

A HYDROGEOLOGIC INVESTIGATION

AGGREGATE MINE DEEPENING

ALL AMERICAN ASPHALT

RIVERSIDE COUNTY

**Prepared for:
Enviromine, Inc.**

Prepared by:

**Mark Roberts
Consulting Geology/Hydrogeology**

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SECTION 1

INTRODUCTION

1.0 INTRODUCTION

This report presents the findings, conclusions and recommendations of a hydrogeologic assessment of the All American Asphalt (AAA) Corona Aggregate Mine property, Riverside County, for assessment of groundwater conditions in and around the existing mine pit for deepening of the existing pit from 500 to 400 feet above mean sea level for mining operations.

1.1 PHYSICAL SETTING

The subject property, located in western Riverside County along the western slopes of the Perris block, lies within Sections 32 and 33, Township 3 South/Range 6 West (U.S.G.S 7¹/₂ minute quadrangle Corona North and Corona South), along the eastern flank of the Temescal Wash drainage system east of the City of Corona, Ca. Draining in a northwesterly direction, the property is bounded by the Temescal Wash to the west, Home Gardens to the north. Topographically, the ground surface across the area ranges from 1,000 feet above mean sea level (amsl) along the eastern edge of the property, decreasing in elevation westerly and north westerly to approximately 660 feet amsl near the northwest edge of the property.

1.2 PURPOSE AND SCOPE

The following objectives were identified for the project:

- Review the area's hydrogeologic conditions.
- Update the general conceptual model of the area specifically for groundwater.
- Place test holes in and around the main pit to test for groundwater occurrence.

The scope of work for the investigation entailed:

- collection of basic data; review of historic groundwater levels;

- review of groundwater quality data;
- collection of formation samples from test holes;
- identify water quality parameters; and,
- preparation of necessary hydrogeologic maps.

Field work for this project included property reconnaissance and location of sites to complete drilling of four (4) test holes to an elevation of 400 feet amsl. Work included formation sample collection and logging. Collection of groundwater samples from the test holes and two AAA production wells for laboratory analysis was included along with collection of water level measurements.

SECTION 2

GEOLOGY AND HYDROGEOLOGY

2.0 GEOLOGY AND HYDROGEOLOGY

2.1 GEOLOGIC SETTING

The various lithologies that make up and underlie the study area consist of, from older to younger:

- Igneous and metamorphic/volcanic basement complex;
- Puente sediments (Tertiary);
- Older alluvium (Pleistocene); and,
- Recent alluvium/river channel deposits.

2.1.1 Igneous and Metamorphic/Volcanic Basement Complex

The basement complex consists of an assemblage of crystalline plutonic, volcanic and metamorphic rocks which are exposed within the quarry and the hills to the east and south. These rocks underlie the alluvial materials of the Temescal Valley.

2.1.2 Tertiary Sediments

The tertiary sediment consists of nonwater-bearing clays, silts and sandstones of the Puente formation. These sediments lie directly on basement rocks and are described in Drillers' logs as blue or grey clay and black shale. AAA Water Wells #1 and #2 encountered this formation at 100 and 170 feet below ground surface (bgs), respectfully.

2.1.3 Older Alluvium

The older alluvium underlies much of the Temescal Valley area and consists of all middle and late Pleistocene alluvium occurring as alluvial fans, terraces and low land forms along the margins of the Santa Ana Mountains and Perris block. They consist of predominantly interbedded clayey, gravelly and sandy materials accumulated from weathering of the local mountains.

The older alluvium underlies the recent sediments and the younger alluvium, and lies directly on the basement rocks in the Corona area north and west of the AAA property. Where saturated, these sediments will yield groundwater to wells. The older alluvium ranges in thickness from a few inches to 600 feet in Temescal Valley.

2.1.4 Younger Alluvium

The younger or recent alluvial deposits identified as Qal consist of stream and channel deposits laid down along river channels and in the foothills. They consist of unconsolidated silts, sands and gravels washed down from the surrounding highlands and recent deposition in Temescal Wash. These sediments occur primarily as valley fill and stream wash deposits. The younger alluvium overlies the older alluvium and extend out from the mountain front as thin alluvial fans issuing from the mouths of the canyons. AAA Wells #1 and #2 penetrated the younger alluvium, eventually stopping in the Tertiary shales and clays. Currently it is unclear whether the wells encountered older alluvium.

2.2 TEST HOLE DRILLING

Exploratory field work for this project consisted of drilling four test holes to a minimum depth that reached 400 feet elevation. The primary objective was twofold. The first objective was to log the formations encountered within the test holes. The second objective was to collect water samples for laboratory testing if groundwater was encountered.

On April 18, 2017, an AAA DP-1500 air hammer drill rig was mobilized on two test hole sites located within the existing aggregate pit. Test Hole #1 was located on the north end and Test Hole #2 was placed at the south end of the pit. Figure 1 - Site map, identifies the positions of the test holes along with AAA Water Well #1 and other relevant features. The map was furnished by AAA.

Test Hole #1 was drilled to a total depth (TD) of 109 feet below ground surface (bgs), approximately 394 feet amsl, utilizing a 4 1/2 -inch diameter air hammer. Drill cuttings samples

were collected at five (5) foot intervals for analysis. The formation was all granitics. After reaching TD work was suspended for 30 minutes to allow groundwater to enter the bore hole, however an insufficient amount of water had entered to collect a water sample. Test Hole #1 was capped and the drill rig was then moved to the second site.

After setting the rig in place Test Hole #2 was drilled to a depth of 105 feet bgs, approximately 399 feet amsl in granitics. After waiting 30 minutes the hole was blown and a water sample was collected. Test Hole #2 sustained flow estimate was ½ gallons per minute (gpm). The rig was moved back to Test Hole #1, blown from the bore hole bottom and a watersample was collected. This hole could not sustain a measurable water flow. On April 4, approximately 24 hours after drilling, water levels were measured in the bore holes. The water levels were sounded at 5.5 and 8.5 feet bgs, 497.5 and 495.5 feet amsl for Test Hole #1 and 2 respectively. These water levels may be due to the pond (Figure 1) located approximately 200 feet east of Test Hole #2. The pit received high runoff totals from last winters' heavy rains and was flooded at one point which would have an impact on percolating groundwater levels. Water samples were taken to Clinical Laboratories of San Bernardino for analysis.

Following a check by Underground Alert for utilities locations, the drill rig was mobilized onto Test Hole #3 on April 13. A 10 foot 5-inch diameter pvc casing was placed at the surface to prevent surface collapse. Drilling with a 4 ½ inch bit proceeded through alluvial materials to a depth of 28 feet at which time a large granitic boulder was hit. Below 32 feet bgs brown sandy silts were encountered, transitioning into sand and gravel. Groundwater was encountered at 50 feet in depth where the bore hole began caving. Drilling continued to approximately 88 feet but the hole continued to slough in, preventing the collection of representative samples, clogging the bit and binding the drill pipe. The Driller believed that firm rock was encountered at approximately 80 feet bgs. Water flow was estimated at 1.5 gpm. A water sample was collected and the hole capped. Water level was sounded at 39.8 feet bgs, 631 feet amsl. A water level sounding was attempted the following day but the hole had collapsed to 25 feet bgs.

The rig was moved to Test Hole #4 and a 10 foot pvc conductor pipe was placed in a 5-inch bore

hole. A 4 ½ inch bit was then drilled to a depth of 135 feet. From surface to 20 feet fill material was encountered, followed by grey granitics to TD. Samples were moist to damp from 90 feet in depth. A water sample was bailed from the bore hole the following day and taken to Clinical Lab. Static water level was measured at 41 feet bgs, 643 feet amsl. Water samples were also collected for AAA Production Wells #1 and #2 and delivered to the lab for analysis.

2.2.1 Thickness of Water-Bearing Sediments

To ascertain the thickness of the alluvial materials within the study locale, estimates of formation thickness were developed using available test hole and well information with regional geologic data. Thickness of the recent alluvium is from a few feet to a maximum of approximately 170 feet in Temescal Wash as shown on the Drillers' log of AAA Well #2 (Appendix A). The older Pleistocene alluvial section is described as the Corona Fan and lies against the Santa Ana Mountains, thickening towards Temescal wash.

At the subject property, these sediments have been penetrated by the two AAA wells, along with numerous other wells west and north of AAA property. AAA Well #1 located on Figure 1 encountered about 100 feet of alluvium before encountering Tertiary blue clays. Test Hole #3 is estimated to have approximately 80 feet of alluvium lying over granitics. Since a thin cover of alluvial fill less than 20 feet thick underlies the processing plant (Kleinfelder, 2007) the alluvial materials thin quickly in a southeasterly direction, pinching out between Test Hole #3 and the processing plant.

2.2.2 Groundwater Levels

Groundwater development within the lower Temescal Wash has occurred throughout the area for domestic, agricultural, and municipal purposes. Historic groundwater levels within the well system have been recorded over time for development of groundwater hydrographs utilized to monitor fluctuations within the groundwater system. Figure 3- Well Hydrographs, depicts fluctuations in elevations of

groundwater for the two AAA wells. The hydrographs depict static groundwater levels for the recent and older alluvial groundwater basin. Since 2000 static levels have fluctuated between 595 and 620 feet amsl, reflecting fluctuations for wet and dry periods. A static water level of approximately 631 feet amsl was measured in Test Hole #3 which encountered about 80 feet of alluvial materials, indicating that a wedge of alluvial basin and groundwater basin exist below this site. A small canyon or wash may have been cut into the granitics and then backfilled with alluvium, the alluvial material does not extend south to Test Hole #4. Water levels within the pit were measured at 496.5 and 497.5 feet amsl indicating there is no relationship or connectivity with groundwater in Temescal Wash. Static water level was measured at 643 feet amsl in Test Hole #4 which is about 20 feet higher in elevation than the AAA wells and 10 feet higher than Test Hole #3, suggesting migrating or perched groundwater in the fracture system.

2.3 GROUNDWATER QUALITY

Quality of the groundwater within the study locale is influenced by infiltration of waters from the surrounding mountains and from flow through the alluvial materials within Temescal Wash. For comparison of percolating groundwater within the basement rock being mined for aggregate and flow within Temescal Wash, water samples were collected from the four test holes and the two active AAA wells and delivered to Clinical Lab. Complete test results for General Mineral and Inorganics are contained in Appendix A along with a summary table of constituents for the four test holes and two wells.

Table 1 - Water Quality Data, contains a summary of ten selected mineral constituents and laboratory test results for the April 2017 groundwater testing of the two active AAA wells and the four test holes. Review and analysis of data contained in Table 1 reveals that water quality parameters for samples collected from the active wells which produce groundwater from the alluvial materials deposited in Temescal Wash are consistent for eight of nine constituents. Only chlorides (Cl) show a variation. Total Dissolved Solids (TDS), Sodium (Na), Calcium (Ca), Magnesium (Mg), Iron (Fe), Bicarbonate (HCO₃), Sulfates (SO₄), and Nitrates (NO₃) have close to identical test results identifying a defined signature.

Table 1
Water Quality Data

Well and Test Hole Identification	State Designation	pH	TDS mg/L	Na mg/L	Ca mg/L	Mg mg/L	Fe mg/L	HCO3 mg/L	SO4 mg/L	Cl mg/L	NO3 mg/L
Test Hole #1		8.1	650	309	87	32	1600	140	200	87	13
Test Hole #2		8.3	620	78	72	33	1700	170	140	72	17
Test Hole #3		7.4	730	140	110	32	520	180	280	110	5.5
Test Hole #4		7.4	900	120	130	69	6300	180	250	130	23
AAA Well #1	3S/6W-32H1	7.9	890	130	110	30	ND	240	270	110	5.6
AAA Well #2	3S/6W-32G1	7.1	870	130	110	32	ND	230	250	170	4.5

Results for Test Holes #1 and #2, which were drilled within the existing pit, exhibit the following characteristics: TDS ranged from 600 to 650 mg/L, pH was consistent at 8.1-8.3. Calcium, Magnesium, Iron, Bicarbonate, Chlorides, and Nitrates show close parallels. Only Sodium and Sulfates results show variations. These results reflect groundwater quality parameters percolating through the fracture reservoir. Test Hole #4 was placed due west of the pit on the west edge of AAA property near Temescal Wash. Test results for Magnesium, Iron and Nitrates are the highest recorded in Table 1. Along with low Bicarbonate levels these suggest primarily percolating water through granitics with secondary influence from groundwater within Temescal Wash. Laboratory results for groundwater collected from Test Hole #3 have a close parallel with AAA production wells. Sodium, Calcium, Magnesium, Sulfates and Nitrates are similar to constituent values found in well effluent. TDS, Iron and Bicarbonate values are similar to Values found in Test Holes #1 and 2.

SECTION 3

SUMMARY OF FINDINGS AND CONCLUSIONS

3.0 SUMMARY OF FINDINGS AND CONCLUSIONS

The evaluation of subsurface conditions requires that in the analysis of data, certain interpretations and assumptions be drawn. The conclusions furnished in this report are based on interpretations and assumptions that are considered reasonable, realistic and conservative considering all varieties of scientific data acquired during the course of the investigation.

Summary of findings and conclusions are as follows:

- 1) The All American Asphalt and Aggregate Mine property lies in and adjacent to the Temescal Wash drainage.
- 2) The site lies in western Riverside County within Sections 32 and 33, Township 3 South, Range 6 West.
- 3) Topographically, the area ranges from 1000 feet amsl to 660 feet amsl near the northwest portion of the property.
- 4) The various lithologies which underlay the property consist of from older to youngest:
 - i. Igneous and metamorphic basement complex – Pre-Tertiary plutonic rock.
 - ii. Tertiary clays.
 - iii. Older Alluvium – Pleistocene age silts, sands and gravels.
 - iv. Recent Alluvium – Quaternary sands, gravels and clays.
- 5) Potential water-bearing sediments consist of Pleistocene recent and older sediments. The alluvium is the primary aquifer in the study area.
- 6) The basement rocks are considered non-bearing.
- 7) Maximum thickness of water-bearing alluvium lie adjacent to and in Temescal Wash. Drillers' Logs indicate maximum alluvial thickness of 170 feet below AAA property.
- 8) Four Test Holes were drilled on the AAA property. Two were placed on the floor of the existing pit, one on the north side and one on the south side. Both core holes penetrated below 400 foot

elevation through granitic materials. A third test hole, located northwest of the processing plant, penetrated approximately 80 feet of alluvium. The fourth hole, located west of the processing plant, drilled 20 feet of fill and 115 feet of granitics. AAA Production Well water level data indicate groundwater levels within Temescal Wash currently are approximately 620 feet amsl beneath the property, ranging between 595 and 620 feet amsl since 2000.

- 9) Static groundwater levels for the alluvial basin underlying the AAA property are approximately 620 feet amsl.
- 10) Groundwater levels within the pit area are approximately 495 feet amsl with no connectivity to the alluvial groundwater basin in Temescal Wash.
- 11) Groundwater levels measured in Test Hole #4 were approximately 640 feet amsl, 20 feet higher than alluvial basin water levels, indicating disassociation from Temescal Wash.
- 12) Water quality test results for groundwater produced from the alluvial aquifer display a set of distinctive values for mineral and inorganic constituents with eight of nine anion and cation results matching.
- 13) Water quality test results for groundwater produced from test holes in the bottom of the existing pit display a set of values substantially different from the well water, with seven of nine anion and cation results consistent with the percolating waters in the basement rocks.
- 14) Test Hole #3 encountered approximately 80 feet of Pleistocene alluvium delineating the extent which the alluvium lapped onto the basement rocks in this area. As the existing pit widens with continued mining toward the area near Test Hole #3, groundwater encountered should be tested for mineral and inorganic parameters.

Based on the information collected and reviewed for this study, it is our considered opinion that deepening the existing aggregate pit to 400 feet in elevation will have no deleterious effect on the groundwater basin defined by Temescal Wash. As the pit is deepened and the sides expanded

toward Temescal Wash, groundwater samples should be collected and tested for constituent values. No excavation of materials should occur below 640 feet amsl near the Test Hole #3 location to prevent any connection with the alluvium.

Mark Roberts

Registered Geologist #1593

Certified Hydrogeologist #600

FIGURES

FORMATION LOG

Figure 2-1

All American Asphalt Test Hole Drilling

Test Hole #1

Date Drilled- 4/4/17

Rig Type – DP-1500 Air Hammer, 4 1/2" Bit

Location: North side of existing pit

Surface Elevation = 503'amsl (From AAA topo Map)

<u>DRILL DEPTH</u>	<u>ELEVATION</u>	<u>FORMATION DESCRIPTION</u>
- 0-6	503-497	Loose fill
- 6-35	497-468	Competent granitic rock, light grey, becoming salt and pepper color from 20'-30'
- 35-44	468-459	Soft drilling with fractures, granitics changing color to grey and pink, quartz monzonite? Samples slightly moist
- 44-65	459-438	Grey granitics, solid
- 65-68	438-435	Light grey granitics, slight color change
- 68-95	435-408	Hard light grey granitics, moist @ 95'
- 95-109	408-394	Grey granitics, moist below 95'

Total drilled depth = 109'

Measured well after 65 minutes, water level at 52.5' bgs. Blew well from bottom and collected water samples.

Field measurements- Temperature = 24.1 C TDS = 465 mg/L Conductivity = 928 ohm/sec. pH = 8.3

Measured static water level 24 hours later = 5.5' bgs/497.5' amsl

FORMATION LOG

Figure 2-2

All American Asphalt Test Hole Drilling

Test Hole #2

Date Drilled- 4/4/17

Rig Type – DP-1500 Air Hammer, 4 1/2" Bit

Location: South side of existing pit

Surface Elevation = 505'amsl (From AAA topo Map)

<u>DRILL DEPTH</u>	<u>ELEVATION</u>	<u>FORMATION DESCRIPTION</u>
- 0-3	505-502	Loose fill
- 3-65	502-440	Competent granitic rock, light grey, becoming salt and pepper, white plagioclase and black mafic material, mica
- 65-85	440-420	Soft drilling with fractures, granitics changing to softer material, less quartz, moist cuttings
- 85- 95	420-410	Grey granitics, soft drilling, cuttings show increase in moisture
- 95-100	410-405	Light grey granitics, slight color change, fracturing, blowing 1-2 gpm
- 100--106	405-399	Grey granitics, hole blew stead ½-1 gpm

Total drilled depth = 106'

Measured well after 35 minutes, water level at 42' bgs. Blew well from bottom and collected water samples.

Field measurements- Temperature = 24.2 C TDS = 462 mg/L Conductivity = 955 ohm/sec.
pH = 8.26

Measured static water level 24 hours later = 8.5' bgs/496.5' amsl

FORMATION LOG

Figure 2-3

All American Asphalt Test Hole Drilling

Test Hole #3

Date Drilled- 4/13/17

Rig Type – DP-1500 Air Hammer, 4 1/2" Bit

Location: Northwest of Processing Plant

Surface Elevation = 671'amsl (From AAA topo Map)

<u>DRILL DEPTH</u>	<u>ELEVATION</u>	<u>FORMATION DESCRIPTION</u>
- 0-10	671-661	Set 10' Of 5" pvc. Loose fill, sandy, brown
- 10-28	661-643	Brown sandy silt with gravel streaks, soft, becoming silty sand at 25'
- 28-33	643-638	Hard drilling on grey granitic boulder
- 33-40	638-631	Brown sandy and gravelly silt, moist
- 40-80	631-591	Brown-grey brown silty and gravelly sand, unconsolidated, sluffing into hole, bit constantly plugging, well started blowing water between 50' and 55'. Samples distorted below 70' because of caving.
- 80-88	591-583	Driller believes probable granitics encountered between 80' and 85' because of harder drilling

Total drilled depth = 88'

Measured well after 30 minutes, water level at 39.8' bgs- 631.2' amsl. Blew well from bottom and collected water samples.

Field measurements- Temperature = 21.7 C TDS = 575 mg/L Conductivity = 1150 ohm/sec.
pH = 8.2

Measured static water level 24 hours later = Test hole had collapsed to 25' bgs.

FORMATION LOG

Figure 2-4

All American Asphalt Test Hole Drilling

Test Hole #4

Date Drilled- 4/13/17

Rig Type – DP-1500 Air Hammer, 4 1/2” Bit

Location: Southwest of Processing Plant

Surface Elevation = 684’amsl (From AAA topo Map)

<u>DRILL DEPTH</u>	<u>ELEVATION</u>	<u>FORMATION DESCRIPTION</u>
- 0-10	684-674	Set 10’ of 5” pvc casing, loose fill
- 10-20	674-664	Soft drilling, silty, grey, possibly fill
- 20-27	664-657	Soft drilling with fractures, decomposed granite, changing to firmer material from 25’ to 27’
-		
- 28- 60	658-626	Firm grey granitics, soft drilling, varying from light grey to dark grey black, cuttings show increase in moisture from 55’
-		
- 60-90	596-566	Light grey granitics, slight color change, fracturing, increase moisture at 90’
-		
- 90--135	566-549	Grey granitics, cuttings damp to wet

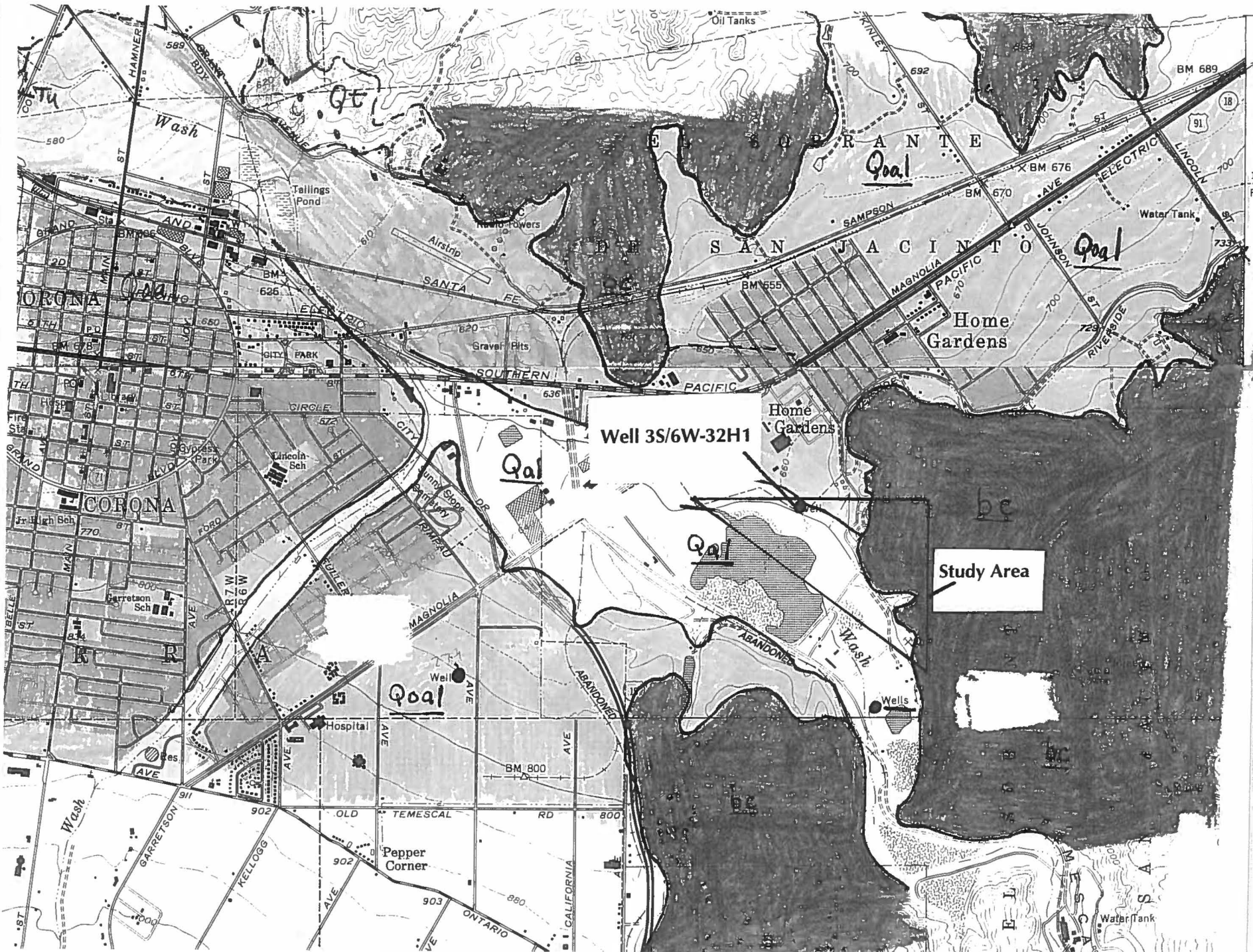
Total drilled depth = 135’

Measured well after 30 minutes, water level at 94’ bgs. Collected water samples on 4/14/17 by using small bailer.

Field measurements- Temperature = 24.1 C TDS = 480 mg/L Conductivity = 890 ohm/sec.
pH = 8.15

Measured static water level 24 hours later = 41’ bgs/ 643’ amsl

APPENDIX A



Well 3S/6W-32H1

Study Area

Goal

Goal

Qal

Qal

Qal

bc

EJ

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

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

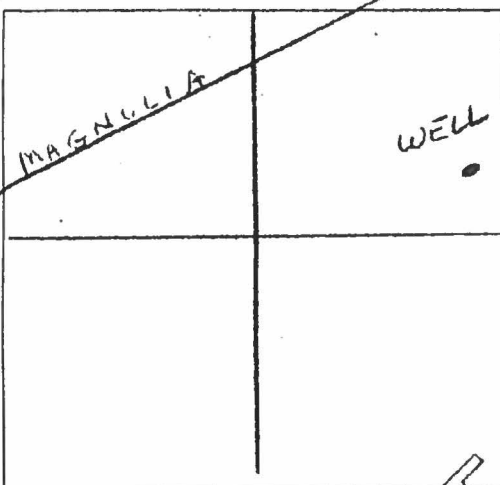
State Well No. _____
Other Well No. _____

(1) OWNER: Name **DIX LEASING CORP.**
Address **932 Town Country Rd.**
City **Orange, CA** Zip **92668**

(2) LOCATION OF WELL (See instructions):
County **Riverside** Owner's Well Number _____
Well address if different from above _____
Township **3-S** Range **6-N** Section **32**
Distance from cities, roads, railroads, fences, etc. _____

(12) WELL LOG: Total depth **130** ft. Depth of completed well **130**

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	6	Top soil
6	18	Boulders
18	22	Gravel
22	26	Boulders
26	72	Sand & gravel
72	75	Boulders
75	92	Sand & gravel
92	98	Sand & brown clay
98	101	Boulders
101	105	Sand & gravel
105	108	Large boulders
108	114	Clay, brown & blue
114	130	Combo blue clay



(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 **3/8"**
Diameter of bore **12**
Packed from **20** to **130** ft.

(7) CASING INSTALLED:
Steel Plastic Concrete

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

From ft.	To ft.	Dia. in.	Cage or Wall	From ft.	To ft.	Slot size
0	130	8 5/8	188	30	130	8 rows 16 cuts 1/8 - 2 1/2"

(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 **sanitary seal, cement grout**

(10) WATER LEVELS:
Depth of first water, if known **42** 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 lift
Depth to water at start of test _____ ft. At end of test _____ ft.
Discharge **300** 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

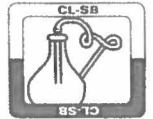
Work started **MAR. 1** 19 **79** Completed **MAR. 7** 19 _____

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. Funnell**
(Well Driller)
NAME **AMERICAN DRILLING, INC.**
(Person, firm, or corporation) (Typed or printed)
Address **104 W. Main**
City **Aguanga, Calif.** Zip **92302**
License No. **324684** Date of this report **Mar. 9, 1979**

APPENDIX B

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D0285
Received: 04/05/17 12:05
Reported: 04/19/17

Well #1 17D0285-03 (Water) Sample Date: 04/04/17 11:45 Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Physical Analyses									
Apparent Color	SM 2120B-M	ND	3.0	15	Color Units	04/05/17	04/05/17	1714147	
Odor Threshold	EPA 140.1-M	1	1	3	TON	04/05/17	04/05/17	1714147	
Turbidity	EPA 180.1	ND	0.1	5	NTU	04/05/17	04/05/17	1714147	
General Chemical Analyses									
Alkalinity, Total (as CaCO ₃)	SM 2320 B	200	5.0		mg/L	04/10/17	04/10/17	1714053	
Bicarbonate (HCO ₃)	SM 2320 B	240	5.0		mg/L	04/10/17	04/10/17	1714053	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	04/10/17	04/10/17	1714053	
Chloride (Cl)	EPA 300.0	190	1.0	500	mg/L	04/05/17	04/05/17	1714069	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	04/07/17	04/07/17	1714151	
Specific Conductance (E.C.)	SM 2510B	1300	2.0	1600	umhos/cm	04/10/17	04/10/17	1714053	
Fluoride (F)	EPA 300.0	0.51	0.10	2	mg/L	04/05/17	04/05/17	1714069	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	04/10/17	04/10/17	1714053	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	04/06/17	04/06/17	1714089	
Nitrate as N (NO ₃ -N)	EPA 300.0	5.6	0.40	10	mg/L	04/05/17	04/05/17	1714069	
Nitrate + Nitrite (as N)	EPA 300.0	5.6	0.40	10	mg/L	04/05/17	04/05/17	1714069	
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	04/05/17	04/05/17	1714069	
Perchlorate (ClO ₄)	EPA 314.0	ND	4.0	6	ug/L	04/17/17	04/17/17	1716025	
pH (Lab)	SM 4500HB	7.9			pH Units	04/05/17	04/05/17	1714053	
Sulfate (SO ₄)	EPA 300.0	270	0.50	500	mg/L	04/05/17	04/05/17	1714069	
Total Filterable Residue/TDS	SM 2540C	890	5.0	1000	mg/L	04/11/17	04/13/17	1715040	
Metals									
Aluminum (Al)	EPA 200.7	110	50	200	ug/L	04/10/17	04/11/17	1715026	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	04/17/17	04/17/17	1716022	
Arsenic (As)	SM3113-B	ND	2.0	10	ug/L	04/10/17	04/10/17	1715023	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	04/10/17	04/11/17	1715026	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	04/10/17	04/10/17	1715006	
Boron (B)	EPA 200.7	440	100		ug/L	04/10/17	04/11/17	1715026	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	04/10/17	04/10/17	1715006	
Calcium (Ca)	EPA 200.7	110	2.0		mg/L	04/14/17	04/14/17	1715148	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	04/05/17	04/07/17	1714077	HT-06
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	04/10/17	04/10/17	1715006	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	04/10/17	04/11/17	1715026	
Iron (Fe)	EPA 200.7	ND	100	300	ug/L	04/10/17	04/11/17	1715026	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	04/14/17	04/14/17	1715140	
Magnesium (Mg)	EPA 200.7	30	1.0		mg/L	04/11/17	04/11/17	1715046	
Manganese (Mn)	EPA 200.7	ND	20	50	ug/L	04/10/17	04/11/17	1715026	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	04/10/17	04/17/17	1715019	
Nickel (Ni)	EPA 200.7	ND	10	100	ug/L	04/10/17	04/10/17	1715006	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D0285
Received: 04/05/17 12:05
Reported: 04/19/17

Well #1 17D0285-03 (Water) Sample Date: 04/04/17 11:45 Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Potassium (K)	EPA 200.7	4.5	1.0		mg/L	04/11/17	04/11/17	1715046	
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	04/17/17	04/17/17	1716014	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	04/10/17	04/10/17	1715006	
Sodium (Na)	EPA 200.7	130	2.0		mg/L	04/14/17	04/14/17	1715148	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	04/14/17	04/19/17	1715156	
Vanadium (V)	EPA 200.9	ND	3.0		ug/L	04/12/17	04/12/17	1715071	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	04/10/17	04/11/17	1715026	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	400			mg/L	04/14/17	04/14/17	[CALC]	
Total Anions	Calculated	14.9			meq/L	04/14/17	04/10/17	[CALC]	
Total Cations	Calculated	13.7			meq/L	04/14/17	04/14/17	[CALC]	
% difference	Calculated	8.4				04/14/17	04/10/17	[CALC]	

HT-06 Sample was received and analyzed outside of recommended hold time.

pH (Lab) was analyzed ASAP but received and analyzed past the 15 minute hold time.

ND Analyte NOT DETECTED at or above the reporting limit

Pamela Ybarra

Pamela Ybarra
Project Manager

Clinical Lab of San Bernardino, Inc.

7D0285

Chain of Custody

WO _____

21881 Barton Road Grand Terrace CA 92313 909 825-7693 / 516-A N 8th St. Lompoc CA 93436 805 737-7300

Client		Destination Laboratory										Analysis Requested										Comments	Turn Around Time (TAT)		
Address:		<input checked="" type="checkbox"/> Clinical Grand Terrace / ELAP 1088 <input type="checkbox"/> Clinical Lompoc / ELAP 1678 <input type="checkbox"/> Other:																							
All American Asphalt																									
thallon@allamericanasphalt.com																									
Client Contact: Timothy Ballou																									
Phone No.: _____ FAX No.: _____																									
System No.:																									
Project: Pit Deepening - 2017																									
Sampled By: Mark Roberts																									
Comments: mroberts@netzero.com																									
Date	Time	Sample Identification	Container ID	Matrix	Sample Type	No. of Preserved Cont.						Total Containers	Gen Phys	Gen Chem / Inorganic	Metals / Arsenic										
4-4-17	10:45am	Test Hole #1		GW		Unpreserved	Na2S2O3	NH4Cl	C6H8O6	HNO3	HCl	NaOH	Na2SO3	ZnCl2H6O4	1	✓	✓	✓							
4-4-17	11:15am	Test Hole #2		GW											1	✓	✓	✓							Client aware of holding time issues - KM
4-4-17	11:45am	Well #1		GW											3	✓	✓	✓							
4-5-17		Well #2		GW											1										

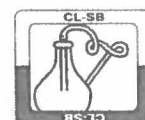
Matrix: DW - Drinking Water GW - Ground Water SW - Surface Water W - Water WW - Wastewater SWR - Stormwater Runoff S - Sludge O - Other
 Use for Bacteria Samples / Sample Type: 1-Routine 2-Repeat 3-Replacement 4-Special D-Distribution W-Well TAT: (10) Ten Day (5) Five Day Rush (2) Two Day Rush

Relinquished By (Sign)	Print Name / Company	Date / Time	Received By (Sign)	Print Name / Company
<i>Mark Roberts</i>	Mark Roberts	4-5-17 1205	<i>[Signature]</i>	KM

(Lab Use Only) Lompoc Lab Receipt Temp.: _____ °C
 Shipped Via: Fed Ex Golden State Overnight UPS OnTrac USPS Other _____
 Condition: On Wet Ice On Blu Ice Intact Custody Seals Samples / COC Checked By: _____ Work Order Logged By: _____
 Receipt Comments: _____ Clinical Lab Receipt Temp.: 4.4 °C

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D1329
Received: 04/18/17 10:30
Reported: 05/02/17

Well #2 17D1329-01 (Water) Sample Date: 04/18/17 9:50 Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Physical Analyses									
Apparent Color	SM 2120B-M	ND	3.0	15	Color Units	04/18/17	04/18/17	1716109	
Odor Threshold	EPA 140.1-M	1	1	3	TON	04/18/17	04/18/17	1716109	
Turbidity	EPA 180.1	0.3	0.1	5	NTU	04/18/17	04/18/17	1716109	
General Chemical Analyses									
Alkalinity, Total (as CaCO ₃)	SM 2320 B	190	5.0		mg/L	04/21/17	04/21/17	1716049	
Bicarbonate (HCO ₃)	SM 2320 B	230	5.0		mg/L	04/21/17	04/21/17	1716049	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	04/21/17	04/21/17	1716049	
Chloride (Cl)	EPA 300.0	170	1.0	500	mg/L	04/18/17	04/18/17	1716045	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	04/20/17	04/20/17	1716120	
Specific Conductance (E.C.)	SM 2510B	1400	2.0	1600	umhos/cm	04/21/17	04/21/17	1716049	
Fluoride (F)	EPA 300.0	0.58	0.10	2	mg/L	04/18/17	04/18/17	1716045	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	04/21/17	04/21/17	1716049	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	04/18/17	04/18/17	1716058	
Nitrate as N (NO ₃ -N)	EPA 300.0	4.5	0.40	10	mg/L	04/18/17	04/18/17	1716045	
Nitrate + Nitrite (as N)	EPA 300.0	4.5	0.40	10	mg/L	04/18/17	04/18/17	1716045	
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	04/18/17	04/18/17	1716045	
Perchlorate (ClO ₄)	EPA 314.0	ND	4.0	6	ug/L	04/25/17	04/26/17	1717059	
pH (Lab)	SM 4500HB	7.1			pH Units	04/18/17	04/18/17	1716049	
Sulfate (SO ₄)	EPA 300.0	250	0.50	500	mg/L	04/18/17	04/18/17	1716045	
Total Filterable Residue/TDS	SM 2540C	870	5.0	1000	mg/L	04/25/17	04/27/17	1717048	
Metals									
Aluminum (Al)	EPA 200.7	ND	50	200	ug/L	04/21/17	04/24/17	1716176	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	04/21/17	04/21/17	1716154	
Arsenic (As)	SM3113-B	ND	2.0	10	ug/L	04/24/17	04/24/17	1717019	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	04/21/17	04/24/17	1716176	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	04/24/17	04/24/17	1717003	
Boron (B)	EPA 200.7	410	100		ug/L	04/21/17	04/24/17	1716176	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	04/24/17	04/24/17	1717003	
Calcium (Ca)	EPA 200.7	110	2.0		mg/L	04/27/17	04/27/17	1717102	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	04/18/17	04/18/17	1715099	
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	04/24/17	04/24/17	1717003	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	04/21/17	04/24/17	1716176	
Iron (Fe)	EPA 200.7	ND	100	300	ug/L	04/21/17	04/24/17	1716176	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	04/27/17	04/27/17	1717133	
Magnesium (Mg)	EPA 200.7	32	1.0		mg/L	04/24/17	04/25/17	1717031	
Manganese (Mn)	EPA 200.7	ND	20	50	ug/L	04/21/17	04/24/17	1716176	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	04/27/17	04/27/17	1717101	
Nickel (Ni)	EPA 200.7	ND	10	100	ug/L	04/24/17	04/24/17	1717003	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D0285
Received: 04/05/17 12:05
Reported: 04/19/17

Test Hole #1 17D0285-01 (Water) Sample Date: 04/04/17 10:45 Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Physical Analyses									
Apparent Color	SM 2120B-M	25.0	3.0	15	Color Units	04/05/17	04/05/17	1714147	
Odor Threshold	EPA 140.1-M	5	1	3	TON	04/05/17	04/05/17	1714147	
Turbidity	EPA 180.1	100	1.0	5	NTU	04/05/17	04/05/17	1714147	
General Chemical Analyses									
Alkalinity, Total (as CaCO ₃)	SM 2320 B	120	5.0		mg/L	04/10/17	04/10/17	1714053	
Bicarbonate (HCO ₃)	SM 2320 B	140	5.0		mg/L	04/10/17	04/10/17	1714053	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	04/10/17	04/10/17	1714053	
Chloride (Cl)	EPA 300.0	180	1.0	500	mg/L	04/05/17	04/05/17	1714069	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	04/07/17	04/07/17	1714151	
Specific Conductance (E.C.)	SM 2510B	1100	2.0	1600	umhos/cm	04/10/17	04/10/17	1714053	
Fluoride (F)	EPA 300.0	0.53	0.10	2	mg/L	04/05/17	04/05/17	1714069	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	04/10/17	04/10/17	1714053	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	04/05/17	04/05/17	1714070	
Nitrate as N (NO ₃ -N)	EPA 300.0	13	0.40	10	mg/L	04/05/17	04/05/17	1714069	
Nitrate + Nitrite (as N)	EPA 300.0	13	0.40	10	mg/L	04/05/17	04/05/17	1714069	
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	04/05/17	04/05/17	1714069	
Perchlorate (ClO ₄)	EPA 314.0	5.8	4.0	6	ug/L	04/17/17	04/17/17	1716025	
pH (Lab)	SM 4500HB	8.1			pH Units	04/05/17	04/05/17	1714053	
Sulfate (SO ₄)	EPA 300.0	200	0.50	500	mg/L	04/05/17	04/05/17	1714069	
Total Filterable Residue/TDS	SM 2540C	650	5.0	1000	mg/L	04/11/17	04/13/17	1715040	
Metals									
Aluminum (Al)	EPA 200.7	1500	50	200	ug/L	04/10/17	04/11/17	1715026	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	04/17/17	04/17/17	1716022	
Arsenic (As)	SM3113-B	7.0	2.0	10	ug/L	04/10/17	04/10/17	1715023	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	04/10/17	04/11/17	1715026	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	04/10/17	04/10/17	1715006	
Boron (B)	EPA 200.7	300	100		ug/L	04/10/17	04/11/17	1715026	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	04/10/17	04/10/17	1715006	
Calcium (Ca)	EPA 200.7	87	1.0		mg/L	04/18/17	04/18/17	1716062	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	04/05/17	04/07/17	1714077	HT-06
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	04/10/17	04/10/17	1715006	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	04/10/17	04/11/17	1715026	
Iron (Fe)	EPA 200.7	1600	100	300	ug/L	04/10/17	04/11/17	1715026	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	04/14/17	04/14/17	1715140	
Magnesium (Mg)	EPA 200.7	32	1.0		mg/L	04/18/17	04/18/17	1716062	
Manganese (Mn)	EPA 200.7	270	20	50	ug/L	04/10/17	04/11/17	1715026	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	04/10/17	04/17/17	1715019	
Nickel (Ni)	EPA 200.7	34	10	100	ug/L	04/10/17	04/10/17	1715006	
Potassium (K)	EPA 200.7	9.8	1.0		mg/L	04/18/17	04/18/17	1716062	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D0285
Received: 04/05/17 12:05
Reported: 04/19/17

Test Hole #1

17D0285-01 (Water)

Sample Date: 04/04/17 10:45

Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	04/17/17	04/17/17	1716014	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	04/10/17	04/10/17	1715006	
Sodium (Na)	EPA 200.7	100	1.0		mg/L	04/18/17	04/18/17	1716062	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	04/14/17	04/19/17	1715156	
Vanadium (V)	EPA 200.9	6.8	3.0		ug/L	04/12/17	04/12/17	1715071	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	04/10/17	04/11/17	1715026	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	350			mg/L	04/18/17	04/18/17	[CALC]	
Total Anions	Calculated	11.6			meq/L	04/18/17	04/10/17	[CALC]	
Total Cations	Calculated	11.6			meq/L	04/18/17	04/18/17	[CALC]	
% difference	Calculated	0.21				04/18/17	04/10/17	[CALC]	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D0285
Received: 04/05/17 12:05
Reported: 04/19/17

Test Hole #2

17D0285-02 (Water)

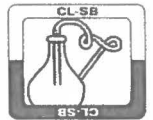
Sample Date: 04/04/17 11:15

Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	04/17/17	04/17/17	1716014	
Silver (Ag)	EPA 200.7	ND	10	100	ug/L	04/10/17	04/10/17	1715006	
Sodium (Na)	EPA 200.7	78	1.0		mg/L	04/11/17	04/11/17	1715046	
Thallium (Tl)	EPA 200.9	ND	1.0	2	ug/L	04/14/17	04/19/17	1715156	
Vanadium (V)	EPA 200.9	10	3.0		ug/L	04/12/17	04/12/17	1715071	
Zinc (Zn)	EPA 200.7	ND	50	5000	ug/L	04/10/17	04/11/17	1715026	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	310			mg/L	04/11/17	04/11/17	[CALC]	
Total Anions	Calculated	10.5			meq/L	04/11/17	04/10/17	[CALC]	
Total Cations	Calculated	9.93			meq/L	04/11/17	04/11/17	[CALC]	
% difference	Calculated	5.8				04/11/17	04/10/17	[CALC]	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D1195
Received: 04/14/17 11:29
Reported: 05/01/17

Test Hole #3

17D1195-01 (Water)

Sample Date: 04/13/17 12:05

Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
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General Physical Analyses

Apparent Color	SM 2120B-M	375	150	15	Color Units	04/14/17	04/14/17	1716106	
Odor Threshold	EPA 140.1-M	2	1	3	TON	04/14/17	04/14/17	1716106	
Turbidity	EPA 180.1	280	2.0	5	NTU	04/14/17	04/14/17	1716106	

General Chemical Analyses

Alkalinity, Total (as CaCO3)	SM 2320 B	150	5.0		mg/L	04/27/17	04/28/17	1715174	
Bicarbonate (HCO3)	SM 2320 B	180	5.0		mg/L	04/27/17	04/28/17	1715174	
Carbonate (CO3)	SM 2320B	ND	5.0		mg/L	04/27/17	04/28/17	1715174	
Chloride (Cl)	EPA 300.0	190	1.0	500	mg/L	04/14/17	04/14/17	1715160	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	04/20/17	04/20/17	1716120	
Specific Conductance (E.C.)	SM 2510B	1200	2.0	1600	umhos/cm	04/28/17	04/28/17	1715174	
Fluoride (F)	EPA 300.0	1.1	0.10	2	mg/L	04/14/17	04/14/17	1715160	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	04/27/17	04/27/17	1715174	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	9.4	0.5	mg/L	04/14/17	04/14/17	1715165	
Nitrate as N (NO3-N)	EPA 300.0	5.5	0.40	10	mg/L	04/14/17	04/14/17	1715160	
Nitrate + Nitrite (as N)	EPA 300.0	5.6	0.40	10	mg/L	04/14/17	04/14/17	1715160	
Nitrite as N (NO2-N)	EPA 300.0	ND	0.40	1	mg/L	04/14/17	04/14/17	1715160	
Perchlorate (ClO4)	EPA 314.0	ND	4.0	6	ug/L	04/25/17	04/25/17	1717059	
pH (Lab)	SM 4500HB	7.4			pH Units	04/14/17	04/14/17	1715174	
Sulfate (SO4)	EPA 300.0	280	0.50	500	mg/L	04/14/17	04/14/17	1715160	
Total Filterable Residue/TDS	SM 2540C	730	5.0	1000	mg/L	04/20/17	04/24/17	1716137	

Metals

Aluminum (Al)	EPA 200.7	610	50	200	ug/L	04/21/17	04/24/17	1716176	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	04/21/17	04/21/17	1716154	
Arsenic (As)	SM3113-B	ND	2.0	10	ug/L	04/24/17	04/24/17	1717019	
Barium (Ba)	EPA 200.7	ND	100	1000	ug/L	04/21/17	04/24/17	1716176	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	04/24/17	04/24/17	1717003	
Boron (B)	EPA 200.7	360	100		ug/L	04/21/17	04/24/17	1716176	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	04/24/17	04/24/17	1717003	
Calcium (Ca)	EPA 200.7	110	2.0		mg/L	04/24/17	04/25/17	1717031	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	04/14/17	04/18/17	1715099	
Chromium (Total Cr)	EPA 200.7	ND	10	50	ug/L	04/24/17	04/24/17	1717003	
Copper (Cu)	EPA 200.7	ND	50	1000	ug/L	04/21/17	04/24/17	1716176	
Iron (Fe)	EPA 200.7	520	100	300	ug/L	04/21/17	04/24/17	1716176	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	04/27/17	04/27/17	1717133	
Magnesium (Mg)	EPA 200.7	32	1.0		mg/L	04/24/17	04/24/17	1717005	
Manganese (Mn)	EPA 200.7	440	20	50	ug/L	04/21/17	04/24/17	1716176	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	04/18/17	04/19/17	1716029	
Nickel (Ni)	EPA 200.7	23	10	100	ug/L	04/24/17	04/24/17	1717003	
Potassium (K)	EPA 200.7	11	1.0		mg/L	04/24/17	04/24/17	1717005	

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



All American Asphalt
400 E. 6th Street
Corona CA, 92878-2229

Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D1195
Received: 04/14/17 11:29
Reported: 05/01/17

Test Hole #4 17D1195-02 (Water) Sample Date: 04/14/17 10:10 Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
General Physical Analyses									
Apparent Color	SM 2120B-M	500	300	15	Color Units	04/14/17	04/14/17	1716106	
Odor Threshold	EPA 140.1-M	2	1	3	TON	04/14/17	04/14/17	1716106	
Turbidity	EPA 180.1	1300	7.0	5	NTU	04/14/17	04/14/17	1716106	
General Chemical Analyses									
Alkalinity, Total (as CaCO ₃)	SM 2320 B	150	5.0		mg/L	04/27/17	04/28/17	1715174	
Bicarbonate (HCO ₃)	SM 2320 B	180	5.0		mg/L	04/27/17	04/28/17	1715174	
Carbonate (CO ₃)	SM 2320B	ND	5.0		mg/L	04/27/17	04/28/17	1715174	
Chloride (Cl)	EPA 300.0	180	1.0	500	mg/L	04/14/17	04/14/17	1715160	
Cyanide (CN)	SM4500CNF	ND	100	150	ug/L	04/20/17	04/20/17	1716120	
Specific Conductance (E.C.)	SM 2510B	1400	2.0	1600	umhos/cm	04/28/17	04/28/17	1715174	
Fluoride (F)	EPA 300.0	0.40	0.10	2	mg/L	04/14/17	04/14/17	1715160	
Hydroxide (OH)	SM 2320B	ND	5.0		mg/L	04/27/17	04/27/17	1715174	
MBAS (LAS Mole. Wt 340.0)	SM 5540C	ND	0.10	0.5	mg/L	04/14/17	04/14/17	1715165	
Nitrate as N (NO ₃ -N)	EPA 300.0	23	0.80	10	mg/L	04/14/17	04/14/17	1715160	
Nitrate + Nitrite (as N)	EPA 300.0	24	0.40	10	mg/L	04/14/17	04/14/17	1715160	
Nitrite as N (NO ₂ -N)	EPA 300.0	ND	0.40	1	mg/L	04/14/17	04/14/17	1715160	
Perchlorate (ClO ₄)	EPA 314.0	12	4.0	6	ug/L	04/25/17	04/25/17	1717059	
pH (Lab)	SM 4500HB	7.4			pH Units	04/14/17	04/14/17	1715174	
Sulfate (SO ₄)	EPA 300.0	250	0.50	500	mg/L	04/14/17	04/14/17	1715160	
Total Filterable Residue/TDS	SM 2540C	900	5.0	1000	mg/L	04/20/17	04/24/17	1716137	
Metals									
Aluminum (Al)	EPA 200.7	50000	1000	200	ug/L	04/24/17	04/25/17	1717028	
Antimony (Sb)	SM3113-B	ND	6.0	6	ug/L	04/21/17	04/21/17	1716154	
Arsenic (As)	SM3113-B	13	2.0	10	ug/L	04/26/17	04/26/17	1717068	
Barium (Ba)	EPA 200.7	420	100	1000	ug/L	04/21/17	04/24/17	1716176	
Beryllium (Be)	EPA 200.7	ND	1.0	4	ug/L	04/24/17	04/24/17	1717003	
Boron (B)	EPA 200.7	330	100		ug/L	04/21/17	04/24/17	1716176	
Cadmium (Cd)	EPA 200.7	ND	1.0	5	ug/L	04/24/17	04/24/17	1717003	
Calcium (Ca)	EPA 200.7	130	2.0		mg/L	04/24/17	04/25/17	1717031	
Chromium (+6)	EPA 218.6	ND	1.0	10	ug/L	04/14/17	04/18/17	1715099	
Chromium (Total Cr)	EPA 200.7	99	10	50	ug/L	04/24/17	04/24/17	1717003	
Copper (Cu)	EPA 200.7	520	50	1000	ug/L	04/21/17	04/24/17	1716176	
Iron (Fe)	EPA 200.7	63000	2000	300	ug/L	04/24/17	04/25/17	1717028	
Lead (Pb)	SM3113-B	ND	5.0		ug/L	04/26/17	04/26/17	1717096	
Magnesium (Mg)	EPA 200.7	69	2.0		mg/L	04/24/17	04/25/17	1717031	
Manganese (Mn)	EPA 200.7	910	20	50	ug/L	04/21/17	04/24/17	1716176	
Mercury (Hg)	EPA 245.1	ND	1.0	2	ug/L	04/18/17	04/19/17	1716029	
Nickel (Ni)	EPA 200.7	98	10	100	ug/L	04/24/17	04/24/17	1717003	
Potassium (K)	EPA 200.7	37	1.0		mg/L	04/24/17	04/24/17	1717005	

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Project: Routine
Sub Project: Pit Deepening - 2017
Project Manager: Mark Roberts

Work Order: 17D1195
Received: 04/14/17 11:29
Reported: 05/01/17

Test Hole #4

17D1195-02 (Water)

Sample Date: 04/14/17 10:10

Sampler: Mark Roberts

Analyte	Method	Result	Rep. Limit	MCL	Units	Prepared	Analyzed	Batch	Qualifier
Metals									
Selenium (Se)	SM3113-B	ND	5.0	50	ug/L	04/27/17	04/27/17	1717119	
Silver (Ag)	EPA 200.7	ND	13	100	ug/L	04/24/17	04/24/17	1717003	
Sodium (Na)	EPA 200.7	120	2.0		mg/L	04/24/17	04/25/17	1717031	
Thallium (Tl)	EPA 200.9	ND	2.0	2	ug/L	04/26/17	04/26/17	1717085	
Vanadium (V)	EPA 200.9	170	30		ug/L	04/27/17	04/27/17	1717107	
Zinc (Zn)	EPA 200.7	220	50	5000	ug/L	04/21/17	04/24/17	1716176	
Anion / Cation Balance									
Hardness, Total (as CaCO3)	Calculated	600			mg/L	04/24/17	04/25/17	[CALC]	
Total Anions	Calculated	13.2			meq/L	04/24/17	04/28/17	[CALC]	
Total Cations	Calculated	18.3			meq/L	04/24/17	04/25/17	[CALC]	
% difference	Calculated	32				04/24/17	04/28/17	[CALC]	

pH (Lab) was analyzed ASAP but received and analyzed past the 15 minute hold time.

ND Analyte NOT DETECTED at or above the reporting limit

Pamela Ybarra

Pamela Ybarra
Project Manager

ALL AMERICAN ASPHALT PIT DEEPENING STUDY

WATER QUALITY DATA

	State MCL	AAA Well #1 3/6-32H	AAA Well#1 4/04/2017	AAA Well #2 3/6-32G 12/23/1999	AAA Well#2 4/04/2017	Test Hole #1 4/04/2017	Test Hole #2 4/04/2017	Test Hole #3 4/14/2017	Test Hole #4 3/28/2017
Total Hardness (as CaCO ₃) (mg/L)			400	482	410	350	310	390	600
Calcium (Ca) (mg/L)			110	170	110	87	72	110	130
Magnesium (Mg) (mg/L)			30	14.2	32	32	33	32	69
Sodium (Na) (mg/L)			130	103	130	309	78	140	120
Iron (Fe) (ug/L)	300 ug/L		ND		ND	1600	1700	520	6300
Manganese (Mn) (ug/L)	50 ug/L	ND	ND		ND	270	410	440	910
Boron (B) (ug/L)			440		410	300	240	360	330
Bicarbonate (HCO ₃) (mg/L)			240	313	230	140	170	180	180
Sulfate (SO ₄) (mg/L)	500 mg/L		270	266	250	200	140	280	250
Chloride (Cl) (mg/L)	500 mg/L		190	136	170	180	170	190	180
Nitrate (as NO ₃ N) (mg/L)	10		5.6	1.2	4.5	13	17	5.5	23
Fluoride (F) (mg/L)	2 mg/L	ND	0.51		0.58	0.53	0.44	1.1	0.4
pH (Laboratory) (Std. Units)		7.1	7.9	7.2	7.1	8.1	8.3	7.4	7.4
Specific Conductance (E.C.) (umhos/cm)	1600		1300	1440	1400	1100	1100	1200	1400
Total Filterable Residue @ 180C (TDS) (mg/L)	1000 mg/L		890	854	870	650	620	730	900
Arsenic (Ars) (ug/L)	10	ND	ND		ND	7.0	9.7	ND	ND

