Roya C. Kambin
Project Manager
Marketing Business Unit

Chevron Environmental Management Company
6101 Bollinger Canyon Road
San Ramon, CA 94583
Tel (925) 790-6270
RKLG@chevron.com

February 20, 2012

Mr. Jerry Wickham
Alameda County Health Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: Revised Remedial Design
4191 First Street, Pleasanton, California
Fuel Leak Case No.: RO0000361

Dear Mr. Wickham,

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please contact me at (925) 790-6270.

Sincerely,

Roya Kambin
Union Oil of California – Project Manager

Attachment
Revised Remedial Design

ARCADIS U.S., Inc.
2000 Powell Street
Suite 700
Emeryville
California 94608
Tel 510 652 4500
Fax 510 652 4906
www.arcadis-us.com

ENVIRONMENT

Jerry Wickham, PG, CEH, CHG
Senior Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway Suite 250
Alameda, California 94502

Subject:
Revised Remedial Design
Response to ACEH Comments
Unocal Site 7376
4191 First Street
Pleasanton California
Alameda County Fuel Leak Case No. RO0000361

Date:
February 20, 2012

Contact:
Katherine Brandt

Phone:
510.596.9675

Email:
Katherine.Brandt
@arcadis-us.com

Our ref:
B0047296.0001

Dear Mr. Wickham:

On behalf of Chevron Environmental Management Company, for itself and as Attorney-in-Fact for Union Oil Company of California (hereinafter "EMC"), ARCADIS U.S., Inc (ARCADIS) has prepared this letter in response to technical comments from Alameda County Environmental Health Services (ACEH) regarding ARCADIS', "Revised Remedial Design," dated October 14, 2011 associated with the above referenced site. Technical comments provided by ACEH in their letter dated November 16, 2011 are provided in ***bold/italics*** below. A response follows each comment.

1. ***Radius of Influence and Number of SVE Wells. The Revised Remedial Design indicates that the radius of influence (ROI) was not calculated correctly and proposes the use of higher ROI values for design. As a result, the Revised Design incorporates a significantly reduced number of extraction wells for the soil vapor extraction (SVE) system. Given that the site stratigraphy appears to be complex with possible horizontal and vertical discontinuities, it is not clear that the proposed well design is conservative enough to ensure that the system will be able to adequately treat the targeted area and vertical intervals. We request that you review the site-specific conditions and re-consider the design in light of the site heterogeneity. Upon review, if you believe that the proposed design is adequate, please include a sufficient number of vapor monitoring points in the design to allow assessment of the system performance during SVE operations.***

After in-depth review of cross-sections developed from site boring logs, the conservative ROI presented within ARCADIS' "Revised Remedial Design" will deliver effective flow coverage despite site heterogeneity. The revised design ROI for the shallower zone (sands/gravels) and deeper zone (finer grained soil) is 30 feet and 20 feet, respectively. These conservative ROI estimates are based on the smallest ROI observed during previous pilot testing efforts to ensure adequate coverage at the site. Additionally, well construction and well layout details were designed to address interpreted lithologic heterogeneities. The majority of clay lenses or pockets causing discontinuity within the formation exist on-site. Dual-nested shallow and deep SVE wells are proposed onsite to address possible decreased influence across vertical and horizontal gradients within the formation. Screen intervals will be also open to variation in the field to compensate for any unanticipated impermeable layers observed during well installation.

Onsite monitoring wells OWA-1 and CWA-3 will be used to monitor shallow induced vacuum gradients (Figure 1A). In addition, proposed vapor extraction wells VE-1A, VE-2, and VE-3 will be used to monitor shallow induced vacuum gradients when not in operation. Onsite wells OWA-2, OWA-3, CWA-1, and CWA-2 will be used to monitor deep induced vacuum gradients.

Offsite monitoring well CWB-3 will be used to monitor shallow induced vacuum gradients. Offsite monitoring wells CWB-2 and CWB-3 will be used to monitor deep induced vacuum gradients (Figure 1B). In addition, proposed vapor extraction wells VE-4, VE-5B, VE-6, and VE-7 will be used to monitor deep induced vacuum gradients when not in operation.

2. ***Air Sparging and Removal of Groundwater Extraction. The proposed incorporation of air sparging in lieu of groundwater extraction is acceptable. In the Revised Remedial Design requested below, please include the three proposed air sparging wells into the remedial system. Groundwater extraction may be used as a contingency.***

   The three proposed offsite air sparge well (AS-1, AS-2, and AS-3) locations are shown on Figures 1A and 1B. The remediation compound was designed to allow space for contingency groundwater extraction system components. A sewer cleanout connection will be made during trenching activities to allow

for post-treatment water discharge, should groundwater extraction be necessary.

3. ***Compound Location and Abatement Equipment. In the Revised Remedial Design requested below, please include a new location for the system compound. The size of the abatement equipment may be modified as necessary to match the anticipated treatment volumes.***

   The new proposed remediation compound location is shown on Figures 1A and 1B. The new location selection process included evaluation of accessibility, minimal disturbance to service station operations, distance from the nearby office building, and structural stability of existing topographic conditions.

4. ***GeoTracker. A review of the State Water Resources Control Board's (SWRCB) GeoTracker website indicates the most recent report entitled, "Revised Remedial Design, Unocal Site 7376, 4191 First Street, Pleasanton, CA," dated October 14, 2011, was not uploaded to GeoTracker. Please upload this report and all future reports to GeoTracker as required pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 by state regulations.***

   The report entitled "*Revised Remedial Design, Unocal Site 7376, 4191 First Street, Pleasanton, CA*," dated October 14, 2011 has been uploaded to GeoTracker. This response to comments document, as well as any future reports, will also be uploaded to GeoTracker.

Schedule

The timeframe for implementation of the Revised RAP assumes approval to proceed is received by ACEH by March 30, 2012. ARCADIS is prepared to begin well installation activities three weeks following approval from the ACEH. Installation of system components and startup will follow the well installation. If delays are experienced due to Pacific Gas & Electric, a temporary system will be employed to start the remedial efforts.

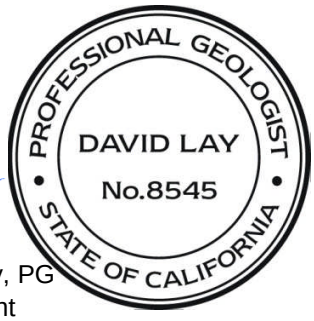
If you have any questions or comments regarding the contents of this letter please contact Ms. Katherine Brandt of ARCADIS at 510.596.9675 or by email at Katherine.Brandt@arcadis-us.com.

Sincerely,

ARCADIS U.S., Inc.

Katherine Brandt
Certified Project Manager

David W. Lay, PG
Vice President



Enclosures:

Figure 1A	Site Map with Proposed Shallow Well and Trench Locations
Figure 1B	Site Map with Proposed Deep Well and Trench Locations

Copies:

Roya Kambin, Union Oil of California
Danielle Stefani, Livermore Pleasanton Fire Department
Cheryl Dizon (QIC 8021), Zone 7 Water Agency
Les Hausrath, Wendel, Rosen, Black & Dean
Christine Noma, Wendel, Rosen, Black & Dean
Rory MacNeil, Alameda County Public Works
Donna Drogos, Alameda County Environmental Health Services
De L Liu and Na Li
Henry O. Armour
CD & PWS Enterprises, Inc.
Mr. Bill Borgh, ConocoPhillips Company

TESSA PLACE
CALI COURT
BENJAMIN COURT
RESIDENTIAL
RESIDENTIAL
FORMER RAILROAD RIGHT-OF-WAY
MW-7
MW-8
GWE-2
OWB-1/2/3
AS-1
GWE-1
MW-5
AS-2
CWB-3
AS-3
CWB-2
CWB-1
VE-7
VE-6
BUILDING
WALKWAY
WALKWAY
PLANTER
PLANTER
MW-10
STORAGE BUILDING
DRIVEWAY
PROPOSED REMEDIATION SYSTEM LOCATION
VE-4
PLANTER
VE-1A/1B
OWA-1/2/3
FORMER FUEL OIL UST
VE-5A/5B
CWA-1
CWA-2
CWA-3
MW-6
MW-2B
MW-2C
VE-2
MW-2
VAPOR RECOVERY SYSTEM (APPROX LOCATION)
PLANTER
UST
UST
DRIVEWAY
VE-3A/3B
MW-3
MW-3B
TO PG&E GAS SUPPLY LINE
SECONDARY ELECTRICAL BOX
SANITARY SEWER CLEANOUT CONNECTION
FIRST STREET
MW-1
MW-1B
DISPENSER ISLANDS
DRIVEWAY

LEGEND

- Approximate Property Line
- Fence
- Approximate Location of Underground Petroleum Pipeline (KinderMorgan)
- Approximate Location of Fiber Optic Utility Line
- MW-12 — Groundwater monitoring well Locaton
- OWB-1/2/3 — Observation Well Location (Delta, 2010)
- CWA-3 — Soil Vapor Extraction Well Location (Delta, 2010)
- MW-2 — Abandoned Well Location
- Proposed SVE, Electrical, and Gas Trenching Location
- GWE-1 — Contigency Groundwater Extraction Well Location
- VE-1A/1B — Proposed Dual Nested Vapor Extraction Well Location
- VE-2 — Proposed Deep Vapor Extraction Well Location
- AS-1 — Proposed Air Sparge Well Location
- CWB-2 — Existing Deep Soil Vapor Extraction Well Location To Be Operated (Delta, 2010)
- CWA-3 — Proposed Shallow System Performance Monitoring Well (Existing)
- Shallow SVE Well Radius of Influence - 30 feet
- Approximate Shallow Area of Soil Hydrocarbon Impacts (20 - 30 feet below ground surface)

REFERENCE

SITE PLAN ADAPTED FROM A SURVEY BY MIDCOAST ENGINEERS, APRIL 16, 2011 AND SITE PLANS BY TRC, 2008 AND GETTLER-RYAN, AUGUST 2000.

N

0 15' 30'

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE — USE TO VERIFY FIGURE REPRODUCTION

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: MICHAEL P. FLEISCHNER
Professional Engineer's No.: C65705 EXP. 09/30/2013

State	Date Signed	Project Mgr.
CA		KAB
Designed by	Drawn by	Checked by

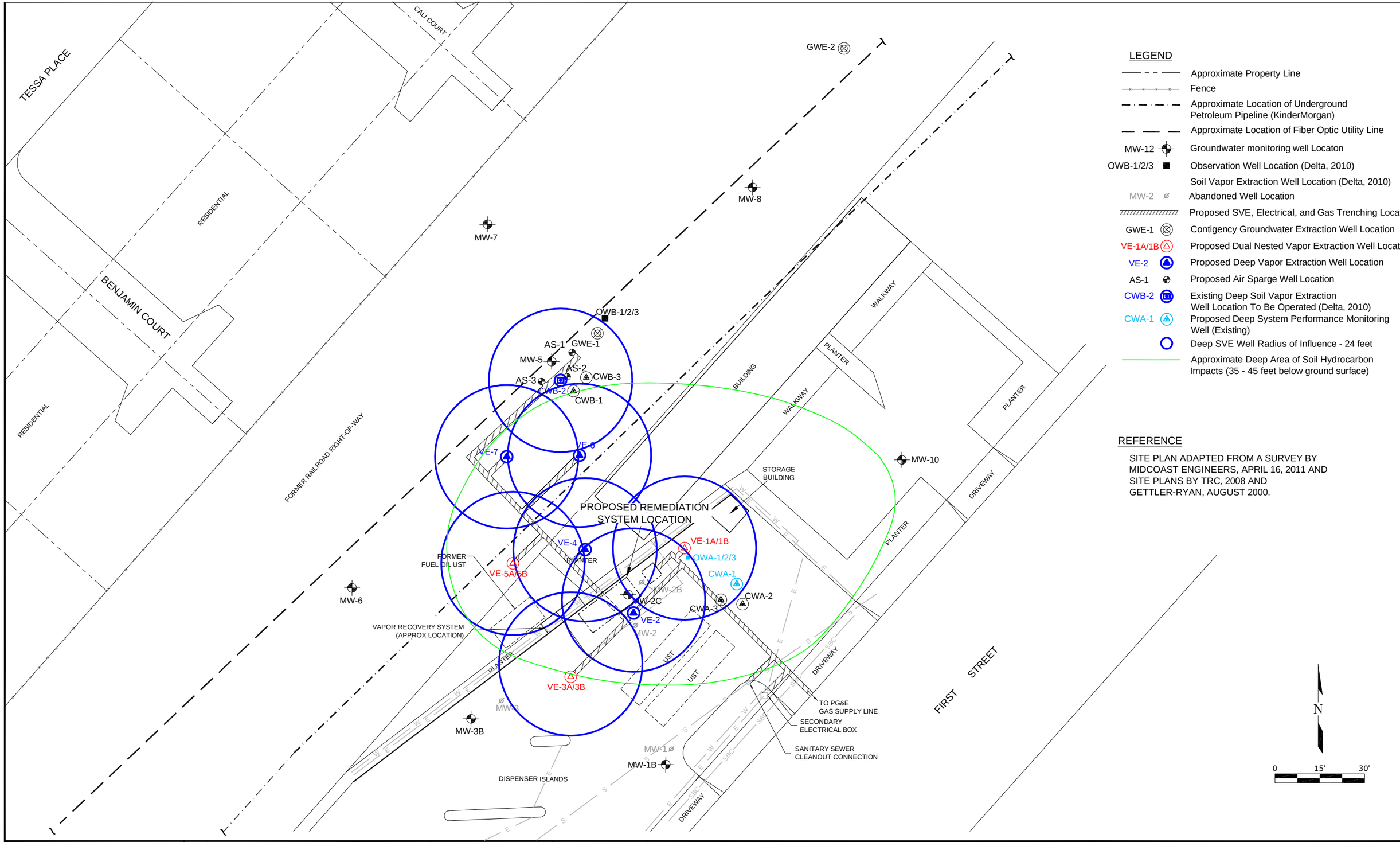
ARCADIS U.S., INC.

76 SERVICE STATION NO. 2707376 • 4191 FIRST STREET PLEASANTON, CALIFORNIA
CONSTRUCTION DOCUMENTS

SITE MAP WITH PROPOSED SHALLOW WELL AND TRENCH LOCATIONS

ARCADIS Project No. B0047296.000100003
Date JANUARY 20, 2012
ARCADIS 100 MONTGOMERY STREET SUITE 300 SAN FRANCISCO. CALIFORNIA

1A



LEGEND

- Approximate Property Line
- Fence
- Approximate Location of Underground Petroleum Pipeline (KinderMorgan)
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- VE-2 — Proposed Deep Vapor Extraction Well Location
- AS-1 — Proposed Air Sparge Well Location
- CWB-2 — Existing Deep Soil Vapor Extraction Well Location To Be Operated (Delta, 2010)
- CWA-1 — Proposed Deep System Performance Monitoring Well (Existing)
- Deep SVE Well Radius of Influence - 24 feet
- Approximate Deep Area of Soil Hydrocarbon Impacts (35 - 45 feet below ground surface)

REFERENCE

SITE PLAN ADAPTED FROM A SURVEY BY MIDCOAST ENGINEERS, APRIL 16, 2011 AND SITE PLANS BY TRC, 2008 AND GETTLER-RYAN, AUGUST 2000.

CITY: DIVGROUP: DB: LD: PIC: PM: TM: LYR(ON=*;OFF=*REF*
G:\AP\project\Chevron - Pleasanton CA\CAD\Design Edits\Design Package Revisions\2012-DES\GNW47296802 - DEEP.dwg LAYOUT: MODEL SAVED: 2/20/2012 3:00 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ARCADIS.DEN.CTB PLOTTED: 2/20/2012 4:38 PM BY: SALE, TYLER

SCALE(S) AS INDICATED

THIS BAR REPRESENTS ONE INCH ON THE — USE TO VERIFY FIGURE REPRODUCTION

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: MICHAEL P. FLEISCHNER
Professional Engineer's No.: C65705 EXP. 09/30/2013

State	Date Signed	Project Mgr.
CA		KAB
Designed by	Drawn by	Checked by

ARCADIS U.S., INC.

76 SERVICE STATION NO. 2707376 • 4191 FIRST STREET PLEASANTON, CALIFORNIA

CONSTRUCTION DOCUMENTS

SITE MAP WITH PROPOSED DEEP WELL AND TRENCH LOCATIONS

ARCADIS Project No. B0047296.000100003

Date JANUARY 20, 2012

ARCADIS
100 MONTGOMERY STREET
SUITE 300
SAN FRANCISCO. CALIFORNIA

1B