

December 17, 2012

Mr. Rick Angrisani
Oakhurst Geologic Hazard Abatement District
6000 Heritage Trail
Clayton, CA 94517

Re: Geotechnical Observation and Testing – Final Report
Kelok Way Dewatering Wells, Clayton, CA
SFB Project No.: 555-1

Mr. Angrisani:

In accordance with the project requirements, Stevens, Ferrone & Bailey Engineering Company, Inc. (SFB) provided geotechnical observation and testing services during construction of six Kelok Way dewatering wells and associated outlet pipes located in Clayton, California. The project's construction plans and specifications were initially prepared by SFB in August, 2011, and submitted for review to Cal Engineering & Geology, Applied GeoKinetics, and the Oakhurst Geologic Hazard Abatement District. Modifications to the original construction details and specifications were made by SFB as specified by the reviewers after all reviews were completed, and the final set of plans was dated November 10, 2011. During construction, the project's general contractor was Engineered Soil Repairs, Inc. (ESR), the well contractor was Pacific Coast Drilling Co., Inc. (PCDC), and the outlet pipe contractor was Cross Country HDI (Cross Country). The purpose of the construction of the dewatering wells and associated outlet pipes is to lower ground water levels below Kelok Way in the area between 8002 and 8006 Kelok Way.

1.0 SCOPE OF SERVICES

Our scope of services included part-time geotechnical observation and testing during the following operations between August 21, 2012 and November 15, 2012 to verify that the observed construction was completed in general conformance with the geotechnical aspects of the Kelok Way Dewatering Wells plans and specifications:

- Site preparation;
- Drilling and installation of dewatering wells and inclinometer casings;

- Placement and compaction of well cuttings;
- Drilling and installation of outlet pipes;
- Installation of a new collector box;
- Routing of outlet pipes into the new collector box;
- Installation of a storm drain pipe connecting the collector box to an existing catch basin;
and
- Backfill and compaction of the horizontal drill pit.

2.0 Field Observation and Test Results

An as-built plan was prepared by ESR showing the approximate locations of the recently installed wells, discharge pipes, and collector box. The as-built plan also shows the surveyed locations of pre-existing inclinometers and piezometers. The new collector box was connected to a previously existing concrete catch basin using an 8-inch SDR-35 drain pipe. These features are shown on the attached Figure 1; the wells are shown on the figure as W-1 through W-6. A photo showing the locations of the well discharge pipes within the new collector box is attached as Figure 2. Appendix A includes copies of our field reports summarizing our observations during the construction of the dewatering wells and their associated discharge pipes. Appendix B includes laboratory and field compactions test results and copies of our field reports prepared during the backfilling of the horizontal drill pit and the placement of the collector box.

2.1 Dewatering Wells and Inclinometer Casings

Work for the drilling and installation of the six dewatering wells occurred between August 21 and September 11, 2012. The six dewatering wells were installed by PCDC under ESR's direction using a track-mounted IMT AF-18 drill rig equipped with 24-inch diameter flight auger and drill barrel. SHORE PAC polymer slurry was used during drilling of holes for Wells W-1, W-2, W-3, and W-4 to aid in stabilizing the shaft walls due to caving of native, fine-grained gray sands into the holes. No polymer slurry was used during drilling of holes for Wells W-5 and W-6 since nominal caving occurred in these holes. Well drilling cuttings were transported to the designated open space area shown on the plans; the cuttings were spread out, track-walked, and the final grade was sloped toward the surface swale located on the inboard side of the bench.

We observed blank and screened (0.032 inch slotted) 6-inch diameter PVC SDR 21 well casing pipe being installed in each of the well holes. Durham Geo Slope Indicator 2.75-inch diameter (70 mm) QC inclinometer casing was attached to the side of each of the well casings. During our observations, Caltrans Class 2 permeable material was installed in the annular space of the lower portion of the wells and inclinometer casings, and the annular space of the upper portion of the wells

and inclinometer casings was sealed with bentonite chips and 10 sack sand slurry. After the wells were constructed, SLURRY BUSTER was added by PCDC to the wells to break down remaining polymer slurry. After construction of the wells, the wells were purged numerous times by ESR using a pump system and compressed air equipment for the purpose of removing accumulated sediment and increasing flow rates.

Based on our observations, it is our opinion that the dewatering wells were constructed as summarized in the table below.

| Summary of Observed Dewatering Well Construction | | | | | |
|---------------------------------------------------------|---------------------------------|----------------------|-------------------------|----------------------------------------------------------------|------------------------------------------------------------------|
| Well Number | Total Well Casing Length (feet) | Blank Section (feet) | Screened Section (feet) | Bentonite and 10 sack Sand Slurry Section (thickness, in feet) | Caltrans Class 2 Permeable Material Section (thickness, in feet) |
| W-1 | 107 | 27 | 80 | 14 | 92 |
| W-2 | 90 | 12 | 78 | 8 | 81 |
| W-3 | 110 | 20 | 90 | 13 | 96 |
| W-4 | 109 | 19 | 90 | 14 | 94 |
| W-5 | 109 | 19 | 90 | 12 | 96 |
| W-6 | 110 | 20 | 90 | 14 | 95 |

2.2 Horizontal Drain Outlet Pipes

Work for the drilling and installation of the six horizontal drain pipes occurred between September 17 and October 29, 2012. Prior to the drilling, ESR prepared a pit located at the pipe discharge points to be used by the drilling equipment. Six horizontal drain outlet pipes were installed by Cross Country using a Ditch Witch JT4020 horizontal directional drill rig with 4-inch diameter steel drill rods. The drill guiding system was provided by INROCK. Horizontal drain drilling cuttings were collected and disposed offsite. During our observations, 2-inch diameter PVC Schedule 80 drain

outlet pipes were installed in each of the drain holes. Native, fine-grained silty sands (gray in color with slight sulfur odor) initially plugged the outlet pipes for Wells W-1, W-2, W-3, and W-4. The sands were drilled and flushed out of the pipes over a period of about 1 to 2 weeks, both during and after the horizontal pipe drilling and installation.

Based on our observations, it is our opinion that the horizontal drain outlet pipes were constructed as summarized in the table below.

| Summary of Horizontal Drain Outlet Pipes Construction | | |
|--------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------|
| Drain Number | Approximate Drain Pipe Length (feet)* | Approximate Depth in Well Where Outlet Pipe Intercepts Well (feet below ground surface)* |
| W#1 | 396 | 90 |
| W#2 | 356 | 81 |
| W#3 | 351 | 81 |
| W#4 | 348 | 81 |
| W#5 | 335 | 81 |
| W#6 | 330 | 81 |

*Information provided by INROCK and Cross Country.

After the completion of the horizontal drain pipe installation, ESR continued flushing the fine-grained sands from the outlet pipes in an effort to increase water flow.

2.3 Collector Box and Horizontal Drill Pit

On November 9, 2012, we observed ESR routing the outlets of the six horizontal drain pipes to the new concrete collector box, and connecting the collector box to the existing concrete catch basin through a new 8-inch PVC pipe. A drain pipe that was installed during construction to collect slope seepage at the drill pit excavation was also permanently connected to the collector box. The locations of the pipes are shown in the attached Figure 2. The drain pipe installed to collect seepage is labeled as H#1 in Figure 2.

During the period from November 9 through November 15, 2012, we observed ESR backfilling the horizontal drilling pit. SFB specified that the fill materials to be used to backfill the horizontal drill pit be compacted to at least 90 percent relative compaction per ASTM D1557. SFB was onsite on a part-time basis to observe and test the compaction during the backfilling effort. It is our opinion that the backfill observed and tested by SFB was compacted to at least 90 percent relative compaction. Copies of our laboratory and field compaction test results are attached as Appendix B.

2.4 Water Levels Measured in Wells

Water levels in the six recently installed wells were measured by SFB prior to the installation of outlet pipes; at that time, the water levels varied between 11 and 27 feet below the Kelok Way pavement surface. On November 29, 2012 (after the installation of the horizontal outlet pipes), water levels within the six wells were measured at depths of about 22 to 86 feet below the pavement surface. A tabulated summary of the water level measurements is shown below.

| Well Number | Approximate Water Level Depth Prior to Installing Outlet Pipe (feet below ground surface) | Approximate Water Level Depth on 11/29/12 (feet below ground surface) |
|-------------|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| W-1 | 11 | 22 |
| W-2 | 20 | 37 |
| W-3 | 21 | 26 |
| W-4 | 21 | 26 |
| W-5 | 24 | 83 |
| W-6 | 27 | 86 |

3.0 Geotechnical Summary and Recommendations

On November 29, 2012, water levels were measured in each of the six wells. At that time, the water levels in Wells W-5 and W-6 were significantly lower when compared to the water levels prior to outlet pipe installation. Measured water levels in Wells W-1, W-2, W-3, and W-4 were also lower than levels prior to outlet pipe installation but did not decrease as much as the levels measured in W-

5 and W-6. On November 29, 2012, discharge from the drain pipes in the new collector box was also observed, with Drains W#5 and W#6 exhibiting a stream of water, Drain W#2 exhibiting a trickle of water, and the remaining drains showing dripping water. The cause of the lower flow rates is most likely related to the existence of the native fine sand in the area of the wells. As described previously, abundant native fine-grained, silty sand was encountered during the drilling of Wells W-1 through W-4 and their associated outlet pipes, but the fine sands were not encountered in significant quantities during the drilling of Wells W-5 and W-6 and their associated drain pipes. If these fine sands migrated into the Caltrans Class 2 permeable material surrounding the wells and/or the inlet of the drain pipes, the water flow from the wells to the drain pipes would be impeded. Water flows from the wells to the collector box can change over time as a result of several factors including changes in the subsurface conditions, ground water pressure, rainfall, and irrigation practices; therefore, water levels in the wells and flow rates in the drain pipes may increase or decrease over time.

We recommend regular maintenance of the recently installed drainage system include inspection and replacement of damaged well covers and caps, inspection of the collector box, and removal of debris from the collector box and associated storm drain pipe. If sediment accumulates in the wells, pumping of the sediment laden water can be performed in an effort to increase flow rates. We recommend the drainage system be made part of as-built plans in order to protect the system from potential construction related damage in the future.

Inclinometer casing was attached to each of the recently constructed wells for future inclinometer monitoring. The casing attached to the wells will likely experience some movement due to changes in water levels within the wells. These fluctuations should be accounted for during any future monitoring of the casing.

Monitoring of the existing piezometers and inclinometers in the areas of Kelok Way and the north facing slope located north of Kelok Way has occurred in the past. The approximate locations of many of the piezometers and inclinometers are shown on the attached Figure 1. We recommend the monitoring of the existing piezometers and inclinometers continue to occur, including monitoring the water levels in the Kelok Way wells and monitoring of the inclinometer casing attached to each well. After monitoring has occurred, we recommend geotechnical evaluations of the monitoring results be performed. We recommend several monitoring sessions be performed in order to evaluate noticeable trends in the monitoring data. It is unknown if the six recently installed Kelok Way dewatering wells and associated drainage system will have an impact on the general stability of the area unless the area is monitored and geotechnical evaluations are performed. It should not be assumed that the lowering of the ground water levels in the area of the six dewatering wells will reduce or stop future ground movements.

We have employed accepted geotechnical engineering and testing procedures and our professional opinions, conclusions, and recommendations are made in accordance with generally accepted geotechnical engineering principles and practices. We do not undertake the guarantee of the construction nor do we relieve the contractors of their primary responsibility to produce a completed project conforming to the project plans and specifications.

Should you have any questions or require additional information, please call our office.

Sincerely,

Stevens, Ferrone & Bailey
Engineering Company, Inc.



Taiming Chen, P.E., G.E.
Civil/Geotechnical Engineer

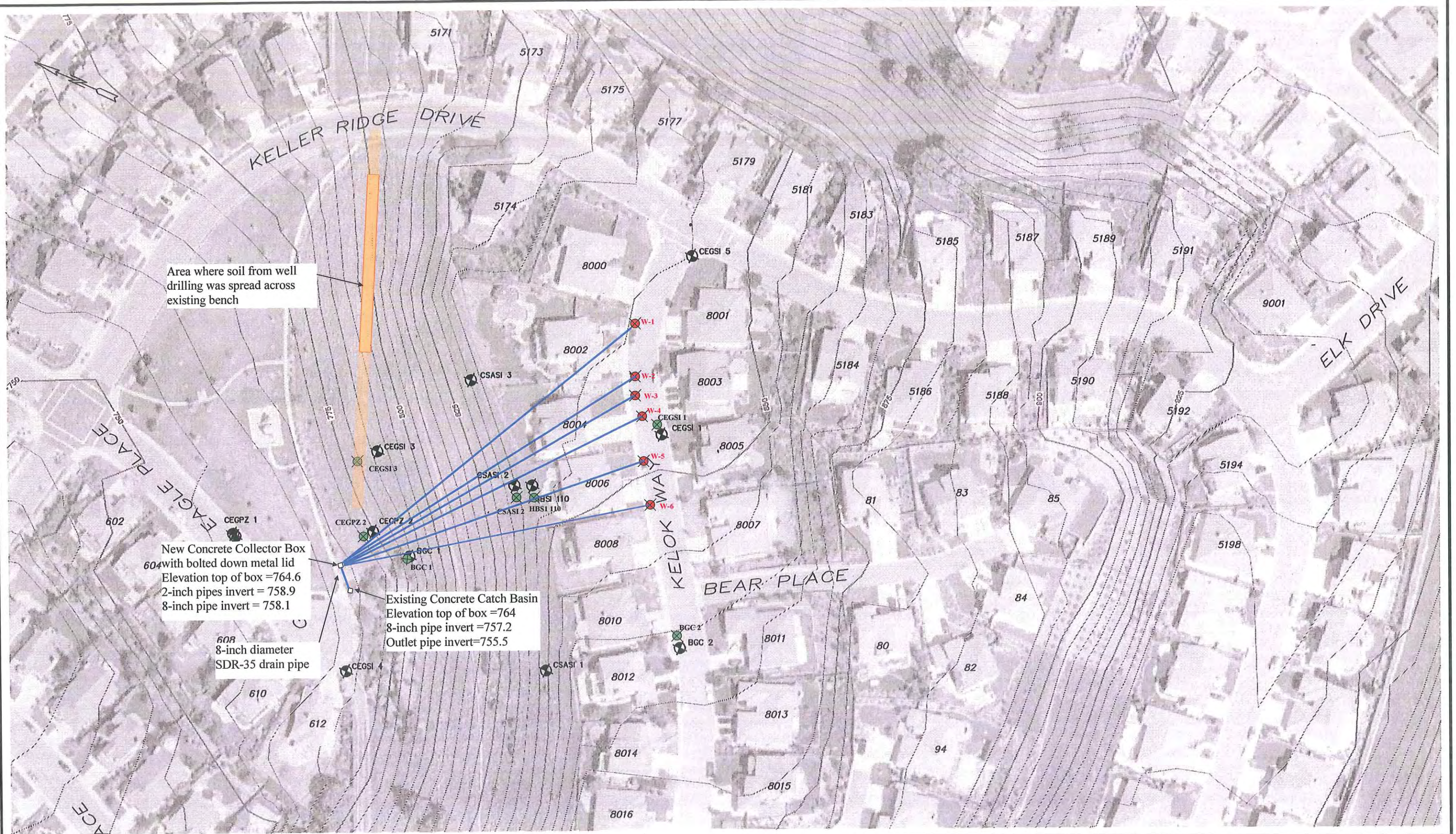


Kenneth C. Ferrone, P.E., G.E., C.E.G.
Civil/Geotechnical Engineer
Certified Engineering Geologist



TC/KCF

Copies: Addressee (1 by email)
Mr. Bill Gibson (ESR, 1 by email)
Mr. John Broghammer (Greve Clifford Wengel & Paras, 1 by email)



Area where soil from well drilling was spread across existing bench

New Concrete Collector Box
 60" with bolted down metal lid
 Elevation top of box = 764.6
 2-inch pipes invert = 758.9
 8-inch pipe invert = 758.1

Existing Concrete Catch Basin
 Elevation top of box = 764
 8-inch pipe invert = 757.2
 Outlet pipe invert = 755.5

60" 8-inch diameter
 SDR-35 drain pipe

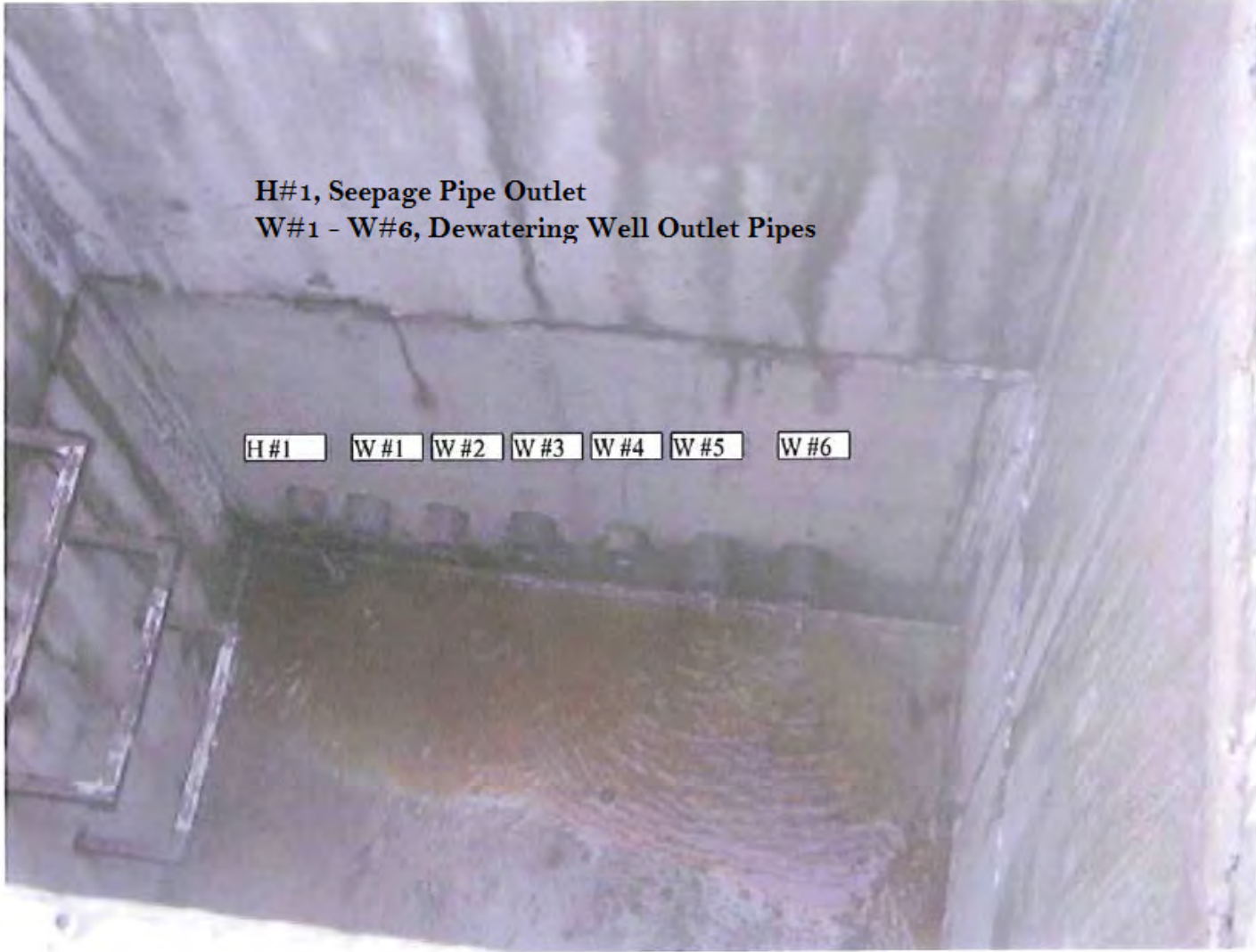


Monuments that were surveyed with total station that are different than shown on original plans

- Vertical Wells (W1 - W6)
- 2-inch diameter well outlet pipes
- Spoils from well drilling

Engineered Soil Repairs, Inc.
 1267 Springbrook Road
 Walnut Creek, CA 94597

Kelok Way Wells Layout "As-Built"
 Clayton, California
 (REVISED DECEMBER 10, 2012)



H#1, Seepage Pipe Outlet
W#1 - W#6, Dewatering Well Outlet Pipes

H # 1 W # 1 W # 2 W # 3 W # 4 W # 5 W # 6

Figure 2, Photo of Collector Box Interior

APPENDIX A

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

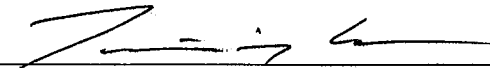
| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 8/21/12 Tue | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Onsite to attend a pre-construction meeting held among OGHAD, ESR, and his subcontractors. Rick Angrisani of OGHAD/ City of Clayton Engineer, Bill Gibson & his crew of ESR, ~~Aaron~~ Aaron Sykes of Pacific Coast Drilling, Wayne Mills of Cross Country HDI, Ken Ferrone of SFB, and I were onsite. ESR and his subs are asked to provide their drilling plans for approval according to the project plans. The locations of the wells & drilling support water tank were discussed. Rick wants these locations to be as ^{little} ~~less~~ as impact of the adjacent residents. ESR is okay to shift around the well locations from the locations ^{shown} ~~as~~ on the project plans ~~in~~ ^{not} in order to block neighbors' driveway if necessary. The designated well drilling cutting disposal area was identified in the field, Ken & Rick agree that the cuttings can be placed over the existing vegetation. The location of the drain collector box was identified and discussed. I asked Wayne Mills regarding his plan of ~~using~~ drilling. He said they will use probably 6" diameter ~~drill~~ tri-cone drill bit with steel casing. 2" PVC ^{drain} ~~drain~~ pipes will be inserted ~~down~~ through steel casing prior to retrieval of casing. I remind him that the PVC pipe will go into Caltrans class Permeable materials that may get into the 2" pipes.

COPIES TO: _____

FIELD REPORT

SIGNATURE: 

PRINT NAME: Taming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

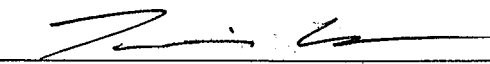
| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 8/24/12 Fri | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Chris of ESR | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Onsite as requested by ESR to identify
 inclinometer casing BGC-S1-1 & piezometer CEG PZ-2. BGC-S1-1
 is inside a steel casing by the existing trees. CEG PZ-2 was uncovered
 underneath the existing dirt & concrete dumping. ESR staked these two
 locations and used a total station to survey. I asked Chris how
 accurate the aerial photo shown on his plan. He said ~~these~~ ^{the} aerial
 photo & topo were provided to him and they basically overlay the plans.
 But the inclinometer & piezometer locations were survey refering to
 their temporary benchmarks in streets. They haven't found any City
 monuments they can tie to. They will survey the dewatering well
 locations after ^{well} ~~their~~ layouts.

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

THE FOLLOWING WAS NOTED:

Onsite as requested to go over the proposed well locations on Kelok Way. The spacings of the three 25 ft spacing wells are tightened up to about 21' to avoid being in the way of driveway. The other well locations are close to what shown on project plans. According to Bill, Pacific Coast Drilling will have equipments moving in today and start drilling tomorrow.

| | | | |
|-----------------|-----------------------------------|---------|------------------------------------------------------------------|
| DATE | <u>8/27/12 Mon</u> | JOB NO. | <u>555-1</u> |
| PROJECT | <u>Kelok Way Dewatering Wells</u> | | |
| LOCATION | <u>Clayton, CA</u> | | |
| CONTRACTOR | <u>ESR</u> | OWNER | <u>OGHAD</u> |
| WEATHER | <u>Clear</u> | TEMP. | <input type="checkbox"/> at AM <input type="checkbox"/> at PM |
| PRESENT AT SITE | <u>Bill of ESR</u> | | |
| | <u>Mark of ESR</u> | | |
| | | | |

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FIELD REPORT

SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3 F 2

| | | | |
|-----------------|----------------------------------|---------|--------------------|
| DATE | 8/28/12 Tue | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Justin of Pacific Coast Drilling | | |
| | Aaron Contractors | | |

THE FOLLOWING WAS NOTED:

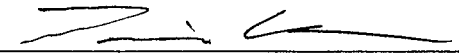
Onsite to watch dewatering well drilling.

PCDC started to drill the first well located in front of 8002 Kelok Way.

IMT AF-18 that is mounted on a CAT metal track platform was used with 24" diameter auger. The drilled cuttings started to show moisture at about 15'. Cuttings became wet at where groundwater was encountered at about 19'. Hole started to cave-in below ground water level. Drilled cuttings were brought to dispose at the slope bench disposal area by a rubber track dump truck. PCDC ~~had~~ ^{started} to use water with Shore Pac and trying to keep the hole open. The hole still caves between 19 to about 32'. PCDC switched to ~~core~~ ^{clean} barrel to clean the hole and successful prevent to hole from further cave-in. They switched back to auger drilling at about 32'. I left the site when they are at about 45'. Hole ~~is~~ ^{is} stable and okay with auger drilling.

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3 F2

| | | | |
|-----------------|---------------------------|---------|--------------------|
| DATE | 9/29/12 Wed | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Well | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Justin of PCDC | | |
| | | | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of dewatering well.

According to Mike, PCDC drilled ~~the~~ the first well yesterday to about 50' but ~~the hole~~ the bottom 10' of hole has too much sluff and can't really get them out. PCDC put in some class 2 perm and ~~a lot of slurry~~ ^{2 bags sand slurry (8 x 8?)} in the hole trying to stabilize the wall and will have to drill out later. PCDC moved to the well #2 to start another hole. I arrived at the site when they are at about 62'. According to Justin, a 24" diameter steel casing was installed to a depth of 25'. They started using polymer at about 35'. Groundwater was initially encountered at about 15' to 16' similar to well #1. Due to the use of casing, they have to use a smaller auger in order to fit inside ^{diameter of} casing. They switch to a smaller auger and dig barrel while advancing downward. Below 60', cuttings started to indicate mottled gray yellowish brown clays with sand clasts and rock fragments. Dark gray to black clays at 69'. Stop drilling at about 70'. According to Justin, they used all the 8 yd³ of sand slurry yesterday and the top of slurry ^{was at about 3' below ground surface} in the hole. They will have to wait a couple days before they redrill it.

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SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

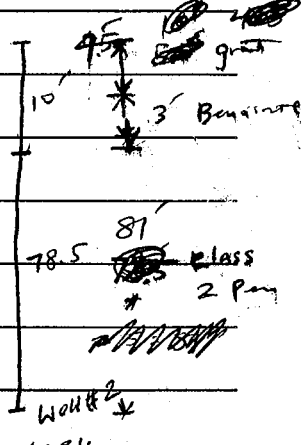
1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | |
|-----------------|--------------------------------------------------|---------|--------------------|
| DATE | 8/30/12 Thu | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Well | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/PCDC | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR Matt of ESR Justin of PCDC | | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of dewatering well #2. PCDC was at about 105' when I arrived. Mike showed me some cuttings they collected that indicated pale grey and yellowish brown sands. The cuttings at 110' indicated dark grey to black clays. After clearing the hole with bucket barrel ^{to 110'} PCDC started installing 6" well casing and 2.75" ϕ inclinometer casing. PCDC lost the bottom @ 22.5' of the hole. I called Ken of SFB let him know the issue. Ken is okay with that they cut the well casing but replace the top 10' section with solid pipe since this well is one of the 3 wells closely spaced. PCDC should try to install 110' full length in the other two wells. The construction of this well is shown to the right. 6" PVC SDR ²¹ pipes were used for well casing. Class 2 per were placed to 7.5' below ground. PCDC is going to drill well #3 so they can retrieve the 25' casing from well #2. They will continue to drill well #3 tomorrow. ~~According to Justin, that they pulled out the casing the top of class 2 per was at about 10' below ground surface.~~



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SIGNATURE: [Signature]

PRINT NAME: Taining Chen

Stevens, Ferrone & Bailey

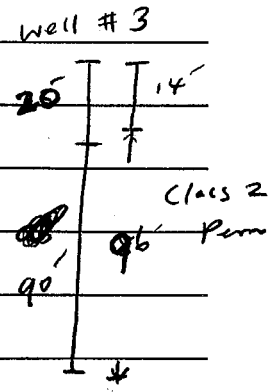
Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

THE FOLLOWING WAS NOTED:

ON SITE to observe drilling of dewatering well.
PCDC was at about 110' ^{at well #3} when I arrived and started to switch to bucket barrel to clean the hole. According to Justin, they didn't encounter any pale gray sands in this hole. They started this hole this morning at 25' ^{where they lost yesterday} and ~~se~~ added polymer at about 40'. He believed this hole is cleaner than well #2. According to Justin, they started to see dark gray to black ~~clay~~ cuttings at about 80'. The carry at 110' indicated ~~indicated~~ mottled yellow grayish brown clays. PCDC used the bucket barrel to clean the hole to 110' and started to install well casing right away. ^{well} The casing went in to about ~85' then became buoyancy. ~~PCDC~~ PCDC added ^{clean} water to the casing to counter weight buoyancy. Class 2 Permeable was filled to about 14' below ~~the~~ ground.



| | | | |
|-----------------|---------------------------|---------|--------------------|
| DATE | 8/31/12 Fri | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Well | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/PCDC | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Justin of PCDC | | |
| | | | |

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FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

THE FOLLOWING WAS NOTED:

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 9/4/12 Tue | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR / PCDC | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Justin of PCDC | | |
| | | | |

Onsite to observe dewatering well drilling.

According to PCDC & ESR, well #4 encountered a 4" sewer lateral at about 8' deep. ESR have to fix it today and backfill with class 2 AB tomorrow. City of Clayton requires compaction test of the backfill. According to PCDC, the class 2 perm in well #3 settled to a depth of about 30' so they have to put in more class 2 perm to bring it to 15' below ground. PCDC was at well #5 about 67' below ground and the cuttings started to indicate dark grey to black silty clays. Cuttings from above are generally yellowish brown clays with some sandstone blocks. According to Justin, he noticed a circular cavity at about 12' before they installed the steel casing. PCDC was able to drill without ~~the~~ polymer, so cuttings are generally dry to damp but not wet. Water is dripping from sides of wall, but PCDC is able to drill ahead of it. Cuttings indicated yellowish brown silty clays with calciche at 85'. ^{Dry to damp} A very dark grey to black clays with striated sided fragments were encountered at 99'. PCDC drilled the hole to 111 and started to install well casing & inclinometer casing right away. They filled the hole with class 2 perm to about 114' below ground. PCDC also ~~back~~ fill well #3 with more class 2 perm to a depth of about 14.5' below ground. About a foot of well casing & inclinometer casing ~~were~~ cut to below ground surface.

well #5
109
96'
class 2 perm

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FIELD REPORT

SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

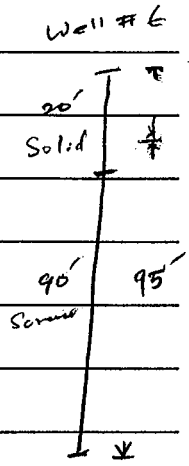
1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 9/5/12 Wed | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR / PCDC | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Justin of PCDC | | |
| | | | |

THE FOLLOWING WAS NOTED:

onsite to observe drilling of dewatering well.
PCDC had finished drilling of well #6 ^{to 110'} when I ~~arrived~~ arrived. According to PCDC, this hole is dry and no apparent groundwater was encountered. They installed the 25' steel casing and drilled without polymer. Cuttings are generally dry to damp. ESR also triggered repair of the broken sewer lateral in front of 8004 Kelok Way. The 3'x6' repair excavation of about 8' was backfilled with recycled Class 2 MS from county quarry and compacted to at least 95% Relative compaction. Son of SFB observed the backfilling and tested the compaction. Due to the presence of the sewer lateral, well #4 will have to move. PCDC installed well casing and inclinometer casing in Well #6 and fill the hole with Class 2 perm. PCDC pulled up the steel casing and will drill well #4 at a new location tomorrow morning.



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FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2


| | |
|---------------------------------------|--------------------------|
| DATE 9/6/12 Thu | JOB NO. 555-1 |
| PROJECT Kelok Way Dewatering Wells | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR/PCDC | OWNER OGHAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | |
| Justin of PCDC | |
| | |

THE FOLLOWING WAS NOTED:

Onsite to observe dewatering well drilling. PCDC started drilling of well #4 at a new location. They were at about 10' when I arrived. Cuttings indicated ^{dry to damp} yellowish brown silty clay. Groundwater was initially encountered at about 14'. Steel casing was ~~not~~ installed to a depth of 25'. Cuttings were generally damp below 25'. Below about 45', interbedded gray to ~~dark~~ ^{silty clays} very dark gray were encountered with yellowish brown silty clay. An unknown object was encountered 45' to 50' that pushed auger to one side and resulted to a tilt shaft from 45' to 56'. PCDC had to haul the drilling to bring in a core barrel to see if they can core off the unknown object. PCDC resumed drilling around 2 pm with core barrel and determined that there is a big void ~~at~~ below 40' and the bottom of hole is about 48'. Groundwater is measured at about 41' below ground. PCDC decided to abandon this hole and try to move the location toward center of street between sewer main & water main. Brandwood Reddymix ^{brought} ~~bring~~ a load of 9 yd³ sand slurry to abandon the well #4. PCDC used 7.5 yd³ of slurry and fill all the way up to the ground.

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SIGNATURE: 

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Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

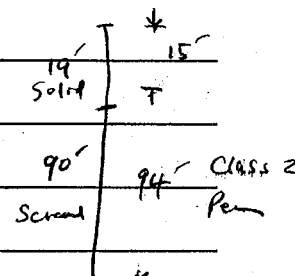
Task Code 3F2

THE FOLLOWING WAS NOTED:

| | | |
|---------------------------------------|------------------|--------------------|
| DATE 9/7/12 Fri | JOB NO. 555-1 | |
| PROJECT Kelok Way Dewatering Wells | | |
| LOCATION Clayton, CA | | |
| CONTRACTOR ESR/PCDC | OWNER OGHAD | |
| WEATHER Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | | |
| Justin of PCDC | | |
| | | |

Onsite to observe drilling of dewatering well

#4. PCDC started a new location toward the center of street. They are at about 20' when I arrived. Steel casing was installed to 25'. Cuttings above 30' are generally dry to damp and are damp to moist below 30' to 35'. Cuttings generally indicate yellowish brown silty clays with sands and gravels above ^{about 50'} 50'. Below ^{colluvial} 50', mottled green grey ^{and some tree roots} highly plastic clays were also encountered. Dry to damp crushed dark gray siltstone fragments were ^{also} encountered below 65'. Some caliche at 75'. Cuttings changed ~~back~~ back to yellowish brown ^{silty clays} with white caliche at 85' and were damp to moist. The hole started to cave in below 90'. PCDC poured polymer in hole to stabilize it. Hole was at about 80' before they switched to drill barrel to clean the hole. PCDC switched between auger & drill barrel. Dark gray silty clays with grey sandy siltstone were encountered at 103'. PCDC successfully drilled to about 111'. Well & inclination casings were installed to 109'. PCDC will move on to well #1 on Monday.



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Well #4 FIELD REPORT

SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | |
|-----------------|-----------------------------------|---------|----------------------------------|
| DATE | <u>9/10/12 Mon</u> | JOB NO. | <u>555-1</u> |
| PROJECT | <u>Kelok Way Dewatering Wells</u> | | |
| LOCATION | <u>Clayton</u> | | |
| CONTRACTOR | <u>ESR/PCDC</u> | OWNER | <u>OGHAD</u> |
| WEATHER | <u>Clear</u> | TEMP. | <u>° at AM</u> <u>° at PM</u> |
| PRESENT AT SITE | <u>Mike of ESR</u> | | |
| | <u>Justin of PCDC</u> | | |
| | | | |

THE FOLLOWING WAS NOTED:

Onsite to observe the drilling of dewatering well #1. According to Mike of ESR, PCDC had a hard time drilling through the 50 feet of sand slurry they poured previously trying to stabilize the drilled hole. PCDC was at about 89 feet when I arrived. The bottom 18 feet of hole is muddy. The cuttings indicated bluish grey silty clays interbedded with silty sand lenses. I inquired to Mike there is a ^{green} valve box that houses possible subdrain clean out which should ~~be~~ not be buried. Mike owned the box and will keep it as is. PCDC called it a day when they reached 92' switching between auger and drill barrel. They will resume the drilling tomorrow. I also checked out the ^{proposed horizontal} drill location at the end of Golden Eagle Court and staked out the possible ^{previous} subdrain location.

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SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

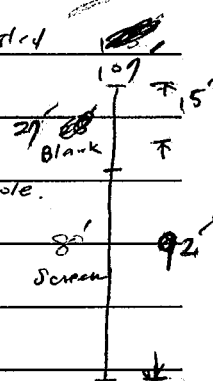
Task Code 3F2

| | |
|----------------------------------------------|--------------------------|
| DATE <u>9/11/12 Tue</u> | JOB NO. <u>555-1</u> |
| PROJECT <u>Kelok Way Dewatering Wells</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR/PCDC</u> | OWNER <u>OGHAD</u> |
| WEATHER <u>Clear</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE <u>Mike of ESR</u> | |
| PCDC <u>Justin of PCDC</u> | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of dewatering well

#1. PCDC was at about 112' when I arrived. They are using drill barrel to clean the hole. PCDC used 30' solid and 80' screen pipes to make up the 110' long well casing. PCDC can only install the casing down on 105'. It appeared from 95' to 105' of the hole was muddy. The casing settled 2 more feet to 109'; PCDC installed Class 2 perm to about 15' below ground and pulled out their drill casing. 6 bags of bentonite were poured into the hole.



The spaces at top of hole above bentonite are as follow:

| Well # | Blank | Blank | Screen | Total |
|---------|-------|-------|--------|-------|
| Well #1 | 13.5' | 109' | 27' | 80' |
| Well #2 | 7' | 90' | 12' | 78' |
| Well #3 | 12' | 110' | 20' | 90' |
| Well #4 | 14' | 109' | 19' | 90' |
| Well #5 | 12.5' | 109' | 19' | 90' |
| Well #6 | 12.5' | 110' | 20' | 90' |

6.5 yd³ of 10 sack sand slurry was poured to top of the 6 well holes. I told Mike he has to make sure each well casing is 4 inch diameter casing are operable before he put the well covers.

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FIELD REPORT

SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

ANTIOCH BUILDING MATERIALS CO.

A 397963

Pittsburg Plant
1375 California Ave.
Concrete and Asphalt
Phone (925) 432-3828

Remit to: P.O. BOX 870
ANTIOCH, CALIFORNIA 94509
PHONE: (925) 432-0171

Brentwood Plant
2170 Elkins Way
Brentwood, CA
Phone (925) 634-3541

DELIVERY LIABILITY DISCLOSURE

The purchaser agrees to provide safe roadways for delivery. This company will not assume liability for damage to sidewalks, driveways, tools, equipment or any other property off of public roadways. Our driver will follow customer direction after leaving public roadways. All agents of customer will be responsible for monitoring their equipment. This company assumes no liability for agent's tools or equipment including but not limited to pumping equipment.

PRODUCT LIABILITY DISCLOSURE

We do not guarantee or assume responsibility for admixtures added by others to the concrete. Also, due to variables involved in placing, finishing and curing concrete, we cannot be responsible for surface defects or for color variation when color is added to the mixture.

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Divisions of Measurement Standards of the California Department of Food and Agriculture.

Customer Id: PD01
Pacific Coast Drilling/ Company Inc
364 Bellevue Avenue

Santa Rosa CA 95407

| TIME LEFT PLANT | TIME ARRIVED AT SITE | TIME DONE POURING | TIME LEFT SITE | TIME RETURNED TO PLANT |
|-----------------|----------------------|-------------------|----------------|------------------------|
| 2:30 | 3:11 | 3:56 | | |

| PLANT NO. | DATE | TIME OUT | TICKET NO. |
|-----------|----------|----------|------------|
| PITTSBURG | 09/11/12 | 14:20 | 1056823 |

| JOB NUMBER | CONTRACT NO. | PROJECT NUMBER |
|------------|--------------|----------------|
| PD0103 | | |

| TRUCK NO. | Order# | Load# | RUNNING TRUCK TOTAL | RUNNING PRODUCT TOTAL | RUNNING JOB TOTAL | SLUMP | PURCHASE ORDER NUMBER | |
|-------------------------------------|--------|----------------|---------------------|-----------------------|-------------------|--------------------|-----------------------|-------------|
| 91 | 6 | 1 | Ticket | Shipped | Ordered | 6.00 | 12-089 | |
| DRIVER: Huston, John | | | 9.50 | 9.50 | 9.50 | WEATHER CONDITIONS | 155829 | |
| QUANTITY | UM | PRODUCT NUMBER | DESCRIPTION | | | UNIT PRICE | TOTAL | |
| 9.50 | YD | 100001006S | 10 sack sand slurry | | | | | |
| 9.50 | EA | 0713 | Slowset 90 | | | | | |
| 1.00 | EA | 0909 | Environmental Fee | | | | | |
| Shortload Charge Saturday Charge | | | | | | | | |
| 8008 Kelok Way Clayton CA 94517 | | | | | | | SUBTOTAL | |
| | | | | | | | MISC. CHARGES | |
| | | | | | | | TAX | |
| | | | | | | | TOTAL | |
| | | | | | | | AMOUNT PAID | ORDER TOTAL |

GALLONS OF WATER ADDED
ANY WATER ADDED ON THE JOB WILL BE AT THE PURCHASER'S DIRECTION AND RISK.

CERTIFIED WEIGHMASTER

I hereby state that I am an authorized agent of purchaser and as such herewith assume full responsibility for payment according to stated terms in our credit agreement on the front of this weigh tag and our company credit agreement on file.

Customer agrees to pay in full on all products received with no deductions for any reason.

TERMS AND DISCLOSURE STATEMENT

Seller reserves and may exercise its statutory rights as provided for in the Mechanics Lien and Bond statutes. If payment is not received within terms of net 25th unpaid balance will be subject to Finance Charge computed by "periodic rate" or 1½% per month. Customer agrees to pay a reasonable attorney's fee and all other costs of collection.

X
DELIVERY INSPECTED AND APPROVED BY

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2


| | |
|----------------------------------------------|--------------------------|
| DATE <u>9/14/12 Fri</u> | JOB NO. <u>535-1</u> |
| PROJECT <u>Kelok Way Dewatering Wells</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR</u> | OWNER <u>OGHAD</u> |
| WEATHER <u>Clear</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE <u>Mike of ESR</u> | |
| | |
| | |

THE FOLLOWING WAS NOTED:

Onsite to observe the drill pad ESR dug for horizontal drill rig at the end of Golden Eagle Court. The pit is at the base of the open space ~~slope~~ slope and covers a section of concrete walkway & a portion of park lawn. Construction metal fencing is up around the entire pit. The pit is about 25' by 40' to 50' and about 12' to 18' cut into open space slope and about 6' at lawn elevation. Water seeping is observed on the backup to the east at a depth of about 5' below slope surface. The excavated spoils are temporarily stockpiled on the slope to the east of the pit. ESR is putting plastic sheets to cover the stockpiles. Mike is in process of leveling the bottom of pit. According to Mike, he just checked the groundwater level in the well casings of the dewatering wells. Groundwater is at about 9' in well #1. He ~~can't~~ couldn't get the top cap of well #2. Groundwater is at about 20' in wells #3 & #4 and at about 25' to 30' in well #5 & #6. He knew the correct plan for ESR is to ~~to pump water~~ ^{the wells} to lower groundwater using horizontal drilling. He said the horizontal driller estimates it will take about 4 to 5 weeks to finish their work. ESR hasn't installed the well covers yet.

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

THE FOLLOWING WAS NOTED:

Onsite to observe horizontal drilling of
drain. Cross Country was not there. Accordy to Mike, they will
probably start drilling on Wednesday if not later. Mike is working
to repair a broken irrigation pipe that lead to flooding of the drill
pad. He will cut the upper portion of the slope further back before
the start of drilling. He also asked me for the as-built depth
of the wells so he can pass on to drillers.

| | | | |
|-----------------|------------------------------|---------|--------------------|
| DATE | 9/19/12 Mon | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | OGHAD Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | | | |
| | | | |

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FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

| | | | |
|-----------------|--------------------------------------------------|---------|--------------------|
| DATE | 9/19/12 Wed | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/Cross County | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR Morgan of ESR Cross County HOI | | |

THE FOLLOWING WAS NOTED:

Onsite to observe the drilling of horizontal drains. Cross County ~~was~~ was drilling for the well #1 at a distance of about 50' when I arrived. They used Ditch Witch JT4020 horizontal drilling rig with 4" diameter ^{steel} drill rods. Pure food clean drill fluid powder was used. Guide wire was insert through the drill rods. ESR also set well covers on the 6 wells on Kelok Way. ~~Ready~~ Ready mix concrete was delivered to the site to set the covers. ESR will patch the street with AC. ~~I~~ According to Morgan & Mike, Cross County is now aiming for flat, but they can adjust their angle if need to. The drilling will intersect the wells at about 85' to 90'. I told them for well #2, they may have to aim at about 80' since the well is only about 90' and the bottom of well may be dirty. I left the site when Cross County was at about 120'. The guiding system used by Cross County ~~is~~ is from Vector Magnetics. I checked water level in the well casings as below.

Well #1 at 10.66', Well #2 at 29.28', Well #3 at 21.07', Well #4 at 23.97'. The low level in well #2 is due to ESR's pumping with a submerge pump. According to Mike he pumped the well to dry in 13 and half minutes with about 80' of pipes in well. I inserted my meter in well and it appear from about 80' to below, the well is muddy.

FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

| | | | |
|-----------------|---------------------------------------|---------|--------------------|
| DATE | 9/21/12 Fri | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/Cross Country | OWNER | OGHAD |
| WEATHER | clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Alan Alan of Cross Country | | |
| | Logan of Inrock | | |

THE FOLLOWING WAS NOTED:

onsite to observe drilling of ^{horizontal} a drain #1.

I arrived at the site while Cross Country was receiving drill rods and guiding probe at drill bit. ESR was pumping water at well #1. Water level was at about 10' before pumping. While ~~the~~ the pump was off, I measured the water level replenish from 61' to 51' in about 7 min (a rate of about 1.5' per minuteman). Logan of Inrock was ~~I~~ the site, who is sub to Cross Country to provide ~~gas~~ guiding system to the drilling. According to Logan, they are able to tell when drill bit into the permeable gravel at a distance about the same calculated by his system. Once they tap into it, water started to come out of the hole, so they ~~think~~ thought they are right on the target. The hole is into the well at a depth of about 90' and is about 394 to 395 feet long. Logan believe the end is about 1" right of the well casing at the ~~top~~ gravel surface below Kelok Way road grade. The guide system, Paratrack 2, they are using only need to have a wire on the grid to set up a grid and this is no need to ^{be} right above the path they are drilling. The system is able to calculate the probe position itself. ESR also patched ~~the~~ AC cut on Kel-K Way. Cross Country used a 2" PVC end cap to make a screen with 1/8" & 1/4" diameter holes. The screen was tested with 5 gallon bucket of water and found to be able to drill empty in about a ^{minute} ~~minute~~.

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SIGNATURE: Tairning Chen

PRINT NAME: Tairning Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | |
|----------------------------------------------|--------------------------|
| DATE <u>9/21/12 Fri</u> | JOB NO. <u>555-1</u> |
| PROJECT <u>Kelok Way Dewatering Wells</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR/Cross Country</u> | OWNER <u>DGHAD</u> |
| WEATHER <u>Clear</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE <u>Ken of SFB</u> | |
| | |
| | |

P. 2/2

THE FOLLOWING WAS NOTED:

I went to checked up the well #1 again with Ken of SFB. The water was at about 65' 20 minutes after ESR turned off the pump. According to Mike, the pump is at about 105' below ground. JM Eagle 2" sch 80 PVC were used for drain pipes. Cross Country retrieved the guiding probe and reloaded the steel rods. Water was coming out of the ^{steel} casing when the steel casings reached the well. The flow rate was measured to be about 5 gallon per minute. ~~Noises~~ Noises can be heard at the well location on Kelok way and appeared to be water draining out of well. Cross Country tried to install 2" PVC pipe through the steel drill rods, but they couldn't get the last about 50' pipes in. The pipes ended up got broken at a connection about 230' from the drill pit. Cross Country lost about 120' of pipe on the steel rods. They decided to come back on Monday to redo it again so they can get the lost pipes out. ESR added an about 5 gallon water dissolved dish soap to the well after they pumped it down to 95' to confirm if the ~~drain~~ bore is taped into the well. According to Mike, the pump is lowered to a depth of about 105'.

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Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

THE FOLLOWING WAS NOTED:

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 9/24/12 Mon | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/Cross Country | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Alan of Cross Country | | |
| | Logan of Inrock | | |

Onsite to observe installation of 2" PVC drain pipes. Cross Country had to retrieve all the drill rods/casings in order to recover the lost pipes. After pulling out all the rods, they found out sands had gotten into the last about 50' section of rods that caused partial clog of the interior of rods. So the PVC pipes couldn't get through completely. I also checked at Well #1 and water was at about 34.5'. After the well was pumped dry to about 93' for about 11 min, which is about 5 ft per min. The water ~~rose~~ ^{rose} up to 72' after 45 min, which is about 0.5 ft per min. The pump equipments are from East Bay Pump & Equipment Co. (510) 532-1800 in Oakland. Cross Country cleaned the hole with water through drill rods and started to insert PVC drain pipes again. They used garden hose to fill the PVC pipes so they can flush the drill rods to ~~unclog~~ ^{open} up any clog while advancing the PVC pipes. I noticed sand piping had occurred at sidewalk of 8002 Kelok & ~~driveway~~ driveway of 8001 ~~Kelok~~ Kelok through expansion joints whenever Cross Country was pumping water through drill rods. This probably was due to ~~water~~ pressurized water passing through the well hole & Class 2 perm then up into street base rock layer. Cross Country still had hard time at a distance about 15' from

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SIGNATURE: 

PRINT NAME: Taiming Chen

P.1/2

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3 F2

THE FOLLOWING WAS NOTED:

center of well and broke the pipes
at about 40' from drill pit. They are going to retrieve the pvc pipes.
They now are thinking to leave the steel drill rods/casings in the hole so
they can deal with the pvc pipe installation later; therefore they won't
waste time on pipe installation and ~~can~~ may be able to come up a better
solution along the way.

P.2/2

| | | |
|---------------------------------------|------------------|--------------------|
| DATE 9/24/12 Mon | JOB NO. 555-1 | |
| PROJECT Kelok Way Dewatering Wells | | |
| LOCATION Clayton, CA | | |
| CONTRACTOR ESR / Cross Country | OWNER OGHAD | |
| WEATHER Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE Mike, Bill of ESR | | |
| Alan, Wayne of Cross Country | | |
| Logan of InRock | | |

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | |
|-------------------------------------|--------------------------|
| DATE 9/27/12 Thu | JOB NO. 555-1 |
| PROJECT Kelok Way Decontam Wells | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR/Cross Country | OWNER OGMAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | |
| Alan of Cross Country | |
| Logan of Inrock | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of drain pipe hole. Cross Country was at about 200' when I arrived. According to Logan of Inrock, he is aiming flat at about 90' feet below top of Well #2. I told him, since the well is about 88' to 90' deep, they may have a risk to not hitting the well. Logan said he can aim a little bit higher so the pipe will tap into well at about 80' to 82'. I told him that would be better to do it that way. I also checked water level in the wells #1, #2 & #3 and they are respectively 37.4', 44.3' & 22.6'. According to Mike the only well he pumped today was well #2 and only took him about 10 min to pump it dry. I also checked with Mike for the previous two days of work they did. According to him, Cross Country had tried to use 3/4" PVC pipes with water but failed to clean out the steel casing of hole #1. Yesterday a roofer was called to the site and also failed to clean the casings with snake. Cross Country's current plan is to finish as many as holes they can with their available rods/casings.

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SIGNATURE: [Signature]

PRINT NAME: Taining Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3 F2

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 10/1/12 Mon | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR/Cross Country | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Alan of Cross Country | | |
| | Logan of Inrock | | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of horizontal drain for dewatering wells. According to Mike, Cross Country finished drain #2 for on Friday. Cross Country is drilling for drain #3 and is at a distance of about 296' when I arrived. According to Logan, drain #2 reached the well #2 at a depth of about 81' and total distance is about 361'. According to Alan, he was able to tell when he was entering the well due to the water started to flow out of drain hole. Water ^{is} trickling out of drain hole from I can see. Alan said they have a ^{rubber} plug in hole to prevent losing ^{materials} in the hole. I also checked water level in well #2 is 49.3' and well #3 is 23.0'. Mike said he just jumped #2 before he moved his pump to well #3. Drain #2 is ^{about} 361', Drain #3 will be about 350'. According to Logan, they used a drill angle of about 1° so will tap into Well #3 about a depth of about 81' or so.

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SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3 F2

| | |
|------------------------------------|--------------------------|
| DATE 10/3/12 Wed | JOB NO. 555-1 |
| PROJECT Kelok Way Dewatary Well | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR / Cross County | OWNER OGHAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | |
| Alan of Cross County | |
| Logan of InRock | |


THE FOLLOWING WAS NOTED:

Onsite to observe drilling of drain pipe. Cross County is drilling drain #4 and is at a distance of ^{about} 260 ft. According to Logan, this hole will be ending up ~~at~~ ^{about} 350' and into the well at about 80 to 81' ~~for~~ deep with about 1° slope drain. Cross County finished drain #3 yesterday. ~~at the~~ ^{The hole} was ^{about} 350' at the well at about 80' to 81'. Logan said they were able to feel when drill into the well and saw water flowing out of the hole. Water ^{was} ~~trickling~~ out of drain hole #3 ~~while~~ while I ^{am} ~~was~~ at the site. Cross County planned to finish all the holes before they start to install PVC pipes. I checked all the wells ~~on~~ on Kelok Way and water level in well are:

- #1 23.19'
- #2 30.59'
- #3 26.40' → ESR pumped the well prior to pulling up the pump
- #4 56.18' → ESR had pumped the well dry 2 hr before
- #5 25.11'
- #6 27.46'
- MW#1 20.76' (CEG's well)

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3 F2

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 10/8/12 Mon | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR / Cross County | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Alan of Cross County | | |
| | Logan of Inrock | | |

THE FOLLOWING WAS NOTED:

Onsite to observe drilling of well drain pipe. Inrock & Cross County were ~~surveying~~ surveying for the entry of drain pipe #6. According to Mike of ESR, Cross County had finished installation of PVC in drain #4 last week. Alan said the pipes went in okay without much of resistance. It doesn't appear the pipe drain much of water out. Alan said he noticed the water flow was greater when he initially drill into well #4 with steel drill rod. Cross County also finished the drilling of drain pipe #5. Mike said they were about 175' at end of last Friday and finished the drilling on Saturday when he was not there. They tried to insert PVC this morning but pipes only went in about 250' and can't get to end of the hole. They got the PVC pipes out and found out gravels (which are similar to Class perm) were inside steel drill rods. They gave up on installing PVC pipes on ~~in~~ drain #5 and switched to start drilling of drain #6. I went up to Kelok Way to check ground water levels in wells. Well #1 at 23.14'; well #2 at 30.50', well #3 at 24.70'; well #4 at 24.68'; well #5 at 14.95' (which ESR had pumped) and well #6 at 28.01'.

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FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

P.2/2

| | |
|--------------------------------------------|--------------------------|
| DATE <u>10/8/12</u> | JOB NO. <u>555-1</u> |
| PROJECT <u>Kelok Way Dewatary Wells</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR/Cross County</u> | OWNER <u>OGHAD</u> |
| WEATHER <u>Clear</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE | |
| | |
| | |

THE FOLLOWING WAS NOTED:

I also asked Logan for the as-built
drain ~~draw~~ hole ~~draw~~ ^{lengths} & depths.

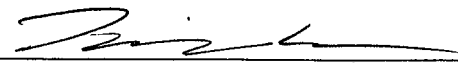
| Drain # | lengths | depths |
|---------|---------|-----------|
| #1 | 396' | 90' |
| #2 | 356' | 81' |
| #3 | 351' | 81' |
| #4 | 348' | 80 to 82' |
| #5 | 335' | 80 to 82' |

Logan said he has a same plan for Drain # 6, which will end up
with length and depth similar to Drain #5.

#6 330' long per Alan 10/29/12

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SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

THE FOLLOWING WAS NOTED:

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 10/11/12 Thu | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR / Cross County | OWNER | OGHAD |
| WEATHER | Cloudy | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | Bill of ESR | | |
| | | | |

Onsite to observe installation of drain pipes.
Cross County had finished all the drilling & is trying to install 2" PVC drain pipes. According to Mike, Ken is giving okay to them to install pipes without end screen that is believed to clog up and impede flow. Mike use a water tank truck to supply fresh water to Well #6 on Kelok Way try to clean out any silts in steel drill rods in drain hole #6. Water appeared to drain out of the well quite fast as steady good amount of water is reported flowing out of steel drill rods. Mike said he had put 1,500 gallons of water in well #6 and it is draining fine. I used my inclinometer probe to read the casing in well #4 and processed the reading in office. I also checked water levels in well #4 that is 24.95' (Mike said he pumped the well earlier) and in well #6 that is 33.7' then dropped to 35.6 about 5 min later (about 2' drop for 5 min). It appeared the water in well #6 is still dropping. I also checked outlet of steel rod at drain #6 and there is steady flow coming out of rods.

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FIELD REPORT

SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | |
|---------------------------------------|--------------------------|
| DATE 10/16/12 Tue | JOB NO. 555-1 |
| PROJECT Kelok Way Downstream Wells | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR / Cross County | OWNER OGHAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | |
| Morgan of ESR | |
| Alan of Cross County | |

THE FOLLOWING WAS NOTED:

Onsite to take inclinometer reading of W-1, W-2, W-3, W-5 & W-6. Reading of W-4 was performed previously on 10/11/12. I also checked groundwater table in wells as below: W-1 at 23.08'; W-2 at 30.38'; W-3 at 23.85'; W-4 at 23.98'; W-5 at 75.9' (45 min after ESR pumped); W-6 at 85.9' (PVC drain had been successfully installed to this well). ESR was using compressor to induce compress air to bottom of well # 5 with pump to clean it up. According to Mike, their previous plan of using smaller rig to clean out the steel drill rod failed so now they stick with the same plan they used for Well # 6, which is inducing a large amount of water to the well and letting it drain to the bottom and clean the inside of drill rods. Mike said that when they pulled out the rods of drain # 6, they found ^{out about} the end 50' of the rods were clogged up by sands & gravels. Mike started to pour water into well # 5 from the water tank truck once Cross County reloaded the drain hole # 5 with clean drill rods. I went down to the drill pad and saw a pretty good amount of dirty water was draining out of drill rods. I checked the water table in well # 5 that indicate dropping 27' ^{from top} for about 15 min.

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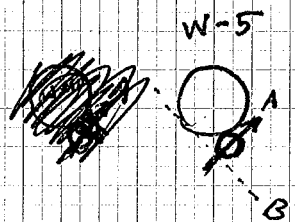
FIELD REPORT

SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

W-5
Water
75.9'
~~200~~ 45 mm
open ESR pump

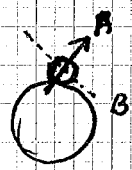
Start
Curve



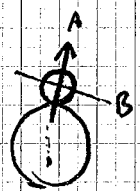
W-5

W-6
Water
85.7'

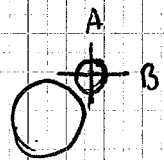
Curve



W-3
Water
73.85'

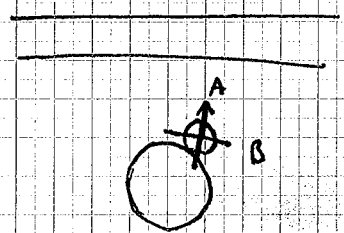


W-2
30.38'



W-1
Water
23.08'

TC
10/16/12 TUC



W-4
Water
23.98'

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | | |
|-----------------|----------------------------|--|---------|--------------------|
| DATE | 10/23/12 Tue | | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | | |
| LOCATION | Clayton, CA | | | |
| CONTRACTOR | ESR / Cross County | | OWNER | OGHAD |
| WEATHER | Cloudy | | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | None | | | |
| | | | | |
| | | | | |

THE FOLLOWING WAS NOTED:

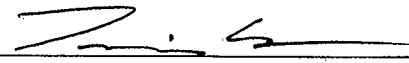
ONSITE to check out the progress of
drain pipe installations. ESR & Cross County were not on site
today. I checked ~~at~~ groundwater level in all wells except for
well #3 that was blocked by a bobcat. Water level as below.

- Well #1 23.5'
- Well #2 32.2'
- Well #4 23.9'
- Well #5 83.2'
- Well #6 85.7'
- MW-1 (CGG's well)

I also went down to outlet location at Golden Eagle Ct. 4
PVC drain pipes were in the holes, #3, #4, #5 & #6. Drains #5 & #6
had water trickling out. Only a little water came out of #4. It
appeared very little to no water from #3. Cross County appeared to working
on Drain #2 and about to install PVC pipes as pipes were laid
on the street. To date, it appeared Drain #5 & #6 were working.

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FIELD REPORT

SIGNATURE: 

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | |
|-----------------|----------------------------------------------------------------------------|---------|---------------------|
| DATE | 10/29/12 Mon | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR / Cross Country | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM. |
| PRESENT AT SITE | Mike of ESR & Morgan of ESR Alan & Wayne of Cross Country Ken of SFB | | |

THE FOLLOWING WAS NOTED:

ON SITE to check out the progress of the work with Ken. I measured ground water in the wells as follow.

| | | |
|-----|--------|---------------------------------------------------------------------|
| # 1 | 23.4' | Cross Country is pulling out of drilling rods ^m drawn |
| # 2 | 32.7' | # 1 with 2" PVC pipes installed. I also checked |
| # 3 | 25.05' | the pipe outlets and it appeared that steady flows |
| # 4 | 25.65' | were come coming out of Drains # 2, # 5, # 6. Drains # 3 |
| # 5 | 83.15' | & # 4 were only dripping very so often. Accordg to Mike |
| # 6 | 85.7' | They used some technique trying to flush out drain holes # 1 |

2 & # 3 ~~He~~ He said a lot of gray fine sands were plugging drill rods in hole # 1 & class 2 perms were plugging drill rods in holes # 2 & # 3. I observed no sand sands & class 2 perms on the drilling pad floor. Accordg to Mike all of the 2" PVC drain pipes were able to ^{be} installed to the end of drill rods before they pulled out of rods. Drain # 1, 3, 4 don't appear to drain. ~~Accordg~~ Accordg to Mike & Morgan, they will try to use water from Hydrant through smaller diameter PVC pipes to clean the already installed drain pipes # 1, 3, & 4. Some bleach will also be pour into the well to see if polymer has something to do with the non-draining and bleach can breakdown the remaining polymer if any. ~~After~~ ~~After~~ After Cross Country

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SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager _____

Task Code _____

| | |
|---------------------------------------|--------------------------|
| DATE 10/29/12 Mon | JOB NO. 555-1 |
| PROJECT Kelok Way Dewatering Wells | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR/Cross Country | OWNER OGHAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE | |
| | |
| | |

THE FOLLOWING WAS NOTED:

pulled out all drill rods from drain hole
#1, gray fine sands can be seen inside the last about 30' long of
rods. ESR also had 2 concrete catch basin structures (3.5' high
each) at the site for later installation. Cross Country will ~~not~~ leave the
site since they had finish everything they can do at the site. It will
leave ^{for} ESR to trying clean out those non-drain pipes.

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SIGNATURE: Taiming Chen

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | |
|---------------------------------------|--------------------------|
| DATE 11/2/12 Fri | JOB NO. 555-1 |
| PROJECT Kelok Way Dewatering Wells | |
| LOCATION Clayton, CA | |
| CONTRACTOR ESR | OWNER OGHAD |
| WEATHER Clear | TEMP. ° at AM ° at PM |
| PRESENT AT SITE Mike of ESR | |
| | |
| | |

THE FOLLOWING WAS NOTED:

Onsite to check out the progress of cleaning
drain pipes. At the time I arrived, Mike was pulling out copper pipes

| | |
|--------------|-----------------------------------------------------------------------------------|
| #1 24.55' | that he used to inject hydrant water to clean |
| #2 32.75' | drain #1. A lot of gray color water came out of |
| #3 Not meas. | due to a car ^{car} parked on top the drain pipe. According to |
| #4 24.5' | Mike, he was able to insert his 1/2" copper pipe |
| #5 83.2' | all the way to the end, but he noticed his copper |
| #6 85.7' | pipe went it more than the ^{as-butt} length of drain pipe Cross |

Company gave him. Mike said he will try to clean drains #1 and #2 one more time next Monday. He also told me the water drawing from drain #2 had suddenly decreased after lunch time and he had no clue what had happened to it. So he ~~think~~ ^{will} clean drain #2 to see how it goes. According to him, he was able to clean drains #3 & #4 but that doesn't seem to work. Now only little water is dripping at the end of pipes. I went to checked groundwater tables in the well and the results were as above.

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SIGNATURE: Taiming Chen PRINT NAME: Taiming Chen

**Stevens,
Ferrone &
Bailey**
Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone
Task Code 3F2

| | | | |
|-----------------|----------------------------|---------|--------------------|
| DATE | 11/6/12 Tue | JOB NO. | 555-1 |
| PROJECT | Kelok Way Dewatering Wells | | |
| LOCATION | Clayton, CA | | |
| CONTRACTOR | ESR | OWNER | OGHAD |
| WEATHER | Clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | Mike of ESR | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Onsite to check out ESR's progress on cleaning of drain pipes #1 through #4. When I arrived, Mike was on #3 and he said he felt gruels at the well of pipe. After he pulled out his copper pipes, there is bent at the end of his copper pipe and some dents on the site. According to him, he cleaned the drain #2 yesterday and it suddenly stopped flowing. But the flow of drain #2 resume this morning. I can smell bleach odor from water flowing out of the pipe. Mike said he poured 8 gallons of bleach in each of wells #1 through #4 a week ago and this morning PCOC also added some slurry buster to wells #1 through #4. Mike said he still can't clean the drain #1, all the water he got is grayish and with strong sulfur odor. His copper pipe can went in to about 410' but the drain pipe hole is only supposed to be 296', which indicates a cavity exists beyond the end. I went to check the groundwater levels in wells as follow. Well #1 at 21.3', Well #2 at 34.4', Well #3 at 25.5' & well #4 at 25.0'. As of today, drains #2, #5 & #6 are trickling, drain #3 & #4 are dripping, drain #1 appear to stopped dripping. Mike is trying to clean drain #1 before he pulled out the site.

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SIGNATURE: [Signature]

PRINT NAME: Taiming Chen

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken Ferrone

Task Code 3F2

| | |
|----------------------------------------------|--------------------------|
| DATE <u>11/29/12 Thu</u> | JOB NO. <u>555-1</u> |
| PROJECT <u>Kelok Way Dewatering Wells</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR</u> | OWNER <u>DGHAD</u> |
| WEATHER <u>Cloudy</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE <u>None</u> | |
| | |
| | |

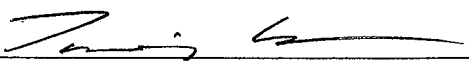
THE FOLLOWING WAS NOTED:

Onsite to check out the current condition of the site. ESR was not there. The previous drilling pit was completely backfilled and the surrounding slope was restored. The slope was covered with straw netting with battle rolls for erosion control. A section of concrete walk was repaired and a previous lawn area was ~~reseeded~~ planted with new sods. Some equipments & debris still remain at the street cul-de-sac. A new concrete collector box was installed to collect water from the horizontal drain pipes. 7 pipe outlets were observed in the box, which included one from a previous temporary drain pipe to collect slope seepage and six from horizontal drain pipes. Active water flows were observed at the ends of slope seepages pipe and drain pipes #2, #5 & #6. Drain pipes #1, #3 & #4 appeared to be periodic dripping. The groundwater levels in the wells on Kelok Way were measured as below.

| | |
|---------|--------|
| Well #1 | 22.35' |
| # 2 | 39.28' |
| # 3 | 26.09' |
| # 4 | 25.64' |
| # 5 | 83.18' |
| # 6 | 85.65' |

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SIGNATURE: 

PRINT NAME: Taiming Chen

APPENDIX B

TABLE B-1
SUMMARY OF LABORATORY COMPACTION TEST RESULTS

| ASTM D1557 | | | |
|-------------------|------------------------------------------|------------------------------|-------------------------|
| No. | Description | Maximum Dry Density (pcf) | Optimum Moisture (%) |
| 2 | Onsite: Brown silty CLAY (CL), some sand | 110 | 17 |

| PROJECT NO.: 555-1 | | PROJECT: Kelok Way Dewatering Wells, Clayton, CA | | | | | | | | |
|----------------------------------------------------------|------------|--------------------------------------------------|---------|----------------------|-------------------|-----------------------|-------------------|-------------|---------------|---------|
| TABLE B-2 FIELD DENSITY TEST RESULTS ASTM D2922-91 | | | | | | | | | | |
| TEST NO. | DATE | LOCATION | ELEV. | MOISTURE CONTENT (%) | DRY DENSITY (pcf) | RELATIVE COMPACT. (%) | R.C. REQUIRE. (%) | CURVE (no.) | CURVE (pcf@%) | REMARKS |
| 1 | 11/9/2012 | Drill Pit Backfill | 3' BFG | 15 | 107 | 97 | 90 | 2 | 110@17 | |
| 2 | 11/9/2012 | Drill Pit Backfill | 4' BFG | 16 | 104 | 96 | 90 | 2 | 110@17 | |
| 3 | 11/12/2012 | Drill Pit Backfill | 3' BFG | 20 | 99 | 90 | 90 | 2 | 110@17 | |
| 4 | 11/12/2012 | Drill Pit Backfill | 2' BFG | 19 | 100 | 91 | 90 | 2 | 110@17 | |
| 5 | 11/12/2012 | Drill Pit Backfill | 1' BFG | 21 | 99 | 90 | 90 | 2 | 110@17 | |
| 6 | 11/13/2012 | Drill Pit Backfill | 12' BFG | 20 | 105 | 95 | 90 | 2 | 110@17 | |
| 7 | 11/13/2012 | Drill Pit Backfill | 12' BFG | 21 | 101 | 92 | 90 | 2 | 110@17 | |
| 8 | 11/13/2012 | Drill Pit Backfill | 11' BFG | 20 | 104 | 95 | 90 | 2 | 110@17 | |
| 9 | 11/13/2012 | Drill Pit Backfill | FG | 22 | 100 | 91 | 90 | 2 | 110@17 | |
| 10 | 11/13/2012 | Drill Pit Backfill | 7' BFG | 22 | 102 | 93 | 90 | 2 | 110@17 | |
| 11 | 11/14/2012 | Drill Pit Backfill | 4' BFG | 20 | 103 | 94 | 90 | 2 | 110@17 | |
| 12 | 11/14/2012 | Drill Pit Backfill | 3' BFG | 19 | 101 | 92 | 90 | 2 | 110@17 | |
| 13 | 11/15/2012 | Drill Pit Backfill | 3' BFG | 20 | 100 | 91 | 90 | 2 | 110@17 | |
| 14 | 11/15/2012 | Drill Pit Backfill | 4' BFG | 19 | 99 | 90 | 90 | 2 | 110@17 | |
| 15 | 11/15/2012 | Drill Pit Backfill | FG | 18 | 102 | 93 | 90 | 2 | 110@17 | |
| 16 | 11/15/2012 | Drill Pit Backfill | FG | 21 | 99 | 90 | 90 | 2 | 110@17 | |

Note: FG = Finish Grade; BFG = Below Finish Grade.

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken F

Task Code 7F3

| | |
|------------------------------------|--------------------------|
| DATE <u>11/9/12</u> | JOB NO. <u>555-1</u> |
| PROJECT <u>Keloke Way</u> | |
| LOCATION <u>Clayton, CA</u> | |
| CONTRACTOR <u>ESR</u> | OWNER |
| WEATHER <u>Clear</u> | TEMP. ° at AM ° at PM |
| PRESENT AT SITE <u>Mike-ESR</u> | |
| | |
| | |

THE FOLLOWING WAS NOTED:

Site visited for borepit backfill observation and testing @ North Valley Park.
At the time of this visit, contractor connecting subdrains 1-6 to junction box and outfall pipe to existing D.F. @ west end of park. Backfilling borepit and outfall structures in 12-18" lifts of on-site material. Each lift compacted by excavator-mounted compaction wheel, removing organics/debris.
Field density tests meet prop. specs; 90%.

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FIELD REPORT

SIGNATURE: Jon Threlges

PRINT NAME: J. Threlges

**Stevens,
Ferrone &
Bailey**
Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken F.
Task Code 7F3

| | | | |
|-----------------|--------------------|---------|------------------------------------------------------------------|
| DATE | <u>11/12/12</u> | JOB NO. | <u>555-1</u> |
| PROJECT | <u>Kelok Wg.</u> | | |
| LOCATION | <u>Chayton, CA</u> | | |
| CONTRACTOR | <u>ESR</u> | OWNER | <u>City/Chayton</u> |
| WEATHER | <u>clear</u> | TEMP. | <input type="checkbox"/> at AM <input type="checkbox"/> at PM |
| PRESENT AT SITE | <u>Mike - ESR</u> | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Site visited to continue observation/testing sensors on borepit and subdrain outfall backfill in North Valley Park.

Contractor continuing work on outfall connections @ west end of park. Backfilling in 12-18" lifts of onsite material; each lift compacted w/excavator compaction wheel, contractor removing organics/debris. Field density tests meet 90% compaction

COPIES TO: _____

FIELD REPORT

SIGNATURE: J. Thielges

PRINT NAME: J. Thielges

**Stevens,
Ferrone &
Bailey**
Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken F.
Task Code TF3

| | | | |
|-----------------|--------------|---------|--------------------|
| DATE | 11/13/12 | JOB NO. | 555-1 |
| PROJECT | Kelok Wyo. | | |
| LOCATION | Chayton, Ca. | | |
| CONTRACTOR | ESR | OWNER | City/Chayton |
| WEATHER | clear | TEMP. | ° at AM ° at PM |
| PRESENT AT SITE | ESR | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Site visited for continued
observation/testing services on benefit/drain outfall
backfill in North Valley park.
Contractor making final outfall connections and
continuing backfill placement in 12-18" lifts of onsite soil.
Each lift comprised by excavator wheel.
Field density tests meet project specs; 90%.

COPIES TO: City of Chayton

FIELD REPORT

SIGNATURE: Jim Thielges

PRINT NAME: J. Thielges

Stevens, Ferrone & Bailey

Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken F.

Task Code 7F3

| | | | |
|-----------------|---------------------|---------|------------------------------------------------------------------|
| DATE | <u>11/14/12</u> | JOB NO. | <u>555-1</u> |
| PROJECT | <u>Kelok Wy</u> | | |
| LOCATION | <u>Chayton, CA,</u> | | |
| CONTRACTOR | <u>ESR</u> | OWNER | <u>City / Chayton</u> |
| WEATHER | <u>clear</u> | TEMP: | <input type="checkbox"/> at AM <input type="checkbox"/> at PM |
| PRESENT AT SITE | <u>ESR</u> | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Site visited to continue observation
and testing services and bore pit backfill in North Valley Park.
Contractor placing 12-18" lifts of onsite material
using excavator and tracked dump. Each lift compacted
using excavator wheel.
Field density tests meet project specs; 90%,

COPIES TO: City of Chayton

FIELD REPORT

SIGNATURE: J. Threlges

PRINT NAME: J. Threlges

**Stevens,
Ferrone &
Bailey**
Engineering Company, Inc.

1600 Willow Pass Court
Concord, CA 94520
TEL 925.688.1001
FAX 925.688.1005

S F B Project Manager Ken F.
Task Code TF3

| | | | |
|-----------------|-----------------------|---------|----------------------------------------------------------------------|
| DATE | <u>11/15/12</u> | JOB NO. | <u>555-1</u> |
| PROJECT | <u>Relocate water</u> | | |
| LOCATION | <u>Chespton, CA</u> | | |
| CONTRACTOR | <u>ESR</u> | OWNER | <u>City/Chespton</u> |
| WEATHER | <u>Cloudy</u> | TEMP. | ° at <input type="checkbox"/> AM ° at <input type="checkbox"/> PM |
| PRESENT AT SITE | <u>ESR-</u> | | |
| | | | |
| | | | |

THE FOLLOWING WAS NOTED:

Site visited for borepit backfill
compaction testing.
Contractor placing 12-18" lifts of onsite soil using
truck dump and excavator. Each lift compacted
with excavator wheel, contoured finish grade to exist. slope,
Field density tests next proj. specs 90%.

COPIES TO: City of Chespton

FIELD REPORT

SIGNATURE: Jon Shields

PRINT NAME: J. Shields