J R ASSOCIATES

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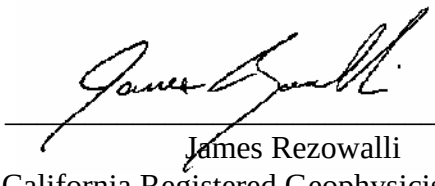
GEOPHYSICAL INVESTIGATION AT THE FORD DRY LAKE SITE NEAR BLYTHE IN RIVERSIDE COUNTY, CALIFORNIA

August 26, 2009

for

WorleyParsons Group, Incorporated
2330 E Bidwell Street, Suite 150
Folsom, CA 95630

by



James Rezowalli
California Registered Geophysicist, GP-921

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I INTRODUCTION

This report presents the results of a geophysical investigation performed at the Ford Dry Lake site. The investigation was performed for WorleyParsons Group, Incorporated, by J R Associates. Genesis Solar LLP proposes to develop a solar power plant north of Ford Dry Lake on land administered by the Bureau of Land Management (BLM) near Blythe in rural Riverside County, California. The objectives of the investigation were:

- Assess the depth to the water table at the Ford Dry Lake site.
- Investigate whether the water table elevation at the Ford Dry Lake site is similar at the road end test well and the proposed solar plant location.
- Investigate the subsurface stratigraphy at the site to a depth of approximately 1000 feet below the ground surface (bgs).
- Investigate the subsurface groundwater salinity variations to a depth of approximately 1000 feet bgs.

James Rezowalli, Principal Geophysicist, Garret Rhet, Technician, and Jeff Spackman, Technician, of J R Associates performed the field work in May 2009 with assistance from Tim Nordstorm, Crew Chief, and John Fleming, Geophysicist, of Zonge Engineering.

A. Site Conditions

Drawing 1 shows the locations where geophysical data were collected. The main area of interest was the Ford Dry Lake site. Additional data were collected near three logged wells in the Froats Well test area. The Ford Dry Lake site and the Froats Well test area are in the Chuckwalla Valley. The geology in the area in descending order consists of younger alluvium, older alluvium, the Bouse Formation, fanglomerate, and consolidated bedrock[1]. The younger alluvium consists of unconsolidated gravel, sand, silt, and clay alluvial deposits. The older alluvium consists of moderately consolidated gravel, sand, silt, and clay alluvial fan deposits. The Bouse Formation is a marine and estuarine formation that was deposited on fanglomerate and bedrock. Well logs in the area indicate the alluvium and Bouse Formation consist mainly of a mix of clays, silts, and sands.

The USGS Report 94-4005 indicates the Chuckwalla Valley Groundwater Basin is tributary to the Colorado River Aquifer. Static water levels indicate the groundwater table slopes eastward at about 1.3 feet per mile in the eastern portion of the Chuckwalla Valley Groundwater Basin where it joins the Palo Verde Mesa Groundwater Basin. The referenced report presents elevations for the proposed "Colorado River Accounting Surface" in these basins. Wells that have a static water level equal to or below the Accounting Surface are presumed to yield water that will be replaced by water from the Colorado River. One purpose of our geophysical investigation was to investigate the static groundwater levels at the Ford Dry

[1]Richard P. Wilson, Sandra J. Owen-Joyce, Method to Identify Wells That Yield Water That Will be Replaced by Colorado River Water in Arizona, California, Nevada and Utah, USGS Water-Resources Investigations Report 94-4005.

site. This information will help determine if the water table is above or below the accounting surface.

Well logs in the area indicate the alluvium and Bouse Formation consist mainly of a mix of clays, silts, and sands. High total dissolved solids (TDS) levels are commonly found in the area's wells. The second goal of our investigation was to look for geophysical indications of changes in clay content and salinity to a depth of approximately 1000 feet bgs at the site and to look for changes in clay content and salinity laterally across the site. This information will help determine the expected water quality and yield for proposed wells.

II METHODOLOGY

We used two geophysical methods in our investigation, seismic refraction and transient electromagnetics (TEM), and we reviewed existing well log and gravity data. Seismic refraction was used to measure the depth to the water table. For seismic refraction we generated a compressional (sound) wave that traveled through the ground and refracted off geologic layers with different seismic velocities (Drawing 2). Dry unconsolidated alluvium has a compressional (P) wave velocity around 1200 to 2500 feet per second (fps). Saturated unconsolidated alluvium has a P-wave velocity of around 5500 fps. The contrast between the two P-wave velocities makes the top of the water table a good refractor.

TEM measures changes in electrical resistance with depth. The TEM method involves pulsing a magnetic field which induces eddy currents in the ground (Drawing 2). The eddy currents create a secondary magnetic field that decays with time. The rate of decay is related to the resistivities of the formations below. Clay is a good conductor of electricity. Poorly sorted saturated sands and gravels are moderate conductors of electricity. Dry sands, gravels, and consolidated rock are poor conductors of electricity. Also, the resistivity of a formation goes down as the salinity of the pore fluid goes up. Measuring electrical resistance with depth helps to determine if clays or high salinity pore fluids are present.

In addition to the two field techniques, we reviewed geologic and geophysical well logs provided by WorleyParsons and reviewed existing gravity data available from the USGS. WorleyParsons provided us drilling logs from the Froats and Jocado wells that are located four miles south of the Ford Dry Lake site. Geological and geophysical logs from a new test well drilled in the Ford Dry Lake site were also provided. Well logs were used to correlate known

geology, depth to bedrock, and groundwater salinity with the results of the seismic refraction and TEM results.

The USGS collected gravity data throughout the lower Colorado River basin and concatenated it together in an Open-File Report[2]. The Bouguer and isostatic residual gravity map for the Chuckwalla Valley and Palo Verde Mesa were reviewed. The gravity data were used to provide estimates of the depth of the groundwater basins.

A. Instrumentation

Four 1000-foot long seismic refraction lines were collected at the Ford Dry Lake site (Drawings 3). Each contained 24 geophones and three shot points. The shot points were at both ends and in the middle of each line. The shots consisted of small explosive charges typically 1/3 to 2/3 pounds in size. The geophones were connected to a Geometrics 24-channel Geode seismograph which in turn was connected to a laptop for storing and viewing the data. The depth of penetration along the seismic lines was 300 feet bgs.

TEM data were collected at twelve locations, ten at the Ford Dry Lake site and two at the Froats Well site (Drawing 3, and 4). Most of the TEM soundings used square loops that were 600 feet on a side with the receiver approximately centered in the loop. At two sites, one at Ford Dry Lake and one at the Froats Well site, the loops were 1200 feet on a side. The two larger loops were used in an attempt to increase the depth of penetration at those locations. Data were collected using a Zonge GDP-32/II receiver and either a NT-20EM or ZT-30 transmitter. Data

[2]Mariano, John, Helferty, M.G., and Gage, T.B., Bouguer and Isostatic Residual Gravity Maps of the Colorado River Region, Including the Kingman, Needles, Salton Sea, and El Centro Quadrangles: US Geological Survey Open-File Report 86-347, 7 Sheets.

were acquired at frequencies that varied from 2 to 16 Hz. Stacking and averaging was used to improve the signal to noise ratio and all data were measured at least three times to establish repeatability.

B. Data Reduction

Seismic refraction data reduction began by picking the arrival times from the seismograph recordings. An arrival time is the time a P-wave spent traveling from a shot point to geophone. The wave could either travel along the ground surface or be refracted from an interface between materials. For a refraction to occur, the materials below the interface must have a greater P-wave velocity than the materials above the interface. The arrival times were entered into a computer program with elevation, location, and layer control information. The elevation above sea level was determined from a USGS topographic map.

The interpretation program, FSIP, performs a first approximation delineation of the refracting horizons using a delay-time method. The approximation is then tested and improved by the program's ray-tracing procedure in which ray travel times computed for the model are compared against measured travel times. The model is subsequently adjusted iteratively to minimize the discrepancy between the computed and measured travel times. A Bureau of Mines Report of Investigation describes the program[3].

[3]Scott, James H., Computer Analysis of Seismic Refraction Data, U.S. Dept. of Interior, Bureau of Mines. Report of Investigation 7595, 1972.

One-dimensional smooth model inversions were generated for each of the 12 TEM soundings obtained during this investigation. These numerically inverted resistivity results were obtained using inversion software (STEMINV ver. 3.20k) developed by Zonge Engineering. By design, the smooth-model inversion produces the smoothest resistivity variation that can fit the data within specified smoothness and error tolerances. Sharp resistivity boundaries in the subsurface are observed as relatively broad resistivity gradients in the smooth-model sections. The smooth-model shows resistivity changes with depth using "warm" colors (orange and red) to indicate low resistivity and "cool" colors (green and blue) to indicate high resistivity. The color scales used for resistivity are consistent for all model soundings presented in this report. Station labels are posted across the top of the models. The smoothed inversion models show gradational changes in resistivity, rather than abrupt changes, irrespective of the actual geologic structure.

III RESULTS

A. Ford Dry Lake Site Refraction Profiles

The results of the computer analysis of the Ford Dry Lake site refraction data are presented in Drawing 5 and Table 1. Drawing 5 contains two-dimensional diagrams showing the seismic layering and layer velocities measured along the refraction lines. Table 1 summarizes the results presented in the drawing.

Table 1. Summary of Refraction Results

Line	Depth to Layer 2 (feet)	Layer 1 Velocity (fps)	Layer 2 Velocity (fps)
1	75 to 85	2600	5900
2	69 to 76	2400	5900
3	61 to 77	2600	5600
4	79 to 94	2600	5800

We found two seismic layers beneath the Ford Dry Lake site. The layers were distinguished by their compressional (P) wave velocities. Layer 1 included the ground surface and had a P-wave velocity of 2400 to 2600 fps. The P-wave velocity and well logs indicated the first seismic layer consisted of dry alluvium.

The second seismic layer was distinguished by a P-wave velocity that ranged from 5600 to 5900 fps. The depth from the ground surface to the top of the second seismic layer ranged from

61 to 94 feet. The P-wave velocity and well logs indicated the second seismic layer consisted of saturated alluvium. The top of the second layer corresponded to the static level of the groundwater.

B. TEM and Well Log Comparisons

Drawing 6 compares the geophysical and geologic logs of the test well to the three closest TEM soundings at the Ford Dry Lake site. Both the TEM soundings and the geophysical well logs indicate the alluvium and Bouse Formation are very electrically conductive, 2 to 8 ohmmeters. The high conductivities indicate the alluvium and Bouse Formation are rich in clay and the groundwater is likely to have elevated TDS concentrations in the range of brackish water, (i.e. greater than 1,000 milligrams per liter (mg/L)). Both the TEM soundings and the geophysical well logs show a small increase in resistivity with depth. The long normal logs show the increase in resistivity at approximately 310 feet bgs and correlate closely with an increase in resistivity found in the TEM data at the same depth. Above 310 feet bgs the long and short normal logs indicate the formation is less resistive a short distance from the borehole. Below 310 feet bgs the long and short normal indicate the formation gets more resistive a short distance from the borehole. The slight increase in resistivity could be due to either a slight decrease in clay in the Bouse Formation with depth or a slight decrease in the salinity of the groundwater within the Bouse Formation with depth or a combination of both.

To help understand the factors contributing to the changes in resistivity with depth we looked for poorly sorted sand layers in the geologic log and selected two, one at 190 feet in the alluvium and one at 382 in the Bouse Formation (Drawing 6). Because poorly sorted sand has little or no fines, we assumed most of the resistivity changes would be caused by salinity changes in the pore fluid rather than by changes in clay content. In the alluvium sand layer the long and short normal logs indicated the alluvium becomes more conductive away from the borehole and there is a negative shift in the self potential (SP) log. This is an indication that the groundwater

salinity is higher than the salinity of the drilling fluids. In the Bouse Formation sand layer the long and short normal indicated the formation becomes more resistive away from the borehole and there is a positive shift in the SP log. This is an indication that the groundwater is less conductive than the drilling fluids. The normal and SP logs suggest that the increase in resistivity in the Bouse Formation is in part caused by a decrease in groundwater salinity. A more quantitative assessment of the vertical salinity profile will be possible once vertically spaced groundwater samples are collected and the geophysical logs for the test well are quantitatively evaluated.

C. Ford Dry Lake Site TEM Results

Drawing 7 shows the results of the TEM soundings collected at Ford Dry Lake. The TEM data indicate the geology of the alluvium and Bouse Formation are very electrically conductive with resistivities in a narrow range between 2 to 6 Ohmmeter. The clay content and TDS appear to change a bit with depth but change little across the site at a given depth. There is a small but fairly consistent increase in resistivity with depth, from 2 to 6 Ohmmeters, starting around 300 feet bgs. The low resistivities indicate the alluvium and Bouse Formation are rich in clay and the groundwater will have a TDS in the brackish water range (i.e. above 1,000 mg/L). The resistivity is slightly higher in the Bouse Formation than in the alluvium indicating the Bouse Formation may have less fine grained materials and the groundwater in the Bouse Formation may have a slightly lower TDS than the alluvium.

D. Froats Test Well Area

We collected two TEM soundings near the Froats well just south of Highway 10 (Drawing 8). One sounding was collected with a 600-foot loop and the other with a 1200-foot loop. The data from the larger loop was not useful because of interference from nearby gas pipelines and transmission lines. The geologic log from the Froats well indicated that bedrock was 950 feet

bgs at that location. At the nearby Hopkins well the depth to bedrock was reported to be around 1200 feet bgs. The Froats well was screened between 890 and 940 feet and the measured groundwater TDS was 2400 ppm. While the TEM data showed good correlations with the known geology in the upper 600 feet and the resistivities were consistent with TDS levels in the brackish water range, the TEM data did not see the bedrock at 950 feet bgs.

We ran several numerical models looking at the TEM response to various resistivity profiles. Drawing 9 shows the results for three four-layer resistivity models simulating dry alluvium, saturated alluvium, saturated Bouse Formation, and bedrock in descending order. For each model the resistivities were fixed but the depth to bedrock was changed from 500 feet bgs to 1000 feet bgs. The modeling shows that when the alluvium is the most conductive layer, the TEM response for bedrock at 1000 feet is nearly identical to the TEM response when bedrock is at 500 feet. We conclude from the TEM Froats test well comparison and the numerical modeling that in the presence of a shallow high-conductivity layer, the TEM data are not useful in determining the depth of bedrock when the bedrock is deeper than 500 feet bgs.

To help determine depth of bedrock at the Ford Dry Lake site we reviewed gravity data collected by the USGS[4]. Drawing 10 shows the USGS gravity data superimposed on the vicinity map of the study area. Gravity data are somewhat like a contour map of the bedrock. Gravity lows occur over deep basins and gravity highs occur over the mountains. The -60 mGal contour interval at the Froats well wraps around Ford Dry Lake and passes through the Ford Dry Lake site. This suggests the depth to bedrock at the Ford Dry Lake site is about the same as at the Froats well and Hopkins wells.

[4]Mariano, John, Helferty, M.G., and Gage, T.B., Bouguer and Isostatic Residual Gravity Maps of the Colorado River Region, Including the Kingman, Needles, Salton Sea, and El Centro Quadrangles: US Geological Survey Open-File Report 86-347, 7 Sheets.

E. Conclusions

The geophysical data indicate the physical characteristics of the geology at the Ford Dry Lake site changes with depth but remain uniform for a given depth over long distances. We did not see any significant changes in the geophysical data collected across the Ford Dry Lake site. The seismic refraction data collected along four 1000-foot long refraction lines indicate the approximate elevation of the water table is between 298 and 315 feet above sea level. The elevation of the Accounting Surface in the Chuckwalla Valley Groundwater Basin is 234 feet above sea level. The refraction data indicate the water table lowers toward the east in the direction of the Palo Verde Mesa Groundwater Basin. The static groundwater level in the Ford Dry Lake test well was found at 75.5 feet. The margin of error for the refraction data appeared to be about ±10% of the depth to the interface.

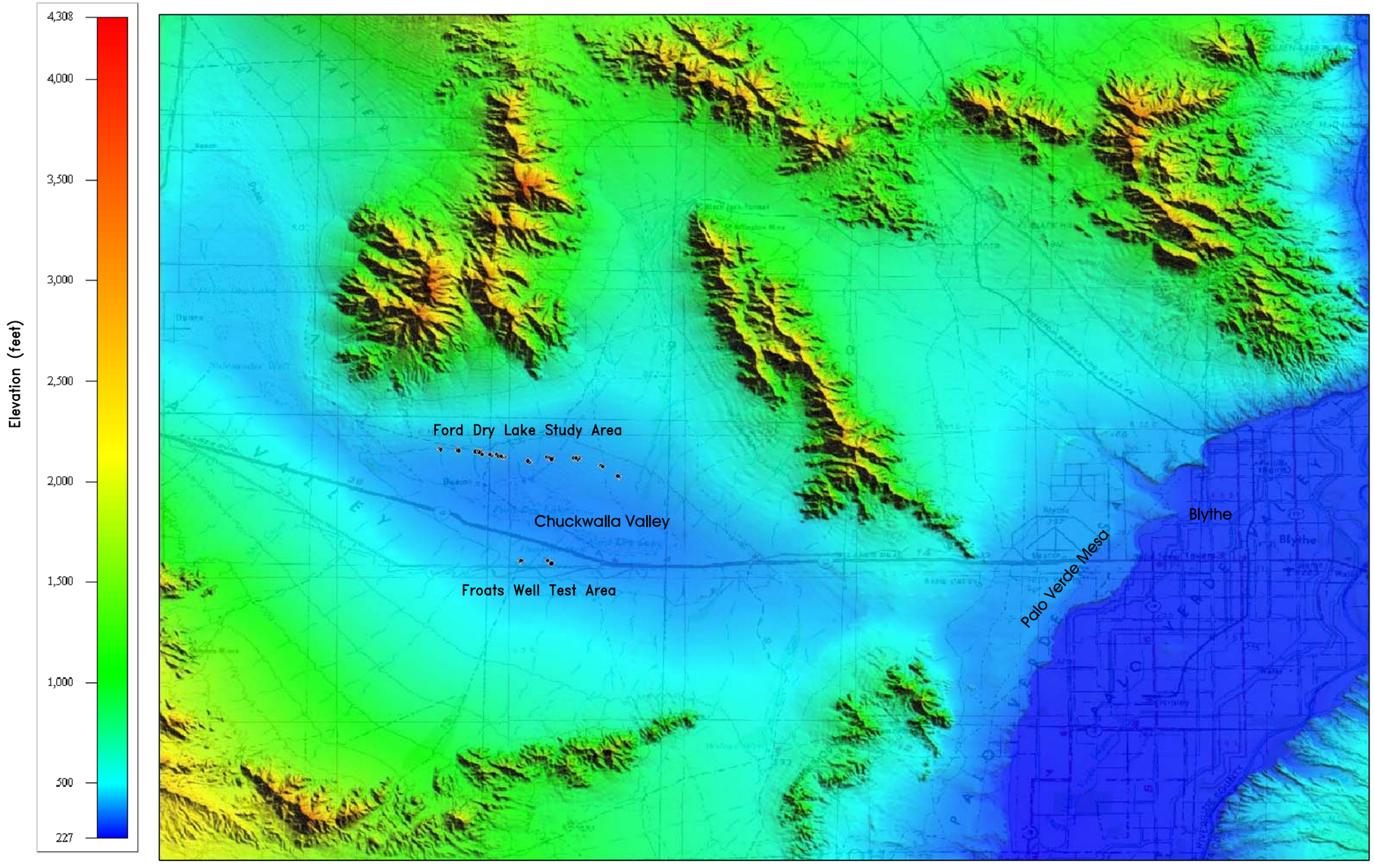
The TEM data collected at twelve locations at the Ford Dry Lake site indicate the alluvium and Bouse Formation are rich in clays and the groundwater TDS concentration is likely to be in the brackish water range (i.e. above 1000 mg/L). This is consistent with the geophysical and geologic logs of the Ford Dry Lake test well. The TEM data show a slight decrease in conductivity with depth suggesting the Bouse Formation has fewer fines at depth and the groundwater TDS may decrease with depth. The Froats well drilling log indicated a TDS of 2400 ppm was measured for a screen interval between 890 to 940 and the Ford Dry Lake test well had higher TDS at shallower depth. This also suggests that the salinity of the groundwater decreases with depth. Gravity data available from the USGS indicates the depth to bedrock at the Ford Dry Lake site will be about the same as at the Froats and Hopkins wells, approximately 1000 feet bgs. Because of the high conductivity in the alluvium, the TEM data could not distinguish the depth to bedrock.

F. Limitations

Many factors contribute to soil resistivity. Each soil type, sand, silt, or clay has a range of resistivity associated with it and there is overlap between the ranges. Trends in the resistivity data should be correlated to other data regarding the site's geology, hydrology, and history before conclusions are made.

Seismic layers do not always correspond directly to lithologic changes that might be found in borehole or trenching data. A seismic layer is an interface between materials with different P-wave velocities. Factors such as weathering, induration, and saturation as well as lithologic changes can create changes in seismic velocities. Also, there can be lithologic changes without velocity changes. However, our field experience indicates that seismic layers often correspond to major changes in lithology or saturation to within ±10% of the depth to the interface. The geophysical interpretations should be reviewed and updated as more data becomes available.

IV DRAWINGS



Explanation:

Seismic or TEM Test Location

0 4 8 12
Miles

Elevation data from United States Elevation Data, NED, 30m Resolution

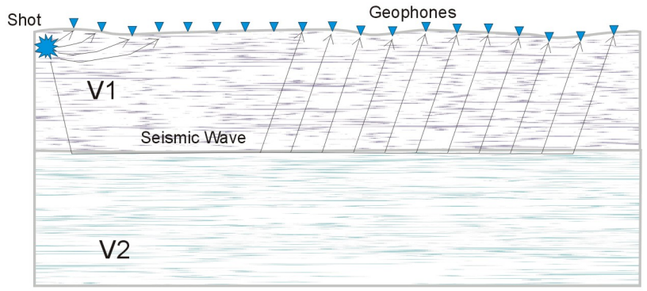
Vicinity and Elevation Map
Genesis Project Geophysical Investigation
Riverside County California

SCALE: 1" = 4 Miles		DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09	REVISED: 8-26-2009

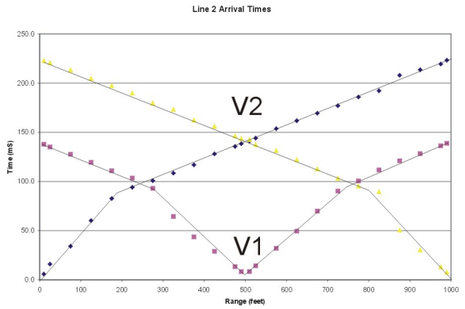
J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

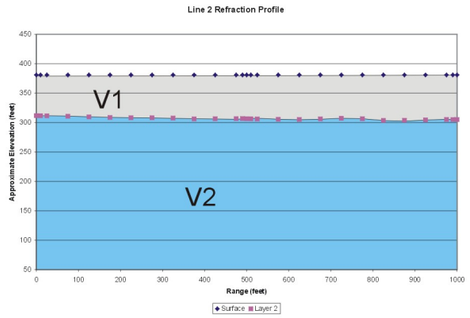
DRAWING NUMBER: 1

Refraction Field Setup

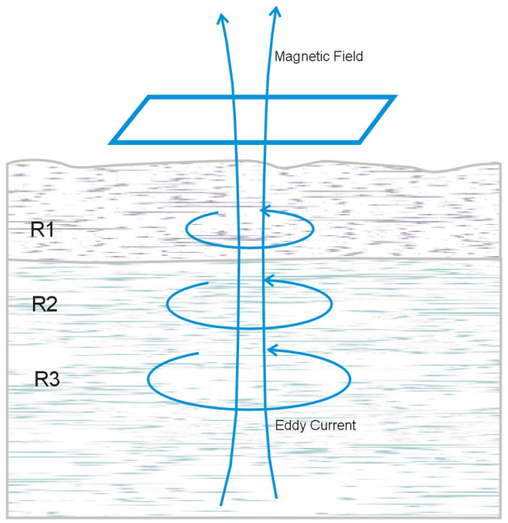


Refraction Data





TEM Field Setup



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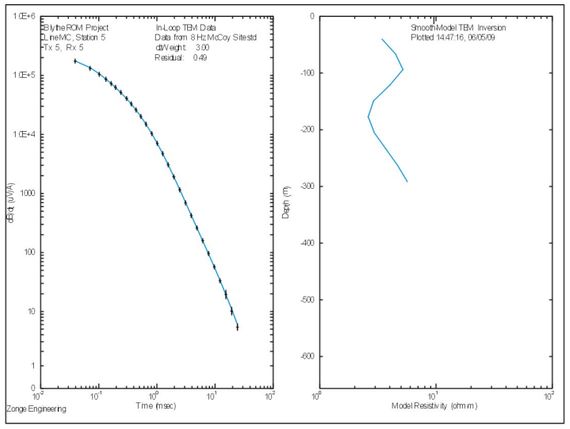
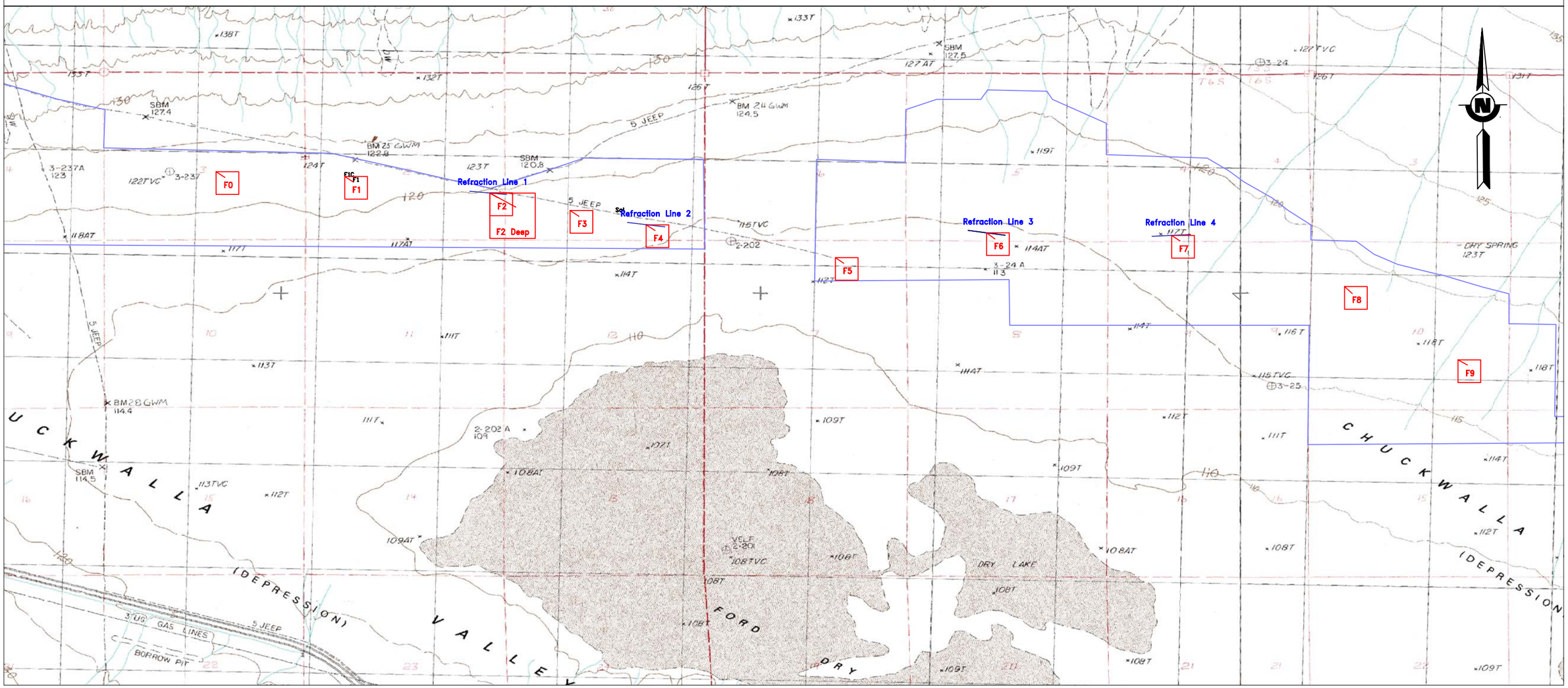


Refraction and Transient Electromagnetic Techniques
Genesis Project Geophysical Investigation
Riverside County, California

SCALE: See Diagrams			DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER:	115-263-09	REVISED:

J R ASSOCIATES Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 2



Explanation:

Transient EM Loop

Seismic Refraction Line

0 0.5 1 1.5
Miles

Base map from USGS topographic map obtained from TerraServer-USA.com

Ford Dry Lake Area
Genesis Project Geophysical Investigation
Riverside County California

SCALE: 1" = 0.5 Miles			DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER:	115-263-09	REVISED:

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 3

Froats and Jocado Well Logs

ORIGINAL
File with DWR

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

Do not fill in
No. 353739

Notice of Intent No.
Local Permit No. or Date Riverside—17215
State Well No.
Other Well No.

(1) OWNER: Name Lorne Froats
Address 1500 Domingo Rd
City Fullerton, Ca ZIP 92633

(2) LOCATION OF WELL (See instructions):
County Riverside Owner's Well Number two
Well address if different from above Ford Dry Lake-Blythe
Township 6S Range 19E Section 32
Distance from cities, roads, railroads, fences, etc. Approx 1.5 mi west of Ford Dry Lake overpass on frontage rd (old state hwy) south of rd approx 500 ft.

(3) TYPE OF WORK: New Well [X] Deepening [ ] Reconstruction [ ] Reconditioning [ ] Horizontal Well [ ] Destruction [ ] (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE: Domestic [ ] Irrigation [X] Industrial [ ] Test Well [ ] Municipal [ ] Other [ ] (Describe)

WELL LOCATION SKETCH
Old State Hwy
90'
Geare
CHAIN LENGTH FENCE
Part of 40 ACRES
265'
Jojoba field
West
50'
NEW WELL

(5) EQUIPMENT: Rotary [X] Reverse [ ] Cable [ ] Air [ ] Other [ ] Bucket [ ]

(6) GRAVEL PACK: Yes [X] No [ ] Size 3/16 x 1
Diameter of bore 24" Packed from 25 ft. to 1000 ft.

(7) CASING INSTALLED: Steel [X] Plastic [ ] Concrete [ ]

From ft.	To ft.	Dia. in.	Gage or Wall
0	802	12	.250
802	982	10	.250

(8) PERFORATIONS: Type of perforation or size of screen: Screen SS

From ft.	To ft.	Slot size
890	940	.075

(9) WELL SEAL: Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 25 ft. Were strata sealed against pollution? Yes [ ] No [X] Interval ft. Method of sealing Cemented

(10) WATER LEVELS: Depth of first water, if known ukn ft. Standing level after well completion 125 ft.

(11) WELL TESTS: Was well test made? Yes [X] No [ ] If yes, by whom? same Type of test Pump [X] Bailer [ ] Air lift [ ] Depth to water at start of test 126 Discharge 450 gal/min after 72 hours Water temperature ukn Chemical analysis made? Yes [ ] No [X] If yes, by whom? TDS2400PPM Was electric log made Yes [X] No [ ] If yes, attach copy to this report

(12) WELL LOG: Total depth 1025 ft. Completed depth 982 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	892	alluvial fill as follows Fine grained clacy sand and silt with some small lenses of cobble rock color 0-210ft red/brown 210-960 ft. grey Bense 960-1025 dark grey
890	940	fine to coarse sand with some round cobble rocks (clay) Fine to coarse gravel
940	950	
950	1025	meta volcanics Bedrock

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME Fain Drilling & Pump Co., Inc.
Address 12029 Old Castle Rd
City Valley Center, Ca ZIP 92082
License No. 328287 Date of this report 6/25/91

Work started mar 19 91 Completed may 19 91

IP ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

450/175 = 2.57
TDS 2400PPM
Screen Interval 890' to 940'

ORIGINAL
File with DWR

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

Do not fill in
No. 230640

Notice of Intent No.
Local Permit No. or Date 10022
State Well No.
Other Well No.

(1) OWNER: Name Jocado Agricultural Corp.
Address 42740 Las Violettas
City Temecula, CA Zip 92390

(2) LOCATION OF WELL (See instructions):
County Riverside Owner's Well Number
Well address if different from above
Township 6S Range 19E Section 32
Distance from cities, roads, railroads, fences, etc. 315
N½, S½, & SE¼, SE¼

WELL LOCATION SKETCH
Hwy 60 & 70
Well

(3) TYPE OF WORK: New Well [X] Deepening [ ] Reconstruction [ ] Reconditioning [ ] Horizontal Well [ ] Destruction [ ] (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE: Domestic [ ] Irrigation [X] Industrial [ ] Test Well [ ] Stock [ ] Municipal [ ] Other [ ]

(5) EQUIPMENT: Rotary [X] Reverse [ ] Cable [ ] Air [ ] Other [ ] Bucket [ ]

(6) GRAVEL PACK: Yes [X] No [ ] Size 5/16 x 1
Diameter of bore 0 to 20 is 30", Packed from ft. to ft.
20 to 360 is 22", & 360 to 735 is 18", 735 to 790 is 12"

(7) CASING INSTALLED: Steel [X] Plastic [ ] Concrete [ ]

From ft.	To ft.	Dia. in.	Gage or Wall
0	363	12-3/4	.188
363	365	12" to 10"	reducer
365	732	10-3/4	.188

(8) PERFORATIONS: Type of perforation or size of screen:

From ft.	To ft.	Slot size
322	363	Johnson extra strong H1 Cap screen
223	365	24 rows, 80 mesh X 2½"

(9) WELL SEAL: Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 20 ft. Were strata sealed against pollution? Yes [ ] No [X] Interval ft. Method of sealing

(10) WATER LEVELS: Depth of first water, if known 200 ft. Standing level after well completion ft.

(11) WELL TESTS: Was well test made? Yes [X] No [ ] If yes, by whom? driller Type of test Pump [ ] Bailer [ ] Air [X] blown Depth to water at start of test ft. At end of test ft. Chemical analysis made? Yes [ ] No [X] If yes, by whom? 1,500 gal/min after hours Water temperature Was electric log made? Yes [X] No [ ] If yes, attach copy to this report

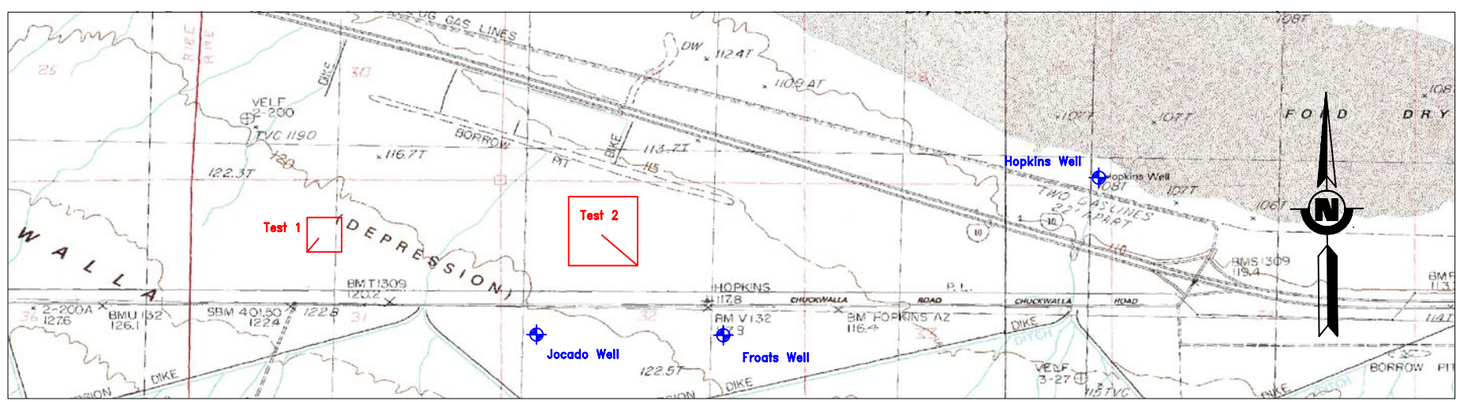
(12) WELL LOG: Total depth 790 ft. Depth of completed well 732 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	75	Conglomerate
75	225	Brown clay
225	440	Layered clay & tight sand lenses
440	443	Cobbles, small
443	725	Layered clay and tight sand lenses
725	790	Gray clay Bense

Work started Jan. 14 19 82 Completed Jan. 27 19 82

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME AMERICAN DRILLING, INC. (Well Driller)
Address 104 W. Main (Person, firm, or corporation) (Typed or printed)
City Aguanga, CA 92302 Zip
License No. 324684 Date of this report Jan. 27, 1982

DWR 188 (REV. 7-72) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM



Base map from USGS topographic map obtained from TerraServer-USA.com

Explanation:

Transient EM Loop

0 0.5 1 1.5
Miles

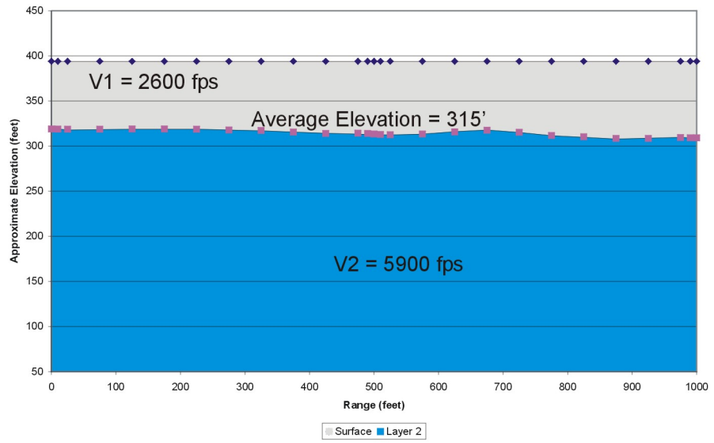
Test Sites Near Froats and Jocado Wells
Genesis Project Geophysical Investigation
Riverside County California

SCALE: 1" = 0.5 Miles		DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09	REVISED: 8-26-2009

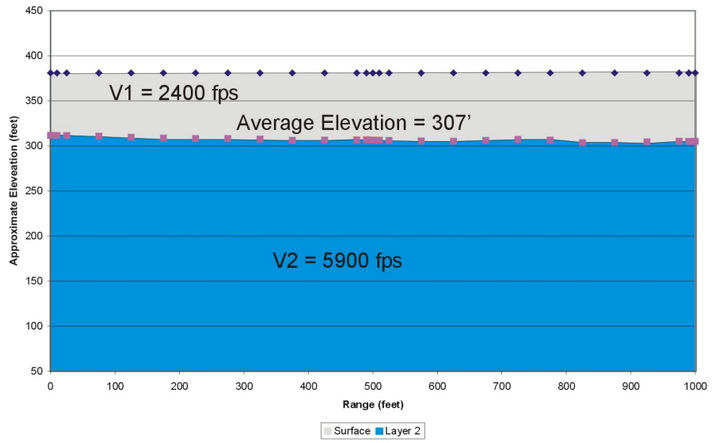
J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 4

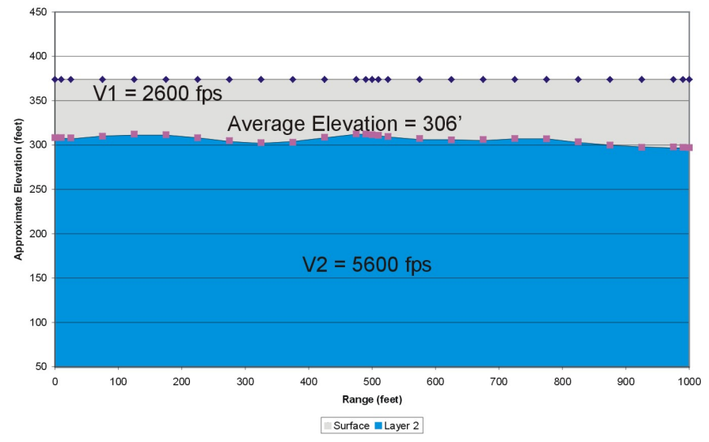
Line 1 Refraction Profile



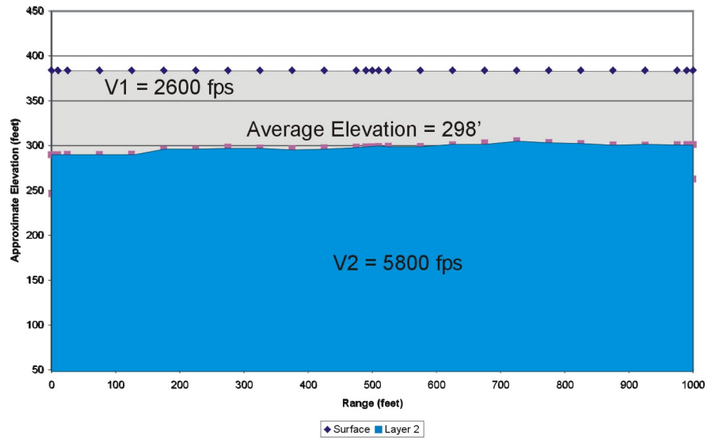
Line 2 Refraction Profile



Line 3 Refraction Profile



Line 4 Refraction Profile



Note: Surface elevations were obtained for a USGS Topographic map of the area obtained through TerraServer-USA.com

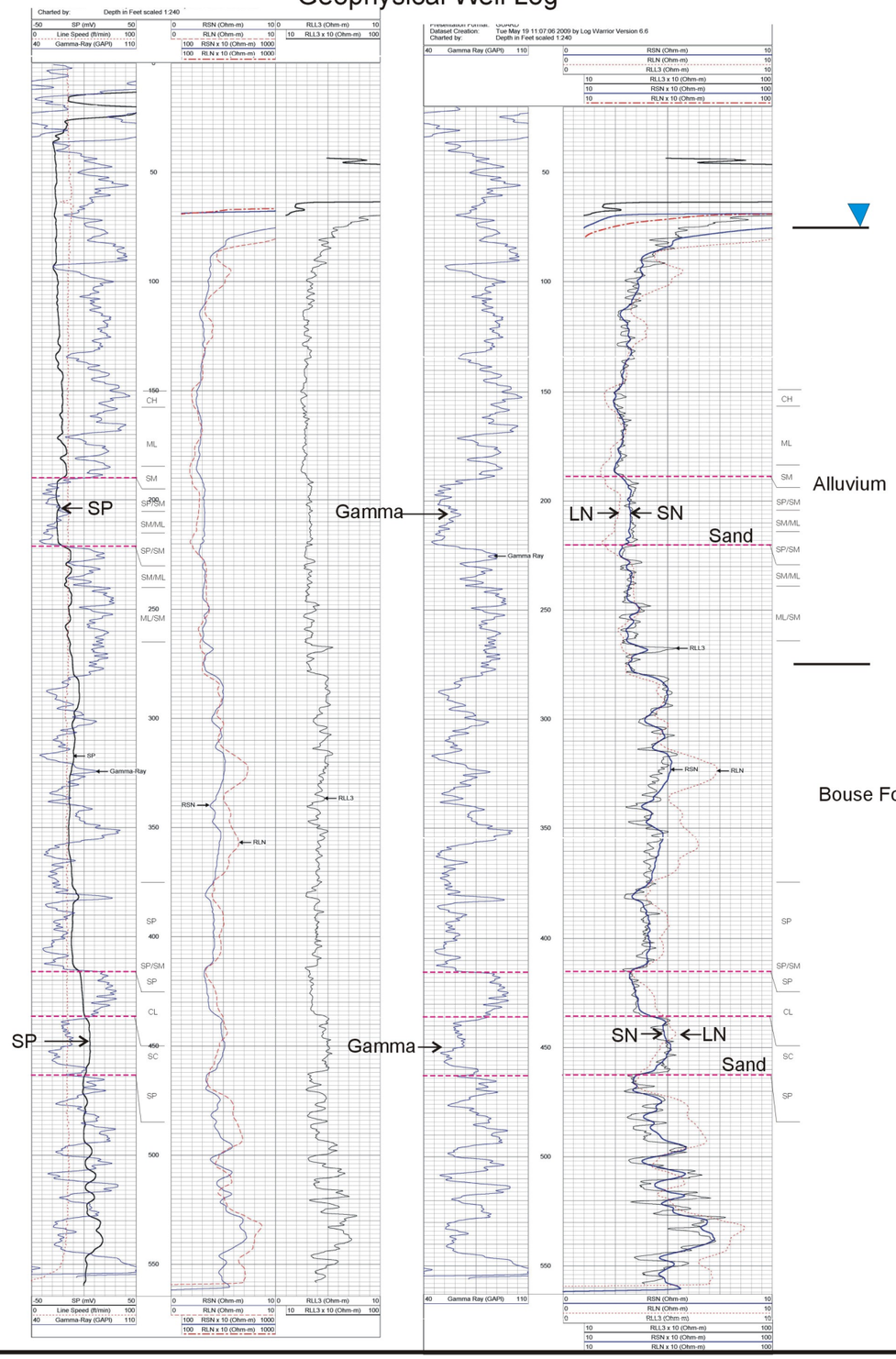
Ford Dry Lake Refraction Profiles
Genesis Project Geophysical Investigation
Riverside County, California

SCALE: See Diagrams			DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER:	115-263-09	REVISED: 8-26-2009

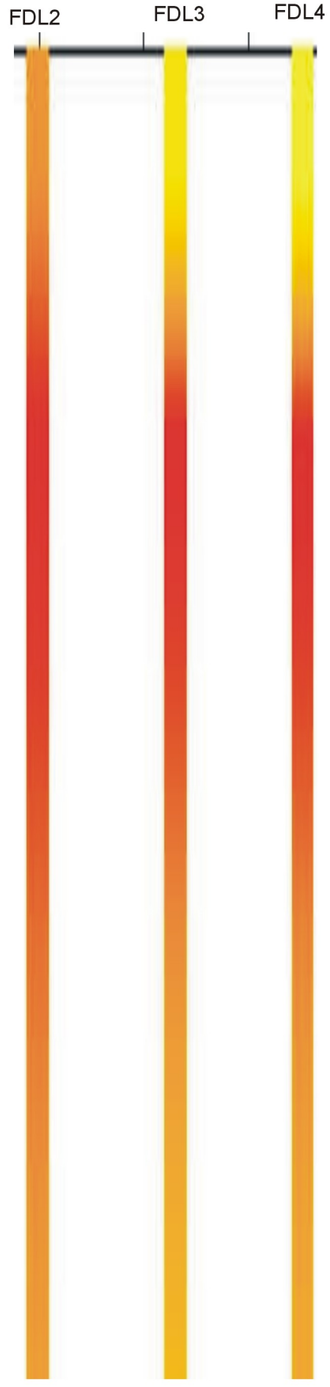
J R ASSOCIATES Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

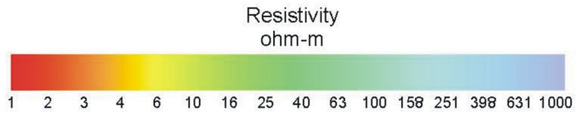
DRAWING NUMBER: 5

Geophysical Well Log



TEM Data





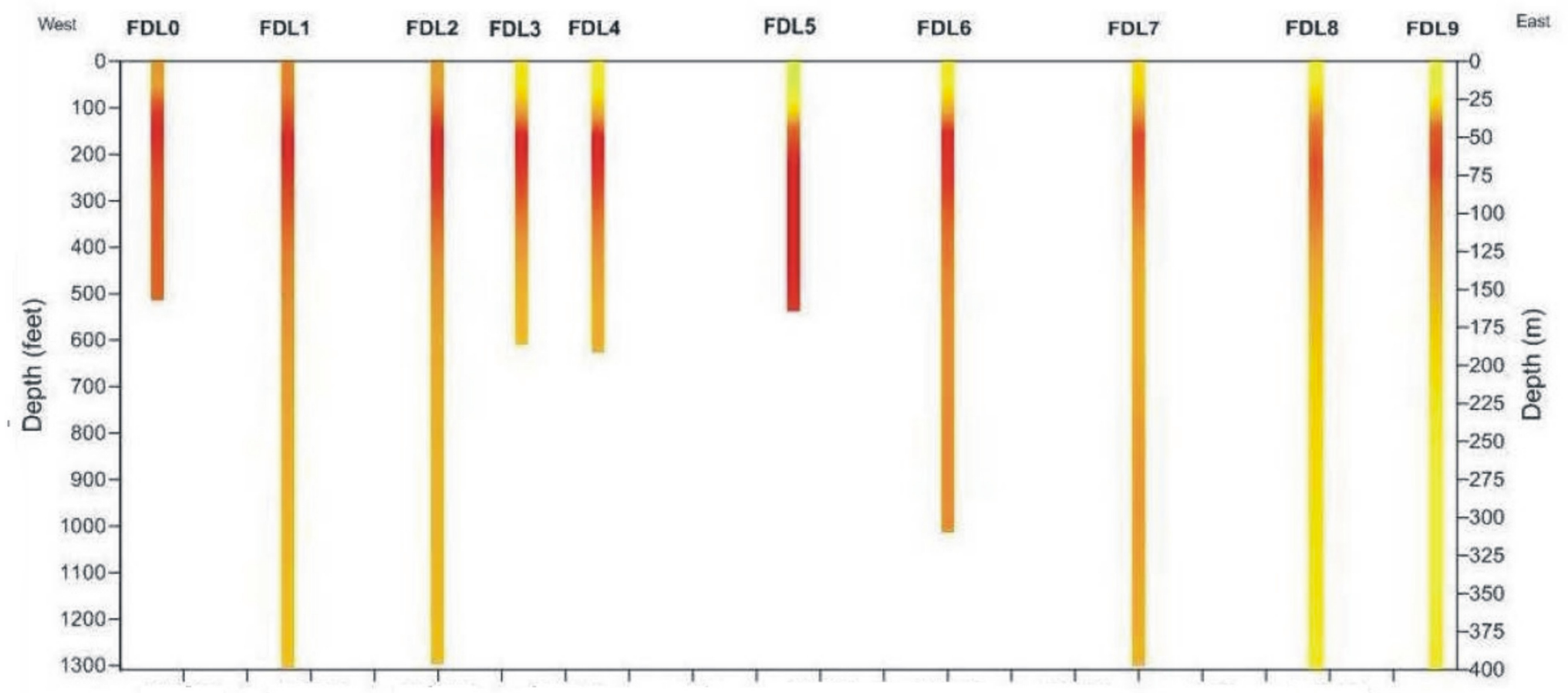
Ford Dry Lake Geophysical Well Log
Genesis Project Geophysical Investigation
Riverside County, California

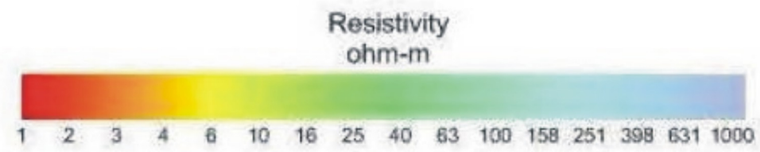
SCALE:	See Diagrams			DRAWN BY:	J.J.R.
DATE:	5-10-2009	JOB NUMBER:	115-263-09	REVISED:	8-26-2009

J R ASSOCIATES Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 6

Ford Dry Lake TEM Results





Ford Dry Lake TEM Results
Genesis Project Geophysical Investigation
Riverside County, California

SCALE: See Diagrams			DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09		REVISED: 8-26-2009

J R ASSOCIATES Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 7

Froats and Jocado Well Logs

ORIGINAL
File with DWR

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

Do not fill in
No. 353739

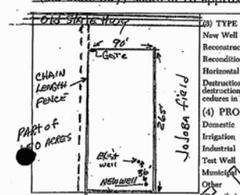
GS N390' mSL

Notice of Intent No.
Local Permit No. or Date Riverside—17215

State Well No.
Other Well No.

(1) OWNER: Name Lorne Froats
Address 1500 Domingo Rd
City Fullerton, Ca ZIP 92633

(2) LOCATION OF WELL (See instructions):
County Riverside Owner's Well Number two
Well address if different from above Ford Dry Lake-Blythe
Township 6 S Range 19E Section 32
Distance from cities, roads, railroads, fences, etc. Approx 1.5 mi west of Ford Dry Lake overpass on frontage rd (old state hwy) south of rd approx 500 ft.



WELL LOCATION SKETCH

(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 ☐ Size 25 x 1000 ft
Diameter of bore 24 in.
Packed from 25 ft. to 1000 ft.

(7) CASING INSTALLED: Steel ☒ Plastic ☐ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	802	12	.250
802	982	10	.250

(8) PERFORATIONS: Screen SS
Type of perforation or size of screen 040

From ft.	To ft.	Slot size
890	940	.075

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If not, to depth 25 ft.
Were strata sealed against pollution? Yes ☐ No ☒ Interval ft.
Method of sealing Cemented

(10) WATER LEVELS:
Depth of first water, if known ukn ft.
Standing level after well completion 125 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? same
Type of test Pump ☒ Bailer ☐ Air lift ☐
Depth to water at start of test 126
Discharge 450 gal/min after 72 hours
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? TDS2400PPM
Was electric log made Yes ☒ No ☐ If yes, attach copy to this report

(12) WELL LOG: Total depth 1025 ft. Completed depth 982 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
		alluvial fill as follows
0	892	Fine grained clacy sand and silt with some small lenses of cobble rock
		color 0-210ft red/brown
		210-960 ft. grey Bense
		960-1025 dark grey
890	940	fine to coarse sand with some round cobble rocks Production Zone
940	950	silty
950	1025	meta volcanics Bed rock

Work started mar 10 91 Completed may 10 91

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 Joe Klain (Well Driller)
NAME Fain Drilling & Pumping Co. Inc.
Address 12029 Old Castle Rd
City Valley Center, Ca ZIP 92082
License No. 328287 Date of this report 6/25/91

DWR 188 (REV. 12-80) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

450 / 175 = 2.57

950 to 1025 Bedrock
TDS 2400PPM
Screen Interval 890' to 940'

ORIGINAL
File with DWR

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

Do not fill in
No. 230640

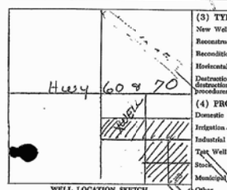
GS 390' mSL

Notice of Intent No.
Local Permit No. or Date 10022

State Well No.
Other Well No.

(1) OWNER: Name Jocado Agricultural Corp.
Address 42740 Las Violettas
City Temecula, CA Zip 92390

(2) LOCATION OF WELL (See instructions):
County Riverside Owner's Well Number
Well address if different from above
Township 6S Range 19E Section 32
Distance from cities, roads, railroads, fences, etc. 315
N½, S½, & SE¼, SE¼



WELL LOCATION SKETCH

(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 ☐ Stock ☐ Municipal ☐ Other ☐

(5) EQUIPMENT: Rotary ☒ Reverse ☐ Cable ☐ Air ☐ Other ☐ Bucket ☐

(6) GRAVEL PACK: Yes ☒ No ☐ Size 5/16 x 7
Diameter of bore 0 to 20 is 30", Packed from ft. to ft.
20 to 360 is 22", & 360 to 735 is 18", 735 to 790 is 12"

(7) CASING INSTALLED: Steel ☒ Plastic ☐ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	363	12-3/4	.188
363	365	12" to 10" reducer	
365	732	10-3/4	.188

(8) PERFORATIONS: Type of perforation or size of screen

From ft.	To ft.	Slot size
322	363	Johnson extra strong H1 Cap screen
363	732	24 rows, 80 mesh X 2½"

(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

Work started Jan. 14 19 82 Completed Jan. 27 19 82

(10) WATER LEVELS:
Depth of first water, if known 200 ft.
Standing level after well completion ft.

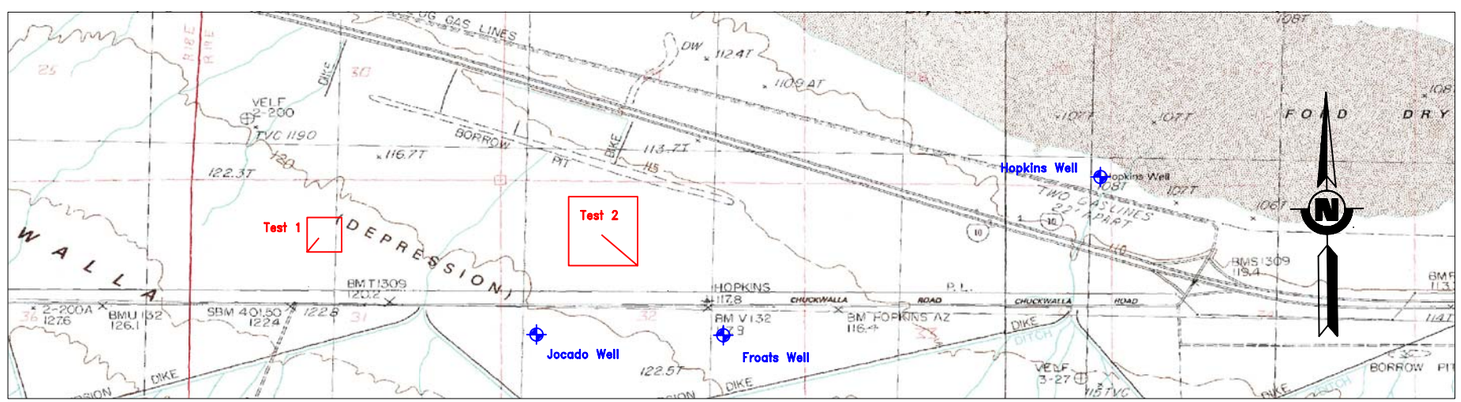
(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? driller
Type of test Pump ☐ Bailer ☐ Air ☒ blown
Depth to water at start of test ft. At end of test ft.
1500+ gal/min after hours Water temperature
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 790 ft. Depth of completed well 732 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	75	Conglomerate
75	225	Brown clay
225	440	Layered clay & tight sand lenses
440	443	Cobbles, small
443	725	Layered clay and tight sand lenses
725	790	Gray clay Bense

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 Donald B Trumbull (Well Driller)
NAME AMERICAN DRILLING, INC.
Address 104 W. Main (Person, firm, or corporation) (Typed or printed)
City Aguanga, CA 92302 Zip
License No. 324684 Date of this report Jan. 27, 1982

DWR 188 (REV. 7-78) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

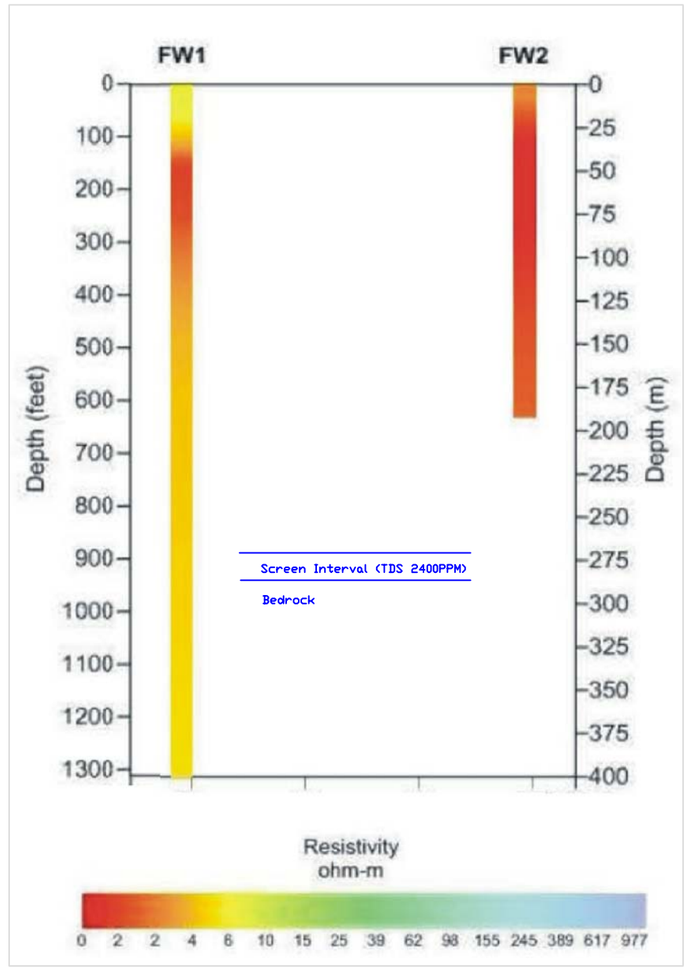


Explanation:

Transient EM Loop

0 0.5 1 1.5
Miles

TEM Results



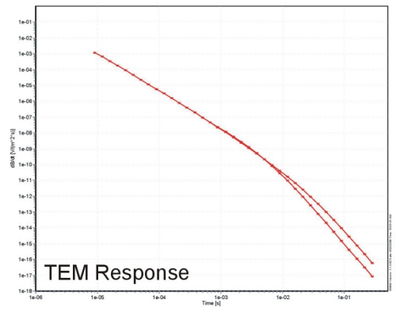
TEM Results Near Froats and Jocado Wells
Genesis Project Geophysical Investigation
Riverside County California

SCALE: 1" = 0.5 Miles		DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09	REVISED: 8-26-2009

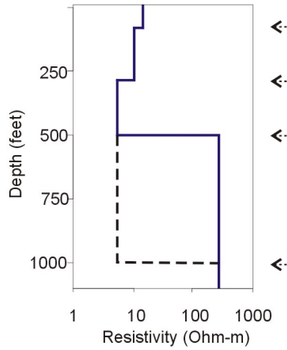
J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 8

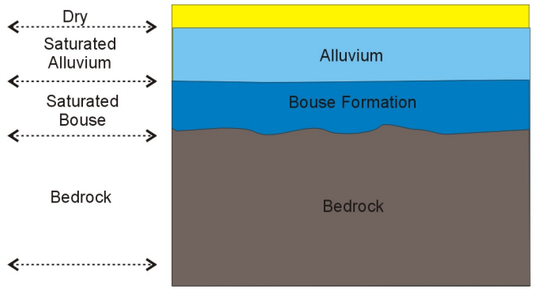
Conductive Bouse Formation



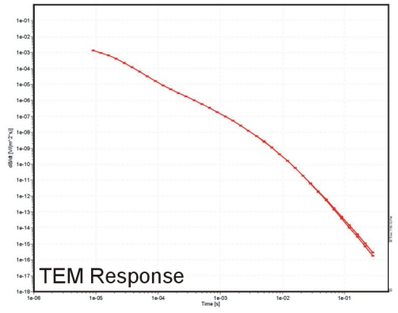
Model



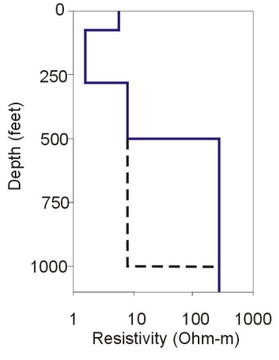
Geologic Model



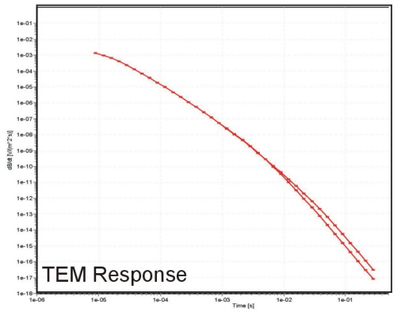
Conductive Alluvium



Model



Conductivity About Equal



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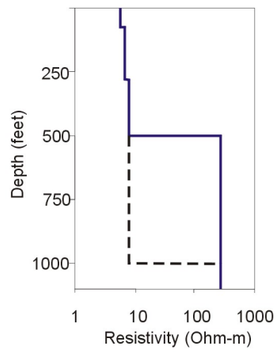
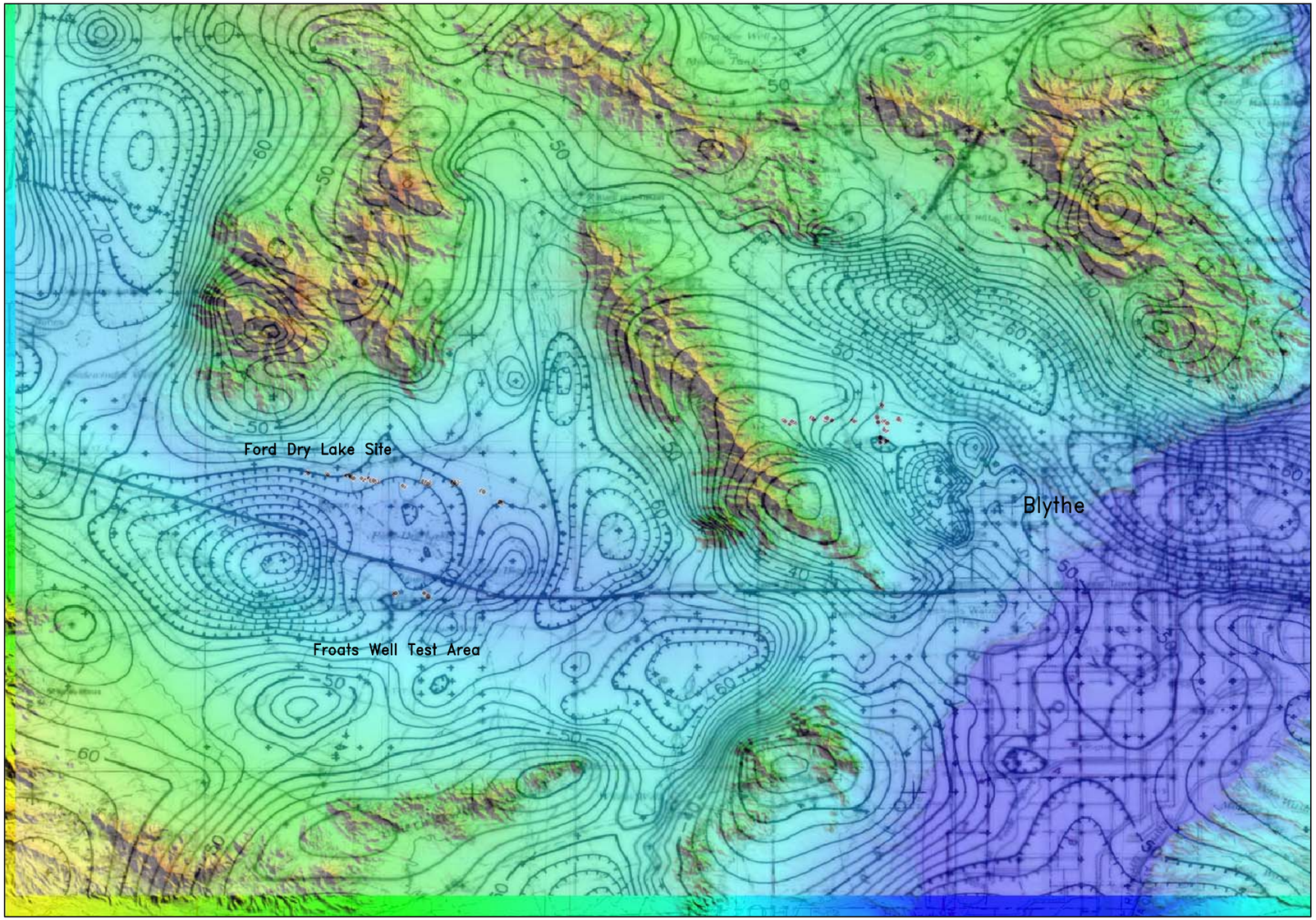


TEM Models
Genesis Project Geophysical Investigation
Riverside County, California

SCALE: See Diagrams			DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09		REVISED:

J R ASSOCIATES Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 9



Explanation:

Seismic or TEM Test Location

0 4 8 12
Miles

2 mGal Contour Interval

Note: Bouguer residual gravity data obtained from the USGS Open-File Report 86-347

Bouguer Residual Gravity Map
Genesis Project Geophysical Investigation
Riverside County California

SCALE: 1" = 4 Miles		DRAWN BY: J.J.R.
DATE: 5-10-2009	JOB NUMBER: 115-263-09	REVISED: 8-26-2009

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: 10