SAND (SM): Brown [10YR 5/3], fine, some clayey interbeds.

at 80.0 ft: some medium sand, no clayey interbeds.

102.5-116.0 ft: SAND (SW): Brown [10YR 5/3], fine, with some

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX2

Project ID: EL073, dpk-G:\grnt

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24EX2 SHEET NO. 2 OF 2

Construction Details	Depth in Feet	Elevation in Feet	Geologic Description and Classification
	108.9	142.3	medium, trace to some silt.
	110		
		135.2	116.0-125.0 ft: SANDY CLAYEY SILT (ML): Brown [10YR 4/3], moist to wet, fine.
	120		
		126.2	125.0-156.0 ft: SAND (SP): Brown [10YR 4/3], saturated, fine, some silt gradational change to silty sand.
	130		at 132.0 ft: fine to medium, less silt.
	140		at 137.0 ft: 10-20% gravel up to 1.5 inch diameter, trace coarse sand, some sandy clay beds.
			at 145.0 ft: fine with some medium, some clayey interbeds.
	150		at 150.0 ft: increased silt content, little to no clay.
			at 151.5 ft: fine to medium sand, decreased silt content.
		95.2	at 154.0 ft: clayey silt bed.
	160		156.0-165.0 ft: SAND (SW): Light olive brown [2.5Y 5/3], fine to coarse, with rounded gravel up to 1.5 inch diameter.
			at 160.0 ft: little to no gravel.
		86.2	at 164.0 ft: fine to medium, gravelly.
		83.2	165.0-168.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], saturated, fine, with some medium, trace to some clay.
	170	79.7	168.0-171.5 ft: CLAYEY SANDY SILT (ML): Olive brown [2.5Y 4/3], wet, fine.
		77.2	171.5-174.0 ft: SAND (SP): Olive brown [2.5Y 4/3], saturated, fine, some medium, trace to some silt.
		72.2	174.0-179.0 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], saturated, fine to medium, less silt with depth, some clayey layers.
	180		179.0-190.0 ft: SAND (SW): Olive brown [2.5Y 5/4], saturated, fine to coarse, 10-20% fine gravel, silty with depth.
			at 182.0 ft: gravelly sand layer with subrounded gravel up to 2 inch diameter.
			at 184.0 ft: fine to medium, trace gravel.
			at 187.0 ft: fine, some silt.
	190	61.2	at 189.0 ft: clayey sand layer.
		57.2	190.0-194.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], saturated, fine, <5% medium, gravelly, some clayey interbeds.
			194.0-201.0 ft: SAND (SW): Light olive brown [2.5Y 5/34], saturated, fine to medium, 5-10% coarse, <5% gravel up to 1.75 inch, trace silt.
	200	50.2	at 199.0 ft: gravelly sand layer.
			at 200.0 ft: fine, silty.
			201.0-207.5 ft: CLAYEY SANDY SILT (ML): Yellowish brown [10YR 5/4], wet, fine.
		43.7	at 203.0 ft: fine to medium sand layer.
			at 205.0 ft: clayey silt with some fine sand.
	209.0	42.2	
	210 211.5	39.7	207.5-215.0 ft: SILTY SAND (SM): Light yellowish brown [10YR 6/4], saturated, fine, with clay and silt interbeds.
			at 212.0 ft: fine to coarse sand layer with 5-10% gravel up to 1.25 inch diameter.
	215.0	36.2	36.2

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX2

Project ID: EL073, dpk-G:\gint template: WELLS, 11/96

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24EX2OB	SHEET NO. 1 OF 5
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 8.25"	BEGUN 3-29-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,192,979.51 E 6,106,098.39	LOGGED BY: S. Blanchard	TD OF WELL 207.4 / COMPLETED 4-1-96
ELEV.: TOP of RISER CASING / GROUND: 252.00 / 251.63	GROUND WATER DEPTH / ELEVATION: ▼ 105.00/146.63 5-20-96	CHECKED BY: P. Brooks	TD of HOLE 209.5 / UPDATE 11-7-96

Well Construction Details

SURFACE COMPLETION
Dia. & Type: 2 ft. square steel box

GROUT SEAL
Type: Cement w/ ~5% Bentonite

RISER CASING
Dia. & Type: 2" Schedule 80 PVC

BENTONITE SEAL
Top of Seal = 92.8 ft.
Type: Enviroplug medium chips

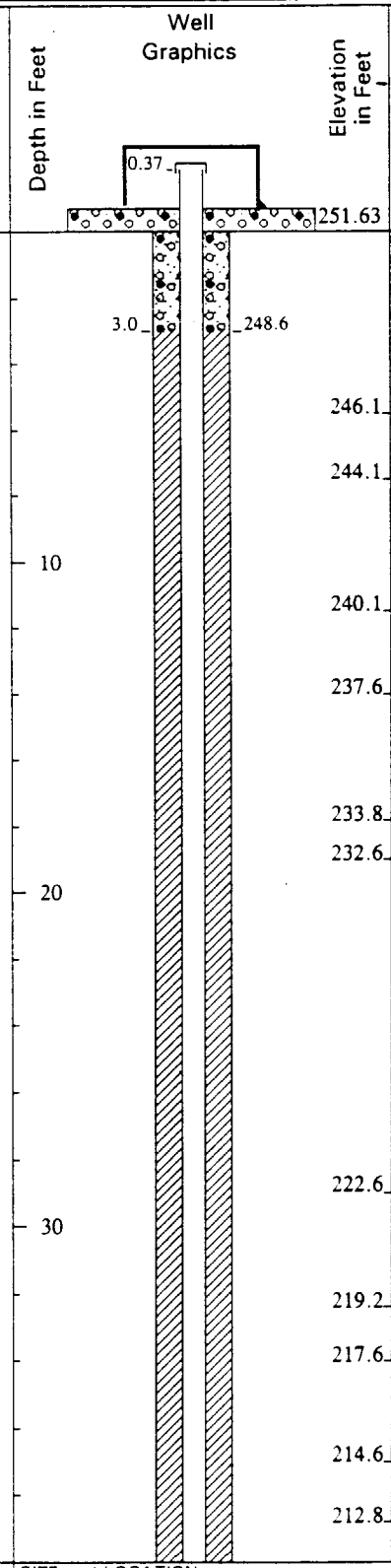
TRANSITION SAND
Top of Sand = 99.8 ft.
Type: #0/30 Silica

FILTER PACK
Top of Filter Pack = 101.9 ft.
Type: #2/16 Lonestar

SCREEN
Top of Screen = 106.8 ft.
Dia. & Type: 2" Schedule 80 PVC
Slot Size & Type: 0.02" wire-wrap
Bottom of Screen = 204.8 ft.

SUMP
Dia. & Type: 2" Schedule 80 PVC
Bottom of Sump = 209.5 ft.

Well Graphics



Geologic Description and Classification

Elevation	Description
	0-5.5 ft: SILTY SAND (SM): Dark brown [10YR 3/3], damp, loose, fine, some organics (grass roots).
246.1	5.5-7.5 ft: SAND (SW): Brown [7.5YR 5/4], slightly damp, loose, fine to medium, some coarse, some silt.
244.1	7.5-11.5 ft: CLAYEY SILTY SAND (SM): Dark brown [7.5YR 3/4], damp, medium dense, fine, 10-15% white precipitate, dendritic appearance. no white precipitate below 10.5 ft.
240.1	11.5-14.0 ft: SAND (SW): Brown [10YR 5/3], slightly damp, loose, fine to coarse, subangular, 20% subrounded gravel up to 2.25 inches. at 20 ft: no gravel, fine to medium, grades fine with depth.
237.6	14.0-17.8 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], damp, loose, fine.
233.8	17.8-19.0 ft: SANDY SILT (ML): Dark brown [10YR 3/3], damp, very soft, fine, some clay.
232.6	19.0-29.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], damp, medium dense, fine, trace to minor clay; finer grained with depth. at 27 ft: clayey, gradational to sandy silt. at 27.7 ft: changes to no clay, fine, <5% medium sand.
222.6	29.0-32.4 ft: SAND (SP): Yellowish brown [10YR 5/4], damp, loose, fine, subangular.
219.2	32.4-34.0 ft: SILTY SAND (SM): Brown [10YR 4/3], damp, medium dense, fine, some clay. at 33.3 ft: 1.75 inch thick clayey silt bed, underlain by a 4.5 inch thick fine sand bed.
217.6	34.0-37.0 ft: SAND (SP): Yellowish brown [10YR 5/4], damp, loose, fine.
214.6	37.0-38.8 ft: SILTY SAND (SM): Dark brown [10YR 3/3], damp, medium dense, fine, some clay.
212.8	38.8-41.7 ft: SAND (SP): Dark yellowish brown [10YR 4/4], slightly moist, loose, fine, <5% silt, <5% medium sand.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX2OB

Project ID: E1073; dpk-G\gint

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER	HOLE NO.
	CLEAN II 22214-073	24EX2OB
		SHEET NO. 2 OF 5

Construction Details	Depth in Feet	Elevation in Feet	Graphics	Geologic Description and Classification
				at 40.5 ft: changes to fine to coarse sand, gradational to (SW).
		209.9		41.7-43.9 ft: SILTY SAND (SM): Brown [10YR 4/3], slightly moist, medium dense, fine, minor clay; increased clay, decreased sand with depth.
		207.7		43.9-48.8 ft: SAND (SP): Brown [10YR 5/3], slightly moist, loose to medium dense, fine to medium, subangular.
				at 46.7 ft: fine, some silt, laminated.
				at 48 ft: fine to coarse, no silt.
		202.8		at 48.3 ft: fine, laminated, 5-10% medium.
	50			48.8-52.0 ft: SILTY SAND (SM): Dark brown [10YR 3/3], moist, medium dense, fine, some clay.
				at 51 ft: grades to sandy silt.
		199.6		52.0-56.8 ft: CLAYEY SAND (SC): Reddish brown [5YR 4/4], moist, medium dense, fine to medium, subangular to subrounded, some silt; less clay, more silt with depth.
		194.8		56.8-57.8 ft: CLAYEY SILT (ML): Brown [7.5YR 5/4], moist, soft.
		193.8		57.8-65.6 ft: SAND (SP): Strong brown [7.5YR 4/6], moist, medium dense, fine, trace silt.
	60			at 61 ft: changes to yellowish brown [10YR 5/4], fine, 5-10% medium.
				at 61.8 to 62.2 ft: silty, fine sand.
				at 62.2 ft: change to yellowish brown [10YR 4/4], fine sand, less silt, dense.
				at 63.8 ft: changes to fine to medium, trace silt, medium dense.
		186.0		at 65 ft: changes to fine sand.
				65.6-68.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], to brown [10YR 5/3], moist, medium dense, fine.
		183.6		68.0-77.4 ft: SANDY SILT (ML): Brown [10YR 4/3], moist, soft, fine.
	70			at 70.5 ft: change to strong brown [7.5YR 4/6], medium stiff.
				at 72.5 ft: changes to clayey silt, hard.
				at 73 to 74 ft: very pale brown [10YR 7/3], precipitate, mottled to dendritic appearance.
				at 76 to 77 ft: grades to sandy silt, fine.
		174.2		77.4-82.0 ft: SAND (SP): Yellowish brown [10YR 5/6], moist, dense, fine, minor silt.
	80			at 79.5 ft: grades to 5-10% medium to coarse.
		169.6		82.0-87.3 ft: CLAYEY SILT (ML): Strong brown [7.5YR 4/6], moist medium stiff, mottled with very pale brown [10YR 7/3] precipitate, crumbles easily, trace fine sand.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX2OB

template: WELLS; 11/96

Project ID: EL073; dpk

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24EX2OB SHEET NO. 3 OF 5

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		164.3		
		162.6		87.3-89.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], moist, dense, fine, 5-10% light brown mottling.
	90			89.0-93.0 ft: CLAYEY SILT (ML): Dark brown [10YR 3/3], moist, very stiff, crumbles easily.
	92.8	158.8		
		158.6		
		157.6		93.0-94.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], moist, dense to very dense, fine.
				94.0-104.0 ft: SAND (SP): Dark yellowish brown [10YR 4/4], moist, dense, fine, trace silt.
				at 97.5 ft: changes to fine to medium, moderately well graded, no silt, subangular to subrounded.
	99.8	151.8		
	100			
	101.9	149.7		at 102 to 103.5 ft: 5-10% coarse.
		147.6		at 103.5 ft: changes to fine to coarse, gradational to (SW), well graded, subrounded coarse grains.
		145.6		104.0-106.0 ft: SAND (SW): Light yellowish brown [2.5Y 6/3], moist, fine to coarse, subrounded.
	106.8	144.8		106.0-108.3 ft: SAND (SP): Yellowish brown [10YR 5/4], moist, medium dense, fine, trace silt, weakly laminated.
		143.3		108.3-111.8 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], moist, medium dense, fine.
	110			
		139.8		111.8-114.5 ft: SAND (SP): Dark yellowish brown [10YR 4/4], wet, fine, <5% medium, subrounded. at 113 ft: changes to fine to medium, <5% coarse, gradational to (SW) well graded.
		137.1		114.5-116.2 ft: SILTY SAND (SM): Dark brown [10YR 3/3], wet to saturated, medium dense, fine.
		135.4		116.2-117.2 ft: CLAYEY SILT (ML): Dark brown [10YR 3/3], wet, very stiff.
		134.4		117.2-118.4 ft: SILTY SAND (SM): Dark brown [10YR 3/3], wet to saturated, medium dense, fine, with some clay.
		133.2		118.4-120.2 ft: CLAYEY SILT (ML): Dark brown [10YR 3/3], wet, very stiff, with some fine sand. at 119.5 to 120.2 ft: fine to medium sand bed.
	120	131.4		120.2-123.5 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], saturated, medium dense, fine.
		128.1		at 123 ft: changes to clayey.
		126.4		123.5-125.2 ft: SILTY CLAY (CL): Dark brown [10YR 3/3], wet, hard.
		124.2		125.2-127.4 ft: CLAYEY SANDY SILT (ML): Dark yellowish brown [10YR 4/4], wet, soft, fine.
		123.6		127.4-128.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], saturated, medium dense, fine, some clay.
	130			128.0-144.0 ft: SAND (SP): Olive brown [2.5Y 4/4], saturated, medium dense, fine, minor silt. at 129.5 ft: grades to fine to medium, no silt.

See key for graphic symbols.

SITE and LOCATION: **Site 24. VOC Source Area MCAS El Toro**

HOLE NO. **24EX2OB**

Project ID: EL073, dpk-G \gint template: WELLS, 11/96

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER	HOLE NO.
	CLEAN II 22214-073	24EX2OB
		SHEET NO. 4 OF 5

Construction Details	Depth in Feet	Elevation in Feet	Graphics	Geologic Description and Classification
				at 131 ft: grades to fine sand, some silt.
				at 132.6 ft: grades to fine to medium, trace coarse.
				at 133.1 ft: grades to fine, some silt.
				at 137 to 137.5 ft: changes to silty sand, fine.
				at 138.5 ft: grades to fine to medium, minor silt.
	140			
		107.6		at 144 ft: changes to light yellowish brown [2.5Y 6/3], fine to coarse, moderately well sorted, subrounded.
				144.0-149.8 ft: CLAYEY SILT (ML): Dark brown [10YR 3/3], saturated, very stiff, some fine sand.
				at 148.7 ft: changes to clayey sandy silt.
		101.8		
	150			149.8-152.3 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], wet, dense, fine, some clay; less clay with depth.
		99.3		at 152.3 ft: 1.5 inch thick, fine to medium sand bed.
				152.3-154.0 ft: SAND (SP): Light olive brown [2.5Y 5/3], saturated, medium dense, fine, some silt.
		97.6		
		96.6		154.0-155.0 ft: SANDY CLAYEY SILT (ML): Dark brown [10YR 3/3], wet, very stiff, fine.
				155.0-161.3 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], wet, dense, fine, 5-10% medium to coarse.
				at 156.7 ft: <5% gravel to 0.875 inches, subrounded.
	160			
		90.3		at 160.5 ft: minor clay, no coarse sand.
				at 161 ft: 10-15% gravel to 2.125 inches.
		89.1		161.3-162.5 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], wet, stiff.
		87.6		162.5-164.0 ft: SAND (SP): Olive brown [2.5Y 4/3], saturated, medium dense, fine to medium, subrounded, some silt; less silty, coarser with depth.
		87.2		
		85.6		164.0-164.4 ft: CLAYEY SILTY SAND (SM): Olive brown [2.5Y 4/3], wet, dense, fine, <5% medium.
				164.4-166.0 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], wet, very stiff, trace fine sand; grades to silty clay.
				166.0-169.0 ft: SILTY CLAY (CL): Very dark grayish brown [2.5Y 3/2], wet, hard.
		82.6		
	170	81.2		169.0-170.4 ft: SANDY CLAYEY SILT (ML): Olive brown [2.5Y 4/3], wet, very stiff, fine, trace medium.
				170.4-174.0 ft: SILTY SAND (SM): Olive brown [2.5Y 4/3], saturated, dense, fine to medium, trace to minor clay; less silt and clay with depth.
		77.6		
				174.0-176.8 ft: CLAYEY SILT (ML): Dark brown [10YR 3/3], wet, medium stiff.
		74.8		

See key for graphic symbols.

SITE and LOCATION: **Site 24, VOC Source Area MCAS El Toro**

HOLE NO. **24EX2OB**

mplate WELLS 11/96
Project ID F1073.dpk-c

CONSTRUCTION DETAILS (cont.)

PROJECT and JOB NUMBER: *CLEAN II* 22214-073

HOLE NO. 24EX2OB

Construction Details	Depth in Feet	Elevation in Feet	Geologic Description and Classification
			176.8-180.2 ft: SAND (SW): Olive brown [2.5Y 4/4], saturated, fine to coarse, subrounded, some silt. at 178.4 to 178.7 ft: clayey sand, fine. at 178.7 ft: grades to sand (SP), fine, some silt.
	180	71.4	180.2-182.8 ft: SANDY CLAYEY SILT (ML): Dark yellowish brown [10YR 3/4], wet, very stiff, fine, trace medium. at 182.1 to 182.5 ft: silty clay layer.
		68.8	182.8-184.1 ft: SILTY SAND (SM): Dark yellowish brown [10YR 3/4], saturated, medium dense, fine to coarse, subangular to subrounded. at 184 ft: <5% fine to medium gravel to 1 inch.
		67.5	184.1-186.5 ft: SAND (SP): Light olive brown [2.5Y 5/4], saturated, medium dense, fine, 5-10% medium, subangular, some silt.
		65.1	186.5-187.5 ft: SAND (SW): Light olive brown [2.5Y 5/4], saturated, fine to coarse, subangular to subrounded, trace silt.
		64.1	187.5-189.0 ft: SAND (SP): Light olive brown [2.5Y 5/4], saturated, loose to medium dense, fine, minor silt.
		62.6	189.0-193.2 ft: CLAYEY SILTY SAND (SM): Olive brown [2.5Y 4/4], saturated, medium dense, fine.
	190		
		58.4	at 192.3 to 193 ft: silty clay bed, hard.
			193.2-202.8 ft: SAND (SP): Olive brown [2.5Y 4/4], saturated, loose to medium dense, fine to medium, subangular to subrounded, some silt; less silt with depth. at 196 to 197 ft: grades to fine to coarse. at 197 to 198 ft: grades to fine.
	200		
		48.8	202.8-204.0 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4], wet, hard.
		47.6	204.0-205.5 ft: SILTY CLAY (CL): Yellowish brown [10YR 5/4], wet, hard.
	204.8	46.8	205.5-207.3 ft: SANDY CLAYEY SILT (ML): Yellowish brown [10YR 5/4], wet, medium stiff, fine.
		46.1	207.3-208.4 ft: SILTY CLAY (CL): Yellowish brown [10YR 5/4], wet, hard.
	207.4	44.2	208.4-209.5 ft: SANDY CLAYEY SILT (ML): Yellowish brown [10YR 5/4], wet, medium stiff, fine.
		44.3	
		43.2	
	209.5	42.1	
		42.1	

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24EX2OB

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24IN1	SHEET NO. 1 OF 2
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 12"	BEGUN 3-26-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,188,538.76 E 6,110,889.83	LOGGED BY: D. B. McCullar	TD OF WELL 212.5 / COMPLETED 3-29-96
ELEV.: TOP of RISER CASING / GROUND: 291.06 / 290.52	GROUND WATER DEPTH / ELEVATION: ▼ 109.00/181.52 5-14-96	CHECKED BY: P. Brooks	TD of HOLE 215.0 / UPDATE 11-13-96

Well Construction Details

SURFACE COMPLETION
Dia. & Type: 2 ft. square steel box

GROUT SEAL
Type: Cement w/ ~5% Bentonite

RISER CASING
Dia. & Type: 6" Schedule 40 PVC

BENTONITE SEAL
Top of Seal = 72.5 ft.
Type: Enviroplug medium chips

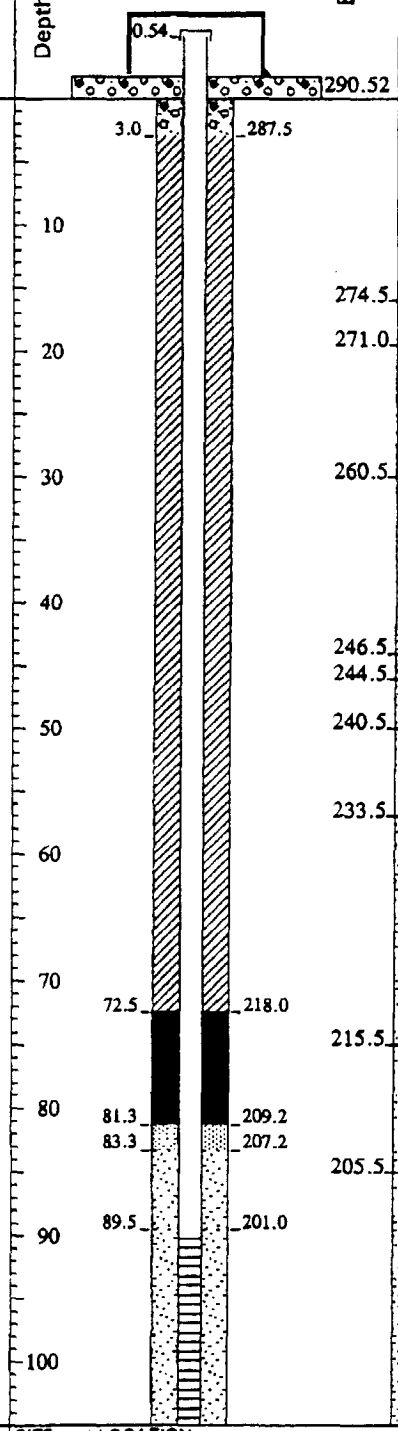
TRANSITION SAND
Top of Sand = 81.3 ft.
Type: #0/30 Silica

FILTER PACK
Top of Filter Pack = 83.3 ft.
Type: #2/16 Lonestar

SCREEN
Top of Screen = 89.5 ft.
Dia. & Type: 6" Stainless steel
Slot Size & Type: 0.02" wire-wrap
Bottom of Screen = 209.5 ft.

SUMP
Dia. & Type: 6" Stainless steel
Bottom of Sump = 212.4 ft.

Well Graphics



Geologic Description and Classification

Elevation in Feet	Description
	0-16 ft: SILTY SAND (SM): Dark brown [7.5YR 4/4], dry to moist, some clay.
	at 6.0 ft: increasing clay content, changing to sandy silty clay.
	at 10.0 ft: color change to Dark brown [7.5YR 4/2], decreasing clay content.
274.5	at 15.0 ft: some gravel up to 2 cm diameter.
271.0	16.0-19.0 ft: SAND (SP): Light yellowish brown [10YR 6/4], medium, trace subrounded to subangular gravel, increases to fine gravel at 19.0 ft.
	19.0-30.0 ft: CLAYEY SILT (ML): Dark brown [10YR 4/3], moist, micaceous.
260.5	30.0-44.0 ft: GRAVELLY SAND (SP): Light yellowish brown [10YR 6/4], moist, fine to medium, ~20% gravel up to 1 cm diameter.
	at 35.0 ft: color change to Dark brown [10YR 3/4] and black to Light yellowish brown [10YR 6/4], increasing to 40-75% gravel up to 3 cm diameter.
	below 39.0 ft: less gravel, silty.
246.5	
244.5	44.0-46.0 ft: GRAVELLY SANDY CLAY (CL): Dark brown [10YR 4/3], moist, low plasticity
240.5	46.0-50.0 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], fine to medium, trace gravel and clay.
	50.0-57.0 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4] changing to Strong brown [7.5YR 5/6], moist.
233.5	57.0-75.0 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], moist, some clayey sand.
215.5	75.0-85.0 ft: SAND (SW): Light yellowish brown [10YR 6/4], fine to coarse, trace gravel, increased silt content with depth.
205.5	85.0-120.0 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], moist, fine to medium, subrounded, micaceous, increased clay content with depth.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro — HOLE NO. 24IN1

Project ID: EL073, [illegible]: D:\[illegible]

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24IN1 SHEET NO. 2 OF 2

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
	110			
	120	170.5		
		168.5		120.0-122.0 ft: SAND (SW): Light yellowish brown [10YR 6/4], fine to coarse, subrounded.
				122.0-150.0 ft: CLAYEY SILT (ML): Dark brown [10YR 4/3], moist, slightly sandy.
	130			
	140			
	150	140.5		
				150.0-155.0 ft: SILTY SAND (SM): Light yellowish brown [10YR 6/4], fine.
		135.5		
				155.0-183.0 ft: SANDY SILT (ML): Light yellowish brown [10YR 6/4], wet, some clay.
	160			
	170			
	180			
		107.5		
				183.0-192.0 ft: SILTY SAND (SM): Light yellowish brown [10YR 6/4], wet, fine to medium, subrounded to subangular, trace gravel up to 0.5 cm diameter with depth.
	190			
		98.5		
				192.0-215.0 ft: SAND (SP): Light yellowish brown [10YR 6/4], fine to medium, some gravel and silt.
				at 197.0 ft: fine to coarse with gravel up to 3 cm.
	200			
				at 205.0 ft: coarse gravelly sand with gravel up to 3 cm, increased silt content.
	209.5	81.0		
	210			
	212.5	78.0		
	215.0	75.5		
		75.5		

See key for graphic symbols.	SITE and LOCATION Site 24, VOC Source Area MCAS El Toro	HOLE NO. 24IN1

Project ID: EL073, Job: G2, Grid Template: WELLS, 11/96

WELL CONSTRUCTION DETAILS

PROJECT and JOB NUMBER: *CLEAN II* 22214-073		HOLE NO. 24IN1OB	SHEET NO. 1 OF 5
SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro		HOLE SIZE 8.25"	BEGUN 3-18-96
DRILLING COMPANY: Water Development Corp.	COORDINATES: N 2,188,562.77 E 6,110,895.63	LOGGED BY: S. Blanchard	TD OF WELL 213.1 / COMPLETED 3-22-96
ELEV.: TOP of RISER CASING / GROUND: 292.43 / 290.70	GROUND WATER DEPTH / ELEVATION: ¥ 110.50/180.20 5-14-96	CHECKED BY: P. Brooks	TD of HOLE 214.0 / UPDATE 11-7-96

Well Construction Details

SURFACE COMPLETION
Dia. & Type: 2 ft. square steel box

GROUT SEAL
Type: Cement w/ ~5% Bentonite

RISER CASING
Dia. & Type: 2" Schedule 80 PVC

BENTONITE SEAL
Top of Seal = 99.5 ft.
Type: Enviroplug medium chips

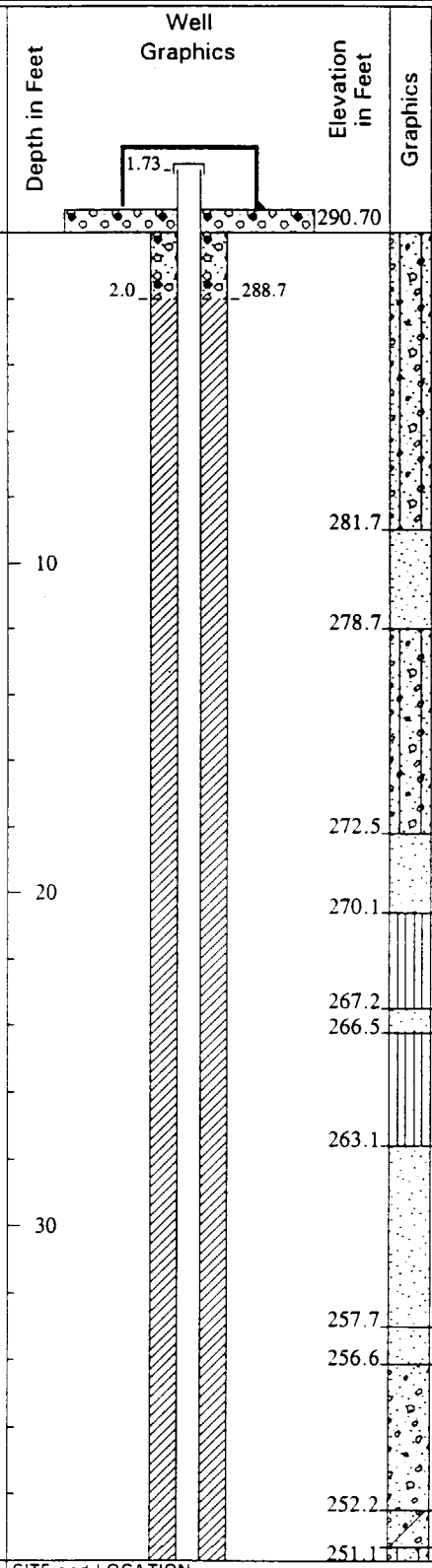
TRANSITION SAND
Top of Sand = 102.7 ft.
Type: #0/30 Silica

FILTER PACK
Top of Filter Pack = 105.0 ft.
Type: #2/16 Lonestar

SCREEN
Top of Screen = 112.8 ft.
Dia. & Type: 2" Schedule 80 PVC
Slot Size & Type: 0.02" wire-wrap
Bottom of Screen = 210.8 ft.

SUMP
Dia. & Type: 2" Schedule 80 PVC
Bottom of Sump = 213.1 ft.

Well Graphics



Geologic Description and Classification

0-9.0 ft: SILTY SAND (SM): Dark brown [2.5YR 4/3], damp, fine, minor clay.

at 7 ft: no clay, fine.

9.0-12.0 ft: SAND (SP): Brownish yellow [10YR 6/6], damp, fine, trace medium.

12.0-18.2 ft: SILTY SAND (SM): Brownish yellow [10YR 6/6], fine, trace medium.

18.2-20.6 ft: SAND (SP): Light olive brown [2.5Y 5/6], damp, fine, trace silt.

20.6-23.5 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4], moist, trace fine sand, finely laminated.

23.5-24.2 ft: SAND (SP): Light yellowish brown [10YR 6/4], fine, micaceous.

24.2-27.6 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4], finely laminated.

27.6-33.0 ft: SAND (SP): Light yellowish brown [10YR 5/4], fine, micaceous, finely laminated.

at 30 ft: gradational change to silty with depth.

33.0-34.1 ft: SAND (SP): Light yellowish brown [10YR 6/4], damp, fine to medium.

34.1-38.5 ft: GRAVELLY SAND (SW): Olive yellow [2.5Y 6/8], damp, fine to coarse, fine to medium gravel up to 2.25 inches.

38.5-39.6 ft: CLAYEY SAND (SC): Light olive brown [2.5Y 5/6], damp, fine to medium sand, 0.25 inch gray laminations.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24IN1OB

Project ID: EL073.dpk

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER: *CLEAN II* 22214-073	HOLE NO. 24IN1OB SHEET NO. 2 OF 5

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
				39.6-43.4 ft: SILTY SAND (SM): Yellowish brown [10YR 5/6], moist, fine, trace clay, trace wet portions, grades from fine to medium with depth.
		247.3		43.4-46.4 ft: SANDY CLAY (CL): Yellowish brown [10YR 5/4], moist, fine sand, trace medium sand.
		244.1		46.4-48.5 ft: SAND (SP): Olive yellow [2.5Y 6/6], damp, fine, some medium.
		242.2		
		241.6		48.5-49.1 ft: CLAY (CL). Olive yellow [2.5Y 6/6], moist, some fine sand.
	50	240.5		49.1-50.2 ft: SAND (SW): Light yellowish brown [2.5Y 6/4], damp.
				50.2-57.5 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4], damp, some fine sand. Less clayey, more sandy with depth.
				at 54 ft: grades to sandy silt.
		233.2		57.5-66.2 ft: SAND (SP): Olive yellow [2.5Y 6/6], damp, fine to medium, trace silt.
	60			
				at approximately 62 ft: finely laminated with < 1 mm laminations.
				at 65 ft: changes to medium to coarse.
		224.5		66.2-73.4 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], damp, fine to medium, trace clay, weakly cemented, slightly less silty with depth.
	70			
				at 71 to 72 ft: minor clay.
		217.3		73.4-78.6 ft: SAND (SP): Olive yellow [2.5Y 6/6], damp, fine.
				at 75 to 76.5 ft: silty.
				at 77 ft: changes to fine to medium, angular to subangular, moderately well graded.
		212.1		at 78 ft: changes to fine to coarse, angular to subangular, well graded. at 78.5 ft: approximately 10-20% fine to medium, subrounded gravel.
	80			78.6-81.5 ft: SANDY SILT (ML): Olive [5Y 5/4], slightly moist, fine sand.
		209.2		81.5-83.4 ft: SAND (SP): Olive [5Y 5/4], slightly moist, fine, some silt, gradational contacts. Grades to fine to medium with 5-10% coarse, subangular, moderately well graded.
		207.3		83.4-86.6 ft: SANDY SILT (ML): Olive [5Y 5/4], slightly moist, fine.

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24IN1OB

Project ID: E1073; dpk D:\grnt template. WELL5, 11/96

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24IN1OB SHEET NO. 2 OF 5

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		247.3		39.6-43.4 ft: SILTY SAND (SM): Yellowish brown [10YR 5/6], moist, fine, trace clay, trace wet portions, grades from fine to medium with depth.
		244.1		43.4-46.4 ft: SANDY CLAY (CL): Yellowish brown [10YR 5/4], moist, fine sand, trace medium sand.
		242.2		46.4-48.5 ft: SAND (SP): Olive yellow [2.5Y 6/6], damp, fine, some medium.
		241.6		48.5-49.1 ft: CLAY (CL): Olive yellow [2.5Y 6/6], moist, some fine sand.
	50	240.5		49.1-50.2 ft: SAND (SW): Light yellowish brown [2.5Y 6/4], damp.
				50.2-57.5 ft: CLAYEY SILT (ML): Yellowish brown [10YR 5/4], damp, some fine sand. Less clayey, more sandy with depth.
				at 54 ft: grades to sandy silt.
		233.2		57.5-66.2 ft: SAND (SW): Olive yellow [2.5Y 6/6], damp, fine to medium, trace silt.
	60			
				at approximately 62 ft: finely laminated with <1 mm laminations.
				at 65 ft: changes to medium to coarse.
		224.5		66.2-73.4 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], damp, fine to medium, trace clay, weakly cemented, slightly less silty with depth.
	70			
				at 71 to 72 ft: minor clay.
		217.3		73.4-78.6 ft: SAND (SP): Olive yellow [2.5Y 6/6], damp, fine.
				at 75 to 76.5 ft: silty.
				at 77 ft: changes to fine to medium, angular to subangular, moderately well graded.
		212.1		at 78 ft: changes to fine to coarse, angular to subangular, well graded.
				at 78.5 ft: approximately 10-20% fine to medium, subrounded gravel.
	80			78.6-81.5 ft: SANDY SILT (ML): Olive [5Y 5/4], slightly moist, fine sand.
		209.2		81.5-83.4 ft: SAND (SP): Olive [5Y 5/4], slightly moist, fine, some silt, gradational contacts. Grades to fine to medium with 5-10% coarse, subangular, moderately well graded.
		207.3		83.4-86.6 ft: SANDY SILT (ML): Olive [5Y 5/4], slightly moist, fine.

template: WELLS, 11/96

Project ID: EL073, dpk

See key for graphic symbols.	SITE and LOCATION Site 24, VOC Source Area MCAS El Toro	HOLE NO. 24IN1OB

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24IN1OB SHEET NO. 3 OF 5

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		204.1		at 85.5 to 86.7 ft: 1.5 to 2 inch thick clay interbeds with mottled dark gray weathering, slightly indurated.
				86.6-89.0 ft: SILTY SAND (SM): Olive [5Y 5/4], slightly moist, fine, poorly graded. at 87 ft: minor silt. at 88.5 ft: trace clay.
		201.7		89.0-91.3 ft: SANDY CLAY (CL): Dark yellowish brown [10YR 4/4], some fine sand.
	90	199.4		
		198.7		91.3-92.0 ft: CLAYEY SILT (ML): Dark olive brown [2.5Y 3/3], moist, some fine to medium sand.
		197.2		92.0-93.5 ft: CLAYEY SILTY SAND (SM): Dark olive brown [2.5Y 3/3], moist, fine, trace medium.
		194.7		93.5-96.0 ft: SAND (SW): Light olive brown [2.5Y 5/3], moist, fine to medium, trace coarse, moderately well graded, subangular to subrounded. at 95 ft: changes to fine to coarse, trace clay.
		192.9		96.0-97.8 ft: SILTY SAND (SM): Light yellowish brown [2.5Y 6/3], moist, fine, poorly graded, subangular.
		191.9		97.8-98.8 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], moist.
	99.5	191.2		98.8-105.5 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], fine, subangular.
	100			at 100.5 to 102 ft: 10-20% fine gravel, trace medium gravel to 1.75 inches, subrounded, some coarse, less silt.
	102.7	188.0		at 102 ft: changes to fine sand, no gravel. at 102.7 ft: 5 inch thick clayey silt interbed.
	105.0	185.7		at 104 ft: less silty with depth.
		185.2		105.5-108.8 ft: SAND (SP-SW): Light yellowish brown [2.5Y 6/3], moist, loose, fine to medium, moderately well graded, subangular to subrounded, >75% quartz. at 107 ft: changes to fine to coarse sand with trace fine gravel to 0.375 inch.
		181.9		108.8-112.2 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], moist, moderately dense, fine, subangular to subrounded, poorly graded. at 110 to 112 ft: less silty, saturated, fine to coarse.
	110	178.5		
	112.8	177.9		112.2-119.2 ft: SILTY CLAYEY SAND (SC): Olive brown [2.5Y 4/4], very moist, moderately dense, fine to medium, trace coarse, moderately sorted, subangular to subrounded. at 113.8 ft: clay layer, hard. at 116.5 ft: 2 inch thick, silty sand interbed, fine to coarse sand, trace clay, wet. at 116.5 to 118 ft: trace minor clay, minor coarse sand.
		171.5		119.2-120.4 ft: SILTY SAND (SM): Olive brown [2.5Y 4/4], wet to saturated, very fine, poorly graded.
	120	170.3		120.4-121.6 ft: SAND (SW): Light yellowish brown [2.5Y 6/3], saturated, loose, fine to coarse, subangular, coarser with depth, <5% gravel up to 1 inch.
		169.1		121.6-129.0 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], very moist, hard. at 122 ft: 0.25 inch thick layer, dark laminations (organics ?). at 123.3 ft: changes to sandy silt, fine, trace clay. at 124 ft: changes to clay, very moist to wet, very stiff, medium plasticity. at 124.5 ft: changes to sandy clayey silt, medium to coarse, less sand and clay with depth.
		161.7		129.0-130.2 ft: CLAYEY SAND (SC): Brown [10YR 4/3], saturated, medium dense, fine to medium, subrounded.
	130	160.5		130.2-132.2 ft: SANDY CLAY (CL): Brown [10YR 4/3], wet to

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24IN1OB

Project ID: ELD73; dpk-D:\gint template: WELLS, 11/96

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER	HOLE NO.
	CLEAN II 22214-073	24IN1OB
		SHEET NO. 3 OF 5

Construction Details	Depth in Feet	Elevation in Feet	Geologic Description and Classification
		204.1	at 85.5 to 86.7 ft: 1.5 to 2 inch thick clay interbeds with mottled dark gray weathering, slightly indurated.
		201.7	86.6-89.0 ft: SILTY SAND (SM): Olive [5Y 5/4], slightly moist, fine, poorly graded. at 87 ft: minor silt. at 88.5 ft: trace clay.
	90	199.4	89.0-91.3 ft: SANDY CLAY (CL): Dark yellowish brown [10YR 4/4], some fine sand.
		198.7	91.3-92.0 ft: CLAYEY SILT (ML): Dark olive brown [2.5Y 3/3], moist, some fine to medium sand.
		197.2	92.0-93.5 ft: CLAYEY SILTY SAND (SM): Dark olive brown [2.5Y 3/3], moist, fine, trace medium.
		194.7	93.5-96.0 ft: SAND (SW): Light olive brown [2.5Y 5/3], moist, fine to medium, trace coarse, moderately well graded, subangular to subrounded. at 95 ft: changes to fine to coarse, trace clay.
		192.9	96.0-97.8 ft: SILTY SAND (SM): Light yellowish brown [2.5Y 6/3], moist, fine, poorly graded, subangular.
		191.9	97.8-98.8 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], moist.
	99.5 / 100	191.2	98.8-105.5 ft: SILTY SAND (SM): Dark yellowish brown [10YR 4/4], fine, subangular. at 100.5 to 102 ft: 10-20% fine gravel, trace medium gravel to 1.75 inches, subrounded, some coarse, less silt.
	102.7	188.0	at 102 ft: changes to fine sand, no gravel. at 102.7 ft: 5 inch thick clayey silt interbed.
	105.0	185.7	at 104 ft: less silty with depth.
		185.2	105.5-108.8 ft: SAND (SW): Light yellowish brown [2.5Y 6/3], moist, loose, fine to medium, moderately well graded, subangular to subrounded, >75% quartz. at 107 ft: changes to fine to coarse sand with trace fine gravel to 0.375 inch.
	110	181.9	108.8-112.2 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], moist, moderately dense, fine, subangular to subrounded, poorly graded. at 110 to 112 ft: less silty, saturated, fine to coarse.
	112.8	178.5	112.2-119.2 ft: SILTY CLAYEY SAND (SC): Olive brown [2.5Y 4/4], very moist, moderately dense, fine to medium, trace coarse, moderately sorted, subangular to subrounded. at 113.8 ft: clay layer, hard. at 116.5 ft: 2 inch thick, silty sand interbed, fine to coarse sand, trace clay, wet. at 116.5 to 118 ft: trace minor clay, minor coarse sand.
		171.5	119.2-120.4 ft: SILTY SAND (SM): Olive brown [2.5Y 4/4], wet to saturated, very fine, poorly graded.
	120	170.3	120.4-121.6 ft: SAND (SW): Light yellowish brown [2.5Y 6/3], saturated, loose, fine to coarse, subangular, coarser with depth, <5% gravel up to 1 inch.
		169.1	121.6-129.0 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/3], very moist, hard. at 122 ft: 0.25 inch thick layer, dark laminations (organics ?). at 123.3 ft: changes to sandy silt, fine, trace clay. at 124 ft: changes to clay, very moist to wet, very stiff, medium plasticity. at 124.5 ft: changes to sandy clayey silt, medium to coarse, less sand and clay with depth.
		161.7	129.0-130.2 ft: CLAYEY SAND (SC): Brown [10YR 4/3], saturated, medium dense, fine to medium, subrounded.
	130	160.5	130.2-132.2 ft: SANDY CLAY (CL): Brown [10YR 4/3], wet to

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24IN1OB

template: WELLS, 11/96
Project ID: EL073, dpk

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER *CLEAN II* 22214-073	HOLE NO. 24IN1OB SHEET NO. 4 OF 5

Construction Details	Graphics: Depth in Feet	Graphics: Elevation in Feet	Graphics	Geologic Description and Classification
		158.5		saturated, very stiff, fine to medium, some silt.
		157.3		132.2-133.4 ft: SILTY SAND (SM): Brown [10YR 4/3], saturated, medium dense, some clay, fine, less clay with depth.
		156.5		133.4-134.2 ft: SAND (SW): Brown [10YR 4/3], saturated, loose, fine to coarse, subrounded, moderately well graded.
				134.2-150.7 ft: SILT (ML): Brown [10YR 4/3], saturated, medium stiff, trace sand, some clay. at 136 ft: grades to no clay, changes to fine sand. at 135.5 to 136.5 ft: silty sand layer, fine. at 136.5 ft: changes to silt, medium stiff, trace sand, some clay.
	140			at 140 to 141.2 ft: increased clay, stiff, low plasticity.
				at 142.5 ft: slightly less clayey, more sand, fine. at 142.8 to 144.3 ft: silty sand layer, fine.
				at 144.3 ft: changes to clayey silt.
				at 145.5 ft: minor sand, up to coarse.
				at 146.5 to 148.5 ft: olive gray [5Y 4/2]. at 148 ft: changes to sandy silt, some clay, fine to medium. Gradational change to silty sand. at 149 to 149.5 ft: clayey sand layer, fine to coarse, subrounded.
	150	140.0		at 149.8 to 150.7 ft: clayey gravelly silt, fine to coarse gravel up to 1.75 inches, some sand.
				150.7-154.0 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], saturated, medium dense, fine, 5-10% medium coarse. Grades to sandy silt.
		136.7		at 153 to 154 ft: clayey silt layer, moist, hard, trace sand.
				154.0-158.5 ft: CLAYEY SANDY SILT (ML): wet, medium stiff, fine.
				at 156 to 157.5 ft: trace to no clay, grades to silty sand.
		132.3		158.5-160.4 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], wet to saturated, medium dense, fine. Grades to sand, coarse with depth.
	160	130.3		160.4-162.3 ft: SAND (SP): Light olive brown [2.5Y 5/3], saturated, loose, fine to medium and well graded, subrounded. Grades to fine to coarse and trace fine gravel with depth.
		128.3		162.3-167.2 ft: SILT (ML): Light olive brown [2.5Y 5/3], wet, medium stiff. at 162.7 ft: 1.75 inch thick fine to medium sand layer. Silt grades to fine sandy silt with depth.
		123.5		167.2-168.4 ft: CLAYEY SAND (SC): Light olive brown [2.5Y 5/3], wet, medium dense, fine to coarse, subangular to subrounded, well graded. at 168.2 to 168.4 ft: no clay.
		122.3		
	170	120.3		168.4-170.4 ft: SANDY SILT (ML): Light olive brown [2.5Y 5/3], wet, soft, fine.
		118.3		170.4-172.4 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/3], wet, medium dense, fine to coarse, well graded, subrounded, trace fine gravel, trace clay. Grades to sandy silt.
				172.4-175.0 ft: SILTY CLAY (CL): Dark brown [7.5YR 3/2], wet, very stiff, some fine to coarse sand.
		115.2		175.0-179.0 ft: SANDY SILT (ML): Brown [10YR 5/3], wet, very stiff, fine to medium, trace coarse, subrounded, trace clay. Less silt.

See key for graphic symbols.

SITE and LOCATION	HOLE NO.
Site 24, VOC Source Area MCAS El Toro	24IN1OB

CONSTRUCTION DETAILS (cont.)	PROJECT and JOB NUMBER: *CLEAN II* 22214-073	HOLE NO. 24IN1OB SHEET NO. 5 OF 5

Construction Details	Depth in Feet	Elevation in Feet	Geologic Description and Classification
			more sand with depth. at 177.5 to 178.5 ft: clayey. at 178.5 ft: grades to silty sand.
		111.7	179.0-183.1 ft: SANDY SILTY CLAY (CL): Yellowish brown [10YR 5/4], wet to saturated, very stiff, low plasticity, fine to coarse, 5-10% coarse, subrounded. at 181.3 to 181.8 ft and 182.2 to 182.6 ft: clayey sand layers, fine to medium.
	180	107.7	183.1-188.0 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], saturated, medium dense, fine to medium, poorly graded, subangular to subrounded, trace clay to minor clay. at 184 to 186.3 ft: no clay. at 186.3 to 187 ft: clay layer, hard, 5% 0.125 inch diameter root voids?, infilled with white amorphous precipitate, black organic void lining. at 187.7 ft: bottom of medium to coarse sand layer, estimated thickness of 0.5 feet.
		102.7	188.0-190.5 ft: SANDY SILT (ML): Yellowish brown [10YR 5/4], wet, very stiff, fine to medium, trace coarse, trace to minor clay.
	190	100.3	190.5-192.0 ft: SILTY SAND (SM): Yellowish brown [10YR 5/4], saturated, loose to medium dense, fine to coarse, well graded, subrounded, 5-10% fine gravel to 0.75 inch.
		98.7	192.0-197.4 ft: SAND (SW): Light olive brown [2.5Y 5/3], saturated, loose to medium dense, subangular to subrounded, fine to coarse. at 192.0 to 192.5 ft: 10-15% fine to coarse gravel to 2 inches. at 195 ft: loose. at 195.5 ft: changes to medium to coarse, some fine, 10-20% fine to medium gravel up to 1.5 inches. at 196.5 to 197.4 ft: trace clay.
		93.3	197.4-199.4 ft: SILTY SAND (SM): Light olive brown [2.5Y 5/4], wet to saturated, medium dense, fine to coarse, subangular to subrounded. Clayey in upper 5 inches. at 198.3 ft: 5 inch thick hard sandy silt layer.
	200	91.3	199.4-202.0 ft: CLAYEY SILT (ML): Olive brown [2.5Y 4/4], wet, hard. at 201.5 ft: changes to 10-20% fine to coarse sand.
		88.7	202.0-203.2 ft: CLAYEY SILTY SAND (SM): Olive brown [2.5Y 4/4], wet, medium dense, fine to medium. at 202.5 to 202.8 ft: fine to coarse sand layer, trace silt.
		87.5	203.2-206.5 ft: SANDY SILT (ML): Olive brown [2.5Y 4/4], wet, medium stiff, fine. at 206 ft: gravel fragments up to 1.5 inches on top of clay.
		84.2	206.5-207.3 ft: CLAY (CL): Light olive brown [2.5Y 5/3], wet, hard, 10-20% silt.
		83.4	207.3-208.0 ft: CLAYEY SILT (ML): Light olive brown [2.5Y 5/3], wet, medium stiff to stiff.
		82.7	208.0-212.8 ft: CLAY (CL): Light olive brown [2.5Y 5/3], wet, hard, 10-20% silt. at 211.7 ft: changes to silty.
	210	77.9	212.8-214.0 ft: SANDY SILT (ML): Light olive brown [2.5Y 5/4], wet, stiff, very fine.
	210.8	79.9	
	213.1	77.6	
	214.0	76.7	

See key for graphic symbols.

SITE and LOCATION: Site 24, VOC Source Area MCAS El Toro

HOLE NO. 24IN1OB

template: WELLS, 11/96

Project ID: EL073, dp

APPENDIX C

GEOTECHNICAL AND SIEVE ANALYSES RESULTS

BSK & Associates

117 "V" Street
Bakersfield, CA 93304
(805) 327-0671
(805) 324-4218 FAX

May 2, 1996

BSK JOB 03200100

Bechtel National, Inc.
401 West A Street, Suite 1000
San Diego, California 92101-7905

Attn: Mr. Rosey Pascal

Re: Laboratory Test Results
Bechtel Navy Clean II CTO-073
Subcontract No. 22214-P01-020-TSC
Delivery Order No. 26

Gentlemen:

Submitted is a summary of Laboratory Test Results performed on material delivered to our office on March 12, 29, and April 2, 1996 for the subject project. Work was performed under qualified supervision using calibrated equipment per Bechtel National, Inc.'s Specification 22214-TS-009, Revision 1 dated February 2, 1994 (Subcontract No. 22214-P01-020-TSC). Original data sheets and computations are available in BSK's files for review.

If you have questions, please call.

Respectfully submitted,

BSK & Associates

No. 2271
Exp. 12/31/96
GEOTECHNICAL
STATE OF CALIFORNIA

Dean R. Stanphill
Geotechnical Engineer

John B. Moore, Jr.
Geotechnical Engineer

DRS/JBM:dks
cc: Mr. Kelvin Sims - Bechtel, San Diego
Enclosures:
Table 1 - Laboratory Test Results, USBR 5372
Table 2 - Laboratory Test Results, ASTM D422
Table 3 - Laboratory Test Results, ASTM D5084
Table 4 - Laboratory Test Results, ASTM D2434

TABLE 1
NAVY CLEAN II PROGRAM
LABORATORY TEST RESULTS

Sample Identification	UNIT WEIGHT - USBR 5372			Porosity n (%)
	Dry Density (pcf)	Water Content (%)	Visual Soil Description	
73W080101 24IN10B 89.0 to 91.3 Feet	102	19.7	Sandy Clay: dark yellowish brown; some fine grained sand.	38
73W080301 24IN10B 134.0 to 136.3 Feet	108	18.6	Sandy Silt: yellowish brown; some fine grained sand.	35
73W080501 24IN10B 184.0 to 186.3 Feet	110	15.2	Silty Sand: yellowish brown; fine to medium grained; trace of gravel.	33
73W080701 24EX10B 139.0 to 141.3 Feet	102	21.5	Silty Sand: light yellowish brown; fine to medium grained; trace of gravel.	38
73W081001 24EX10B 189.0 to 191.3 Feet	118	15.3	Silty Sand: dark yellowish brown; fine to medium grained; trace of gravel.	29
73W081101 24EX1101 209.0 to 211.3 Feet	113	16.6	Sandy Silt: yellowish brown; some fine grained sand: trace of gravel. clayey.	32
73W081501 24EX20B 144.0 to 146.3 Feet	118	16.6	Silty Sand: brown; fine grained; clayey	29
73W81701 24EX20B 174.0 to 176.3 Feet	108	13.6	Silty Sand: yellowish brown; fine grained.	35
73W081901 24EX20B 199.0 to 201.3 Feet	108	18.6	Sandy Clay: brown: fine grained.	35

Note: Samples delivered in 30 inch long and 3 inch outside diameter stainless steel tubes with plastic caps.

TABLE 2
NAVY CLEAN II PROGRAM
LABORATORY TEST RESULTS
ASTM D422

Sample Identification	73W080101 24IN10B 89.0 to 91.3 Ft.	73W080301 24IN10B 134.0 to 136.3 Ft.	73W080501 24IN10B 184.0 to 186.3 Ft.	73W080701 24EX10B 139.0 to 141.3 Ft.
Sieve Size	% Passing by Dry Weight of Soil			
1/2"				100
3/8"			100	100
#4	100	100	100	100
#8	100	100	99	100
#16	98	98	94	98
#30	95	95	86	94
#50	89	90	72	88
#100	80	79	55	70
#200	70	59	39	32
Sample Identification	**73W081001 24EX10B 189.0 to 191.3 Ft.**	**73W081101 24EX1101 209.0 to 211.3 Ft.**	**73W081501 24EX20B 144.0 to 146.3 Ft.**	**73W81701 24EX20B 174.0 to 176.3 Ft.**
Sieve Size	% Passing by Dry Weight of Soil			
1/2"				
3/8"	100	100		
#4	100	100	100	100
#8	99	99	100	100
#16	97	98	99	99
#30	91	95	94	96
#50	78	87	84	87
#100	60	74	68	66
#200	39	56	48	41

TABLE 2
NAVY CLEAN II PROGRAM
LABORATORY TEST RESULTS
ASTM D422

Sample Identification	73W081901 24EX20B 199.0 to 201.3 Ft.			
Sieve Size	% Passing by Dry Weight of Soil			
3/8"				
#4				
#8	100			
#16	100			
#30	97			
#50	82			
#100	65			
#200	55			

TABLE 3
NAVY CLEAN II PROGRAM
LABORATORY TEST RESULTS
PERMEABILITY TESTS - ASTM D5084

Sample Identification	73W080101 24IN10B 89.0 to 91.3 Ft.	73W080301 24IN10B 134.0 to 136.3 Ft.	73W081001 24EX10B 189.0 to 191.3 Ft.
INITIAL DATA			
Length, inches	1.98	1.87	1.9
Diameter, inches	1.93	1.93	1.89
Moisture Content, %	24.6	20.4	15.7
Dry Density, pcf	99	106	118
FINAL DATA			
Length, inches	1.95	1.81	1.87
Diameter, inches	1.92	1.93	1.90
Moisture Content, %	25.2	19.7	15.2
Dry Density, pcf	100	110	119
PERMEABILITY, k (cm/sec)	1.9×10^{-09}	4.0×10^{-09}	2.1×10^{-09}

Notes:
A) A 0.005N Solution of $CaSO_4$ was used as permeant.
B) Sample Descriptions: See Table 1, Visual Soil Description.
C) Density and Moisture Determinations may differ from Table 1 as different samples may be used for tests.

TABLE 3
NAVY CLEAN II PROGRAM
LABORATORY TEST RESULTS
PERMEABILITY TESTS - ASTM D5084

Sample Identification	73W081101 24EX10B 209.0 to 211.3 Ft.	73W081501 24EX20B 144.0 to 146.3 Ft.	73W081901 24EX20B 199.0 to 201.3 Ft.
INITIAL DATA			
Length, inches	1.98	1.90	2.02
Diameter, inches	1.94	1.93	1.93
Moisture Content, %	16.0	17.4	20.3
Dry Density, pcf	114	113	107
FINAL DATA			
Length, inches	1.94	1.85	2
Diameter, inches	1.92	1.93	1.92
Moisture Content, %	16.4	17.1	20.5
Dry Density, pcf	117	115	109
PERMEABILITY, k (cm/sec)	1.0×10^{-08}	1.5×10^{-06}	2.8×10^{-09}

Notes:

A) A 0.005N Solution of $CaSO_4$ was used as permeant.
B) Sample Descriptions: See Table 1, Visual Soil Description.
C) Density and Moisture Determinations may differ from Table 1 as different samples may be used for tests.

BSK

TABLE 4
LABORATORY TEST RESULTS
PERMEABILITY TESTS - ASTM D2434

Sample Identification	Moisture, % (Initial)	Dry Density, pcf (Initial)	Permeability, k (cm/sec)
73W080501 24IN10B 184.0 to 186.3 Feet	18.2	111	3.7×10^{-06}
73W080701 24EX10B 139.0 to 141.3 Feet	28.5	110	3.6×10^{-04}
73W081701 24EX20B 174.0 to 176.3 Feet	--	--	6.9×10^{-06}

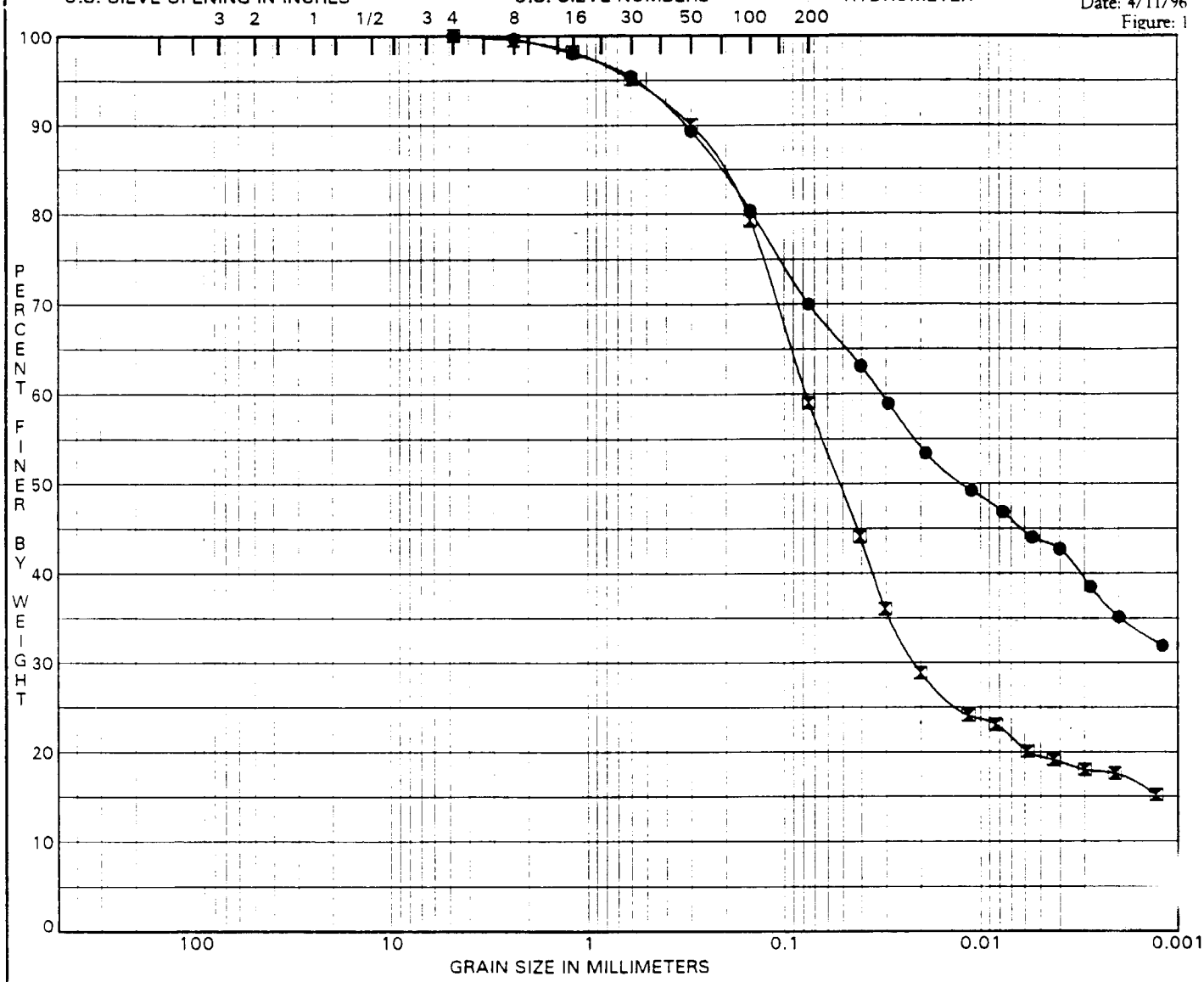
Notes:

a) Sample descriptions: see Table 1, Visual Soil Description.

b) Density and Moisture Determinations may differ from Table 1 as different samples may be used for tests.

c) --, moisture and dry denisty were not determined.

BSK JOB: 03200100
Date: 4/11/96
Figure: 1



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Test Identification	Combined Sample	MC%	LL	PL	PI	Cc	Cu
●	73W0801	24IN10B 89.0 to 91.3 feet						
⧗	73W0803	24IN10B 134.0 to 136.3 feet						

	Test Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73W0801	4.75	0.03			0.0	30.0	26.4	43.6
⧗	73W0803	4.75	0.08	0.021		0.0	41.0	39.4	19.6

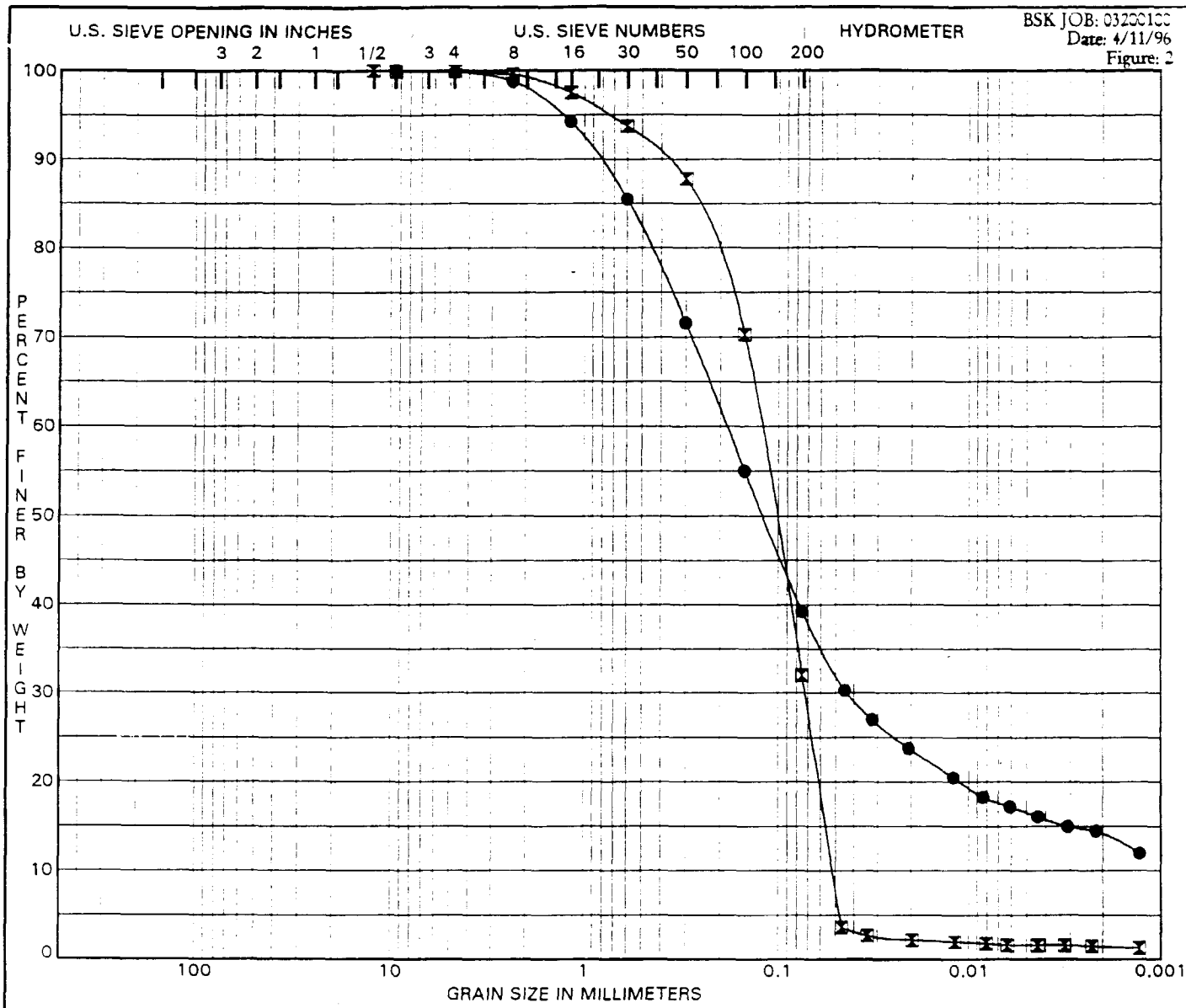
PROJECT: CTO-073

Hydrometer testing procedure utilized Dispersion Device(A) with stiring period of 1 minute.

GRADATION CURVES

BSK

BSK JOB: 03200100
Date: 4/11/96
Figure: 2



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Test Identification	Combined Sample	MC%	LL	PL	PI	Cc	Cu
●	73W0805	24IN10B 184.0 to 186.3 feet						
⧗	73W0807	24EX10B 139.0 to 141.3 feet						

	Test Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73W0805	9.50	0.18	0.044		0.2	60.6	22.7	16.5
⧗	73W0807	12.50	0.12	0.073	0.0520	0.1	67.9	30.4	1.6

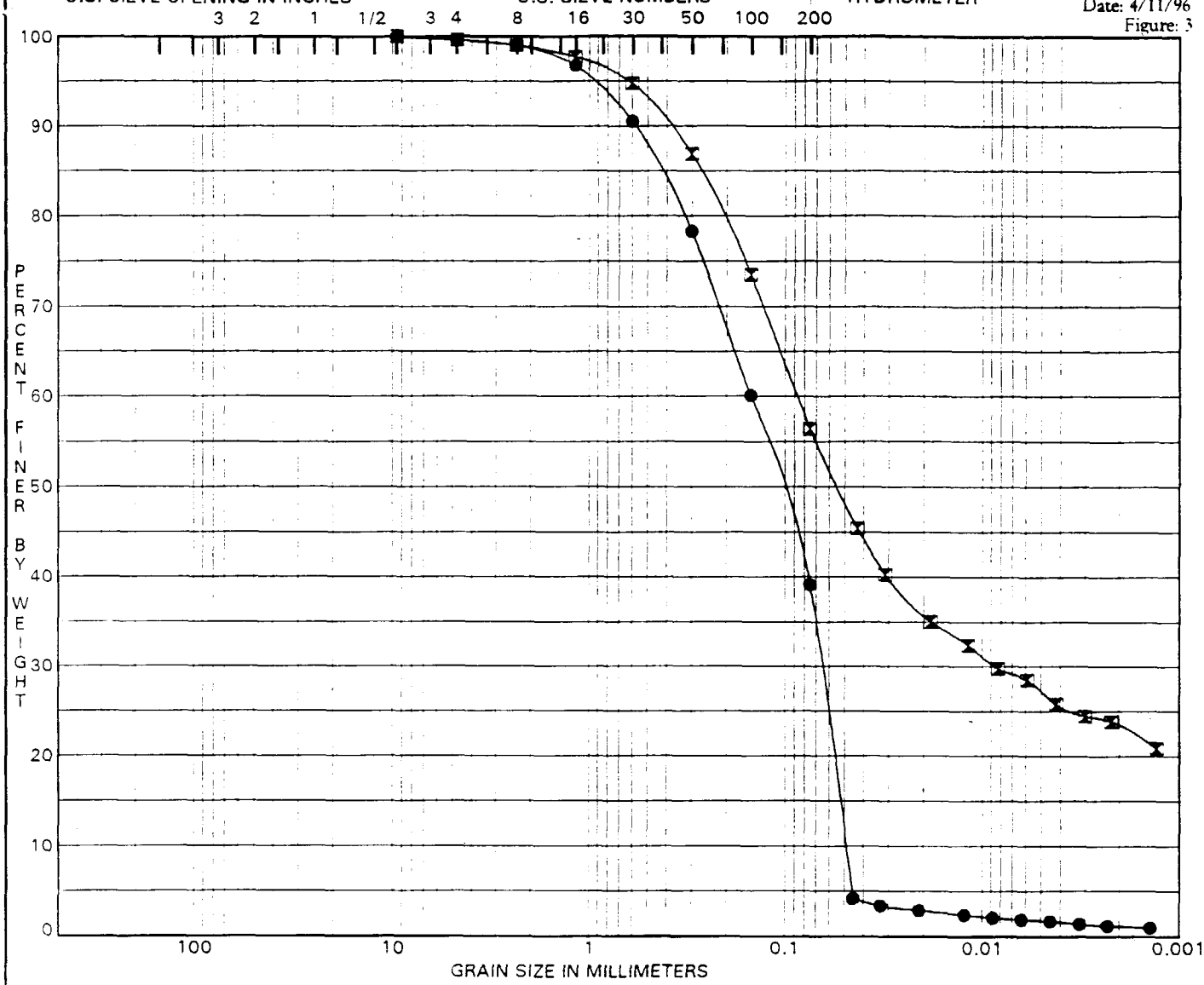
PROJECT: CTO-073

Hydrometer testing procedure utilized Dispersion Device(A) with stiring period of 1 minute.

GRADATION CURVES

BSK

BSK JOB: 03200100
Date: 4/11/96
Figure: 3



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Test Identification	Combined Sample	MC%	LL	PL	PI	Cc	Cu
●	73W0810	24EX10B 189.0 to 191.3 feet						
⧗	73W0811	24EX10B 209.0 to 211.3 feet						

	Test Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73W0810	9.50	0.15	0.066	0.0493	0.4	60.5	37.3	1.8
⧗	73W0811	9.50	0.09	0.009		0.4	43.2	29.2	27.2

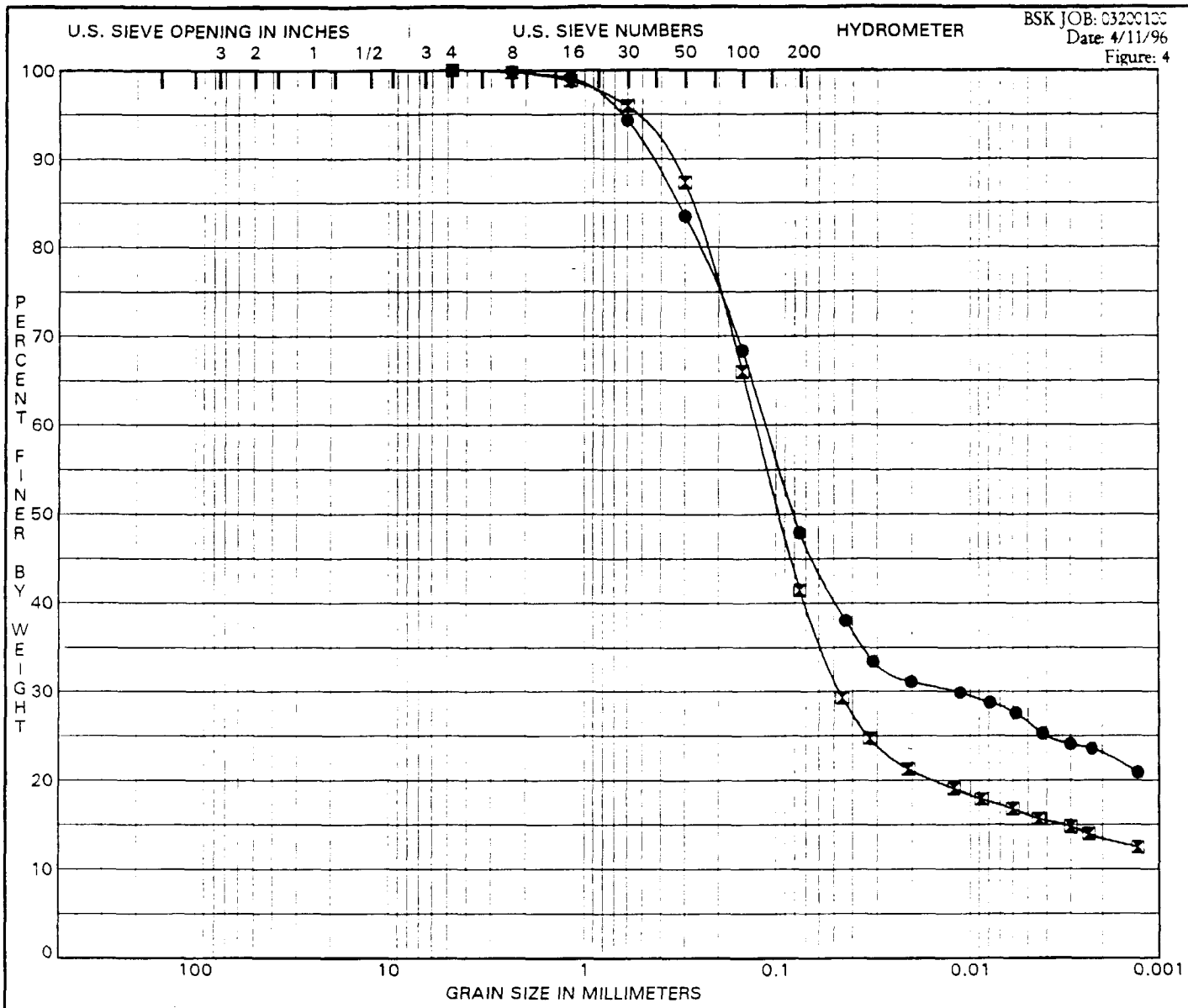
PROJECT: CTO-073

Hydrometer testing procedure utilized Dispersion Device(A) with stirring period of 1 minute.

GRADATION CURVES

BSK

BSK JOB: 03200100
Date: 4/11/96
Figure: 4



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Test Identification	Combined Sample	MC%	LL	PL	PI	Cc	Cu
●	73W0815	24EX20B 144.0 to 146.3 feet						
⧗	73W0817	24EX20B 174.0 to 176.3 feet						

	Test Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73W0815	4.75	0.11	0.012		0.0	52.1	21.4	26.5
⧗	73W0817	4.75	0.13	0.047		0.0	58.6	25.2	16.2

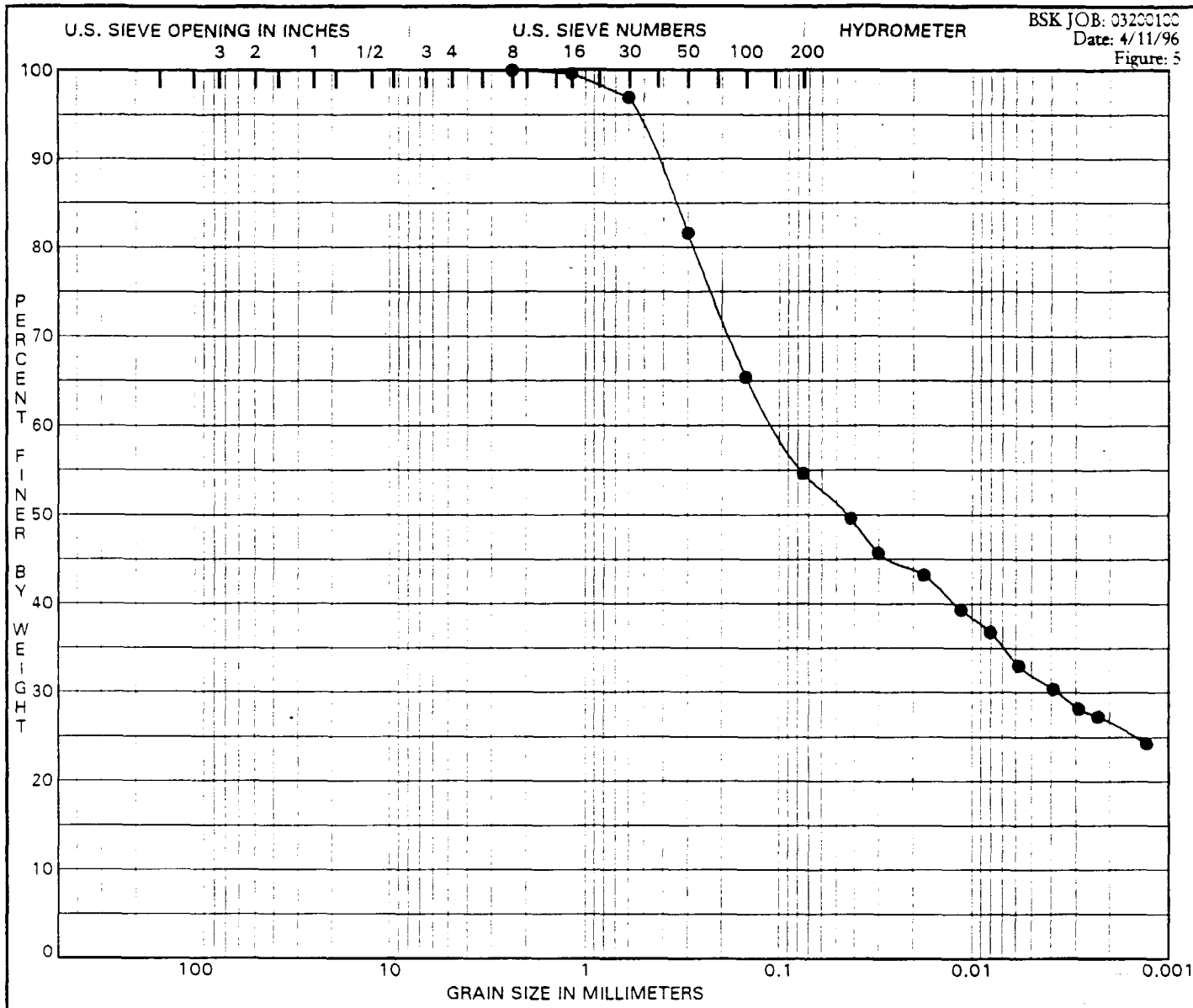
PROJECT: CTO-073

Hydrometer testing procedure utilized Dispersion Device(A) with stirring period of 1 minute.

GRADATION CURVES

BSK

BSK JOB: 03200100
Date: 4/11/96
Figure: 5



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Test Identification	Combined Sample	MC%	LL	PL	PI	Cc	Cu
●	73W0819	24EX20B 199.0 to 201.3 feet						

	Test Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	73W0819	2.36	0.11	0.004		0.0	45.4	22.6	32.0

PROJECT: CTO-073

Hydrometer testing procedure utilized Dispersion Device(A) with stiring period of 1 minute.

GRADATION CURVES

BSK

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro Site 24
WELL ID: IN-2-08
SAMPLE DEPTH (ft, bgs): 92'-93'
DATE: 3/19/96
TESTED BY: CARL LIND / DAN McMILLAR

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		1,894

SIEVE NO.	(D) SIEVE WT. (GRAMS) Grain Size Φ in milimeters	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4"	19.00		0	0	0
~~6~~ 4	4.75		12	0.6	0.6
~~8~~ 10	2.00		21	1.1	1.7
~~12~~ 14	1.40		41	2.1	3.8
20	0.850		102	5.2	9.0
40	0.425		103	5.2	14.2
70	0.212		707	35.8	50.0
100	0.150		412	20.9	70.9
140	0.105		328	16.6	87.5
200	0.075		1	0	87.5
PAN	< 0.075		167	8.5	96.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MPAS El Toro [illegible] 24

WELL ID: IN-1-OB

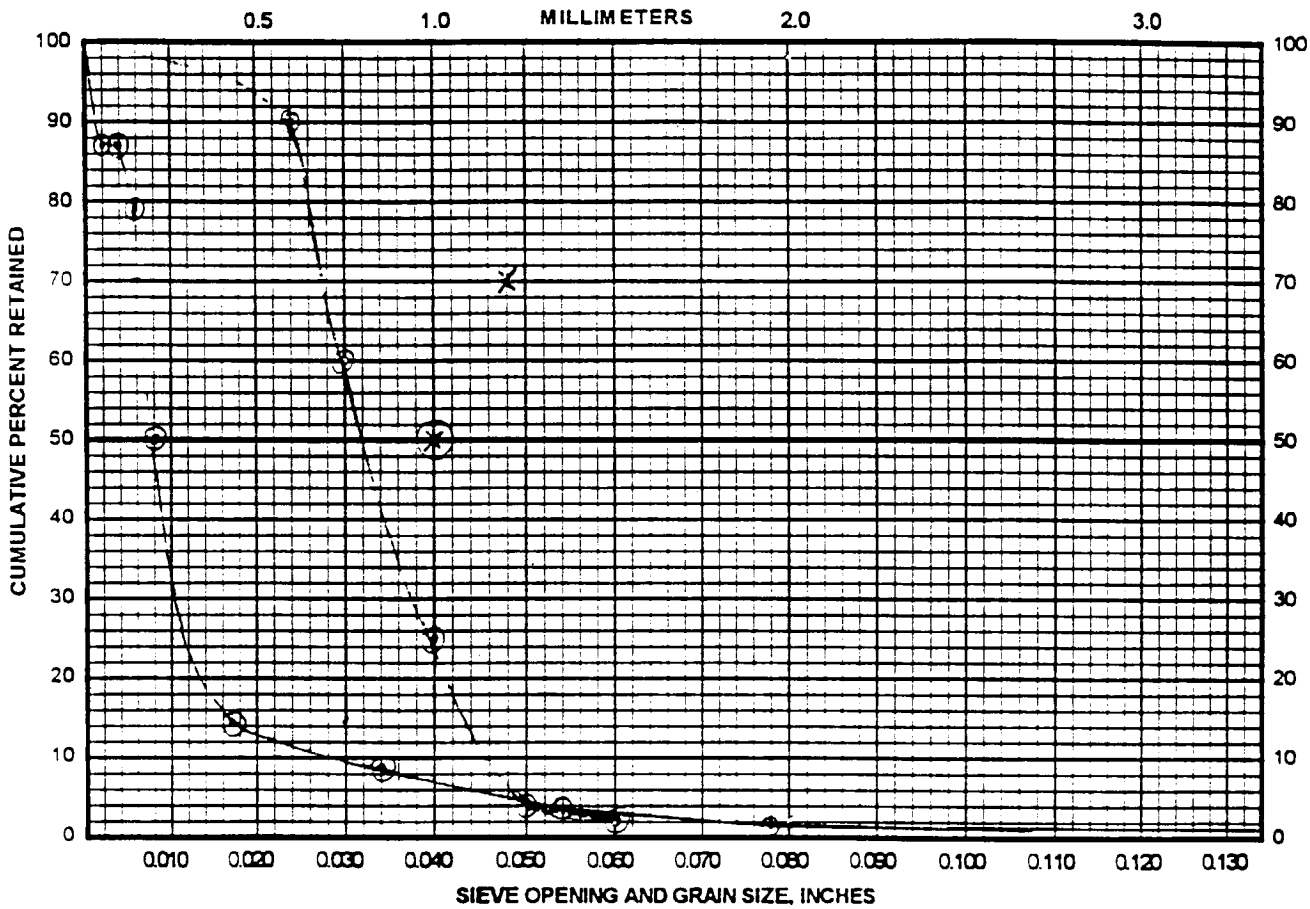
SAMPLE DEPTH (ft, bgs): 92'-93'

DATE: 3/19/06

TESTED BY: [illegible]

Uniformity Coefficient

$= \frac{D_{40}, \text{Retained}}{D_{90}, \text{Retained}} = ____ = ___$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.74 ~~0.187~~	0			
4.8	1.84 0.132	0.6			
10.8	0.07 ~~0.094~~	1.7			
14 ~~12~~	1.05 ~~0.065~~	2.8			
20	0.033	9.0			
40	0.017	14.2			
70	0.008	50.0			
100	0.006	70.9			
140	0.004	87.5			
200	0.002	87.5			

0.008 x 5 = 0.040
D_{50}, Retained (multiplier)

0.006 x 8 = 0.048
D_{40}, Retained (multiplier)
70

Recommended Sand Type: 2/16

Recommended Slot Opening: 0.020

Length Slotted Casing: 120'

Remarks:

[illegible] = 1.4 [illegible]
[illegible] = 0.200 [illegible]

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214 - 573

SITE AND LOCATION: MCAS E[illegible]

WELL ID: IN-1-OB

SAMPLE DEPTH (ft, bgs): 137-132'

DATE: 3/20/96

TESTED BY: [illegible]

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		1,749

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~6~~			1	0.1	0.1
10 ~~8~~			2	0.1	0.2
14 ~~12~~			3	0.2	0.4
20			4	0.2	0.6
40			18	1.0	1.6
70			230	13.1	14.7
100			303	17.4	32.1
140			274	15.7	47.2
200			264	15.1	62.9
PAN			650	37.2	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MCAS EL TORO SITE 24

WELL ID: IN - 1 - OB

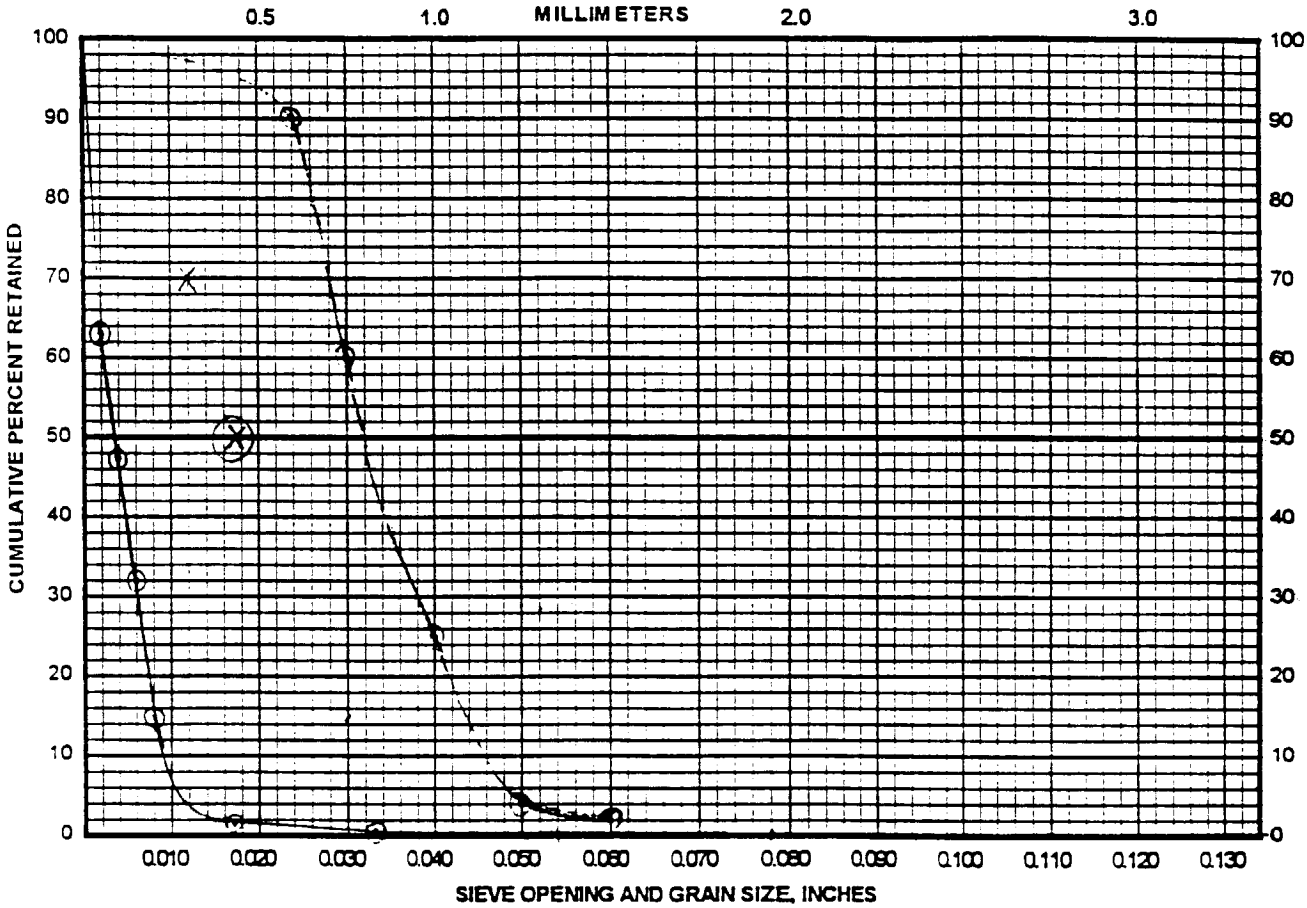
SAMPLE DEPTH (ft, bgs): 127 - 138'

DATE: 3/20/96

TESTED BY: CARL LIND / DAN MCQUILLAR

Uniformity Coefficient

$= \frac{D_{40}, \text{Retained}}{D_{90}, \text{Retained}} = ____ = ___$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	- NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.750 ~~0.187~~	0			
4 ~~8~~	0.187 ~~0.132~~	0.1			
10 ~~8~~	0.078 ~~0.094~~	0.2			
14 ~~12~~	0.055 ~~0.066~~	0.4			
20	0.033	0.6			
40	0.017	1.6			
70	0.008	14.7			
100	0.005	32.1			
140	0.004	47.8			
200	0.002	62.9			

0.0035 x 5 = 0.0175
D_{50}, Retained (multiplier)

0.0015 x 8 = .0120
D_{50}, Retained (multiplier)
70

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214-073
SITE AND LOCATION: MCAS El Toro [illegible]
WELL ID: IN-1-OB
SAMPLE DEPTH (ft, bgs): 177-178'
DATE: 3/20/96
TESTED BY: Carl Lind / Dan McCullough

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		852

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~6~~			5	0.6	0.6
10 ~~8~~			7	0.8	1.4
14 ~~12~~			14	1.6	3.0
20			42	4.9	7.9
40			111	2.9	20.8
70			184	21.3	42.1
100			92	10.7	52.8
140			123	14.3	67.1
200			103	11.9	79.0
PAN			171	19.8	98.8

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MCAS El Toro Site 24

WELL ID: IN - 1-OB

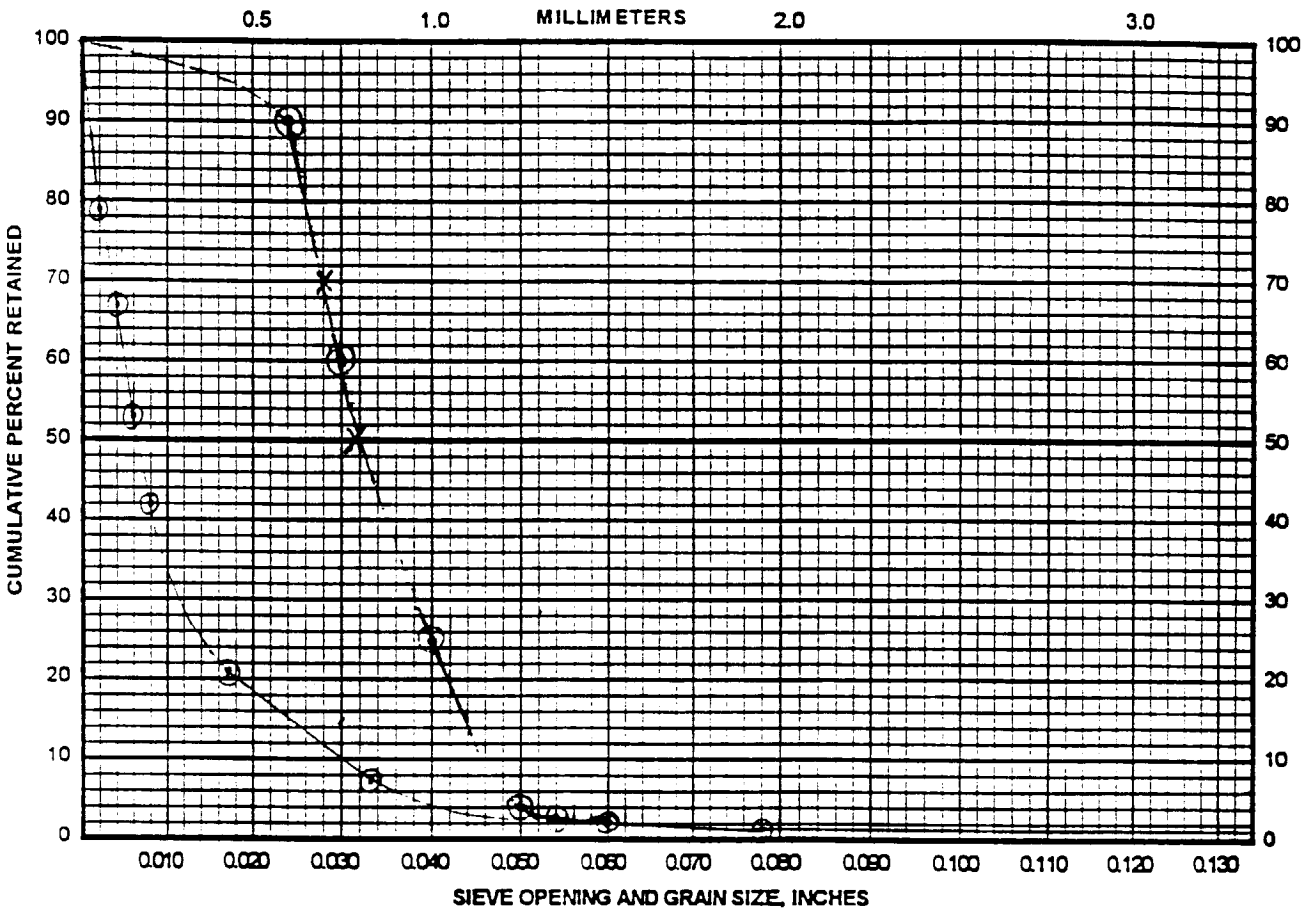
SAMPLE DEPTH (ft, bgs): 177 - 178'

DATE: 3/20/96

TESTED BY: CARL LINC / DAN MCMULLAR

Uniformity Coefficient

$= \frac{D_{40}, \text{Retained}}{D_{90}, \text{Retained}} = ____ = ___$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.187	0			
4 ~~5~~	0.132	0.6			
10 ~~8~~	0.094	.4			
14 ~~12~~	0.066	3.0			
20	0.033	7.9			
40	0.017	20.8			
70	0.008	42.1			
100	0.006	62.8			
140	0.004	67.1			
200	0.002	79.0			

.0063 x 5 = .0315
D_{90}, Retained (multiplier)

.0035 x 8 = .0280
D_{40}, Retained (multiplier)

Recommended Sand Type: 2/16

Recommended Slot Opening: 0.020

Length Slotted Casing: 120'

Remarks:

NAVY CLEAN II

MCAS El Toro

Sediment Sample Gradation and Well Screen Design Form

CTO: 073
SITE NO. 24
SITE NAME: VOC Source Area
BOREHOLE: 24EX10B

73W 081202

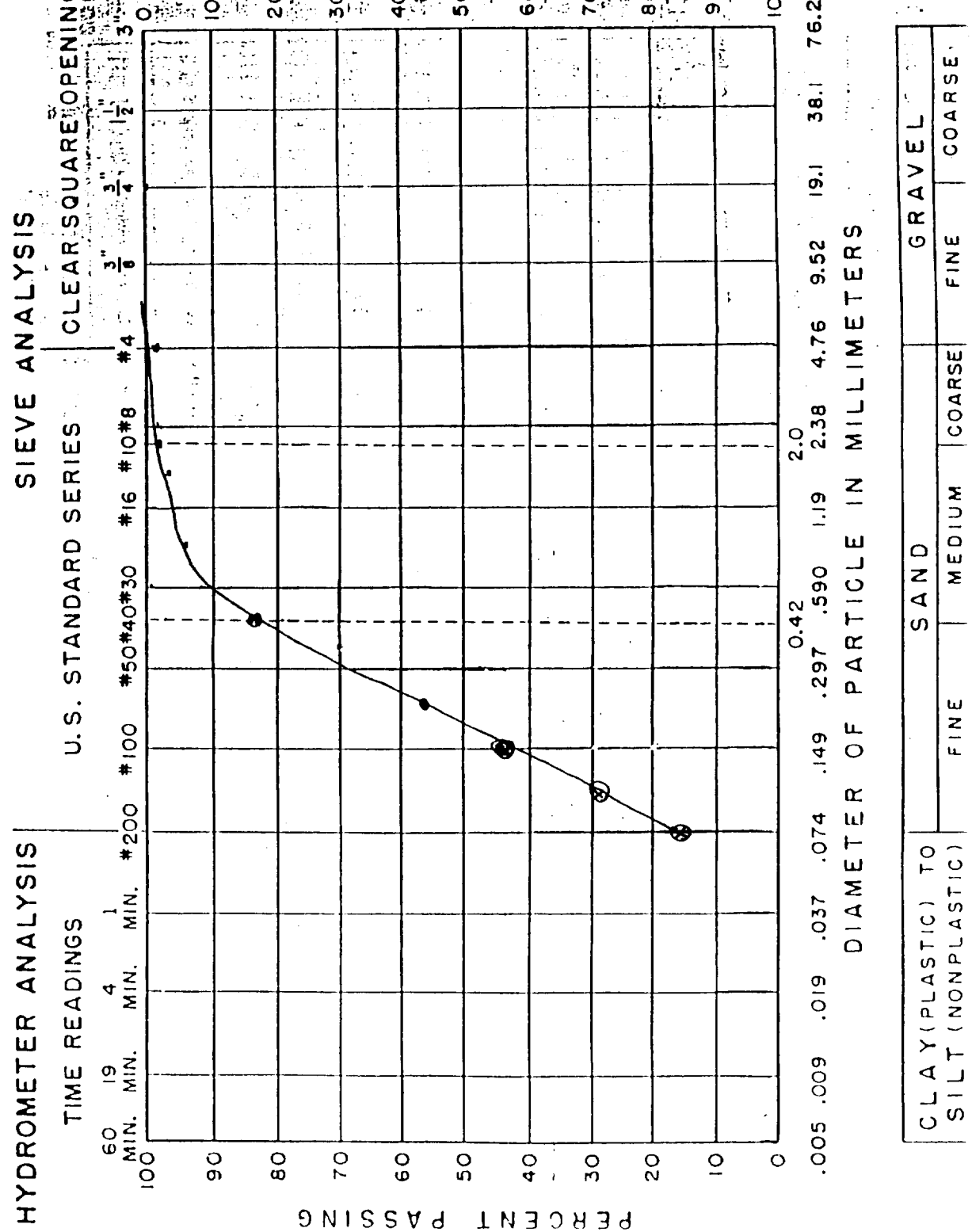
Sieve No.	Size (mm)	Depth: 213-214 Wt. (grams)	% Retained
3/4"	19.00	0	
4	4.75	12	1.4
10	2.00	4	1.8 0.5
14	1.40	7	2.0 0.8
20	0.850	28	5.8
40	0.425	109	18.3
70	0.212	219	43.4
100	0.150	120	57.1
140	0.105	122	71.0
200	0.075	119	84.7
Pan	<0.075	134	100
Total Wt.		874	

379
499
621
742

Gross wt 1000
Dry wt. 875
H_2O Wt = 125
% H_2O = 12.5

Sieve No.	Size (mm)	Depth: Wt. (grams)	% Retained
3/4"	19.00		
4	4.75		
10	2.00		
14	1.40		
20	0.850		
40	0.425		
70	0.212		
100	0.150		
140	0.105		
200	0.075		
Pan	<0.075		
Total Wt.			

Sieve No.	Size (mm)	Depth: Wt. (grams)	% Retained
3/4"	19.00		
4	4.75		
10	2.00		
14	1.40		
20	0.850		
40	0.425		
70	0.212		
100	0.150		
140	0.105		
200	0.075		
Pan	<0.075		
Total Wt.			



SIEVE ANALYSIS RECORD FORM

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		1,179

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro, Site 24
WELL ID: Ex-1-08
SAMPLE DEPTH (ft, bgs): 127'-128'
DATE: 3/25/26
TESTED BY: CARL LIND / DAN McCullar

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~6~~			20	1.7	1.7
10 ~~8~~			64	5.4	7.1
14 ~~12~~			94	8.0	15.1
20			190	16.1	31.2
40			395	33.5	64.7
70			244	20.7	85.4
100			72	6.1	91.5
140			41	3.5	95.0
200			35	3.0	98.0
PAN			24	2.0	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MCAS El Toro, Site 24

WELL ID: EX-1-OB

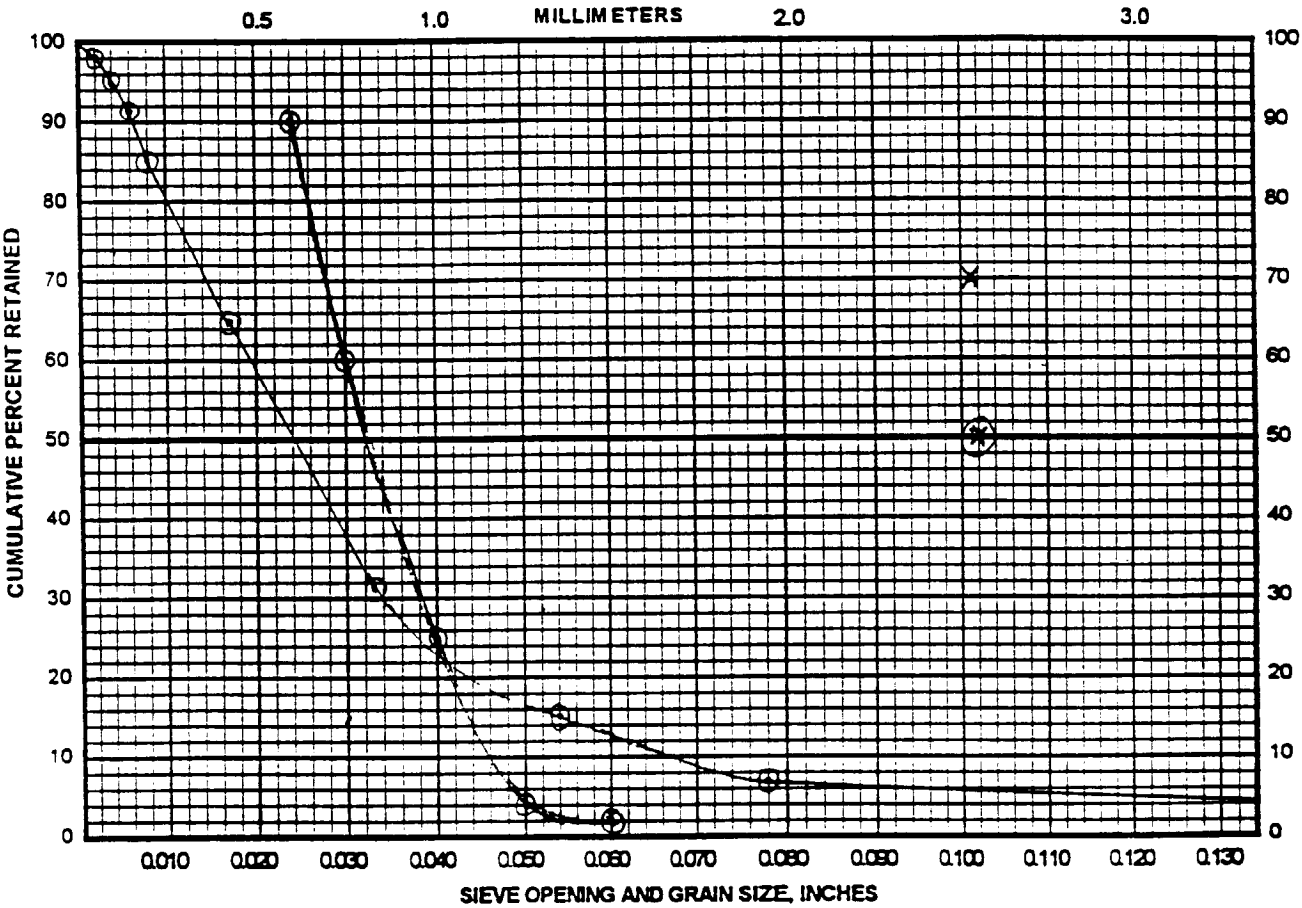
SAMPLE DEPTH (ft. bgs): 127-128'

DATE: 3/25/96

TESTED BY: CARL LIND/DAN McCULLAR

Uniformity Coefficient

$= \frac{D_{40}, \text{ Retained}}{D_{90}, \text{ Retained}} = ____ = __$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.740 ~~0.187~~	0			
4 ~~8~~	0.187 ~~0.132~~	1.7			
10 ~~8~~	0.07 ~~0.094~~	7.1			
14 ~~12~~	0.05 ~~0.065~~	15.1			
20	0.033	31.2			
40	0.017	64.7			
70	0.008	85.4			
100	0.006	91.5			
140	0.004	95.0			
200	0.002	98.0			

0.024 x 5 = 0.120
D_{90}, Retained (multiplier)

0.014 x 8 = 0.112
D_{90}, Retained (multiplier)
70

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS EL TORO, SITE 24
WELL ID: EX-1-OB
SAMPLE DEPTH (ft, bgs): 142'-143'
DATE: 3/25/96
TESTED BY: CARL LIND / DAN McCULLAR

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		828

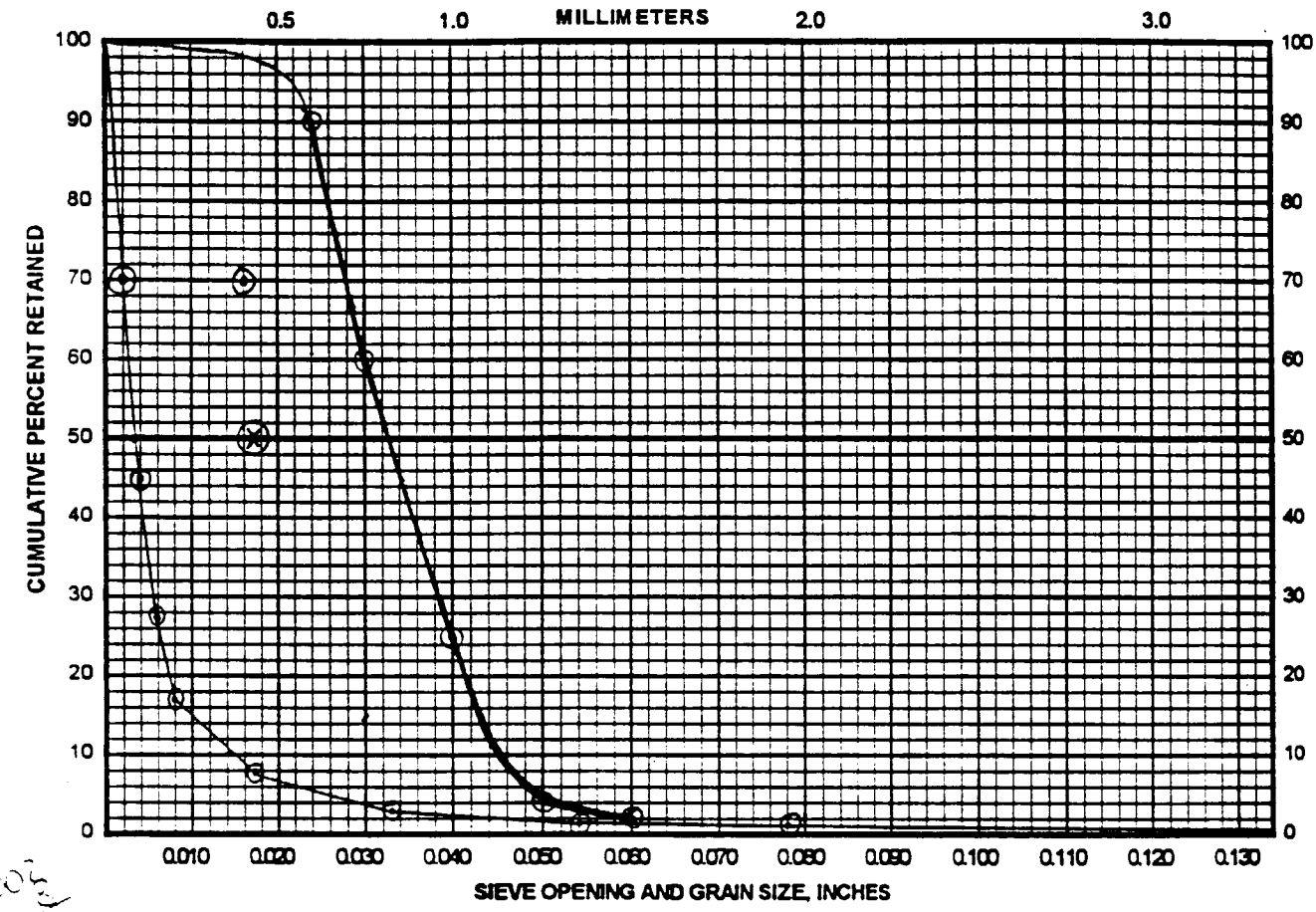
SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~8~~			1	0	0
10 ~~8~~			7	0.8	0.8
14 ~~12~~			7	0.8	1.6
20			14	1.7	3.3
40			40	4.8	8.1
70			76	9.2	17.3
100			87	10.5	27.8
140			145	17.5	45.3
200			213	25.7	71.0
PAN			239	28.9	99.9

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro, Site 24
WELL ID: EX-1-OB
SAMPLE DEPTH (ft, bgs): 142-143
DATE: 3/25/96
TESTED BY: CARL LIND / DAN McCULLAR

Uniformity Coefficient

$= \frac{D_{40}, \text{ Retained}}{D_{90}, \text{ Retained}} = ____ = ___$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.740 ~~0.187~~	0			
4 ~~8~~	0.187 ~~0.132~~	0			
10 ~~8~~	0.079 ~~0.094~~	0.8			
14 ~~12~~	0.057 ~~0.068~~	1.6			
20	0.033	3.3			
40	0.017	8.1			
70	0.008	17.3			
100	0.006	27.8			
140	0.004	45.3			
200	0.002	71.0			

.0035 x 5 = .0175
D_{50}, Retained (multiplier)

0.002 x 8 = 0.016
$D_{\cancel{90}}$ 70 Retained (multiplier)

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro, Site 24
WELL ID: FX-1-OB
SAMPLE DEPTH (ft, bgs): 172'-173'
DATE: 3/25/96
TESTED BY: CARL LIND / DAN McCullar

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		847

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~6~~			4	0.5	0.5
10 ~~8~~			3	0.3	0.8
14 ~~12~~			6	0.7	1.5
20			16	1.9	3.4
40			89	10.5	13.9
70			166	19.6	33.5
100			120	14.2	47.7
140			118	13.9	61.6
200			153	18.1	79.7
PAN			172	20.3	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MCAS EL TORO SITE 24

WELL ID: EX-1-OB

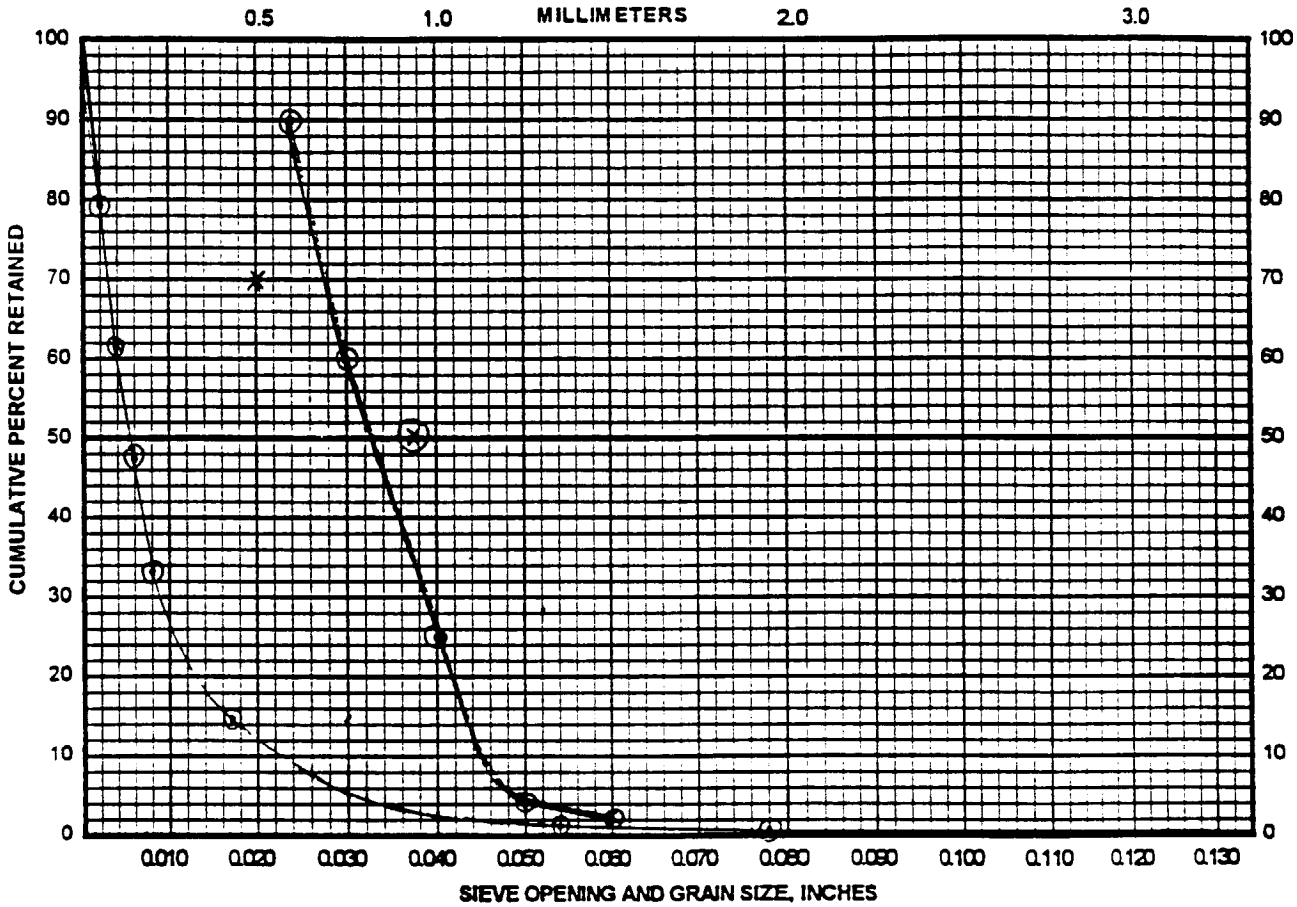
SAMPLE DEPTH (ft, bgs): 172'-173'

DATE: 3/25/96

TESTED BY: CARL LIND / DAN McCULLAR

Uniformity Coefficient

$$= \frac{D_{40}, \text{ Retained}}{D_{90}, \text{ Retained}} = \frac{0.007}{0.001} = 7$$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.740 ~~0.187~~	0			
4 ~~8~~	0.187 ~~0.132~~	0.5			
10 ~~8~~	0.079 ~~0.094~~	0.8			
14 ~~12~~	0.059 ~~0.066~~	1.5			
20	0.033	3.4			
40	0.017	13.9			
70	0.008	33.5			
100	0.006	47.7			
140	0.004	61.6			
200	0.002	79.7			

.0075 x 5 = 0.0375
D_{50}, Retained (multiplier)

0.003 x 8 = 0.0240
D_{90}, Retained (multiplier)
70

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214-073
SITE AND LOCATION: MCAS El Toro Site 24
WELL ID: EX-2-OB
SAMPLE DEPTH (ft, bgs): 137'-138'
DATE: 3/29/96
TESTED BY: CARL LIND / DAN McCullar

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		822

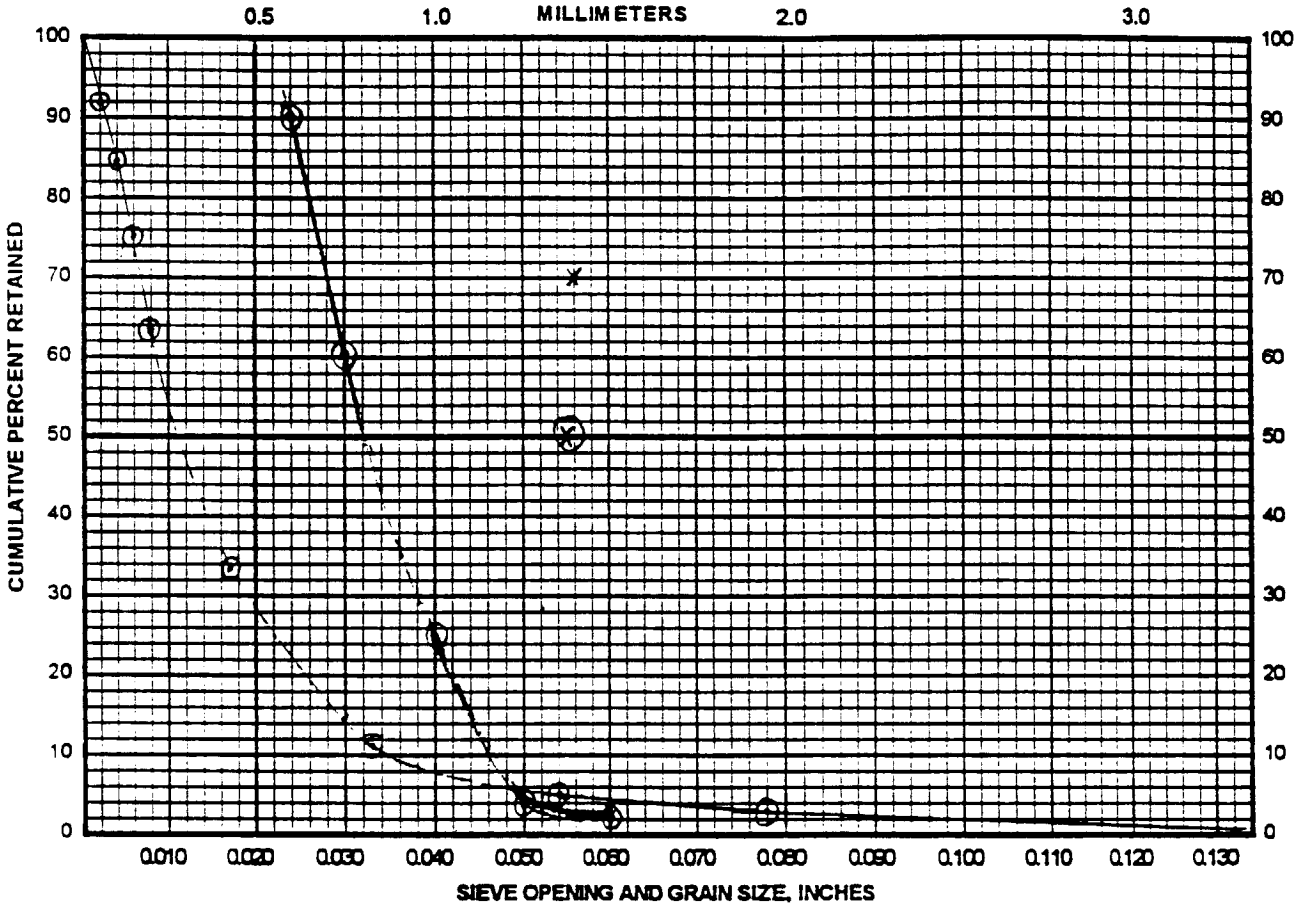
SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~8~~			10	1.2	1.2
10 ~~8~~			17	2.1	3.3
14 ~~12~~			16	1.9	5.2
20			51	6.2	11.4
40			185	22.5	33.9
70			244	29.7	63.6
100			94	11.5	75.1
140			76	9.2	84.3
200			65	7.9	92.2
PAN			64	7.8	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro Site 24
WELL ID: EX-2-OB
SAMPLE DEPTH (ft, bgs): 137'-138'
DATE: 3/29/96
TESTED BY: CARL LIND / Dan McCullar

Uniformity Coefficient

$= \frac{D_{40}, \text{Retained}}{D_{90}, \text{Retained}} = ____ = __$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 6)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	~~0.187~~ 0.740	0			
4 ~~8~~	~~0.132~~	1.2			
10 ~~8~~	~~0.094~~	3.3			
14 ~~12~~	~~0.066~~	5.2			
20	0.033	11.4			
40	0.017	23.9			
70	0.008	63.6			
100	0.006	75.1			
140	0.004	84.3			
200	0.002	92.2			

0.011 x 5 = 0.055
D_{50}, Retained (multiplier)

0.007 x 8 = 0.056
$D_{\cancel{50}}$ 70 Retained (multiplier)

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214- 0.073
SITE AND LOCATION: MCAS El Toro, Site 24
WELL ID: Ex-2-OB
SAMPLE DEPTH (ft, bgs): 172-173
DATE: 3/29/96
TESTED BY: CARL LIND / DAN McCULLUR

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		855

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			0	0	0
4 ~~8~~			1	0	0
10 ~~8~~			11	1.3	1.3
14 ~~12~~			19	2.2	3.5
20			41	4.8	8.3
40			92	10.8	19.1
70			156	18.2	37.3
100			125	14.6	51.9
140			190	22.3	74.2
200			107	12.5	86.7
PAN			114	13.3	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214 - 073

SITE AND LOCATION: MCAS El Toro Site 24

WELL ID: EX-2-OB

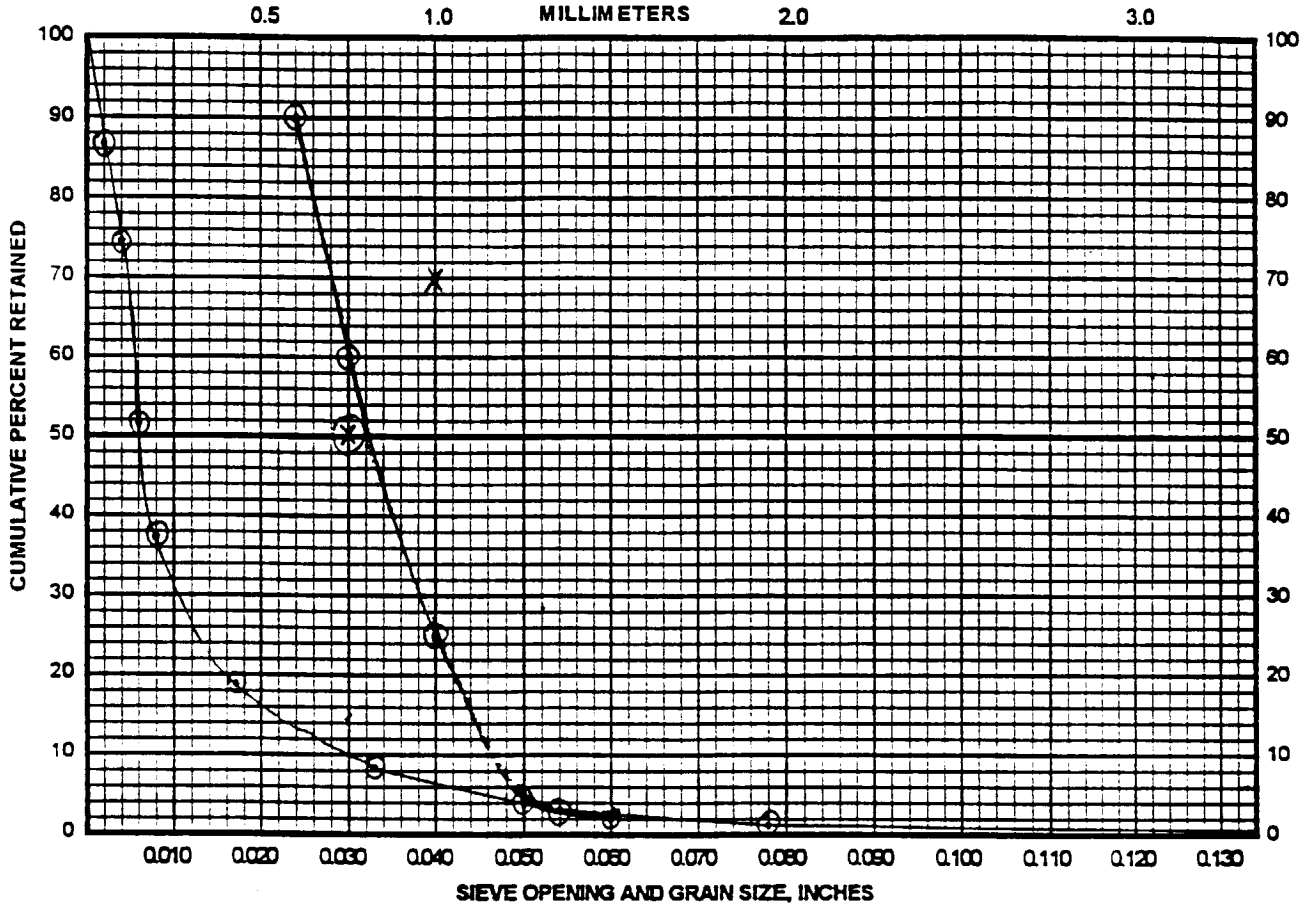
SAMPLE DEPTH (ft, bgs): 172'-173'

DATE: 3/29/96

TESTED BY: CARL LIND / DAN McCULLAR

Uniformity Coefficient

$= \frac{D_{40}, \text{Retained}}{D_{90}, \text{Retained}} = \frac{0.007}{0.002} = 3.5$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 6)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.740 ~~0.187~~	0			
4 ~~6~~	0.187 ~~0.132~~	0			
10 ~~8~~	0.093 ~~0.094~~	1.3			
14 ~~12~~	0.066 ~~0.066~~	3.5			
20	0.033	8.3			
40	0.017	19.1			
70	0.008	37.3			
100	0.006	51.9			
140	0.004	74.2			
200	0.002	86.7			

0.006 x 5 = 0.030
D_{50}, Retained (multiplier)

0.005 x 8 = 0.040
D_{50}, Retained (multiplier)
70

Recommended Sand Type: 2/16

Recommended Slot Opening: 0.020

Length Slotted Casing: 100'

Remarks:

SIEVE ANALYSIS RECORD FORM

JOB NUMBER: 22214 - 073
SITE AND LOCATION: MCAS El Toro. Site 24
WELL ID: EX-2-OB
SAMPLE DEPTH (ft, bgs): 197'-198'
DATE: 3/29/96
TESTED BY: Carl Lind / Dan McCullar

(A) PAN WT. (GRAMS)	(B) PAN & SAMPLE WT. (GRAMS)	(C) TOTAL DRY SAMPLE WT. (GRAMS) (A-B)
		878

SIEVE NO.	(D) SIEVE WT. (GRAMS)	(E) SAMPLE & SIEVE WT. RETAINED (GRAMS)	(F) SAMPLE WT. RETAINED (GRAMS) (E-D)	(G) PERCENT RETAINED ((F ÷ C) X 100)	CUMULATIVE PERCENT RETAINED (Σ G)
3/4			94	10.7	10.7
4 ~~6~~			26	3.0	13.7
10 ~~8~~			46	5.2	18.9
14 ~~12~~			27	3.1	22.0
20			80	9.1	31.1
40			171	19.5	50.6
70			144	16.4	67.0
100			74	8.4	75.4
140			76	8.7	84.1
200			56	6.3	90.4
PAN			84	9.6	100.0

WELL FILTER PACK DESIGN WORKSHEET

JOB NUMBER: 22214-073

SITE AND LOCATION: MCAS El Toro, Site 24

WELL ID: EX-2-OB

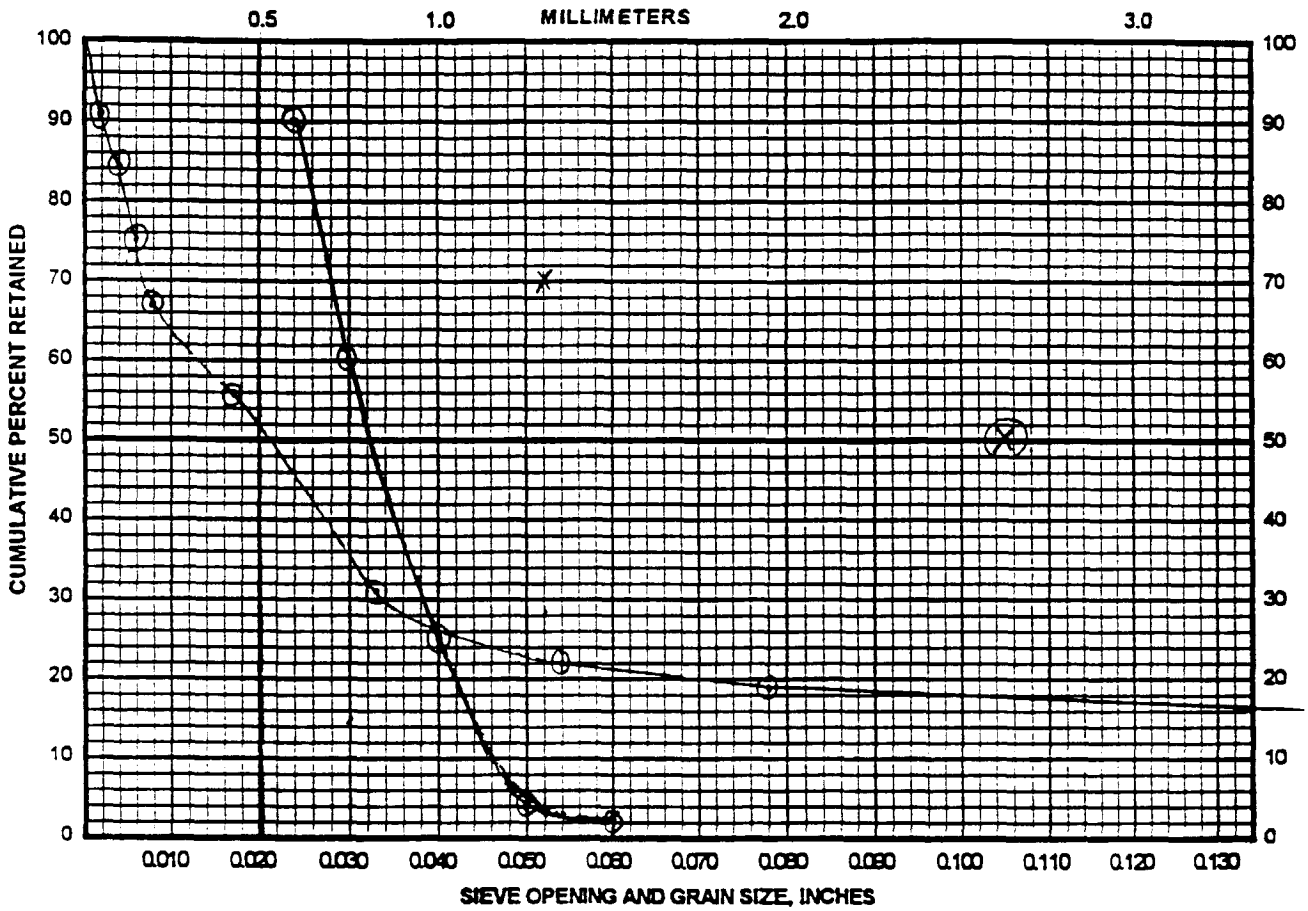
SAMPLE DEPTH (ft, bgs): 197' - 198'

DATE: 3/29/96

TESTED BY: CARL LIND / DAN McCullar

Uniformity Coefficient

$= \frac{D_{40}, \text{ Retained}}{D_{90}, \text{ Retained}} = ____ = __$



SIEVE NO.	SIEVE OPENINGS (INCHES)	CUMULATIVE PERCENT RETAINED (From sieve analysis)	NEW D_{50} CURVE CUMULATIVE PERCENT RETAINED	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT RETAINED (± 8)	NEW D_{50} CURVE RANGE CUMULATIVE PERCENT PASSING (100-RETAINED)
3/4	0.740 ~~0.187~~	10.7			
4 8	0.187 ~~0.132~~	13.7			
10 8	0.0 ~~0.094~~	18.9			
14 12	0.0 ~~0.066~~	22.0			
20	0.033	31.1			
40	0.017	50.6			
70	0.008	67.0			
100	0.006	75.4			
140	0.004	84.1			
200	0.002	90.4			

0.021 x 5 = .105
D_{50}, Retained (multiplier)

0.0065 x 8 = 0.052
D_{90}, Retained (multiplier)
70

Recommended Sand Type: _____

Recommended Slot Opening: _____

Length Slotted Casing: _____

Remarks: _____

APPENDIX D

ANALYTICAL RESULTS

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111401	24	EX1	19-APR-96	1,1,1-TRICHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,1,2,2-TETRACHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,1,2-TRICHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,1-DICHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,1-DICHLOROETHENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,2-DICHLOROBENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,2-DICHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,2-DICHLOROPROPANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,3-DICHLOROBENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,4-DICHLOROBENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BROMODICHLOROMETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BROMOFORM	5.0000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BROMOMETHANE	5.0000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CARBON TETRACHLORIDE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHLOROBENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHLORODIBROMOMETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHLOROETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHLOROFORM	5.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHLOROMETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CIS-1,2-DICHLOROETHENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CIS-1,3-DICHLOROPROPENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DICHLORODIFLUOROMETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ETHYLBENZENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				M,P-XYLENE	10.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				METHYLENE CHLORIDE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				O-XYLENE	5.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				STYRENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TETRACHLOROETHENE	5.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TOLUENE	5.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TRANS-1,2-DICHLOROETHENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TRANS-1,3-DICHLOROPROPENE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TRICHLOROETHENE	340.0000	UG/L	VV	P			EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TRICHLOROFLUOROMETHANE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
				VINYL CHLORIDE	5.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111406	24	EX1	19-APR-96	GASOLINE	.2000	MG/L	VV	Z			EPA 8015-M	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111407	24	EX1	19-APR-96	DIESEL	.1000	MG/L	VV	U	U		EPA 8015-M	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MOTOR OIL	.5200	MG/L	VV	U	U		EPA 8015-M	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111409	24	EX1	19-APR-96	DIMETHOATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DISULFOTON	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ETHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				FAMPHUR	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				METHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				O,O,O-TRIETHYL PHOSPHOROTHIOATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				PHORATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SULFOTEPP	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
				THIONAZIN	.5000	UG/L	VV	U	U		EPA 8140	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111411	24	EX1	19-APR-96	1,2,4-TRICHLOROBENZENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				1,2-DICHLOROBENZENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111411 24EX1	19-APR-96	1,3-DICHLOROBENZENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		1,4-DICHLOROBENZENE	2.0000	UG/L	VV	UD	UJ	10	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4,5-TRICHLOROPHENOL	4.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4,6-TRICHLOROPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4-DICHLOROPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4-DIMETHYLPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4-DINITROPHENOL	4.0000	UG/L	VV	UD	UJ	5B	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,4-DINITROTOLUENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2,6-DINITROTOLUENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-CHLORONAPHTHALENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-CHLOROPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-METHYLNAPHTHALENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-METHYLPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-NITROANILINE	4.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		2-NITROPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		3,3'-DICHLOROBENZIDINE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		3-NITROANILINE	4.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4,6-DINITRO-2-METHYLPHENOL	4.0000	UG/L	VV	UD	UJ	5B	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-BROMOPHENYL PHENYL ETHER	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLORO-3-METHYLPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLOROANILINE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLOROPHENYL PHENYL ETHER	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-METHYLPHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-NITROANILINE	4.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		4-NITROPHENOL	4.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		ACENAPHTHENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		ACENAPHTHYLENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		ANTHRACENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(A)ANTHRACENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(A)PYRENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(B)FLUORANTHENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(G,H,I)PERYLENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(K)FLUORANTHENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROETHOXY)METHANE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROETHYL)ETHER	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROISOPROPYL) ETHER	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-ETHYLHEXYL)PHTHALATE	10.0000	UG/L	VV	BD	U	7	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		BUTYL BENZYL PHTHALATE	.6000	UG/L	VV	JD	J		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		CARBAZOLE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		CHRYSENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DI-N-BUTYL PHTHALATE	2.0000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DI-N-OCTYL PHTHALATE	.6000	UG/L	VV	JD	J		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DIBENZO(A,H)ANTHRACENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DIBENZOFURAN	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DIETHYL PHTHALATE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		DIMETHYL PHTHALATE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		FLUORANTHENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		FLUORENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROBENZENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROBUTADIENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROCYCLOPENTADIENE	2.0000	UG/L	VV	UD	UJ	5B	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROETHANE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		INDENO(1,2,3-CD)PYRENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
		ISOPHORONE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1

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CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111411	24	EX1	19-APR-96	N-NITROSO-DI-N-PROPYLAMINE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				N-NITROSODIPHENYLAMINE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				NAPHTHALENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				NITROBENZENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				PENTACHLOROPHENOL	4.0000	UG/L	VV	UD	UJ	5B	EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				PHENANTHRENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				PHENOL	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				PYRENE	2.0000	UG/L	VV	UD	U		EPA CLP/OLM	DL	142.00	142.00	GW	REG	SDG-57938-1
				2-ETHYL-HEXANOIC ACID	2.0000	UG/L	VV	NJD	NJ		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				MYRISTIC ACID	.9000	UG/L	VV	NJD	NJ		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				PALMITIC ACID	1.0000	UG/L	VV	NJD	NJ		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN	.7000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
								JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
					.9000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
					4.0000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
					.7000	UG/L	VV	JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
					2.0000	UG/L	VV	JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
					.6000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN PHENOL DERIVATIVE	.8000	UG/L	VV	JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN PHTHALATE	1.0000	UG/L	VV	JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN SILICON DERIVATIVE	.7000	UG/L	VV	JBD	U	7	EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
								JD	J		EPA CLP/OLM	DLTIC	142.00	142.00	GW	REG	SDG-57938-1
				2-ETHYL-HEXANOIC ACID	2.0000	UG/L	VV	NJ	NJ		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN	.8000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					4.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.4000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.4000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					2.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN ALIPHATIC COMPOUND	.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN ALKANE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN PHTHALATE	1.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN POLYCHLORINATED COMP OUND	.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWN SILICON DERIVATIVE	.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
					.4000	UG/L	VV	J	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				UNKNOWNS	.7000	UG/L	VV	JZ	J		EPA CLP/OLM	TIC	142.00	142.00	GW	REG	SDG-57938-1
				1,2,4-TRICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,2-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,3-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				1,4-DICHLOROBENZENE	1.0000	UG/L	VV	U	UJ	10	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4,5-TRICHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4,6-TRICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-DICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-DIMETHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-DINITROPHENOL	2.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111411 24EX1	19-APR-96	2,6-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-CHLORONAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-CHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-METHYLNAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		2-NITROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		3,3'-DICHLOROBENZIDINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		3-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4,6-DINITRO-2-METHYLPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-BROMOPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLORO-3-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLOROANILINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-CHLOROPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		4-NITROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		ACENAPHTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		ACENAPHTHYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(A)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(A)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(B)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(G,H,I)PERYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BENZO(K)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROETHOXY)METHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROETHYL)ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-CHLOROISOPROPYL) ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BIS(2-ETHYLHEXYL)PHTHALATE	9.0000	UG/L	VV	EB	UJ	14	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
								7	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		BUTYL BENZYL PHTHALATE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		CARBAZOLE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		CHRYSENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DI-N-BUTYL PHTHALATE	1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DI-N-OCTYL PHTHALATE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DIBENZO(A,H)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DIBENZOFURAN	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DIETHYL PHTHALATE	1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		DIMETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		FLUORENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROBUTADIENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROCYCLOPENTADIENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		HEXACHLOROETHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		INDENO(1,2,3-CD)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		ISOPHORONE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		N-NITROSO-DI-N-PROPYLAMINE	1.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		N-NITROSODIPHENYLAMINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		NAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		NITROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		PENTACHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		PHENANTHRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
		PHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

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73W111411	24	EX1	19-APR-96	PYRENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111413	24	EX1	19-APR-96	4,4'-DDD	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				4,4'-DDE	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				4,4'-DDT	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ALDRIN	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ALPHA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ALPHA-CHLORDANE	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1016	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1221	2.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1232	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1242	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1248	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1254	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				AROCLOR-1260	1.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BETA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DELTA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DIELDRIN	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDOSULFAN I	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDOSULFAN II	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDOSULFAN SULFATE	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDRIN	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDRIN ALDEHYDE	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ENDRIN KETONE	.1000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				GAMMA-BHC (LINDANE)	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				GAMMA-CHLORDANE	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				HEPTACHLOR	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				HEPTACHLOR EPOXIDE	.0500		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				METHOXYCHLOR	.5000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TOXAPHENE	5.0000		UG/L	VV	U	U		OLM01	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111415	24	EX1	19-APR-96	2,4,5-T	.0980		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4,5-TP	.0980		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-D	.9700		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				2,4-DB	.9800		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DALAPON	2.4000		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DICAMBA	.0970		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DICHLOROPROP	.9700		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				DINOSEB	.4800		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MCPA	96.0000		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MCPP	97.0000		UG/L	VV	U	U		EPA 8150	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111417	24	EX1	19-APR-96	ALUMINUM	34.5000		UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ANTIMONY	1.7000		UG/L	VV	B	U	7	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ARSENIC	4.0000		UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BARIUM	19.6000		UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BERYLLIUM	.1000		UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CADMIUM	.4100		UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CALCIUM	249000.0000		UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHROMIUM	42.7000		UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				COBALT	1.1000		UG/L	VV	B	U	7	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				COPPER	5.5000		UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				IRON	306.0000		UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				LEAD	1.9000		UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MAGNESIUM	73200.0000		UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MANGANESE	57.9000		UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MERCURY	.2000		UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1

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73W111417	24	EX1	19-APR-96	MOLYBDENUM	17.9000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				NICKEL	88.8000	UG/L	VV	E	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				POTASSIUM	3190.0000	UG/L	VV	BE	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SELENIUM	62.1000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SILVER	1.3000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SODIUM	123000.0000	UG/L	VV	E	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				THALLIUM	4.7000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				VANADIUM	12.9000	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ZINC	15.6000	UG/L	VV	BE	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111418	24	EX1	19-APR-96	ALUMINUM	34.5000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ANTIMONY	1.3000	UG/L	VV	B	U	7	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ARSENIC	4.0000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BARIUM	19.7000	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BERYLLIUM	.1000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CADMIUM	.4500	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CALCIUM	246000.0000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CHROMIUM	4.6000	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				COBALT	2.5000	UG/L	VV	B	U	7	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				COPPER	6.7000	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				IRON	111.0000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				LEAD	1.9000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MAGNESIUM	71900.0000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MANGANESE	62.0000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MERCURY	.2000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				MOLYBDENUM	16.5000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				NICKEL	100.0000	UG/L	VV	E	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				POTASSIUM	3300.0000	UG/L	VV	BE	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SELENIUM	59.9000	UG/L	VV				ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SILVER	1.3000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SODIUM	117000.0000	UG/L	VV	E	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				THALLIUM	4.7000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				VANADIUM	11.2000	UG/L	VV	B			ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				ZINC	21.6000	UG/L	VV	E	J	16	ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111419	24	EX1	19-APR-96	CYANIDE	5.0000	UG/L	VV	U	U		ILM02.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111420	24	EX1	19-APR-96	CHLORIDE	333.0000	MG/L	VV				EPA 300.0	TRG	142.00	142.00	GW	REG	SDG-57938-1
				FLUORIDE	.1000	MG/L	VV	U	U		EPA 300.0	TRG	142.00	142.00	GW	REG	SDG-57938-1
				PHOSPHATE	.1000	MG/L	VV	U	R	1	EPA 300.0	TRG	142.00	142.00	GW	REG	SDG-57938-1
				SULFATE	505.0000	MG/L	VV				EPA 300.0	TRG	142.00	142.00	GW	REG	SDG-57938-1
				BICARBONATE	168.0000	MG/L	VV				EPA 310.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				CARBONATE	2.0000	MG/L	VV	U	U		EPA 310.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				HYDROXIDE ALKALINITY (AS CAC O3)	2.0000	MG/L	VV	U	U		EPA 310.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TOTAL ALKALINITY	168.0000	MG/L	VV				EPA 310.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				NITRITE	.0160	MG/L	VV		J	1	EPA 354.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111422	24	EX1	19-APR-96	NITRATE/NITRITE-N	22.7000	MG/L	VV		J	5A	EPA 353.2	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111423	24	EX1	19-APR-96	TOTAL DISSOLVED SOLIDS	1820.0000	MG/L	VV				EPA 160.1	TRG	142.00	142.00	GW	REG	SDG-57938-1
				TOTAL SUSPENDED SOLIDS	4.5000	MG/L	VV				EPA 160.2	TRG	142.00	142.00	GW	REG	SDG-57938-1
73W111502	24	EX1	19-APR-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
										14	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R	UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111502	24	EX1	19-APR-96	1,1,2-TRICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,1-DICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,1-DICHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,2-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,2-DICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,2-DICHLOROPROPANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,3-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				1,4-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				BENZENE	.5000		UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				BROMODICHLOROMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				BROMOFORM	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
											5A	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				BROMOMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
											5A	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CARBON TETRACHLORIDE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CHLORODIBROMOMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CHLOROFORM	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CHLOROMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CIS-1,2-DICHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				CIS-1,3-DICHLOROPROPENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				DICHLORODIFLUOROMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				ETHYLBENZENE	.5000		UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				M,P-XYLENE	1.0000		UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				METHYLENE CHLORIDE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				O-XYLENE	.5000		UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				STYRENE	.5000		UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TETRACHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TOLUENE	.5000		UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TRANS-1,2-DICHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TRANS-1,3-DICHLOROPROPENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TRICHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				TRICHLOROFLUOROMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
				VINYL CHLORIDE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-57938-1
73W111504	24	EX1	19-APR-96	GASOLINE	.0500		MG/L	VV	U	U		EPA 8015-M	TRG			BW	TPB	SDG-57938-1
73W111601	24	IN1	23-APR-96	1,1,1-TRICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,1,2,2-TETRACHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
											5B	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,1,2-TRICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,1-DICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,1-DICHLOROETHENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,2-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,2-DICHLOROETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,2-DICHLOROPROPANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,3-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,4-DICHLOROBENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZENE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BROMODICHLOROMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BROMOFORM	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BROMOMETHANE	.5000		UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111601	24IN1	23-APR-96	CARBON TETRACHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHLOROFORM	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHLOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	10	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
									13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			ETHYLBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			M,P-XYLENE	1.0000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			METHYLENE CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			O-XYLENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			STYRENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TETRACHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TOLUENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TRICHLOROETHENE	.9400	UG/L	VV		J	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
									5B	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			VINYL CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111604	24IN1	23-APR-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111606	24IN1	23-APR-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	RE	118.00	118.00	GW	REG	SDG-58081-1
73W111607	24IN1	23-APR-96	DIESEL	.1000	MG/L	VV	U	U		EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1
			MOTOR OIL	.5000	MG/L	VV	U	U		EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111609	24IN1	23-APR-96	DIMETHOATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DISULFOTON	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			ETHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			FAMPHUR	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			METHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			O,O,O-TRIETHYL PHOSPHOROTHIO ATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			PHORATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			SULFOTEPP	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
			THIONAZIN	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111611	24IN1	23-APR-96	CHOLESTEROL	3.0000	UG/L	VV	NJ	NJ		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			MYRISTIC ACID	.7000	UG/L	VV	NJB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			PALMITIC ACID	2.0000	UG/L	VV	NJB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			UNKNOWN	.8000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				.8000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				.9000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				.7000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				3.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
							J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111611	24	IN1	23-APR-96	UNKNOWN	.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
					.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				UNKNOWN SILICON DERIVATIVE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
					.9000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
				1,2,4-TRICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,2-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,3-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				1,4-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4,5-TRICHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4,6-TRICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DIMETHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DINITROPHENOL	2.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,6-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-CHLORONAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-CHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-METHYLNAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2-NITROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				3,3'-DICHLOROBENZIDINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				3-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4,6-DINITRO-2-METHYLPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-BROMOPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-CHLORO-3-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-CHLOROANILINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-CHLOROPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4-NITROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ACENAPHTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ACENAPHTHYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZO(A)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZO(A)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZO(B)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZO(G,H,I)PERYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BENZO(K)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BIS(2-CHLOROETHOXY)METHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BIS(2-CHLOROETHYL)ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BIS(2-CHLOROISOPROPYL) ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BIS(2-ETHYLHEXYL)PHTHALATE	2.0000	UG/L	VV	B	U	7	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BUTYL BENZYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CARBAZOLE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CHRYSENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DI-N-BUTYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DI-N-OCTYL PHTHALATE	.1000	UG/L	VV	J	J		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIBENZO(A,H)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIBENZOFURAN	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIMETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				FLUORENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111611	24	IN1	23-APR-96	HEXACHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROBUTADIENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROCYCLOPENTADIENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROETHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				INDENO(1,2,3-CD)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ISOPHORONE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				N-NITROSO-DI-N-PROPYLAMINE	1.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				N-NITROSODIPHENYLAMINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NITROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PENTACHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHENANTHRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111613	24	IN1	23-APR-96	4,4'-DDD	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4,4'-DDE	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4,4'-DDT	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALDRIN	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALPHA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALPHA-CHLORDANE	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1016	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1221	2.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1232	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1242	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1248	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1254	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1260	1.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BETA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DELTA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIELDRIN	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN I	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN II	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN SULFATE	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN ALDEHYDE	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN KETONE	.1000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				GAMMA-BHC (LINDANE)	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				GAMMA-CHLORDANE	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEPTACHLOR	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEPTACHLOR EPOXIDE	.0500	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				METHOXYCHLOR	.5000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				TOXAPHENE	5.0000	UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111615	24	IN1	23-APR-96	2,4,5-T	.0970	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4,5-TP	.0970	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-D	.9600	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DB	.9700	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DALAPON	2.3000	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DICAMBA	.0960	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DICHLOROPROP	.9600	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DINOSEB	.4800	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MCPA	95.0000	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MCPP	96.0000	UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111617	24	IN1	23-APR-96	ALUMINUM	457.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ANTIMONY	1.3000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1

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73W111617	24	IN1	23-APR-96	ARSENIC	4.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BARIUM	53.8000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BERYLLIUM	.1000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CADMIUM	.3000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CALCIUM	125000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CHROMIUM	88.6000	UG/L	VV	E	J	16	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				COBALT	1.6000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				COPPER	4.8000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				IRON	943.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				LEAD	1.9000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MAGNESIUM	35300.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MANGANESE	33.5000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MERCURY	.2000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MOLYBDENUM	30.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NICKEL	69.9000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				POTASSIUM	3420.0000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SELENIUM	20.1000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SILVER	1.3000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SODIUM	87300.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				THALLIUM	4.7000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				VANADIUM	18.2000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ZINC	6.2000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111618	24	IN1	23-APR-96	ALUMINUM	34.5000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ANTIMONY	4.0000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ARSENIC	4.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BARIUM	51.2000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BERYLLIUM	.1000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CADMIUM	.3000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CALCIUM	126000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CHROMIUM	5.1000	UG/L	VV	BE	J	16	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				COBALT	2.4000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				COPPER	2.8000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				IRON	102.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				LEAD	1.9000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MAGNESIUM	35400.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MANGANESE	25.7000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MERCURY	.2000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MOLYBDENUM	30.6000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NICKEL	62.3000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				POTASSIUM	3370.0000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SELENIUM	21.3000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SILVER	1.3000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SODIUM	87500.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				THALLIUM	4.7000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				VANADIUM	15.1000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ZINC	5.3000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111619	24	IN1	23-APR-96	CYANIDE	5.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111620	24	IN1	23-APR-96	CHLORIDE	239.0000	MG/L	VV				EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				FLUORIDE	.2000	MG/L	VV				EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHOSPHATE	.1000	MG/L	VV	U	UJ	1	EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SULFATE	149.0000	MG/L	VV				EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BICARBONATE	136.0000	MG/L	VV				EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CARBONATE	2.0000	MG/L	VV	U	U		EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HYDROXIDE ALKALINITY (AS CAC	2.0000	MG/L	VV	U	U		EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
			03)													
73W111620	24IN1	23-APR-96	TOTAL ALKALINITY	136.0000	MG/L	VV				EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
			NITRITE	.0050	MG/L	VV		J	1	EPA 354.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111622	24IN1	23-APR-96	NITRATE/NITRITE-N	11.8000	MG/L	VV				EPA 353.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111623	24IN1	23-APR-96	TOTAL DISSOLVED SOLIDS	1020.0000	MG/L	VV				EPA 160.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
			TOTAL SUSPENDED SOLIDS	17.4000	MG/L	VV				EPA 160.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111624	24IN1	23-APR-96	TOTAL HARDNESS (CACO3)	448.0000	MG/L	VV				EPA 130.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111701	24IN1	23-APR-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
									5B	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,1,2-TRICHLORO-1,2,2-TRIFLU	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			OROETHANE													
			1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,1-DICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,1-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,2-DICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			BENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			BROMODICHLOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			BROMOFORM	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			BROMOMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CARBON TETRACHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CHLOROFORM	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CHLOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	10	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
									13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			ETHYLBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			M,P-XYLENE	1.0000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			METHYLENE CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			O-XYLENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			STYRENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TETRACHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TOLUENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TRICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
									5B	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
			VINYL CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG			BW	TPB	SDG-58081-1
73W111703	24IN1	23-APR-96	GASOLINE	.0500	MG/L	VV	U	U		EPA 8015-M	TRG			BW	TPB	SDG-58081-1
73W111801	24EX2	24-APR-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
									5B	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
			1,1,2-TRICHLORO-1,2,2-TRIFLU	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
		OROETHANE													
73W111801 24EX2	24-APR-96	1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,1-DICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,1-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,2-DICHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BROMODICHLOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BROMOFORM	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BROMOMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CARBON TETRACHLORIDE	1.8000	UG/L	VV		J	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHLOROBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHLOROETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHLOROFORM	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHLOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	10	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
								13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ETHYLBENZENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		M,P-XYLENE	1.0000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		METHYLENE CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		O-XYLENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		STYRENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TETRACHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TOLUENE	1.3000	UG/L	VV		J	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TRICHLOROETHENE	42.0000	UG/L	VV	E	J	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
								14	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
								5B	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
		VINYL CHLORIDE	.5000	UG/L	VV	U	UJ	13	EPA 8010/8020	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111806 24EX2	24-APR-96	GASOLINE	.0500	MG/L	VV	U	U		EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111807 24EX2	24-APR-96	UNKNOWN	6.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			1.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.8000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.7000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
						J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.5000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
		UNKNOWN ALIPHATIC COMPOUND	.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
		UNKNOWN ALKANE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			.8000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111807	24EX2	24-APR-96	UNKNOWN ALKANE	.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			UNKNOWN AROMATIC COMPOUNDS	.5000	UG/L	VV	JZ	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			UNKNOWN C3-ALKYLBENZENE	.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			UNKNOWN C4-ALKYLBENZENE	.5000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			UNKNOWN PHTHALATE	.4000	UG/L	VV	J	J		EPA CLP/OLM	TIC	118.00	118.00	GW	REG	SDG-58081-1
			1,2,4-TRICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			1,2-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			1,3-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			1,4-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4,5-TRICHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4,6-TRICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4-DICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4-DIMETHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4-DINITROPHENOL	2.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,4-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2,6-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-CHLORONAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-CHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-METHYLNAPHTHALENE	.4000	UG/L	VV	J	J		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			2-NITROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			3,3'-DICHLOROBENZIDINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			3-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4,6-DINITRO-2-METHYLPHENOL	2.0000	UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-BROMOPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-CHLORO-3-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-CHLOROANILINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-CHLOROPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			4-NITROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			ACENAPHTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			ACENAPHTHYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BENZO(A)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BENZO(A)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BENZO(B)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BENZO(G,H,I)PERYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BENZO(K)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BIS(2-CHLOROETHOXY)METHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BIS(2-CHLOROETHYL)ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BIS(2-CHLOROISOPROPYL) ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BIS(2-ETHYLHEXYL)PHTHALATE	3.0000	UG/L	VV	B	U	7	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			BUTYL BENZYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CARBAZOLE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			CHRYSENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DI-N-BUTYL PHTHALATE	1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DI-N-OCTYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DIBENZO(A,H)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DIBENZOFURAN	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DIETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			DIMETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
			FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R	UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111807	24	EX2	24-APR-96	FLUORENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROBENZENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROBUTADIENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROCYCLOPENTADIENE	1.0000		UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEXACHLOROETHANE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				INDENO(1,2,3-CD)PYRENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ISOPHORONE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				N-NITROSO-DI-N-PROPYLAMINE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				N-NITROSODIPHENYLAMINE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NAPHTHALENE	.5000		UG/L	VV	J	J		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NITROBENZENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PENTACHLOROPHENOL	2.0000		UG/L	VV	U	UJ	5B	EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHENANTHRENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHENOL	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PYRENE	1.0000		UG/L	VV	U	U		EPA CLP/OLM	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111809	24	EX2	24-APR-96	4,4'-DDD	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4,4'-DDE	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				4,4'-DDT	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALDRIN	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALPHA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ALPHA-CHLORDANE	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1016	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1221	2.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1232	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1242	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1248	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1254	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				AROCLOR-1260	1.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BETA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DELTA-BHC	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DIELDRIN	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN I	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN II	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDOSULFAN SULFATE	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN ALDEHYDE	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ENDRIN KETONE	.1000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				GAMMA-BHC (LINDANE)	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				GAMMA-CHLORDANE	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEPTACHLOR	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HEPTACHLOR EPOXIDE	.0500		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				METHOXYCHLOR	.5000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
				TOXAPHENE	5.0000		UG/L	VV	U	U		OLM01	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111811	24	EX2	24-APR-96	2,4,5-T	.0960		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4,5-TP	.0960		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-D	.9500		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				2,4-DB	.9600		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DALAPON	2.3000		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DICAMBA	.0950		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DICHLOROPROP	.9500		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				DINOSEB	.4700		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MCPA	94.0000		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
				MCPP	95.0000		UG/L	VV	U	U		EPA 8150	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111813	24	EX2	24-APR-96	DIESEL	.1000		MG/L	VV	U	UJ	13	EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111813 24EX2	24-APR-96	MOTOR OIL	.5000	MG/L	VV	U	UJ	13	EPA 8015-M	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111815 24EX2	24-APR-96	DIMETHOATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		DISULFOTON	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ETHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		FAMPHUR	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		METHYL PARATHION	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		O,O,O-TRIETHYL PHOSPHOROTHIO ATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		PHORATE	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		SULFOTEPP	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
		THIONAZIN	.5000	UG/L	VV	U	U		EPA 8140	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111817 24EX2	24-APR-96	ALUMINUM	34.5000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ANTIMONY	3.2000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ARSENIC	4.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BARIUM	24.2000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BERYLLIUM	.1000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CADMIUM	.6900	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CALCIUM	408000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHROMIUM	3.3000	UG/L	VV	BE	UJ	16	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
								7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		COBALT	2.9000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		COPPER	3.1000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		IRON	225.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		LEAD	1.9000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MAGNESIUM	153000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MANGANESE	144.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MERCURY	.2000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MOLYBDENUM	29.8000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		NICKEL	189.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		POTASSIUM	5510.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		SELENIUM	174.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		SILVER	1.3000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		SODIUM	172000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		THALLIUM	4.7000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		VANADIUM	11.6000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ZINC	5.5000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111818 24EX2	24-APR-96	ALUMINUM	35.6000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ANTIMONY	1.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		ARSENIC	4.0000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BARIUM	24.7000	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		BERYLLIUM	.1000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CADMIUM	.7300	UG/L	VV	B			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CALCIUM	422000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		CHROMIUM	38.3000	UG/L	VV	E	J	16	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		COBALT	3.0000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		COPPER	4.3000	UG/L	VV	B	U	7	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		IRON	538.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		LEAD	1.9000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MAGNESIUM	153000.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MANGANESE	149.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MERCURY	.2000	UG/L	VV	U	U		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		MOLYBDENUM	30.7000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
		NICKEL	213.0000	UG/L	VV				ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R	UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111818	24	EX2	24-APR-96	POTASSIUM	5710.0000		UG/L		VV			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SELENIUM	177.0000		UG/L		VV			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SILVER	1.3000		UG/L		VV	U	U	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SODIUM	168000.0000		UG/L		VV			ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				THALLIUM	4.7000		UG/L		VV	U	U	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				VANADIUM	13.5000		UG/L		VV	B		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				ZINC	4.0000		UG/L		VV	B		ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111819	24	EX2	24-APR-96	CYANIDE	5.0000		UG/L		VV	U	U	ILM02.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111820	24	EX2	24-APR-96	CHLORIDE	477.0000		MG/L		VV			EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				FLUORIDE	.1000		MG/L		VV	U	U	EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				PHOSPHATE	1.0000		MG/L		VV	U	U	EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				SULFATE	1000.0000		MG/L		VV			EPA 300.0	TRG	118.00	118.00	GW	REG	SDG-58081-1
				BICARBONATE	220.0000		MG/L		VV			EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				CARBONATE	2.0000		MG/L		VV	U	U	EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				HYDROXIDE ALKALINITY (AS CAC O3)	2.0000		MG/L		VV	U	U	EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				TOTAL ALKALINITY	220.0000		MG/L		VV			EPA 310.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				NITRITE	.0640		MG/L		VV			EPA 354.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111822	24	EX2	24-APR-96	NITRATE/NITRITE-N	36.3000		MG/L		VV			EPA 353.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111823	24	EX2	24-APR-96	TOTAL DISSOLVED SOLIDS	2910.0000		MG/L		VV			EPA 160.1	TRG	118.00	118.00	GW	REG	SDG-58081-1
				TOTAL SUSPENDED SOLIDS	5.7000		MG/L		VV			EPA 160.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111824	24	EX2	24-APR-96	TOTAL HARDNESS (CACO3)	1290.0000		MG/L		VV			EPA 130.2	TRG	118.00	118.00	GW	REG	SDG-58081-1
73W111901	24	IN1	2-MAY-96	TETRAHYDROFURAN	4.0000		UG/L		VV	NJ	NJ	OLC	TIC			GW	REG	SDG-58287-1
				UNKNOWN	3.0000		UG/L		VV	J	J	OLC	TIC			GW	REG	SDG-58287-1
				UNKNOWN SILICON DERIVATIVE	2.0000		UG/L		VV	J	J	OLC	TIC			GW	REG	SDG-58287-1
				1,1,1-TRICHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,1,2,2-TETRACHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,1,2-TRICHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,1-DICHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,1-DICHLOROETHENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,2-DIBROMO-3-CHLOROPROPANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,2-DIBROMOETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROBENZENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROPROPANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,3-DICHLOROBENZENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				1,4-DICHLOROBENZENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				2-BUTANONE	93.0000		UG/L		VV			OLC	TRG			GW	REG	SDG-58287-1
				2-HEXANONE	5.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				4-METHYL-2-PENTANONE	5.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				ACETONE	6.0000		UG/L		VV			OLC	TRG			GW	REG	SDG-58287-1
				BENZENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				BROMOCHLOROMETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				BROMODICHLOROMETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				BROMOFORM	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				BROMOMETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CARBON DISULFIDE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CARBON TETRACHLORIDE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CHLOROBENZENE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CHLORODIBROMOMETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CHLOROETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CHLOROFORM	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1
				CHLOROMETHANE	1.0000		UG/L		VV	U	U	OLC	TRG			GW	REG	SDG-58287-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

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73W111901	24	IN1	2-MAY-96	CIS-1,2-DICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				CIS-1,3-DICHLOROPROPENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				ETHYLBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				METHYLENE CHLORIDE	2.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				STYRENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TETRACHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TOLUENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TOTAL XYLENES	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TRANS-1,2-DICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TRANS-1,3-DICHLOROPROPENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				TRICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
				VINYL CHLORIDE	1.0000	UG/L	VV	U	U		OLC	TRG			GW	REG	SDG-58287-1
73W111906	24	IN1	2-MAY-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,1-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,1-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				BENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				BROMODICHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				BROMOFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				BROMOMETHANE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CARBON TETRACHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CHLOROFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	10	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				ETHYLBENZENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				M,P-XYLENE	1.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				METHYLENE CHLORIDE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				O-XYLENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				STYRENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TETRACHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TOLUENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TRICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
				VINYL CHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58287-1
73W111907	24	IN1	2-MAY-96	GASOLINE	.0500	MG/L	VV	U	U		EPA 8015-M	TRG			GW	REG	SDG-58287-1
73W111910	24	IN1	2-MAY-96	DIESEL	.1000	MG/L	VV	U	U		EPA 8015-M	TRG			GW	REG	SDG-58287-1
				MOTOR OIL	.5000	MG/L	VV	U	U		EPA 8015-M	TRG			GW	REG	SDG-58287-1
73W111912	24	IN1	2-MAY-96	4,4'-DDD	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

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73W111912	24	IN1	2-MAY-96	4,4'-DDE	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				4,4'-DDT	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ALDRIN	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ALPHA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ALPHA-CHLORDANE	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1016	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1221	2.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1232	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1242	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1248	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1254	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				AROCLOR-1260	1.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				BETA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				DELTA-BHC	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				DIELDRIN	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDOSULFAN I	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDOSULFAN II	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDOSULFAN SULFATE	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDRIN	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDRIN ALDEHYDE	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				ENDRIN KETONE	.1000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				GAMMA-BHC (LINDANE)	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				GAMMA-CHLORDANE	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				HEPTACHLOR	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				HEPTACHLOR EPOXIDE	.0500	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				METHOXYCHLOR	.5000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
				TOXAPHENE	5.0000	UG/L	VV	U	U		OLM01	TRG			GW	REG	SDG-58287-1
73W111914	24	IN1	2-MAY-96	2,4,5-T	.0950	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				2,4,5-TP	.0950	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				2,4-D	.9400	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				2,4-DB	.9500	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				DALAPON	2.3000	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				DICAMBA	.0940	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				DICHLOROPROP	.9400	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				DINOSEB	.4700	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				MCPA	93.0000	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
				MCPP	94.0000	UG/L	VV	U	U		EPA 8150	TRG			GW	REG	SDG-58287-1
73W111916	24	IN1	2-MAY-96	2-HYDROXY-2-METHYL-4-PENTANONE	.6000	UG/L	VV	NJA	NJ		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
				TRIPHENYLPHOSPHINE OXIDE	.6000	UG/L	VV	NJ	NJ		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
				UNKNOWN	.7000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
								JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					6.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					2.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					.9000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					2.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					.9000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
				UNKNOWN PHENOL DERIVATIVE	7.0000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
				UNKNOWN POLYALKOXY ALCOHOL	.9000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
				UNKNOWN SILICON DERIVATIVE	.6000	UG/L	VV	J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					.8000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
					.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111916 24IN1	2-MAY-96	UNKNOWN SILICON DERIVATIVE	.7000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
			.9000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
			.6000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
						J	J		EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
			.5000	UG/L	VV	JB	U	7	EPA CLP/OLM	TIC			GW	REG	SDG-58287-1
		1,2,4-TRICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		1,2-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		1,3-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		1,4-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4,5-TRICHLOROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4,6-TRICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4-DICHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4-DIMETHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4-DINITROPHENOL	2.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
								5B	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,4-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2,6-DINITROTOLUENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-CHLORONAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-CHLOROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-METHYLNAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		2-NITROPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		3,3'-DICHLOROBENZIDINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		3-NITROANILINE	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4,6-DINITRO-2-METHYLPHENOL	2.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
								5B	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-BROMOPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-CHLORO-3-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-CHLOROANILINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-CHLOROPHENYL PHENYL ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-METHYLPHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-NITROANILINE	2.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		4-NITROPHENOL	2.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		ACENAPHTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		ACENAPHTHYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BENZO(A)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BENZO(A)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BENZO(B)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BENZO(G,H,I)PERYLENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BENZO(K)FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BIS(2-CHLOROETHOXY)METHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BIS(2-CHLOROETHYL)ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BIS(2-CHLOROISOPROPYL) ETHER	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BIS(2-ETHYLHEXYL)PHTHALATE	5.0000	UG/L	VV	B	U	7	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		BUTYL BENZYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		CARBAZOLE	1.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
								5B	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		CHRYSENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		DI-N-BUTYL PHTHALATE	1.0000	UG/L	VV	JB	U	7	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		DI-N-OCTYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		DIBENZO(A,H)ANTHRACENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
		DIBENZOFURAN	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W111916	24	IN1	2-MAY-96	DIETHYL PHTHALATE	1.0000	UG/L	VV	U	U	7	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				DIMETHYL PHTHALATE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				FLUORANTHENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				FLUORENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				HEXACHLOROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				HEXACHLOROBUTADIENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				HEXACHLOROCYCLOPENTADIENE	1.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
										5B	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				HEXACHLOROETHANE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				INDENO(1,2,3-CD)PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				ISOPHORONE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				N-NITROSO-DI-N-PROPYLAMINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				N-NITROSODIPHENYLAMINE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				NAPHTHALENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				NITROBENZENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				PENTACHLOROPHENOL	2.0000	UG/L	VV	U	UJ	5A	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
										5B	EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				PHENANTHRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				PHENOL	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
				PYRENE	1.0000	UG/L	VV	U	U		EPA CLP/OLM	TRG			GW	REG	SDG-58287-1
73W111918	24	IN1	2-MAY-96	DIMETHOATE	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				DISULFOTON	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				ETHYL PARATHION	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				FAMPHUR	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				METHYL PARATHION	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				PHORATE	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				SULFOTEPP	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
				THIONAZIN	1.0000	UG/L	VV	U	U		EPA 8140	TRG			GW	REG	SDG-58287-1
73W112001	24	IN1	2-MAY-96	1,1,1-TRICHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,1,2,2-TETRACHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,1,2-TRICHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,1-DICHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,1-DICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,2-DIBROMO-3-CHLOROPROPANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,2-DIBROMOETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,2-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,2-DICHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,2-DICHLOROPROPANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,3-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				1,4-DICHLOROBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				2-BUTANONE	5.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				2-HEXANONE	5.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				4-METHYL-2-PENTANONE	5.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				ACETONE	5.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				BENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				BROMOCHLOROMETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				BROMODICHLOROMETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				BROMOFORM	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				BROMOMETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				CARBON DISULFIDE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				CARBON TETRACHLORIDE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				CHLOROBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				CHLORODIBROMOMETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
				CHLOROETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1

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CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W112001	24IN1	2-MAY-96	CHLOROFORM	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			CHLOROMETHANE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			CIS-1,2-DICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			CIS-1,3-DICHLOROPROPENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			ETHYLBENZENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			METHYLENE CHLORIDE	2.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			STYRENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TETRACHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TOLUENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TOTAL XYLENES	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TRANS-1,2-DICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TRANS-1,3-DICHLOROPROPENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			TRICHLOROETHENE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
			VINYL CHLORIDE	1.0000	UG/L	VV	U	U		OLC	TRG			BW	TPB	SDG-58287-1
73W112004	24IN1	2-MAY-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	RE			BW	TPB	SDG-58287-1
73W112005	24IN1	2-MAY-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	TRG			BW	TPB	SDG-58287-1
73W112006	24IN1	2-MAY-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,1-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,1-DICHLOROETHENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,2-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			BENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			BROMODICHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			BROMOFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			BROMOMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CARBON TETRACHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CHLOROBENZENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CHLOROFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	10	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			ETHYLBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			M,P-XYLENE	1.0000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			METHYLENE CHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			O-XYLENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			STYRENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TETRACHLOROETHENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TOLUENE	.5000	UG/L	VV	U	UJ	14	EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TRICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1
			VINYL CHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58287-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT	ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W112101	24	EX2	28-MAY-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,1-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,1-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,2-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				BENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				BROMODICHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				BROMOFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				BROMOMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CARBON TETRACHLORIDE	.8700	UG/L	VV				EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CHLOROETHANE	.5000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CHLOROFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CHLOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				ETHYLBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				M,P-XYLENE	1.0000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				METHYLENE CHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				O-XYLENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				STYRENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TETRACHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TOLUENE	.6800	UG/L	VV				EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TRICHLOROETHENE	13.0000	UG/L	VV	P	J	10	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
				VINYL CHLORIDE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG	110.00	110.00	GW	REG	SDG-58728-1
73W112104	24	EX2	28-MAY-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	TRG	110.00	110.00	GW	REG	SDG-58728-1
73W112201	24	EX2	28-MAY-96	1,1,1-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,1,2,2-TETRACHLOROETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,1,2-TRICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,1-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,1-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,2-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,2-DICHLOROETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,2-DICHLOROPROPANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,3-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				1,4-DICHLOROBENZENE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				BENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
				BROMODICHLOROMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1

BEIDMS Database Interim Results - Data Verification Report (chk_intm.sql)

CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W112201	24EX2	28-MAY-96	BROMOFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			BROMOMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CARBON TETRACHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CHLOROBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CHLORODIBROMOMETHANE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CHLOROETHANE	.5000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CHLOROFORM	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CHLOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CIS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			CIS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			DICHLORODIFLUOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			ETHYLBENZENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			M,P-XYLENE	1.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			METHYLENE CHLORIDE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			O-XYLENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			STYRENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TETRACHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TOLUENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TRANS-1,2-DICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TRANS-1,3-DICHLOROPROPENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TRICHLOROETHENE	.5000	UG/L	VV	U	U		EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			TRICHLOROFLUOROMETHANE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
			VINYL CHLORIDE	.5000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			BW	TPB	SDG-58728-1
73W112203	24EX2	28-MAY-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	TRG			BW	TPB	SDG-58728-1
73W112302	24EX1	29-MAY-96	1,1,1-TRICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2,2-TETRACHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2-TRICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1-DICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROPROPANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,3-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,4-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMODICHLOROMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMOFORM	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMOMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CARBON TETRACHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLORODIBROMOMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROETHANE	12.0000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROFORM	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROMETHANE	12.0000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CIS-1,2-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CIS-1,3-DICHLOROPROPENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			DICHLORODIFLUOROMETHANE	12.0000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			ETHYLBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			M,P-XYLENE	25.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			METHYLENE CHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			O-XYLENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1

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CONTAINER	STAT ID	SAMP DATE	ANALYTE NAME	RESULT	R UNITS	UC	LAB	R QUAL	Q COD	METHOD CODE	R TYPE	T DEP	B DEP	MTX	S TYP	DOCUMENT ID
73W112302	24EX1	29-MAY-96	STYRENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TETRACHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TOLUENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRANS-1,2-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRANS-1,3-DICHLOROPROPENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRICHLOROETHENE	780.0000	UG/L	VV	P			EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRICHLOROFLUOROMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			VINYL CHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
73W112305	24EX1	29-MAY-96	GASOLINE	.0500	MG/L	VV	U	UJ	13	EPA 8015-M	TRG			GW	REG	SDG-58728-1
73W112402	09DBMW45	29-MAY-96	1,1,1-TRICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2,2-TETRACHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2-TRICHLORO-1,2,2-TRIFLU OROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1,2-TRICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1-DICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,1-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,2-DICHLOROPROPANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,3-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			1,4-DICHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMODICHLOROMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMOFORM	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			BROMOMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CARBON TETRACHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLORODIBROMOMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROETHANE	12.0000	UG/L	VV	U	UJ	5A	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROFORM	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CHLOROMETHANE	12.0000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CIS-1,2-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			CIS-1,3-DICHLOROPROPENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			DICHLORODIFLUOROMETHANE	12.0000	UG/L	VV	U	UJ	5B	EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			ETHYLBENZENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			M,P-XYLENE	25.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			METHYLENE CHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			O-XYLENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			STYRENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TETRACHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TOLUENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRANS-1,2-DICHLOROETHENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRANS-1,3-DICHLOROPROPENE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRICHLOROETHENE	720.0000	UG/L	VV	P			EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			TRICHLOROFLUOROMETHANE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1
			VINYL CHLORIDE	12.0000	UG/L	VV	U	U		EPA 8010/8020	TRG			GW	REG	SDG-58728-1

1305 rows selected.

SQL> exit

APPENDIX E

AQUIFER TEST ANALYTICAL METHODS

Appendix E
AQUIFER TEST ANALYTICAL METHODS

E1.1 CASING-STORAGE EFFECT CALCULATIONS

Early drawdown data in a pumping well to some extent will reflect the removal of water stored in the casing rather than the actual reduction of head or lowering of the water table in the aquifer. As the water level in the casing falls, the influx of water from the formation should gradually begin to supply a greater percentage of the well yield. During the time required for the aquifer drainage to overtake the drainage of the casing, the rate of drawdown will be higher, resulting in an erroneously low value of transmissivity (Driscoll 1986).

The duration of the casing-storage effect varies according to well diameter and specific capacity (pumping rate per unit length of drawdown). A method was developed by Schafer to use the drawdown data to estimate the time after which any casing-storage effect becomes negligible (Driscoll 1986):

$$t_c = \frac{0.6(d_c^{\,2} - d_p^{\,2})}{Q/s}$$

where:

t_c = time, in minutes, when casing-storage effect becomes negligible
d_c = inside diameter of well casing, in inches
d_p = outside diameter of pump column pipe, in inches
Q/s = specific capacity of the well in gallons per minute per foot (gpm/ft) of drawdown at time t_c

E1.2 WELL 24EX1 CASING-STORAGE EFFECTS

For each of the aquifer tests conducted, the inside diameter of the well casing (*dc*) is 6 inches, and the outside diameter of the pump column pipe (*dp*) is 2 inches. All three pumping tests were conducted at a flow rate of 20 gpm, resulting in the following equation:

$$t_c = 0.96s$$

where:

s = the drawdown in the well at time t_c.

The data indicate the following values of t_c for each of the three tests evaluated:

- Test 1: t_c = 13.5 minutes
- Test 2: t_c = 22.0 minutes
- Test 3: t_c = 13.0 minutes

This indicates that the casing-storage effect would become negligible after approximately 13.5 minutes into the first constant-rate drawdown test, 22 minutes into the second constant-rate drawdown test, and 13 minutes into the third constant-rate drawdown test at well 24EX1.

E1.3 WELL 24EX2 CASING-STORAGE EFFECTS

The inside diameter of the well casing (*dc*) is 6 inches, and the outside diameter of the pump column pipe (*dp*) is 2 inches. The pumping test was conducted at a flow rate of 15 gpm, resulting in the following equation:

$$t_c = 1.28s$$

where:

s = the drawdown in the well at time t_c.

The data indicate the following value of t_c for the test evaluated:

t_c = 17.5 minutes

This indicates that the casing-storage effect would become negligible after approximately 17.5 minutes into the constant rate drawdown test at well 24EX2.

E1.4 WELL 24IN1 CASING STORAGE EFFECTS

The inside diameter of the well casing (*dc*) is 6 inches, and the outside diameter of the inflow pipe (*dp*) is 2 inches. The injection test was conducted at a flow rate of 15 gpm, resulting in the following equation:

$$t_c = 1.28s$$

where:

s = the drawdown in the well at time t_c.

The data indicate the following value of t_c for the test evaluated:

t_c = 6.3 minutes

This indicates that the casing-storage effect would become negligible after approximately 6.3 minutes into the constant-rate injection test at well 24IN1.

E2.1 METHODS FOR THE EVALUATION OF CONSTANT-RATE AQUIFER TESTS

This section describes the methods used to interpret the data acquired in the aquifer pumping tests.

E2.2 HYDRAULIC-CONDUCTIVITY ESTIMATES FROM AQUIFER TESTING DATA

This section describes the Cooper-Jacob, Neuman, and Theis methods to analyze aquifer-pumping test data. The analytical methods for aquifer-pumping test evaluation are the Neuman, Cooper-Jacob, and Theis methods.

E2.3 NEUMAN METHOD

The method of analysis selected for primary analyses of the constant-rate test was developed by Neuman (1975). It considers delayed gravity response in unconfined aquifers and also permits partial penetration to be taken into account.

$$T = 0.0796 \frac{Q s_D}{s} \qquad S_y = 1.0 \frac{T t}{r^2 t_y}$$

where:

T = transmissivity (ft^2/min)
Q = pumping rate (ft^3/min)
s_D & s = match points from the type curve
S_y = specific yield
t & t_y = match points from the type curve
r = distance from pumping well to the observation well

Neuman (1974) showed that the effect of partial penetration on the drawdown in an unconfined aquifer decreases with radial distance from the pumping well. At distances greater than r, this effect disappears completely when time exceeds t.

$$r = \frac{b}{\sqrt{K_v / K_h}} \qquad t = \frac{10 S_y r^2}{T}$$

where:

r = distance from pumping well where partial-penetration effects are negligible (after time t)
b = saturated thickness of aquifer
K_v = vertical hydraulic conductivity
K_h = horizontal hydraulic conductivity
t = time after which partial-penetration effects are negligible (beyond distance r)
S_y = specific yield
T = transmissivity (ft^2/min)

The assumptions for the Neuman method are:

- the aquifer has infinite areal extent;
- the aquifer is homogenous and of uniform thickness;
- the aquifer potentiometric surface is initially horizontal;
- the pumping rate is constant;
- flow is unsteady; and
- the diameter of the pumping well is very small so that the storage from the well can be neglected.

E2.4 COOPER-JACOB (JACOB STRAIGHT-LINE) METHOD:

The method selected for secondary step-drawdown test analyses was that developed by Jacob (Ref. 3, pp. 221) which is a modification of the Theis nonequilibrium equation.

$$T = \frac{264Q}{\Delta s} \qquad S = \frac{0.3Tt_0}{r^2}$$

where:

T = transmissivity (gallons per day per foot [gpd/ft])
Q = pumping rate (gpm)
Δs = slope of time-drawdown curve per log cycle (feet)
S = storage coefficient
t_0 = intercept of the straight line at zero drawdown (days)
r = distance from pumped well to observation well (feet)

The assumptions for the Cooper-Jacob method are:

- the aquifer has infinite areal extent;
- the aquifer is homogenous, isotropic, and of uniform thickness;
- the aquifer potentiometric surface is initially horizontal;
- the pumping rate is constant;
- the aquifer is confined;
- flow is unsteady;
- the water is released instantaneously from storage with decline of hydraulic head;
- the diameter of the pumping well is very small so that the storage from the well can be neglected; and
- values of u are small (less than 0.05).

E2.4.1 Calculation of Critical Times

The Cooper-Jacob equation is derived using Theis solutions where the value of u is less than 0.05 (Cooper-Jacob 1946). As u is inversely proportional to t, the Cooper-Jacob

method becomes valid for interpretation at a critical time, which can be calculated by the following formulas:

$$u = [(r^2)S]/4Tt \quad \text{or} \quad t = [(r^2)S]/4Tu$$

where:

r = radius of the pumping or injection well to the observation well
S = storativity (unitless)
T = transmissivity [L/T]
t = time from which aquifer pumping or injection began

The calculation of critical times for aquifer pumping and injection tests is shown in Table E-1.

Table E-1
Calculation of Critical Times for Aquifer Pumping and Injection Tests

Test	Well	r (feet)	S (unitless)	T (feet per minute)	u	t (minute)
24EX1 Test No.1	24EX1	1	0.11	0.062	0.05	8.9
	24NEW1	40.5	0.11	0.7	0.05	1,288.8
24EX1 Test No.2	24EX1	1	0.04	0.024	0.05	8.3
	24NEW1	40.5	0.04	0.6	0.05	546.8
24EX2	24EX2	1	0.015	0.092	0.05	0.8
	24EX2OB	20.5	0.015	1.03	0.05	30.6
24IN1	24IN1	1	0.025	0.086	0.05	1.5
	24IN1OB	24.7	0.025	0.4	0.05	190.7

E2.5 THEIS RECOVERY METHOD

The method of analysis for recovery data was developed by Theis (1935). It permits the direct use of the residual drawdown without calculating the recovery from an extension of the time-drawdown plot. The Theis recovery method will work for both the pumping well and observation well data. Residual drawdown is plotted against t/t′ to solve for transmissivity by:

$$T = \frac{264Q}{\Delta s'}$$

where:

T = transmissivity (gpd/ft)
Q = pumping rate (gpm)
$\Delta s'$ = slope of the residual drawdown graph expressed as the change in residual drawdown (feet) between any two values of the ratio t/t' on the log scale whose ratio is 10

t = time since pumping started (minute)
t' = time since pumping stopped (minute)

The assumptions for the Theis recovery method are:

- the aquifer has infinite areal extent;
- the aquifer is homogenous, isotropic, and of uniform thickness;
- the aquifer potentiometric surface is initially horizontal;
- the pumping rate is constant;
- the pumping well fully penetrates the aquifer;
- the flow to the pumping well is horizontal;
- the aquifer is confined;
- flow is unsteady;
- the water is released instantaneously from storage with decline of hydraulic head;
- the diameter of the pumping well is very small so that the storage from the well can be neglected;
- values of u are small (less than 0.01); and
- the coefficient of storage is equal during pumping and recovery periods.

E2.6 RADIUS OF INFLUENCE ESTIMATES

The radius of influence for each extraction and injection well was estimated using the Dupuit-Forschheimer well discharge formula. To solve the groundwater flow equation for an unconfined aquifer, Dupuit assumed 1) the velocity of groundwater flow is proportional to the tangent of the hydraulic gradient instead of the sine as defined by Darcy's Law, and 2) groundwater flow is horizontal and uniform everywhere in a vertical section (Todd 1980). Using the Dupuit assumptions, the well discharge in an unconfined aquifer can be written:

$$Q = -(2\pi rKh)(dh/dr)$$

where:

Q = volumetric water discharge
r = radial distance from pumping well
K = hydraulic conductivity
h = saturated thickness at any distance, r

By integrating between $h = h_w$ at $r = r_w$ and $h = H_o$ at $r = R$, we obtain the Dupuit-Forschheimer well discharge formula:

$$H_o^2 - h_w^2 = (Q/\pi K)\ln(R/r_w)$$

where:

r_w = radius of well
h_w = saturated thickness where $r = r_w$,
H_o = saturated thickness with no drawdown
R = radial distance where $h = H_o$

For long time periods the equation can be written (Bear 1979):

$$R = 1.5H_o(Kt/n_eH_o)^{1/2}$$

where:

t = time since pumping began
ne = effective porosity or specific yield

This equation circumvents the problem inherent in solving an unconfined flow problem by assuming that groundwater flow is essentially horizontal. Boulton (1954) and Hantush (1964) suggest that vertical flow components are significant when $t > 5H_on_e/K$. The radius of influence calculations and supporting documentation that $t < 5H_on_e/K$ are summarized in Table E2-1.

Table E2-1
Radius of Influence Estimates

Location	H_o (feet)	K (feet per minute)	n_e	t (minute)	$5H_on_e/K$	R (feet)
24EX1 Test No. 1	100	0.028	0.22	1,015	3,929	170
24EX1 Test No 2	100	0.024	0.22	1,351	4,583	182
24EX2	100	0.042	0.22	4,330	2,619	431
24IN1	100	0.016	0.22	2,340	6,875	196

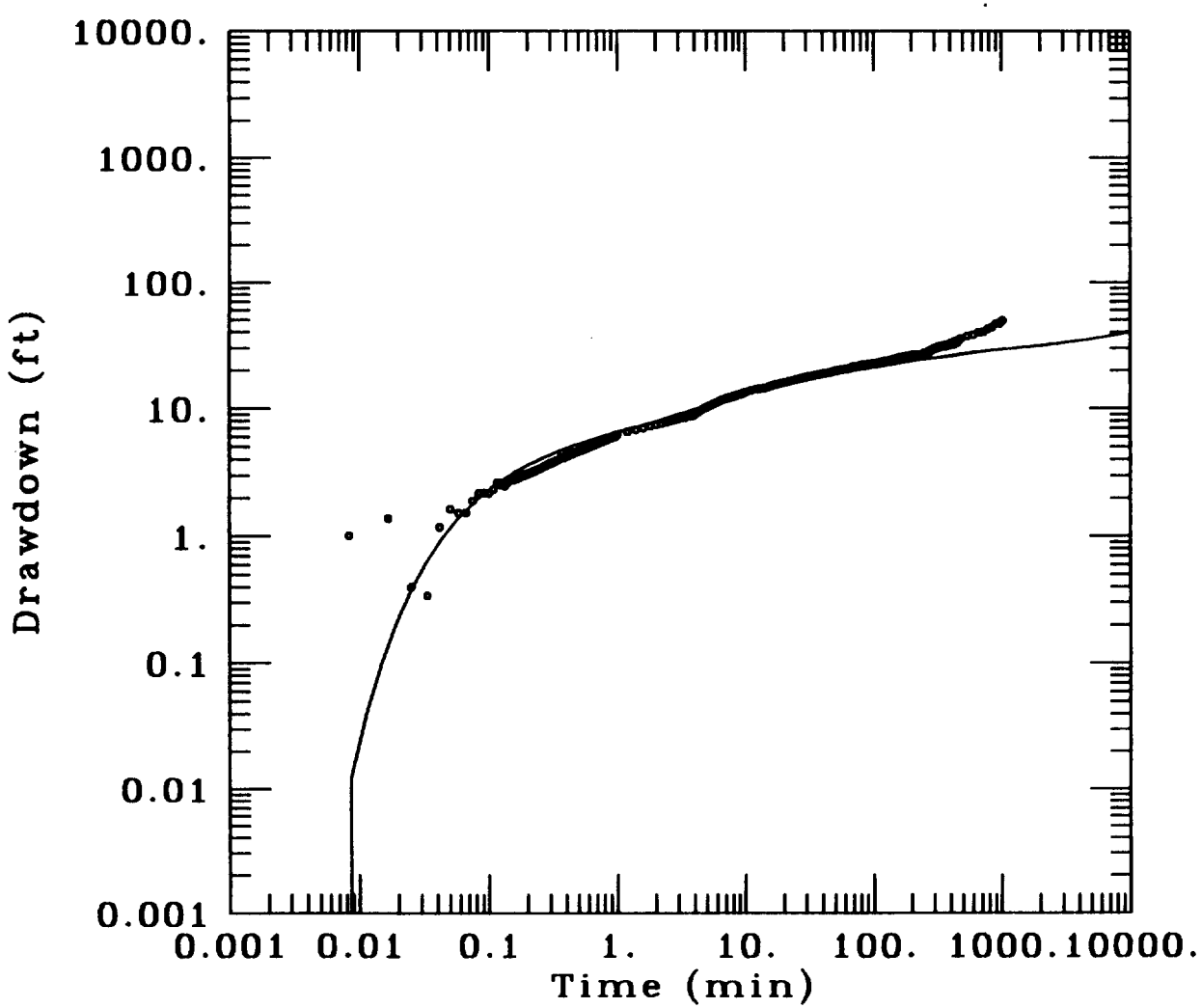
Hydraulic conductivity values were chosen from data obtained in observation wells where the best curve fit was observed using the Neuman and Cooper-Jacob methods.

APPENDIX F

AQTESOLV PLOTS

Figure F-1	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 1 EX1



DATA SET:
ex1t1m.dat
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

OBS. WELL:
24EX1

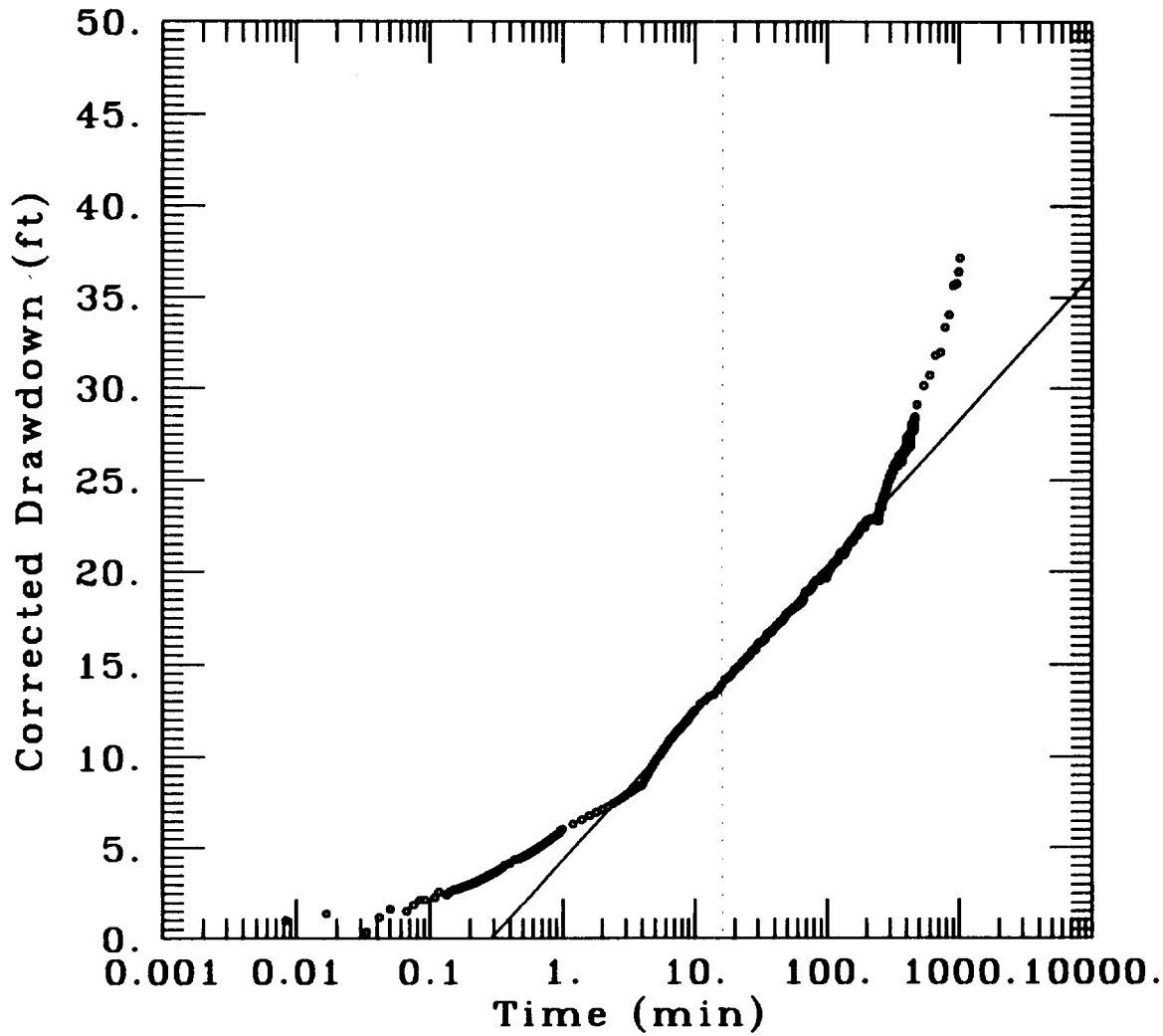
ESTIMATED PARAMETERS:
$T = 0.06\ ft^2/min$

$\beta = 0.1$

TEST DATA:
$Q = 2.7\ ft^3/min$
$r = 0.5\ ft$
$b = 100.\ ft$

Figure F-2	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 1 EX1



DATA SET:
ex1t1m.dat
09/23/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

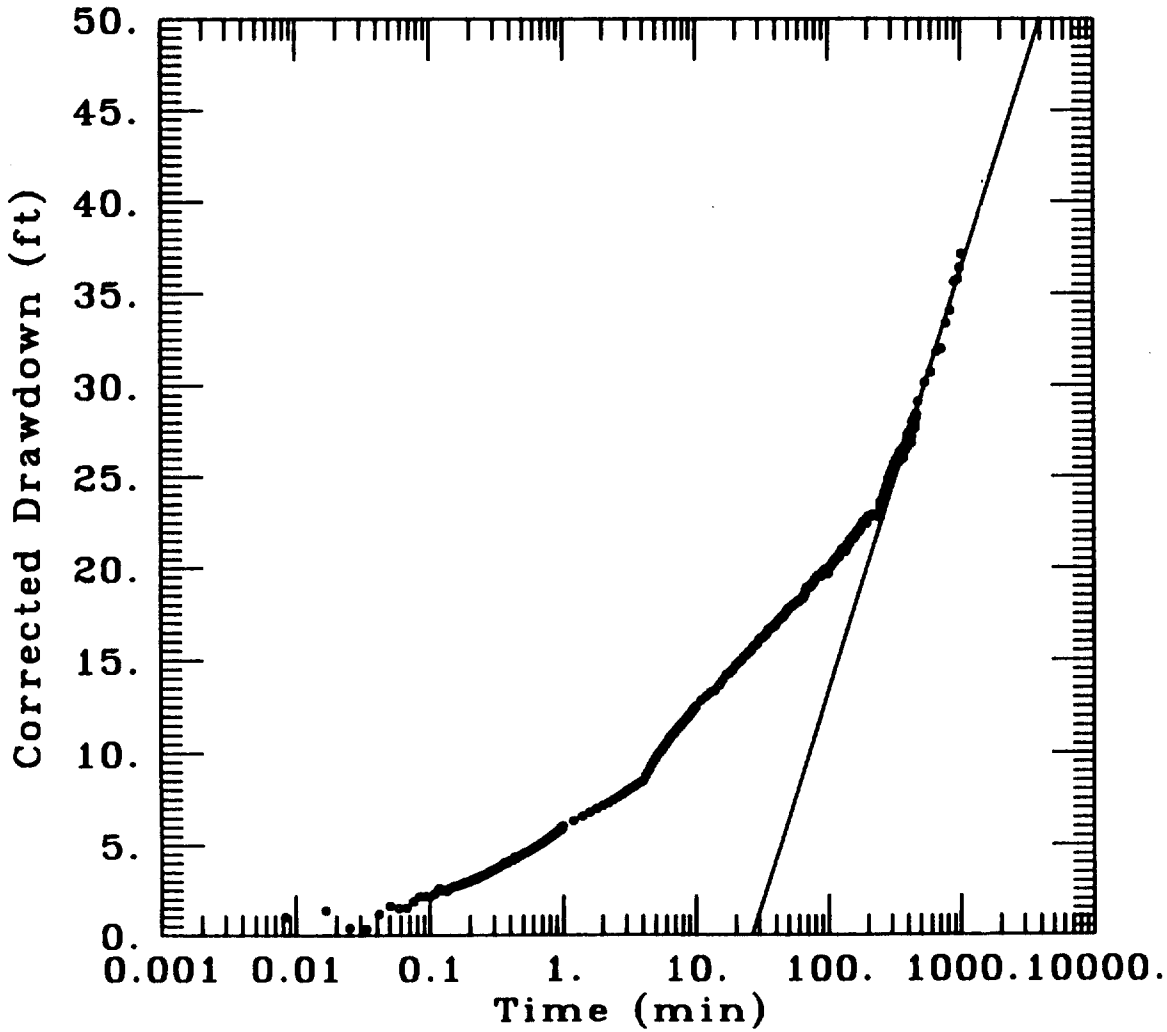
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.062 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
r = 0.5 ft
b = 100. ft

Figure F-2b	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 1M, EX1



DATA SET:
ex1t1m.dat
09/30/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

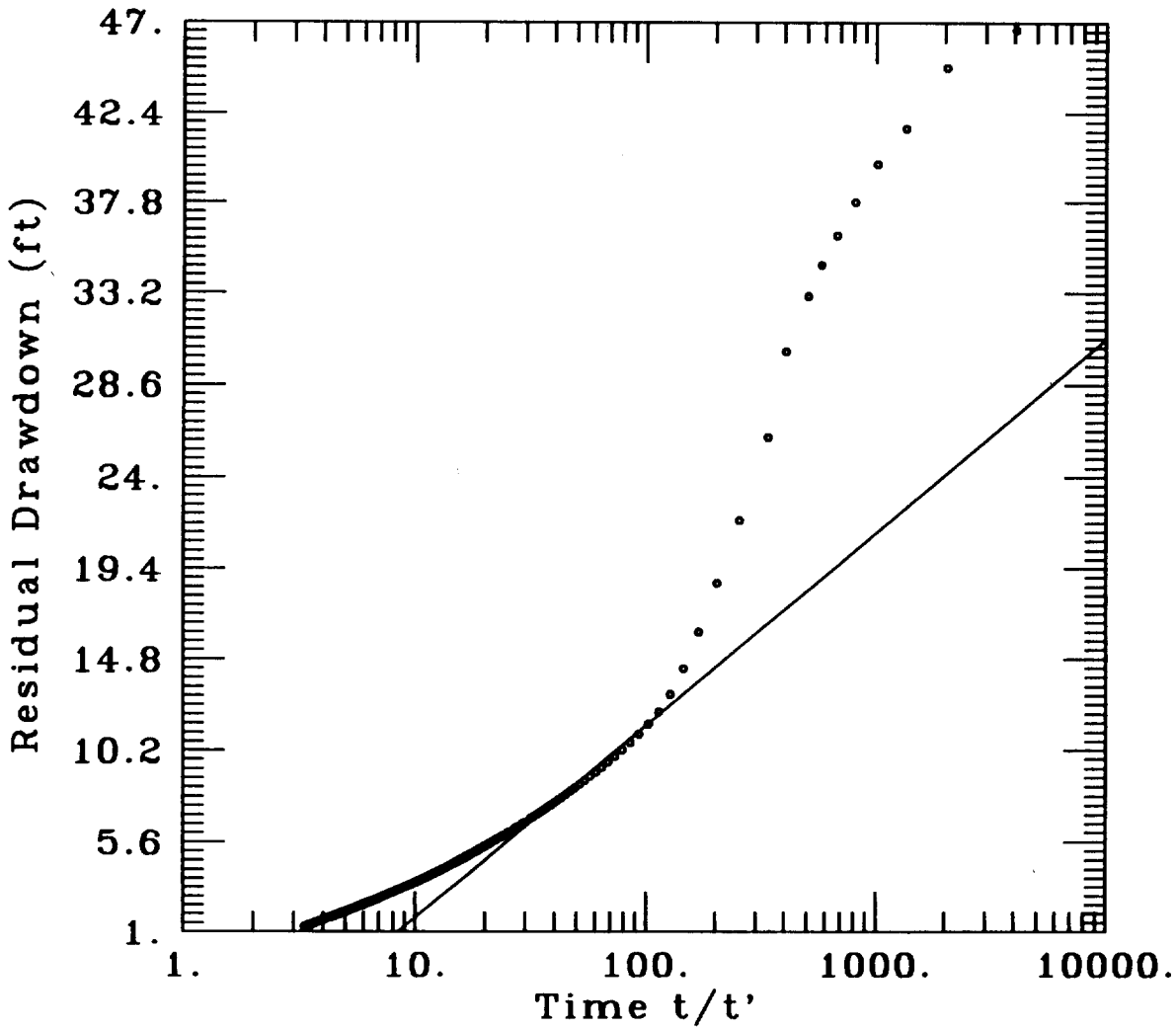
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.02155 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
r = 0.5 ft
b = 100. ft

Figure F-3	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE RECOVERY TEST 1 EX1



DATA SET:
ex1t1rm.dat
09/23/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
APRIL 30, 1996

TEST WELL:
24EX1

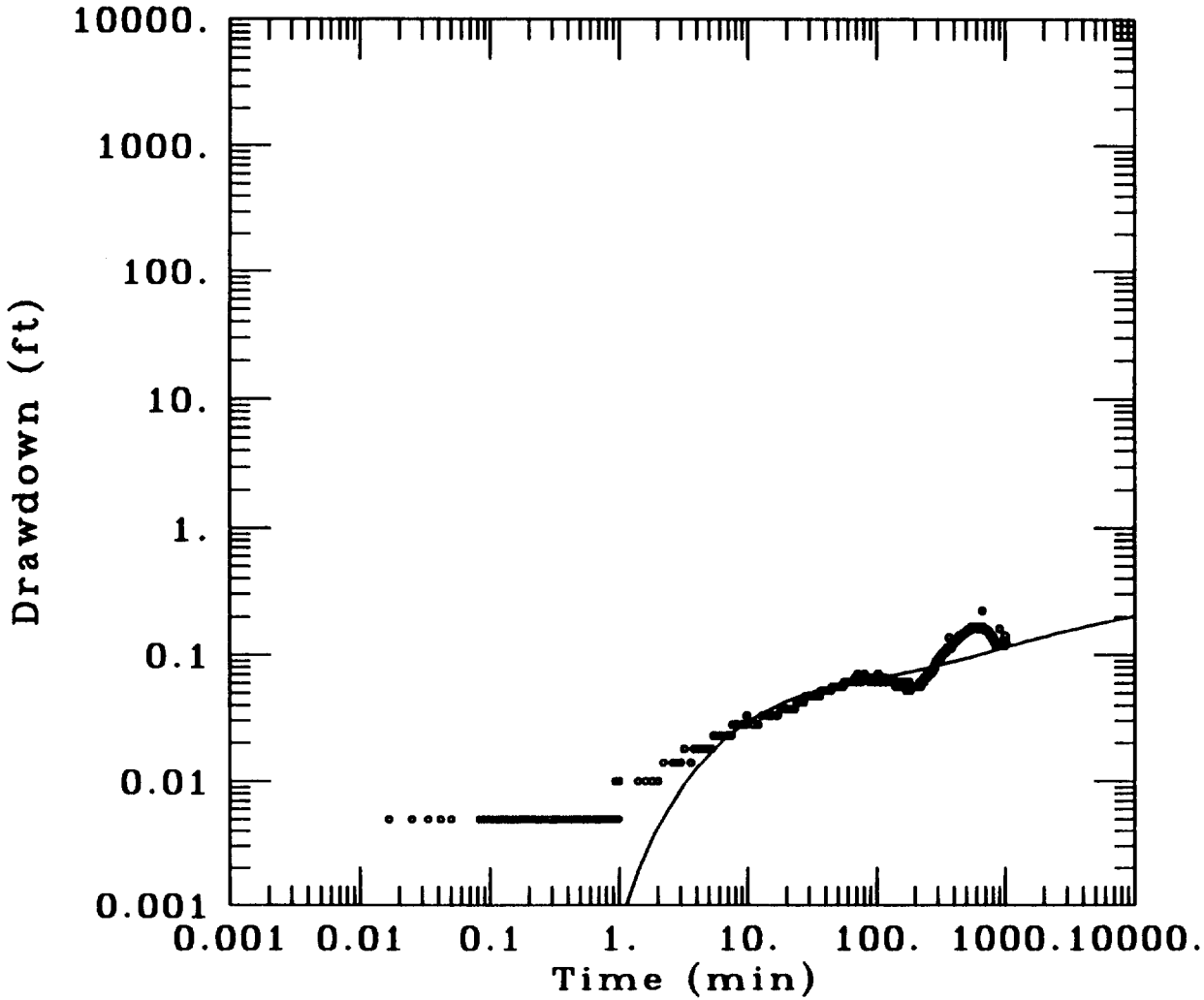
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.051 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
t pumping = 1015. min

Figure F-4	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 1, EX10B



DATA SET:
EX1T10B3.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

OBS. WELL:
24EX10B

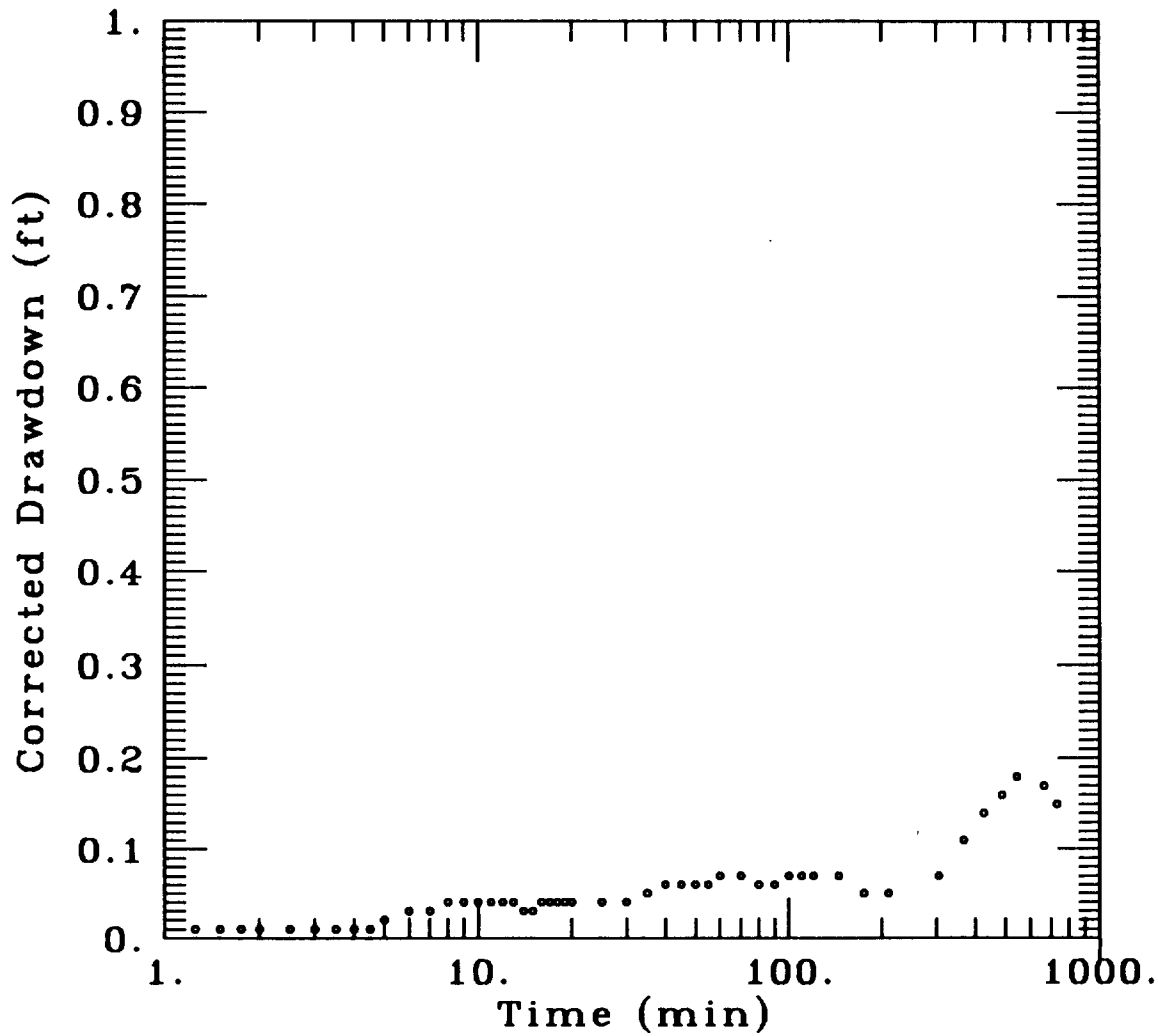
ESTIMATED PARAMETERS:
T = 5.554 ft^2/min
S = 0.1492

β = 0.1

TEST DATA:
Q = 2.7 ft^3/min
r = 20. ft
b = 100. ft

Figure F-5	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 1, EX10B



DATA SET:
ex1t1ob.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

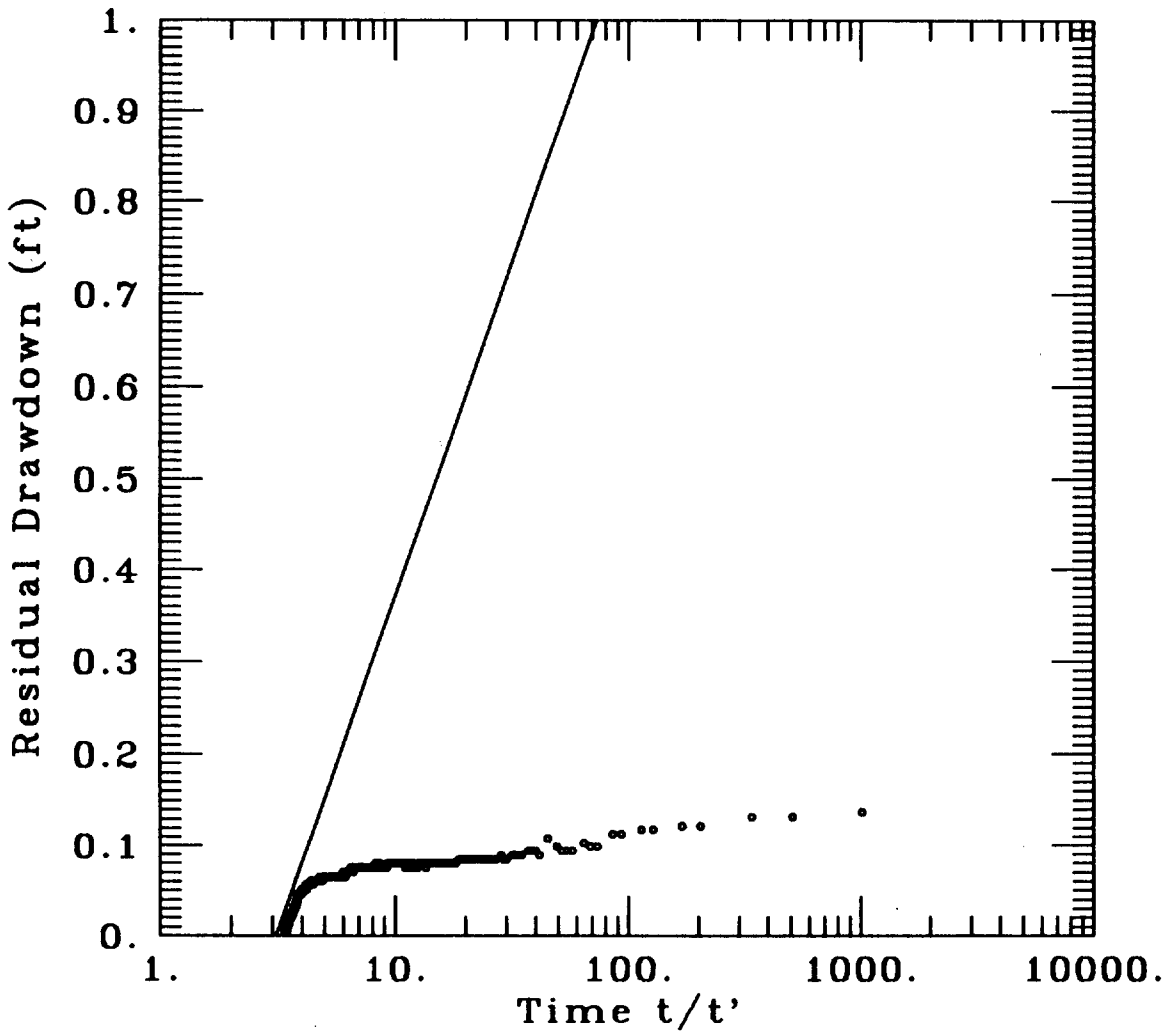
OBS. WELL:
24EX10B

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2.7 ft^3/min
r = 20. ft
b = 100. ft

Figure F-6	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE RECOVERY TEST 1, EX10B



DATA SET:
x1t1obrm.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

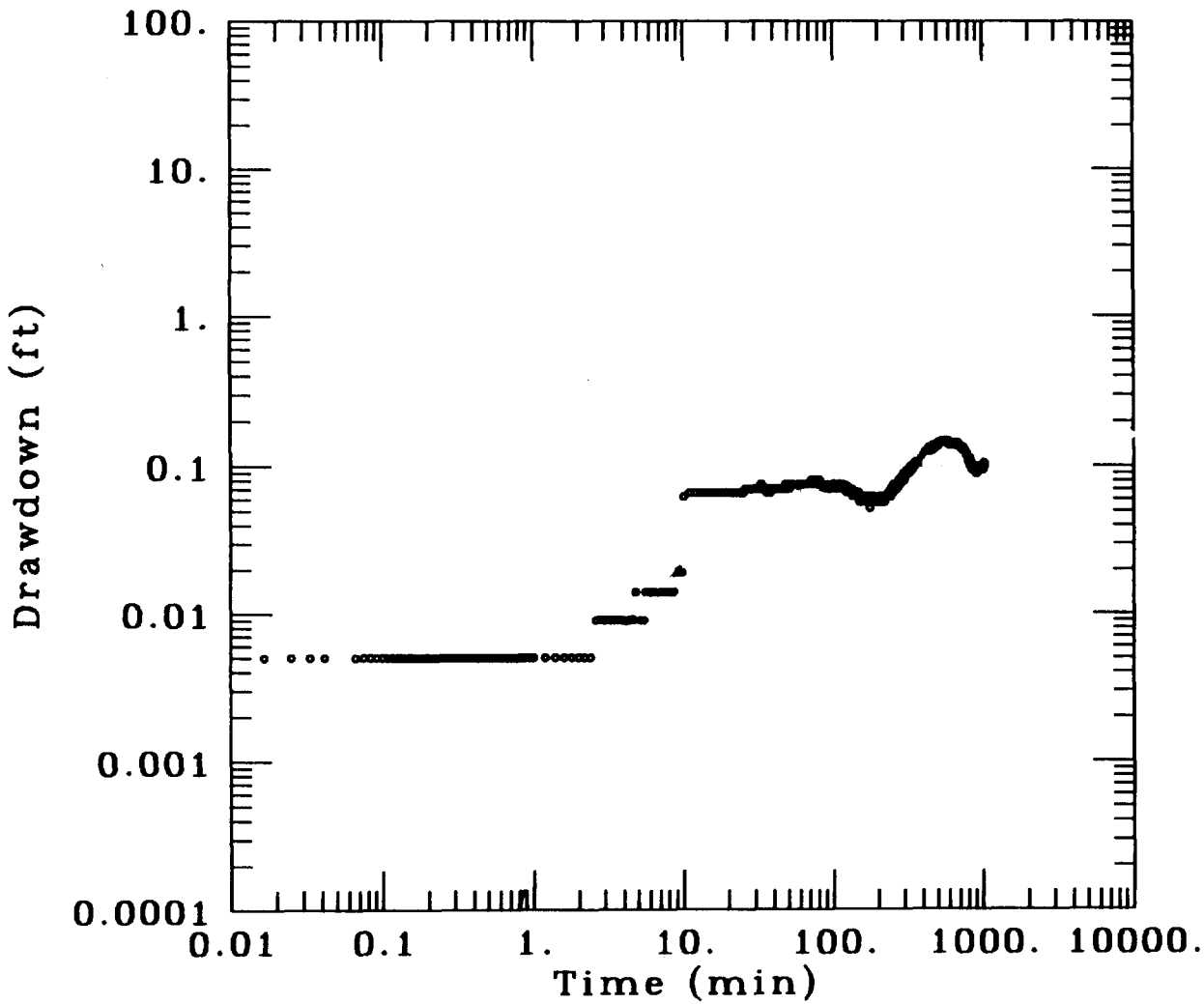
OBS. WELL:
24EX10B

ESTIMATED PARAMETERS:
T = 0.68 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
t pumping = 1015. min

Figure F-7	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 1, 24AS2A



DATA SET:
x1t1as2.dat
09/23/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

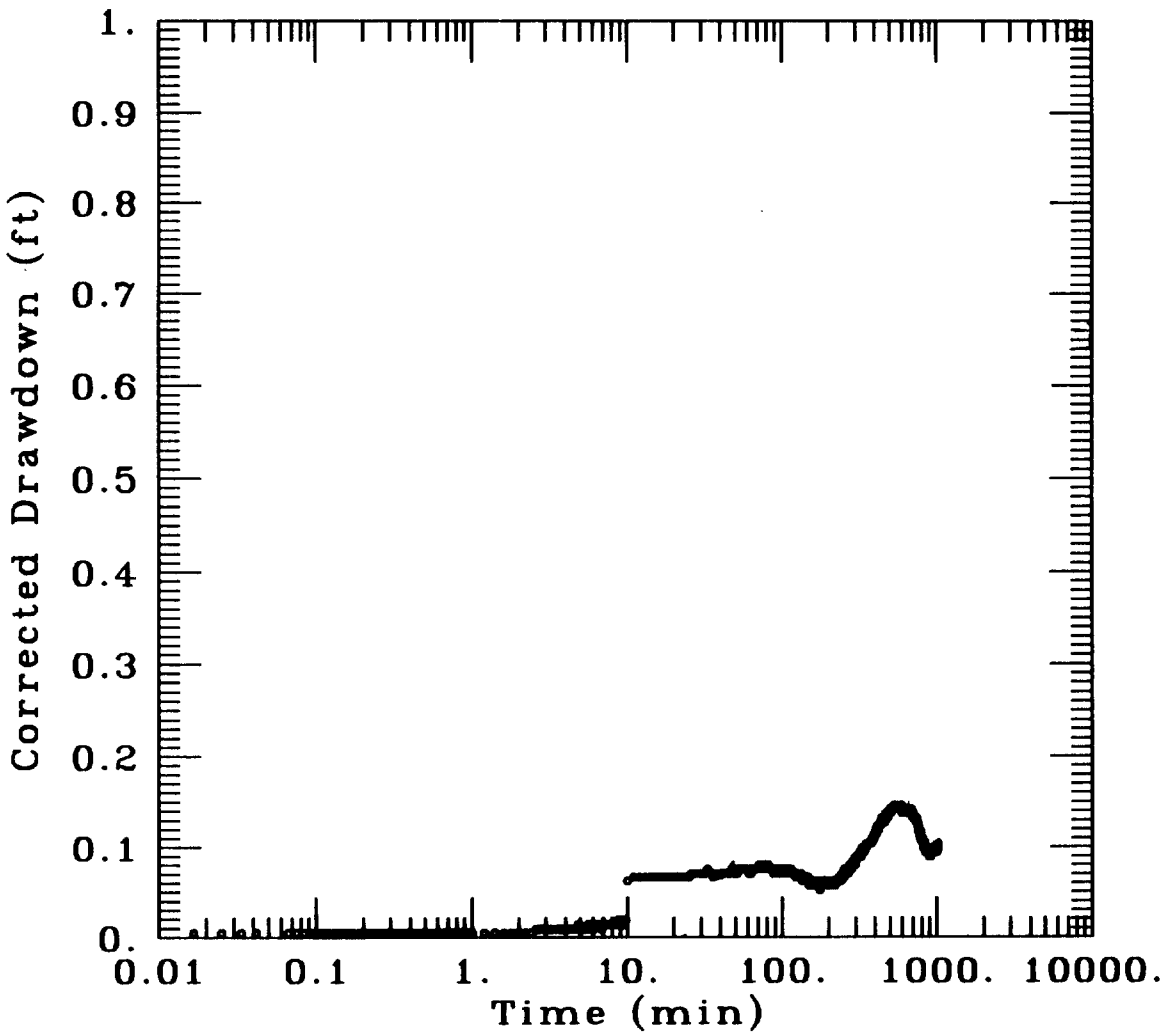
OBS. WELL:
24AS2A

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2.7 ft^3/min
r = 10.5 ft
b = 100. ft

Figure F-8	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 1, 24AS2A



DATA SET:
x1t1as2.dat
09/23/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

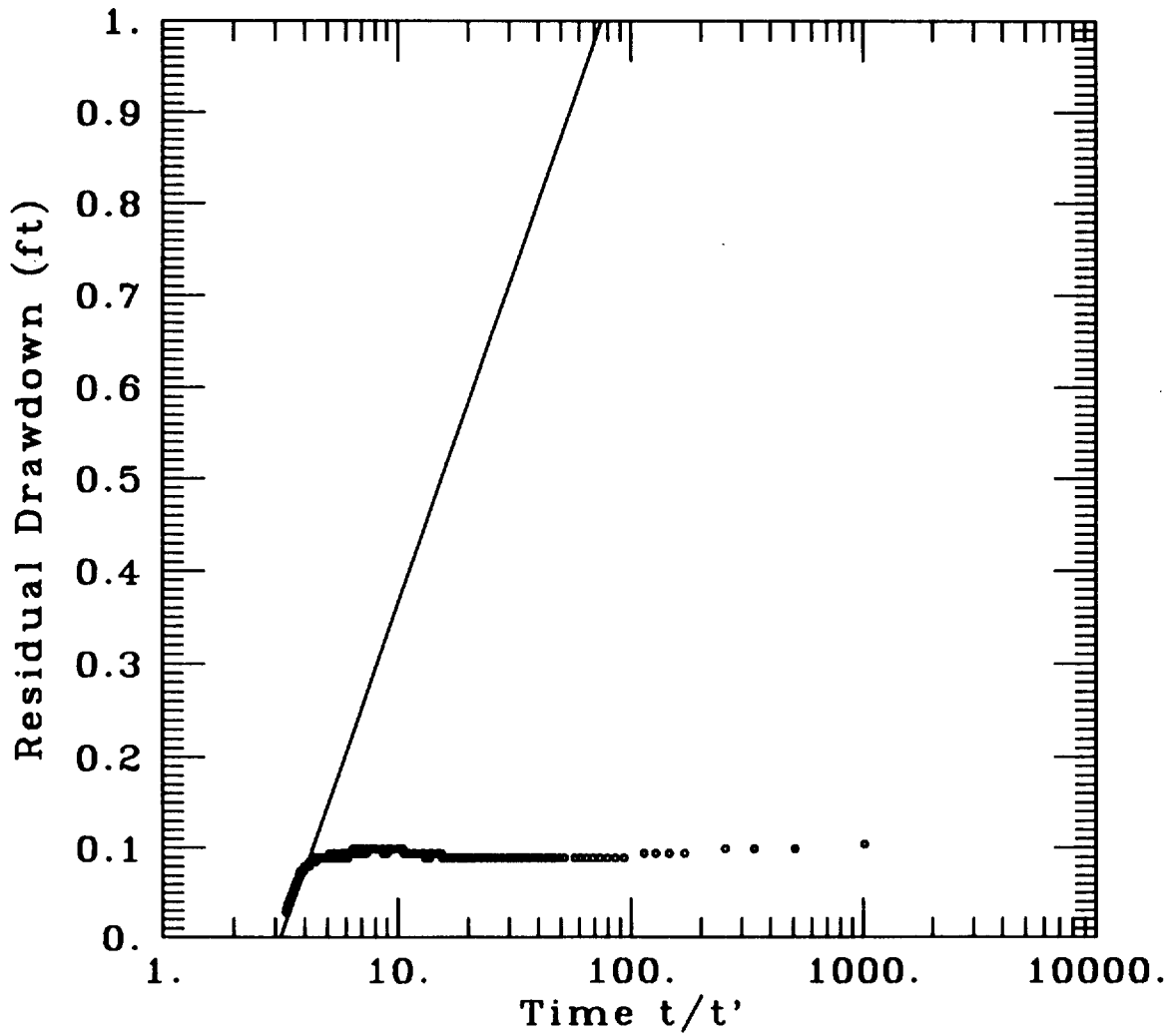
OBS. WELL:
24AS2A

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2.7 ft^3/min
r = 10.5 ft
b = 100. ft

Figure F-9	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE RECOVERY TEST 1, 24AS2A



DATA SET:
x1t1as2r.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
APRIL 30, 1996

TEST WELL:
24EX1

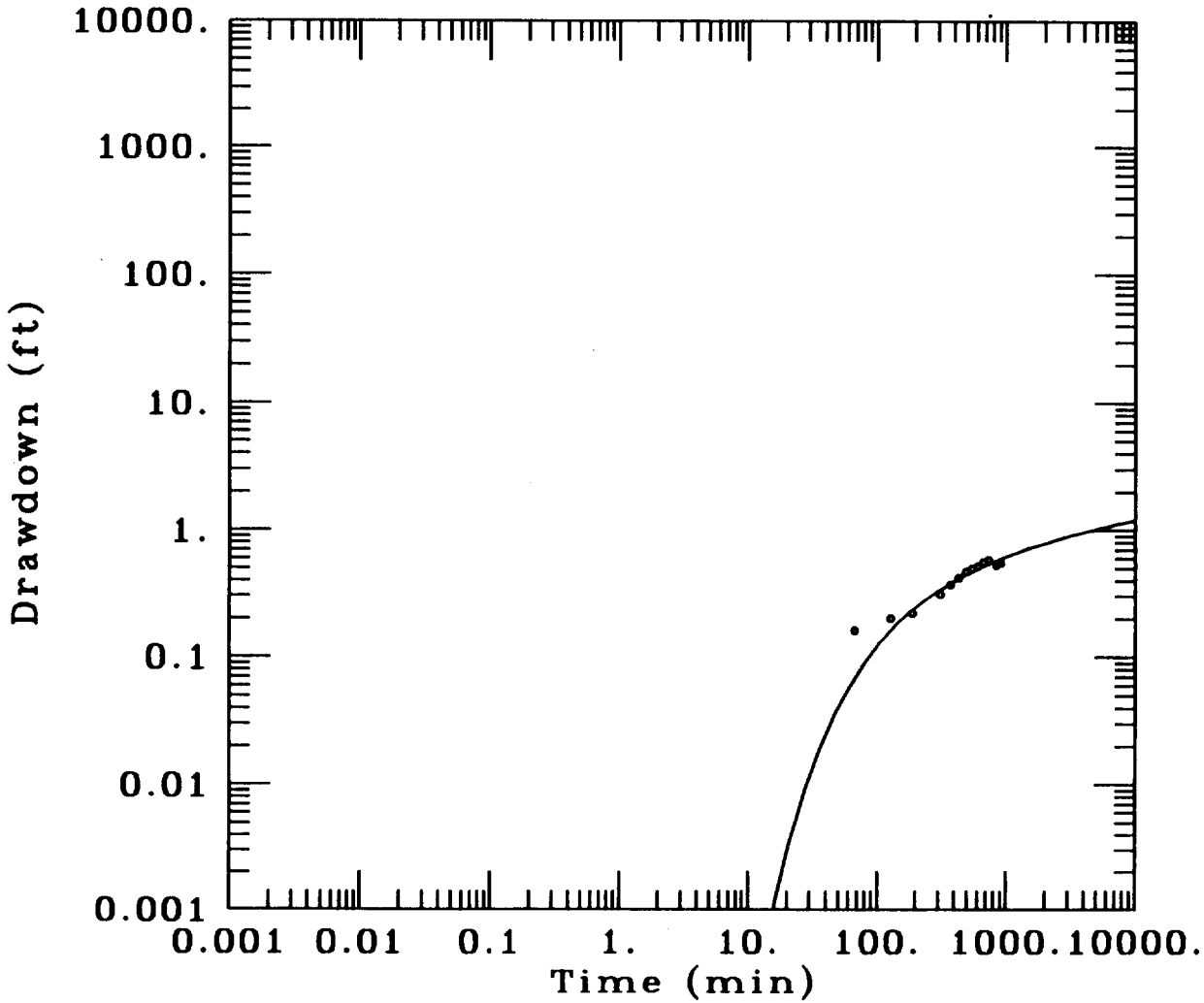
OBS. WELL:
24AS2A

ESTIMATED PARAMETERS:
T = 0.68 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
t pumping = 1015. min

Figure F-10	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 1, 24NEW1



DATA SET:
ex1t1n1p.dat
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neumman

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

OBS. WELL:
24NEW1

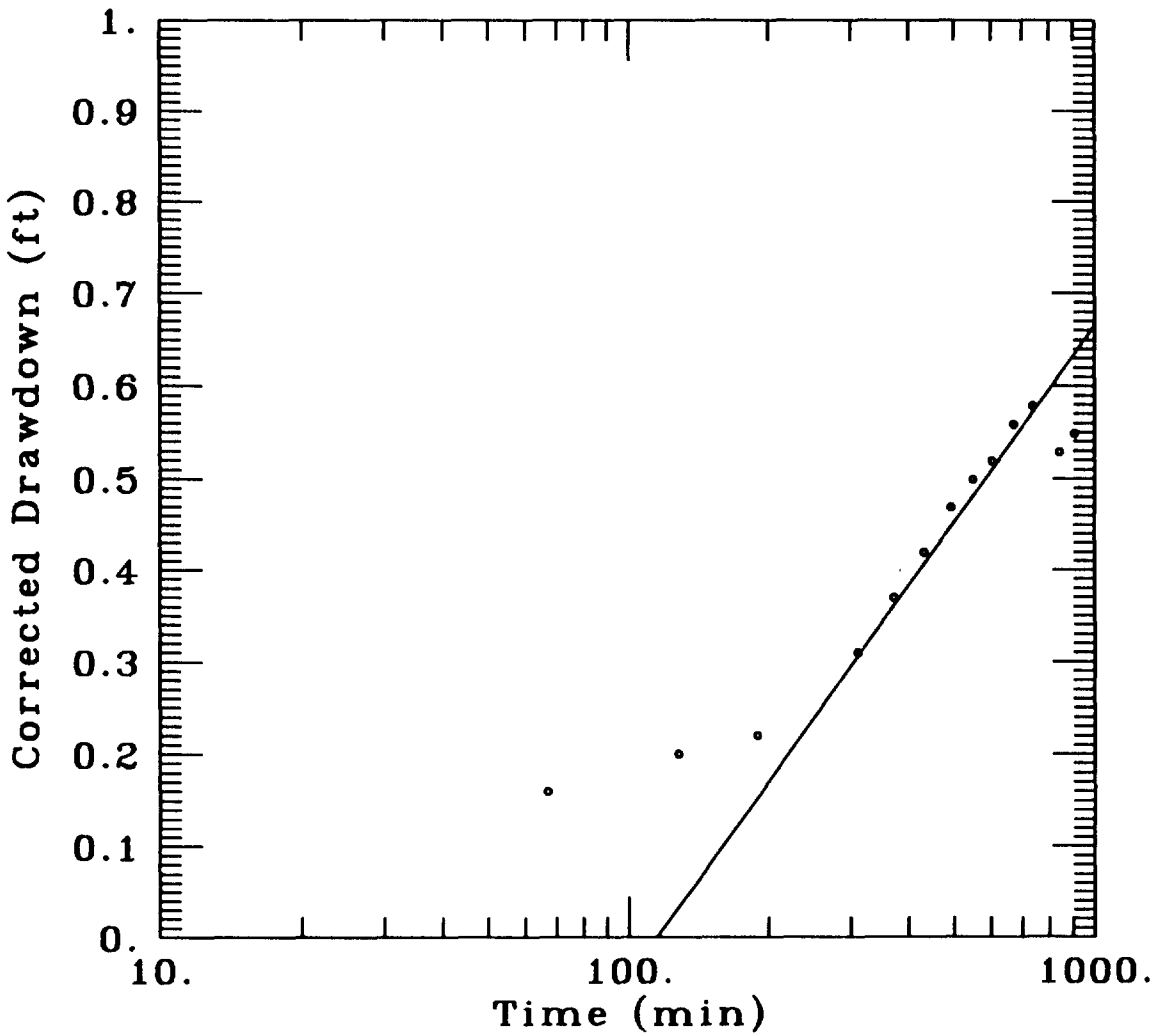
ESTIMATED PARAMETERS:
T = 0.7 ft^2/min
S = 0.11

β = 0.01

TEST DATA:
Q = 2.7 ft^3/min
r = 40.5 ft
b = 100. ft

Figure F-11	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 1, 24NEW1



DATA SET:
EX1T1N1P.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
APRIL 29, 1996

TEST WELL:
24EX1

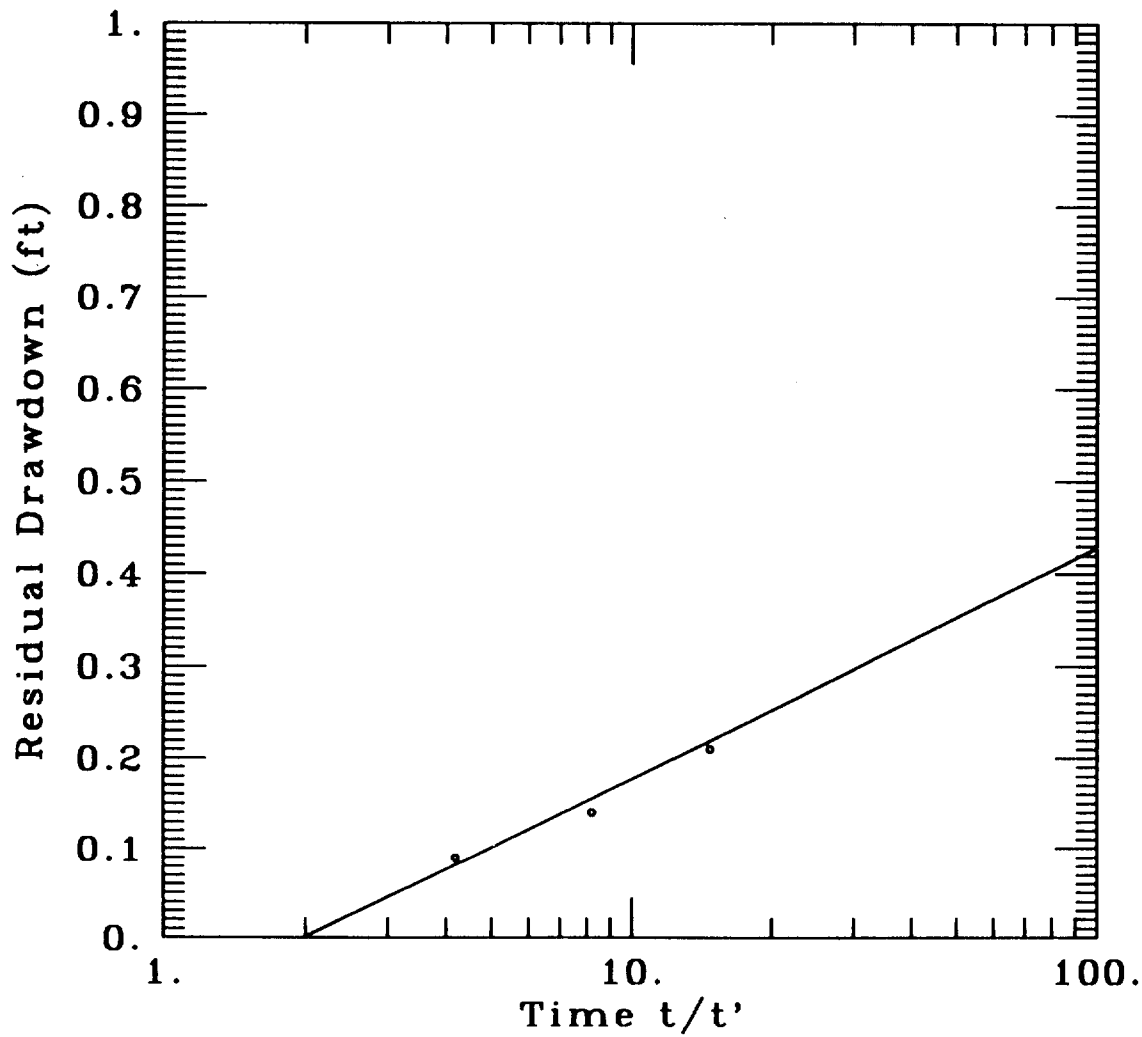
OBS. WELL:
24NEW1

ESTIMATED PARAMETERS:
T = 0.7 ft^2/min
S = 0.11

TEST DATA:
Q = 2.7 ft^3/min
r = 40.5 ft
b = 100. ft

Figure F-12	Client: US Navy, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 Recovery Test 1, 24NEW1



DATA SET:
ex1t1n1r.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
April 30th, 1996

TEST WELL:
24ex1

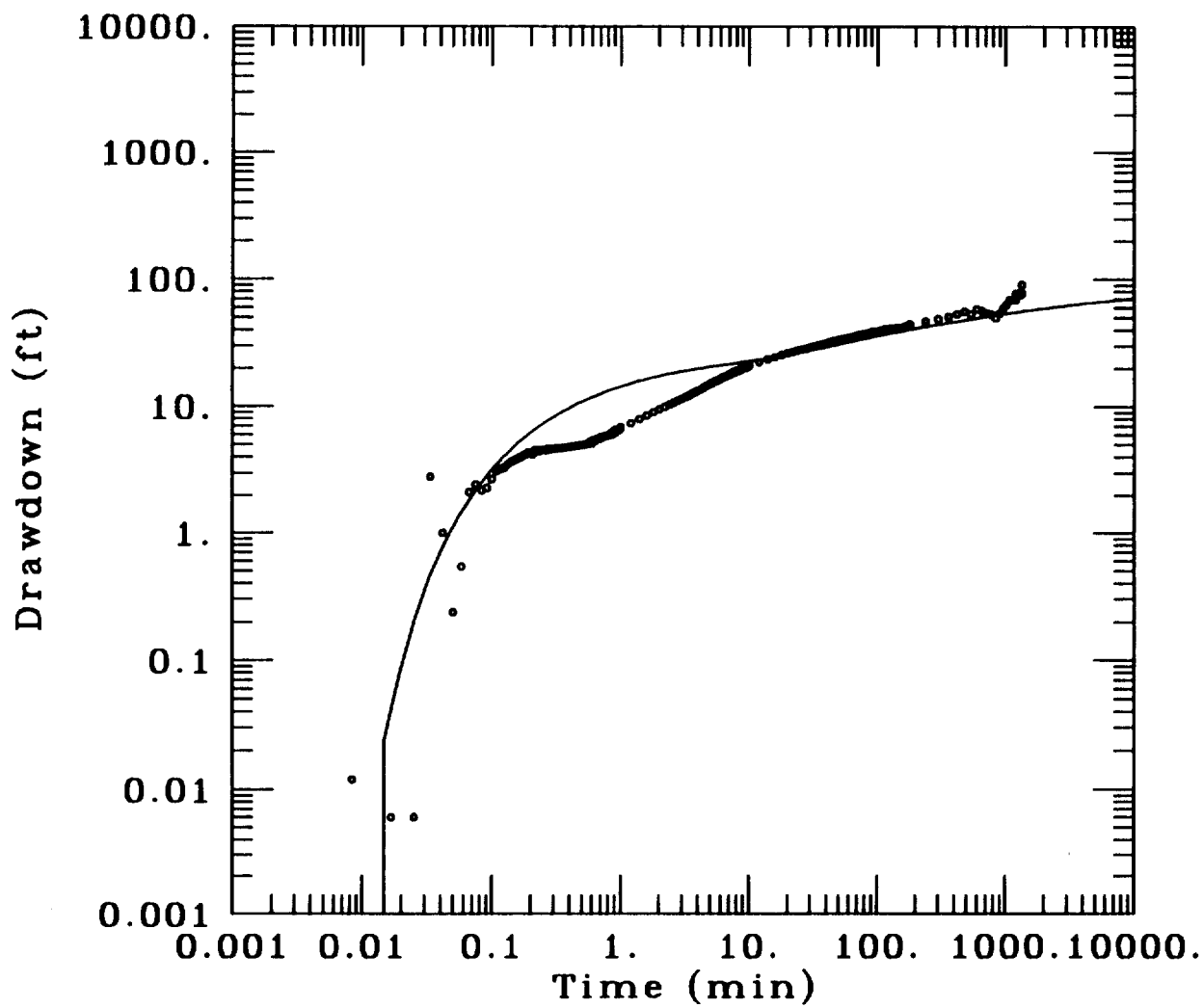
OBS. WELL:
24new1

ESTIMATED PARAMETERS:
T = 1.97 ft^2/min

TEST DATA:
Q = 2.7 ft^3/min
t pumping = 1015. min

Figure 13	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

24EX1 CONST. RATE TEST 2 24EX1



DATA SET:
ex1t2m.dat
10/30/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

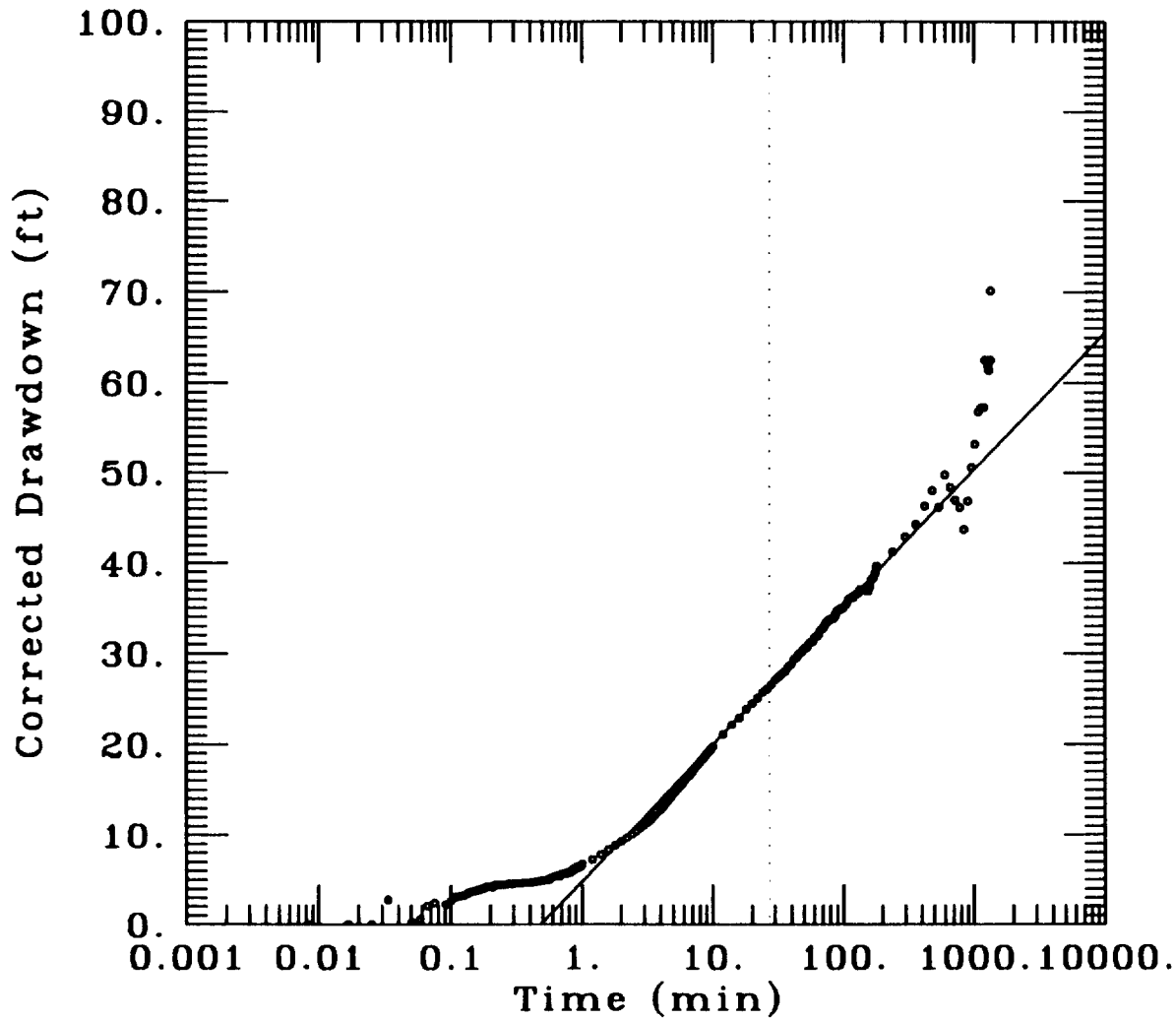
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.02 ft^2/min
S = 0.01951
Sy = 0.1864
β = 0.03

TEST DATA:
Q = 2. ft^3/min
r = 0.5 ft
b = 200. ft

Figure F-14	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 2 EX1



DATA SET:
ex1t2m.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

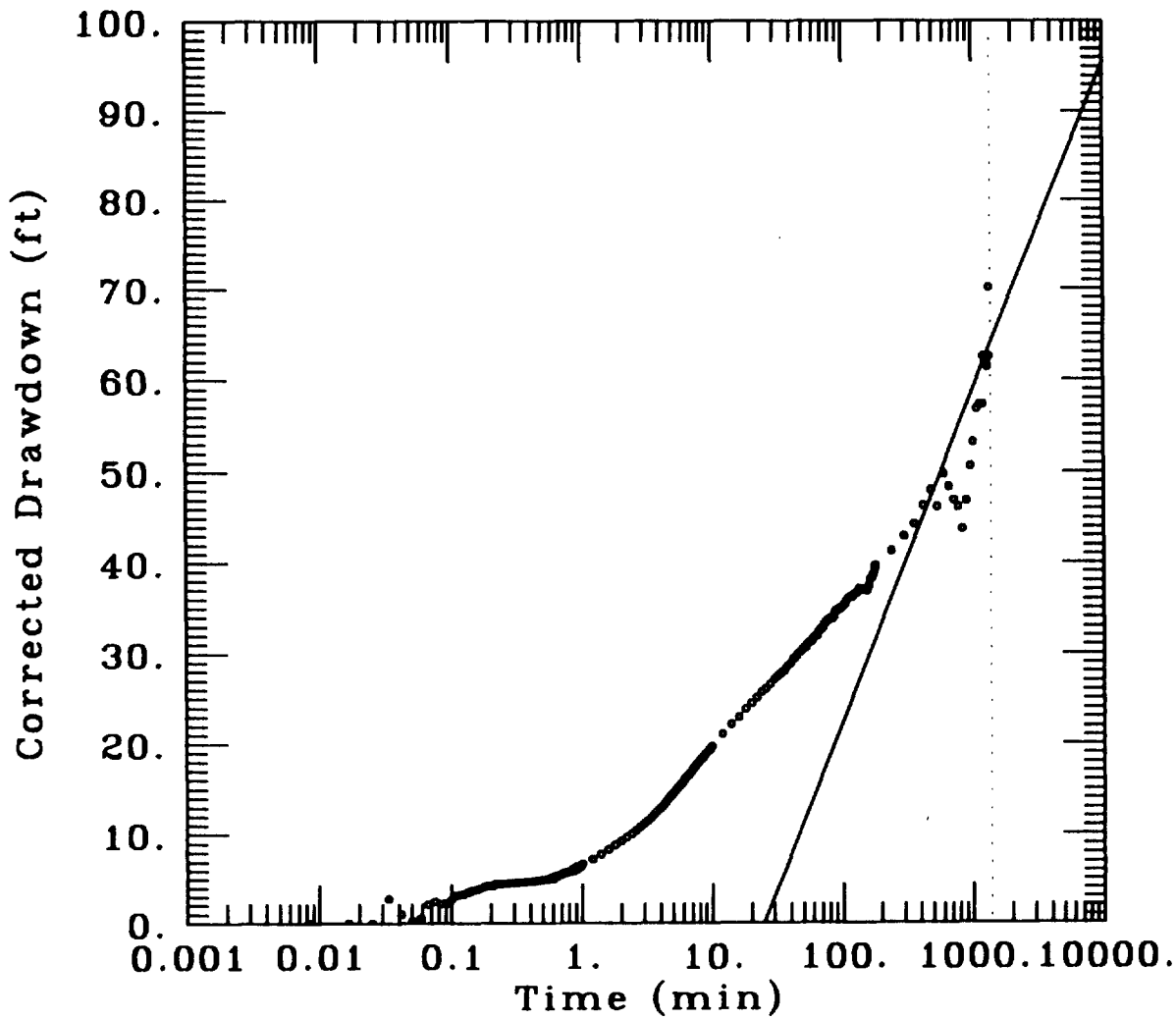
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.02415 ft^2/min

TEST DATA:
Q = 2. ft^3/min
r = 0.5 ft
b = 200. ft

Figure F-14a	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 2 EX1



DATA SET:
ex1t2m.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

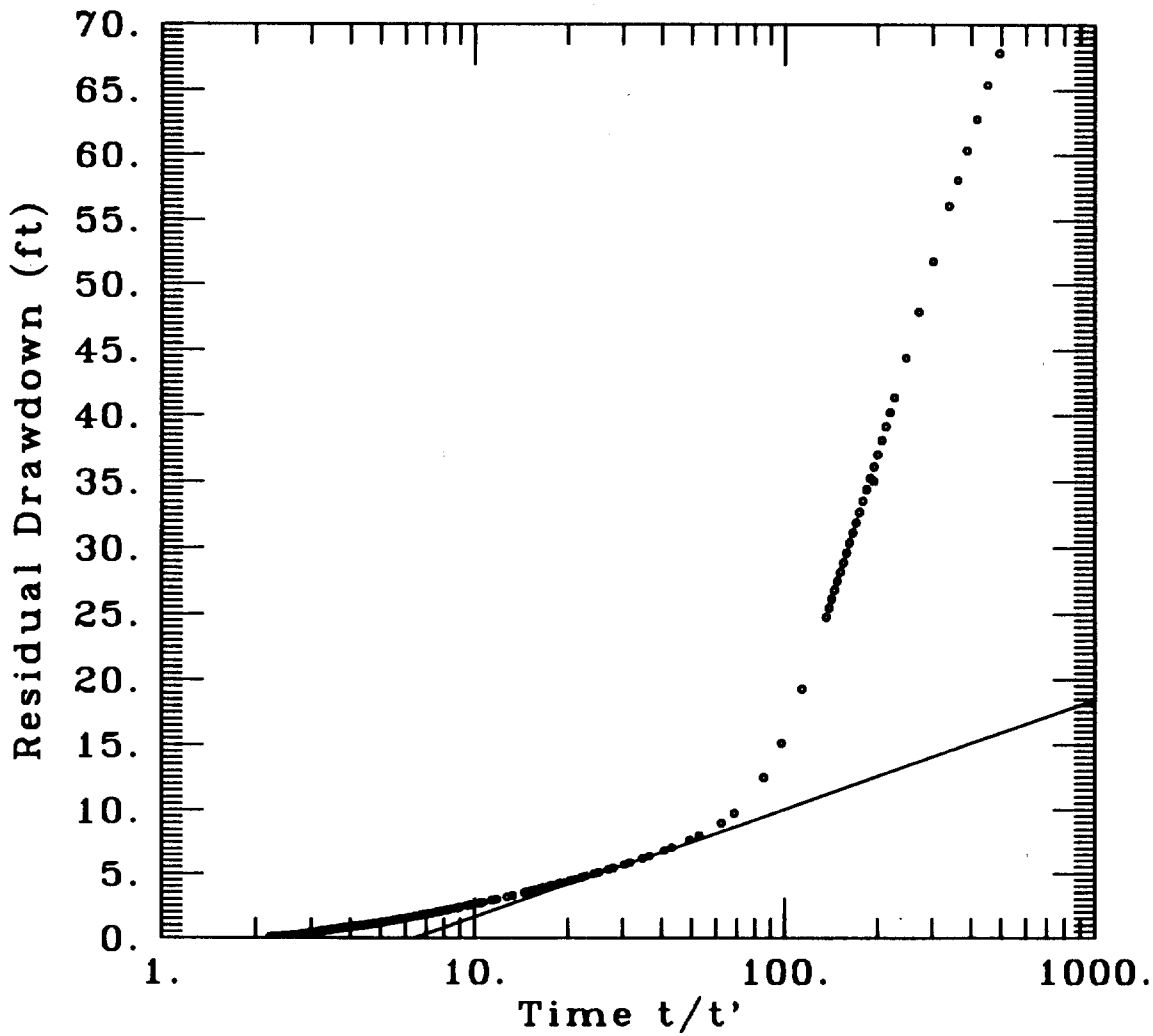
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.01 ft^2/min

TEST DATA:
Q = 2. ft^3/min
r = 0.5 ft
b = 200. ft

Figure F-15	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE RECOVERY TEST 2 EX1



DATA SET:
ex1t2rm.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 2, 1996

TEST WELL:
24EX1

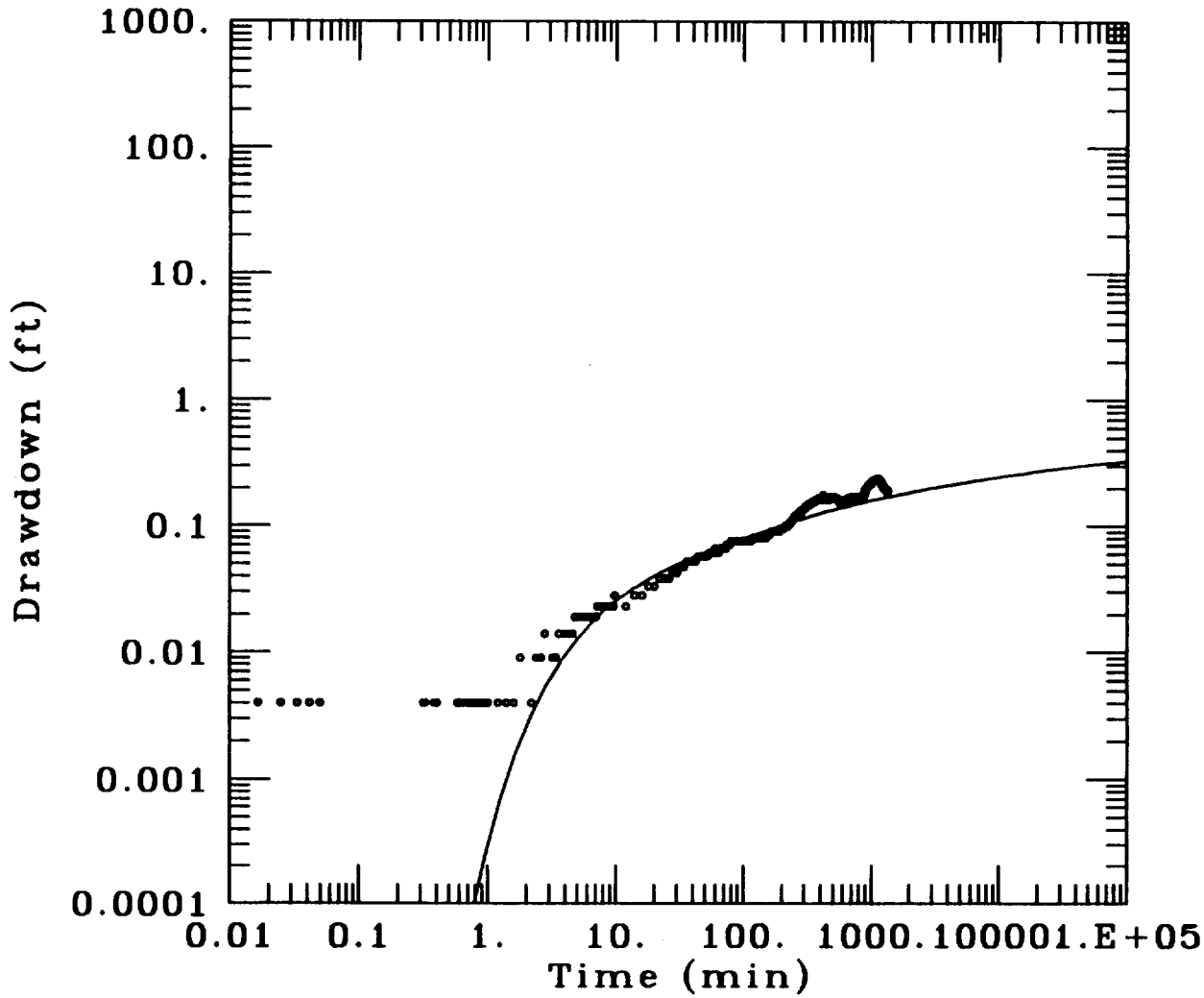
OBS. WELL:
24EX1

ESTIMATED PARAMETERS:
T = 0.0436 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 1351. min

Figure F-16	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 2, EX10B



DATA SET:
ex1t2ob.dat
10/28/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

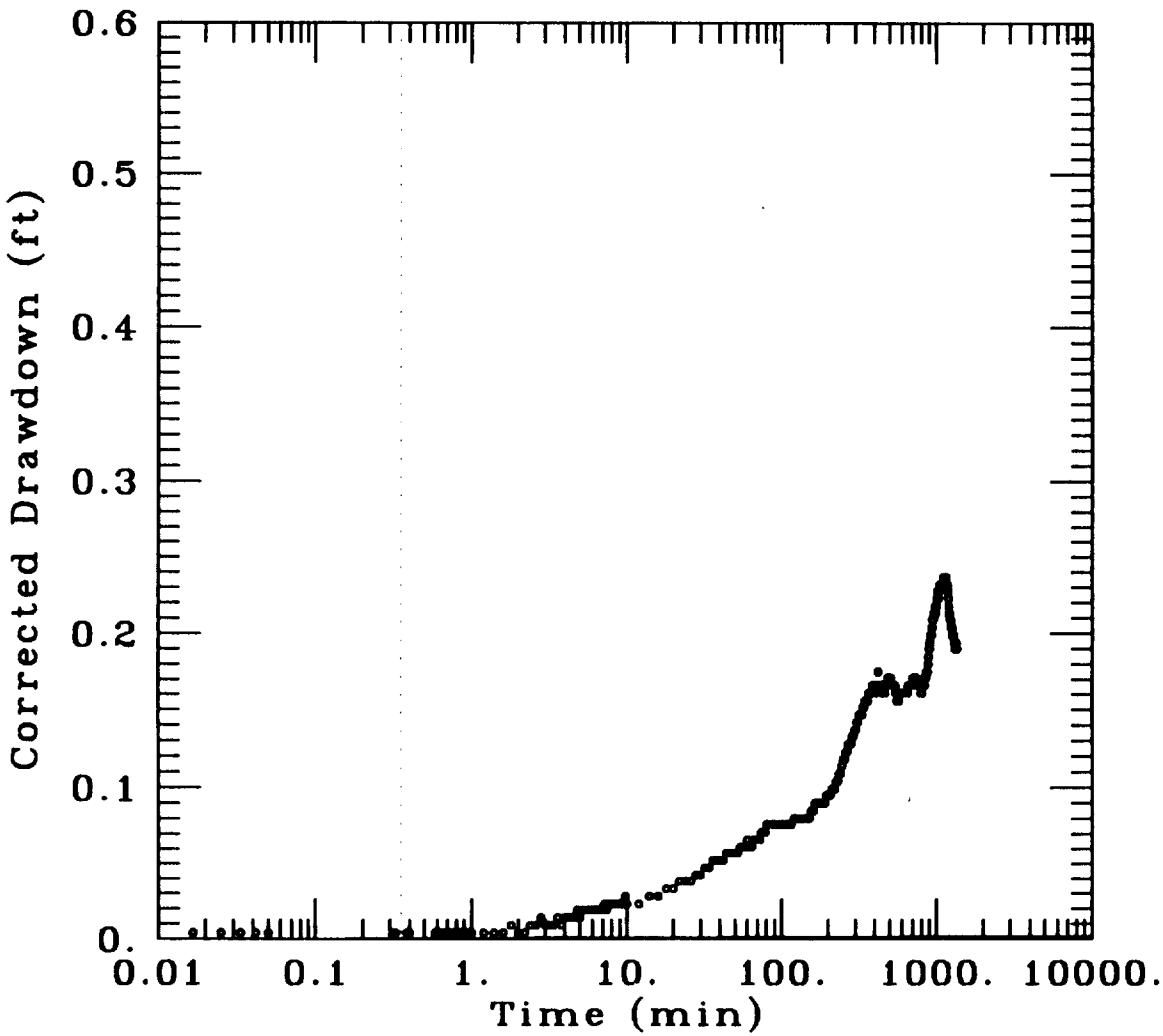
OBS. WELL:
24EX10B

ESTIMATED PARAMETERS:
T = 4.2 ft^2/min
S = 0.14
Sy = 0.22
β = 0.1

TEST DATA:
Q = 2. ft^3/min
r = 20. ft
b = 100. ft

Figure F-17	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE DRAWDOWN TEST 2, EX10B



DATA SET:
ex1t2ob.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

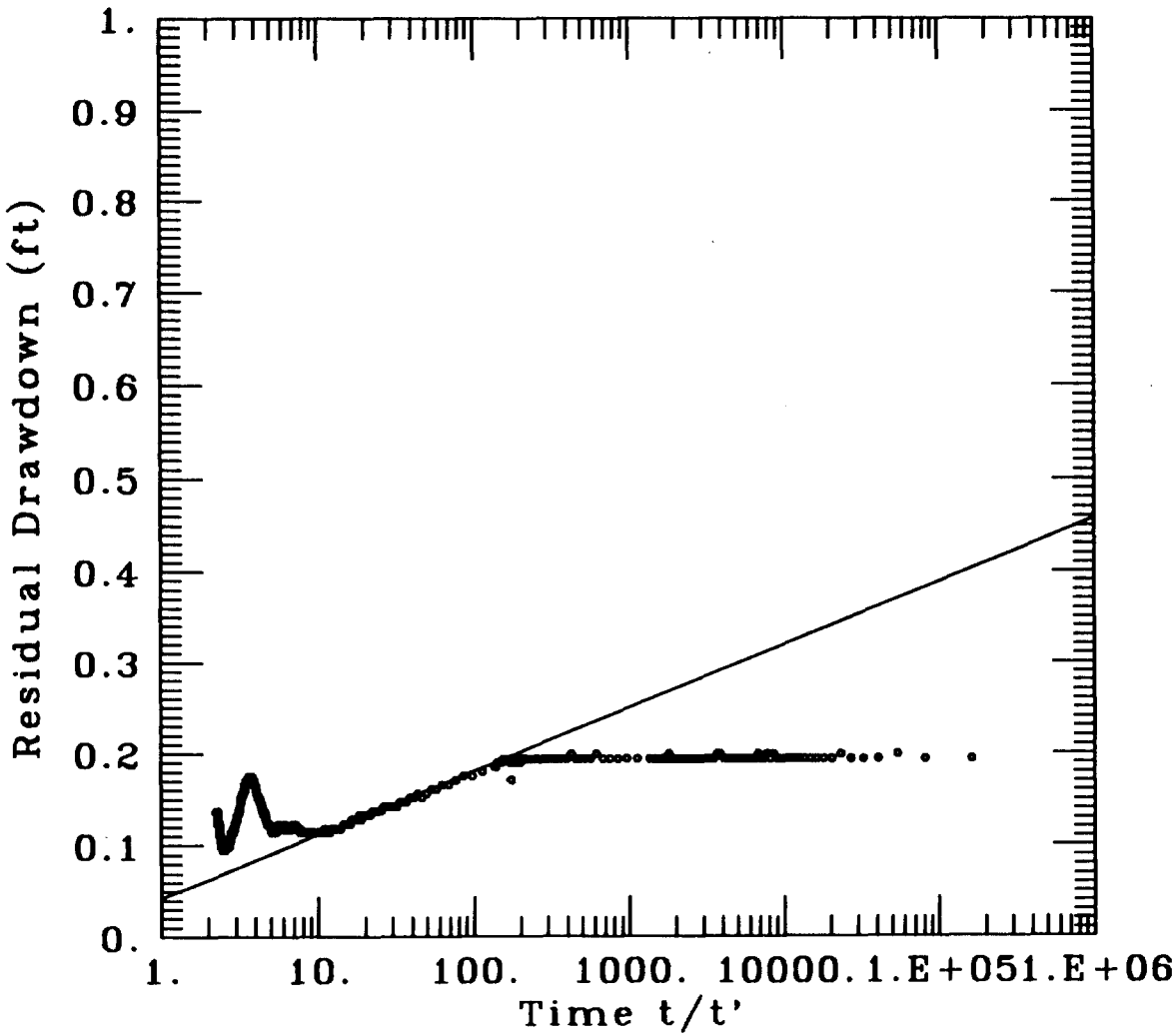
OBS. WELL:
24EX10B

ESTIMATED PARAMETERS:
T = 1302.5 ft^2/min
S = 0.04614

TEST DATA:
Q = 2. ft^3/min
r = 20. ft
b = 100. ft

Figure F-18	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONSTANT RATE RECOVERY TEST 2, EX10B



DATA SET:
ex1t2obr.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
APRIL 30, 1996

TEST WELL:
24EX1

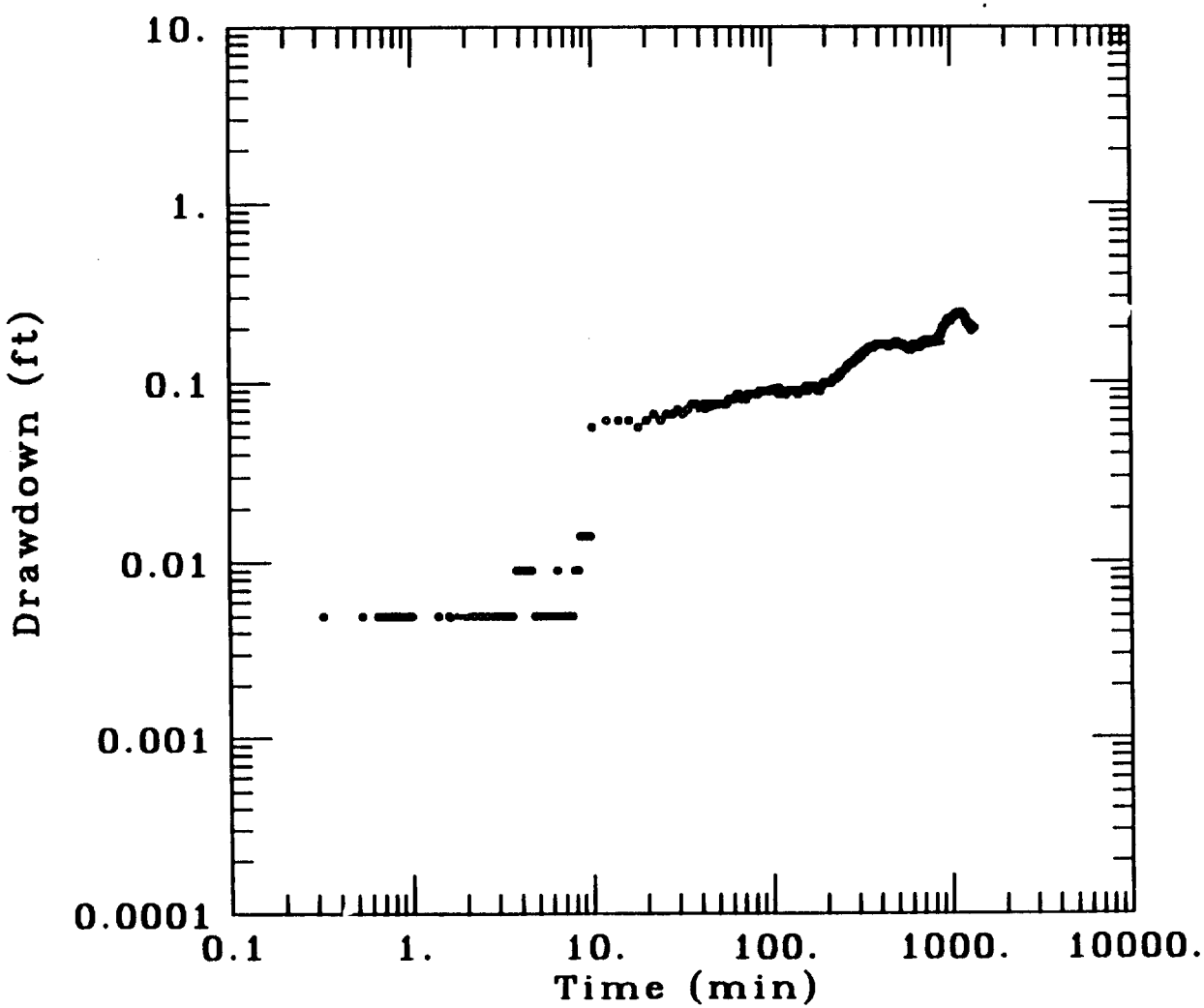
OBS. WELL:
24EX10B

ESTIMATED PARAMETERS:
T = 5.3 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 1351. min

Figure F-19	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS2A



DATA SET:
ex1t2as2.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

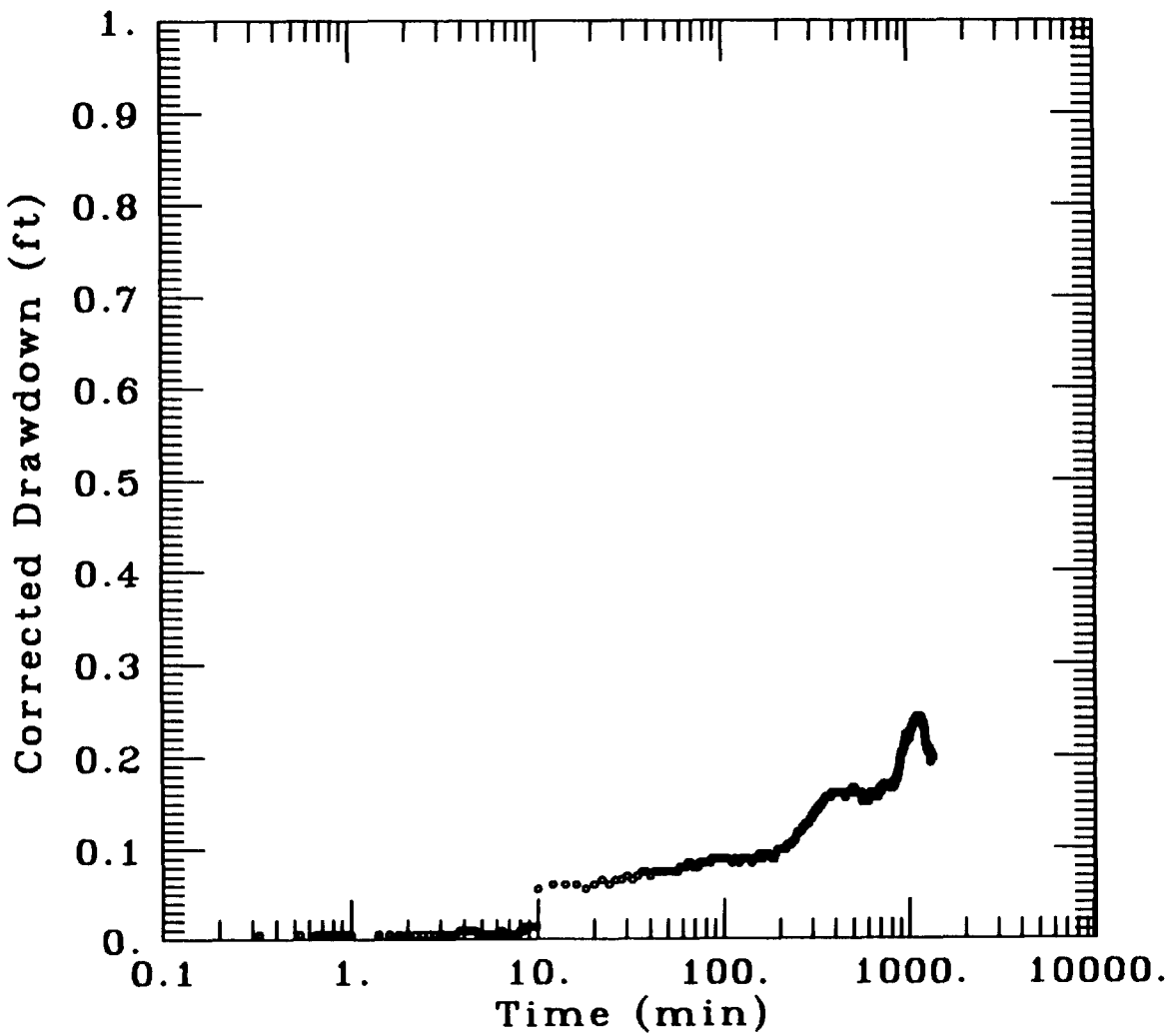
OBS. WELL:
24AS2A

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2. ft^3/min
r = 10.5 ft
b = 100. ft

Figure F-20	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS2A



DATA SET:
ex1t2as2.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

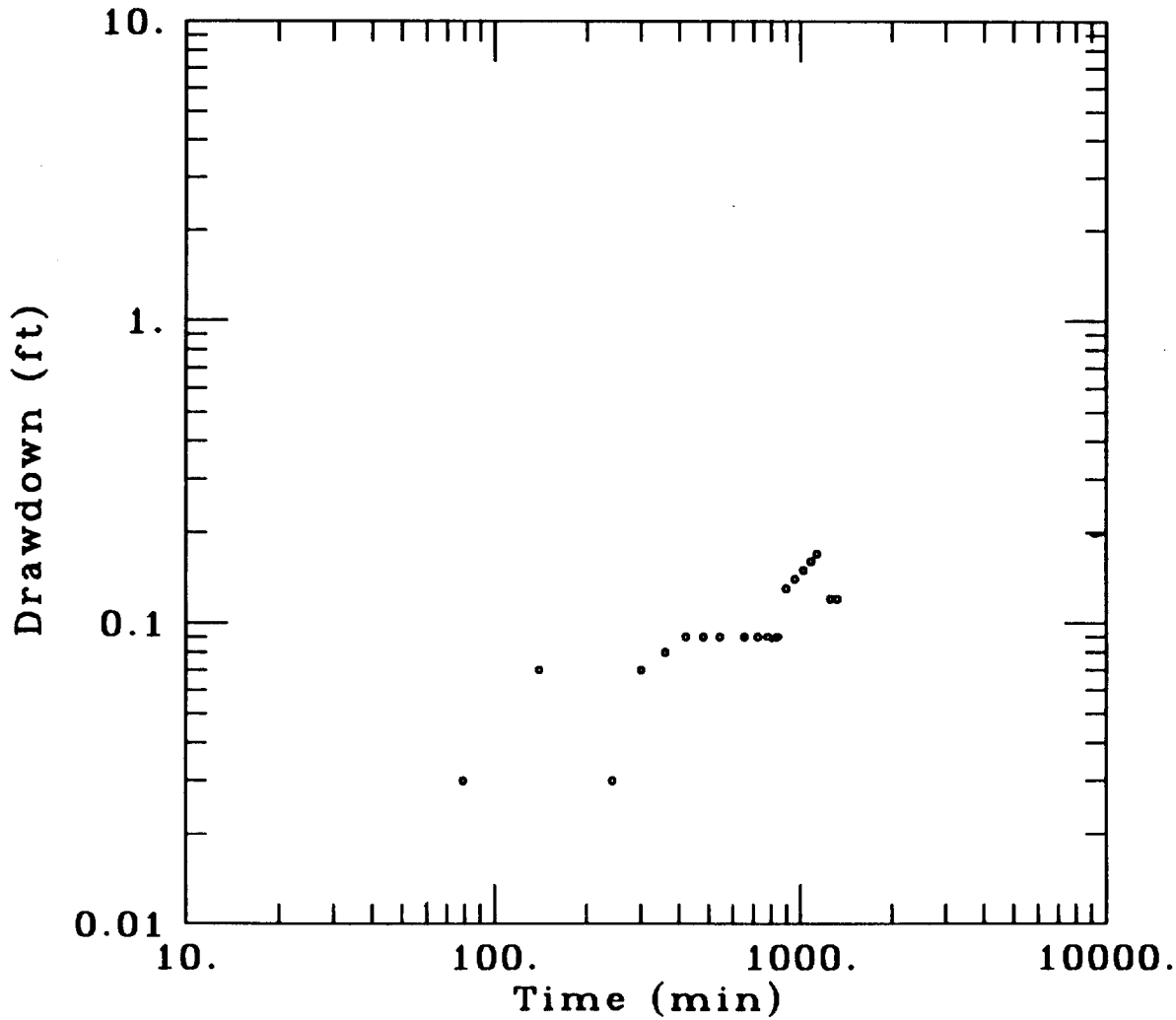
OBS. WELL:
24AS2A

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2. ft^3/min
r = 10.5 ft
b = 100. ft

Figure F-21	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS1



DATA SET:
ex1t2as1.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

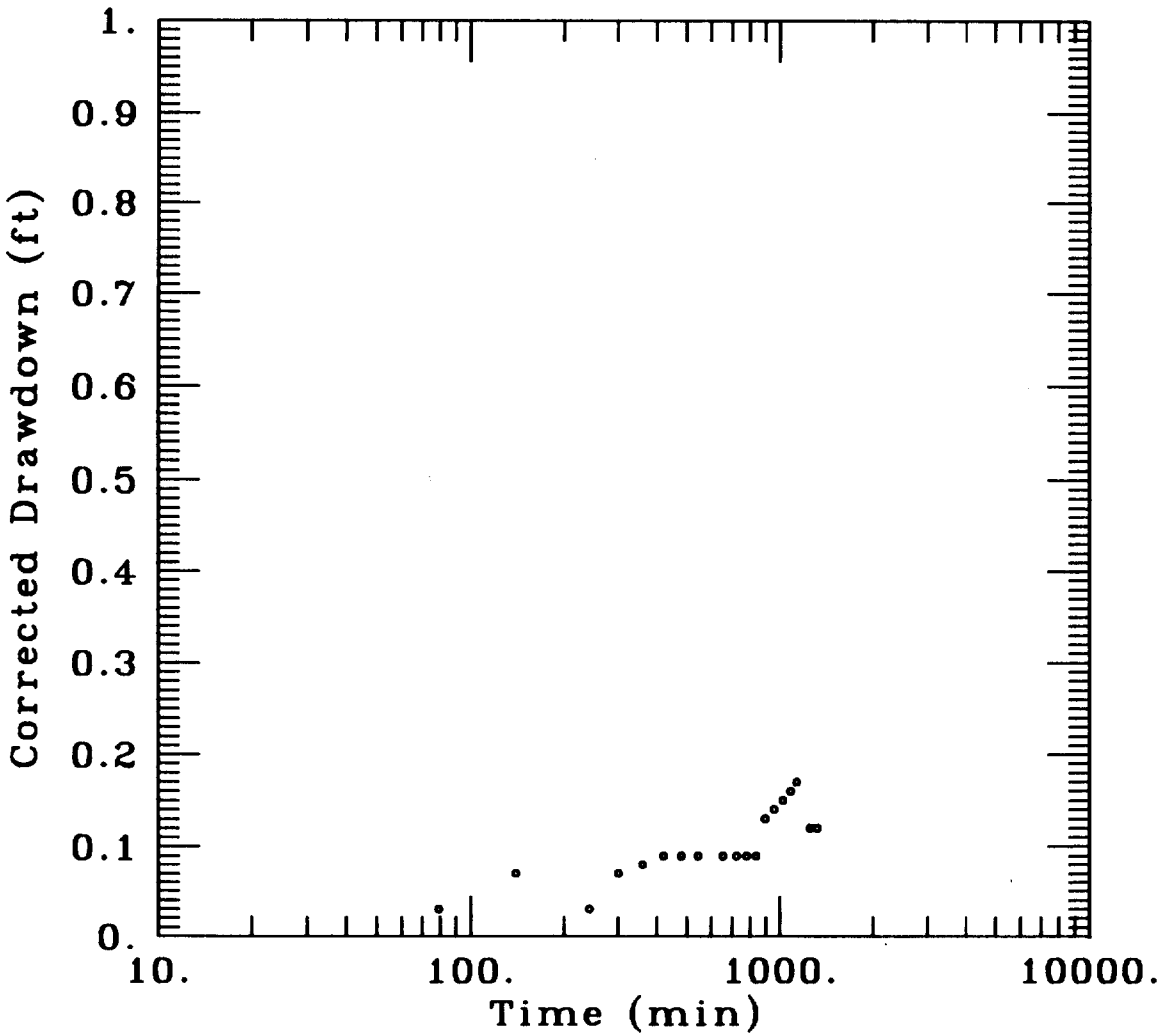
OBS. WELL:
24AS1

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2. ft^3/min
r = 31.5 ft
b = 100. ft

Figure F-22	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS1



DATA SET:
ex1t2as1.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

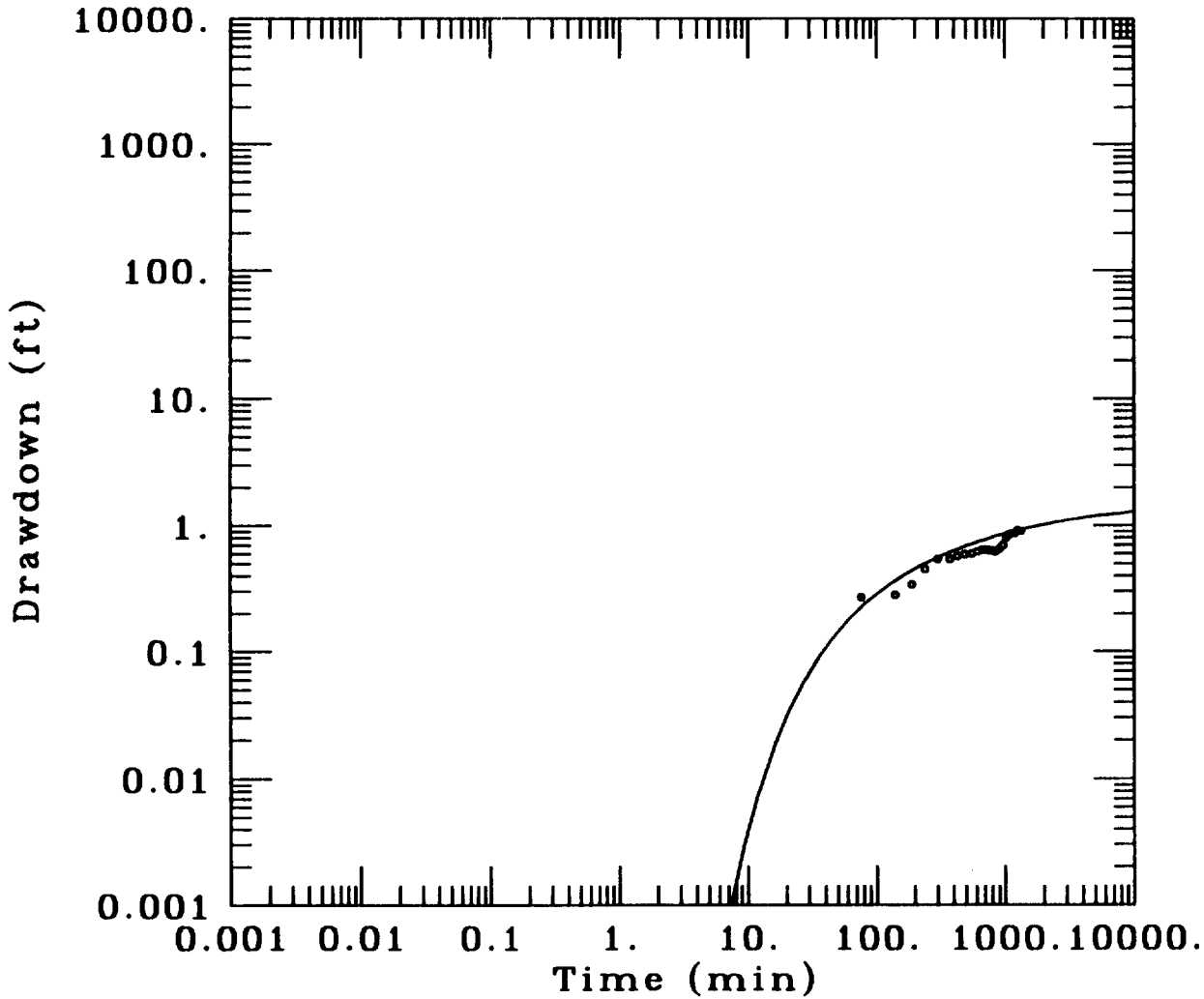
OBS. WELL:
24AS1

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2. ft^3/min
r = 31.5 ft
b = 100. ft

Figure F-23	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

24EX1 CONST. RATE TEST 2 24NEW1



DATA SET:
EX1T2N1P.DAT
10/30/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

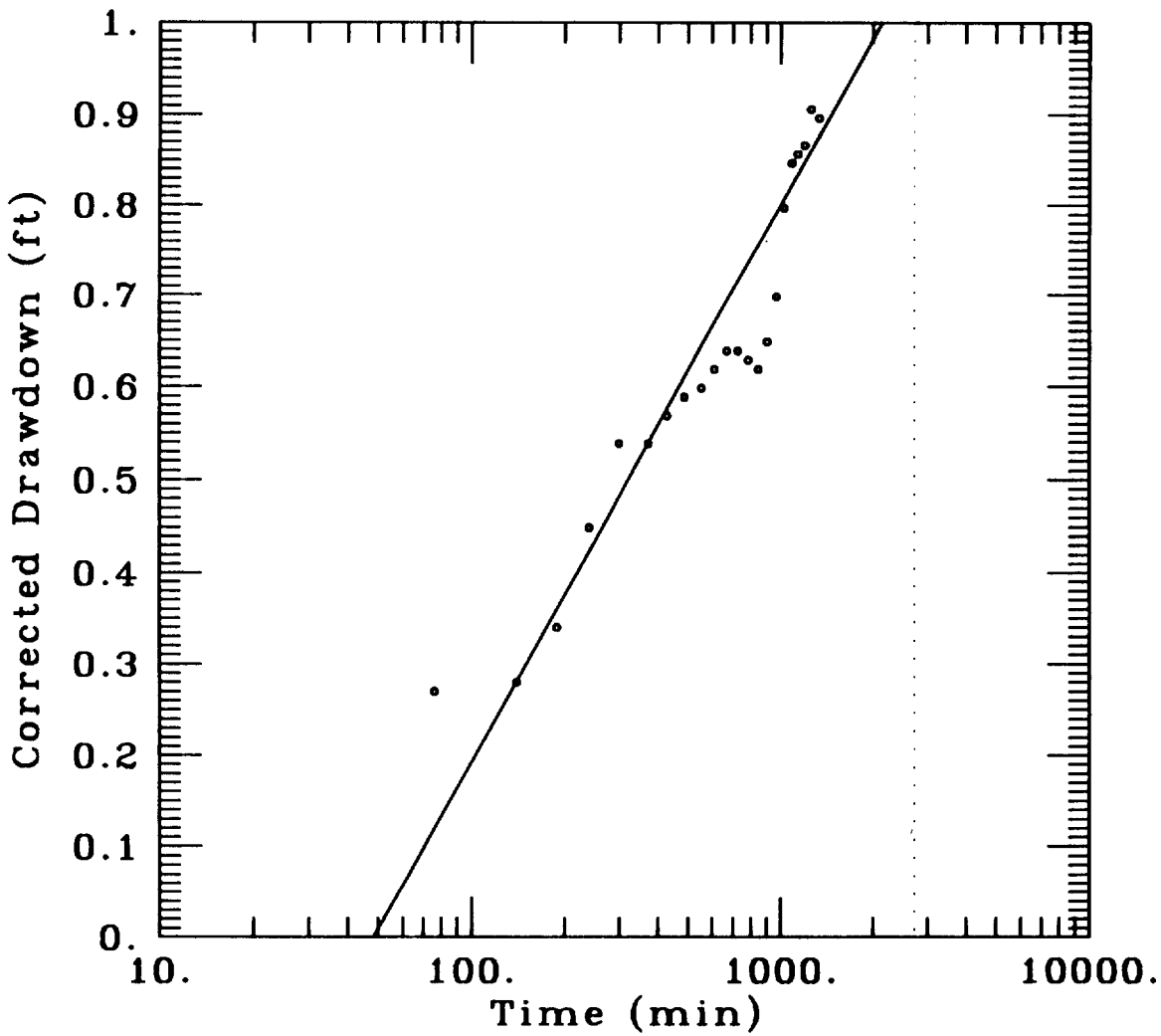
OBS. WELL:
24NEW1

ESTIMATED PARAMETERS:
T = 0.46 ft^2/min
S = 0.03454
Sy = 0.317
β = 0.01

TEST DATA:
Q = 2. ft^3/min
r = 40.5 ft
b = 100. ft

Figure F-24	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE DRAWDOWN TEST #2 24NEW1



DATA SET:
ex1t2n1p.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

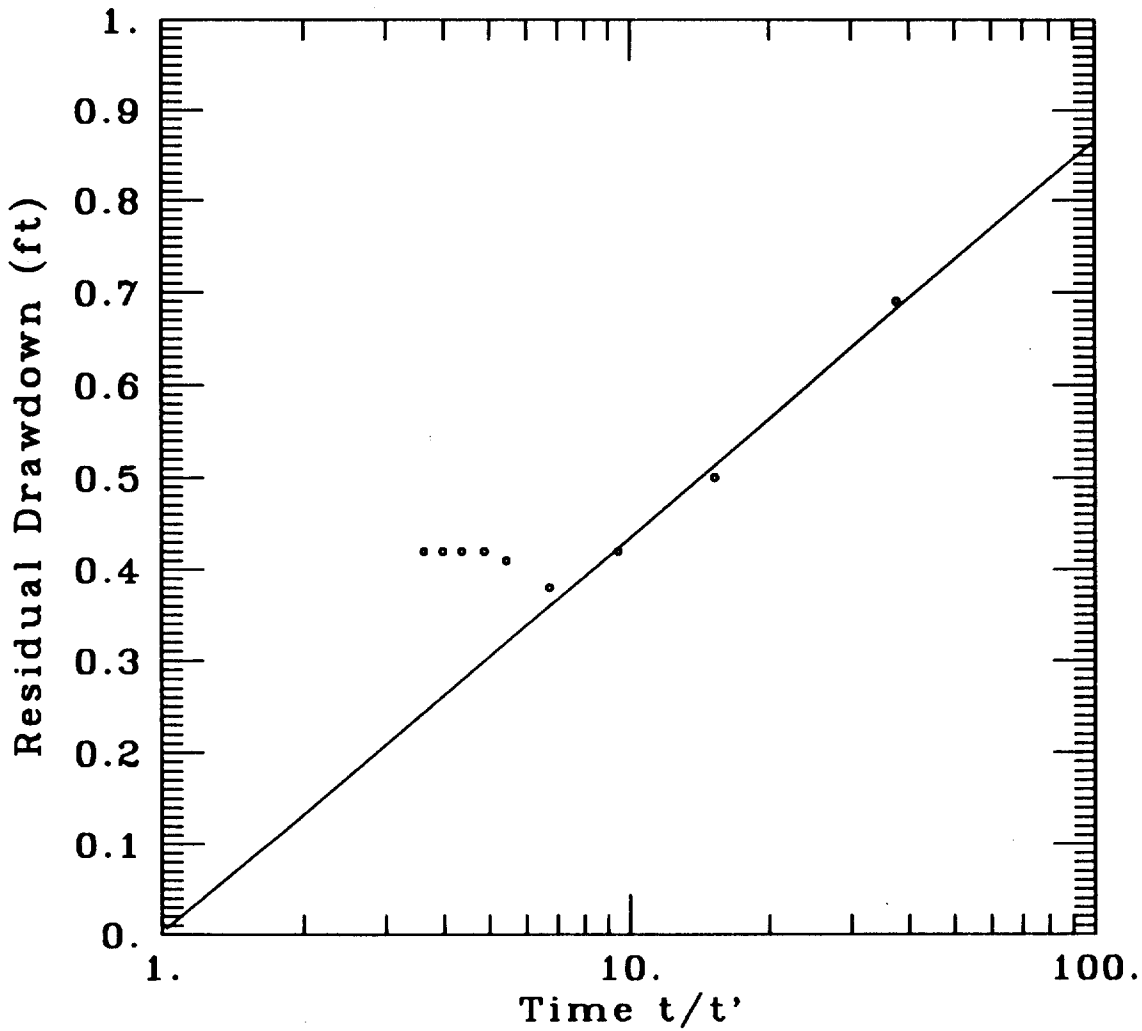
OBS. WELL:
24NEW1

ESTIMATED PARAMETERS:
T = 0.6028 ft^2/min
S = 0.03988

TEST DATA:
Q = 2. ft^3/min
r = 40.5 ft
b = 100. ft

Figure F-25	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONST. RATE RECOVERY TEST 2, 24NEW1



DATA SET:
ex1t2n1r.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 2, 1996

TEST WELL:
24EX1

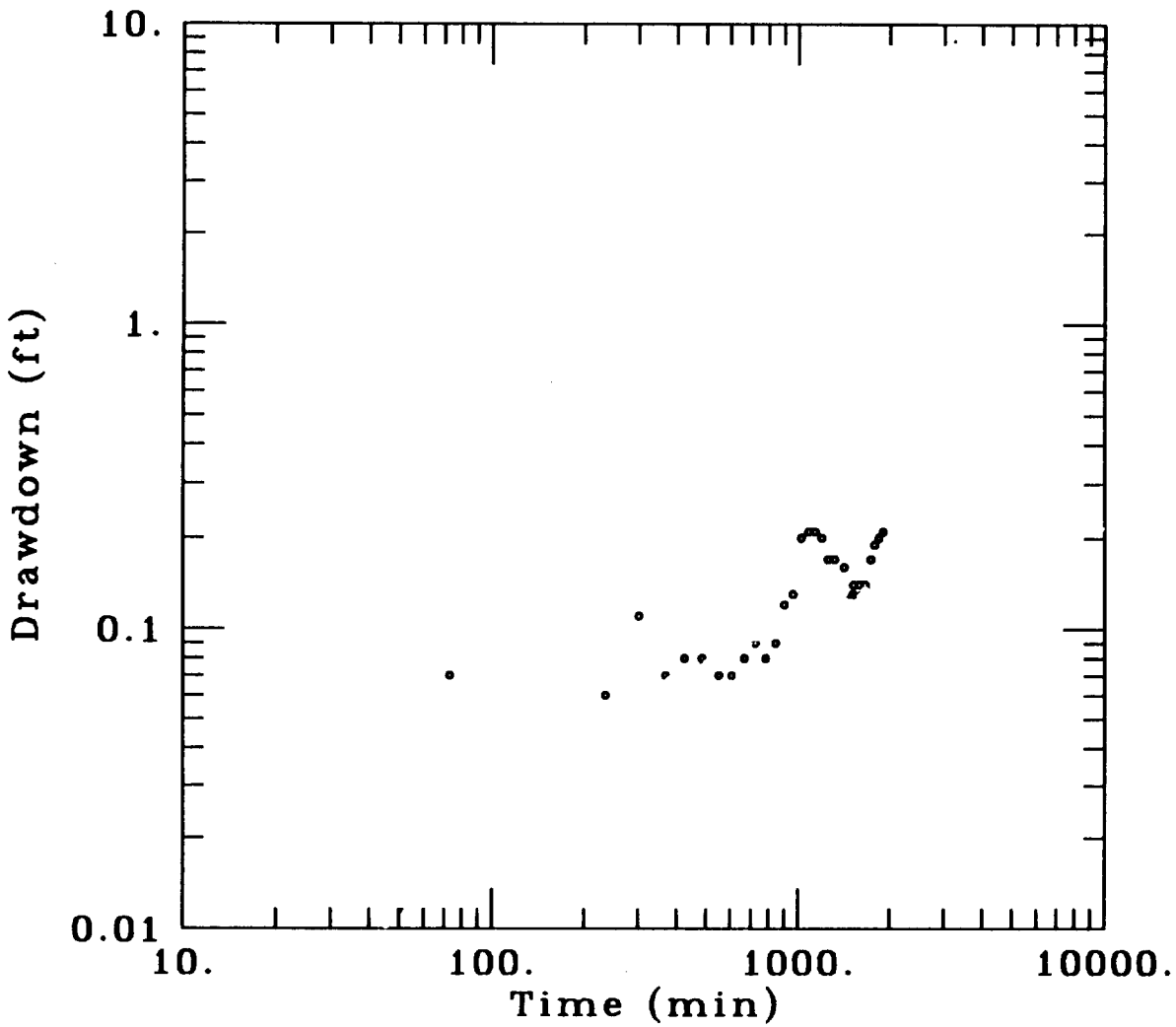
OBS. WELL:
24NEW1

ESTIMATED PARAMETERS:
T = 0.8491 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 1351. min

Figure F-26	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONS. RATE DRAWDOWN TEST #2 09DBMW45



DATA SET:
ex1t245.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

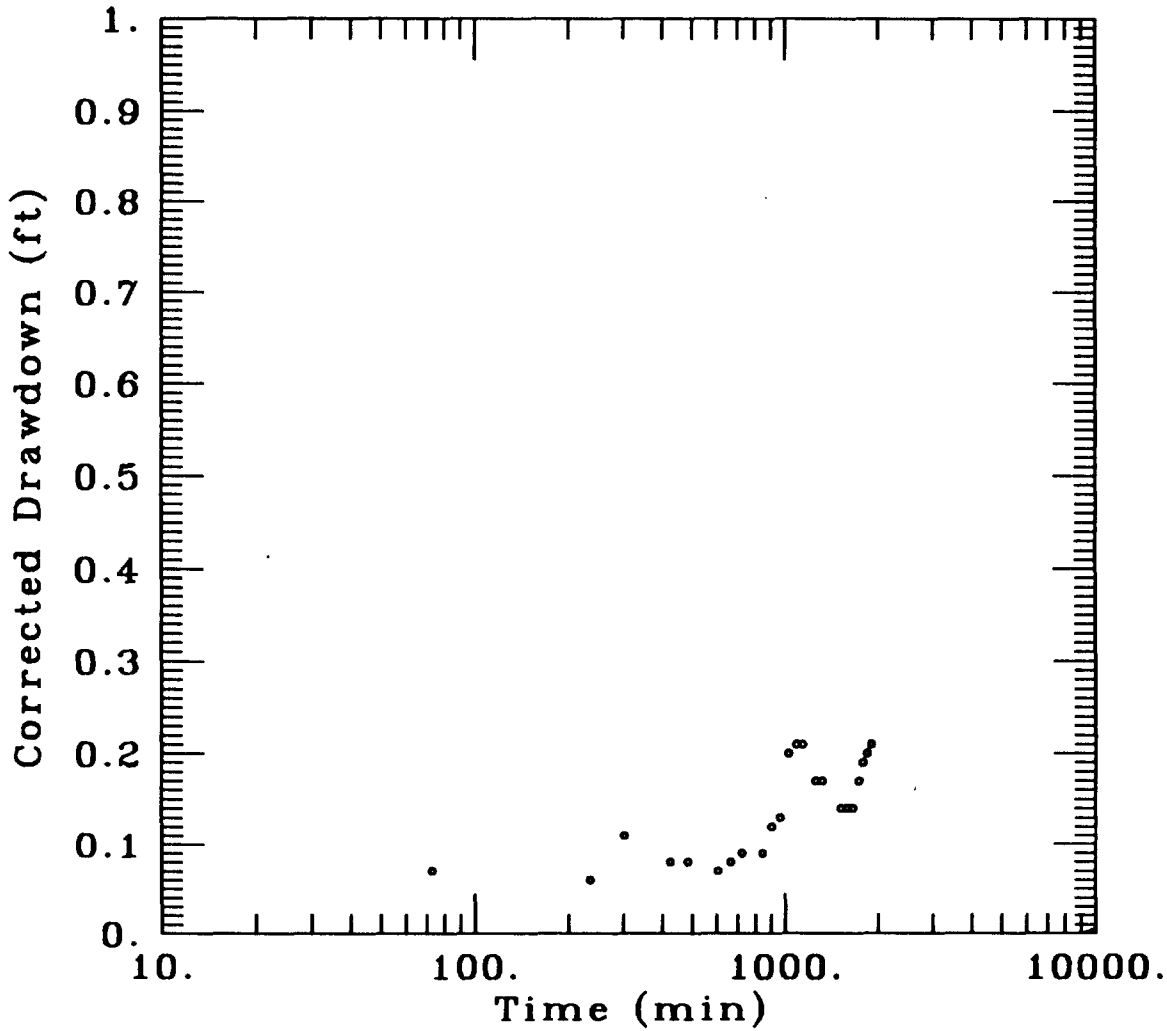
OBS. WELL:
09DBMW45

ESTIMATED PARAMETERS:
T = 3.138 ft^2/min
S = 0.3849
Sy = 0.3849
β = 1.

TEST DATA:
Q = 2. ft^3/min
r = 33.75 ft
b = 100. ft

Figure F-27	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX1 CONS. RATE DRAWDOWN TEST #2 09DBMW45



DATA SET:
ex1t245.dat
10/22/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 1, 1996

TEST WELL:
24EX1

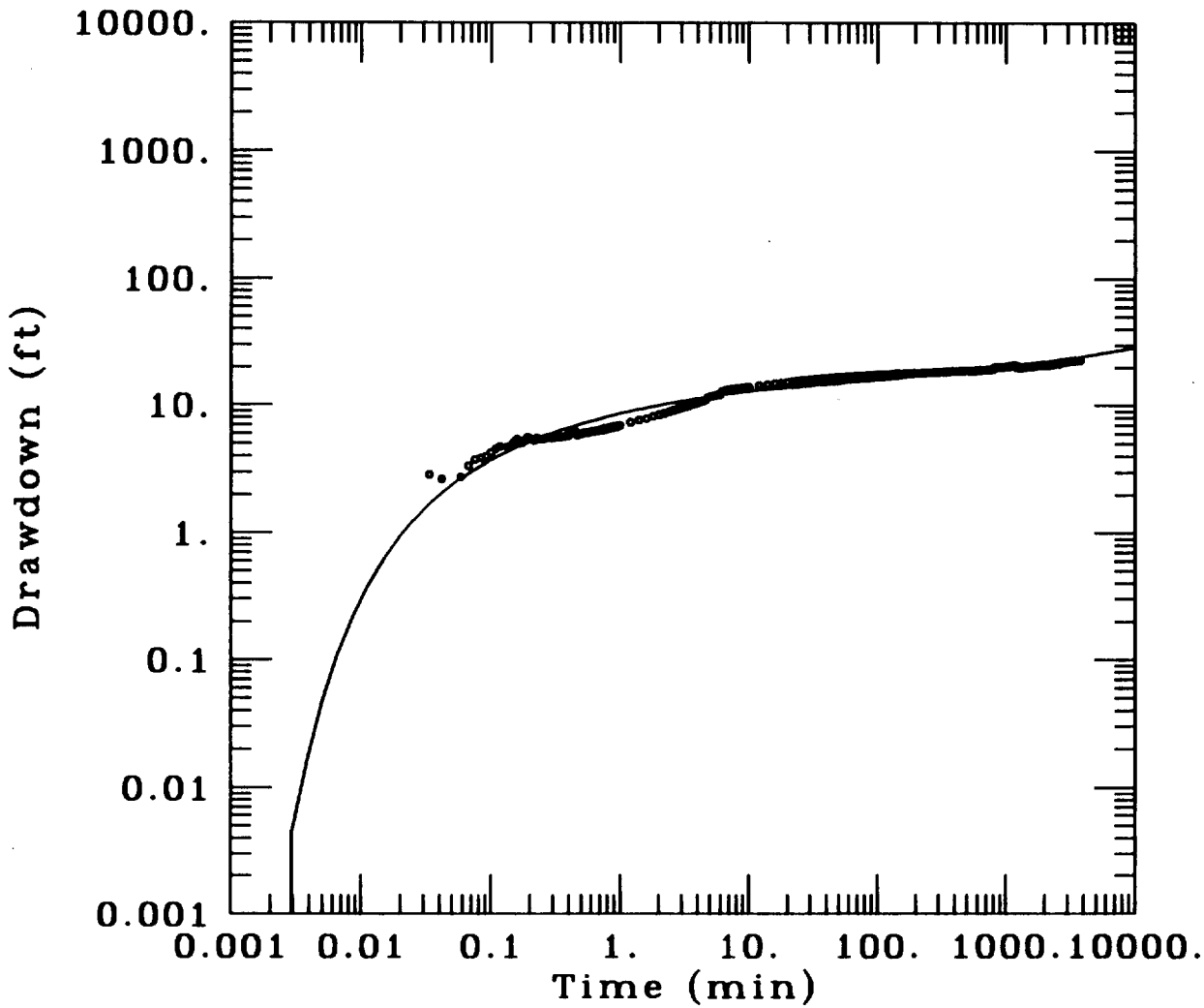
OBS. WELL:
09DBMW45

ESTIMATED PARAMETERS:

TEST DATA:
Q = 2. ft^3/min
r = 33.75 ft
b = 100. ft

Figure F-28	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE DRAWDOWN TEST EX2



DATA SET:
EX2T4EX2.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 21, 1996

TEST WELL:
24EX2

OBS. WELL:
24EX2

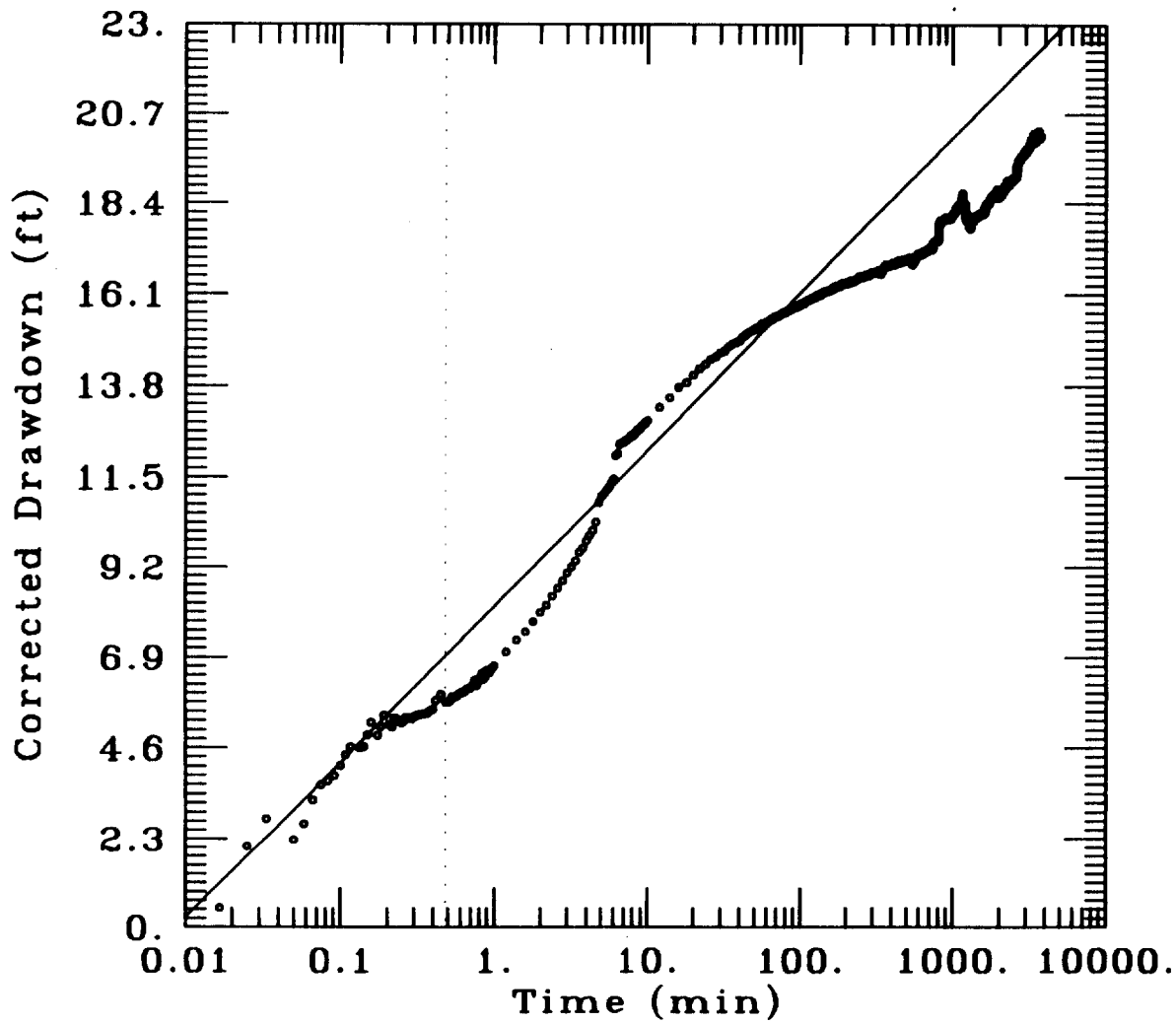
ESTIMATED PARAMETERS:
$T = 0.065\ ft^2/min$

$\beta = 0.001$

TEST DATA:
$Q = 2.\ ft^3/min$
$r = 0.5\ ft$
$b = 100.\ ft$

Figure F-29	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE DRAWDOWN TEST EX2



DATA SET:
ex2t4ex2.dat
09/24/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 21, 1996

TEST WELL:
24EX2

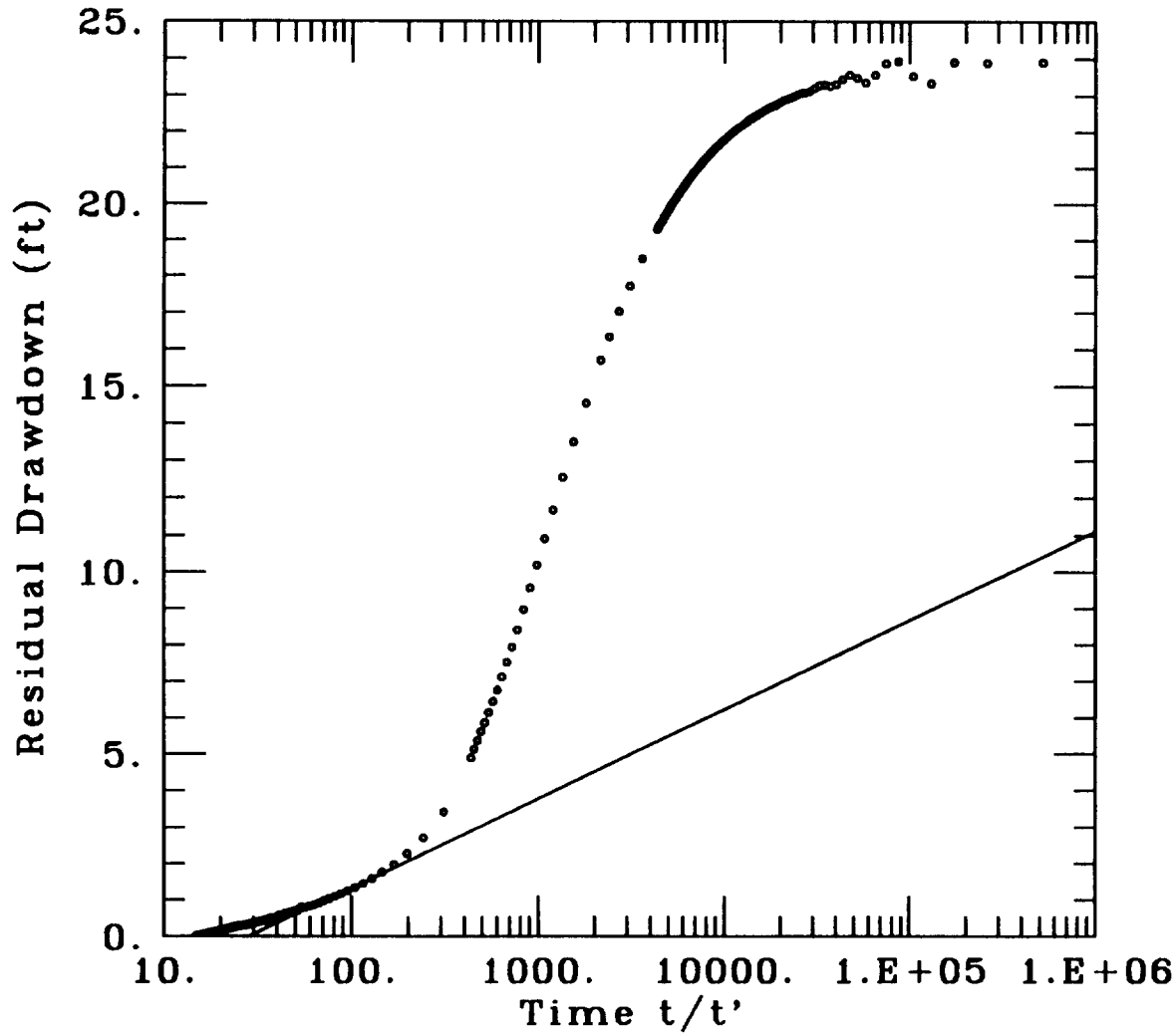
OBS. WELL:
24EX2

ESTIMATED PARAMETERS:
T = 0.09241 ft^2/min

TEST DATA:
Q = 2. ft^3/min
r = 0.5 ft
b = 100. ft

Figure F-30	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE RECOVERY TEST, EX2



DATA SET:
ex2t4r.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 24, 1996

TEST WELL:
24EX2

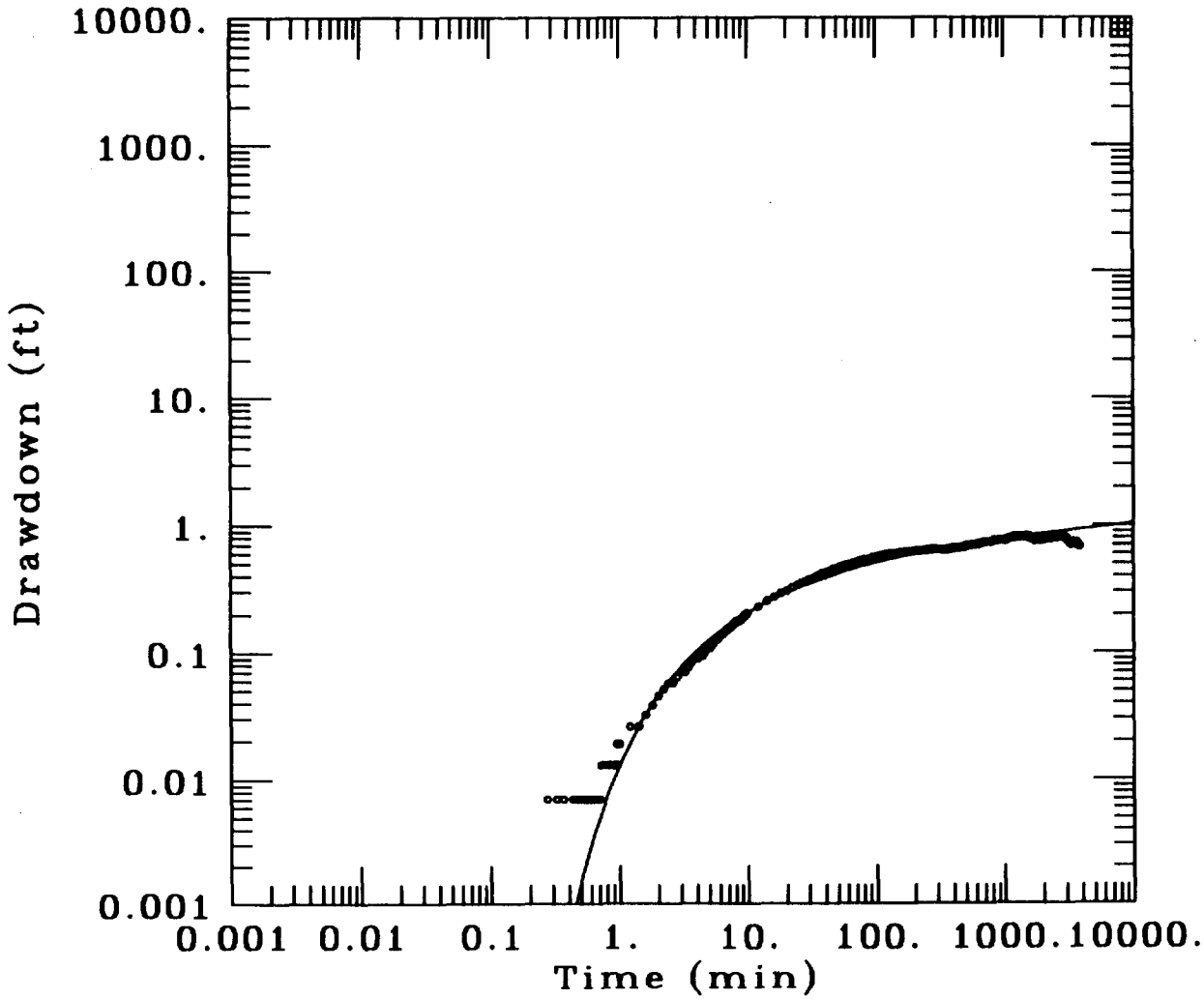
OBS. WELL:
24EX2

ESTIMATED PARAMETERS:
T = 0.15 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 4328. min

Figure F-31	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE DRAWDOWN TEST, EX20B



DATA SET:
EX2T40B.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 21, 1996

TEST WELL:
24EX2

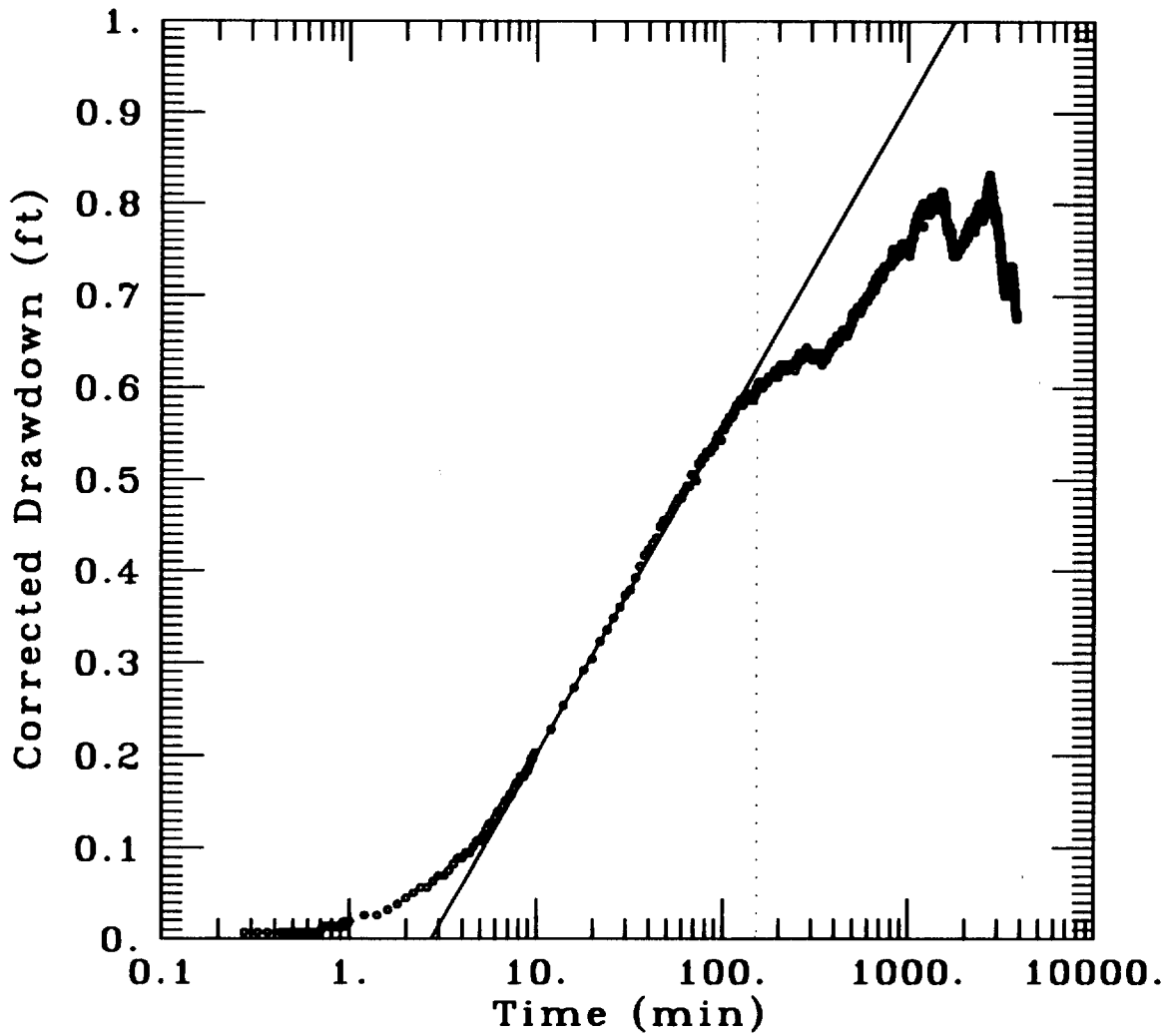
OBS. WELL:
24EX20B

ESTIMATED PARAMETERS:
T = 1.06 ft^2/min
S = 0.016
Sy = 0.046
β = 0.001

TEST DATA:
Q = 2. ft^3/min
r = 20.5 ft
b = 100. ft

Figure F-32	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE DRAWDOWN TEST, EX20B



DATA SET:
ex2t4ob.dat
09/25/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 21, 1996

TEST WELL:
24EX2

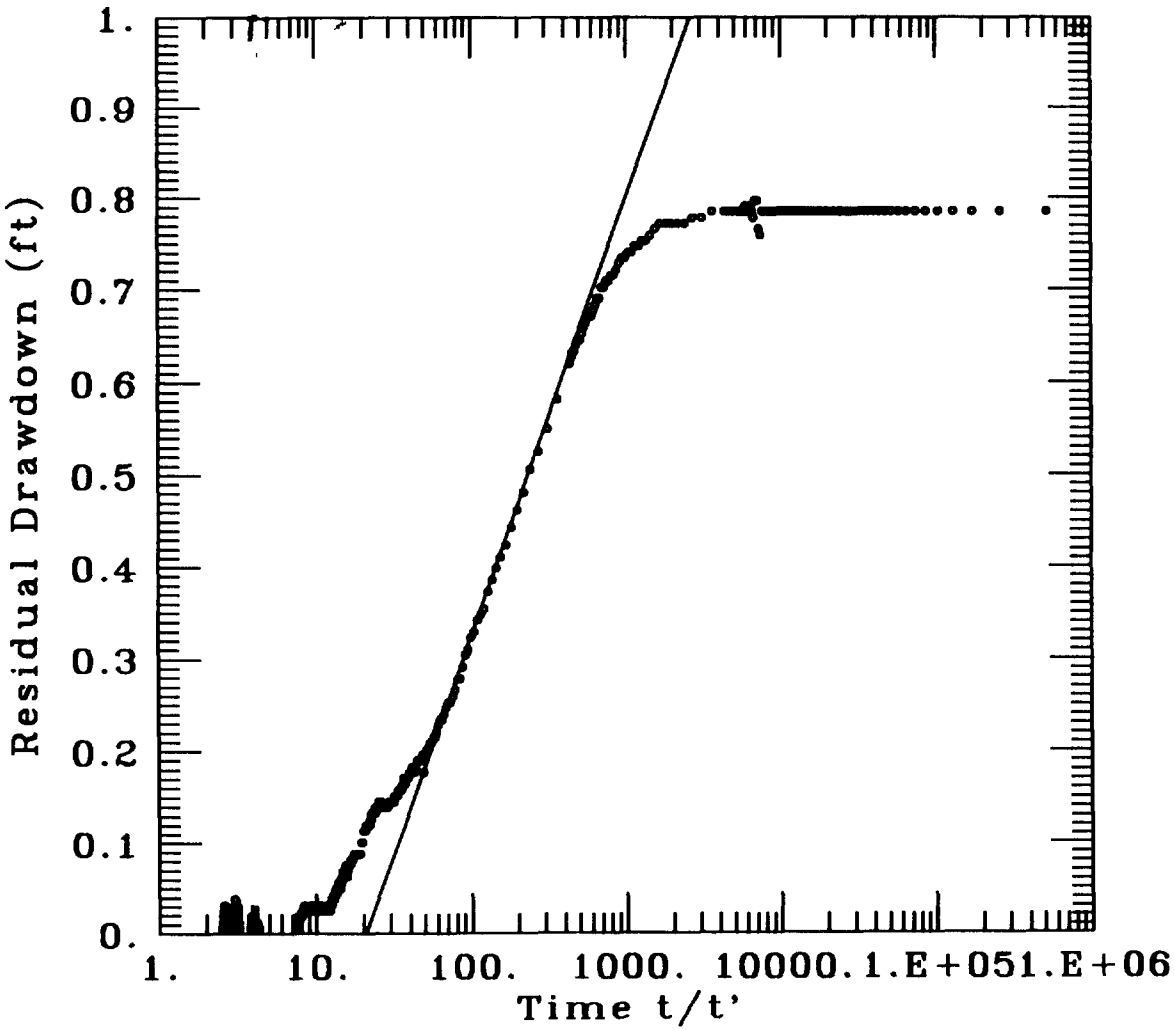
OBS. WELL:
24EX20B

ESTIMATED PARAMETERS:
T = 1.03 ft^2/min
S = 0.015

TEST DATA:
Q = 2. ft^3/min
r = 20.5 ft
b = 100. ft

Figure F-33	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

EX2 CONSTANT RATE RECOVERY TEST, EX20B



DATA SET:
ex2t4rob.dat
09/24/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 24, 1996

TEST WELL:
24EX2

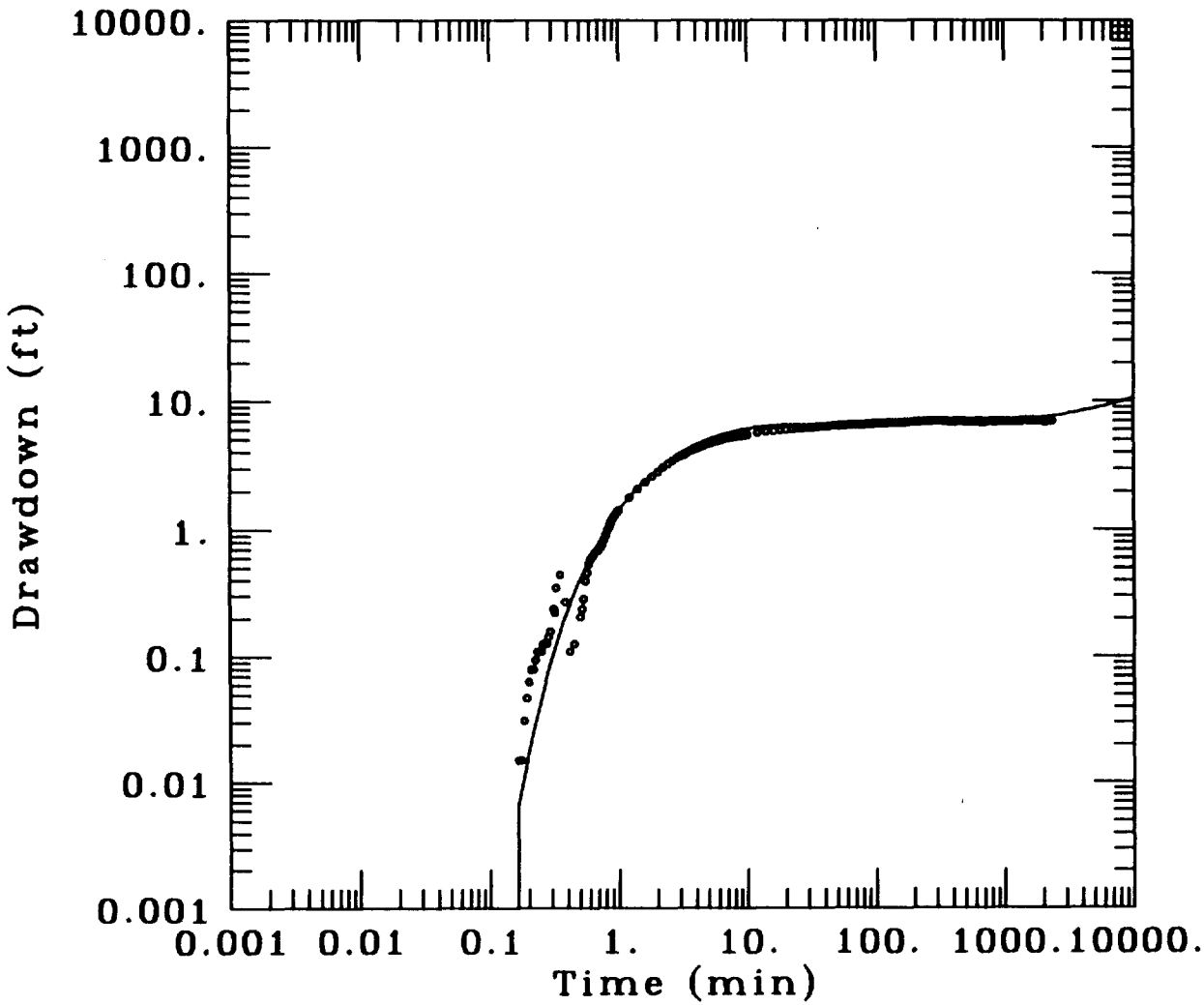
OBS. WELL:
24EX20B

ESTIMATED PARAMETERS:
T = 0.77 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 4328. min

Figure F-34	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE INJECTION TEST, IN1



DATA SET:
N1PTIN1.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 14, 1996

TEST WELL:
24IN1

OBS. WELL:
24IN1

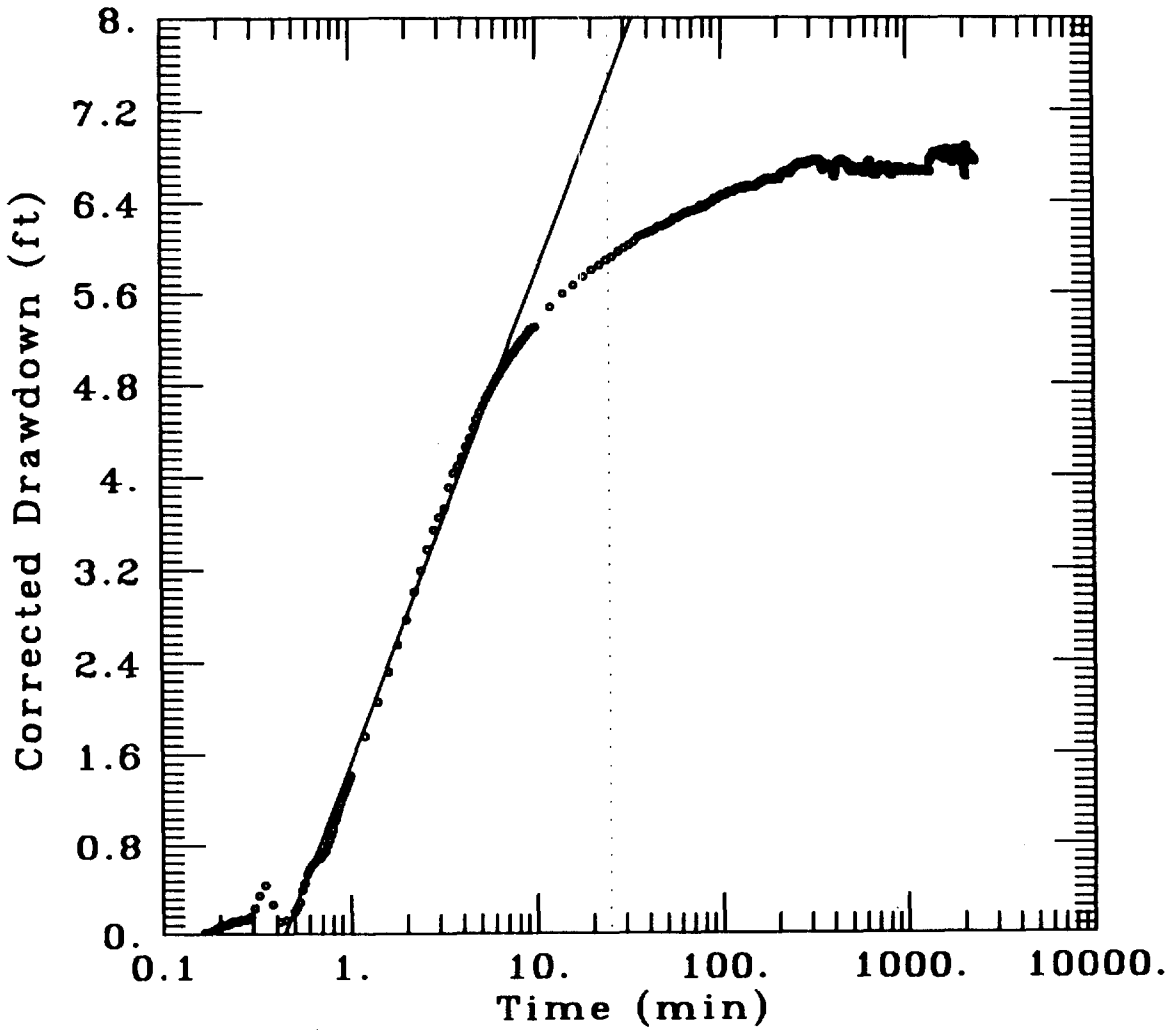
ESTIMATED PARAMETERS:
$T = 0.02624\ ft^2/min$

$\beta = 0.2$

TEST DATA:
$Q = 2.\ ft^3/min$
$r = 0.5\ ft$
$b = 100.\ ft$

Figure F-35	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE INJECTION TEST, IN1



DATA SET:
n1ptin1.dat
09/24/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 14, 1996

TEST WELL:
24IN1

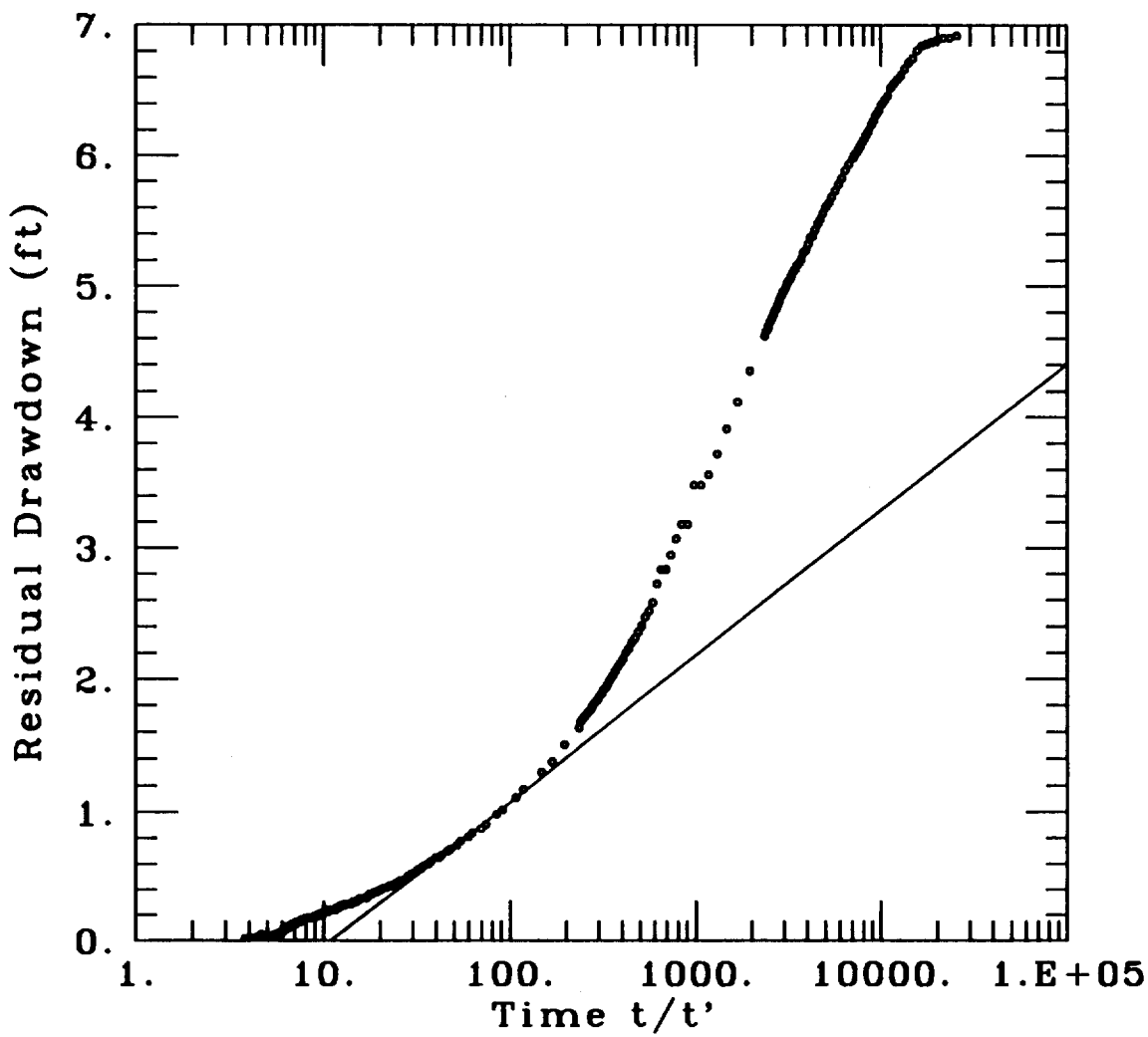
OBS. WELL:
24IN1

ESTIMATED PARAMETERS:
T = 0.086 ft^2/min

TEST DATA:
Q = 2. ft^3/min
r = 0.5 ft
b = 100. ft

Figure F-36	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE RECOVERY TEST, IN1



DATA SET:
n1rtin1.dat
10/22/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 16, 1996

TEST WELL:
24IN1

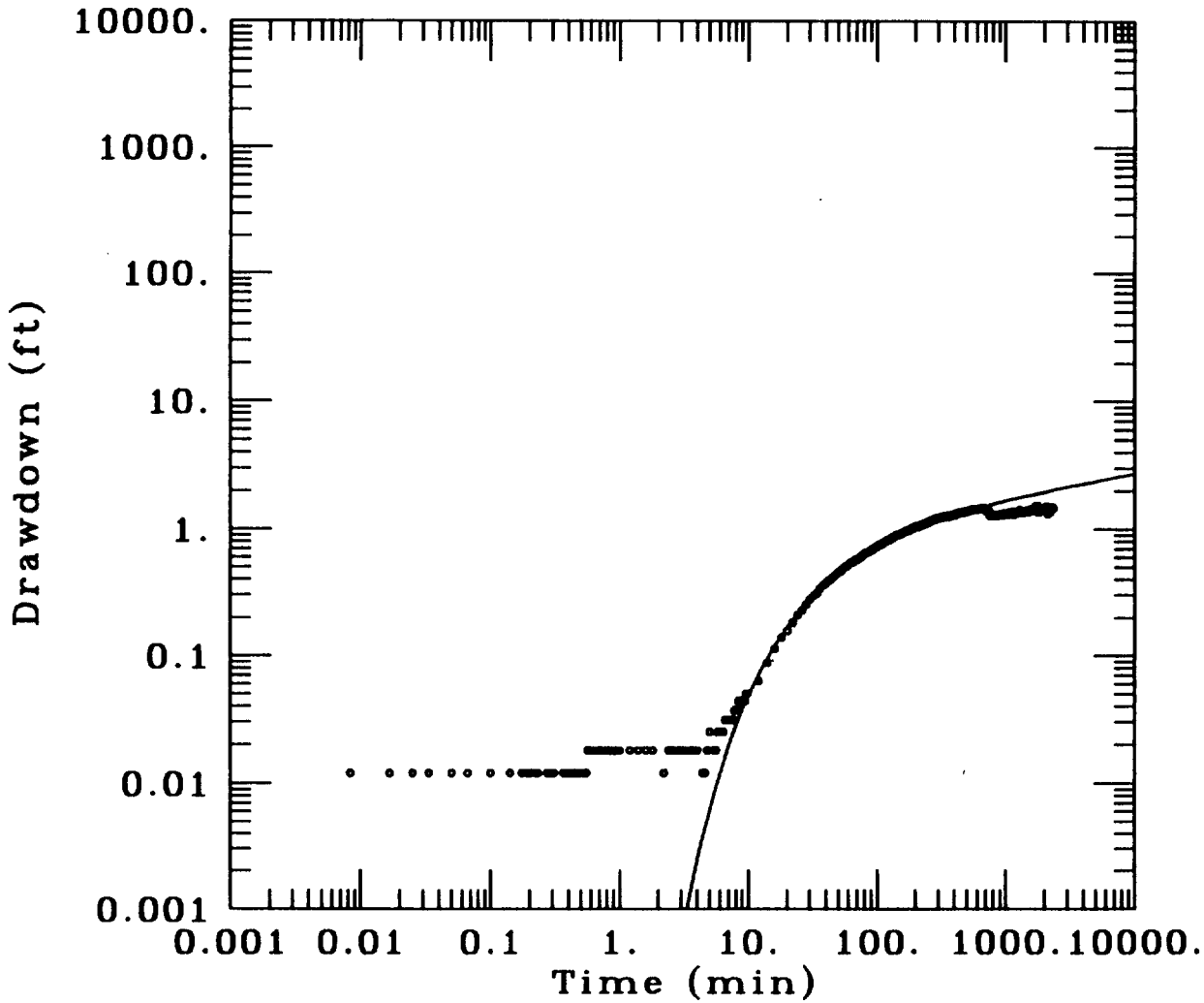
OBS. WELL:
24IN1

ESTIMATED PARAMETERS:
T = 0.33 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 2340. min

Figure F-37	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE INJECTION TEST, IN10B



DATA SET:
N1PT0B.DAT
10/29/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Neuman

TEST DATE:
MAY 14, 1996

TEST WELL:
24IN1

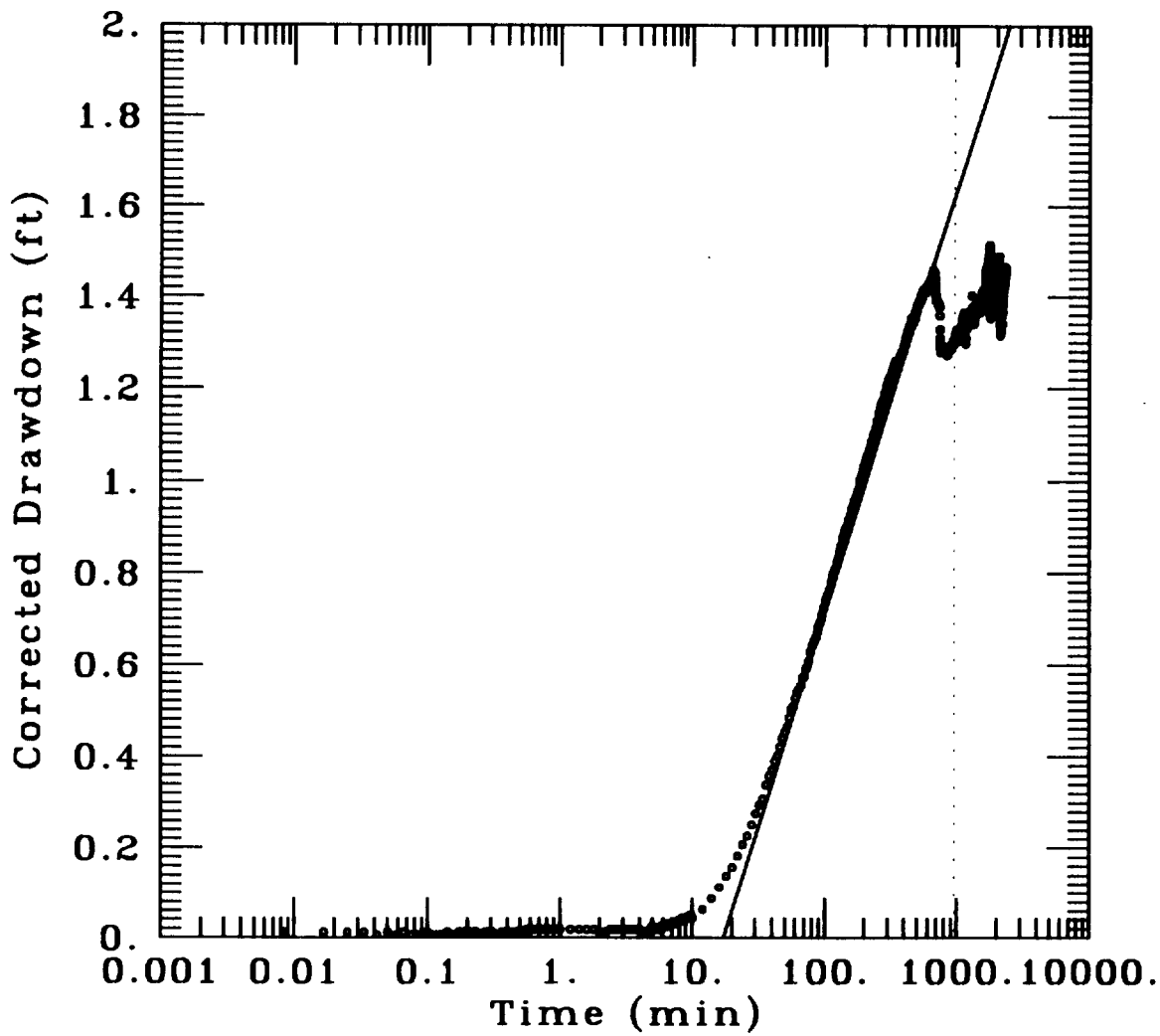
OBS. WELL:
24IN10B

ESTIMATED PARAMETERS:
T = 0.3 ft^2/min
S = 0.03
β = 0.01

TEST DATA:
Q = 2. ft^3/min
r = 24.7 ft
b = 100. ft

Figure F-38	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE INJECTION TEST, IN10B



DATA SET:
n1ptob.dat
09/24/96

AQUIFER TYPE:
Unconfined

SOLUTION METHOD:
Cooper-Jacob

TEST DATE:
MAY 14, 1996

TEST WELL:
24IN1

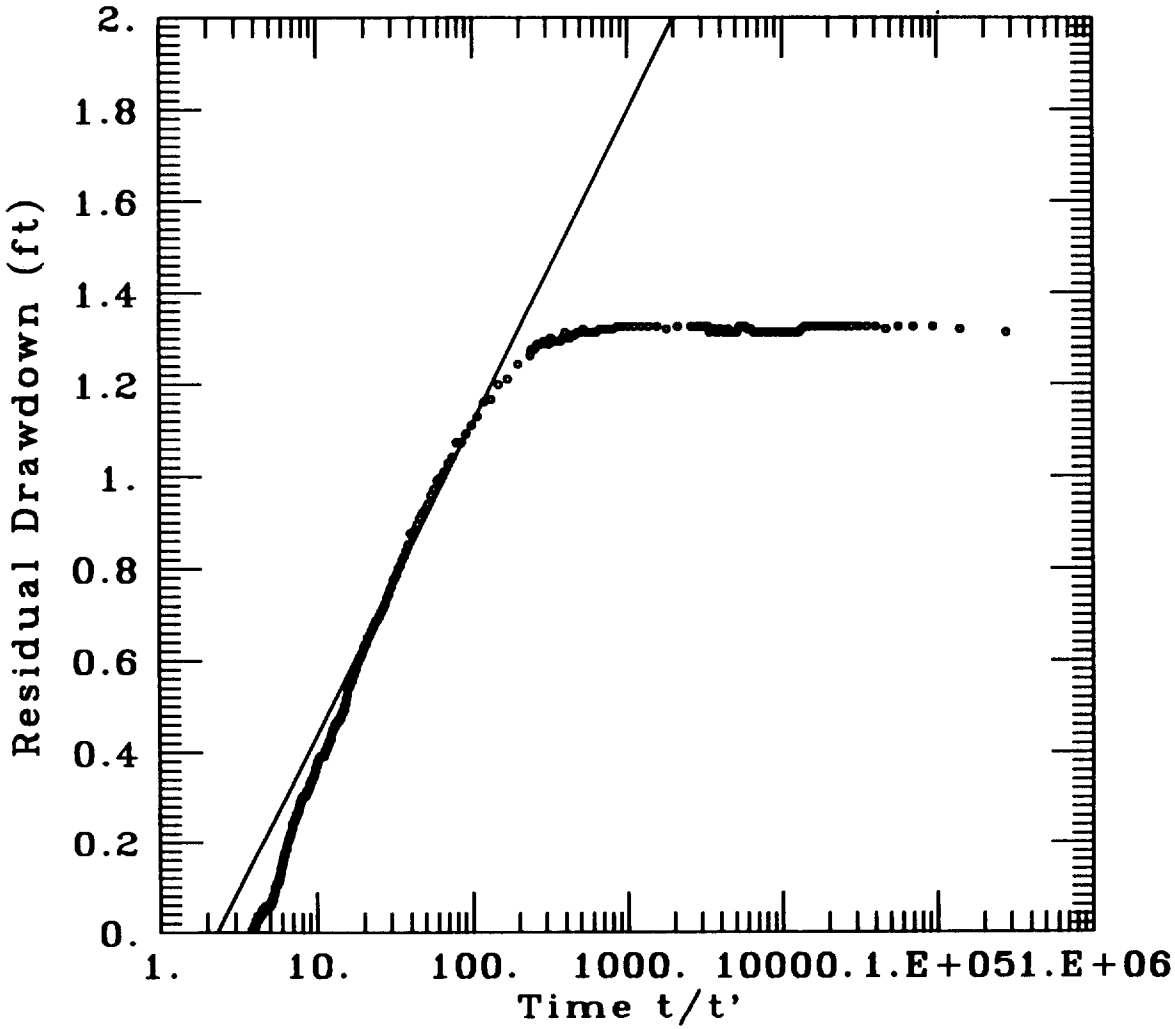
OBS. WELL:
24IN10B

ESTIMATED PARAMETERS:
T = 0.395 ft^2/min
S = 0.025

TEST DATA:
Q = 2. ft^3/min
r = 24.7 ft
b = 100. ft

Figure F-39	Client: US NAVY, SWDIV
Project No.: 22214-073	Location: MCAS EL TORO

IN1 CONSTANT RATE RECOVERY TEST, IN10B



DATA SET:
n1rtob.dat
09/24/96

AQUIFER TYPE:
Confined

SOLUTION METHOD:
Theis Recovery

TEST DATE:
MAY 16, 1996

TEST WELL:
IN1

OBS. WELL:
IN10B

ESTIMATED PARAMETERS:
T = 0.5375 ft^2/min

TEST DATA:
Q = 2. ft^3/min
t pumping = 2340. min

APPENDIX G

AQUIFER TESTING DATA

EX1 CONSTANT RATE DRAWDOWN TEST 1, EX1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
29-Apr-96				
tstwel				
24EX1				
obswel				
24EX1				
pwrate				
2.7				
radius				
0.5				
tsdata				
0.0083	1.007	1		
0.0166	1.372	1		
0.025	0.397	1		
0.0333	0.339	1		
0.0416	1.173	1		
0.05	1.629	1		
0.0583	1.513	1		
0.0666	1.52	1		
0.075	1.885	1		
0.0833	2.167	1		
0.0916	2.18	1		
0.1	2.161	1		
0.1083	2.315	1		
0.1166	2.642	1		
0.125	2.513	1		
0.1333	2.468	1		
0.1416	2.648	1		
0.15	2.75	1		
0.1583	2.763	1		
0.1666	2.808	1		
0.175	2.885	1		
0.1833	2.949	1		
0.1916	2.988	1		
0.2	3.045	1		
0.2083	3.103	1		
0.2166	3.154	1		
0.225	3.199	1		
0.2333	3.257	1		
0.2416	3.315	1		
0.25	3.379	1		

0.2583 3.417 1			
0.2666 3.468 1			
0.275 3.532 1			
0.2833 3.584 1			
0.2916 3.629 1			
0.3 3.686 1			
0.3083 3.725 1			
0.3166 3.77 1			
0.325 3.821 1			
0.3333 3.879 1			
0.35 3.975 1			
0.3666 4.128 1			
0.3833 4.096 1			
0.4 4.237 1			
0.4166 4.225 1			
0.4333 4.442 1			
0.45 4.365 1			
0.4666 4.487 1			
0.4833 4.538 1			
0.5 4.596 1			
0.5166 4.654 1			
0.5333 4.711 1			
0.55 4.763 1			
0.5666 4.833 1			
0.5833 4.884 1			
0.6 4.942 1			
0.6166 5 1			
0.6333 5.045 1			
0.65 5.102 1			
0.6666 5.166 1			
0.6833 5.211 1			
0.7 5.275 1			
0.7166 5.314 1			
0.7333 5.378 1			
0.75 5.429 1			
0.7666 5.467 1			
0.7833 5.531 1			
0.8 5.576 1			
0.8166 5.64 1			
0.8333 5.672 1			
0.85 5.736 1			
0.8666 5.788 1			
0.8833 5.826 1			
0.9 5.877 1			
0.9166 5.922 1			
0.9333 5.967 1			
0.95 5.98 1			
0.9666 6.146 1			
0.9833 6.044 1			
1 6.21 1			
1.2 6.531 1			
1.4 6.787 1			

1.6 7.011 1			
1.8 7.222 1			
2 7.408 1			
2.2 7.555 1			
2.4 7.741 1			
2.6 7.913 1			
2.8 8.08 1			
3 8.246 1			
3.2 8.394 1			
3.4 8.502 1			
3.6 8.643 1			
3.8 8.771 1			
4 8.861 1			
4.2 9.193 1			
4.4 9.475 1			
4.6 9.776 1			
4.8 10.012 1			
5 10.249 1			
5.2 10.467 1			
5.4 10.62 1			
5.6 10.793 1			
5.8 10.985 1			
6 11.138 1			
6.2 11.298 1			
6.4 11.49 1			
6.6 11.637 1			
6.8 11.733 1			
7 11.867 1			
7.2 11.989 1			
7.4 12.11 1			
7.6 12.193 1			
7.8 12.283 1			
8 12.379 1			
8.2 12.487 1			
8.4 12.583 1			
8.6 12.679 1			
8.8 12.756 1			
9 12.884 1			
9.2 12.999 1			
9.4 13.088 1			
9.6 13.203 1			
9.8 13.287 1			
10 13.357 1			
11 13.766 1			
12 14.002 1			
13 14.264 1			
14 14.379 1			
15 14.686 1			
16 15.006 1			
17 15.344 1			
18 15.491 1			
19 15.683 1			

20	15.945	1			
21	16.123	1			
22	16.264	1			
23	16.507	1			
24	16.615	1			
25	16.794	1			
26	16.89	1			
27	17.132	1			
28	17.279	1			
29	17.33	1			
30	17.618	1			
31	17.765	1			
32	17.771	1			
33	17.905	1			
34	17.982	1			
35	18.25	1			
36	18.345	1			
37	18.396	1			
38	18.448	1			
39	18.588	1			
40	18.575	1			
41	18.792	1			
42	18.888	1			
43	18.99	1			
44	19.092	1			
45	19.137	1			
46	19.181	1			
47	19.316	1			
48	19.43	1			
49	19.59	1			
50	19.66	1			
51	19.724	1			
52	19.781	1			
53	19.852	1			
54	19.915	1			
55	19.979	1			
56	20.024	1			
57	20.1	1			
58	20.126	1			
59	20.183	1			
60	20.202	1			
61	20.253	1			
62	20.304	1			
63	20.368	1			
64	20.4	1			
65	20.432	1			
66	20.617	1			
67	20.764	1			
68	20.987	1			
69	21.121	1			
70	21.147	1			
71	21.185	1			

72	21.191	1			
73	21.185	1			
74	21.204	1			
75	21.287	1			
76	21.414	1			
77	21.446	1			
78	21.491	1			
79	21.599	1			
80	21.746	1			
81	21.816	1			
82	21.867	1			
83	21.912	1			
84	21.918	1			
85	21.937	1			
86	21.944	1			
87	21.918	1			
88	21.937	1			
89	21.944	1			
90	21.963	1			
91	22.097	1			
92	22.25	1			
93	22.326	1			
94	22.352	1			
95	22.371	1			
96	22.377	1			
97	22.333	1			
98	22.237	1			
99	22.167	1			
100	22.109	1			
101	22.307	1			
102	22.479	1			
103	22.575	1			
104	22.626	1			
105	22.651	1			
106	22.677	1			
107	22.728	1			
108	22.868	1			
109	22.9	1			
110	22.868	1			
111	23.021	1			
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113	23.136	1			
114	23.149	1			
115	23.13	1			
116	23.187	1			
117	23.193	1			
118	23.257	1			
119	23.346	1			
120	23.397	1			
121	23.365	1			
122	23.314	1			
123	23.506	1			

124	23.569	1			
125	23.589	1			
126	23.589	1			
127	23.722	1			
128	23.85	1			
129	23.888	1			
130	23.882	1			
131	23.831	1			
132	23.78	1			
133	23.863	1			
134	23.805	1			
135	23.729	1			
136	23.697	1			
137	23.761	1			
138	23.971	1			
139	24.06	1			
140	24.092	1			
141	24.188	1			
142	24.232	1			
143	24.245	1			
144	24.239	1			
145	24.213	1			
146	24.385	1			
147	24.494	1			
148	24.538	1			
149	24.576	1			
150	24.589	1			
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152	24.621	1			
153	24.621	1			
154	24.736	1			
155	24.787	1			
156	24.774	1			
157	24.761	1			
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159	24.685	1			
160	24.799	1			
161	24.889	1			
162	24.933	1			
163	24.946	1			
164	24.965	1			
165	25.029	1			
166	25.156	1			
167	25.188	1			
168	25.175	1			
169	25.169	1			
170	25.163	1			
171	25.143	1			
172	25.156	1			
173	25.156	1			
174	25.258	1			
175	25.411	1			

176	25.462	1			
177	25.487	1			
178	25.481	1			
179	25.487	1			
180	25.596	1			
181	25.647	1			
182	25.628	1			
183	25.71	1			
184	25.812	1			
185	25.838	1			
186	25.812	1			
187	25.806	1			
188	25.812	1			
189	25.793	1			
190	25.793	1			
191	25.768	1			
192	25.755	1			
193	25.736	1			
194	25.749	1			
195	25.742	1			
196	25.742	1			
197	25.914	1			
198	26.054	1			
199	26.118	1			
200	26.163	1			
201	26.201	1			
202	26.22	1			
203	26.226	1			
204	26.201	1			
205	26.22	1			
206	26.226	1			
207	26.22	1			
208	26.22	1			
209	26.239	1			
210	26.252	1			
211	26.233	1			
212	26.271	1			
213	26.277	1			
214	26.316	1			
215	26.322	1			
216	26.335	1			
217	26.36	1			
218	26.373	1			
219	26.379	1			
220	26.366	1			
221	26.328	1			
222	26.328	1			
223	26.328	1			
224	26.303	1			
225	26.29	1			
226	26.296	1			
227	26.296	1			

228	26.29	1			
229	26.277	1			
230	26.303	1			
231	26.296	1			
232	26.322	1			
233	26.328	1			
234	26.341	1			
235	26.322	1			
236	26.309	1			
237	26.29	1			
238	26.277	1			
239	26.252	1			
240	26.245	1			
241	26.22	1			
242	26.226	1			
243	26.214	1			
244	26.214	1			
245	26.207	1			
246	26.22	1			
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249	26.609	1			
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251	27.252	1			
252	27.36	1			
253	27.379	1			
254	27.379	1			
255	27.322	1			
256	27.284	1			
257	27.284	1			
258	27.239	1			
259	27.239	1			
260	27.226	1			
261	27.245	1			
262	27.226	1			
263	27.201	1			
264	27.5	1			
265	27.767	1			
266	27.882	1			
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343	30.396	1			
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374	31.414	1			
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377	31.503	1			
378	31.484	1			
379	31.477	1			
380	31.465	1			
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382	31.42	1			
383	31.401	1			

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385	31.344	1			
386	31.617	1			
387	31.744	1			
388	31.808	1			
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392	31.694	1			
393	31.63	1			
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395	31.535	1			
396	31.84	1			
397	32.215	1			
398	32.418	1			
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413	32.724	1			
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415	32.628	1			
416	32.571	1			
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418	32.393	1			
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421	32.266	1			
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425	31.98	1			
426	31.935	1			
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429	33.042	1			
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432	33.137	1			
433	33.15	1			
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435	33.728	1			

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441	33.55	1			
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443	33.537	1			
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446	33.493	1			
447	33.442	1			
448	33.41	1			
449	33.391	1			
450	33.353	1			
451	33.309	1			
452	33.258	1			
453	33.22	1			
454	33.2	1			
455	33.398	1			
456	33.798	1			
457	34.001	1			
458	34.122	1			
459	34.186	1			
460	34.224	1			
461	34.186	1			
462	34.167	1			
463	34.148	1			
464	34.37	1			
465	34.326	1			
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EX1 CONSTANT RATE RECOVERY TEST 1, EX1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
29-Apr-96				
tstwel				
24EX1				
obswel				
24EX1				
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trecov				
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2	31.197	1		
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7	14.309	1		
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9	12.136	1		
10	11.509	1		
11	11.004	1		
12	10.575	1		
13	10.204	1		
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15	9.59	1		
16	9.328	1		
17	9.091	1		
18	8.88	1		
19	8.675	1		
20	8.483	1		
21	8.31	1		
22	8.144	1		
23	7.984	1		
24	7.83	1		
25	7.689	1		
26	7.561	1		
27	7.427	1		
28	7.305	1		
29	7.19	1		
30	7.081	1		
31	6.979	1		
32	6.876	1		

33	6.774	1			
34	6.684	1			
35	6.588	1			
36	6.505	1			
37	6.422	1			
38	6.338	1			
39	6.262	1			
40	6.185	1			
41	6.108	1			
42	6.037	1			
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44	5.903	1			
45	5.839	1			
46	5.775	1			
47	5.711	1			
48	5.653	1			
49	5.595	1			
50	5.538	1			
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52	5.429	1			
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54	5.326	1			
55	5.275	1			
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67	4.763	1			
68	4.724	1			
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70	4.647	1			
71	4.615	1			
72	4.583	1			
73	4.545	1			
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77	4.41	1			
78	4.385	1			
79	4.353	1			
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81	4.295	1			
82	4.263	1			
83	4.231	1			
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87	4.122	1			
88	4.096	1			
89	4.071	1			
90	4.045	1			
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93	3.975	1			
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95	3.923	1			
96	3.898	1			
97	3.872	1			
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99	3.827	1			
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101	3.782	1			
102	3.757	1			
103	3.738	1			
104	3.718	1			
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107	3.654	1			
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122	3.372	1			
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132	3.212	1			
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135	3.167	1			
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157	2.866	1			
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159	2.84	1			
160	2.827	1			
161	2.815	1			
162	2.808	1			
163	2.795	1			
164	2.783	1			
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172	2.686	1			
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175	2.661	1			
176	2.642	1			
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179	2.616	1			
180	2.609	1			
181	2.597	1			
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232	2.167	1			
233	2.161	1			
234	2.154	1			
235	2.148	1			
236	2.141	1			
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EX1 CONSTANT RATE DRAWDOWN TEST 1, EX1OB				
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BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
29-Apr-96				
tstwel				
24EX1				
obswel				
24EX1OB				
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1014	0.099	1			
1015	0.128	1			

EX1 CONSTANT RATE RECOVERY TEST 1, EX1OB				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
29-Apr-96				
tstwel				
24EX1				
obswel				
24EX1OB				
pwrate				
2.7				
trecov				
1015				
tsdata				
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2	0.132	1		
3	0.132	1		
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6	0.122	1		
7	0.108	1		
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16	0.103	1		
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EX1 CONST. RATE DRAWDOWN TEST 1, 24AS2A
compny
BECHTEL NATIONAL, INC.
projno
22214-073
client
US NAVY, SWDIV
locsit
MCAS EL TORO
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29-Apr-96
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24EX1
obswel
24AS2A
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2.7
radius
10.5
sthick
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EX1 CONST. RATE RECOVERY TEST 1, 24AS2A				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
30-Apr-96				
tstwel				
24EX1				
obswel				
24AS2A				
pwrate				
2.7				
trecov				
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tsdata				
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392	0.052	1			
393	0.052	1			
394	0.052	1			
395	0.052	1			
396	0.052	1			

397	0.047	1			
398	0.047	1			
399	0.047	1			
400	0.047	1			
401	0.047	1			
402	0.043	1			
403	0.047	1			
404	0.047	1			
405	0.047	1			
406	0.043	1			
407	0.043	1			
408	0.043	1			
409	0.043	1			
410	0.038	1			
411	0.043	1			
412	0.038	1			
413	0.038	1			
414	0.038	1			
415	0.038	1			
416	0.038	1			
417	0.038	1			
418	0.038	1			
419	0.033	1			
420	0.038	1			
421	0.038	1			
422	0.038	1			
423	0.033	1			
424	0.033	1			
425	0.033	1			
426	0.033	1			
427	0.033	1			
428	0.033	1			
429	0.033	1			
430	0.028	1			
431	0.028	1			
432	0.028	1			
433	0.028	1			
434	0.028	1			
435	0.028	1			
436	0.028	1			

EX1 CONST. RATE DRAWDOWN TEST 1, 24NEW1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
29-Apr-96				
tstwel				
24EX1				
obswel				
24NEW1				
pwrate				
2.7				
radius				
40.5				
tsdata				
67	0.16	1		
128	0.2	1		
189	0.22	1		
271	0.16	1		
311	0.31	1		
372	0.37	1		
431	0.42	1		
493	0.47	1		
549	0.5	1		
604	0.52	1		
672	0.56	1		
738	0.58	1		
827	0.53	1		
843	0.53	1		
906	0.55	1		
960	0.53	1		

EX1 CONST. RATE RECOVERY TEST 1, 24NEW1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
########				
tstwel				
24EX1				
obswel				
24NEW1				
pwrate				
2.7				
trecov				
1015				
tsdata				
74 0.21 1				
141 0.14 1				
319 0.09 1				
413 0.05 1				

EX1 CONSTANT RATE DRAWDOWN TEST 2M, EX1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
24EX1				
pwrate				
2.7				
radius				
0.5				
sthick				
100				
tsdata				
0.0083	0.012	1		
0.0166	0.006	1		
0.025	0.006	1		
0.0333	2.777	1		
0.0416	1.003	1		
0.05	0.237	1		
0.0583	0.54	1		
0.0666	2.109	1		
0.075	2.43	1		
0.0833	2.173	1		
0.0916	2.269	1		
0.1	2.668	1		
0.1083	3.085	1		
0.1166	3.195	1		
0.125	3.272	1		
0.1333	3.477	1		
0.1416	3.651	1		
0.15	3.747	1		
0.1583	3.857	1		
0.1666	3.959	1		
0.175	4.081	1		
0.1833	4.165	1		
0.1916	4.3	1		
0.2	4.216	1		
0.2083	4.184	1		
0.2166	4.486	1		
0.225	4.499	1		
0.2333	4.415	1		
0.2416	4.493	1		
0.25	4.525	1		

0.2583 4.486 1			
0.2666 4.538 1			
0.275 4.621 1			
0.2833 4.557 1			
0.2916 4.583 1			
0.3 4.627 1			
0.3083 4.589 1			
0.3166 4.64 1			
0.325 4.66 1			
0.3333 4.653 1			
0.35 4.679 1			
0.3666 4.717 1			
0.3833 4.75 1			
0.4 4.762 1			
0.4166 4.807 1			
0.4333 4.807 1			
0.45 4.865 1			
0.4666 4.878 1			
0.4833 4.923 1			
0.5 4.968 1			
0.5166 4.974 1			
0.5333 5.026 1			
0.55 5.045 1			
0.5666 5.077 1			
0.5833 5.295 1			
0.6 5.071 1			
0.6166 5.411 1			
0.6333 5.334 1			
0.65 5.507 1			
0.6666 5.52 1			
0.6833 5.514 1			
0.7 5.713 1			
0.7166 5.668 1			
0.7333 5.751 1			
0.75 5.79 1			
0.7666 5.829 1			
0.7833 5.873 1			
0.8 5.906 1			
0.8166 5.957 1			
0.8333 6.008 1			
0.85 6.227 1			
0.8666 6.002 1			
0.8833 6.22 1			
0.9 6.509 1			
0.9166 6.233 1			
0.9333 6.4 1			
0.95 6.541 1			
0.9666 6.496 1			
0.9833 6.605 1			
1 6.849 1			
1.2 7.369 1			
1.4 7.96 1			

1.6 8.512 1			
1.8 9.032 1			
2 9.493 1			
2.2 9.923 1			
2.4 10.327 1			
2.6 10.763 1			
2.8 11.135 1			
3 11.475 1			
3.2 11.802 1			
3.4 12.181 1			
3.6 12.61 1			
3.8 13.014 1			
4 13.315 1			
4.2 13.629 1			
4.4 14.065 1			
4.6 14.424 1			
4.8 14.77 1			
5 15.096 1			
5.2 15.397 1			
5.4 15.692 1			
5.6 15.961 1			
5.8 16.23 1			
6 16.524 1			
6.2 16.832 1			
6.4 17.062 1			
6.6 17.273 1			
6.8 17.536 1			
7 17.76 1			
7.2 18.074 1			
7.4 18.298 1			
7.6 18.541 1			
7.8 18.739 1			
8 18.957 1			
8.2 19.155 1			
8.4 19.328 1			
8.6 19.488 1			
8.8 19.737 1			
9 19.929 1			
9.2 20.089 1			
9.4 20.249 1			
9.6 20.403 1			
9.8 20.633 1			
10 20.799 1			
12 22.327 1			
14 23.529 1			
16 24.424 1			
18 25.484 1			
20 26.2 1			
22 26.883 1			
24 27.604 1			
26 28.032 1			
28 28.613 1			

30	29.225	1			
32	29.666	1			
34	30.036	1			
36	30.38	1			
38	30.973	1			
40	31.286	1			
42	31.892	1			
44	32.166	1			
46	32.65	1			
48	32.861	1			
50	33.275	1			
52	33.358	1			
54	33.842	1			
56	34.085	1			
58	34.218	1			
60	34.709	1			
62	34.913	1			
64	35.002	1			
66	35.569	1			
68	35.843	1			
70	35.958	1			
72	36.435	1			
74	36.747	1			
76	36.951	1			
78	37.059	1			
80	37.212	1			
82	37.314	1			
84	37.314	1			
86	37.537	1			
88	38.11	1			
90	38.345	1			
92	38.409	1			
94	38.511	1			
96	38.676	1			
98	38.644	1			
100	38.778	1			
105	39.249	1			
110	39.93	1			
115	40.197	1			
120	40.235	1			
125	40.623	1			
130	40.808	1			
135	41.329	1			
140	41.272	1			
145	41.202	1			
150	41.247	1			
155	41.081	1			
160	41.705	1			
165	42.76	1			
170	42.906	1			
175	43.51	1			
180	44.228	1			

180	44.64	1			
240	46.7	1			
300	48.88	1			
360	50.7	1			
420	53.46	1			
480	55.78	1			
540	53.24	1			
600	58.24	1			
660	56.31	1			
720	54.31	1			
780	53.2	1			
840	49.95	1			
900	54.15	1			
960	59.41	1			
1020	63.13	1			
1080	68.55	1			
1140	69.22	1			
1200	69.37	1			
1220	77.54	1			
1240	77.56	1			
1260	77.56	1			
1280	76.56	1			
1300	75.79	1			
1320	77.58	1			
1344	77.54	1			
1351	90.68	1			

EX1 CONSTANT RATE RECOVERY TEST 2M, EX1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
2-May-96				
tstwel				
24EX1				
obswel				
24EX1				
pwrate				
2.7				
trecov				
1351				
tsdata				
2.75 67.82 1				
3 65.42 1				
3.25 62.8 1				
3.5 60.37 1				
3.75 58.1 1				
4 56.12 1				
4.5 51.8 1				
5 47.92 1				
5.5 44.42 1				
6 41.4 1				
7 35.02 1				
6 41.399 1				
6.2 40.242 1				
6.4 39.166 1				
6.6 38.103 1				
6.8 37.04 1				
7 36.123 1				
7.2 35.257 1				
7.4 34.403 1				
7.6 33.549 1				
7.8 32.708 1				
8 31.911 1				
8.2 31.146 1				
8.4 30.393 1				
8.6 29.634 1				
8.8 28.894 1				
9 28.192 1				
9.2 27.509 1				
9.4 26.819 1				
9.6 26.142 1				
9.8 25.452 1				
10 24.743 1				

12	19.277	1			
14	15.096	1			
16	12.469	1			
18	10.834	1			
20	9.744	1			
22	8.987	1			
24	8.454	1			
26	8.018	1			
28	7.658	1			
30	7.337	1			
32	7.055	1			
34	6.811	1			
36	6.58	1			
38	6.374	1			
40	6.182	1			
42	6.008	1			
44	5.848	1			
46	5.7	1			
48	5.552	1			
50	5.424	1			
52	5.302	1			
54	5.18	1			
56	5.064	1			
58	4.962	1			
60	4.859	1			
62	4.762	1			
64	4.672	1			
66	4.583	1			
68	4.499	1			
70	4.422	1			
72	4.345	1			
74	4.268	1			
76	4.197	1			
78	4.126	1			
80	4.056	1			
82	3.998	1			
84	3.934	1			
86	3.876	1			
88	3.818	1			
90	3.76	1			
92	3.702	1			
94	3.645	1			
96	3.593	1			
98	3.548	1			
100	3.497	1			
105	3.387	1			
110	3.272	1			
115	3.169	1			
120	3.073	1			
125	2.983	1			
130	2.899	1			
135	2.816	1			

140	2.738	1			
145	2.668	1			
150	2.597	1			
155	2.533	1			
160	2.462	1			
165	2.404	1			
170	2.346	1			
175	2.282	1			
180	2.231	1			
185	2.173	1			
190	2.134	1			
195	2.076	1			
200	2.031	1			
205	1.986	1			
210	1.941	1			
215	1.903	1			
220	1.864	1			
225	1.826	1			
230	1.787	1			
235	1.742	1			
240	1.71	1			
245	1.671	1			
250	1.639	1			
255	1.607	1			
260	1.575	1			
265	1.543	1			
270	1.511	1			
275	1.491	1			
280	1.453	1			
285	1.427	1			
290	1.401	1			
295	1.376	1			
300	1.35	1			
305	1.324	1			
310	1.298	1			
315	1.279	1			
320	1.253	1			
325	1.228	1			
330	1.208	1			
335	1.189	1			
340	1.163	1			
345	1.144	1			
350	1.125	1			
355	1.112	1			
360	1.093	1			
365	1.073	1			
370	1.061	1			
375	1.048	1			
380	1.028	1			
385	1.009	1			
390	0.996	1			
395	0.977	1			

400	0.964	1			
405	0.951	1			
410	0.938	1			
415	0.926	1			
420	0.913	1			
425	0.9	1			
430	0.887	1			
435	0.874	1			
440	0.861	1			
445	0.848	1			
450	0.836	1			
455	0.829	1			
460	0.816	1			
465	0.81	1			
470	0.791	1			
475	0.784	1			
480	0.771	1			
485	0.765	1			
490	0.752	1			
495	0.739	1			
500	0.726	1			
505	0.713	1			
510	0.7	1			
515	0.694	1			
520	0.681	1			
525	0.675	1			
530	0.662	1			
535	0.649	1			
540	0.643	1			
545	0.63	1			
550	0.623	1			
555	0.61	1			
560	0.598	1			
565	0.591	1			
570	0.578	1			
575	0.572	1			
580	0.559	1			
585	0.553	1			
590	0.54	1			
595	0.527	1			
600	0.52	1			
605	0.514	1			
610	0.501	1			
615	0.495	1			
620	0.482	1			
625	0.469	1			
630	0.456	1			
635	0.45	1			
640	0.443	1			
645	0.43	1			
650	0.418	1			
655	0.411	1			

660	0.405	1			
665	0.398	1			
670	0.385	1			
675	0.379	1			
680	0.373	1			
685	0.366	1			
690	0.353	1			
695	0.347	1			
700	0.34	1			
705	0.334	1			
710	0.321	1			
715	0.315	1			
720	0.308	1			
725	0.302	1			
730	0.295	1			
735	0.289	1			
740	0.282	1			
745	0.276	1			
750	0.27	1			
755	0.263	1			
760	0.257	1			
765	0.244	1			
770	0.237	1			
775	0.231	1			
780	0.225	1			
785	0.218	1			
790	0.212	1			
795	0.205	1			
800	0.199	1			
805	0.192	1			
810	0.192	1			
815	0.186	1			
820	0.18	1			
825	0.18	1			
830	0.173	1			
835	0.167	1			
840	0.167	1			
845	0.192	1			
850	0.186	1			
855	0.18	1			
860	0.18	1			
865	0.173	1			
870	0.173	1			
875	0.167	1			
880	0.16	1			
885	0.16	1			
890	0.154	1			
895	0.147	1			
900	0.147	1			
905	0.147	1			
910	0.141	1			
915	0.135	1			

920	0.135	1			
925	0.128	1			
930	0.122	1			
935	0.122	1			
940	0.122	1			
945	0.115	1			
950	0.115	1			
955	0.109	1			
960	0.109	1			
965	0.109	1			
970	0.109	1			
975	0.102	1			
980	0.102	1			
985	0.102	1			
990	0.096	1			
995	0.096	1			
1000	0.096	1			
1005	0.09	1			
1010	0.09	1			
1015	0.09	1			
1020	0.09	1			
1025	0.083	1			
1030	0.077	1			
1035	0.077	1			
1040	0.077	1			
1045	0.07	1			
1050	0.077	1			
1055	0.07	1			
1060	0.07	1			
1065	0.07	1			
1070	0.07	1			
1075	0.064	1			
1080	0.064	1			
1085	0.057	1			
1090	0.057	1			
1095	0.051	1			
1100	0.051	1			
1105	0.051	1			

EX1 CONSTANT RATE DRAWDOWN TEST 2, EX1OB				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
24EX1OB				
pwrate				
2.7				
radius				
20				
sthick				
100				
tsdata				
0.0083	0.004	1		
0.0166	0.004	1		
0.025	0.004	1		
0.0333	0.004	1		
0.0416	0.004	1		
0.05	0.004	1		
0.3166	0.004	1		
0.325	0.004	1		
0.3833	0.004	1		
0.4	0.004	1		
0.5833	0.004	1		
0.6	0.004	1		
0.6333	0.004	1		
0.65	0.004	1		
0.6666	0.004	1		
0.7166	0.004	1		
0.7333	0.004	1		
0.75	0.004	1		
0.7666	0.004	1		
0.7833	0.004	1		
0.8	0.004	1		
0.8166	0.004	1		
0.85	0.004	1		
0.8666	0.004	1		
0.8833	0.004	1		
0.9	0.004	1		
0.9166	0.004	1		
0.9333	0.004	1		
0.95	0.004	1		
0.9666	0.004	1		

0.9833 0.004 1			
1 0.004 1			
1.2 0.004 1			
1.4 0.004 1			
1.6 0.004 1			
1.8 0.009 1			
2 0.004 1			
2.2 0.004 1			
2.4 0.009 1			
2.6 0.009 1			
2.8 0.014 1			
3 0.009 1			
3.2 0.009 1			
3.4 0.009 1			
3.6 0.014 1			
3.8 0.009 1			
4 0.014 1			
4.2 0.014 1			
4.4 0.014 1			
4.6 0.014 1			
4.8 0.019 1			
5 0.014 1			
5.2 0.019 1			
5.4 0.019 1			
5.6 0.019 1			
5.8 0.019 1			
6 0.019 1			
6.2 0.019 1			
6.4 0.019 1			
6.6 0.019 1			
6.8 0.019 1			
7 0.019 1			
7.2 0.023 1			
7.4 0.019 1			
7.6 0.023 1			
7.8 0.023 1			
8 0.023 1			
8.2 0.023 1			
8.4 0.023 1			
8.6 0.023 1			
8.8 0.023 1			
9 0.023 1			
9.2 0.023 1			
9.4 0.023 1			
9.6 0.023 1			
9.8 0.028 1			
10 0.023 1			
12 0.023 1			
14 0.028 1			
16 0.028 1			
18 0.033 1			
20 0.033 1			

22	0.038	1			
24	0.038	1			
26	0.038	1			
28	0.042	1			
30	0.042	1			
32	0.047	1			
34	0.047	1			
36	0.052	1			
38	0.052	1			
40	0.052	1			
42	0.052	1			
44	0.057	1			
46	0.057	1			
48	0.057	1			
50	0.057	1			
52	0.057	1			
54	0.061	1			
56	0.061	1			
58	0.061	1			
60	0.066	1			
62	0.061	1			
64	0.061	1			
66	0.066	1			
68	0.066	1			
70	0.066	1			
72	0.066	1			
74	0.071	1			
76	0.071	1			
78	0.071	1			
80	0.076	1			
82	0.076	1			
84	0.076	1			
86	0.076	1			
88	0.076	1			
90	0.076	1			
92	0.076	1			
94	0.076	1			
96	0.076	1			
98	0.076	1			
100	0.076	1			
105	0.076	1			
110	0.076	1			
115	0.076	1			
120	0.08	1			
125	0.08	1			
130	0.08	1			
135	0.08	1			
140	0.08	1			
145	0.08	1			
150	0.08	1			
155	0.085	1			
160	0.085	1			

165	0.09	1			
170	0.09	1			
175	0.09	1			
180	0.09	1			
185	0.09	1			
190	0.09	1			
195	0.095	1			
200	0.095	1			
205	0.095	1			
210	0.099	1			
215	0.099	1			
220	0.099	1			
225	0.104	1			
230	0.104	1			
235	0.109	1			
240	0.109	1			
245	0.114	1			
250	0.118	1			
255	0.118	1			
260	0.123	1			
265	0.123	1			
270	0.128	1			
275	0.128	1			
280	0.128	1			
285	0.133	1			
290	0.133	1			
295	0.137	1			
300	0.137	1			
305	0.142	1			
310	0.142	1			
315	0.147	1			
320	0.147	1			
325	0.147	1			
330	0.147	1			
335	0.152	1			
340	0.152	1			
345	0.156	1			
350	0.156	1			
355	0.156	1			
360	0.156	1			
365	0.161	1			
370	0.161	1			
375	0.161	1			
380	0.161	1			
385	0.166	1			
390	0.166	1			
395	0.166	1			
400	0.166	1			
405	0.161	1			
410	0.166	1			
415	0.166	1			
420	0.175	1			

425	0.166	1			
430	0.166	1			
435	0.166	1			
440	0.166	1			
445	0.166	1			
450	0.161	1			
455	0.161	1			
460	0.161	1			
465	0.161	1			
470	0.166	1			
475	0.166	1			
480	0.166	1			
485	0.171	1			
490	0.166	1			
495	0.166	1			
500	0.166	1			
505	0.171	1			
510	0.166	1			
515	0.166	1			
520	0.166	1			
525	0.166	1			
530	0.166	1			
535	0.166	1			
540	0.166	1			
545	0.161	1			
550	0.161	1			
555	0.156	1			
560	0.156	1			
565	0.156	1			
570	0.156	1			
575	0.161	1			
580	0.161	1			
585	0.161	1			
590	0.161	1			
595	0.161	1			
600	0.161	1			
605	0.161	1			
610	0.161	1			
615	0.161	1			
620	0.161	1			
625	0.161	1			
630	0.161	1			
635	0.161	1			
640	0.161	1			
645	0.161	1			
650	0.161	1			
655	0.166	1			
660	0.166	1			
665	0.166	1			
670	0.166	1			
675	0.166	1			
680	0.166	1			

685	0.166	1			
690	0.166	1			
695	0.166	1			
700	0.166	1			
705	0.171	1			
710	0.171	1			
715	0.171	1			
720	0.171	1			
725	0.171	1			
730	0.171	1			
735	0.171	1			
740	0.171	1			
745	0.166	1			
750	0.166	1			
755	0.166	1			
760	0.166	1			
765	0.166	1			
770	0.166	1			
775	0.166	1			
780	0.166	1			
785	0.166	1			
790	0.166	1			
795	0.161	1			
800	0.161	1			
805	0.161	1			
810	0.166	1			
815	0.166	1			
820	0.166	1			
825	0.166	1			
830	0.171	1			
835	0.166	1			
840	0.171	1			
845	0.171	1			
850	0.171	1			
855	0.171	1			
860	0.175	1			
865	0.175	1			
870	0.175	1			
875	0.175	1			
880	0.18	1			
885	0.185	1			
890	0.19	1			
895	0.194	1			
900	0.19	1			
905	0.194	1			
910	0.199	1			
915	0.199	1			
920	0.199	1			
925	0.199	1			
930	0.204	1			
935	0.204	1			
940	0.209	1			

945	0.209	1			
950	0.209	1			
955	0.213	1			
960	0.213	1			
965	0.213	1			
970	0.213	1			
975	0.218	1			
980	0.213	1			
985	0.213	1			
990	0.218	1			
995	0.218	1			
1000	0.218	1			
1005	0.223	1			
1010	0.223	1			
1015	0.228	1			
1020	0.223	1			
1025	0.223	1			
1030	0.228	1			
1035	0.228	1			
1040	0.228	1			
1045	0.228	1			
1050	0.232	1			
1055	0.232	1			
1060	0.232	1			
1065	0.232	1			
1070	0.232	1			
1075	0.232	1			
1080	0.232	1			
1085	0.232	1			
1090	0.232	1			
1095	0.232	1			
1100	0.232	1			
1105	0.237	1			
1110	0.237	1			
1115	0.232	1			
1120	0.232	1			
1125	0.237	1			
1130	0.237	1			
1135	0.237	1			
1140	0.237	1			
1145	0.232	1			
1150	0.237	1			
1155	0.232	1			
1160	0.232	1			
1165	0.232	1			
1170	0.232	1			
1175	0.232	1			
1180	0.228	1			
1185	0.228	1			
1190	0.223	1			
1195	0.223	1			
1200	0.218	1			

1205	0.213	1			
1210	0.213	1			
1215	0.213	1			
1220	0.209	1			
1225	0.209	1			
1230	0.209	1			
1235	0.209	1			
1240	0.204	1			
1245	0.204	1			
1250	0.204	1			
1255	0.199	1			
1260	0.199	1			
1265	0.204	1			
1270	0.199	1			
1275	0.199	1			
1280	0.199	1			
1285	0.199	1			
1290	0.199	1			
1295	0.194	1			
1300	0.194	1			
1305	0.194	1			
1310	0.194	1			
1315	0.19	1			
1320	0.19	1			
1325	0.194	1			
1330	0.194	1			
1335	0.194	1			
1340	0.194	1			
1345	0.19	1			
1350	0.19	1			

EX1 CONSTANT RATE RECOVERY TEST 2, EX1OB				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
30-Apr-96				
tstwel				
24EX1				
obswel				
24EX1OB				
pwrate				
2.7				
trecov				
1351				
tsdata				
0.0083 0.194 1				
0.0166 0.194 1				
0.025 0.199 1				
0.0333 0.194 1				
0.0416 0.194 1				
0.05 0.194 1				
0.0583 0.199 1				
0.0666 0.194 1				
0.075 0.194 1				
0.0833 0.194 1				
0.0916 0.194 1				
0.1 0.194 1				
0.1083 0.194 1				
0.1166 0.194 1				
0.125 0.194 1				
0.1333 0.194 1				
0.1416 0.194 1				
0.15 0.194 1				
0.1583 0.199 1				
0.1666 0.194 1				
0.175 0.199 1				
0.1833 0.194 1				
0.1916 0.194 1				
0.2 0.199 1				
0.2083 0.194 1				
0.2166 0.194 1				
0.225 0.194 1				
0.2333 0.194 1				
0.2416 0.194 1				
0.25 0.194 1				
0.2583 0.194 1				
0.2666 0.194 1				

0.275 0.194 1			
0.2833 0.194 1			
0.2916 0.194 1			
0.3 0.194 1			
0.3083 0.194 1			
0.3166 0.194 1			
0.325 0.194 1			
0.3333 0.194 1			
0.35 0.199 1			
0.3666 0.199 1			
0.3833 0.194 1			
0.4 0.194 1			
0.4166 0.194 1			
0.4333 0.194 1			
0.45 0.194 1			
0.4666 0.194 1			
0.4833 0.194 1			
0.5 0.194 1			
0.5166 0.194 1			
0.5333 0.194 1			
0.55 0.194 1			
0.5666 0.194 1			
0.5833 0.194 1			
0.6 0.194 1			
0.6166 0.194 1			
0.6333 0.194 1			
0.65 0.194 1			
0.6666 0.194 1			
0.6833 0.194 1			
0.7 0.194 1			
0.7166 0.194 1			
0.7333 0.194 1			
0.75 0.199 1			
0.7666 0.194 1			
0.7833 0.194 1			
0.8 0.194 1			
0.8166 0.194 1			
0.8333 0.194 1			
0.85 0.194 1			
0.8666 0.194 1			
0.8833 0.194 1			
0.9 0.194 1			
0.9166 0.194 1			
0.9333 0.194 1			
0.95 0.194 1			
0.9666 0.194 1			
0.9833 0.194 1			
1 0.194 1			
1.2 0.194 1			
1.4 0.194 1			
1.6 0.194 1			
1.8 0.194 1			

2 0.194 1			
2.2 0.199 1			
2.4 0.194 1			
2.6 0.194 1			
2.8 0.194 1			
3 0.194 1			
3.2 0.199 1			
3.4 0.194 1			
3.6 0.194 1			
3.8 0.194 1			
4 0.194 1			
4.2 0.194 1			
4.4 0.194 1			
4.6 0.194 1			
4.8 0.194 1			
5 0.194 1			
5.2 0.194 1			
5.4 0.194 1			
5.6 0.194 1			
5.8 0.194 1			
6 0.194 1			
6.2 0.194 1			
6.4 0.194 1			
6.6 0.194 1			
6.8 0.19 1			
7 0.19 1			
7.2 0.194 1			
7.4 0.19 1			
7.6 0.19 1			
7.8 0.171 1			
8 0.19 1			
8.2 0.194 1			
8.4 0.194 1			
8.6 0.194 1			
8.8 0.194 1			
9 0.19 1			
9.2 0.19 1			
9.4 0.19 1			
9.6 0.19 1			
9.8 0.185 1			
10 0.185 1			
12 0.18 1			
14 0.175 1			
16 0.175 1			
18 0.171 1			
20 0.166 1			
22 0.166 1			
24 0.161 1			
26 0.161 1			
28 0.156 1			
30 0.152 1			
32 0.156 1			

34	0.152	1			
36	0.152	1			
38	0.147	1			
40	0.147	1			
42	0.147	1			
44	0.142	1			
46	0.142	1			
48	0.142	1			
50	0.142	1			
52	0.142	1			
54	0.142	1			
56	0.137	1			
58	0.137	1			
60	0.137	1			
62	0.137	1			
64	0.137	1			
66	0.133	1			
68	0.133	1			
70	0.133	1			
72	0.133	1			
74	0.133	1			
76	0.128	1			
78	0.133	1			
80	0.128	1			
82	0.128	1			
84	0.128	1			
86	0.128	1			
88	0.128	1			
90	0.123	1			
92	0.123	1			
94	0.123	1			
96	0.123	1			
98	0.123	1			
100	0.123	1			
105	0.118	1			
110	0.118	1			
115	0.118	1			
120	0.118	1			
125	0.114	1			
130	0.114	1			
135	0.118	1			
140	0.114	1			
145	0.114	1			
150	0.114	1			
155	0.114	1			
160	0.114	1			
165	0.114	1			
170	0.114	1			
175	0.114	1			
180	0.114	1			
185	0.114	1			
190	0.114	1			

195	0.114	1			
200	0.114	1			
205	0.118	1			
210	0.118	1			
215	0.118	1			
220	0.123	1			
225	0.123	1			
230	0.123	1			
235	0.118	1			
240	0.118	1			
245	0.118	1			
250	0.118	1			
255	0.118	1			
260	0.118	1			
265	0.123	1			
270	0.118	1			
275	0.118	1			
280	0.118	1			
285	0.118	1			
290	0.118	1			
295	0.123	1			
300	0.118	1			
305	0.118	1			
310	0.114	1			
315	0.118	1			
320	0.114	1			
325	0.118	1			
330	0.114	1			
335	0.118	1			
340	0.118	1			
345	0.123	1			
350	0.123	1			
355	0.123	1			
360	0.123	1			
365	0.123	1			
370	0.128	1			
375	0.133	1			
380	0.137	1			
385	0.133	1			
390	0.137	1			
395	0.137	1			
400	0.142	1			
405	0.142	1			
410	0.147	1			
415	0.147	1			
420	0.152	1			
425	0.152	1			
430	0.152	1			
435	0.152	1			
440	0.156	1			
445	0.156	1			
450	0.161	1			

455	0.166	1			
460	0.166	1			
465	0.171	1			
470	0.166	1			
475	0.171	1			
480	0.171	1			
485	0.175	1			
490	0.175	1			
495	0.171	1			
500	0.171	1			
505	0.171	1			
510	0.171	1			
515	0.175	1			
520	0.171	1			
525	0.171	1			
530	0.171	1			
535	0.171	1			
540	0.171	1			
545	0.171	1			
550	0.166	1			
555	0.166	1			
560	0.161	1			
565	0.166	1			
570	0.161	1			
575	0.161	1			
580	0.156	1			
585	0.156	1			
590	0.156	1			
595	0.156	1			
600	0.152	1			
605	0.152	1			
610	0.152	1			
615	0.147	1			
620	0.147	1			
625	0.142	1			
630	0.137	1			
635	0.137	1			
640	0.137	1			
645	0.137	1			
650	0.133	1			
655	0.133	1			
660	0.133	1			
665	0.128	1			
670	0.128	1			
675	0.128	1			
680	0.128	1			
685	0.123	1			
690	0.123	1			
695	0.123	1			
700	0.118	1			
705	0.118	1			
710	0.118	1			

715	0.114	1			
720	0.118	1			
725	0.114	1			
730	0.114	1			
735	0.114	1			
740	0.114	1			
745	0.114	1			
750	0.114	1			
755	0.114	1			
760	0.109	1			
765	0.109	1			
770	0.104	1			
775	0.104	1			
780	0.099	1			
785	0.099	1			
790	0.099	1			
795	0.099	1			
800	0.099	1			
805	0.099	1			
810	0.104	1			
815	0.104	1			
820	0.099	1			
825	0.099	1			
830	0.099	1			
835	0.099	1			
840	0.099	1			
845	0.099	1			
850	0.099	1			
855	0.099	1			
860	0.095	1			
865	0.095	1			
870	0.099	1			
875	0.095	1			
880	0.095	1			
885	0.095	1			
890	0.095	1			
895	0.095	1			
900	0.095	1			
905	0.095	1			
910	0.095	1			
915	0.095	1			
920	0.099	1			
925	0.099	1			
930	0.099	1			
935	0.099	1			
940	0.099	1			
945	0.099	1			
950	0.104	1			
955	0.104	1			
960	0.104	1			
965	0.109	1			
970	0.109	1			

975	0.109	1			
980	0.114	1			
985	0.114	1			
990	0.114	1			
995	0.118	1			
1000	0.118	1			
1005	0.123	1			
1010	0.123	1			
1015	0.123	1			
1020	0.123	1			
1025	0.123	1			
1030	0.123	1			
1035	0.123	1			
1040	0.128	1			
1045	0.128	1			
1050	0.133	1			
1055	0.137	1			
1060	0.137	1			
1065	0.137	1			
1070	0.137	1			
1075	0.137	1			
1080	0.137	1			
1085	0.137	1			
1090	0.137	1			
1095	0.137	1			
1100	0.137	1			
1105	0.137	1			

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS2A				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
24AS2A				
pwrate				
2.7				
radius				
10.5				
sthick				
100				
tsdata				
0.325 0.005 1				
0.5333 0.005 1				
0.65 0.005 1				
0.6666 0.005 1				
0.6833 0.005 1				
0.7 0.005 1				
0.7333 0.005 1				
0.75 0.005 1				
0.7833 0.005 1				
0.8 0.005 1				
0.8166 0.005 1				
0.8333 0.005 1				
0.85 0.005 1				
0.8666 0.005 1				
0.8833 0.005 1				
0.9 0.005 1				
0.95 0.005 1				
0.9666 0.005 1				
0.9833 0.005 1				
1 0.005 1				
1.4 0.005 1				
1.6 0.005 1				
1.8 0.005 1				
2 0.005 1				
2.2 0.005 1				
2.4 0.005 1				
2.6 0.005 1				
2.8 0.005 1				
3 0.005 1				
3.2 0.005 1				

3.4 0.005 1			
3.6 0.005 1			
3.8 0.009 1			
4 0.009 1			
4.2 0.009 1			
4.4 0.009 1			
4.6 0.009 1			
4.8 0.005 1			
5 0.005 1			
5.2 0.005 1			
5.4 0.005 1			
5.6 0.005 1			
5.8 0.005 1			
6 0.005 1			
6.2 0.005 1			
6.4 0.009 1			
6.6 0.005 1			
6.8 0.005 1			
7 0.005 1			
7.2 0.005 1			
7.4 0.005 1			
7.6 0.005 1			
7.8 0.005 1			
8 0.009 1			
8.2 0.009 1			
8.4 0.009 1			
8.6 0.014 1			
8.8 0.014 1			
9 0.014 1			
9.2 0.014 1			
9.4 0.014 1			
9.6 0.014 1			
9.8 0.014 1			
10 0.056 1			
12 0.061 1			
14 0.061 1			
16 0.061 1			
18 0.056 1			
20 0.061 1			
22 0.066 1			
24 0.061 1			
26 0.066 1			
28 0.066 1			
30 0.07 1			
32 0.066 1			
34 0.07 1			
36 0.075 1			
38 0.075 1			
40 0.07 1			
42 0.075 1			
44 0.075 1			
46 0.075 1			

48	0.075	1			
50	0.075	1			
52	0.075	1			
54	0.075	1			
56	0.075	1			
58	0.08	1			
60	0.08	1			
62	0.08	1			
64	0.085	1			
66	0.085	1			
68	0.08	1			
70	0.08	1			
72	0.08	1			
74	0.085	1			
76	0.085	1			
78	0.085	1			
80	0.085	1			
82	0.085	1			
84	0.085	1			
86	0.089	1			
88	0.089	1			
90	0.089	1			
92	0.089	1			
94	0.089	1			
96	0.089	1			
98	0.089	1			
100	0.089	1			
105	0.089	1			
110	0.085	1			
115	0.089	1			
120	0.085	1			
125	0.089	1			
130	0.089	1			
135	0.089	1			
140	0.085	1			
145	0.089	1			
150	0.089	1			
155	0.094	1			
160	0.089	1			
165	0.094	1			
170	0.094	1			
175	0.094	1			
180	0.089	1			
185	0.089	1			
190	0.094	1			
195	0.099	1			
200	0.099	1			
205	0.099	1			
210	0.099	1			
215	0.099	1			
220	0.104	1			
225	0.104	1			

230	0.104	1			
235	0.108	1			
240	0.108	1			
245	0.113	1			
250	0.118	1			
255	0.118	1			
260	0.118	1			
265	0.123	1			
270	0.123	1			
275	0.127	1			
280	0.127	1			
285	0.127	1			
290	0.132	1			
295	0.132	1			
300	0.137	1			
305	0.137	1			
310	0.142	1			
315	0.142	1			
320	0.142	1			
325	0.147	1			
330	0.147	1			
335	0.147	1			
340	0.151	1			
345	0.151	1			
350	0.156	1			
355	0.156	1			
360	0.156	1			
365	0.156	1			
370	0.156	1			
375	0.156	1			
380	0.161	1			
385	0.161	1			
390	0.161	1			
395	0.161	1			
400	0.161	1			
405	0.161	1			
410	0.161	1			
415	0.161	1			
420	0.161	1			
425	0.161	1			
430	0.161	1			
435	0.161	1			
440	0.161	1			
445	0.161	1			
450	0.156	1			
455	0.161	1			
460	0.161	1			
465	0.161	1			
470	0.161	1			
475	0.161	1			
480	0.161	1			
485	0.161	1			

490	0.166	1			
495	0.166	1			
500	0.161	1			
505	0.166	1			
510	0.161	1			
515	0.161	1			
520	0.161	1			
525	0.161	1			
530	0.161	1			
535	0.161	1			
540	0.161	1			
545	0.161	1			
550	0.156	1			
555	0.156	1			
560	0.151	1			
565	0.151	1			
570	0.151	1			
575	0.151	1			
580	0.151	1			
585	0.156	1			
590	0.151	1			
595	0.151	1			
600	0.151	1			
605	0.156	1			
610	0.156	1			
615	0.161	1			
620	0.156	1			
625	0.156	1			
630	0.161	1			
635	0.156	1			
640	0.161	1			
645	0.161	1			
650	0.161	1			
655	0.161	1			
660	0.161	1			
665	0.161	1			
670	0.156	1			
675	0.156	1			
680	0.161	1			
685	0.161	1			
690	0.166	1			
695	0.166	1			
700	0.161	1			
705	0.166	1			
710	0.166	1			
715	0.166	1			
720	0.17	1			
725	0.17	1			
730	0.17	1			
735	0.17	1			
740	0.17	1			
745	0.166	1			

750	0.166	1		
755	0.166	1		
760	0.166	1		
765	0.166	1		
770	0.166	1		
775	0.166	1		
780	0.17	1		
785	0.166	1		
790	0.166	1		
795	0.166	1		
800	0.166	1		
805	0.166	1		
810	0.166	1		
815	0.166	1		
820	0.17	1		
825	0.17	1		
830	0.17	1		
835	0.175	1		
840	0.175	1		
845	0.175	1		
850	0.175	1		
855	0.175	1		
860	0.18	1		
865	0.18	1		
870	0.18	1		
875	0.185	1		
880	0.185	1		
885	0.189	1		
890	0.194	1		
895	0.199	1		
900	0.199	1		
905	0.204	1		
910	0.204	1		
915	0.204	1		
920	0.204	1		
925	0.204	1		
930	0.208	1		
935	0.208	1		
940	0.213	1		
945	0.218	1		
950	0.213	1		
955	0.223	1		
960	0.218	1		
965	0.218	1		
970	0.218	1		
975	0.218	1		
980	0.218	1		
985	0.218	1		
990	0.218	1		
995	0.218	1		
1000	0.223	1		
1005	0.223	1		

1010	0.228	1			
1015	0.228	1			
1020	0.228	1			
1025	0.228	1			
1030	0.232	1			
1035	0.232	1			
1040	0.232	1			
1045	0.232	1			
1050	0.237	1			
1055	0.237	1			
1060	0.237	1			
1065	0.237	1			
1070	0.237	1			
1075	0.237	1			
1080	0.237	1			
1085	0.237	1			
1090	0.242	1			
1095	0.237	1			
1100	0.237	1			
1105	0.237	1			
1110	0.242	1			
1115	0.242	1			
1120	0.237	1			
1125	0.242	1			
1130	0.237	1			
1135	0.242	1			
1140	0.237	1			
1145	0.242	1			
1150	0.242	1			
1155	0.237	1			
1160	0.237	1			
1165	0.237	1			
1170	0.237	1			
1175	0.237	1			
1180	0.232	1			
1185	0.232	1			
1190	0.232	1			
1195	0.232	1			
1200	0.228	1			
1205	0.228	1			
1210	0.223	1			
1215	0.218	1			
1220	0.213	1			
1225	0.213	1			
1230	0.213	1			
1235	0.213	1			
1240	0.208	1			
1245	0.208	1			
1250	0.208	1			
1255	0.208	1			
1260	0.204	1			
1265	0.208	1			

1270	0.204	1			
1275	0.204	1			
1280	0.204	1			
1285	0.208	1			
1290	0.204	1			
1295	0.204	1			
1300	0.194	1			
1305	0.204	1			
1310	0.204	1			
1315	0.199	1			
1320	0.199	1			
1325	0.199	1			
1330	0.199	1			
1335	0.199	1			
1340	0.199	1			
1345	0.199	1			
1350	0.199	1			

EX1 CONST. RATE DRAWDOWN TEST 2, 24AS1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
24AS1				
pwrate				
2.7				
radius				
31.5				
sthick				
100				
tsdata				
79	0.03	1		
140	0.07	1		
185	0.02	1		
243	0.03	1		
301	0.07	1		
361	0.08	1		
421	0.09	1		
481	0.09	1		
544	0.09	1		
604	0.08	1		
655	0.09	1		
724	0.09	1		
781	0.09	1		
838	0.09	1		
897	0.13	1		
958	0.14	1		
1022	0.15	1		
1082	0.16	1		
1133	0.17	1		
1193	0.15	1		
1253	0.12	1		
1321	0.12	1		

EX1 CONST. RATE DRAWDOWN TEST 2, 24NEW1P				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
24NEW1				
pwrate				
2.7				
radius				
40.5				
sthick				
260				
parpn2				
260				
122.5				
222.5				
225				
245				
0.1				
tsdata				
76	0.27	1		
140	0.28	1		
189	0.34	1		
240	0.45	1		
300	0.54	1		
373	0.54	1		
428	0.57	1		
488	0.59	1		
554	0.6	1		
610	0.62	1		
670	0.64	1		
726	0.64	1		
786	0.63	1		
846	0.62	1		
905	0.65	1		
970	0.7	1		
1026	0.8	1		
1087	0.85	1		
1136	0.86	1		
1196	0.87	1		
1256	0.91	1		
1334	0.9	1		

EX1 CONST. RATE RECOVERY TEST 2, 24NEW1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
2-May-96				
tstwel				
24EX1				
obswel				
24NEW1				
pwrate				
2.7				
trecov				
1351				
tsdata				
37 0.69 1				
95 0.5 1				
160 0.42 1				
236 0.38 1				
305 0.41 1				
349 0.42 1				
402 0.42 1				
455 0.42 1				
516 0.42 1				

EX1 CONST. RATE DRWDOWN TEST 2, 09DBMW45				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
1-May-96				
tstwel				
24EX1				
obswel				
09DBMW45				
pwrate				
2.7				
radius				
33.75				
sthick				
100				
tsdata				
73	0.07	1		
235	0.06	1		
302	0.11	1		
369	0.07	1		
425	0.08	1		
485	0.08	1		
551	0.07	1		
606	0.07	1		
667	0.08	1		
724	0.09	1		
784	0.08	1		
844	0.09	1		
902	0.12	1		
962	0.13	1		
1023	0.2	1		
1084	0.21	1		
1135	0.21	1		
1195	0.2	1		
1254	0.17	1		
1317	0.17	1		
1415	0.16	1		
1515	0.14	1		
1509	0.13	1		
1586	0.14	1		
1657	0.14	1		
1730	0.17	1		
1782	0.19	1		
1837	0.2	1		
1897	0.21	1		

EX1 CONSTANT RATE DRWDN TST 3 (VAC), EX1				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
6-May-96				
tstwel				
24EX1				
obswel				
24EX1				
pwrate				
2.7				
radius				
0.5				
sthick				
100				
tsdata				
0.5 4.19 1				
0.75 4.98 1				
1 5.47 1				
1.25 6.12 1				
1.5 6.68 1				
1.75 7.26 1				
2 7.83 1				
2.5 8.77 1				
3 9.52 1				
3.5 10.27 1				
4 10.65 1				
4.5 10.91 1				
5 11.25 1				
6 11.89 1				
7 12.38 1				
8 12.84 1				
9 13.26 1				
10 13.45 1				
15 14.78 1				
20 15.84 1				
25 16.61 1				
30 17.28 1				
35 17.7 1				
40 18.24 1				
45 18.8 1				
50 19.2 1				
55 19.56 1				
60 19.88 1				
80 20.67 1				
100 21.58 1				

120	21.77	1			
180	24.86	1			
240	28.34	1			
300	32.38	1			
360	36.38	1			
420	39.31	1			
488	43.77	1			
540	46.43	1			
600	48.87	1			
660	51.77	1			
720	52.38	1			
783	55.27	1			
845	56.79	1			
900	58.99	1			
960	60.1	1			
990	60.54	1			
1019	61.39	1			
1082	63.19	1			
1124	64.93	1			

EX1 CONSTANT RATE DRAWDOWN TEST 3, EX1OB				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
6-May-96				
tstwel				
24EX1				
obswel				
24EX1OB				
pwrate				
2.7				
radius				
20				
sthick				
100				
tsdata				
0.0083 0.009 1				
0.0166 0.009 1				
0.025 0.009 1				
0.0333 0.009 1				
0.0416 0.009 1				
0.05 0.009 1				
0.0583 0.009 1				
0.0666 0.009 1				
0.075 0.009 1				
0.0833 0.009 1				
0.0916 0.009 1				
0.1 0.009 1				
0.1083 0.009 1				
0.1166 0.009 1				
0.125 0.009 1				
0.1333 0.009 1				
0.1416 0.009 1				
0.15 0.009 1				
0.1583 0.009 1				
0.1666 0.009 1				
0.175 0.009 1				
0.1833 0.009 1				
0.1916 0.009 1				
0.2 0.009 1				
0.2083 0.009 1				
0.2166 0.009 1				
0.225 0.009 1				
0.2333 0.009 1				
0.2416 0.009 1				
0.25 0.009 1				

0.2583 0.009 1			
0.2666 0.009 1			
0.275 0.009 1			
0.2833 0.009 1			
0.2916 0.009 1			
0.3 0.009 1			
0.3083 0.009 1			
0.3166 0.009 1			
0.325 0.009 1			
0.3333 0.009 1			
0.35 0.009 1			
0.3666 0.009 1			
0.3833 0.009 1			
0.4 0.009 1			
0.4166 0.009 1			
0.4333 0.009 1			
0.45 0.009 1			
0.4666 0.009 1			
0.4833 0.014 1			
0.5 0.009 1			
0.5166 0.009 1			
0.5333 0.009 1			
0.55 0.009 1			
0.5666 0.009 1			
0.5833 0.009 1			
0.6 0.009 1			
0.6166 0.009 1			
0.6333 0.014 1			
0.65 0.009 1			
0.6666 0.009 1			
0.6833 0.009 1			
0.7 0.009 1			
0.7166 0.009 1			
0.7333 0.009 1			
0.75 0.009 1			
0.7666 0.009 1			
0.7833 0.014 1			
0.8 0.014 1			
0.8166 0.014 1			
0.8333 0.009 1			
0.85 0.014 1			
0.8666 0.014 1			
0.8833 0.014 1			
0.9 0.014 1			
0.9166 0.014 1			
0.9333 0.014 1			
0.95 0.014 1			
0.9666 0.014 1			
0.9833 0.014 1			
1 0.014 1			
1.2 0.014 1			
1.4 0.014 1			

1.6 0.019 1			
1.8 0.019 1			
2 0.019 1			
2.2 0.019 1			
2.4 0.019 1			
2.6 0.019 1			
2.8 0.023 1			
3 0.023 1			
3.2 0.023 1			
3.4 0.023 1			
3.6 0.028 1			
3.8 0.028 1			
4 0.028 1			
4.2 0.028 1			
4.4 0.033 1			
4.6 0.028 1			
4.8 0.033 1			
5 0.033 1			
5.2 0.033 1			
5.4 0.033 1			
5.6 0.033 1			
5.8 0.033 1			
6 0.033 1			
6.2 0.033 1			
6.4 0.033 1			
6.6 0.038 1			
6.8 0.033 1			
7 0.038 1			
7.2 0.038 1			
7.4 0.038 1			
7.6 0.038 1			
7.8 0.038 1			
8 0.038 1			
8.2 0.038 1			
8.4 0.038 1			
8.6 0.038 1			
8.8 0.038 1			
9 0.033 1			
9.2 0.038 1			
9.4 0.038 1			
9.6 0.038 1			
9.8 0.038 1			
10 0.028 1			
12 0.033 1			
14 0.028 1			
16 0.033 1			
18 0.033 1			
20 0.023 1			
22 0.033 1			
24 0.033 1			
26 0.033 1			
28 0.033 1			

30	0.033	1			
32	0.033	1			
34	0.033	1			
36	0.038	1			
38	0.038	1			
40	0.038	1			
42	0.038	1			
44	0.038	1			
46	0.038	1			
48	0.038	1			
50	0.042	1			
52	0.038	1			
54	0.042	1			
56	0.042	1			
58	0.038	1			
60	0.042	1			
62	0.042	1			
64	0.042	1			
66	0.042	1			
68	0.042	1			
70	0.038	1			
72	0.042	1			
74	0.042	1			
76	0.042	1			
78	0.042	1			
80	0.042	1			
82	0.042	1			
84	0.042	1			
86	0.042	1			
88	0.047	1			
90	0.047	1			
92	0.047	1			
94	0.047	1			
96	0.047	1			
98	0.047	1			
100	0.047	1			
102	0.047	1			
104	0.047	1			
106	0.047	1			
108	0.047	1			
110	0.038	1			
112	0.047	1			
114	0.047	1			
116	0.047	1			
118	0.047	1			
120	0.047	1			
122	0.052	1			
124	0.047	1			
126	0.047	1			
128	0.047	1			
130	0.047	1			
132	0.047	1			

134	0.052	1			
136	0.052	1			
138	0.052	1			
140	0.052	1			
142	0.052	1			
144	0.052	1			
146	0.052	1			
148	0.052	1			
150	0.052	1			
152	0.052	1			
154	0.052	1			
156	0.052	1			
158	0.052	1			
160	0.052	1			
162	0.052	1			
164	0.057	1			
166	0.057	1			
168	0.052	1			
170	0.057	1			
172	0.057	1			
174	0.057	1			
176	0.057	1			
178	0.057	1			
180	0.057	1			
182	0.057	1			
184	0.057	1			
186	0.057	1			
188	0.057	1			
190	0.057	1			
192	0.057	1			
194	0.057	1			
196	0.057	1			
198	0.057	1			
200	0.052	1			
202	0.057	1			
204	0.057	1			
206	0.052	1			
208	0.057	1			
210	0.057	1			
212	0.057	1			
214	0.057	1			
216	0.057	1			
218	0.057	1			
220	0.057	1			
222	0.052	1			
224	0.057	1			
226	0.052	1			
228	0.052	1			
230	0.052	1			
232	0.052	1			
234	0.052	1			
236	0.052	1			

238	0.052	1			
240	0.052	1			
242	0.052	1			
244	0.052	1			
246	0.047	1			
248	0.052	1			
250	0.052	1			
252	0.052	1			
254	0.052	1			
256	0.052	1			
258	0.052	1			
260	0.052	1			
262	0.052	1			
264	0.047	1			
266	0.047	1			
268	0.052	1			
270	0.047	1			
272	0.047	1			
274	0.047	1			
276	0.057	1			
278	0.047	1			
280	0.047	1			
282	0.047	1			
284	0.047	1			
286	0.047	1			
288	0.047	1			
290	0.047	1			
292	0.047	1			
294	0.047	1			
296	0.052	1			
298	0.057	1			
300	0.057	1			
302	0.057	1			
304	0.057	1			
306	0.061	1			
308	0.061	1			
310	0.057	1			
312	0.061	1			
314	0.066	1			
316	0.061	1			
318	0.066	1			
320	0.066	1			
322	0.066	1			
324	0.066	1			
326	0.066	1			
328	0.071	1			
330	0.071	1			
332	0.071	1			
334	0.071	1			
336	0.071	1			
338	0.071	1			
340	0.071	1			

342	0.071	1			
344	0.076	1			
346	0.071	1			
348	0.071	1			
350	0.071	1			
352	0.076	1			
354	0.076	1			
356	0.076	1			
358	0.076	1			
360	0.076	1			
362	0.076	1			
364	0.076	1			
366	0.076	1			
368	0.076	1			
370	0.076	1			
372	0.076	1			
374	0.076	1			
376	0.076	1			
378	0.076	1			
380	0.076	1			
382	0.076	1			
384	0.076	1			
386	0.076	1			
388	0.076	1			
390	0.076	1			
392	0.076	1			
394	0.076	1			
396	0.076	1			
398	0.08	1			
400	0.08	1			
402	0.08	1			
404	0.08	1			
406	0.08	1			
408	0.08	1			
410	0.08	1			
412	0.08	1			
414	0.08	1			
416	0.085	1			
418	0.085	1			
420	0.085	1			
422	0.09	1			
424	0.085	1			
426	0.085	1			
428	0.09	1			
430	0.09	1			
432	0.09	1			
434	0.09	1			
436	0.09	1			
438	0.095	1			
440	0.095	1			
442	0.095	1			
444	0.095	1			

446	0.095	1			
448	0.095	1			
450	0.095	1			
452	0.095	1			
454	0.099	1			
456	0.099	1			
458	0.099	1			
460	0.099	1			
462	0.104	1			
464	0.099	1			
466	0.099	1			
468	0.104	1			
470	0.104	1			
472	0.104	1			
474	0.104	1			
476	0.104	1			
478	0.104	1			
480	0.104	1			
482	0.104	1			
484	0.104	1			
486	0.104	1			
488	0.104	1			
490	0.109	1			
492	0.109	1			
494	0.109	1			
496	0.109	1			
498	0.109	1			
500	0.114	1			
502	0.114	1			
504	0.114	1			
506	0.118	1			
508	0.118	1			
510	0.123	1			
512	0.123	1			
514	0.123	1			
516	0.123	1			
518	0.123	1			
520	0.128	1			
522	0.123	1			
524	0.123	1			
526	0.123	1			
528	0.123	1			
530	0.128	1			
532	0.128	1			
534	0.133	1			
536	0.133	1			
538	0.133	1			
540	0.133	1			
542	0.152	1			
544	0.137	1			
546	0.137	1			
548	0.137	1			

550	0.137	1			
552	0.137	1			
554	0.137	1			
556	0.137	1			
558	0.137	1			
560	0.137	1			
562	0.142	1			
564	0.142	1			
566	0.142	1			
568	0.142	1			
570	0.142	1			
572	0.147	1			
574	0.147	1			
576	0.147	1			
578	0.147	1			
580	0.152	1			
582	0.152	1			
584	0.147	1			
586	0.147	1			
588	0.147	1			
590	0.147	1			
592	0.147	1			
594	0.147	1			
596	0.147	1			
598	0.152	1			
600	0.152	1			
602	0.147	1			
604	0.152	1			
606	0.152	1			
608	0.152	1			
610	0.152	1			
612	0.152	1			
614	0.152	1			
616	0.152	1			
618	0.152	1			
620	0.152	1			
622	0.152	1			
624	0.152	1			
626	0.152	1			
628	0.152	1			
630	0.156	1			
632	0.152	1			
634	0.152	1			
636	0.152	1			
638	0.152	1			
640	0.152	1			
642	0.152	1			
644	0.152	1			
646	0.152	1			
648	0.152	1			
650	0.152	1			
652	0.152	1			

654	0.152	1			
656	0.152	1			
658	0.152	1			
660	0.152	1			
662	0.156	1			
664	0.156	1			
666	0.156	1			
668	0.152	1			
670	0.152	1			
672	0.152	1			
674	0.152	1			
676	0.152	1			
678	0.152	1			
680	0.156	1			
682	0.156	1			
684	0.156	1			
686	0.152	1			
688	0.156	1			
690	0.156	1			
692	0.156	1			
694	0.156	1			
696	0.156	1			
698	0.156	1			
700	0.156	1			
702	0.156	1			
704	0.156	1			
706	0.156	1			
708	0.156	1			
710	0.156	1			
712	0.156	1			
714	0.156	1			
716	0.161	1			
718	0.156	1			
720	0.156	1			
722	0.156	1			
724	0.161	1			
726	0.161	1			
728	0.161	1			
730	0.161	1			
732	0.161	1			
734	0.161	1			
736	0.161	1			
738	0.161	1			
740	0.161	1			
742	0.161	1			
744	0.161	1			
746	0.161	1			
748	0.161	1			
750	0.161	1			
752	0.161	1			
754	0.161	1			
756	0.166	1			

758	0.166	1			
760	0.166	1			
762	0.166	1			
764	0.166	1			
766	0.171	1			
768	0.166	1			
770	0.171	1			
772	0.166	1			
774	0.166	1			
776	0.166	1			
778	0.166	1			
780	0.166	1			
782	0.171	1			
784	0.171	1			
786	0.171	1			
788	0.171	1			
790	0.166	1			
792	0.171	1			
794	0.171	1			
796	0.171	1			
798	0.166	1			
800	0.171	1			
802	0.171	1			
804	0.171	1			
806	0.171	1			
808	0.171	1			
810	0.166	1			
812	0.166	1			
814	0.166	1			
816	0.161	1			
818	0.161	1			
820	0.161	1			
822	0.161	1			
824	0.156	1			
826	0.156	1			
828	0.156	1			
830	0.152	1			
832	0.152	1			
834	0.152	1			
836	0.152	1			
838	0.152	1			
840	0.152	1			
842	0.152	1			
844	0.152	1			
846	0.152	1			
848	0.152	1			
850	0.152	1			
852	0.152	1			
854	0.152	1			
856	0.152	1			
858	0.147	1			
860	0.147	1			

862	0.152	1			
864	0.152	1			
866	0.147	1			
868	0.147	1			
870	0.147	1			
872	0.147	1			
874	0.147	1			
876	0.147	1			
878	0.147	1			
880	0.147	1			
882	0.147	1			
884	0.147	1			
886	0.147	1			
888	0.147	1			
890	0.147	1			
892	0.147	1			
894	0.147	1			
896	0.147	1			
898	0.147	1			
900	0.152	1			
902	0.152	1			
904	0.152	1			
906	0.152	1			
908	0.152	1			
910	0.152	1			
912	0.152	1			
914	0.152	1			
916	0.152	1			
918	0.152	1			
920	0.152	1			
922	0.152	1			
924	0.152	1			
926	0.152	1			
928	0.147	1			
930	0.152	1			
932	0.152	1			
934	0.152	1			
936	0.152	1			
938	0.152	1			
940	0.152	1			
942	0.152	1			
944	0.152	1			
946	0.152	1			
948	0.152	1			
950	0.156	1			
952	0.152	1			
954	0.152	1			
956	0.152	1			
958	0.156	1			
960	0.152	1			
962	0.152	1			
964	0.152	1			

966	0.152	1			
968	0.152	1			
970	0.152	1			
972	0.152	1			
974	0.152	1			
976	0.152	1			
978	0.152	1			
980	0.152	1			
982	0.152	1			
984	0.152	1			
986	0.147	1			
988	0.147	1			
990	0.147	1			
992	0.152	1			
994	0.152	1			
996	0.152	1			
998	0.147	1			
1000	0.147	1			
1002	0.147	1			
1004	0.147	1			
1006	0.147	1			
1008	0.142	1			
1010	0.142	1			
1012	0.147	1			
1014	0.147	1			
1016	0.147	1			
1018	0.147	1			
1020	0.147	1			
1022	0.147	1			
1024	0.147	1			
1026	0.142	1			
1028	0.152	1			
1030	0.152	1			
1032	0.147	1			
1034	0.147	1			
1036	0.147	1			
1038	0.147	1			
1040	0.147	1			
1042	0.147	1			
1044	0.152	1			
1046	0.152	1			
1048	0.152	1			
1050	0.152	1			
1052	0.152	1			
1054	0.152	1			
1056	0.152	1			
1058	0.152	1			
1060	0.156	1			
1062	0.156	1			
1064	0.156	1			
1066	0.156	1			
1068	0.156	1			

1070	0.156	1			
1072	0.156	1			
1074	0.161	1			
1076	0.161	1			
1078	0.166	1			
1080	0.166	1			
1082	0.166	1			
1084	0.166	1			
1086	0.166	1			
1088	0.166	1			
1090	0.166	1			
1092	0.166	1			
1094	0.166	1			
1096	0.166	1			
1098	0.166	1			
1100	0.166	1			
1102	0.166	1			
1104	0.166	1			
1106	0.166	1			
1108	0.166	1			
1110	0.166	1			
1112	0.166	1			
1114	0.166	1			
1116	0.166	1			
1118	0.171	1			
1120	0.171	1			
1122	0.171	1			
1124	0.171	1			
1126	0.171	1			
1128	0.166	1			
1130	0.166	1			
1132	0.166	1			
1134	0.166	1			
1136	0.171	1			
1138	0.171	1			
1140	0.166	1			
1142	0.175	1			
1144	0.175	1			

EX1 CONST. RATE DRAWDOWN TEST 3, 24AS2A				
compny				
BECHTEL NATIONAL, INC.				
projno				
22214-073				
client				
US NAVY, SWDIV				
locsit				
MCAS EL TORO				
tstdat				
6-May-96				
tstwel				
24EX1				
obswel				
24AS2A				
pwrate				
2.7				
radius				
10.5				
sthick				
100				
tsdata				
0.0083 0.004 1				
0.0166 0.004 1				
0.025 0.004 1				
0.0333 0.004 1				
0.0416 0.004 1				
0.05 0.004 1				
0.0583 0.004 1				
0.0666 0.004 1				
0.075 0.004 1				
0.0833 0.004 1				
0.0916 0.004 1				
0.1 0.004 1				
0.1083 0.004 1				
0.1166 0.004 1				
0.125 0.004 1				
0.1333 0.004 1				
0.1416 0.004 1				
0.15 0.004 1				
0.1583 0.004 1				
0.1666 0.004 1				
0.175 0.004 1				
0.1833 0.004 1				
0.1916 0.004 1				
0.2 0.004 1				
0.2083 0.004 1				
0.2166 0.004 1				
0.225 0.004 1				
0.2333 0.004 1				
0.2416 0.004 1				
0.25 0.004 1				

0.2583 0.004 1			
0.2666 0.004 1			
0.275 0.004 1			
0.2833 0.004 1			
0.2916 0.004 1			
0.3 0.004 1			
0.3083 0.004 1			
0.3166 0.004 1			
0.325 0.004 1			
0.3333 0.004 1			
0.35 0.004 1			
0.3666 0.004 1			
0.3833 0.004 1			
0.4 0.004 1			
0.4166 0.004 1			
0.4333 0.004 1			
0.45 0.004 1			
0.4666 0.004 1			
0.4833 0.004 1			
0.5 0.004 1			
0.5166 0.004 1			
0.5333 0.004 1			
0.55 0.004 1			
0.5666 0.004 1			
0.5833 0.004 1			
0.6 0.004 1			
0.6166 0.004 1			
0.6333 0.004 1			
0.65 0.004 1			
0.6666 0.004 1			
0.6833 0.004 1			
0.7 0.004 1			
0.7166 0.004 1			
0.7333 0.004 1			
0.75 0.004 1			
0.7666 0.004 1			
0.7833 0.004 1			
0.8 0.004 1			
0.8166 0.004 1			
0.8333 0.004 1			
0.85 0.004 1			
0.8666 0.004 1			
0.8833 0.004 1			
0.9 0.009 1			
0.9166 0.004 1			
0.9333 0.009 1			
0.95 0.009 1			
0.9666 0.009 1			
0.9833 0.004 1			
1 0.004 1			
1.2 0.009 1			
1.4 0.009 1			