

6933

APN 614 100 20
Control # W02683

TYPE OF WORK (Check)	USE (Check)	EQUIPMENT (Check)
New Well <input checked="" type="checkbox"/>	Individual Domestic <input type="checkbox"/> <i>\$TEST</i>	Rotary mud <input checked="" type="checkbox"/>
Repair or Modification <input type="checkbox"/>	Agricultural <input checked="" type="checkbox"/> Community <input type="checkbox"/>	Cable Tool <input type="checkbox"/>
Time Extension <input type="checkbox"/>	Industrial <input type="checkbox"/> Other _____	Other <input type="checkbox"/>
Destruction <input type="checkbox"/>		

PROPOSED WELL DEPTH	PROPOSED CASING
Max. <u>100</u> Min. <u>50</u> (Feet)	Type <u>PVC</u> Depth <u>FULL</u> Diameter <u>6" ID</u> Wall or Gage <u>240</u>

PROPOSED SEALING ZONE(S)	SEALING MATERIAL (Check)
From <u>0</u> to <u>20</u> Feet	Neat Cement Grout <input type="checkbox"/> Bentonite Clay <input checked="" type="checkbox"/>
From _____ to _____ Feet	Sand Cement Grout <input checked="" type="checkbox"/> Concrete <input type="checkbox"/>
From _____ to _____ Feet	Other-Specify: _____
PROPOSED PERFORATIONS OR SCREEN	DATE OF WORK
From <u>20</u> to <u>BOTTOM</u> Feet	Start <u>MAY 90</u>
From _____ to _____ Feet	Completion <u>MAY 90</u>
From _____ to _____ Feet	
From _____ to _____ Feet	

NAME OF WELL OWNER <u>WILLIAM KEITCHEN</u>	NAME OF WELL DRILLER <u>FRANK MURPHY</u>
LOCATION OF WELL <u>Interstate 8</u> <u>Sec map (JACUMBA)</u>	COMPANY <u>MURPHY'S WELL DRILLING</u>

DISPOSITION OF APPLICATION
(FOR HEALTH OFFICERS USE ONLY)

APPROVED DENIED

APPROVED WITH CONDITIONS

Report Reason(s) for Denial or Necessary Conditions Here:

Well installation to be
in accordance with San Diego
County AND STATE Code Test hole
is to be dug within 30 days

none

Jays [Signature]
HEALTH OFFICER

5/17/90
DATE

BUSINESS ADDRESS
PO 434 JACUMBA 92034

LICENSE NUMBER
505834

Cash Deposit
Bond Posted

4150 Fee paid on _____

I hereby agree to comply with all regulations of the Department of Health Services and with all ordinances and laws of the County of San Diego and of the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work I will furnish the Department of Health Services with a complete and accurate log of the well.

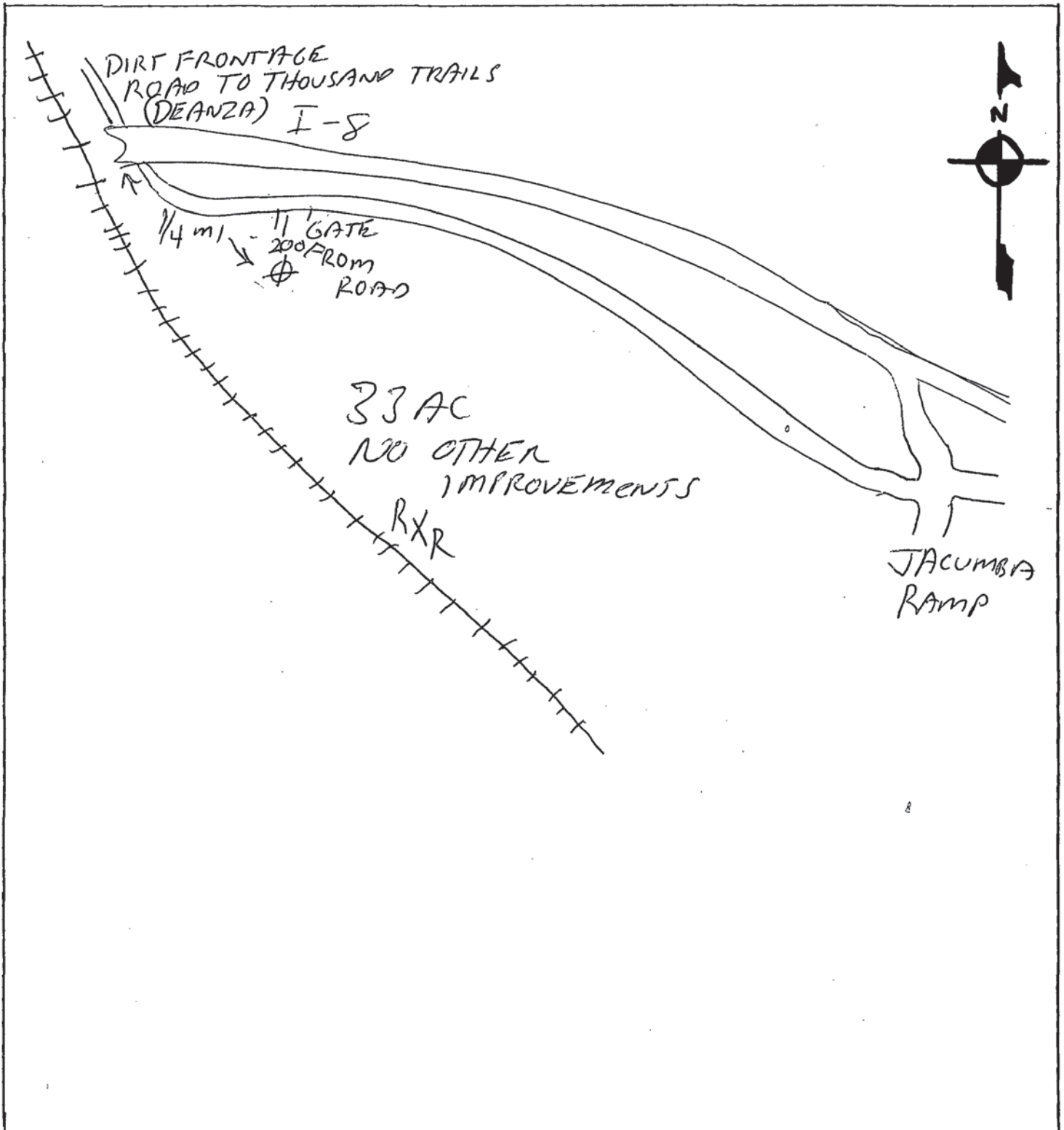
Frank A. Murphy
APPLICANT'S SIGNATURE

5-17-90
DATE

614-100-15

LOCATION

INDICATE BELOW THE VICINITY AND EXACT LOCATION OF WELL WITH RESPECT TO THE FOLLOWING ITEMS: PROPERTY LINES, WATER BODIES OR WATER COURSES, DRAINAGE PATTERN, ROADS, EXISTING WELLS, SEWERS AND PRIVATE SEWAGE DISPOSAL SYSTEMS AND OTHER POTENTIAL CONTAMINATION SOURCES, INCLUDING DIMENSIONS.



ORIGINAL
File with DWR

WDR to C.
8/24/90

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in

No. 341230

Notice of Intent No. _____
Local Permit No. or Date W-02683

State Well No. _____
Other Well No. _____

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

(12) WELL LOG: Total depth 81' ft. Completed depth 78' ft.
from ft. to ft. Formation (Describe by color, character, size or material)

0 - 24' CLAY - RUST BROWN
COLOR

24 - 55 COARSE SAND

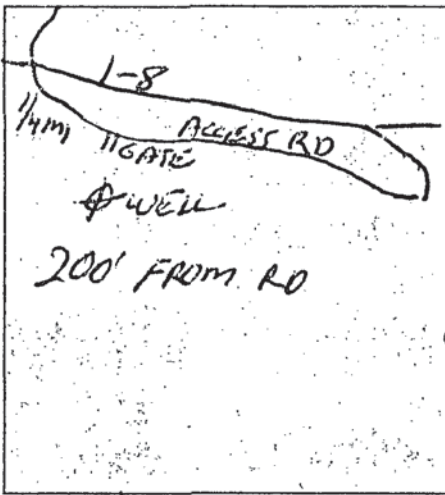
55 - 65 BROKEN GRAVEL

65 - 75 BLACK SAND

75 - 81 VOLCANIC ROCK

(2) LOCATION OF WELL (See instructions):

County SAN DIEGO Owner's Well Number _____
Well address if different from above JACUMBA VALLEY RANCH
Township 17S Range 8E Section 32
Distance from cities, roads, railroads, fences, etc. SEE MAP



(3) TYPE OF WORK:

- New Well Deepening
- Reconstruction
- Reconditioning
- Horizontal Well
- Destruction (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:

- Domestic
- Irrigation
- Industrial
- Test Well
- Municipal
- Other (Describe)

(5) EQUIPMENT:

- Rotary Reverse
- Cable Air
- Other Bucket

(6) GRAVEL PACK:

- Yes No
- Diameter of bore _____
- Packed from _____ to _____ ft.

(7) CASING INSTALLED:

- Steel Plastic Concrete

(8) PERFORATIONS:

Type of perforation or size of screen

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size
0	20	6	Scr 200	20	78	1/8x4

(9) WELL SEAL:

- Was surface sanitary seal provided? Yes No If yes, to depth 20 ft.
- Were strata sealed against pollution? Yes No Interval _____ ft.
- Method of sealing CLAY & CEMENT GROUT

(10) WATER LEVELS:

Depth of first water, if known APPROX. 24' ft.
Standing level after well completion APPROX. 4' ft.

(11) WELL TESTS:

- Was well test made? Yes No If yes, by whom? DRILLER
- Type of test Pump Bailor Air lift
- Depth to water at start of test 7' ft. At end of test _____ ft.
- Discharge 240 gal/min after 10 hours. Water temperature COLD
- Chemical analysis made? Yes No If yes, by whom? _____
- Was electric log made Yes No If yes, attach copy to this report

NOTED FOR PUBLIC USE
CODE SEC. 13752

Good seal
J. Murphy
5/20/91
Work started 5-10-1990 Completed 5-14-1990

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Signed Frank A. Murphy (Well Driller)
NAME MURPHY'S WELL DRILLING
(Person, firm, or corporation) (Typed or printed)
Address PO 434
City JACUMBA CA ZIP 92054
License No. 505834 Date of this report 5-23-90



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
PERMIT # W LW22/16419
WELL COMPUTER #
FEE: _____
WATER DIST: _____

- Property Owner: (Leasee) BORNT FARMS Phone: 760-356-2233
2307 EAST Hwy 98 Holtville 92250
Mailing Address City Zip
- Well Location - Assessors Parcel Number 660-020-05
Old Hwy 80 JACUMBA 91934
Site Address City Zip
- Well Contractor - Well Driller Joe EDWARDS Company Name: FAIN DRILLING
12029 Old CASTLE RD Valley Center 92082
Mailing Address City Zip
Phone#: 760-749-0701 C-57#: 328289 Cash Deposit Bond Posted
- Use: Private Public Industrial Cathodic Other AG-Well
- Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd
- Type of Equipment: Rotary
- Depth of Well: Proposed: 100' Existing: 0
- Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: <u>Steel A-139-B</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<u>S.S. 304 STAINLESS WIRE WRAP SCREEN</u>
Depth: <u>100</u>	Depth: <u>20</u> ft.	From: <u>20</u> To: <u>100</u>	From: <u>40</u> To: <u>100</u>
Diameter <u>14</u> in.	Diameter <u>24</u> in.	Type: <u>PEA GRAVEL</u>	From: _____ To: _____
Wall/Gauge: <u>.250</u>	Wall/Gauge: <u>.250</u>	Wall/Gauge: _____	From: _____ To: _____
- Annular Seal: Depth: 20 ft. Sealing Material: Cement
Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 5 in.
- Date of Work: Start: 1-21-05 Complete: 1-24-05

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: Joe R. Jain Date: 1-20-05

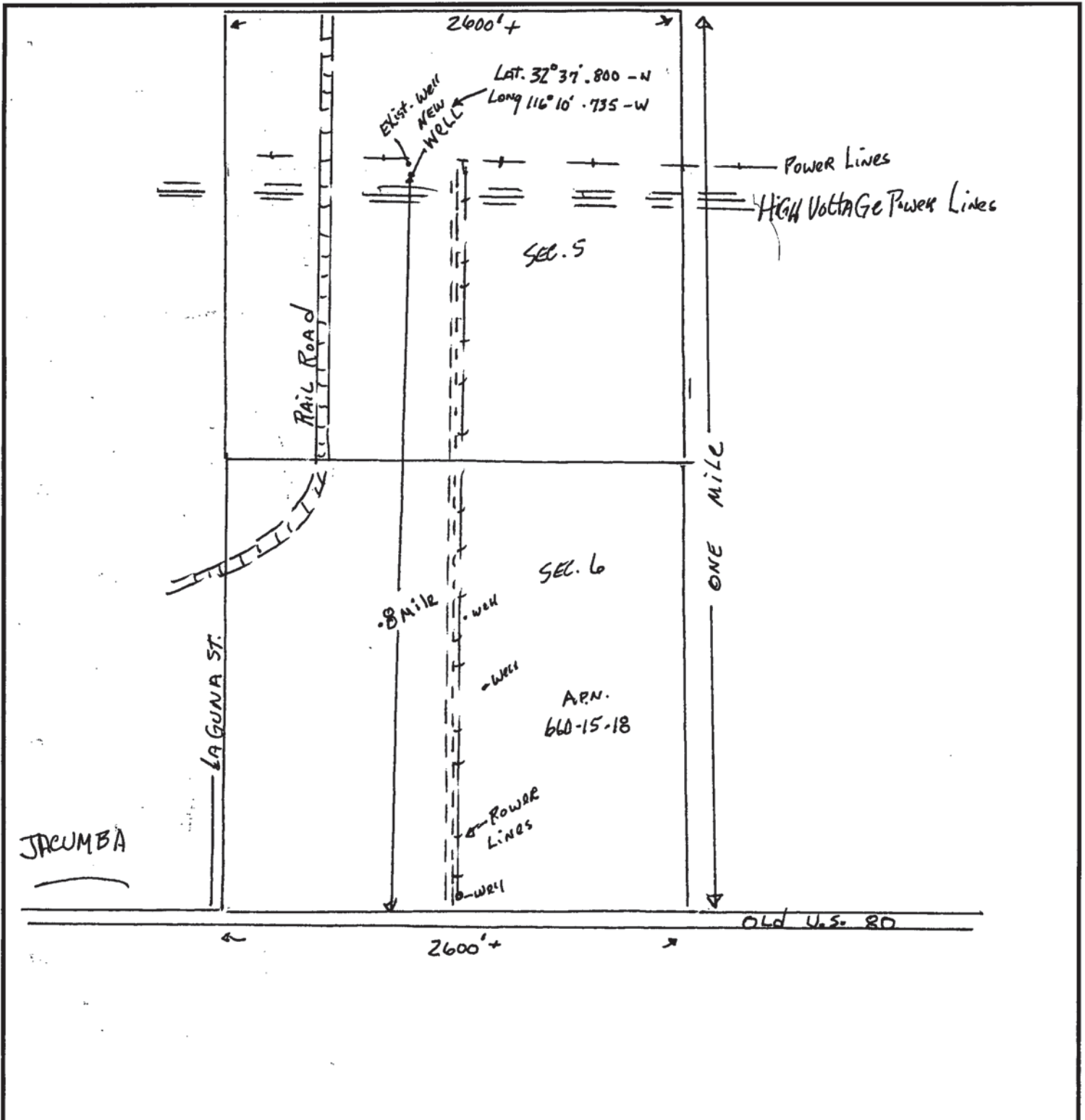
DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

Approved **Denied** Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: [Signature] Date: 1/29/05

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



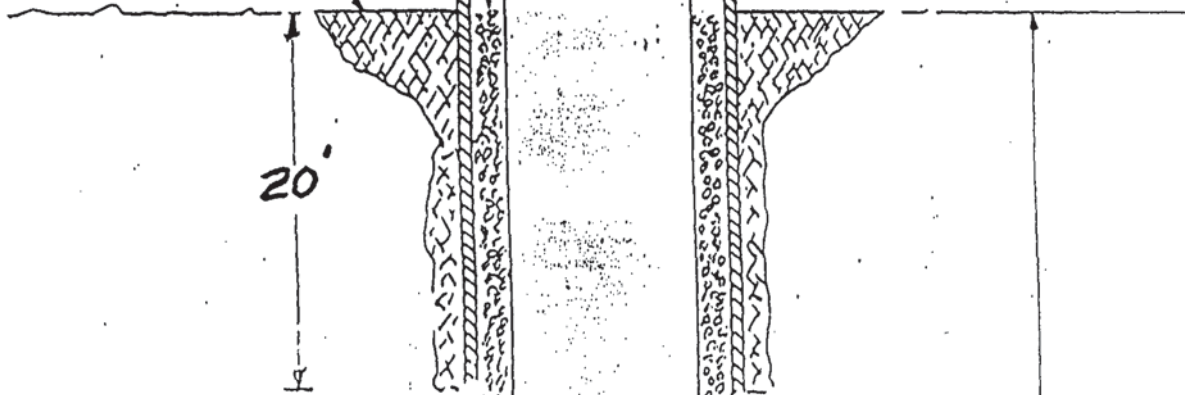
LWEL 16419

"AS BUILT" WELL

BORNT FARMS

JACUMBA CA.

GRAVEL PACKING
STEEL CONDUCTOR CASING
CEMENT



Lat. 32° 37' . 790 N
Long 116° 10' . 740 W

14" LINER

PERFORATION
SCREEN, WIRE WRAP
304 STAINLESS STEEL
NO. .080 SLOT

WELL DEPTH

100'

60'

Bottom plate

-FAIN DRILLING & PUMP-
12029 OLD CASTLE RD.
VALLEY CENTER CA.

STEEL CONDUCTOR 24" X 20'
STEEL LINER 14" X 100'
GRAVEL SIZE 5/16" & 7/16"

BY JF 1-26-05
JOE FAIN-OWNER

Owner's Well No. 0909529

Date Work Began 1/17/05, Ended 1/25/05

Local Permit Agency San Diego

Permit No. 16419 Permit Date 1/25/05

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

ORIENTATION () VERTICAL HORIZONTAL ANGLE (SPECIFY)

DRILLING METHOD Rotary FLUID Gel

DEPTH FROM SURFACE

Fl. to Fl.

DESCRIPTION

Describe material, grain size, color, etc.

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

DEPTH FROM SURFACE	DESCRIPTION
Fl. to Fl.	
0 - 11	Clayey sand and silt fine grains
11 - 56	Grey clayey sand fine to coarse medium grained
56 - 76	Coarse sand and gravel
76 - 89	sand fine to coarse with gravel and boulders
89 - 112	Clayey weathered rock

116.10.740
32 37.790

100 1464

WELL LOCATION

Address 110 Hwy 80 W/East Hwy 93

City Jacumba

County San Diego

APN Book 660 Page 020 Parcel 05

Township 18-S Range 8-E Section 5

Lat 32° 37' 790" N Long 116° 10' 740" W

LOCATION SKETCH

NORTH

ACTIVITY ()

NEW WELL

MODIFICATION/REPAIR

— Deepen

— Other (Specify)

— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

USES ()

WATER SUPPLY

Domestic Public

Irrigation Industrial

MONITORING

TEST WELL

CATHODIC PROTECTION

HEAT EXCHANGE

DIRECT PUSH

INJECTION

VAPOR EXTRACTION

SPARGING

REMEDICATION

OTHER (SPECIFY)

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. **PLEASE BE ACCURATE & COMPLETE.**

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 12 (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 9 (Ft.) & DATE MEASURED 1-26-05

ESTIMATED YIELD 2000 (GPM) & TEST TYPE Art. Well

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 90 (Ft.)

* May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
		TYPE ()	BLANK	SCREEN	CONDUCTOR				
0 - 20	32	X				Steel A-53	22.5	.250	
0 - 40	22	X				Steel A-159	18.5	.250	
41 - 100	22	X				304 S.S.	18.5	.250	.080

DEPTH FROM SURFACE	ANNULAR MATERIAL			
	CEMENT ()	BENTONITE ()	FILL ()	FILTER PACK (TYPE/SIZE)
0 - 20				
0 - 100				5/4" x 1/4"

ATTACHMENTS ()

Geologic Log

Well Construction Diagram

Geophysical Log(s)

Soil/Water Chemical Analyses

Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Fain Drilling & Pump Co. Inc.

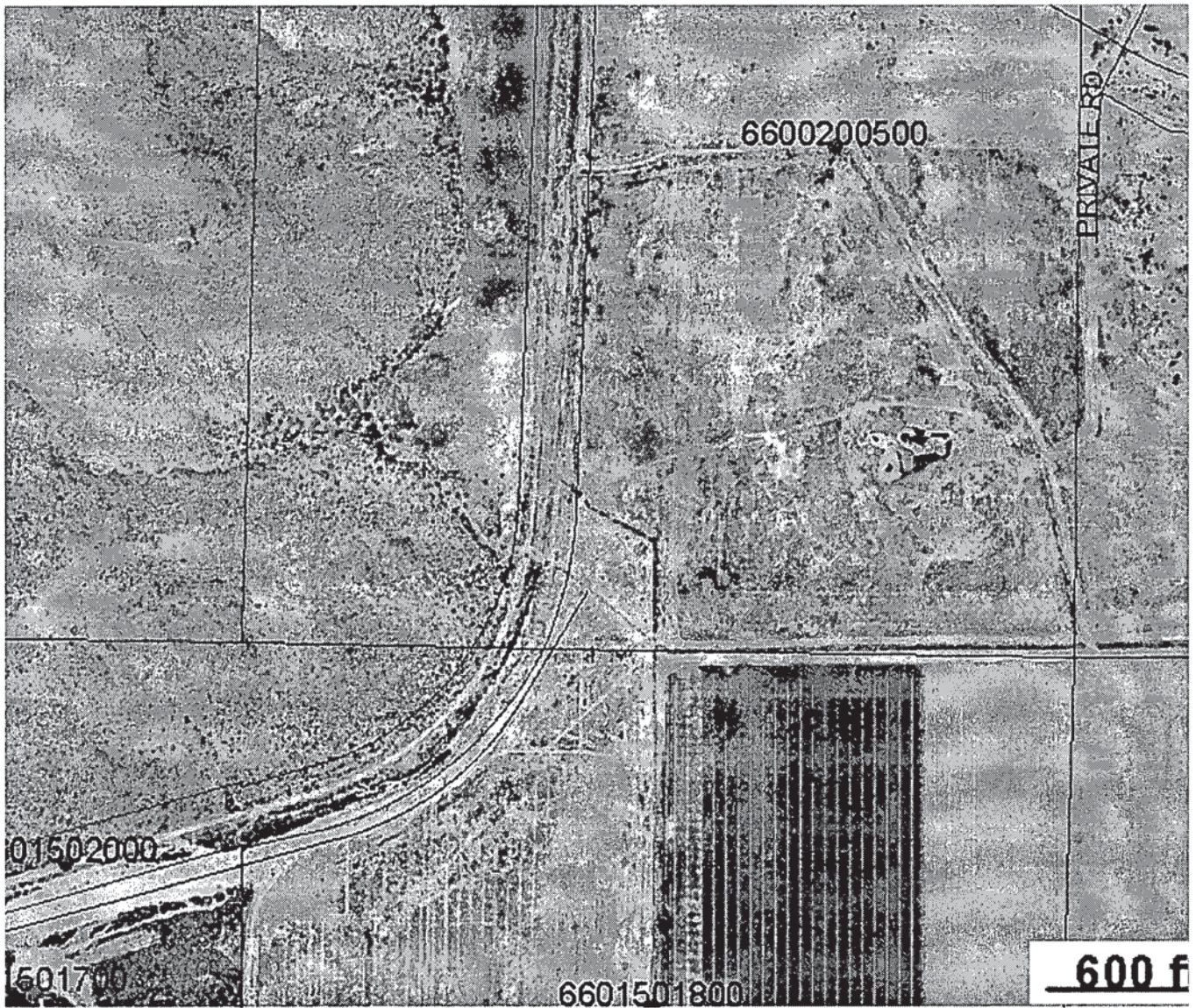
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

12029 Old Castle Rd. Valley Center, Ca 92082

ADDRESS _____ CITY _____ STATE _____ ZIP _____

Signed J. P. Fain DATE SIGNED 1-29-05 C-57 LICENSE NUMBER 324287

C-57 LICENSED WATER WELL CONTRACTOR





**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
 PERMIT # W Wesel 17922
 WELL COMPUTER # _____
 FEE: _____
 WATER DIST: _____

1. Property Owner: BORNT FARMS Phone: 619-766-4213
2307 EAST Hwy 98 Holtville CA 92250
Mailing Address City Zip
2. Well Location - Assessors Parcel Number 661-060-22
Old Hwy 80 JACUMBA
Site Address City Zip
3. Well Contractor - Well Driller Joe Edwards Company Name: Fain Drilling
12029 Old Castle Rd Valley Center 92082
Mailing Address City Zip
 Phone#: 760-749-0701 C-57#: 328287 Cash Deposit Bond Posted
4. Use: Private Public Industrial Cathodic Other _____
5. Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd
6. Type of Equipment: Rotary
7. Depth of Well: Proposed: 120' Existing: 0
8. Proposed:
- | | | | |
|-------------------------|---|---|--------------------------------|
| Casing | Conductor Casing | Filter/Filler Material | Perforations |
| Type: <u>Steel</u> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Depth: <u>120</u> | Depth: <u>20</u> ft. | From: <u>20</u> To: <u>120</u> | From: <u>60</u> To: <u>120</u> |
| Diameter <u>14"</u> in. | Diameter _____ in. | Type: _____ | From: _____ To: _____ |
| Wall/Gauge: <u>.250</u> | Wall/Gauge: _____ | Wall/Gauge: _____ | From: _____ To: _____ |
9. Annular Seal: Depth: 20 ft. Sealing Material: Cement
 Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 4 in.
10. Date of Work: Start: MAY 26-06 Complete: MAY-31-06

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: [Signature] Date: MAY-19-06

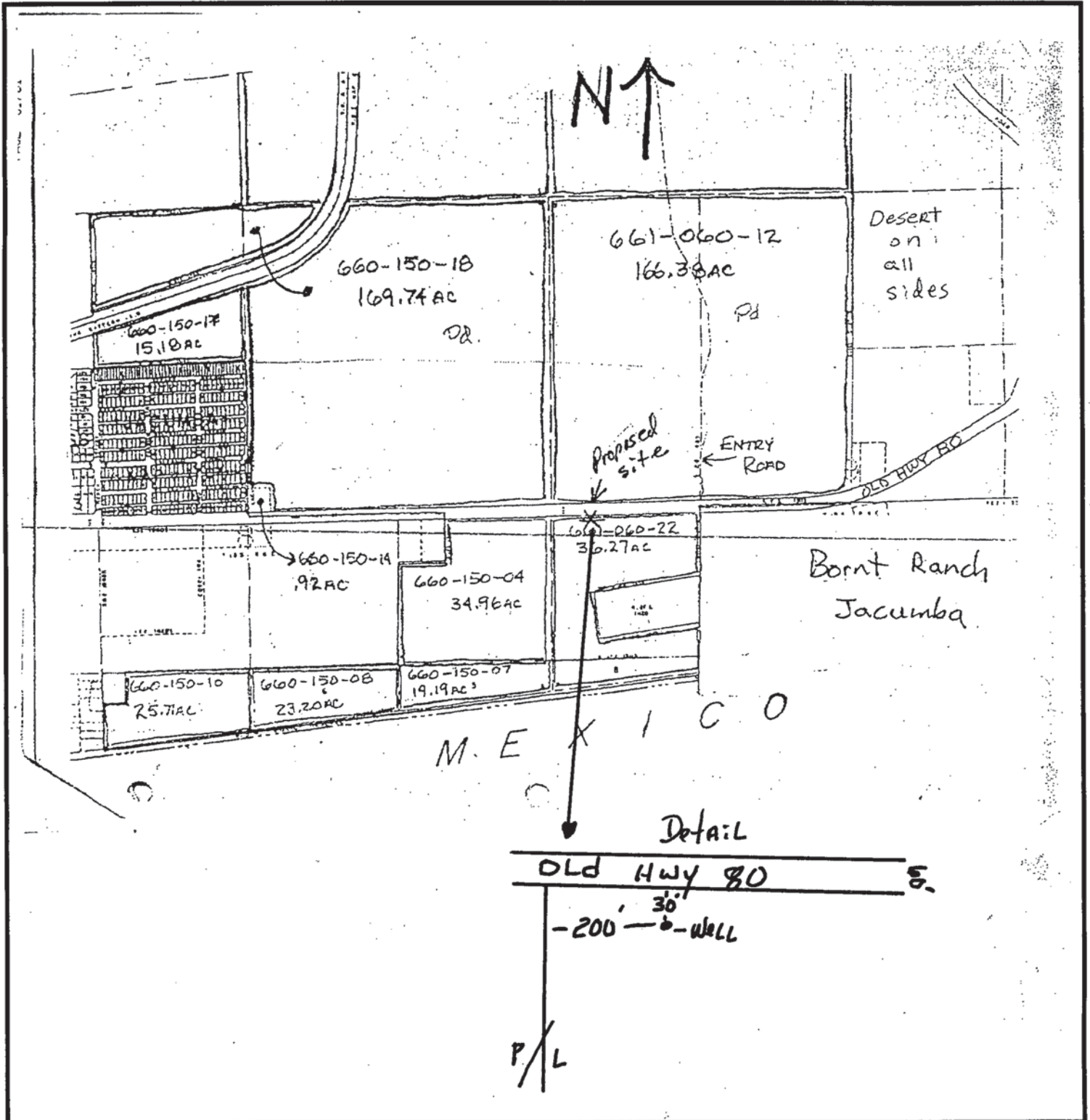
DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

Approved **Denied** Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: [Signature] Date: 5/19/06

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



QUADRUPPLICATE
For Local Requirements

STATE OF CALIFORNIA
WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. **1085056**

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1
 Owner's Well No. TEST WELL
 Date Work Began 6/26/06, Ended 7/6/06
 Local Permit Agency DEH
 Permit No. LEEL 17927 Permit Date 5/19/06

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

GEOLOGIC LOG

ORIENTATION () VERTICAL HORIZONTAL ANGLE _____ (SPECIFY)

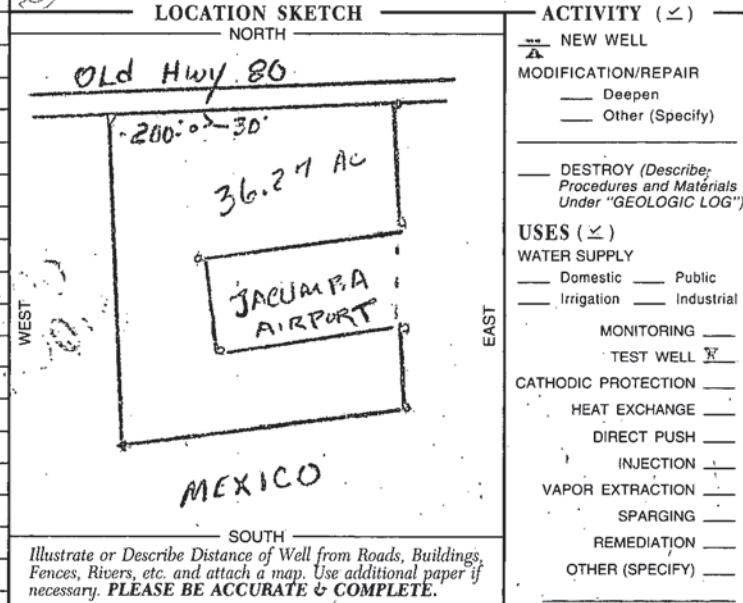
DRIILING METHOD Rotary FLUID Oil

DEPTH FROM SURFACE		DESCRIPTION
Ft.	to Ft.	Describe material, grain size, color, etc.
0	8	Loose silty sand - brown color
8	17	Clayey sand
17	45	Medium to coarse sand - brown color
45	75	Medium to coarse sand and small aggregates round to sub-round partly cemented - red to purple color
75	108	Clayey sand and small aggregated purple color
108	120	Hard, cemented aggregates - purple color
		116, 17025
		32, 61767

TOTAL DEPTH OF BORING 120 (Feet)
 TOTAL DEPTH OF COMPLETED WELL 0 (Feet)

WELL LOCATION

Address Old Hwy 80
 City Jacumba
 County San Diego
 APN Book 001 Page 000 Parcel 22
 Township 18S Range 0E Section 9
 Lat. _____ Deg. _____ Min. _____ Sec. _____ N _____ W
 Long. _____ Deg. _____ Min. _____ Sec. _____



WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 40 (Ft.) BELOW SURFACE
 DEPTH OF STATIC WATER LEVEL 25 (Ft.) & DATE MEASURED 7/5/06
 ESTIMATED YIELD _____ (GPM) & TEST TYPE _____
 TEST LENGTH _____ (Hrs.) TOTAL DRAWDOWN _____ (Ft.)
 * May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)							
		TYPE ()				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
Ft.	to Ft.	BLANK	SCREEN	CON-DUCTOR	FILL PIPE				

DEPTH FROM SURFACE	ANNULAR MATERIAL				
	TYPE				
Ft.	to Ft.	CE-MENT ()	BEN-TONITE ()	FILL ()	FILTER PACK (TYPE/SIZE)
0	20	X			
20	120		X		

ATTACHMENTS ()

Geologic Log
 Well Construction Diagram
 Geophysical Log(s)
 Soil/Water Chemical Analyses
 Other S&W MAP

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Edin Drilling & Pump Co Inc
 (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
12029 Old Castle Rd. Valley Center, Ca 92082
 ADDRESS CITY STATE ZIP
 Signed Ed R. Smith DATE SIGNED 2-5-06 322267
 C-57 LICENSED WATER WELL CONTRACTOR C-57 LICENSE NUMBER



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
 PERMIT # WEL-18031
 WELL COMPUTER # _____
 FEE: _____
 WATER DIST: _____

1. Property Owner: BORNT FARMS Phone: 619 766-4213
2307 EAST HWY 98 HOLTVILLE CA 92250
Mailing Address City Zip

2. Well Location - Assessors Parcel Number 660-150-04
OLD HWY 80 JACUMBA
Site Address City Zip

3. Well Contractor - Well Driller JOE EDWARDS Company Name: FAIN DRILLING
12029 OLD CASTLE RD VALLEY CENTER 92082
Mailing Address City Zip

Phone#: 760-749-0701 C-57#: 328287 Cash Deposit Bond Posted

4. Use: Private Public Industrial Cathodic Other AG-WEL

5. Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd

6. Type of Equipment: Rotary

7. Depth of Well: Proposed: 100' Existing: 0

8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: <u>STKL-A-129</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Depth: <u>100 ±</u>	Depth: <u>20</u> ft.	From: <u>20</u> To: <u>100</u>	From: <u>50</u> To: <u>90</u>
Diameter: <u>14"</u> in.	Diameter: <u>24</u> in.	Type: _____	From: _____ To: _____
Wall/Gauge: <u>.256</u>	Wall/Gauge: <u>.256</u>	Wall/Gauge: _____	From: _____ To: _____

9. Annular Seal: Depth: 20 ft. Sealing Material: CEMENT
 Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 4 in.

10. Date of Work: Start: AUG - 2006 Complete: AUG - 2006

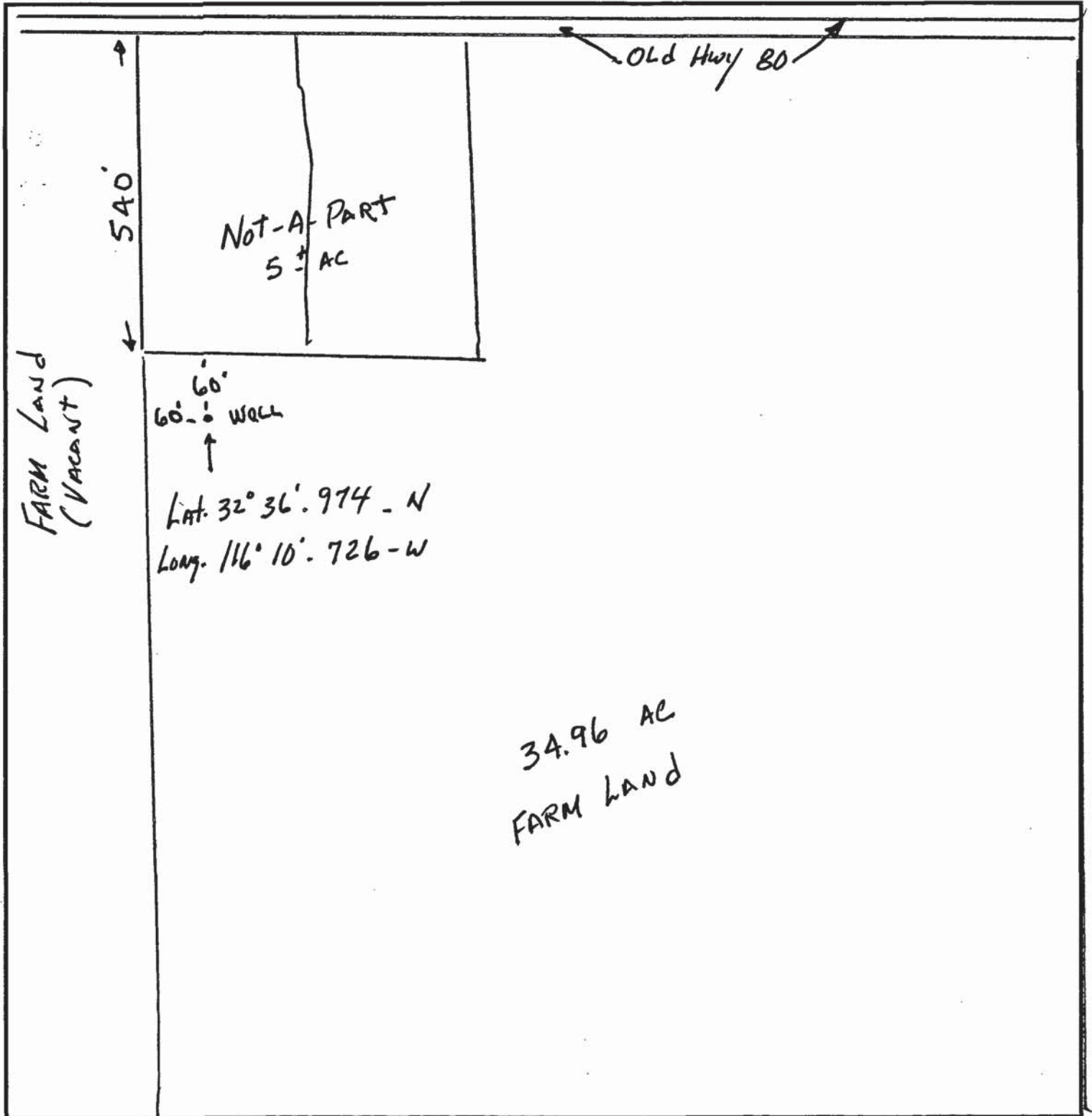
On sites served by public water, contact the local water agency for meter protection requirements.
 I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: [Signature] Date: 8-1-06

DISPOSITION OF APPLICATION (Department of Environmental Health Use only)
 Approved Denied Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.
 Specialist: [Signature] Date: 8-4-06

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



BORNT FARMS

WELL "AS BUILT"

L WOL 18031

WELL

GRAVEL PACKING
STEEL CONDUCTOR CASING
CEMENT

20'

14" LINER

PERFORATION
SCREEN

WIRE WRAP NO. 080
SLOT

304 - STAINLESS STEEL

WELL DEPTH

94'

40'

6'

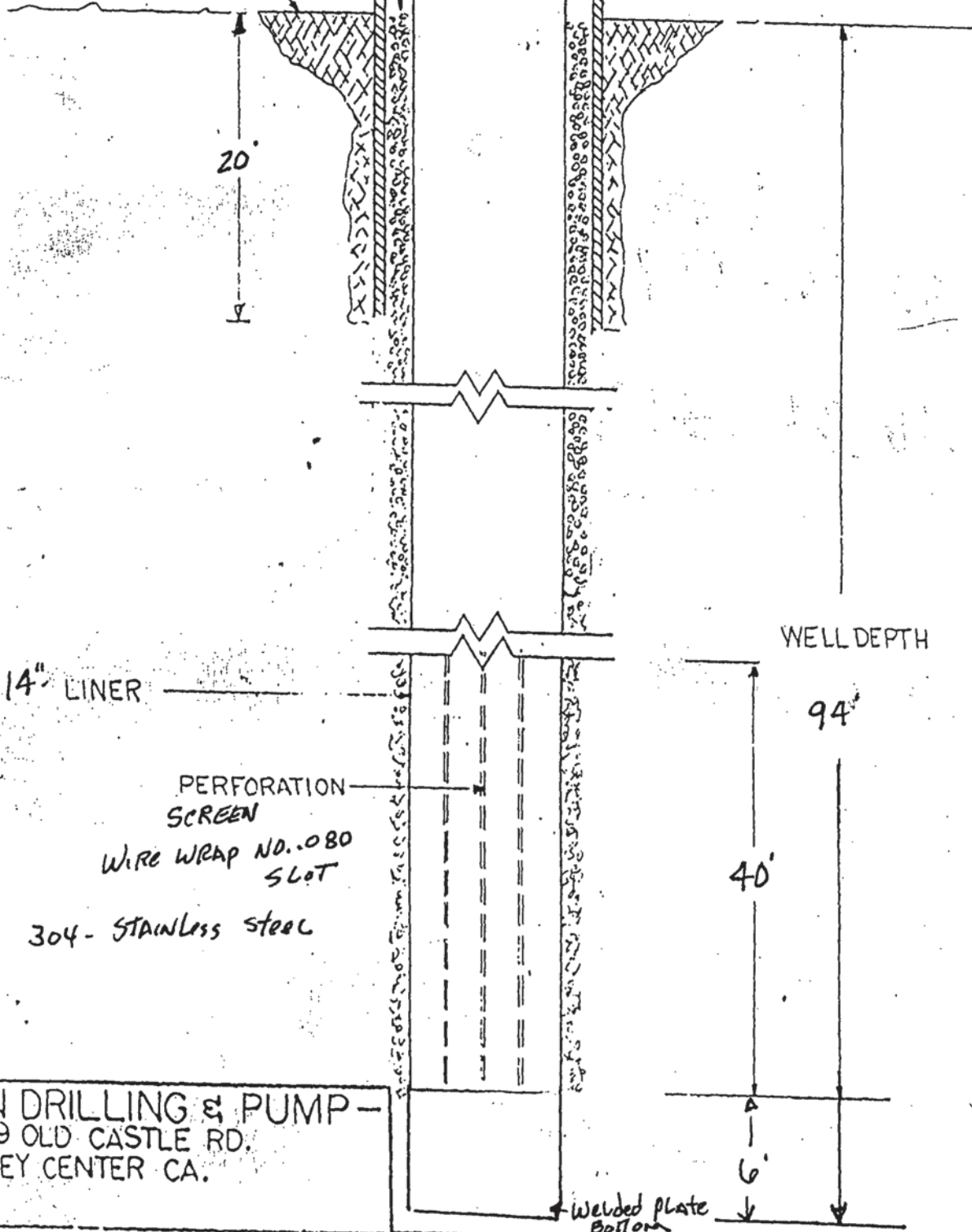
Welded plate
Bottom

- FAIN DRILLING & PUMP -
12029 OLD CASTLE RD.
VALLEY CENTER CA.

STEEL CONDUCTOR 24" X 21'
STEEL LINER 14" X 96'
GRAVEL SIZE 5/16 X 7

BY: *[Signature]* 8-5-06

JOE FAIN - OWNER



✓ Rec
9/18/06
W

WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. **1085057**

STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Page 1 of 1
Owner's Well No. **2006**

Date Work Began **7/27/06**, Ended **9/2/06**

Local Permit Agency **DEW**

Permit No. **LWEL 19031** Permit Date **9/4/06**

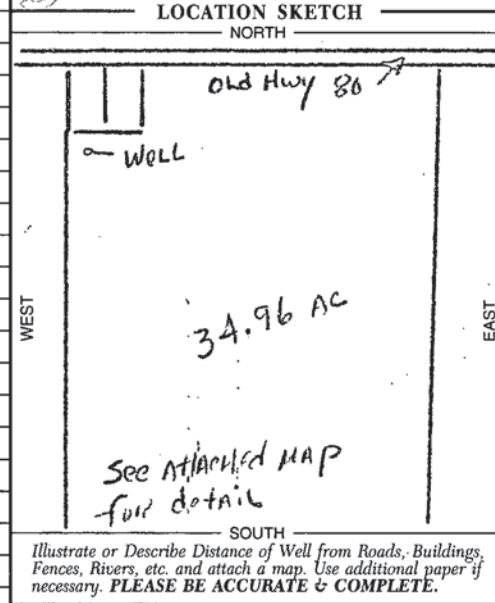
GEOLOGIC LOG

DEPTH FROM SURFACE		DESCRIPTION
Ft.	to Ft.	
0	23	Fine grained silty sand, partly cemented - brown color
23	56	Fine to medium gravel sand brown color
56	86	Coarse sand with gravel
86	96	Heathered bedrock
96	105	Black meta - volcanics

ORIENTATION () VERTICAL _____ HORIZONTAL _____ ANGLE _____ (SPECIFY)
 DRILLING METHOD **Rotary** FLUID **Gel**
 Describe material, grain size, color, etc.
 116.10.726
 32.36.974

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

WELL LOCATION
 Address **Old Hwy 80**
 City **Jacumba**
 County **San Diego**
 APN Book **660** Page **150** Parcel **04**
 Township **18S** Range **8E** Section **9**
 Lat **32** **36** **974** N Long **116** **10** **726** W
 DEG. MIN. SEC. DEG. MIN. SEC.



ACTIVITY ()
 NEW WELL
 MODIFICATION/REPAIR
 _____ Deepen
 _____ Other (Specify)
 _____ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")
 USES ()
 WATER SUPPLY
 _____ Domestic _____ Public
 Irrigation _____ Industrial
 MONITORING _____
 TEST WELL _____
 CATHODIC PROTECTION _____
 HEAT EXCHANGE _____
 DIRECT PUSH _____
 INJECTION _____
 VAPOR EXTRACTION _____
 SPARGING _____
 REMEDIATION _____
 OTHER (SPECIFY) _____

WATER LEVEL & YIELD OF COMPLETED WELL
 DEPTH TO FIRST WATER **57** (Ft.) BELOW SURFACE
 DEPTH OF STATIC WATER LEVEL **38** (Ft.) & DATE MEASURED **8/2/06**
 ESTIMATED YIELD **1000** (GPM) & TEST TYPE **airlift**
 TEST LENGTH **4** (Hrs.) TOTAL DRAWDOWN **40** (Ft.)
 * May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)								
		TYPE ()				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	
		BLANK	SCREEN	CON. DUCTOR	FILL PIPE					
0	20	32	X				Steel	23.5	.250	
0	50	22	X				Steel	13.5	.250	
50	90	22		X			Steel-SS	13.5	.250	
90	96	22	X				Steel	13.5	.250	

DEPTH FROM SURFACE	ANNULAR MATERIAL				
	TYPE				
	CE-MENT ()	BEN-TONITE ()	FILL ()	FILTER PACK (TYPE/SIZE)	
0	20	X			
0	96				5/16x7

ATTACHMENTS ()
 _____ Geologic Log
 Well Construction Diagram
 _____ Geophysical Log(s)
 _____ Soil/Water Chemical Analyses
 Other **site map**
 ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT
 I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
 NAME **FAIN DRILLING & PUMP CO INC**
 (PERSON, FIRM, OR CORPORATION), (TYPED OR PRINTED)
12029 Old castle Rd. valley Center, Ca 92082
 ADDRESS _____ CITY _____ STATE _____ ZIP _____
 Signed **John Dain** DATE SIGNED **8-5-06** ZIP **324287**
 C-57 LICENSED WATER WELL CONTRACTOR DATE SIGNED _____ C-57 LICENSE NUMBER _____



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
 PERMIT # W LWEL-18415
 WELL COMPUTER # _____
 FEE: _____
 WATER DIST: _____

- Property Owner: BORNT FARMS Phone: 619-766-4213
2307 EAST HWY 98 Holtville, CA 92250
Mailing Address City Zip
- Well Location - Assessors Parcel Number 660-150-18
OLD HWY 80 JACUMBA
Site Address City Zip
- Well Contractor - Well Driller JOE EDWARDS Company Name: FAM DRILLING
12029 OLD CASTLE RD VALLEY CENTER 92082
Mailing Address City Zip
 Phone#: (760) 749-0701 C-57#: 328287 Cash Deposit Bond Posted
- Use: Private Public Industrial Cathodic Other _____
- Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd
- Type of Equipment: ROTARY
- Depth of Well: Proposed: 110' Existing: 0
- Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: <u>Steel</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Depth: <u>110'</u>	Depth: <u>20'</u> ft.	From: <u>20</u> To: <u>120</u>	From: <u>70</u> To: <u>110</u>
Diameter <u>14</u> in.	Diameter <u>24"</u> in.	Type: _____	From: _____ To: _____
Wall/Gauge: <u>.250</u>	Wall/Gauge: <u>.250</u>	Wall/Gauge: _____	From: _____ To: _____
- Annular Seal: Depth: 20 ft. Sealing Material: cement
 Borehole diameter: 32" in. Conductor diameter: 24 in. Annular Thickness 4 in.
- Date of Work: Start: 7-11-07 Complete: 7-24-07

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: Date: 7-13-07

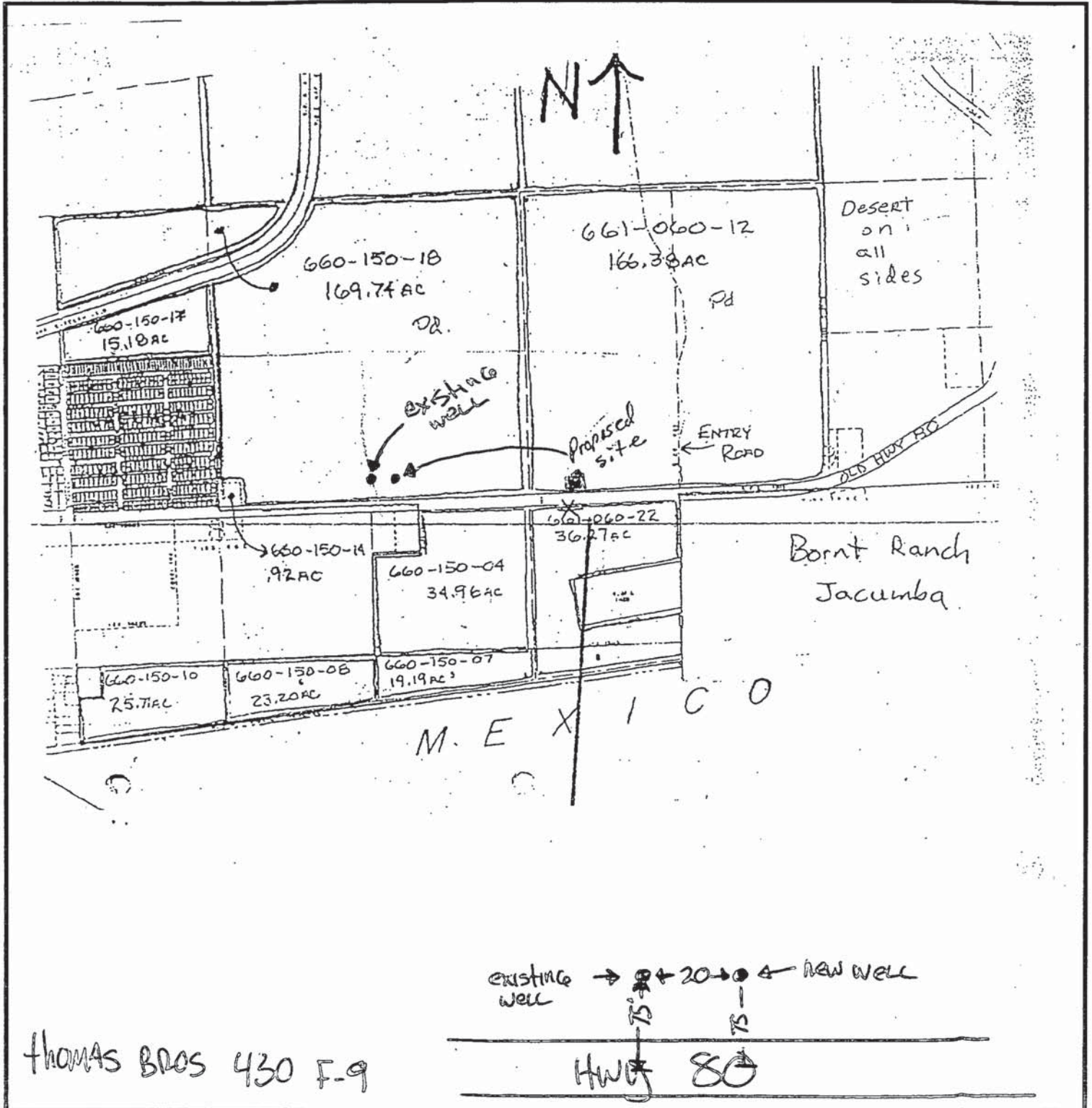
DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

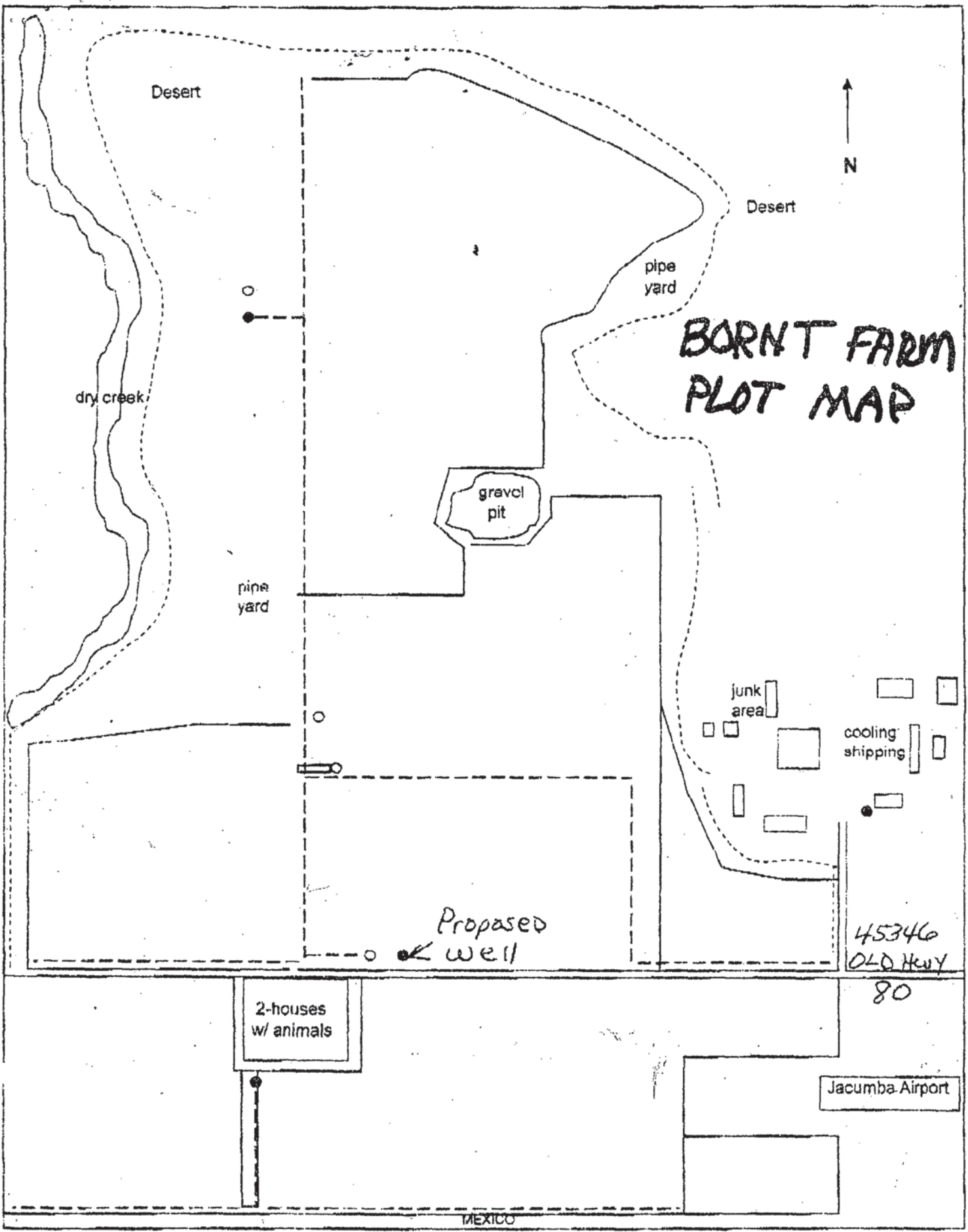
Approved **Denied** Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies. _____

Specialist: Date: 7-13-07

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.

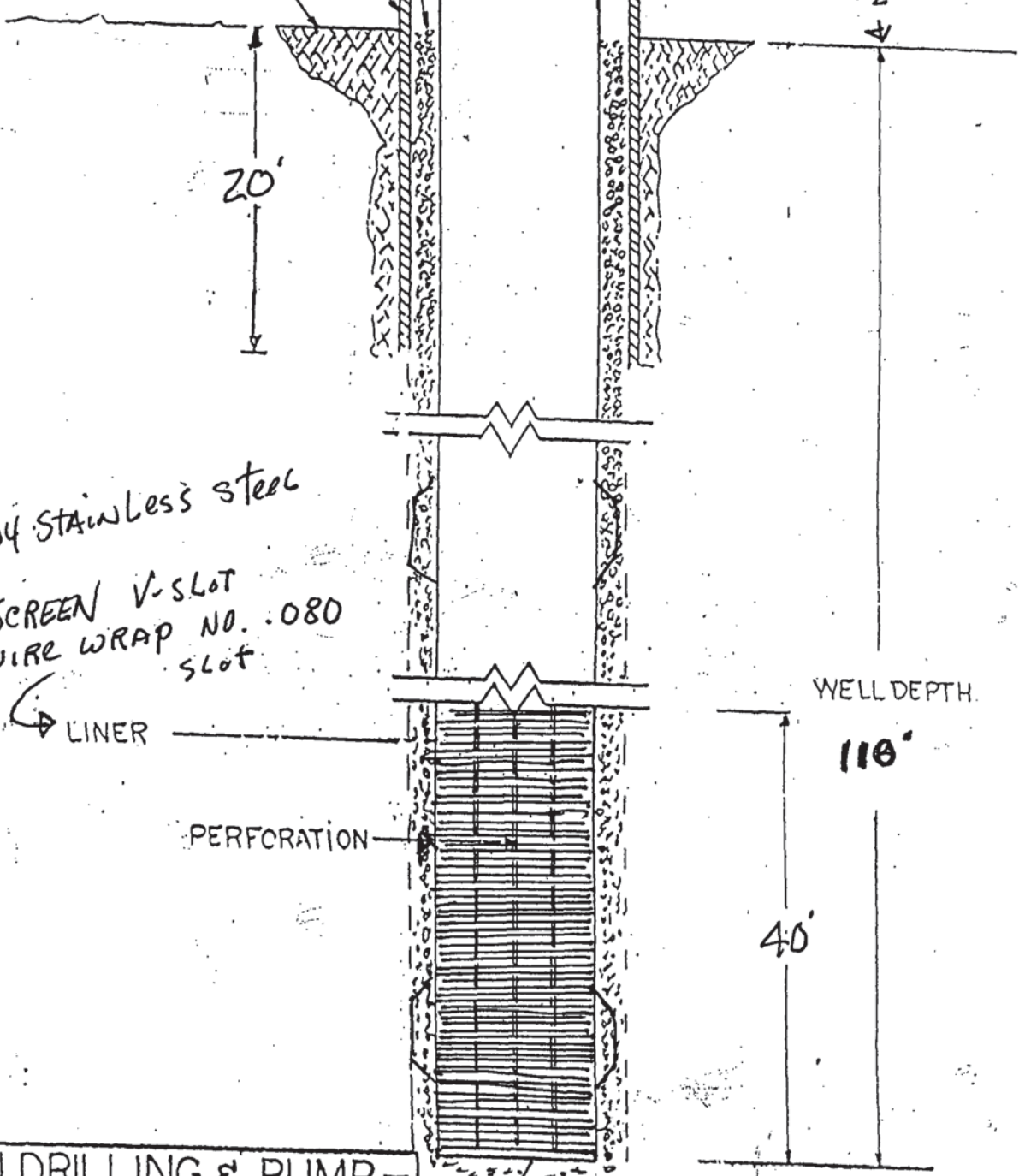




AS BUILT
WELL

LWEL 18415
BORT FARMS

GRAVEL PACKING
STEEL CONDUCTOR CASING
CEMENT



304 stainless steel

SCREEN V-SLOT
WIRE WRAP NO. .080
slot

LINER

PERFORATION

WELL DEPTH

110'

40'

-FAIN DRILLING & PUMP-
12029 OLD CASTLE RD.
VALLEY CENTER CA.

Welded
Plate Bottom
- 500 WALL X 14" dia.

STEEL CONDUCTOR 24" X 21'
STEEL LINER 14" X 113'
GRAVEL SIZE 5/16 X 7

BY: Joe R. Fain 7/30/07
JOE FAIN-OWNER

STATE OF CALIFORNIA
WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. **1089727**

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. 022 2007

Date Work Began 7/18/07, Ended 7/23/07

Local Permit Agency DEM

Permit No. LEVEL 19415 Permit Date 7/13/07

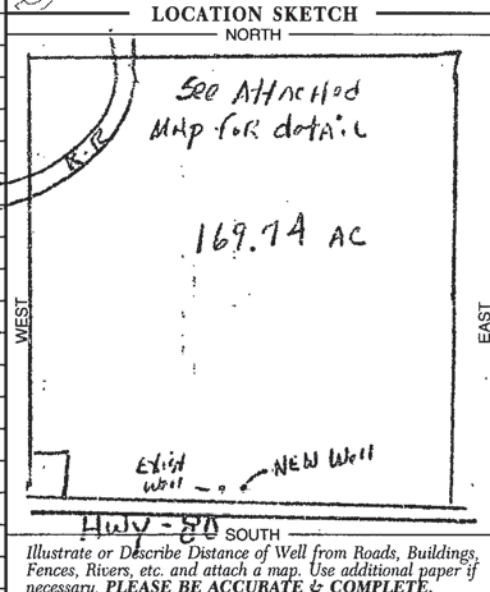
GEOLOGIC LOG

DEPTH FROM SURFACE		DESCRIPTION
Ft.	to Ft.	
ORIENTATION () <input checked="" type="checkbox"/> VERTICAL _____ HORIZONTAL _____ ANGLE _____ (SPECIFY)		
DRILLING METHOD <u>Rotary</u> FLUID <u>Gel</u>		
Describe material, grain size, color, etc.		
0	9	Sand, fine grained - brown color
9	24	Clay - Dark color
24	70	Sand, fine grained
70	113	Sand, medium to coarse grained with some boulders

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

WELL LOCATION

Address Old Hwy 80
 City Jatumba
 County San Diego
 APN Book 660 Page 150 Parcel 18
 Township 18 S Range 8 E Section 8
 East _____ N _____ Long _____ W _____
 DEG. MIN. SEC. DEG. MIN. SEC.



ACTIVITY ()

NEW WELL

MODIFICATION/REPAIR
 _____ Deepen
 _____ Other (Specify)

DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

USES ()

WATER SUPPLY
 Domestic _____ Public
 Irrigation _____ Industrial

MONITORING _____
 TEST WELL _____
 CATHODIC PROTECTION _____
 HEAT EXCHANGE _____
 DIRECT PUSH _____
 INJECTION _____
 VAPOR EXTRACTION _____
 SPARGING _____
 REMEDIATION _____
 OTHER (SPECIFY) _____

TOTAL DEPTH OF BORING 113 (Feet)
 TOTAL DEPTH OF COMPLETED WELL 114 (Feet)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 50+ (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 40 (Ft.) & DATE MEASURED 7/23/07

ESTIMATED YIELD 2000 (GPM) & TEST TYPE airlift

TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN 60 (Ft.)

* May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)								
		TYPE ()				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	
		BLANK	SCREEN	CON. DUCTOR	FILL PIPE					
0	20	32	<input checked="" type="checkbox"/>				Steel	23.5	.250	
0	73	24	<input checked="" type="checkbox"/>				Steel	13.5	.250	
73	113	24		<input checked="" type="checkbox"/>			Steel S.S.	13.5	.250	.080
							304			

DEPTH FROM SURFACE	ANNULAR MATERIAL				
	TYPE				
	CE-MENT ()	BEN-TONITE ()	FILL ()	FILTER PACK (TYPE/SIZE)	
0	20	<input checked="" type="checkbox"/>			
20	113			pea gravel 5/16x7	

ATTACHMENTS ()

_____ Geologic Log
 Well Construction Diagram
 _____ Geophysical Log(s)
 _____ Soil/Water Chemical Analyses
 Other Site MAP

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME FAIN DRILLING & PUMP CO INC
 (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

12029 Old Castle Rd. Valley Center, Ca 92082

ADDRESS _____ CITY _____ STATE _____ ZIP _____

Signed [Signature] DATE SIGNED 7-30-07 C-57 LICENSE NUMBER 329289



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
PERMIT # W 20411
WELL COMPUTER # _____
FEE: 462.
WATER DIST: _____

1. Property Owner: BORNT FARMS (Leasee) Phone: 760-356-2233
2307 E. Hwy 98 Holtville 92250
Mailing Address City Zip
2. Well Location - Assessors Parcel Number 660-150-21
Old Hwy 80 JACUMBA
Site Address City Zip
3. Well Contractor - Well Driller Joe EDWARDS Company Name: FAIN DRILLING
12029 Old Castle Rd Valley Center 92082
Mailing Address City Zip
Phone#: 760-749-0701 C-57#: 328287 Cash Deposit Bond Posted
4. Use: Private Public Industrial Cathodic Other AGG-well only
5. Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd
6. Type of Equipment: Rotary
7. Depth of Well: Proposed: 300' Existing: 0
8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: <u>Steel</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Depth: <u>300' ±</u>	Depth: <u>20</u> ft.	From: <u>20</u> To: <u>300</u>	From: <u>200</u> To: <u>300'</u>
Diameter: <u>16"</u> in.	Diameter: <u>24"</u> in.	Type: <u># 6</u>	From: _____ To: _____
Wall/Gauge: <u>.250</u>	Wall/Gauge: <u>.250</u>	Wall/Gauge: _____	From: _____ To: _____
9. Annular Seal: Depth: 20 ft. Sealing Material: Cement
Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 4 in.
10. Date of Work: Start: Oct 26-09 Complete: Nov-8-09

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: Joe R. Fain Date: Oct-21-09

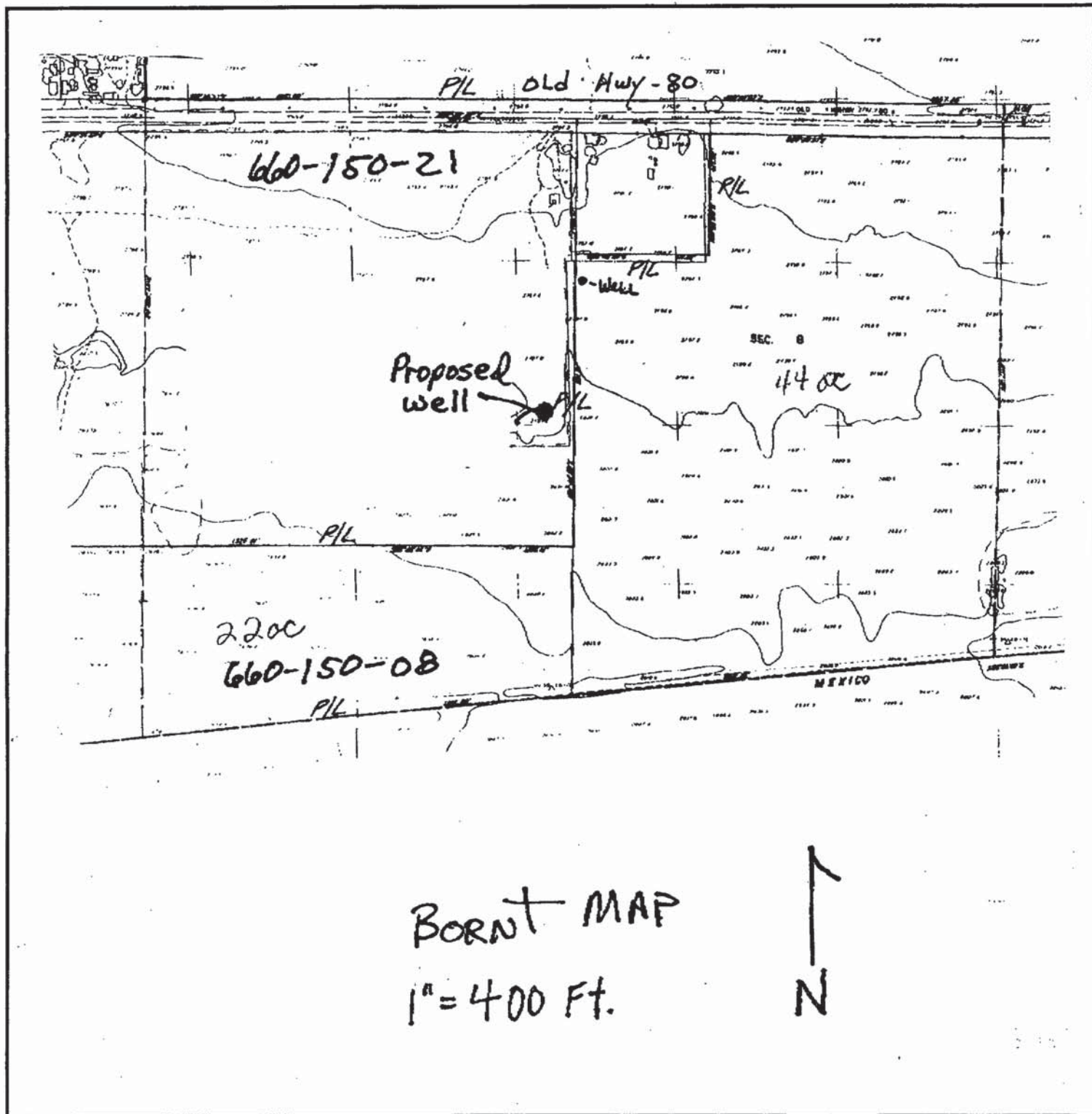
DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

Approved **Denied** Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies. _____

Specialist: Sergio Arana Date: 11-2-09

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, easements, water bodies or water courses, drainage pattern, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



field 9-8-11

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0135671

Page one of one

Owner's Well Number Test Hole

Date Work Began 11/04/2009

Date Work Ended 11/6/2009

Local Permit Agency DEH

Permit Number LWEL20411

Permit Date 11/2/09

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log

Orientation Vertical Horizontal Angle Specify _____
 Drilling Method Direct Rotary Drilling Fluid Bentonite mud

Depth from Surface	Description	
Feet	to	Feet
		Alluvial Fill As Follows:
0	10	Silty Sand
10	80	Sandy Clay W/ Small Aggregate
80	150	Clay W/ Small lenses of Aggregate
150	310	Multi Colored Meta Volcanics
Test Hole Destroyed		
Total Depth of Boring <u>310</u> Feet		
Total Depth of Completed Well <u>0</u> Feet		

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

Well Location

Address Old Hwy 80
 City Jacumba County San Diego
 Latitude 32 36 905 N Longitude 116 10 772 W
Dec. Min. Sec. Dec. Min. Sec.
 Datum _____ Decimal Lat. _____ Decimal Long. _____
 APN Book 660 Page 150 Parcel 04
 Township 18-s Range 8-e Section 8

Location Sketch

(Sketch must be drawn by hand after form is printed.)

North

South

Activity

New Well
 Modification/Repair
 Deepen
 Other _____
 Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

Water Supply
 Domestic Public
 Irrigation Industrial
 Cathodic Protection
 Dewatering
 Heat Exchange
 Injection
 Monitoring
 Remediation
 Sparging
 Test Well
 Vapor Extraction
 Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)
 Depth to Static _____
 Water Level _____ (Feet) Date Measured _____
 Estimated Yield * _____ (GPM) Test Type _____
 Test Length _____ (Hours) Total Drawdown _____ (Feet)
 *May not be representative of a well's long term yield.

Casings

Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size
Feet	to Feet			(Inches)	(Inches)		if Any (Inches)
NONE							

Annular Material

Depth from Surface	Fill	Description
Feet	to Feet	
0	5	Fill
5	25	Cement
25	75	Bentonite
75	310	Fill

Attachments

Geologic Log
 Well Construction Diagram
 Geophysical Log(s)
 Soil/Water Chemical Analyses
 Other Site Map

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Fain Drilling & Pump Co., Inc.
Person, Firm or Corporation
12029 Old Castle Rd. Valley Center CA 92082
Address City State Zip
 Signed Jac R. Fain 12/2/2009 328287
C-57 Licensed Water Well Contractor Date Signed C-57 License Number



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
LWEL 20435
PERMIT # W
WELL COMPUTER #
FEE: 460
WATER DIST: _____

(Leasee)

1. Property Owner: BORNT FARMS Phone: 619-766-4213
2307 E. Hwy 98 Holtville 92250
Mailing Address City Zip

2. Well Location - Assessors Parcel Number 660-150-04
Old Hwy 80 JACUMBA
Site Address City Zip

3. Well Contractor - Well Driller Joe Edwards Company Name: Fain Drilling
12029 Old Castle Rd Valley Center 92082
Mailing Address City Zip

Phone#: _____ C-57#: _____ Cash Deposit Bond Posted

4. Use: Private Public Industrial Cathodic Other _____

5. Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd

6. Type of Equipment: Rotary

7. Depth of Well: Proposed: 200-300' Existing: 0

8. Proposed:

Casing	Conductor Casing	Filter/Filler Material	Perforations
Type: <u>Steel</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Depth: <u>200-300</u>	Depth: <u>20</u> ft.	From: <u>20</u> To: <u>200'</u>	From: <u>160</u> To: <u>200' ±</u>
Diameter: <u>14</u> in.	Diameter: <u>24</u> in.	Type: <u>REA - #6</u>	From: _____ To: _____
Wall/Gauge: <u>-250</u>	Wall/Gauge: <u>-250</u>	Wall/Gauge: _____	From: _____ To: _____

9. Annular Seal: Depth: 20 ft. Sealing Material: CEMENT

Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 4 in.

10. Date of Work: Start: 11-6-09 Complete: 11-12-09

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: [Signature] Date: 11-6-09

DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

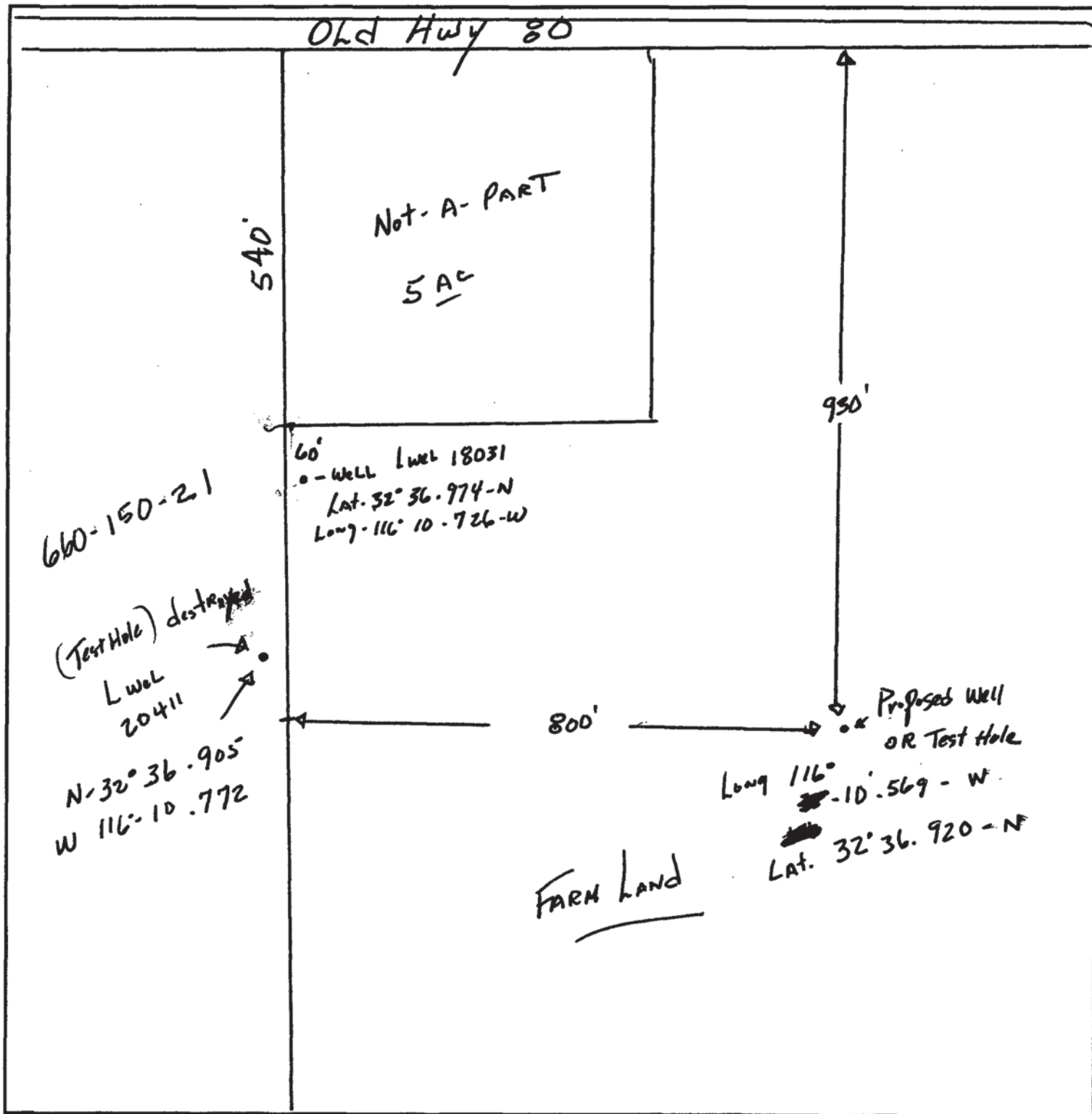
Approved Denied Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: [Signature] Date: 11/10/09

LOCATION

~~660-040~~

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, easements, water bodies or water courses, drainage pattern, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



REC'D 9-8-1102

*The free Adobe Reader may be used to view and complete this form. However, software must be purchased to complete, save, and reuse a saved form.

File Original with DWR

State of California

Well Completion Report

Refer to Instruction Pamphlet

No. e0135668

Page one of one

Owner's Well Number Test Hole

Date Work Began 11/10/2009

Date Work Ended 11/12/2009

Local Permit Agency DEH

Permit Number LWEL20435

Permit Date 11/10/09

DWR Use Only - Do Not Fill In

State Well Number/Site Number									
Latitude					Longitude				
APN/TRS/Other									

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Direct Rotary</u> Drilling Fluid <u>Bentonite mud</u>		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
	Alluvial Fill As Follows:	
0	7	Silty Sand
7	68	Cemented Sand
68	81	Fine to Med Sand W/ Lenses of Clay
81	98	Cemented Sand & Gravel
98	138	Sticky Brown Clay
138	153	Grey Clay W/ Lenses of Small Aggregate
153	180	Grey Volcanics
		Test Hole Destroyed
Total Depth of Boring <u>180</u> Feet		
Total Depth of Completed Well <u>0</u> Feet		

Well Owner
The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

Well Location

Address Old Hwy 80

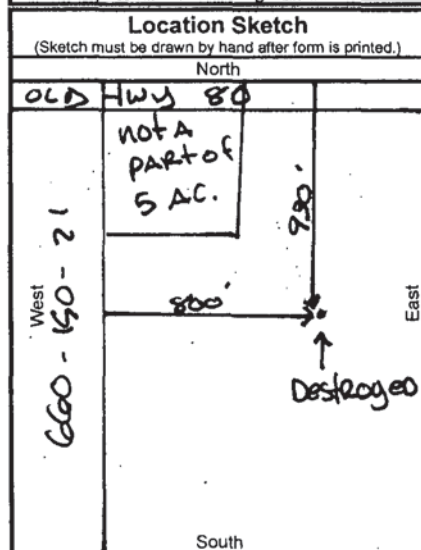
City Jacumba County San Diego

Latitude 32 36 920 N Longitude 116 10 569 W
Dec. Min. Sec. Dec. Min. Sec.

Datum _____ Decimal Lat. _____ Decimal Long. _____

APN Book 660 Page 150 Parcel 04

Township 18-s Range 8-e Section 8



Activity

New Well
 Modification/Repair
 Deepen
 Other _____
 Destroy
Describe procedures and materials under "GEOLOGIC LOG"

Planned Uses

Water Supply
 Domestic Public
 Irrigation Industrial

Cathodic Protection
 Dewatering
 Heat Exchange
 Injection
 Monitoring
 Remediation
 Sparging
 Test Well
 Vapor Extraction
 Other _____

Illustrate or describe distance of well from roads, buildings, fences, rivers, etc. and attach a map. Use additional paper if necessary. Please be accurate and complete.

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)
 Depth to Static _____
 Water Level _____ (Feet) Date Measured _____
 Estimated Yield * _____ (GPM) Test Type _____
 Test Length _____ (Hours) Total Drawdown _____ (Feet)
 *May not be representative of a well's long term yield.

Casings						
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type
Feet to Feet	(Inches)			(Inches)	(Inches)	
NONE						

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		
0	5	Fill
5	25	Cement
25	180	Fill

Attachments

Geologic Log
 Well Construction Diagram
 Geophysical Log(s)
 Soil/Water Chemical Analyses
 Other Site Map

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Fain Drilling & Pump Co., Inc.
Person, Firm or Corporation

12029 Old Castle Rd. Valley Center CA 92082
Address City State Zip

Signed J. R. Fain 12/16/2009 328287
C-57 Licensed Water Well Contractor Date Signed C-57 License Number



**COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
WELL PERMIT APPLICATION**

DEH USE ONLY
PERMIT # WEL 20450
WELL COMPUTER # _____
FEE: _____
WATER DIST: _____

1. Property Owner: "LEASSEE" BORNT FARMS Phone: 619 766-4213
2307 E. Hwy 98 Holtville 92250
Mailing Address City Zip
2. Well Location - Assessors Parcel Number 660-150-18
N/Old Hwy 80 JACUMBA 91934
Site Address City Zip
3. Well Contractor - Well Driller Joe EDWARDS Company Name: Fain Drilling
12029 Old Castle Rd Valley Center 92082
Mailing Address City Zip
 Phone#: 760-749-0701 C-57#: 328287 Cash Deposit Bond Posted
4. Use: Private Public Industrial Cathodic Other _____
5. Type of Work: New Reconstruction Destruction Time Extension: 1st 2nd
6. Type of Equipment: Rotary
7. Depth of Well: Proposed: 100' Existing: 0
8. Proposed:
- | | | | |
|-------------------------|---|---|--------------------------------|
| Casing | Conductor Casing | Filter/Filler Material | Perforations |
| Type: <u>STEEL</u> | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | |
| Depth: <u>100</u> | Depth: <u>20</u> ft. | From: <u>20</u> To: <u>100</u> | From: <u>60</u> To: <u>100</u> |
| Diameter <u>14</u> in. | Diameter <u>24</u> in. | Type: _____ | From: _____ To: _____ |
| Wall/Gauge: <u>-250</u> | Wall/Gauge: <u>-250</u> | Wall/Gauge: _____ | From: _____ To: _____ |
9. Annular Seal: Depth: 20 ft. Sealing Material: Cement
 Borehole diameter: 32 in. Conductor diameter: 24 in. Annular Thickness 4+ in.
10. Date of Work: Start: 11-13-09 Complete: 11-18-09

On sites served by public water, contact the local water agency for meter protection requirements.

I hereby agree to comply with all regulations of the Department of Environmental Health, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well construction, repair, modification and destruction. Immediately upon completion of work, I will furnish the Department of Environmental Health with a complete and accurate log of the well. I accept responsibility for all work done as part of this permit and all work will be performed under my direct supervision.

Contractor's Signature: J R Jain Date: 11-13-09

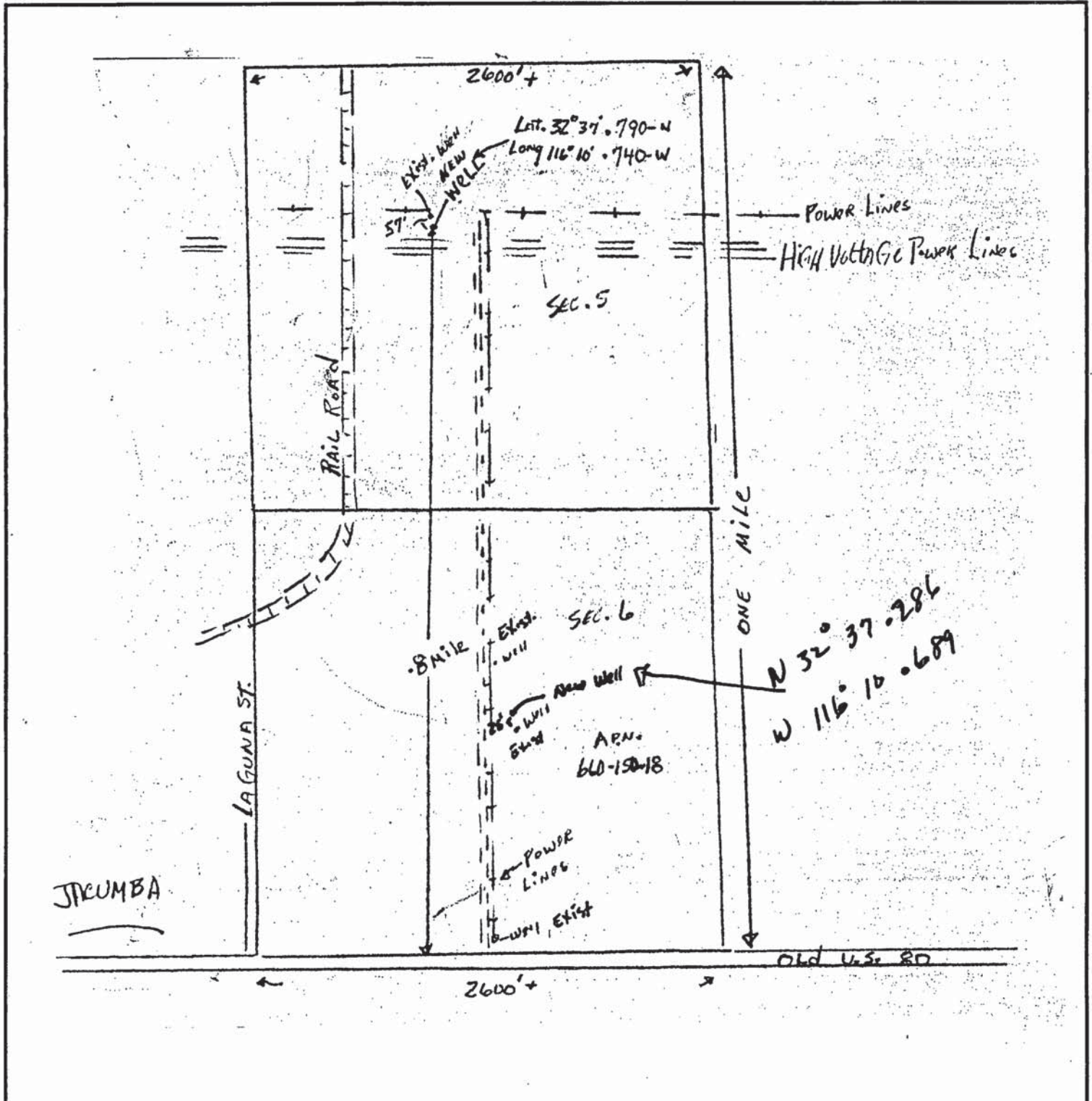
DISPOSITION OF APPLICATION (Department of Environmental Health Use only)

Approved Denied Special Conditions: Grading and clearing associated with access to, or the construction, maintenance or destruction of water wells, may require additional permits from the County of San Diego and/or other agencies.

Specialist: [Signature] Date: 11-13-09

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, easements, water bodies or water courses, drainage pattern, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



File Original with DWR *see 10-8-11*

State of California

Well Completion Report

Refer to Instruction Pamphlet
No. e0135665

Page one of one

Owner's Well Number Test Hole

Date Work Began 11/13/2009

Date Work Ended 11/23/2009

Local Permit Agency DEH

Permit Number LWEL20450

Permit Date 11/13/09

DWR Use Only - Do Not Fill In

State Well Number/Site Number			
Latitude		Longitude	
APN/TRS/Other			

Geologic Log		
Orientation <input checked="" type="radio"/> Vertical <input type="radio"/> Horizontal <input type="radio"/> Angle Specify _____		
Drilling Method <u>Direct Rotary</u> Drilling Fluid <u>Bentonite mud</u>		
Depth from Surface	Description	
Feet to Feet	Describe material, grain size, color, etc	
	Alluvial Fill As Follows:	
0	40	Fine to Med Grained Sand
40	80	Sandy Clay W/ Lenses of Small Aggregate
80	100	Sandy Clay
100	110	Meta Volcanics
Test Hole Destroyed		
Total Depth of Boring <u>110</u> Feet		
Total Depth of Completed Well <u>0</u> Feet		

The information in this grayed area has been blocked from public viewing pursuant to section 13752 of the Water Code and the Information Practice Act of 1977, to protect personal information.

Well Location

Address Old Hwy 80

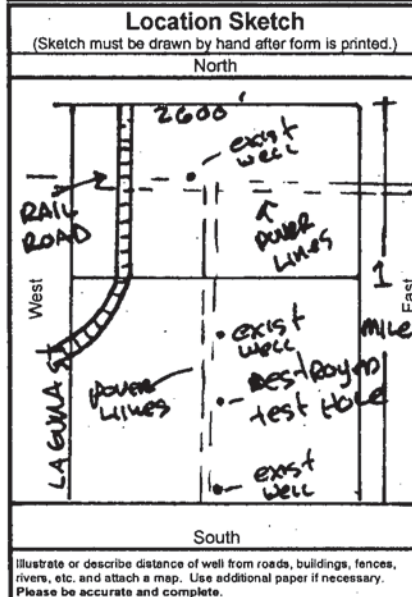
City Jacumba County San Diego

Latitude 32.37286 N Longitude 116.10689 W
Dea. Min. Sec. Dea. Min. Sec.

Datum _____ Decimal Lat. _____ Decimal Long. _____

APN Book 660 Page 150 Parcel 18

Township 18-s Range 8-e Section 8



Activity

New Well
 Modification/Repair
 Deepen
 Other _____
 Destroy
Describe procedures and materials under "GEOLOGIC LOG":

Planned Uses

Water Supply
 Domestic Public
 Irrigation Industrial

Cathodic Protection
 Dewatering
 Heat Exchange
 Injection
 Monitoring
 Remediation
 Sparging
 Test Well
 Vapor Extraction
 Other _____

Water Level and Yield of Completed Well

Depth to first water _____ (Feet below surface)

Depth to Static _____

Water Level _____ (Feet) Date Measured _____

Estimated Yield * _____ (GPM) Test Type _____

Test Length _____ (Hours) Total Drawdown _____ (Feet)

*May not be representative of a well's long term yield.

Casings							
Depth from Surface	Borehole Diameter	Type	Material	Wall Thickness	Outside Diameter	Screen Type	Slot Size
Feet to Feet	(Inches)			(Inches)	(Inches)		if Any (Inches)
None							

Annular Material		
Depth from Surface	Fill	Description
Feet to Feet		
0	5	Fill
5	25	Cement
25	110	Fill

Attachments

Geologic Log
 Well Construction Diagram
 Geophysical Log(s)
 Soil/Water Chemical Analyses
 Other Site Map

Attach additional information, if it exists.

Certification Statement

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief

Name Fain Drilling & Pump Co., Inc.
Person, Firm or Corporation

12029 Old Castle Rd. Valley Center CA 92082
Address City State Zip

Signed Jac R. Fain 12/20/2009 328287
C-57 Licensed Water Well Contractor Date Signed C-57 License Number



LEIGHTON AND ASSOCIATES, INC.

Geotechnical and Environmental Engineering Consultants

**LIMITED EVALUATION OF
LIQUEFACTION AND CONSOLIDATION
POTENTIAL, PHASE 1,
JACUMBA VALLEY RANCH
DEVELOPMENT, SAN DIEGO COUNTY,
CALIFORNIA**

January 21, 1991

**UPDATED EVALUATION OF
CONSOLIDATION POTENTIAL, PHASE 1,
JACUMBA VALLEY RANCH
DEVELOPMENT, SAN DIEGO COUNTY,
CALIFORNIA**

February 27, 1991

Project No. 4900381-05

PREPARED FOR:

**JACUMBA VALLEY PARTNERSHIP
2423 Camino Del Rio South, Suite 212
San Diego, California 92108**



LEIGHTON AND ASSOCIATES, INC.

Geotechnical and Environmental Engineering Consultants

January 21, 1991

Project No. 4900381-05

To: Jacumba Valley Ranch
2423 Camino Del Rio South, Suite 212
San Diego, California 92108

Attention: Mr. Karl Turecek

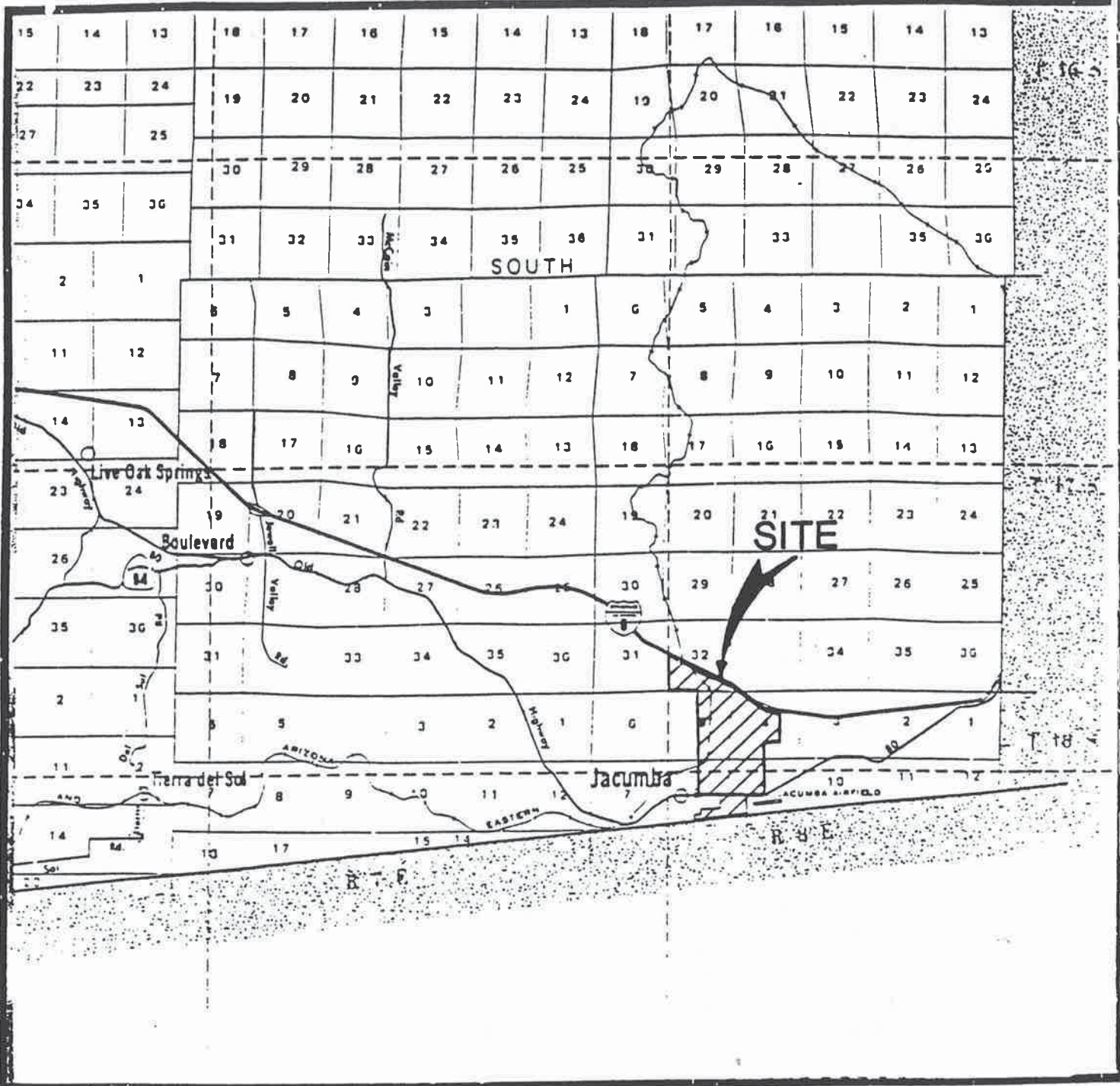
Subject: Limited Evaluation of Liquefaction and Consolidation Potential,
Phase 1, Jacumba Valley Ranch Development, San Diego County,
California

Introduction

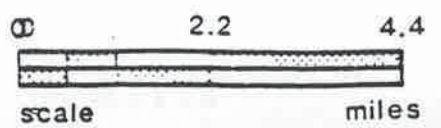
In accordance with your request, we have performed a limited geotechnical evaluation of the liquefaction and consolidation potential in the first phase of the proposed development. Plans for this phase include an 18-hole golf course, waste water treatment plant, hotel, school, congregate care center, and retail and commercial structures, along with associated streets, utilities, and drainage channels. We have concentrated our evaluation principally in areas underlain by alluvium (Qal and Qfn on Plate 1) as these are the areas thought most likely to be subject to liquefaction and consolidation. We understand that a maximum of 4 feet of fill is proposed in some areas. In addition, we have performed a limited evaluation of the soil in the drainage areas for use as structural fill and have evaluated drainage channel slope stability.

Accompanying Maps and Appendices

Figure 1 - Site Location Map - Page 2
Plate 1 - Geotechnical Map - In Pocket
Appendix A - References
Appendix B - Boring and Trench Logs
Appendix C - Laboratory Test Results



BASE MAP: Aerial-Foto Map Book, 1986-87, page 1009
Original by Aerial Graphics.



JACUMBA VALLEY RANCH

Figure 1

SITE LOCATION MAP

Project No. 4900381-05

LEIGHTON and ASSOCIATES
INCORPORATED

Scope of Services

Our scope of services to date has included:

- Logging and sampling 13 small-diameter borings and 6 backhoe trenches.
- Field and laboratory testing to evaluate pertinent engineering properties of the soil samples.
- Geotechnical evaluation of data obtained during our investigation.
- Preparation of this report presenting the results of our evaluation.

Field Investigation

On December 11 through 14, 1990, 13 small-diameter borings were excavated on site. The borings were excavated to a maximum depth of approximately 50 feet or until bedrock was encountered (whichever was shallower) with a truck-mounted Mobil B-51 drill rig with 8-inch hollow stem augers. The borings were sampled and logged by a geologist from our firm. Borings were sampled with a Standard Penetration Test (SPT) split spoon sampler and a Modified California ring sampler. Bulk and relatively undisturbed ring samples were collected for visual classification and laboratory testing. Ground water levels at the time of drilling are recorded on the logs. On December 18, 1990, 6 backhoe trenches were excavated on site by Jacumba Valley Ranch. The trenches were logged and sampled by a geologist from our firm. The approximate locations and logs of the borings and trenches are presented on Plate 1 and in Appendix B, respectively.

Seismicity

As discussed in our Land Use Feasibility Study (Appendix A, Reference 5), the seismic hazard thought most likely to impact the subject site is ground shaking produced by a large earthquake on one of the major active regional faults. A maximum probable event on the Elsinore fault (considered the design earthquake for this site) is expected to produce a peak horizontal bedrock acceleration of 0.30g and a repeatable ground acceleration of 0.20g. The effects of seismic shaking can be reduced by adhering to the Uniform Building Code or state-of-the-art design parameters of the Structural Engineers Association of California.

Liquefaction Potential

During an earthquake, ground shaking may cause loss of soil strength (liquefaction) in loose saturated sandy soils, resulting in excessive settlement damage and/or possible failure of surface structures. The likelihood of liquefaction depends on the intensity and duration of the ground shaking, the

soil characteristics, and the depth to ground water. A simplified analytical method, based on empirical correlations, relating the field occurrence of liquefaction to the earthquake magnitude and acceleration, cyclic shear resistance of the soils, and Standard Penetration Test (SPT) results (Appendix A, Reference 7) was used to evaluate the liquefaction potential of the recent alluvium (Qal) and older alluvium (Qfn). The formational materials (Tj1, Tja, Tmg) are not considered to have a significant liquefaction potential. The Geotechnical Map (Plate 1) shows the approximate extent of these units.

The ground water levels we encountered in our borings ranged from approximately 5 to 40 feet below the existing ground surface. We believe that these levels are likely to be significantly lower than historic high ground water conditions due to the ongoing drought. In our evaluation, we have assumed ground water levels 5 feet higher than those actually encountered.

The soils encountered in the upper portions of the alluvium were generally described as medium dense, silty fine to medium sand and stiff, sandy to clayey silt. Standard Penetration Test (SPT) blow count values (in the upper 30 feet) ranged from 19 to 49 with an average blow count of 31 blows per foot. Based on the results of our investigation, the calculated factor of safety against liquefaction is greater than 1.5, indicating a low potential for liquefaction at the site due to the design earthquake. Further, the addition of up to 4 feet of fill soils in selected areas across the site should reduce the potential for liquefaction in those areas receiving fill.

Dynamic Settlement

Dynamic settlement due to earthquake shaking was evaluated in the alluvial areas using the method described by Tokimatsu and Seed (Appendix A, Reference 9). The design earthquake (which has an estimated return period of 100 years) may induce a total settlement at the site on the order of 3/4 to 1 inch. Differential settlement of the alluvium due to earthquake-induced dynamic settlement is estimated to be on the order of 1/4 to 1/2 inch across 100 feet of ground surface. The addition of fill soils should reduce the potential for dynamic settlement.

Consolidation

Consolidation of soils is a relatively long-term process that may occur when pore pressures in soil of relatively low permeability (such as a silty or clayey soil) increase upon loading (due to additional fill placement, structures, etc.). Settlement of granular soils (sands and gravels) is the term used for the process of relatively short-term soil densification due to application of a load. Hydroconsolidation may also occur when a soil undergoes wetting or saturation after a load is applied. Consolidation, settlement, and hydroconsolidation may result in soil densification and ground subsidence.

The potential for long-term consolidation of the soils at the site is considered low due to the relatively high blow counts, the limited quantities of highly clayey materials encountered in our borings and trenches, and the relatively minor fill loads anticipated.

The potential for settlement of the existing granular alluvial soils was evaluated based on consolidation test results (Appendix C) and the assumption that no more than 4 feet of fill soils (above existing grades) will be added at the site. The building loads are assumed to be typical for this type of relatively light construction. Larger loads may be anticipated for the waste water treatment plant.

To reduce the potential for settlement, we recommend that portions of the alluvial soils under the proposed structures be removed and recompacted and that construction be delayed for a period of time after the addition of fill soils so that differential settlement may be reduced to tolerable limits. The following preliminary recommendations are based on a maximum total and differential settlement of 1 inch and 1/2 inch, respectively.

<u>Type of Structure</u>	<u>Estimated Depth of Removal and Recompaction (feet below existing grade)</u>
1- and 2-Story, School, Hotel Congregate Care, and Residential Structures	2 - 4
Waste Water Treatment Plant	3 - 5

The above values are preliminary and should be refined based on actual building loads and site-specific geotechnical investigations.

<u>Thickness of Proposed Fill (above existing grade) in feet</u>	<u>Delay of Building Construction after Grading (months)</u>
≤2	0
≤3	1
≤4	2

We do not believe these delays should pose significant constraints to construction provided that a phased construction approach can be accomplished.

To reduce the potential for hydroconsolidation of alluvial soils, the base of the removal area should be thoroughly wetted after removal of the existing soils and prior to recompaction. Specific grading recommendations will be provided in the geotechnical investigation reports.

Suitability of Material In Drainages for Use as Fill Soils

Based on our visual evaluation and laboratory testing of samples obtained from the five backhoe trenches located in the existing drainages, (one of the backhoe trenches was located outside of the drainage areas for purposes of evaluating rippability and other properties) this material should be generally suitable as structural fill. Visual evaluation generally indicates a very low expansion potential for the majority of this material. However, laboratory testing (Appendix C) indicates a medium expansion potential for the siltier portions. Soils with a medium expansion potential are generally not desirable within 3 feet of finish grade. The material generally varied from a fine sandy silt to a fine to coarse sand with gravels and cobbles. Scattered roots were noted in some of the near-surface soils. The clean, sandy portions may have a moderate to high erosion potential. This material is anticipated to have an adequate bearing capacity (for lightly loaded structures) when compacted as fill soils.

Drainage Channel Slope Stability

We understand that unlined drainage channels are proposed to conduct storm water across the site. We further understand the proposed channel walls (up to 5 feet in height) are to be constructed at inclinations of approximately 5:1 (horizontal to vertical). Based on direct shear tests performed on remolded representative soil samples, these slopes should be grossly stable at the proposed inclinations. Channel erosion protection is generally under the purview of the civil engineer as evaluation of erosion and scour is based on water quantity and flow velocity. We have provided grain-size analyses of representative samples (Appendix C) for this evaluation. Clean, fine sand (without a significant portion of silt or clay to act as a binding agent) should be avoided in use as a channel liner unless adequately protected from erosion and scour.

Summary

Based on the results of our limited evaluation, it is our opinion that the proposed development is feasible from a geotechnical standpoint provided that the concerns presented herein are addressed into the project design.


We note that additional geotechnical investigation is recommended to provide site-specific foundation and grading recommendations.


If you have any questions regarding our report, please do not hesitate to contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

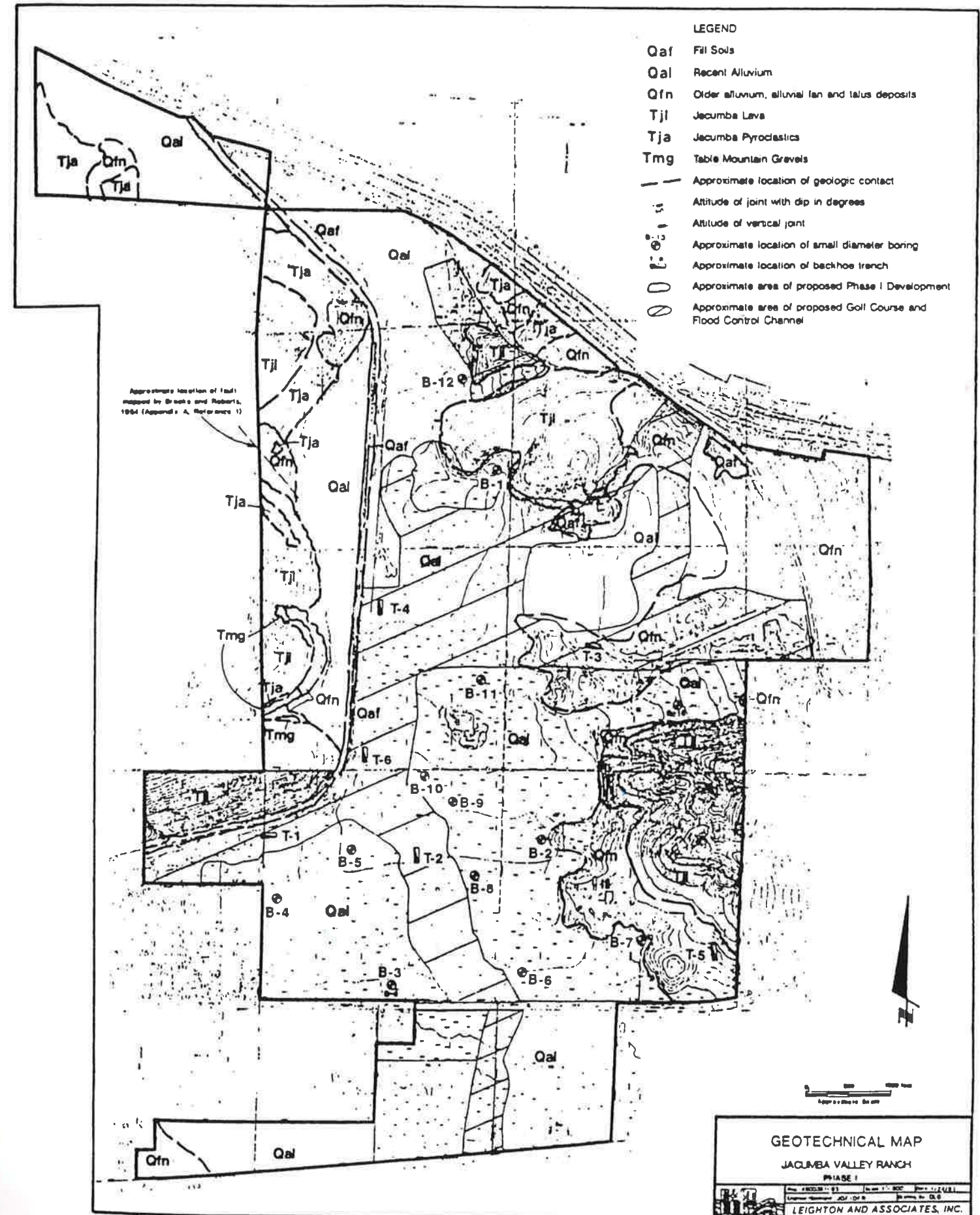

Douglas F. Roff, CEG 1480
Project Geologist


Gene Custenborder, CEG 1319
Chief Geologist


Joseph G. Franzone, RCE 39552
Chief Engineer

DFR/GC/JGF/jss

Distribution: (6) Addressee
(6) Brian F. Mooney Associates
Attention: Mr. Brian F. Mooney



APPENDIX A

REFERENCES

1. Brooks, B. and Roberts, E., 1954, Geology of the Jacumba Area, San Diego and Imperial Counties, California Division of Mines and Geology, Bulletin 170, Map Sheet 23.
2. Greensfelder, R.W., 1974, Maximum Credible Rock Acceleration from Earthquakes in California: California Division of Mines and Geology, Map Sheet 23.
3. Hart, E.W., 1988, Fault-Rupture Hazard Zones in California: California Division of Mines and Geology, Special Publication 42.
4. Jennings, C.W., 1975, Fault Map of California, California Division of Mines and Geology, California Geologic Data Map Series, Map No. 1.
5. Leighton and Associates, 1990, Geotechnical Land-Use Feasibility Study, Jacumba Valley Ranch Development, San Diego County, California, Project No. 4900381-01, dated April 27.
6. Ploessel, M.R., and Slosson, J.E., 1974, Repeatable High Ground Acceleration from Earthquakes: California Geology, Vol. 27, No. 9, P. 195-199.
7. Seed, Idriss, and Arango, 1983, Evaluation of Liquefaction Potential Using Field Performance Data, ASCE, Vol. 109, No. 3, March.
8. Strand, R.G. 1962, Geologic Map of California - San Diego - El Centro Sheet, California Division of Mines and Geology.
9. Tokimatsu and Seed, 1987, Evaluation of Settlement in Sands due to Earthquake Shaking, ASCE, Vol. 113, No. 8, August.
10. Weber, F.H., 1963, Geology and Mineral Resources of San Diego County, California, California Division of Mines and Geology, County Report 3.

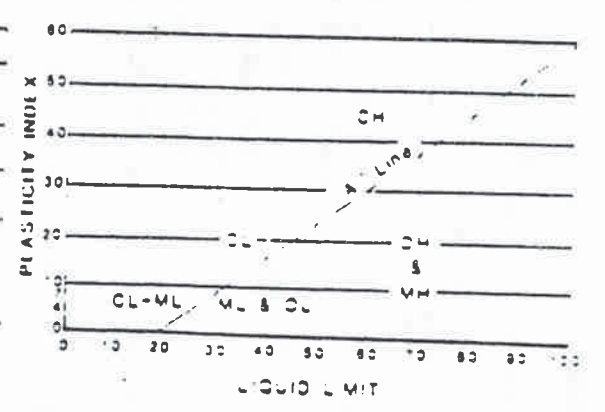
Date _____ Drill Hole No. _____ Sheet of -
 Project _____ Job No. _____
 Drilling Co. _____ Type of Rig _____
 Hole Diameter _____ Drive Weight _____ Drop _____ in.
 Elevation Top of Hole _____ Ref. or Datum _____

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	Geotechnical Description
0								Attitudes: Strike/Dip
0-5	j: N10W/20E						SM	(b) = Bedding (c) = Contact (j) = Joint (f) = Fracture (F) = Fault (cs) = Clay Seam (s) = Shear
5	b: Horizontal						ML	
5-10	c: N80W/10N		1	14	106.2	14.9	CL	Relatively undisturbed drive sample (Modified California Sampler) - Number to left represents Sample Number
10	f: N-S/65W		①					Bulk Sample (with sampling interval)
10-15			2	15		15.8	SP	Standard Penetration Test (Split-Spoon Sampler)
15	s: N50E/40W		N.R.	18				Sample not recovered
15-20							CL/CH	Graphic Log: - - - silt . . . sand - - - clay — contact / fracture // shear, clay seam [] zone with calcareous cement < > roots ♀ seep ▽ ground water table ○ clast
20	cs: N30W/20E							
25	f: N10E/70W							
25-30								
Total Depth = 28' (depth of hole)								

Soil Name	GRAVELS	
	U.S. Standard	Grain Size
GW	Well graded gravels or gravel-sand mixtures, little or no fines	
GP	Poorly graded gravels or gravel-sand mixtures, little or no fines	
GM	Silty gravels, gravel-sand-silt mixtures	
GC	Clayey gravels, gravel-sand-clay mixtures	
Soil Name	SANDS	
	SW	Well graded sands or gravelly sands, little or no fines
	SP	Poorly graded sands or gravelly sands, little or no fines
	SM	Silty sands, sand-silt mixtures
SC	Clayey sands, sand-clay mixtures	
Soil Name	SILTS & CLAYS	
	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	
CH	Inorganic clays of high plasticity, fat clays	
OH	Organic clays of medium to high plasticity, organic silty clays, organic silts	
Pt	Peat and other highly organic soils	

CLASSIFICATION CHART
(Unified Soil Classification System)

CLASSIFICATION:	RANGE OF GRAIN SIZES		
	U.S. Standard Sieve Size	Grain Size in Millimeters	
BOULDERS	Above 12"	Above 305	
COBBLES	12" to 3"	305 to 76.2	
GRAVEL	3" to No. 4	76.2 to 4.75	
	coarse	3" to 3/4"	76.2 to 19.1
	fine	3/4" to No. 4	19.1 to 4.75
SAND	No. 4 to No. 200	4.75 to 0.075	
	coarse	No. 4 to No. 10	4.75 to 2.00
	medium	No. 10 to No. 40	2.00 to 0.425
fine	No. 40 to No. 200	0.425 to 0.075	
SILT & CLAY		Below No. 200 Below 0.075	



PLASTICITY CHART

GRAIN SIZE CHART

METHOD OF SOIL CLASSIFICATION

Project Name: Jacumba Valley Ranch Logged By: DLL TRENCH NO. I-1
 Project Number: 4900361-05 Elevation: ±2,790'
 Equipment: Case 680C Backhoe Location: See Plate 1

DATE: 12/18/90 DESCRIPTION:
ALLUVIUM

① @0'-3': Gray-white, loose, dry, fine to very coarse sand; abundant pebbles, finely bedded
 ② @3'-6': Dark brown, moist, medium dense, silty, fine to medium sand; few coarse-grained constituents, micaceous, some pods and discontinuous lenses of very silty, fine to medium sand
 ③ @6'-7': Dark brown, moist, medium dense, fine to coarse sand; micaceous
 ④ @7'-10': Dark brown, moist, medium dense, fine to medium sandy silt

Total Depth = 10 feet
 No Ground Water Encountered at Time of Trenching
 Backfilled: 12/18/90

GRAPHIC REPRESENTATION southwest wall SCALE: 1" = 1' SURFACE SLOPE: 0° TREND: N40W

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 0'-3' ② @ 8'-10'
U.S.C.S.	SW SM SW ML

Project Name: Jacumba Valley Ranch Logged By: DLL TRENCH NO. I-2
 Project Number: 4900361-05 Elevation: ±2,775'
 Equipment: Case 680C Backhoe Location: See Plate 1

DATE: 12/18/90 DESCRIPTION:
ALLUVIUM

① @0'-1': Dark brown and olive-brown, moist, medium dense, fine sandy silt/silty fine sand; sparse roots, slightly porous, micaceous
 ② @1'-1.4': Light brown, moist, medium dense, silty fine sand
 ③ @1.4'-3': Mottled dark olive-brown and brown, moist to wet, medium dense, fine sandy silt; few roots, abundant red-brown stringers (infilled borrows?), abundant caliche stringers
 ④ @3'-6': Mottled olive-brown and orange-brown, moist to wet, medium dense, fine sandy silt micaceous, slightly porous
 @6'-10': Becomes fine sandy silt/silty fine sand

Total Depth - 10 feet
 Ground Water Seepage Encountered at 6 feet at time of trenching

GRAPHIC REPRESENTATION southwest wall SCALE: 1" = 1' SURFACE SLOPE: 0° TREND: N45W

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 0'-3' ② @ 4'-6'
U.S.C.S.	ML/SM SM ML ML PiL/SH

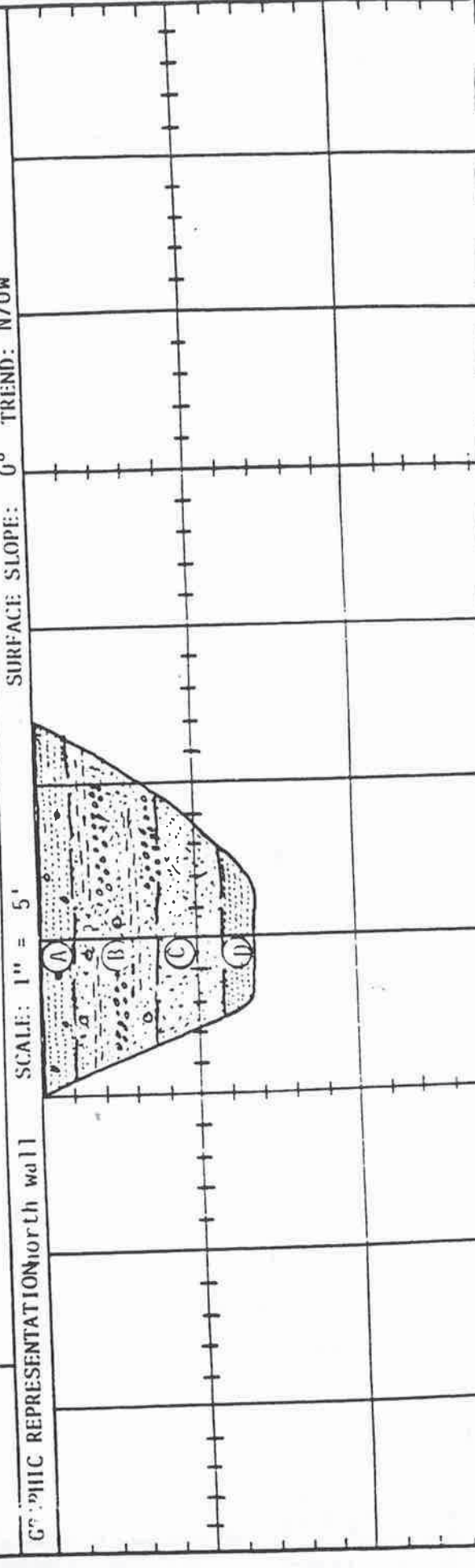
Project Name: Jacumba Valley Ranch Logged By: DLL
 Project Number: 4900381-05 Elevation: ±2,780' TRENCH NO. I-3
 Equipment: Case 680C Backhoe Location: See Plate 1

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 1'-3'
U.S.C.S.	SM-SW
	② @ 5'-7'
	SM-SP

GEOLOGIC ATTITUDES: DATE: 12/18/90 DESCRIPTION: GEOLOGIC UNIT: Qal

ALLUVIUM
 (A) @0'-1': Gray-white, dry, loose, fine to very coarse sand; some pebbles, finely bedded
 (B) @1'-3.5': Gray-brown, dry to damp, loose, fine to very coarse sand; few discontinuous silt layers approximately 1/2 inch thick, some discontinuous sandy pebble lenses, rare clasts to 3 inch diameter
 (C) @3.5'-6': Gray-brown, dry to damp, loose, fine to very coarse sand; few pebbles
 (D) @6'-7': Gray-brown, dry to damp, loose, very coarse sand; finely bedded

Total Depth - 7 feet
 No Ground Water Seepage Encountered at Time of Trenching
 Backfilled: 12/18/90



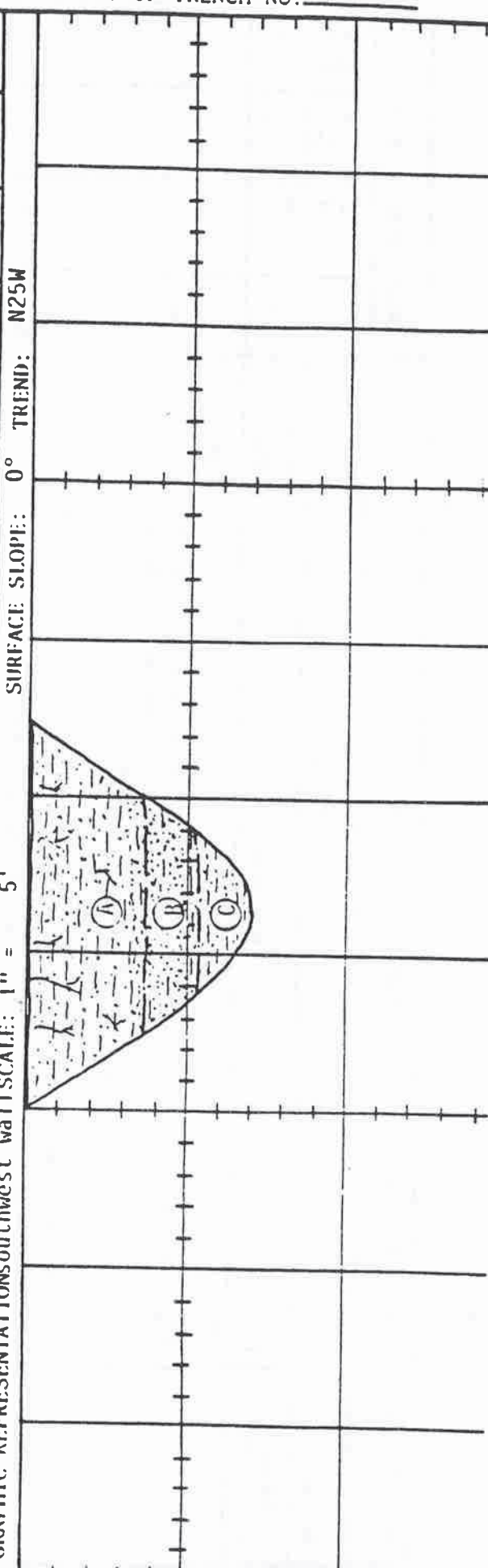
Project Name: Jacumba Valley Ranch Logged By: DLL
 Project Number: 4900381-05 Elevation: ±2,755' TRENCH NO. J-4
 Equipment: Case 680C Backhoe Location: See Plate 1

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 0'-3'
U.S.C.S.	ML ML/SM ML

GEOLOGIC ATTITUDES: DATE: 12/18/90 DESCRIPTION: GEOLOGIC UNIT: Qal

ALLUVIUM
 (A) @0'-3.5': Dark brown to black, moist to wet, medium dense, fine to medium sandy silt; porous, abundant roots and rootlets, micaceous
 (B) @3.5'-5.5': Mottled dark olive-brown and brown, and orange brown, wet to saturated, dense, very silty fine sand/fine sandy silt; porous, few roots, some medium-coarse grained constituents
 (C) @5.5'-7.0': Dark brown to olive-brown, saturated, medium dense, fine to medium sandy silt; micaceous

Total Depth - 7 feet
 Ground Water Seepage Encountered at 4 feet at Time of Trenching
 Backfilled: 12/18/90

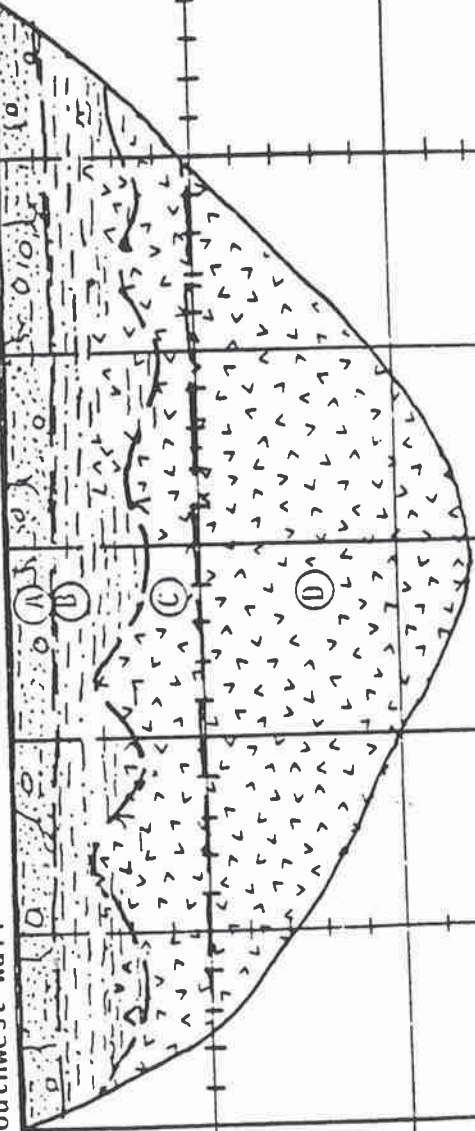


Project Name: Jacumba Valley Ranch Logged By: DLL TRENCH NO. T-5
 Project Number: 4900381-05 Elevation: ±2,820'
 Equipment: Link Belt LS 5800 Trackhoe Location: See Plate 1

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 1'-2'
U.S.C.S.	SM ML

GEOLOGIC ATTITUDES	DATE	DESCRIPTION	GEOLOGIC UNIT
TOPSOIL	12/18/90		Topsoil
① @0'-1':		Brown, dry, loose, silty, fine to medium sand; abundant rootlets throughout, moderate amount of cobbles to 5-inch diameter, slightly porous, desiccated	
OLDER ALLUVIUM			
② @1'-2':		Brown, dry, loose to medium dense, fine to medium sandy silt; trace of clay, slightly desiccated	Qfn
JACUMBA LAVA			
③ @2'-5':		Mottled pinkish white, dry, dense rhyolitic tuff bed; intermixed with volcanic clasts and zones and pods of alluvium; very weathered, slightly desiccated, slightly friable	Tj1

GRAPHIC REPRESENTATION southwest wall SCALE: 1" = 5' SURFACE SLOPE: 5° TREND: N20W

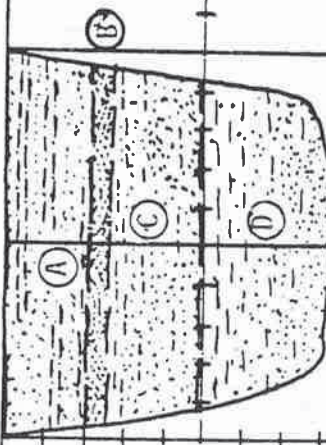


Project Name: Jacumba Valley Ranch Logged By: DLL TRENCH NO. T-6
 Project Number: 4900381-05 Elevation: _____
 Equipment: Case 680C Backhoe Location: _____

ENGINEERING PROPERTIES	
Density (pcf)	
Moisture (%)	
Sample No.	① @ 2'-5' ② @ 5'-8'
U.S.C.S.	ML & SM SP SM & SW ML & SW

GEOLOGIC ATTITUDES	DATE	DESCRIPTION	GEOLOGIC UNIT
ALLUVIUM			Qa1
① @0'-2':		Alternating gray, dry, loose, fine to coarse sand and gray, dry, loose silt; silt layers 1/4-inch to 1-inch thick	
② @2'-2.5':		Gray, dry, loose, fine sand; finely laminated cross bedding, concoidal lenses of fine to coarse sand, manganese laminae	
③ @2.5'-5':		Brown, damp, medium dense, silty fine to medium sand; grades to brown, damp, medium dense, fine to medium sand	
④ @5'-8':		Dark brown, wet to saturated, medium dense, fine to medium sandy silt, grades to silty, fine sand; slightly porous, minor root hairs	
		Total Depth = 8 feet	
		Ground Water Seepage Encountered at 7 feet	

GRAPHIC REPRESENTATION south wall SCALE: 1" = 5' SURFACE SLOPE: 0° TREND: N80E



GEOTECHNICAL BORING LOG

Date 12/11/90 Drill Hole No. B-1 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,760' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	22		23.8	ML	@5': Brown, dry, very stiff, slightly fine sandy silt @7': Becomes clayey
10			2	22				@10': Dark brown, moist to wet, very stiff clayey silt slightly micaceous
15			3	28				@15': Dark brown, saturated, very stiff, clayey silt; some fine grains, rare pebbles
20			4	41			SC	@20': Dark brown, saturated, dense, clayey fine to coarse sand; numerous pebbles
25			5	37				@25': Dark brown, saturated, dense, slightly clayey fine to very coarse sand; numerous pebbles to 1" diameter
30								

GEOTECHNICAL BORING LOG

Date 12/11/90 Drill Hole No. B-1 Sheet 2 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,760' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
30			6	38			SW	@30': Brown-gray, wet, dense, fine to coarse sand; numerous red, fine-grained volcanics
35			7	50/2"			SM/GM	@35': Brown, saturated, very dense, silty fine to very coarse sand/silty to sandy gravel (volcanic gravel) Refusal at 36.5 feet due to bedrock
40								Total depth = 36.5 feet Ground water encountered at 11 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/11/90 Drill Hole No. B-2 Sheet 1 of 1
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,778' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	17		21.2	SM	@5': Olive-brown, wet, medium dense, silty fine to medium sand; slightly micaceous
10			2	24			ML	@10': Olive-brown to light orange-brown, wet, medium dense, fine sandy silt, micaceous
15			3	28			ML/SM	@15': Mottled brown, olive-tan and orange brown, wet, medium dense, silty very fine sand/very fine sandy silt; few root hairs, micaceous
20			4	41			SM	@20': Mottled brown, olive-brown and orange-brown, wet, dense, silty fine sand; contact to brown, saturated, dense, sandy gravel
25			5	90/7'				JACUMBA LAVA @25': Mottled pinkish white, wet, very dense volcanic rock
Total depth = 27 feet (refusal on bedrock, Ground water encountered at 6 feet at time of drilling)								

GEOTECHNICAL BORING LOG

Date 12/11/90 Drill Hole No. B-3 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,790' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	31			SM	@5': Brown, moist, dense, silty fine sand few rootlets
10			2	30	102.4	21.2		@10': Mottled orange-brown and brown, wet dense, silty fine sand; few rootlets, slightly micaceous
15			3	35			ML/SM	@15': Mottled orange-tan and brown, wet, dense, silty very fine sand/very fine sandy silt; some carbon-stained flecks
20			4	61	98.3	31.5	ML	@20': Mottled orange-brown and brown, wet to saturated, very dense, fine sandy silt
25			5	39			SM	@25': Light brown, wet, dense, silty fine to medium sand; contact to dark brown, wet, dense, silty, fine sand; more silty than above contact

GEOTECHNICAL BORING LOG

Date 12/11/90 Drill Hole No. B-3 Sheet 2 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,790' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
30			6	20	(N.R.)		SM	@30': Brown, saturated, medium dense, silty fine sand; slightly micaceous
35								
40			7	70			ML/SM	@40': Mottled brown and orange-brown, wet, very dense, silty fine sand/fine sandy silt; slightly micaceous, carbon-stained pods
45								
50			8	84	(N.R.)		SM	@50': Brown, saturated, dense, silty fine sand
55								Total depth = 51 feet Ground water encountered at 12 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-4 Sheet 1 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,786' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	41	98.2	18.6	SM	@5': Brown, moist, dense, silty fine to coarse sand; micaceous @7': Becomes siltier
10			2	33			SM & SW	@10': Dark brown, wet, dense, slightly silty fine to medium sand and gray, wet, fine to coarse sand; micaceous
15			3	78	106.4	24.5	SM	@15': Brown, saturated, very dense, silty, fine to medium sand
20			4	35				@20': Gray, wet, dense, slightly silty, fine to coarse sand; some interbeds of brown, clayey silt (up to 2" thick)
25			5	36			CL SW	@25': Red-brown, wet, very stiff, silty clay/clayey silt; gradational contact with gray, saturated, dense, fine to coarse sand
30								

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-4 Sheet 2 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,786' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
30			6	36	N.R.			DLL	DLL
35									
40			7	82		SW	@40': Gray, saturated, very dense, fine to coarse sand		
45									
50			8	50		SM	@50': Light brown, saturated, dense to very dense, slightly silty, fine to medium sand		
55							Total depth = 51.5 feet Ground water encountered at 9 feet at time of drilling		

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-5 Sheet 1 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,777' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0								DLL	DLL
5			1	24		23.6	SM	@5': Mottled brown and red-brown, wet, medium dense, very silty fine sand; micaceous	
10			2	26			ML	@9': Becomes clayey @10': Mottled red-brown and brown, wet, very stiff, fine sandy silt; trace of clay, few carbonized flecks	
15			3	41			CL-SM	@15': Mottled red-brown and brown, wet, dense interbedded silty clay/very silty fine sand; some carbonized thin (1/16" thick) beds, silty clay is finely laminated	
20			4	49			SW	@20': Brown, wet, dense fine to medium sand; few coarse grains, micaceous	
25			5	28			SM/ML SW	@25': Mottled red-brown, wet, medium dense, fine sandy silt/silty fine sand; trace of clay, some finely laminated clay layers. Sharp contact with brown, fine to medium sand with trace of silt (2 samples obtained)	
30									

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-5 Sheet 2 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,777' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
30			6	38			ML-SM	③0': Mottled red-brown and brown, wet, dense, clayey silt to silty fine sand	DLL
35									
40			7	38			SW	④0': Brown, saturated, dense, fine to medium sand; trace of silt	DLL
45									
50			8	67				⑤0': Brown, saturated, very dense, fine to coarse sand; trace of silt	
55								Total depth = 51.5 feet Ground water encountered at 9 feet at time of drilling	

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-6 Sheet 1 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,788' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0								ALLUVIUM	DLL
5			1	19		8.5	SM	⑤': Light brown, moist, medium dense, silty fine sand; micaceous	DLL
10			2	42	105.7	10.8			
15			3	48			SW	⑮': Brown, wet, dense, fine to coarse sand; micaceous, trace of silt	
20			4	76 (N.R.)					
25			5	20			CL/ML	⑳': Mottled red-brown and brown, wet, very stiff, silty clay/clayey silt; trace of fine sand	
30									

GEOTECHNICAL BORING LOG

Date 12/12/90 Drill Hole No. B-6 Sheet 2 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,788' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
30			6	47	93.7	28.1		@30': Same as at 25'
35						(Partial recovery)		
40			7	64	(N.R.)			
45								
50			8	47			CL/ML	@50': Mottled olive-brown, wet, hard clayey silt/silty clay
55								Total depth = 51.5 feet Ground water encountered at 11.5 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-7 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,792' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	26	97.5	11.8	SM	@5': Brown, damp to moist, medium dense, very silty, fine to medium sand; micaceous trace of clay, rare pebbles
10			2	22				@10': Light reddish brown, moist, medium dense, very silty fine to medium sand; slightly micaceous; trace of clay, moderate volcanic pebbles
15			3	43	112.1	15.2	SC/SM	@15': Light reddish brown, moist, medium dense, clayey to silty, fine to coarse sand
20			4	66				JACUMBA LAVA @20': Mottled red, white and black, saturated, very dense, very weathered volcanic rock
25			5	89	(N.R.)			
30								

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-7 Sheet 2 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,792' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
30			5	50/2" (N.R.)				@30': Black, slightly weathered basaltic volcanic rock
35								Total depth = 33 feet Ground water encountered at 9 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-8 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,781' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0			①					ALLUVIUM
5			1	28	93.8	27.3	SM	@5': Olive-brown and orange-brown, wet, medium dense, silty fine sand; few rootle slightly micaceous
10			2	50			ML/SM	@10': Mottled orange-brown and olive-brown saturated, dense, silty fine sand/fine sandy silt; some carbonized thin (1/16" thick) layers
15			3	28	95.4	30.7	ML/SM	@15': Mottled orange-brown and olive-brown, saturated, clayey silt/silty clay; some carbonized flecks and staining, few medium-sized grains
20			4	48			SM	@20': Light brown and olive-brown, wet, dense, silty fine sand; micaceous, some brown, silty/clayey layers up to 1/4" thick
25			5	34	113.9	16.8		@25': Light brown, wet, dense, slightly silty, fine to coarse sand
30								

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-8 Sheet 2 of 2-
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,781' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
30			6	35			ML/MH	③0': Mottled olive, olive-brown, and orange-brown, wet, hard clayey silt, trace of fine sand, micaceous, some thin clay layers	DLL
35									
40			7	20 (N.R.)					DLL
45									
50			8	100			SM	⑤0': Brown, wet, very dense, very silty, fine to medium sand; approximately 5 percent coarse grains, micaceous	
55								Total depth = 51.5 feet Ground water encountered at 8.5 feet at time of drilling	

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-9 Sheet 1 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,774' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0								ALLUVIUM	DLL
5			1	20			CL/ML	①0': Dark brown, moist to wet, very stiff, silty clay/clayey silt	DLL
10			2	24 (N.R.)			CL/ML	⑤': Mottled dark olive-brown and orange-brown, wet, very stiff, clayey silt/silty clay; trace of fine sand	
15			3	72	74.0	36.9	CL	①5': Mottled orange-brown and brown, saturated, very dense, fine sandy clay	
20			4	32			SM		
25			5	21 (N.R.)			CL/ML	②2': Brown, wet, dense, very silty fine sand; micaceous, sharp contact to red-brown and brown, silty clay/clayey silt	

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-9 Sheet 2 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,774' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
30			6	46			ML/SM	@30': Brown, wet, dense, silty very fine sand/very fine sandy silt; micaceous, grades to: orange-brown and brown, silty clay/clayey silt
35							CL/ML	
40			7	52	80.1	20.6	ML/CL	@40': Mottled olive-brown and orange-brown wet, hard, silty clay/clayey silt
45								
50			8	44			CL/SC	@50': Mottled orange-brown and brown, wet, dense, fine to medium sandy clay, clayey sand
55								Total depth = 51.5 feet Ground water encountered at 7 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-10 Sheet 1 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,770' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
0								ALLUVIUM
5			1	23			CL/ML	@5': Mottled olive-brown and orange-brown, wet, very stiff silty clay/clayey silt; micaceous trace of fine sand
10			2	29	58.7	34.2	ML/SM	@12': Mottled olive-brown and orange-brown saturated, medium dense, fine sandy silt/silty fine sand; micaceous
15			3	37			SM	@15': Mottled olive-brown and orange-brown wet, dense, silty fine sand; sample had one 3" thick layer of olive-brown and brown, laminated clay and silt
20			4	38	87.8	34.0	SC/SM	@20': Light brown, saturated, dense, silty and clayey fine to medium sand; micaceous
25								
30			5	43			CL/SM	@25': Mottled olive-brown and red-brown wet, dense, fine sandy clay to silty, clayey sand

GEOTECHNICAL BORING LOG

Date 12/13/90 Drill Hole No. B-10 Sheet 2 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,770' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
								Logged by <u>DLL</u> Sampled by <u>DLL</u>
30			6	50/2" (N.R.)				
35								
40			7	68			ML/SM	@40': Brown, wet, very dense, very fine sandy silt/silty very fine sand
45								Total depth = 41.5 feet Ground water encountered at 6 feet at time of drilling

GEOTECHNICAL BORING LOG

Date 12/14/90 Drill Hole No. B-11 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,766' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION
								Logged by <u>DLL</u> Sampled by <u>DLL</u>
0								ALLUVIUM
5			1	22		21	ML	@5': Mottled olive-brown and orange-brown, wet, medium dense, fine sandy silt; micaceous, trace of clay
10			2	36	112.1	19.1	SM&CL	@10': Brown, saturated, dense, silty fine to coarse sand and brown, saturated stiff, slightly sandy clay
15			3	30			CL	@15': Mottled olive-brown and orange-brown, wet, very stiff to hard, fine sandy clay; micaceous
20			4	55 (N.R.)				
25			5	32				@25': Mottled red-brown and olive-brown, saturated, hard, slightly silty clay; numerous carbonized flecks, micaceous, some caliche stringers and pods
30								

GEOTECHNICAL BORING LOG

Date 12/14/90 Drill Hole No. B-11 Sheet 2 of 2 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,766' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
30			6	70 (N.R.)			CL	@30': Brown, saturated, hard, clay	DLL
35									DLL
40			7	50/4"			SW	@40': Brownish gray, wet, very dense, fine to coarse sand	
45									
50			8	50/3"	117.6	14.0	SC	@50': Light reddish brown, saturated, very dense, clayey, fine to coarse sand	
Total depth = 51 feet Ground water encountered at 5 feet at time of drilling									
55									

GEOTECHNICAL BORING LOG

Date 12/14/90 Drill Hole No. B-12 Sheet 1 of 1 -
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole _____ Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0								ALLUVIUM	DLL
5			1	20		8.4	SM/ SW	@0': Brown, damp, medium dense, silty fine to coarse sand @5': Brown, damp, medium dense, trace to slightly silty, fine to medium sand; few gravels, approximately 5 to 10 percent coarse grains	DLL
10			2	21				@10': Same as at 5' but fine to very coarse grained and wet	
15			3	26			SW	@15': Gray-brown, wet, medium dense, fine to coarse sand	
20			4	50/5"				JACUMBA LAVA @20': Red and black, very dense, weathered volcanic rock	
Total depth = 22 feet (Refusal on Bedrock) Ground water encountered at 13.5 feet at time of drilling									
25									
30									

GEOTECHNICAL BORING LOG

Date 12/14/90 Drill Hole No. B-13 Sheet 1 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,791' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
0			①					ALLUVIUM	Logged by <u>DLL</u> Sampled by <u>DLL</u>
5			1	23		7.0	ML/SM	@5': Brown, damp, medium dense, fine sandy silty/silty fine sand; few pebbles	
10			2	41		4.3	SW	@10': Brown, damp, dense, fine to medium sand; few thin (1/4" thick) silt layers, some pebbles More pebbles with depth	
15			3	75		2.2		@15': Brown, damp, very dense, fine to coarse sand; some pebbles	
20			4	50/4"		2.3		@18': Abundant pebbles to 2" diameter	
25			5	30/6"		2.2	SM	@26': Becomes silty sand	
30									

GEOTECHNICAL BORING LOG

Date 12/14/90 Drill Hole No. B-13 Sheet 2 of 2
 Project Jacumba Valley Ranch Job No. 4900381-05
 Drilling Co. Layne Environmental Type of Rig Mobile B-61
 Hole Diameter 8" Drive Weight 140 lbs. Drop 30 in.
 Elevation Top of Hole ±2,791' Ref. or Datum mean sea level

Depth Feet	Graphic Log	Attitudes	Tube Sample No.	Blows Per Foot	Dry Density pcf	Moisture Content, %	Soil Class. (U.S.C.S.)	GEOTECHNICAL DESCRIPTION	
								Logged by	Sampled by
30			6	38			SM	@30": Brown, damp, dense, silty fine to medium sand; rare pebbles, one 1/2" thick clay layer	Logged by <u>DLL</u> Sampled by <u>DLL</u>
35									
40			7	81		≅	SW	@40': Brown, wet, very dense, fine to medium sand; few pebbles, approximately 5 to 10 percent coarse grains	
45									
50			8	34				@50': Same as at 40' but dense	
55								Total depth = 51.5 feet Ground water encountered at 40 feet at time of drilling	

APPENDIX C

LABORATORY TESTING PROCEDURES

Moisture and Density Tests: Moisture content and dry density determinations were performed on relatively undisturbed samples obtained from the test borings and/or trenches. The results of these tests are presented in the boring and/or trench logs. Where applicable, only moisture content was determined from "undisturbed" or disturbed samples.

Classification Tests: Typical materials were subjected to mechanical grain-size analysis by wet sieving from U.S. Standard brass screens (ASTM D422-65). Hydrometer analyses were performed where appreciable quantities of fines were encountered. The data was evaluated in determining the classification of the materials. The grain-size distribution curves are presented in the test data and the Unified Soil Classification is presented in both the test data and the boring and/or trench logs.

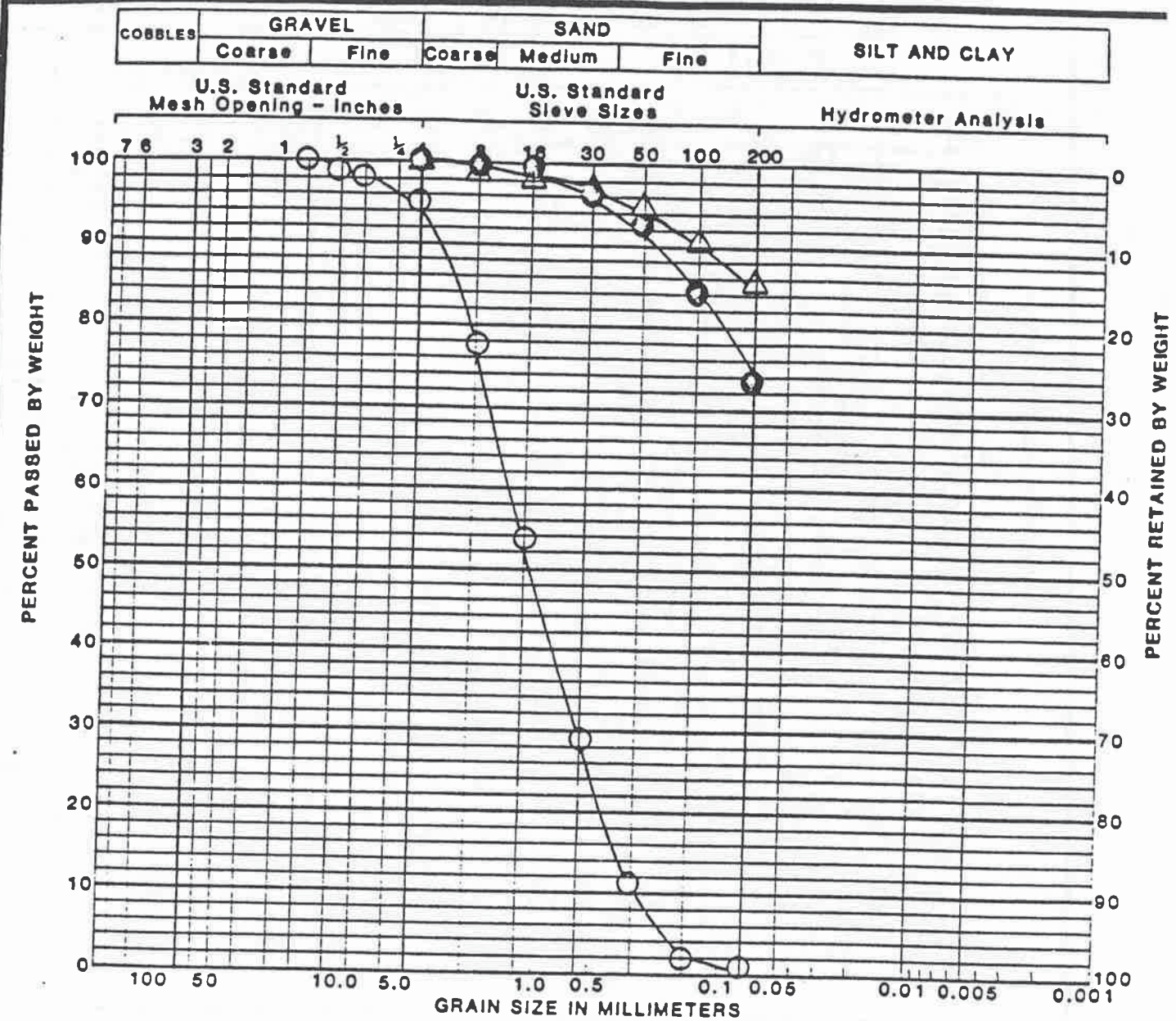
Direct Shear Tests: Direct shear tests were performed on selected remolded and/or undisturbed samples which were soaked for a minimum of 24 hours under a surcharge equal to the applied normal force during testing. After transfer of the sample to the shear box, and reloading the sample, pore pressures set up in the sample due to the transfer were allowed to dissipate for a period of approximately 1 hour prior to application of shearing force. The samples were tested under various normal loads, a different specimen being used for each normal load. The samples were sheared in a motor-driven, strain-controlled, direct-shear testing apparatus at a strain rate of 0.05 inch per minute. After a travel of 0.300 inch of the direct shear machine, the motor was stopped and the sample was allowed to "relax" for approximately 15 minutes. The "relaxed" and "peak" shear values were recorded. It is anticipated that, in a majority of samples tested, the 15 minutes relaxing of the sample is sufficient to allow dissipation of pore pressures set up in the samples due to application of shearing force. The relaxed values are therefore judged to be a good estimation of effective strength parameters. The test results were plotted on the "Direct Shear Summary".

Maximum Density Tests: The maximum dry density and optimum moisture content of typical materials were determined in accordance with ASTM D1557-78 (five layers). The results of these tests are presented in the test data.

APPENDIX C (Cont'd.)

Expansion Index Tests: The expansion potential of selected materials was evaluated by the Expansion Index Test, U.B.C. Standard No. 29-2. Specimens are molded under a given compactive energy to approximately the optimum moisture content and approximately 50 percent saturation or approximately 90 percent relative compaction. The prepared 1-inch thick by 4-inch diameter specimens are loaded to an equivalent 144 psf surcharge and are inundated with tap water until volumetric equilibrium is reached. The results of these tests are presented in the test data.

Consolidation Tests: Consolidation tests were performed on selected, relatively undisturbed samples recovered from the sampler. Samples were placed in a consolidometer and loads were applied in geometric progression. The percent consolidation for each load cycle was recorded as the ratio of the amount of vertical compression to the original 1-inch height. The consolidation pressure curves are presented in the test data. Where applicable, time-rates of consolidation were also recorded. A plot of these rates can be used to estimate time of consolidation.



SYMBOL	SAMPLE LOCATION	LL*	PL*	PI*	SOIL TYPE
○	T-1 (1) @ 0 - 3'				SW
⊙	T-1 (2) @ 8' - 10'				MI
△	T-2 (1) @ 0 - 3'				ML

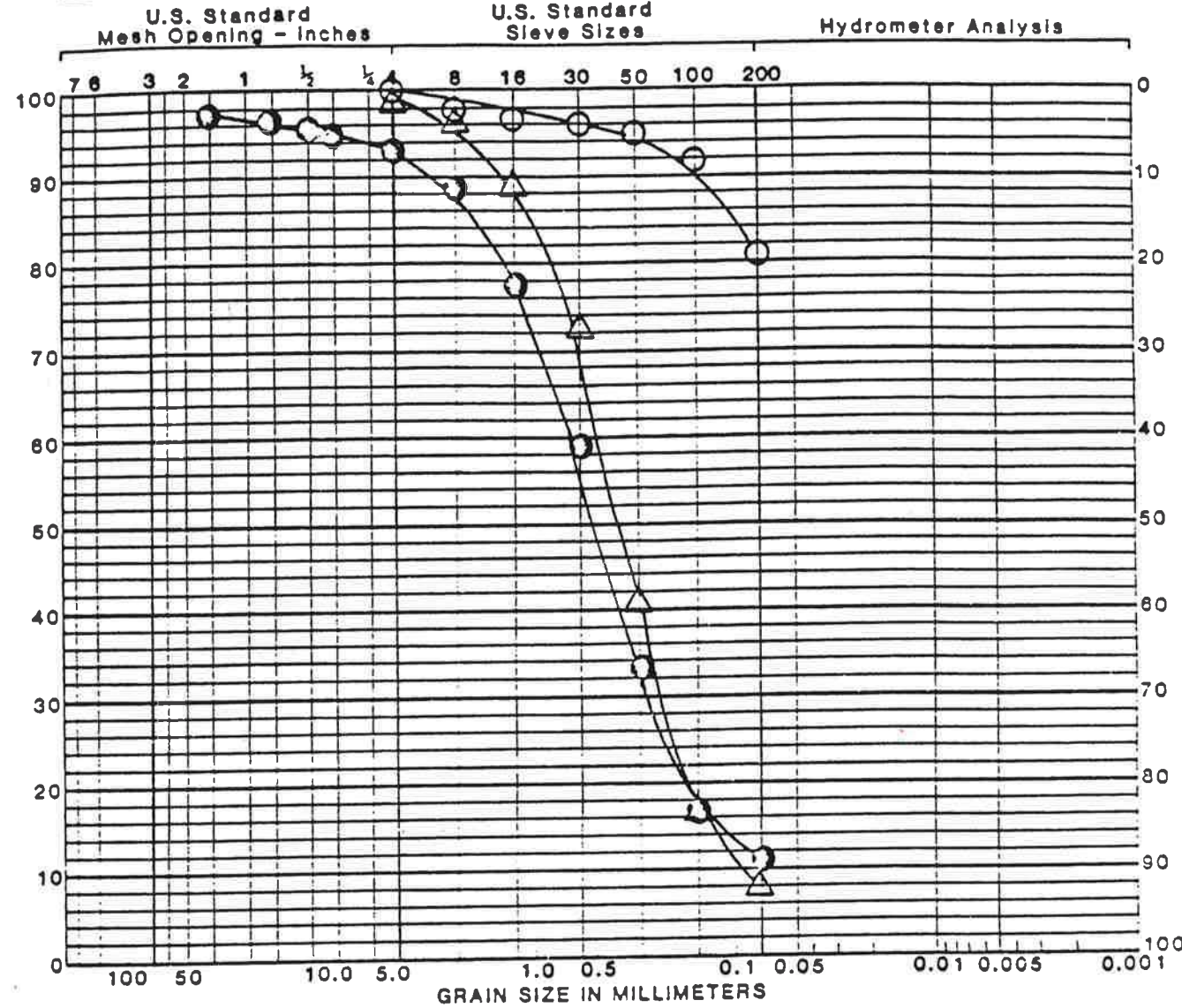
*LL Liquid Limit
 *PL Plastic Limit
 *PI Plasticity Index

Based on ASTM D422-72

LEIGHTON and ASSOCIATES
 Project No. 4900381-05
 JACUMBA VALLEY RANCH

GRAIN SIZE ANALYSIS

COBBLES	GRAVEL		SAND			SILT AND CLAY
	Coarse	Fine	Coarse	Medium	Fine	



SYMBOL	SAMPLE LOCATION	LL*	PL*	PI*	SOIL TYPE
○	T-2 (2) @ 4' - 6'				ML
●	T-3 (1) @ 1' - 3'				SM-SW
△	T-3 (2) @ 5' - 7'				SM-SW

*LL Liquid Limit
 *PL Plastic Limit
 *PI Plasticity Index

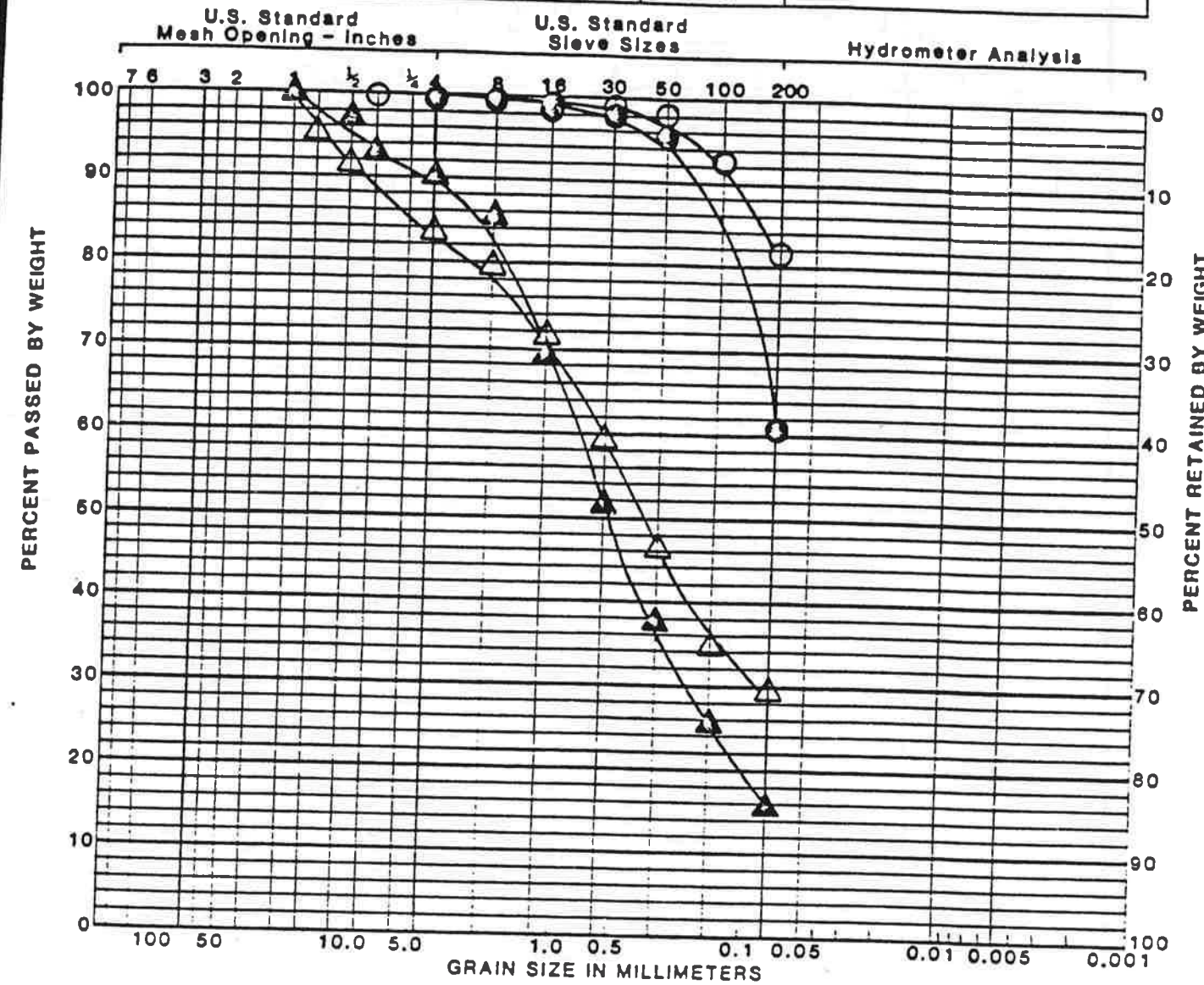
Based on ASTM D422-72



Project No. 4900381-05
 JACUMBA VALLEY RANCH

GRAIN SIZE ANALYSIS

COBBLES	GRAVEL		SAND			SILT AND CLAY
	Coarse	Fine	Coarse	Medium	Fine	



SYMBOL	SAMPLE LOCATION	LL*	PL*	PI*	SOIL TYPE
○	B-2 (2) @ 10' - 11.5'				ML
●	B-3 (4) @ 20' - 21.5'				ML
△	B-7 (3) @ 15' - 16'				SC/SM
▲	B-8 (5) @ 25' - 26'				SV

*LL Liquid Limit
 *PL Plastic Limit
 *PI Plasticity Index

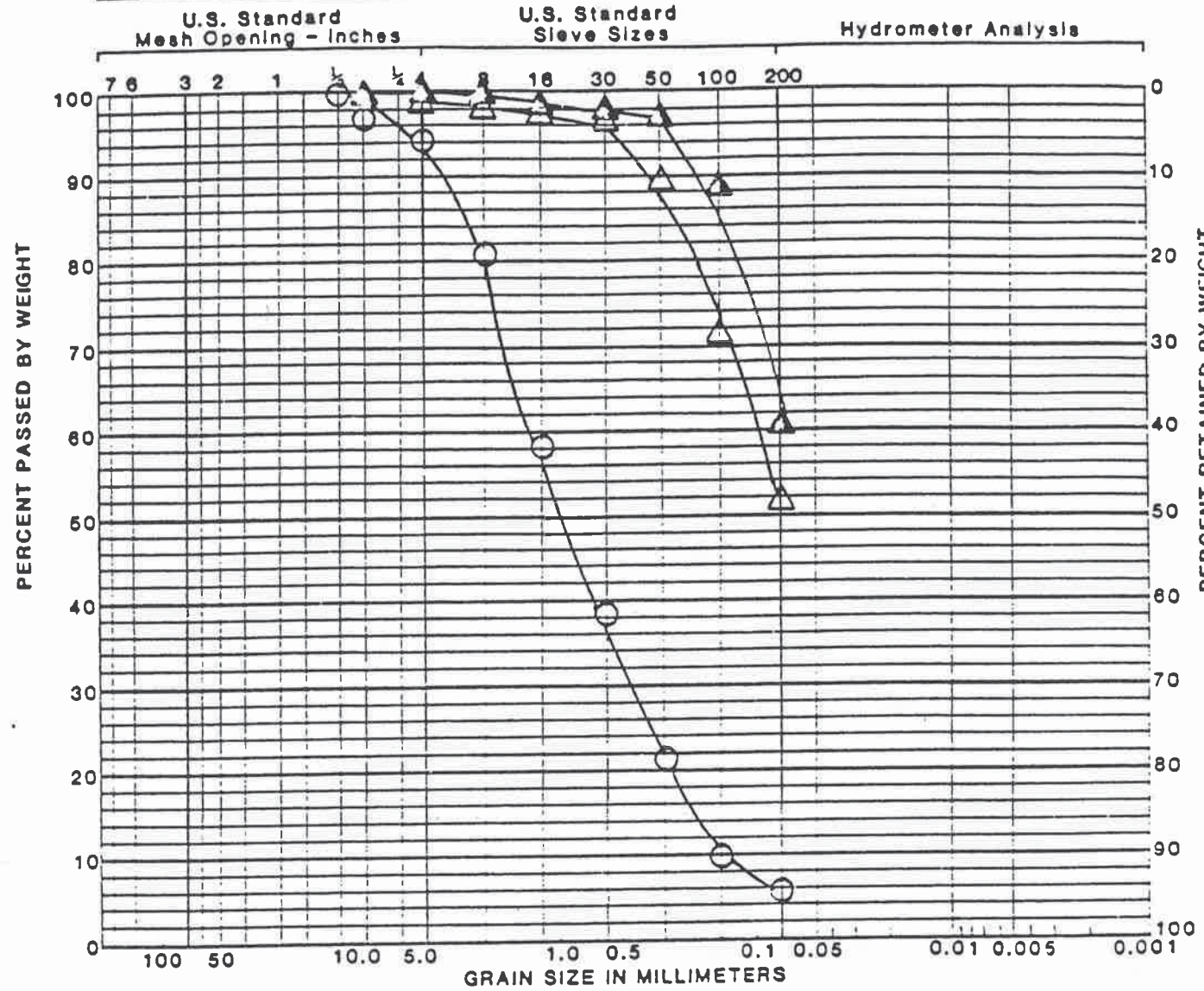
Based on ASTM D422-72



Project No. 4900381-05
 JACUMBA VALLEY RANCH


GRAIN SIZE ANALYSIS

COBBLES	GRAVEL		SAND			SILT AND CLAY
	Coarse	Fine	Coarse	Medium	Fine	

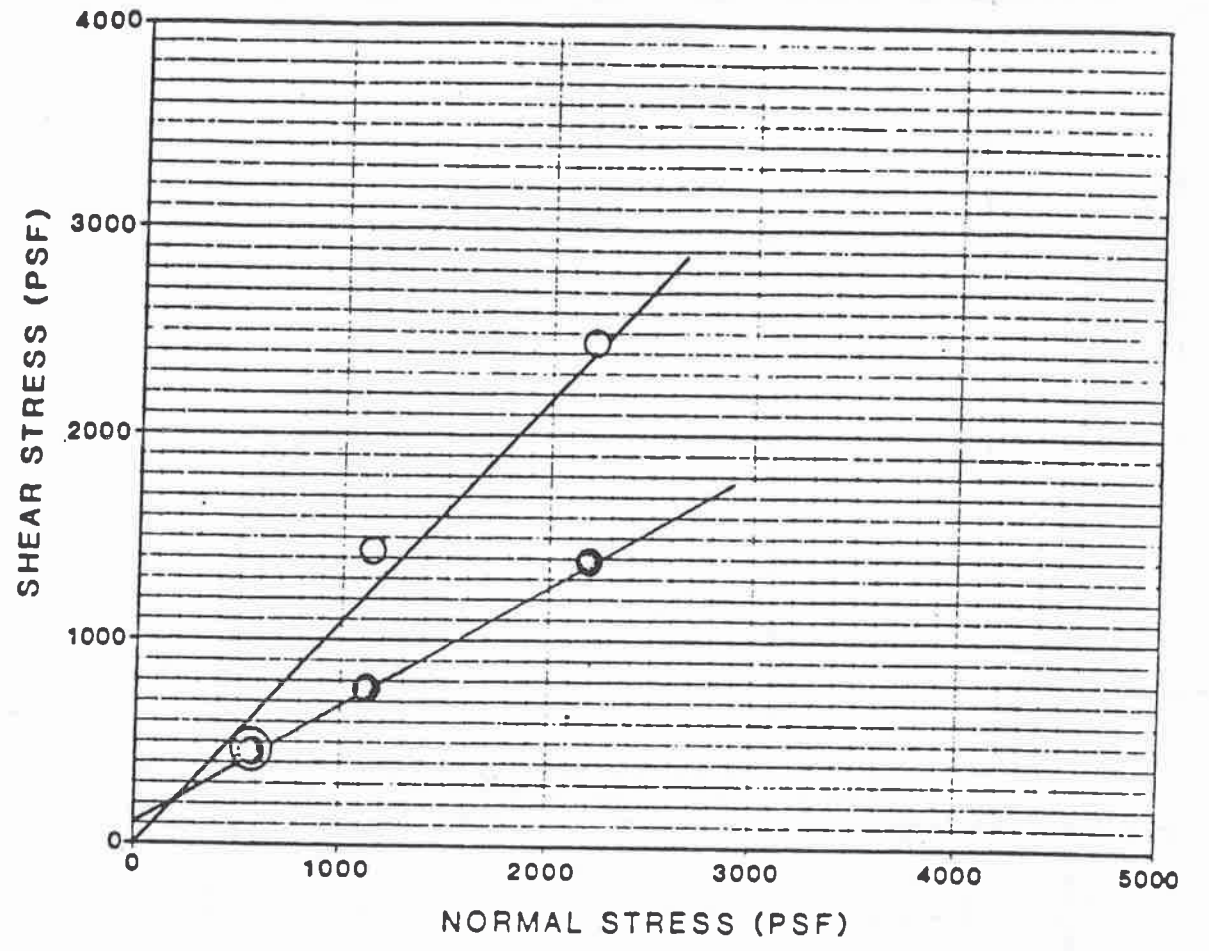


SYMBOL	SAMPLE LOCATION	LL*	PL*	PI*	SOIL TYPE
△	B-9 ④ @ 20'-21.5'				CL
▲	B-11 ① @ 5'-6.5'				ML
○	B-12 ③ @ 15'-16.5'				SW

*LL Liquid Limit
 *PL Plastic Limit
 *PI Plasticity Index
 Based on ASTM D422-72

LEIGHTON and ASSOCIATES

 Project No. 4900381-05
 JACUMBA VALLEY RANCH

GRAIN SIZE ANALYSIS



DESCRIPTION	SYMBOL	BORING NUMBER	SAMPLE NUMBER	DEPTH (FEET)	COHESION (PSF)	FRICTION ANGLE	SOIL TYPE
Remolded to 90% of Maximum Dry	○	T-1	1	0 - 3'	0	48°	SW
Density at Opt Moisture Content	●	T-2	1	0 - 3'	130	30°	SM-ML

Based on ASTM D3080-79

LEIGHTON and ASSOCIATES

 Project No. 4900381-05
 JACUMBA VALLEY RANCH

DIRECT SHEAR TEST RESULTS

EXPANSION INDEX TEST RESULTS

SAMPLE NO.	SAMPLE LOCATION	INITIAL MOISTURE (%)	COMPACTED DRY DENSITY (PCF)	FINAL MOISTURE (%)	VOLUMETRIC SWELL (%)	EXPANSION INDEX	EXPANSIVE POTENTIAL
②	T-2 @ 4'-6'	14.0	96.6	31.3	6.6	66	Medium
①	T-4 @ 0'-3'	11.5	104.6	24.0	5.1	51	Medium

MAXIMUM DENSITY TEST RESULTS

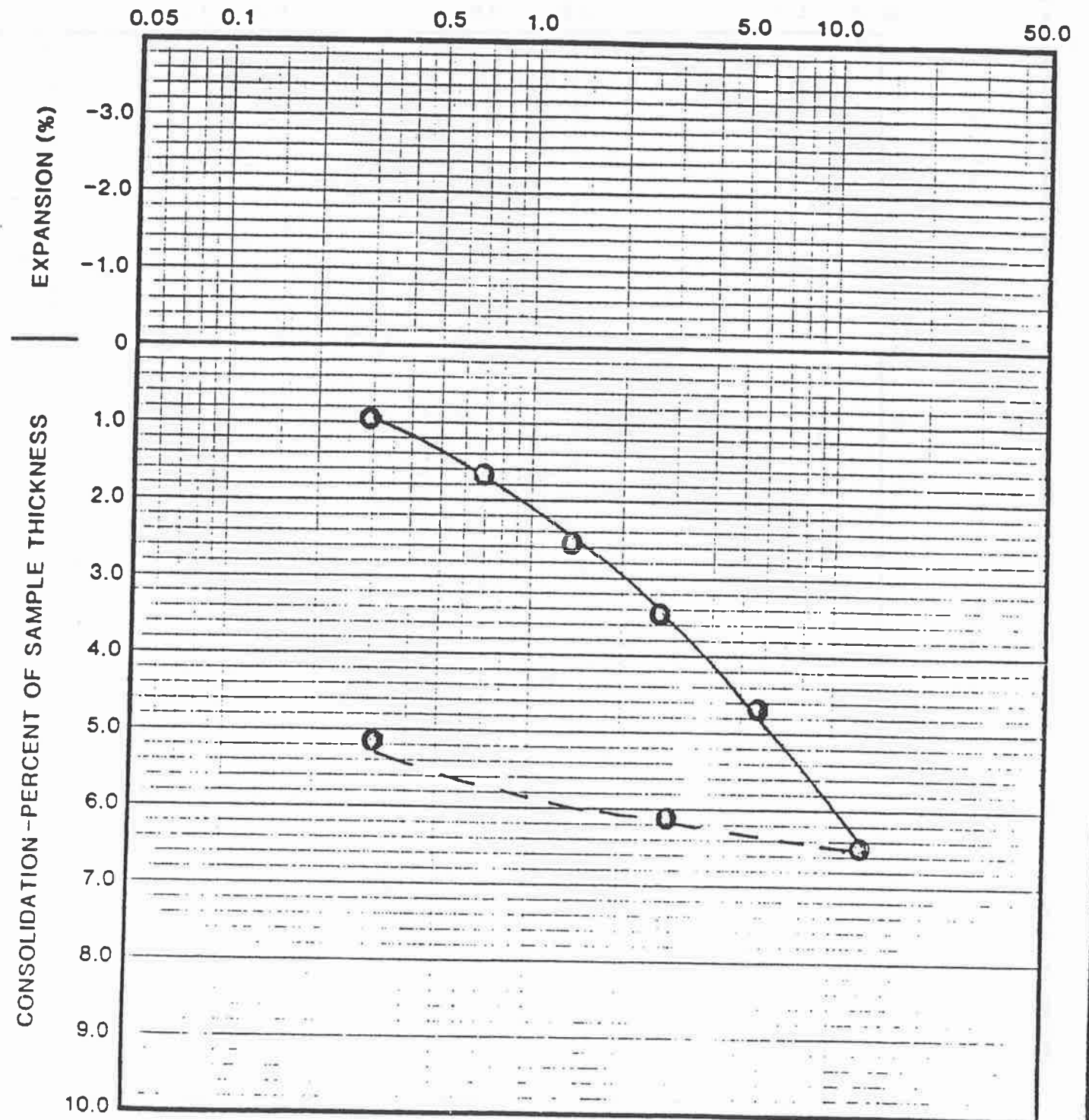
SAMPLE NO.	LOCATION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
①	T-1 @ 0'-3'	115.5	14.5
①	T-2 @ 0'-3'	107.0	20.0
②	T-2 @ 4'-6'	110.0	14.0



Project No. 4900381-05
JACUMBA VALLEY RANCH

EXPANSION INDEX AND MAXIMUM DENSITY TEST RESULTS

STRESS IN KIPS PER SQUARE FOOT



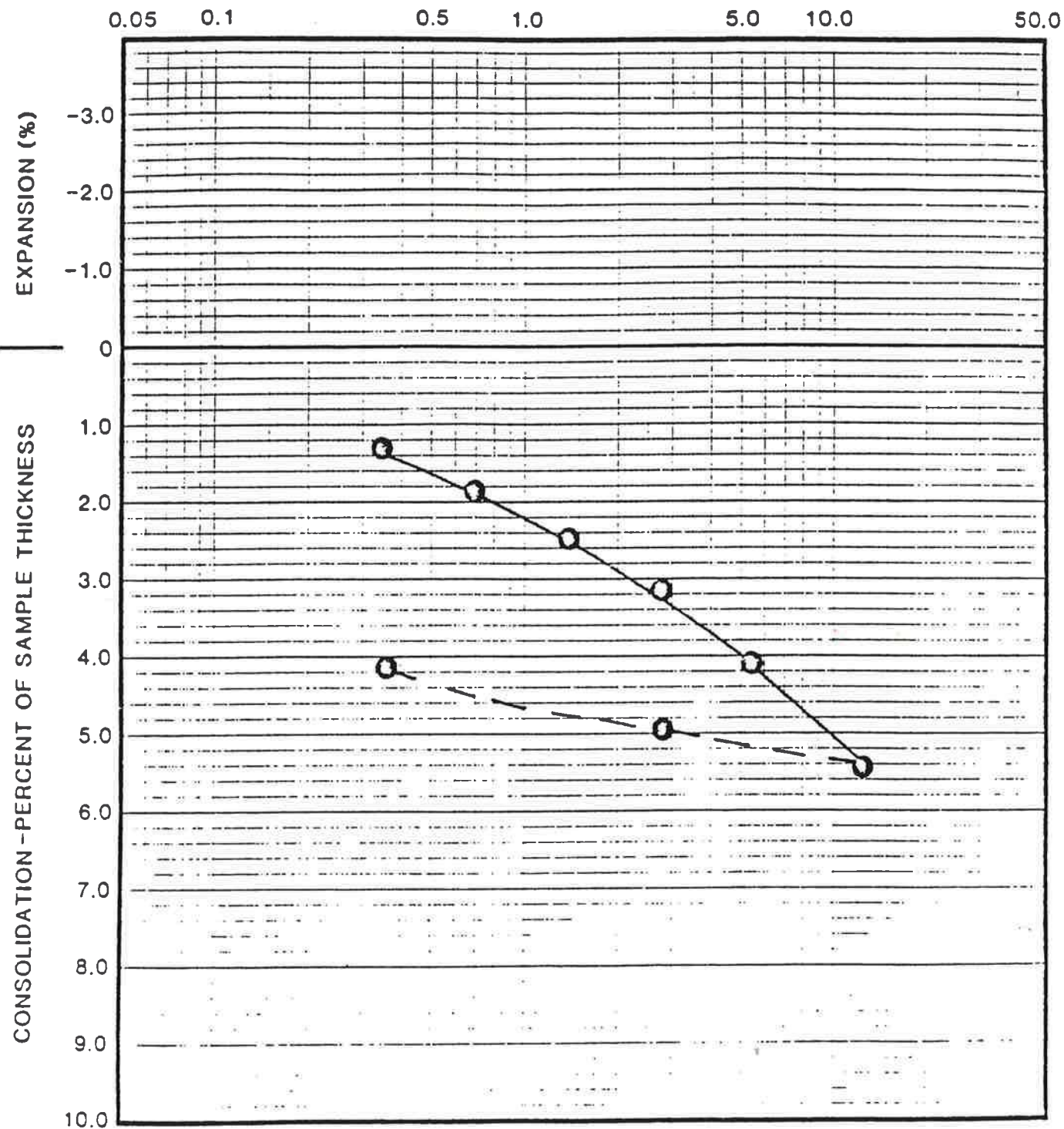
- FIELD MOISTURE
 - SATURATED
 - LOADING
 - - - REBOUND
- BORING NO.: B-3
SAMPLE NO.: 2
DEPTH (FT): 10-11
SOIL TYPE: SM



Project No. 4900381-05
JACUMBA VALLEY RANCH


CONSOLIDATION TEST RESULTS

STRESS IN KIPS PER SQUARE FOOT



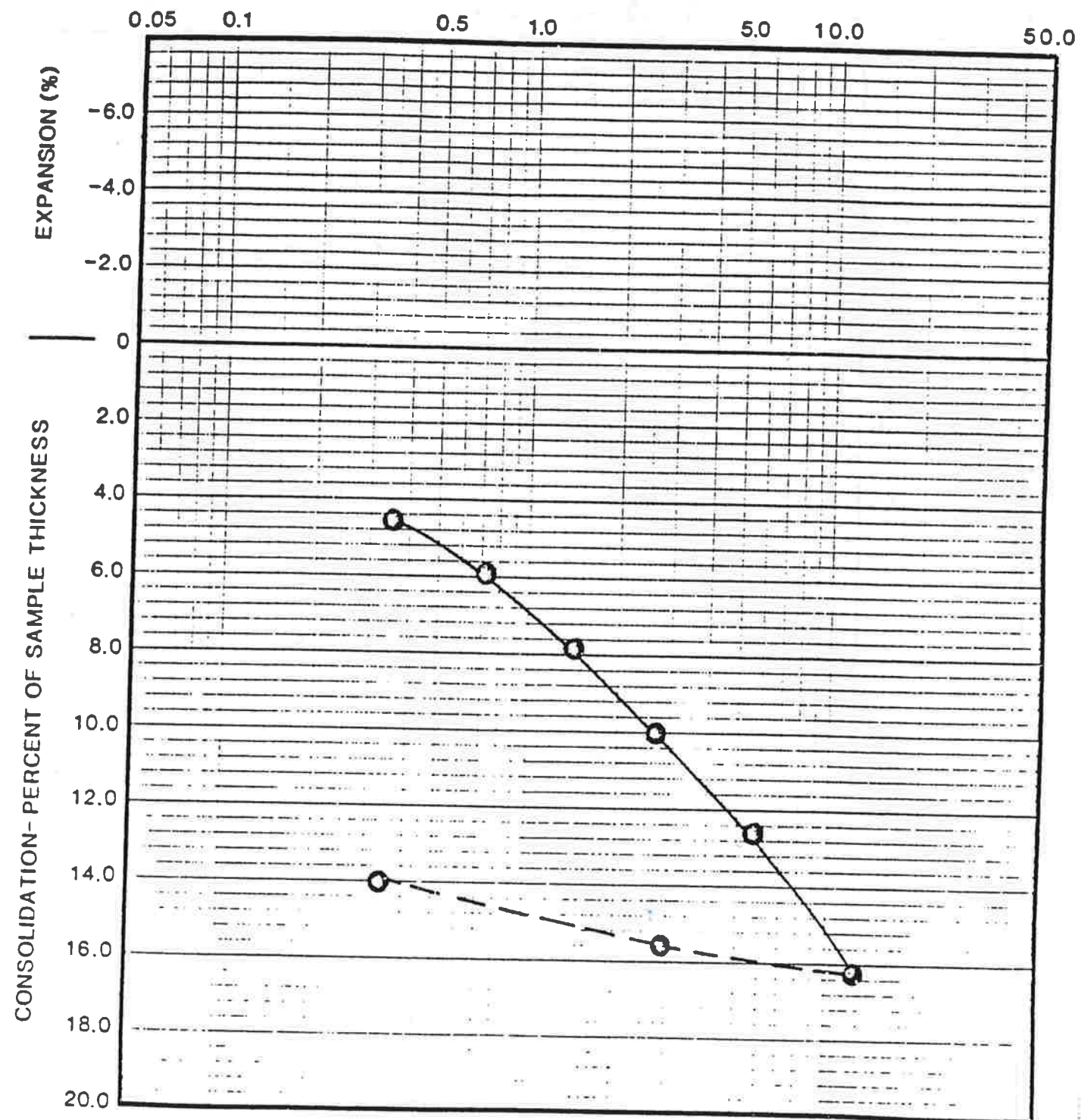
○ FIELD MOISTURE
 ● SATURATED
 — LOADING
 - - - REBOUND

BORING NO.: 3-6
 SAMPLE NO.: 2
 DEPTH (FT): 10-11
 SOIL TYPE:

LEWIS AND ASSOCIATES

 Project No. 4900361-05
 JACUMBA VALLEY RANCH


CONSOLIDATION TEST RESULTS

STRESS IN KIPS PER SQUARE FOOT



○ FIELD MOISTURE
 ● SATURATED
 — LOADING
 - - - REBOUND

BORING NO.: 3-10
 SAMPLE NO.: 2
 DEPTH (FT): 10-11
 SOIL TYPE: CL/ML

LEWIS AND ASSOCIATES

 Project No. 4900361-05
 JACUMBA VALLEY RANCH

CONSOLIDATION TEST RESULTS

STRESS IN KIPS PER SQUARE FOOT

0.05 0.1 0.5 1.0 5.0 10.0 50.0

EXPANSION (%)

-3.0

-2.0

-1.0

0

CONSOLIDATION - PERCENT OF SAMPLE THICKNESS

1.0

2.0

3.0

4.0

5.0

6.0

7.0

8.0

9.0

10.0

- FIELD MOISTURE
 - SATURATED
 - LOADING
 - - - REBOUND
- BORING NO.: B-11
 SAMPLE NO.: 2
 DEPTH (FT): 10-11
 SOIL TYPE: SM



Project No. 4900381-05

JACUMBA VALLEY RANCH

CONSOLIDATION TEST RESULTS



LEIGHTON AND ASSOCIATES, INC.

Geotechnical and Environmental Engineering Consultants

MAR 07 1991

February 27, 1991

Project No. 4900381-05

To: Jacumba Valley Ranch
 2423 Camino del Rio South, Suite 212
 San Diego, California 92108

Attention: Mr. Karl Turecek

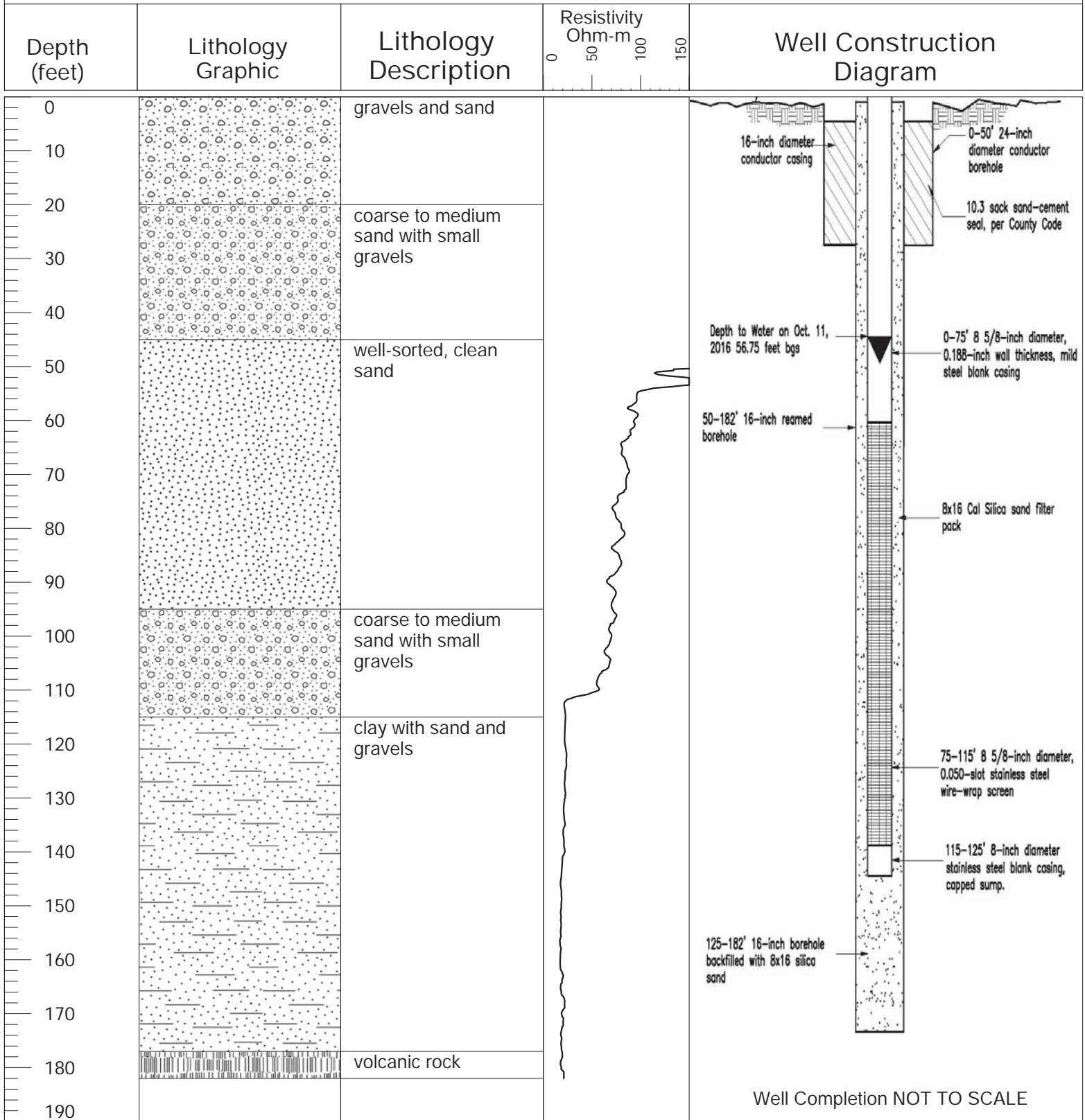
Subject: Updated Evaluation of Consolidation Potential, Phase 1, Jacumba Valley Ranch Development, San Diego County, California

Reference: Leighton and Associates, Inc., 1991, Limited Evaluation of Liquefaction and Consolidation Potential, Phase 1, Jacumba Valley Ranch Development, San Diego County, California, Project No. 4900381-05, dated January 21

In accordance with your request, we performed an updated evaluation of the consolidation potential at the subject development. We understand that fills in Residential Area A are proposed to be up to approximately 20 feet thick (above existing grades). Our referenced report provided recommendations based on your previous assumption that the thickness of additional fill would be approximately 4 feet. In order to evaluate the consolidation potential due to the weight of the proposed fill soils (up to 20 feet thick), we have performed laboratory time-rate consolidation tests on ring samples collected as part of our previous study. We chose representative samples near the areas of proposed fills as shown on the computer printout prepared by F.J. Willert Contracting Company, Inc. Based on our laboratory data (attached), we recommend the following delays after the completion of grading until the construction of settlement-sensitive structures in order to reduce the total and differential settlement to approximately 1 inch and 1/2 inch, respectively.

Thickness of Proposed Fill Above Existing Grade (feet)	Delay of Construction after Grading (months)
≤ 2	0
≤ 3	1
≤ 4	2
≤ 5	3
≤ 10	4
≤ 15	6
≤ 20	8

Maximum settlement of the existing soils below the areas of thickest proposed fill soils (approximately 20 feet thick) is estimated to range from 4 to 6 inches.



Project Name: Highland Center Well
Project Number: 9286
Drilling Company: Fain Drilling and Pump Company
Drilling Method: Mud Rotary
Drilling Start Date: September 28, 2016
Drilling Finish Date: September 29, 2016
Pilot Borehole Diameter: 15.75-inch
Total Borehole Depth: 182 feet

Boring Location: Jacumba Hot Springs, CA
Latitude: 32°37'2.94"N
Longitude: 116°11'4.19"W
Surface Elevation (ft msl): 2,805'

Additional Information:

Logs from wells that penetrate the alluvium in the center of the valley are presented in Table 3. See Figure 8 (page 28) for the location of the wells.

The alternating layers of clay and gravelly sand in the well logs appear to be lacustrine deposits. Similar deposits, of rhythmic layers of silty-clay and fine to medium sand, occur in the stream cut banks at the north end of Jacumba Valley. There are abundant small gastropod shells in these deposits. Above the lacustrine sediments the well records generally show a fining upward trend.

The wells on the western edge of Jacumba penetrate the alluvium to a depth of 18 meters (County of San Diego, Department of Public Health, personal communication, 1980).

<u>Well J3A</u>		<u>Well J4</u>	
<u>Depth</u> (Meters)	<u>Lithology</u>	<u>Depth</u> (Meters)	<u>Lithology</u>
- 9.1	Clay and silt	-12.2	Layers of clay and gravel
-15.2	Coarse sand and gravel	-18.3	Gravel and boulders

In general, the lithology of the Quaternary alluvium varies both with depth and laterally, as would be expected in an alluviated valley in the arid southwest.

Table 3

Logs for Wells J1 and J2^a and Wells K1 and K2^b

Depth (Meters)	Lithology	Depth (Meters)	Lithology
	<u>Well J1</u>		<u>Well J2</u>
0-3.0	Soil and clay	0-3.0	Soil and clay
-11.6	Clay	-11.6	Clay
-12.2	Fine sand	-12.2	Fine sand
-15.2	Medium sand	-15.2	Medium sand
-26.8	Coarse sand and small gravel	-26.8	Coarse sand and small gravel
-30.5	Coarse sand and coarse gravel	-30.5	Coarse sand and small gravel
-36.6	Layers clay and coarse sand	-36.6	Layers clay and coarse sand
-37.8	Volcanic formation	-42.7	Layers clay and coarse sand
	<u>Well K1</u>		<u>Well K2</u>
0-1.5	Clay and topsoil	0-6.1	Clay and silt
-9.1	Silt and fine sand	-6.4	Cobbles
-12.2	Fine sand	-12.2	Fine sand
-13.7	Sand	-13.7	Sand
-15.2	Boulders and sand	-15.2	Rocks and sand
-19.2	Sand and gravel	-21.3	Sand and gravel
-19.5	Black silt and clay	-28.0	Rocks and sand
-20.7	Sand and gravel	-31.4	Large rocks and sand
-21.3	Black silt and clay		
-29.9	Sand and gravel		

Table 3 (Continued)

Depth (Meters)	Lithology	Depth (Meters)	Lithology
	<u>Well K1</u>		<u>Well K2</u>
-31.4	Boulders and cobbles		
-32.3	Sand and gravel		
-33.5	Red clay		

^aTaken from County of San Diego, Department of Public Health, personal communication, 1980.

^bTaken from William Ketchum, personal communication, 1980.

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

DWR USE ONLY — DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. One - 2007

No. **1089727**

Date Work Began 7/18/07, Ended 7/23/07

Local Permit Agency DEH

Permit No. LWEL 18415 Permit Date 7/13/07

GEOLOGIC LOG			DESCRIPTION <i>Describe material, grain size, color, etc.</i>
ORIENTATION (✓)			
<input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/> ANGLE _____ (SPECIFY)			DRILLING METHOD <u>Rotary</u> FLUID <u>Gel</u>
DEPTH FROM SURFACE	Ft.	to Ft.	
	<u>0</u>	<u>9</u>	<u>Sand, fine grained - brown color</u>
	<u>9</u>	<u>24</u>	<u>Clay - Dark color</u>
	<u>24</u>	<u>70</u>	<u>Sand, fine grained</u>
	<u>70</u>	<u>113</u>	<u>Sand, medium to coarse grained with some boulders</u>
TOTAL DEPTH OF BORING <u>113</u> (Feet) TOTAL DEPTH OF COMPLETED WELL <u>114</u> (Feet)			

WELL OWNER _____

WELL LOCATION

Address Old Hwy 80

City Jacumba

County San Diego

APN Book 660 Page 150 Parcel 18

Township 18 S Range 8 E Section 8

Lat _____ N Long _____ W

DEG. MIN. SEC. DEG. MIN. SEC.

LOCATION SKETCH NORTH

ACTIVITY (✓)

NEW WELL

MODIFICATION/REPAIR

Deepen

Other (Specify) _____

DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

USES (✓)

WATER SUPPLY

Domestic Public

Irrigation Industrial

MONITORING _____

TEST WELL _____

CATHODIC PROTECTION _____

HEAT EXCHANGE _____

DIRECT PUSH _____

INJECTION _____

VAPOR EXTRACTION _____

SPARGING _____

REMEDICATION _____

OTHER (SPECIFY) _____

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 50± (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 40 (Ft.) & DATE MEASURED 7/23/07

ESTIMATED YIELD * 2000 (GPM) & TEST TYPE airlift

TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN 60 (Ft.)

* May not be representative of a well's long-term yield.

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)								
		TYPE (✓)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	
		BLANK	SCREEN	CONDUCTOR	FILL PIPE					
0	20	32	X				Steel	23.5	.250	
0	73	24	X				Steel	13.5	.250	
73	113	24		X			Steel S.S.	13.5	.250	.080
							304			

DEPTH FROM SURFACE	ANNULAR MATERIAL			
	TYPE			
	CE-MENT (✓)	BEN-TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	20	X		
20	113			pea gravel 5/16x7

ATTACHMENTS (✓)

Geologic Log

Well Construction Diagram

Geophysical Log(s)

Soil/Water Chemical Analyses

Other Site Map

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME FAIN DRILLING & PUMP CO INC
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

12029 Old Castle Rd. Valley Center, Ca 92082

ADDRESS _____ CITY _____ STATE _____ ZIP _____

Signed Joe R. Fain C-57 LICENSED WATER WELL CONTRACTOR

Date Signed 7-30-07 328287 C-57 LICENSE NUMBER

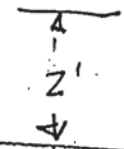
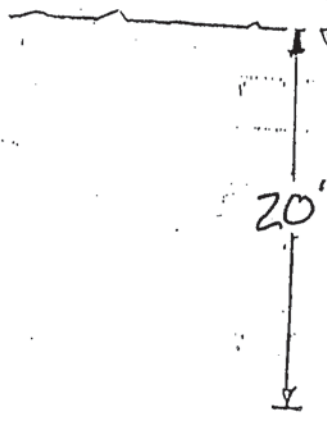
1089727

Lwel 18415

AS BUILT

WELL

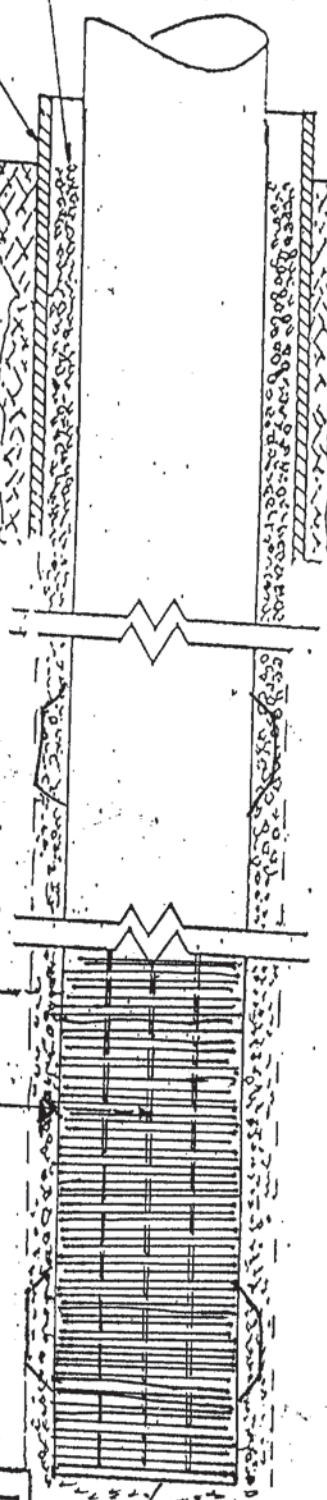
GRAVEL PACKING
 STEEL CONDUCTOR CASING
 CEMENT



304 stainless steel
 SCREEN V-SLOT
 WIRE WRAP NO. .080
 slot

LINER

PERFORATION



WELL DEPTH.

110'

40'

Welded
 Plate Bottom
 .500 wall x 14" dia.

- FAIN DRILLING & PUMP -
 12029 OLD CASTLE RD.
 VALLEY CENTER CA.

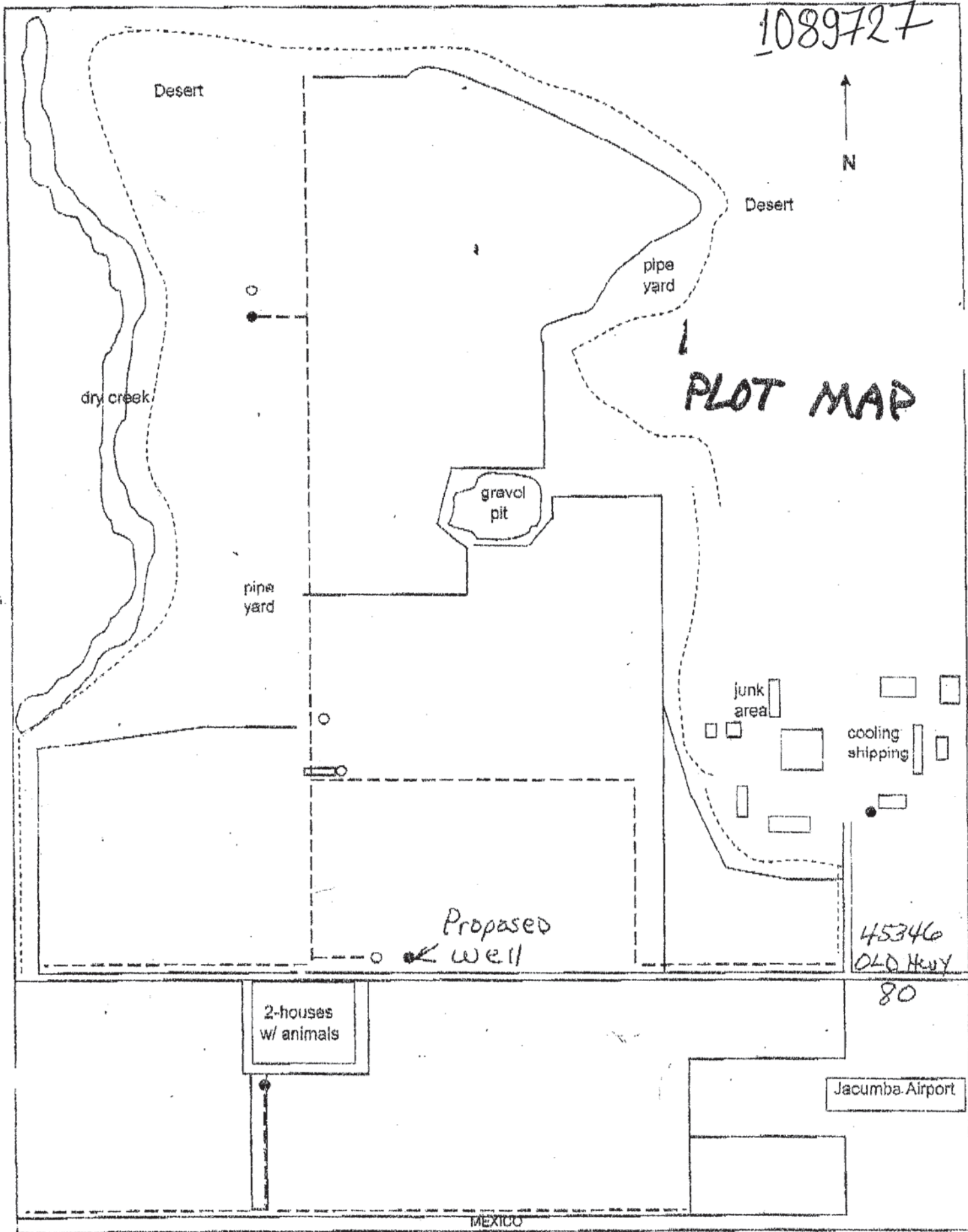
STEEL CONDUCTOR 24" X 21'
 STEEL LINER 14" X 113'
 GRAVEL SIZE 5/16 X 7

BY: Joe R. Fain

JOE FAIN - OWNER

7/30/07

1089727



Desert

Desert

dry creek

pipe yard

PLOT MAP

gravel pit

pipe yard

junk area

cooling shipping

Proposed well

45346 OLD HWY

80

2-houses w/ animals

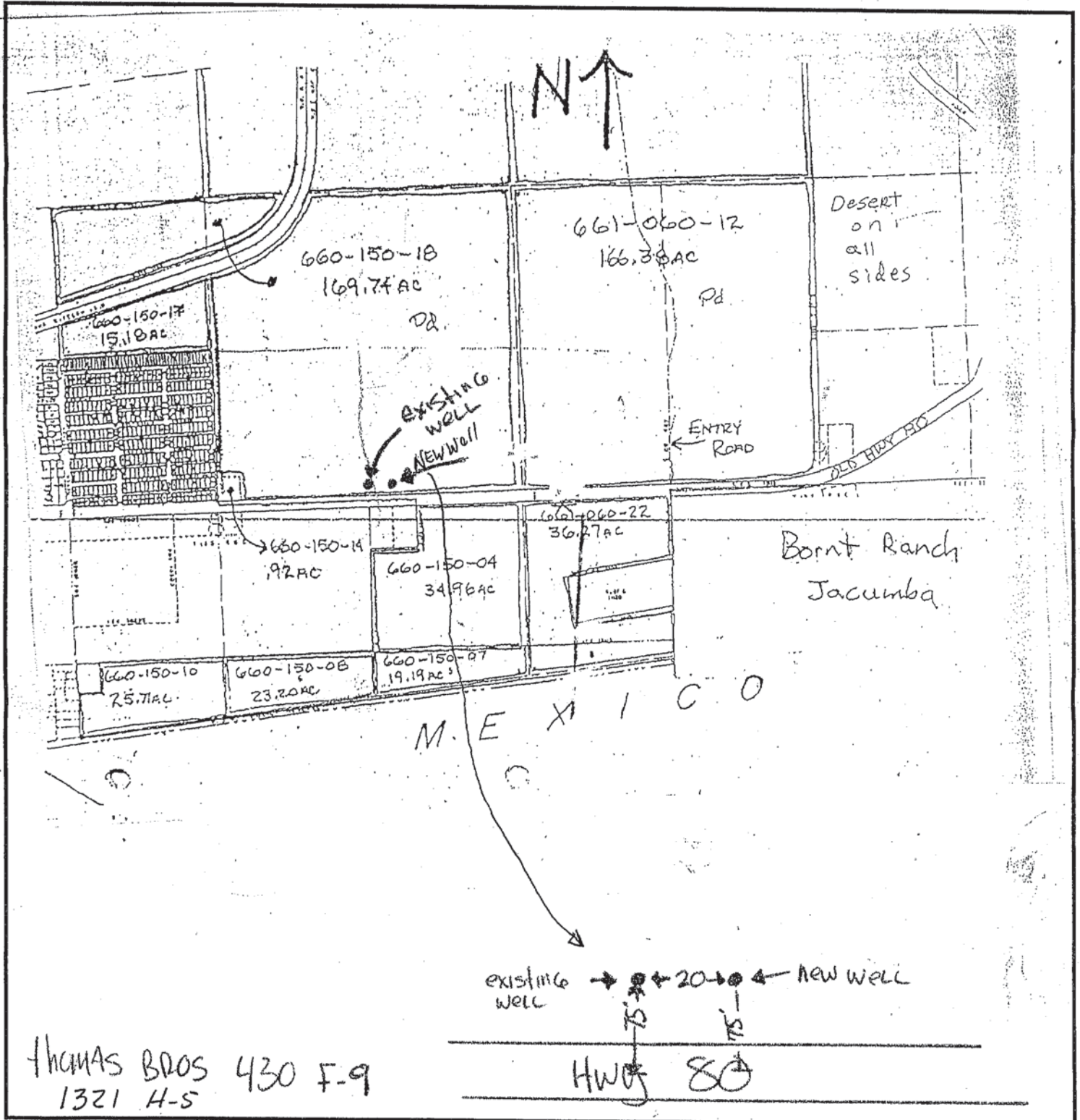
Jacumba Airport

MEXICO

1089727

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.



STATE OF CALIFORNIA
WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. **0909529**

Page 1 of 1

Owner's Well No. 000

Date Work Began 1/17/05, Ended 1/25/05

Local Permit Agency DEW

Permit No. 16419 Permit Date 1/25/05

WELL USE ONLY -- DO NOT FILL IN

STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

GEOLOGIC LOG

WELL OWNER

ORIENTATION (✓)		VERTICAL	HORIZONTAL	ANGLE	(SPECIFY)
DEPTH FROM SURFACE		DRILLING METHOD		FLUID	
Fl.	to Fl.	ROCKET		Gel	
DESCRIPTION					
Describe material, grain size, color, etc.					
0	11	Clayey sand and silt fine grains			
11	36	Gray clayey sand fine to coarse medium grained			
36	76	Coarse sand and gravel			
76	49	sand fine to coarse with gravel and pebbles			
49	112	Clayey weathered rock			

Name BORNE FARMS

Mailing Address 2307 East Hwy 98

MOLEVILLE Ca 92250

CITY STATE ZIP

Address 170 N. 80 & East Hwy 98

City Jacumba

County San Diego

APN Book 660 Page 020 Parcel 05

Township 18-S Range 8-E Section 5

Lat 32 DEG. 37 MIN. 190 SEC. N Long 113 DEG. 10 MIN. 740 SEC. W

WELL LOCATION

LOCATION SKETCH

ACTIVITY (✓)

NEW WELL

MODIFICATION/REPAIR

— Deepen

— Other (Specify)

DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

USES (✓)

WATER SUPPLY

Domestic Public

Irrigation Industrial

MONITORING

TEST WELL

CATHODIC PROTECTION

HEAT EXCHANGE

DIRECT PUSH

INJECTION

VAPOR EXTRACTION

SPARGING

REMEDIATION

OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER 12 (FL) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 9 (FL) & DATE MEASURED 1-26-05

ESTIMATED YIELD 2000 (GPM) & TEST TYPE ANALYSIS

TEST LENGTH 4 (Hrs.) TOTAL DRAWDOWN 90 (FL)

* May not be representative of a well's long-term yield.

TOTAL DEPTH OF BORING 112 (Feet)

TOTAL DEPTH OF COMPLETED WELL 100 (Feet)

DEPTH FROM SURFACE	BORE-HOLE DIA. (Inches)	CASING (S)						DEPTH FROM SURFACE	ANNULAR MATERIAL					
		TYPE (✓)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)		GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)	TYPE			
Fl.	to Fl.	BLANK	SCREEN	CONDUIT	FILL PIPE								CE-MENT (✓)	BEN-TONITE (✓)
0	20	32	✓			STEEL A-53	22.5	.250						
0	40	22	✓			STEEL A-139	17.5	.250						
40	100	22		✓		304 S.S.	13.5	.150	.080				5/16 x 7	

ATTACHMENTS (✓)

— Geologic Log

Well Construction Diagram

— Geophysical Log(s)

— Soil/Water Chemical Analyses

Other SWP

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Sain Drilling & Pump Co. Inc.

(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

1629 Old Castle Rd. Valley Center - Ca 92081

ADDRESS CITY STATE ZIP

Signed [Signature] DATE SIGNED 1-29-05 329027

C-57 LICENSED WATER WELL CONTRACTOR G-57 LICENSE NUMBER

"AS BUILT"
WELL

BORNT FARM S
JACUMBA CA.

GRAVEL PACKING
STEEL CONDUCTOR CASING
CEMENT

20'

Lat. 32° 37' .790 N
Long 116° 10' .740 W

14" LINER

PERFORATION
SCREEN, WIRE WRAP
304 STAINLESS STEEL
NO. .080 SLOT

WELL DEPTH
100'

60'

Bottom plate

-FAIN DRILLING & PUMP-
12029 OLD CASTLE RD.
VALLEY CENTER CA.

STEEL CONDUCTOR 24" X 20'
STEEL LINER 14" X 100'
GRAVEL SIZE 5/16" & 7/8"

BY: [Signature] 1-26-05
JOE FAIN-OWNER

LOCATION

Indicate below the vicinity and exact location of well with respect to the following items: Property lines, water bodies or water courses, drainage pattern, easements, roads, existing wells, sewers and private sewage disposal systems and other potential contamination sources, including dimensions.

