



July 3, 2014

Nevada State Engineer  
Nevada Division of Water Resources (NDWR)  
901 South Stewart Street, Suite 2002  
Carson City, Nevada 89701-5250

**Re: Proof of Completion of Work  
Permits to Appropriate Water, Permit Nos. 50801E, 59682E, 79866E**

Dear State Engineer:

The Nevada Environmental Response Trust (NERT or the Trust) maintains 12 Permits to Appropriate Waters of the State of Nevada, including Permits 50801E, 59682E, and 79866E, for its site in Henderson, Nevada. The Permits to Appropriate Water cover the extraction of groundwater from on-site and off-site wells for environmental purposes. Extracted groundwater is conveyed to an on-site perchlorate treatment system and treated water is discharged to the Las Vegas Wash pursuant to NPDES permit NV0023060.

ENVIRON International Corporation (ENVIRON), on behalf of NERT, has been working with the Nevada Division of Environmental Protection (NDEP) to determine the appropriate timing for groundwater extraction from these wells. Seven of the on-site wells, constructed between 2000 and 2010, recently began pumping at NDEP's direction and approval. These seven wells are included on three of the Permits to Appropriate Water.

The provisions of certain Permits to Appropriate Water require the permittee to file a Proof of Completion of Work. Although this is not a requirement of all permits held by NERT, ENVIRON is submitting Proof of Completion of Work forms and supporting information for all seven of the recently activated wells. Enclosed please find Proof of Completion of Work and supporting information for permits 50801E, 59682E, and 79866E, as well as a check in the amount of \$180 to cover the filing fees.

Should you have any questions concerning this correspondence, please contact Kimberly Kuwabara at (510) 420-2525 or [kkuwabara@environcorp.com](mailto:kkuwabara@environcorp.com). Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Kimberly Kuwabara".

Kimberly Kuwabara, MS  
Senior Manager  
Nevada CEM 2353, exp. 3/20/2015

Overnight Mail  
Enclosures

ec: Greg Lovato, Bureau of Corrective Actions, NDEP  
James Dotchin, Bureau of Corrective Actions, NDEP  
Weiquan Dong, Bureau of Corrective Actions, NDEP  
Nevada Environmental Response Trust  
Tanya O'Neill, Foley and Lardner LLP  
Allan DeLorme, ENVIRON International Corporation  
John M. Pekala, ENVIRON International Corporation

IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA  
PROOF OF COMPLETION OF WORK

!Read the filing instructions on back of this form!

STATE OF California (1)  
(Where Sworn)

COUNTY OF Alameda  
(Where Sworn)

Comes now Kimberly Kuwabara, CEM, ENVIRON International Corporation (2), on behalf of the Permittee of record, known as Nevada Environmental Response Trust (NERT) (3), who after being first duly sworn, deposes and says that at least \$20,000.00 (4) has been expended in work performed or improvements made to develop water as set forth under the conditions of Permit No. 50801E

The description of the Point of Diversion of the above named permit is as follows:

I. Describe the well or diversion structure as per Item 5 in the instructions:

Descriptions of extraction wells I-W and I-X are presented on the attached sheet.

II. If the terms of the permit call for a measuring device, describe this as per Item 6 in the instructions:

Information regarding measuring devices installed in extraction wells I-W and I-X is presented on the attached sheet.

III. Please include any other information relevant to this proof:

Construction of wells I-W and I-X was completed in 2000, but the wells did not begin pumping until 2014. Recently, NERT has been working with NDEP to determine the appropriate timing for groundwater extraction from these wells.

Said work described above being essential to the actual diversion of the water required under said permit.

The works of diversion were completed on or about See attached sheet (7) (date). The point of diversion is located within the (8) NW 1/4 SE 1/4 of Section 12, Township 22 S, Range 62 E, MDB&M.

Well Driller or Diversion Works Construction Contractor Layne (9)

For underground source, attach copy of the well log. If possible, provide a well log number (10)

And, if possible, please provide the present static water level: See attached (11) feet below land surface.

State of California

County of Alameda

Subscribed and sworn to before me on July 1, 2014 (13)

by Michael S. Ohda, Notary Public

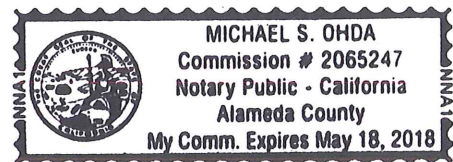
[Signature] Signature of Notary Public

Signed Kimberly Kuwabara (12)  
Permittee or Agent

Address 2200 Powell Street, Suite 700  
Street Address or PO Box

Emeryville, CA, 94608  
City, State, ZIP Code

Phone (510) 420-2525  
Phone number is required



(Notary Seal)

## FILING THE PROOF OF COMPLETION OF WORK

1. Indicate the State and County in which the proof is notarized.
2. Write in the name of the person signing the proof. If other than the permittee, give authority for signing. Name of representative MUST match exactly the name in signature block.
3. The proof represents a sworn statement as the person signing the proof confirms the veracity of the information provided therein. Attach additional sheets if necessary.
4. Indicate the approximate amount of money spent on the works to divert water.
5. **Important!** Describe the work performed and prior improvements made to develop the water allowed under the conditions of the permit. *Do not reference previously submitted proofs.*
  - (a). If this is an underground point of diversion (well), describe the diameter and depth of casing, the size, name and type of pump, and the name and size (hp) of motor installed.
  - (b). For a point of diversion on a stream, spring, lake, or other surface water source, fully describe the completed works used to divert or store water, e.g., dams, ditches, pipelines, pumping stations, etc., from the point of diversion to the place of use.
6. Describe the flow meter, or other measuring device that is installed, if required by the terms of the permit. For meters, include the make, model, serial number, current reading and date of that reading. If the flow rate is measured by weir, headgate, ditch company, power meter, "bucket and watch," etc., this must be mentioned and the measuring device described in full detail.
7. Indicate the approximate date the well or other diversion works were completed.
8. Describe the point of diversion by public land survey. This description must match the legal description of the permit.
9. Provide the name of the well driller, or diversion works construction contractor.
10. If applicable, attach a copy of the well log. If possible give the State Engineer's well log number.
11. If possible please provide the present static water level before pumping began.
12. Sign the form in the presence of the Notary Public.
13. Affix Notary Public's stamp/seal and signature.

### **FAILURE TO PROVIDE CORRECT AND COMPLETE ANSWERS TO THESE INQUIRIES CAN RESULT IN IMMEDIATE REJECTION OF YOUR PROOF!**

The Proof of Completion of Work must be filled out entirely, signed, notarized and received in the Office of the State Engineer, Nevada Division of Water Resources, 901 S. Stewart Street, Suite 2002, Carson City, Nevada 89701, together with the \$60.00 statutory filing fee on or before the due date on the permit and not later than 30 days from the date of any final notice received from this office. A separate Proof must be submitted with the \$60.00 filing fee for each individual permit. If you have any questions, please call (775) 684-2800 or in Las Vegas (702) 486-2770, or visit our web page at:

<http://water.nv.gov>

**Supporting Information - Proof of Completion**

**Permit to Appropriate Water, Permit No. 50801E, Nevada Environmental Response Trust**

**Extraction Well I-W      Extraction Well I-X**

<b>Description of Point of Diversion</b>			
<b>Part I</b>			
<u>Casing</u>	Diameter (inches):	6	6
	Depth (feet bgs):	50.5	50.5
<u>Pump</u>	Type:	Stainless steel, submersible	Stainless steel, submersible
	Name:	Grundfos (5S05-13)	Grundfos (5S05-13)
	Size:	4"	4"
<u>Motor</u>	Name:	Franklin Electric (234 521 94 04 S)	Franklin Electric (234 521 94 04 S)
	Size:	460V, 3P, 0.5 hp	460V, 3P, 0.5 hp
<b>Part II</b>			
<u>Measuring Device (Totalizer)</u>	Make:	Daniel L. Jerman Company	Daniel L. Jerman Company
	Model:	DLJ75P	DLJ75P
	Serial number:	13008713	13008691
	Current Reading:	3195	12006
	Date of Reading:	6/3/2014	6/3/2014

<u>Present static water level prior to pumping (feet bgs):</u>	29.34	24.26
<u>Well Construction Completion Date:</u>	9/13/2000	9/13/2000
<u>Date of Connection to Extraction and Treatment System:</u>	3/4/2011	3/4/2011
<u>Approximate Date Pumping Began:</u>	May 2014	May 2014

Notes:

bgs = below ground surface

SOIL BORING LOG KM-5655-B

<b>KERR-McGEE CORPORATION</b> Hydrology Dept. - S&EA Division		KM SUBSIDIARY <b>KMC LLC</b>		LOCATION <b>HENDERSON, NV</b>		BORING NUMBER <b>I-W</b>				
DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5  10  15  20  26	0-26 silty SAND w/ scattered minor thin gravel zones. Gry orange (10YR 7/4). 10-20% silt in vf-vc, A-SR gtz-volc sand and 10-15% granules Calcareous throughout w/ minor to com. caliche nodules. 9-10 2"-3" volc gravel zone 14-15 volc granule zone		SP/SM							
30  33	26-33 silty GRAVEL, gry oran (10YR 7/4). Very hard- strong calichification. Gravels are pec gravel size w/ 4"-5" cobbles @ 27, 20-30% vf-vc A-SA sd		GP							WET @ 30' (in fractures) ▽
	33-50 TD silty SILT, dk yell oran (10YR 6/4). calcareous. 10-20% vfg, A-SA sd in silt		ML							TOP of MC @ 33'

<b>EXPLANATION</b>	▼	Water Table (24 Hour)	<b>GRAPHIC LOG LEGEND</b>		DATE DRILLED	PAGE		
	▽	Water Table (Time of Boring)		CLAY		DEBRIS FILL		
	PID NO. TYPE	Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method		SILT		HIGHLY ORGANIC (PEAT)	9-13-00	1 of 2
		SPLIT BARREL		SAND		SANDY CLAY	DRILLING METHOD <b>PERCUSSION</b>	
		THIN-WALLED TUBE		GRAVEL		CLAYEY SAND	DRILLED BY <b>LAYNE</b>	
		AUGER		SILTY CLAY		LOGGED BY <b>ED KRISH</b>		
		CONTINUOUS SAMPLER		CLAYEY SILT		EXISTING GRADE ELEVATION (FT. AMSL)		
		ROCK CORE				LOCATION OR GRID COORDINATES		
		NO RECOVERY						
	DEPTH	Depth Top and Bottom of Sample						
	REC.	Actual Length of Recovered Sample in Feet						

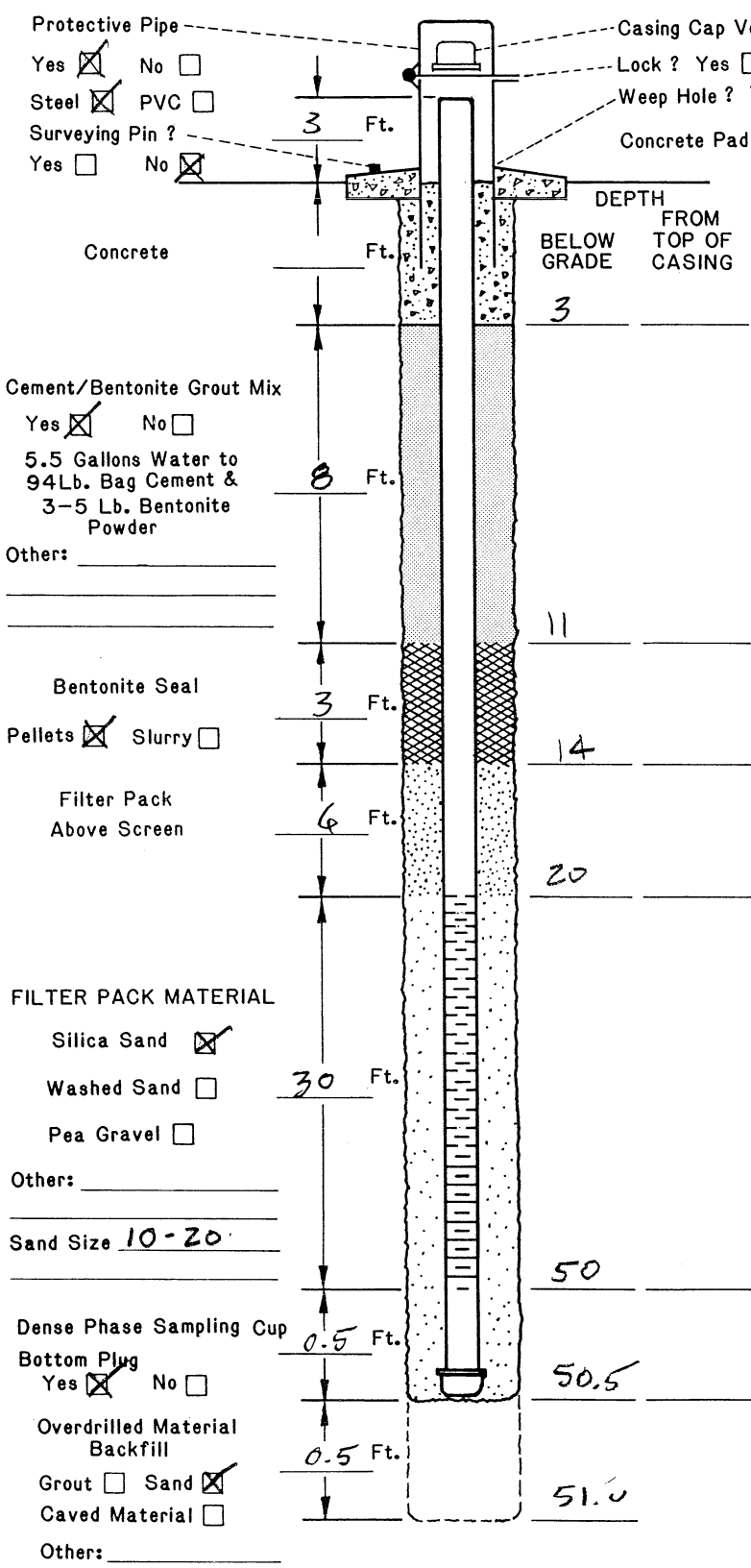
SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER I-W
---	--------------------------	---------------------------	----------------------

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
45	minor thin zones of silt, interbedded		ML							
50	50' TD									

EXPLANATION	Water Table (24 Hour)	<b>GRAPHIC LOG LEGEND</b>		DATE DRILLED 9-13-00	PAGE 2 of 2
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD PERCUSSION	
	PID	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY LAYNE	
	NO.	SAND	SANDY CLAY	LOGGED BY ED KRISH	
	TYPE	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
SPLIT-BARREL	AUGER	ROCK CORE	SILTY CLAY	LOCATION OR GRID COORDINATES	
THIN-WALLED TUBE	CONTINUOUS SAMPLER	NO RECOVERY	CLAYEY SILT		
DEPTH Depth Top and Bottom of Sample					
REC. Actual Length of Recovered Sample in Feet					

**KERR-McGEE CORPORATION  
HYDROLOGY DEPARTMENT  
MONITORING WELL INSTALLATION DIAGRAM**



Casing Cap Vent? Yes  No   
 Lock? Yes  No   
 Weep Hole? Yes  No   
 Concrete Pad \_\_\_\_\_ Ft. x \_\_\_\_\_ Ft. x \_\_\_\_\_ Inches

Protective Pipe  
 Yes  No   
 Steel  PVC   
 Surveying Pin?  
 Yes  No

Cement/Bentonite Grout Mix  
 Yes  No   
 5.5 Gallons Water to  
 94Lb. Bag Cement &  
 3-5 Lb. Bentonite  
 Powder  
 Other: \_\_\_\_\_

Bentonite Seal  
 Pellets  Slurry

Filter Pack  
 Above Screen

FILTER PACK MATERIAL  
 Silica Sand   
 Washed Sand   
 Pea Gravel   
 Other: \_\_\_\_\_  
 Sand Size 10-20

Dense Phase Sampling Cup  
 Bottom Plug  
 Yes  No   
 Overdrilled Material  
 Backfill  
 Grout  Sand   
 Caved Material   
 Other: \_\_\_\_\_

- DRILLING INFORMATION:**
- Borehole Diameter = 10.75 Inches.
  - Were Drilling Additives Used? Yes  No   
 Revert  Bentonite  Water   
 Solid Auger  Hollow Stem Auger
  - Was Outer Steel Casing Used? Yes  No   
 Depth = \_\_\_\_\_ to \_\_\_\_\_ Feet.
  - Borehole Diameter for Outer Casing \_\_\_\_\_ Inches.

- WELL CONSTRUCTION INFORMATION:**
- Type of Casing: PVC  Galvanized  Teflon   
 Stainless  Other \_\_\_\_\_
  - Type of Casing Joints: Screw-Couple  Glue-Couple  Other \_\_\_\_\_
  - Type of Well Screens: PVC  Galvanized   
 Stainless  Teflon  Other \_\_\_\_\_
  - Diameter of Casing and Well Screens:  
 Casing 6 Inches, Screen 6 Inches.
  - Slot Size of Screen: 0.020
  - Type of Screen Perforations: Factory Slotted   
 Hacksaw  Drilled  Other \_\_\_\_\_
  - Installed Protector Pipe w/Lock: Yes  No

- WELL DEVELOPMENT INFORMATION:**
- How was Well Developed? Bailing  Pumping   
 Air Surging (Air or Nitrogen)  Other \_\_\_\_\_
  - Time Spent on Well Development?  
 \_\_\_\_\_ / \_\_\_\_\_ Minutes/Hours
  - Approximate Water Volume Removed? \_\_\_\_\_ Gallons
  - Water Clarity Before Development? Clear   
 Turbid  Opaque
  - Water Clarity After Development? Clear   
 Turbid  Opaque
  - Did Water have Odeur? Yes  No   
 If Yes, Describe \_\_\_\_\_
  - Did Water have any Color? Yes  No   
 If Yes, Describe \_\_\_\_\_

**WATER LEVEL INFORMATION:**  
 Water Level Summary (From Top of Casing)  
 During Drilling 30 NB Ft. Date 9-13-00  
 Before Development 29.2 NG Ft. Date 9-19-00  
 After Development \_\_\_\_\_ Ft. Date \_\_\_\_\_

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 9-13-00  
 Drill Crew \_\_\_\_\_ Well No. I-W Kerr-McGee Hydrologist ED KRISH



SOIL BORING LOG KM-5655-B

KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY <b>KMC LLC</b>	LOCATION <b>HENDERSON, NV</b>	BORING NUMBER <b>I-X</b>
---	---------------------------------	----------------------------------	-----------------------------

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-17 silty SAND w/ minor gravelly zones. Gry Oran (10YR 7/4). 10-20% silt in vf-vc A-SR sd. Locally thin zones of sd-granules w/o silt. Calcareous throughout w/ minor sd-size caliche nodules.		SM/SP							
17	9-11, 14-15 clean zones w/tr silt and 20-30% granules (volc)									
20	17-33 sdy GRAVEL w/com caliche in lower part. Gry oran (10YR 7/4) 20-30% vf vc, A-SA sd in granules (volc). Calcareous @ 17' 2-3" pebbles		GP							
25	23-33 calichified, semi-hard... pervasive but not massive. inc in caliche downward.									
30										WET @ 30'
33	33-50 TD sdy SILT. dk yell oran (10YR 6/6). 10-20% vfg, A-SA sd in silt. Calcareous throughout w/minor		ML							TOP of MC @ 33'

EXPLANATION	Water Table (24 Hour)	<b>GRAPHIC LOG LEGEND</b>		DATE DRILLED <b>9-13-00</b>	PAGE <b>1 of 2</b>	
	Water Table (Time of Boring)	CLAY	DEBRIS FILL	DRILLING METHOD <b>PERCUSSION</b>		
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SILT	HIGHLY ORGANIC (PEAT)	DRILLED BY <b>LAYNE</b>		
	SPLIT-BARREL	AUGER	SAND	SANDY CLAY	LOGGED BY <b>ED KRISH</b>	
	THIN-WALLED TUBE	CONTINUOUS SAMPLER	GRAVEL	CLAYEY SAND	EXISTING GRADE ELEVATION (FT. AMSL)	
	ROCK CORE	SILTY CLAY		LOCATION OR GRID COORDINATES		
	NO RECOVERY	CLAYEY SILT				
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet					

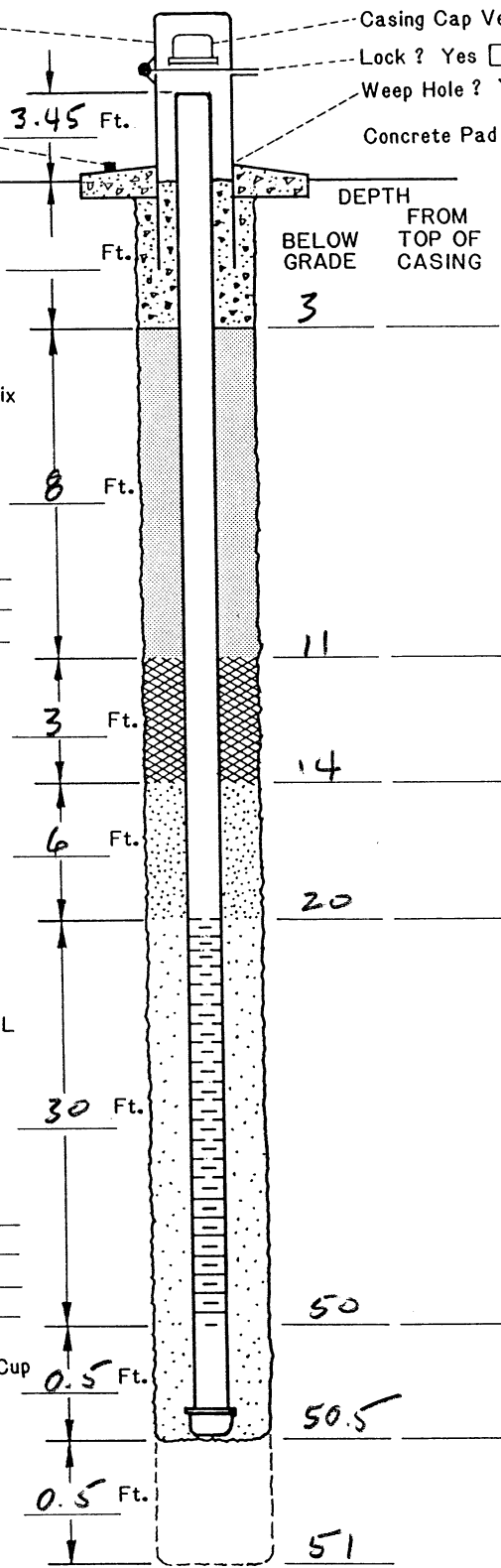


**KERR-McGEE CORPORATION  
HYDROLOGY DEPARTMENT  
MONITORING WELL INSTALLATION DIAGRAM**

Protective Pipe  
 Yes  No   
 Steel  PVC   
 Surveying Pin?  
 Yes  No

Casing Cap Vent? Yes  No   
 Lock? Yes  No   
 Weep Hole? Yes  No

Concrete Pad \_\_\_\_\_ Ft. x \_\_\_\_\_ Ft. x \_\_\_\_\_ Inches



Cement/Bentonite Grout Mix  
 Yes  No   
 5.5 Gallons Water to  
 94Lb. Bag Cement &  
 3-5 Lb. Bentonite  
 Powder  
 Other: \_\_\_\_\_

Bentonite Seal  
 Pellets  Slurry   
 Filter Pack  
 Above Screen

FILTER PACK MATERIAL  
 Silica Sand   
 Washed Sand   
 Pea Gravel   
 Other: \_\_\_\_\_  
 Sand Size 10-20

Dense Phase Sampling Cup  
 Bottom Plug  
 Yes  No   
 Overdrilled Material  
 Backfill  
 Grout  Sand   
 Caved Material   
 Other: \_\_\_\_\_

**DRILLING INFORMATION:**  
 1. Borehole Diameter= 10.75 Inches.  
 2. Were Drilling Additives Used? Yes  No   
 Revert  Bentonite  Water   
 Solid Auger  Hollow Stem Auger   
 3. Was Outer Steel Casing Used? Yes  No   
 Depth= \_\_\_\_\_ to \_\_\_\_\_ Feet.  
 4. Borehole Diameter for Outer Casing \_\_\_\_\_ Inches.

**WELL CONSTRUCTION INFORMATION:**  
 1. Type of Casing: PVC  Galvanized  Teflon   
 Stainless  Other \_\_\_\_\_  
 2. Type of Casing Joints: Screw-Couple  Glue-Couple  Other \_\_\_\_\_  
 3. Type of Well Screen: PVC  Galvanized   
 Stainless  Teflon  Other \_\_\_\_\_  
 4. Diameter of Casing and Well Screen:  
 Casing 6 Inches, Screen 6 Inches.  
 5. Slot Size of Screen: 0.020  
 6. Type of Screen Perforation: Factory Slotted   
 Hacksaw  Drilled  Other \_\_\_\_\_  
 7. Installed Protector Pipe w/Lock: Yes  No

**WELL DEVELOPMENT INFORMATION:**  
 1. How was Well Developed? Bailing  Pumping   
 Air Surging (Air or Nitrogen)  Other \_\_\_\_\_

2. Time Spent on Well Development?  
 \_\_\_\_\_ / \_\_\_\_\_ Minutes/Hours  
 3. Approximate Water Volume Removed? \_\_\_\_\_ Gallons  
 4. Water Clarity Before Development? Clear   
 Turbid  Opaque   
 5. Water Clarity After Development? Clear   
 Turbid  Opaque   
 6. Did Water have Odor? Yes  No   
 If Yes, Describe \_\_\_\_\_  
 7. Did Water have any Color? Yes  No   
 If Yes, Describe \_\_\_\_\_

**WATER LEVEL INFORMATION:**  
 Water Level Summary (From Top of Casing)  
 During Drilling 33 <sup>ng</sup> Ft. Date 9-13-00  
 Before Development 2785 <sup>ng</sup> Ft. Date 9-19-00  
 After Development \_\_\_\_\_ Ft. Date \_\_\_\_\_

Driller/Firm LAYNE  
 Drill Crew Hormann

Drill Rig Type AP-1000  
 Well No. I-X

Date Installed 9-13-00  
 Kerr-McGee Hydrologist ED KRISH

IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA  
PROOF OF COMPLETION OF WORK

!Read the filing instructions on back of this form!

STATE OF California (1)  
(Where Sworn)

COUNTY OF Alameda  
(Where Sworn)

Comes now Kimberly Kuwabara, CEM, ENVIRON International Corporation (2), on behalf of the Permittee of record, known as Nevada Environmental Response Trust (NERT) (3), who after being first duly sworn, deposes and says that at least \$30,000.00 (4) has been expended in work performed or improvements made to develop water as set forth under the conditions of Permit No. 59682E

The description of the Point of Diversion of the above named permit is as follows:

I. Describe the well or diversion structure as per Item 5 in the instructions:

Descriptions of extraction wells I-AA, I-AB, and I-Y are presented on the attached sheet.

II. If the terms of the permit call for a measuring device, describe this as per Item 6 in the instructions:

Information regarding measuring devices installed in extraction wells I-AA, I-AB, and I-Y is presented on the attached sheet.

III. Please include any other information relevant to this proof:

Construction of wells I-AA, I-AB, and I-Y was completed between 2000 and 2009, but the wells did not begin pumping until 2014. Recently, NERT has been working with NDEP to determine the appropriate timing for extraction from these wells.

Said work described above being essential to the actual diversion of the water required under said permit.

The works of diversion were completed on or about See attached sheet (7) (date). The point of diversion is located within the (8) NE ¼ SW ¼ of Section 12, Township 22 S, Range 62 E, MDB&M.

Well Driller or Diversion Works Construction Contractor Boart Longyear (wells I-AA and I-AB); Layne (well I-Y) (9)

For underground source, attach copy of the well log. If possible, provide a well log number (10)

And, if possible, please provide the present static water level: See attached (11) feet below land surface.

State of California  
County of Alameda

Signed Kimberly Kuwabara (12)  
Permittee or Agent

Address 2200 Powell Street, Suite 700  
Street Address or PO Box

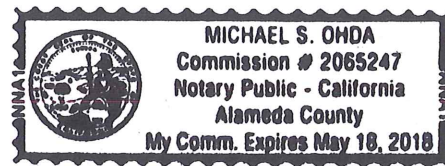
Emeryville, CA, 94608  
City, State, ZIP Code

Phone (510) 420-2525  
Phone number is required

Subscribed and sworn to before me on July 1, 2014 (13)

by Michael S. Ohda, Notary Public

Michael S. Ohda  
Signature of Notary Public



(Notary Seal)

## FILING THE PROOF OF COMPLETION OF WORK

1. Indicate the State and County in which the proof is notarized.
2. Write in the name of the person signing the proof. If other than the permittee, give authority for signing. Name of representative MUST match exactly the name in signature block.
3. The proof represents a sworn statement as the person signing the proof confirms the veracity of the information provided therein. Attach additional sheets if necessary.
4. Indicate the approximate amount of money spent on the works to divert water.
5. **Important!** Describe the work performed and prior improvements made to develop the water allowed under the conditions of the permit. *Do not reference previously submitted proofs.*
  - (a). If this is an underground point of diversion (well), describe the diameter and depth of casing, the size, name and type of pump, and the name and size (hp) of motor installed.
  - (b). For a point of diversion on a stream, spring, lake, or other surface water source, fully describe the completed works used to divert or store water, e.g., dams, ditches, pipelines, pumping stations, etc., from the point of diversion to the place of use.
6. Describe the flow meter, or other measuring device that is installed, if required by the terms of the permit. For meters, include the make, model, serial number, current reading and date of that reading. If the flow rate is measured by weir, headgate, ditch company, power meter, "bucket and watch," etc., this must be mentioned and the measuring device described in full detail.
7. Indicate the approximate date the well or other diversion works were completed.
8. Describe the point of diversion by public land survey. This description must match the legal description of the permit.
9. Provide the name of the well driller, or diversion works construction contractor.
10. If applicable, attach a copy of the well log. If possible give the State Engineer's well log number.
11. If possible please provide the present static water level before pumping began.
12. Sign the form in the presence of the Notary Public.
13. Affix Notary Public's stamp/seal and signature.

### **FAILURE TO PROVIDE CORRECT AND COMPLETE ANSWERS TO THESE INQUIRIES CAN RESULT IN IMMEDIATE REJECTION OF YOUR PROOF!**

The Proof of Completion of Work must be filled out entirely, signed, notarized and received in the Office of the State Engineer, Nevada Division of Water Resources, 901 S. Stewart Street, Suite 2002, Carson City, Nevada 89701, together with the \$60.00 statutory filing fee on or before the due date on the permit and not later than 30 days from the date of any final notice received from this office. A separate Proof must be submitted with the \$60.00 filing fee for each individual permit. If you have any questions, please call (775) 684-2800 or in Las Vegas (702) 486-2770, or visit our web page at:

<http://water.nv.gov>



<i>Client:</i>	Tronox LLC
<i>Project Number:</i>	04020-023-160
<i>Site Description/Location:</i>	West Side of Interceptor Well Field, Henderson, NV
<i>Coordinates:</i>	26719770.85 N 827174.4 E <i>Elevation:</i> 1753.93 FT
<i>Drilling Method:</i>	Sonic with continuous coring
<i>Sample Type(s):</i>	Split Spoon and Core <i>Boring Diameter:</i> 11 In.

<b>Well No. I-AA</b>	
<i>Sheet:</i>	1 of 2
<i>Monitoring Well Installed:</i>	Yes
<i>Screened Interval:</i>	26-46 ft.

<i>Weather:</i>	NA	<i>Logged By:</i>	E. Krish	<i>Date/Time Started:</i>	12/2/2007 11:45	<i>Depth of Boring:</i>	47 ft.
<i>Drilling Contractor:</i>	Boart Longyear / D. Cervantez	<i>Backfill:</i>	NA	<i>Date/Time Finished:</i>	12/4/2007 10:00	<i>Water Level:</i>	30 ft.

DEPTH (ft)	Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (ft)	Headspace (ppm)	USCS	Graphic Log	MATERIAL IDENTIFICATION, color, description of fine grained material (silt and clay) description of coarse grained material (sand and gravel), structural or mineralogical features, density or stiffness, moisture content, odors or staining.	Well Diagram
5						SM		<b>ALLUVIUM:</b> SILTY GRAVELLY SAND, moderate yellowish brown (10YR 5/4), 20% silt, 25% fine grained angular to subangular pea gravel to 1/2" with minor gravel to 1 1/2" , 55% very fine to medium grained with common coarse to very coarse grained subangular to subrounded sand, moderately soft calcareous cement in matrix.	<ul style="list-style-type: none"> <li>Steel Guard Pipe 3 Feet Above Ground Surface</li> <li>Top of Riser 2.6 Feet Above Ground Surface</li> <li>6" Sch. 40 PVC Riser</li> <li>Cement (94%) and Bentonite (6%) Slurry</li> <li>Bentonite Seal</li> <li>Sand Pack (#2-12)</li> <li>Well Screen (6" Sch. 40 PVC, 0.01" Slot)</li> </ul>
20						SM		SILTY SAND, very pale brown (10YR 7/4), 30% silt, 70% very fine to fine grained subangular sand, common soft calcareous cement in matrix.	
25						GM		SILTY SANDY GRAVEL, moderate yellowish brown (10YR 5/4), hard, calichified, 15% silt, 25% of very fine to coarse grained subangular to subrounded sand, 60% medium pea gravel to 3/4".	
25						SM		GRAVELLY SILTY SAND, moderate yellowish brown (10YR 5/4), 25% silt, 15% fine grained angular to subangular pea gravel to 1/8", 60% very fine to fine grained subangular to subrounded sand with common medium to very coarse grained, common moderately hard calcareous cement.	
25						SM		GRAVELLY SAND, pale yellowish brown (10YR 6/2), 10% silt, 30% fine grained pea gravel to 1/8", 60% very fine to very coarse grained subangular to subrounded sand, moderately hard calcareous cement.	
30						SW		GRAVELLY SAND, moderate yellowish brown (10YR 5/4), no silt, 40% fine grained subangular to subrounded volcanic pea gravel , 60% very fine to very coarse subangular to subrounded sand, no calcareous cement.	
35						ML		<b>MUDDY CREEK FORMATION:</b> INTERBEDDED CLAYEY SILT AND SILT, light brown (10YR 5/6), non-calcareous except in the thin scattered nodular caliche zones, locally contains trace very fine to medium grained sand, 5-10% clay nodular caliche zone at 30-31 bgs. Groundwater encountered at 30 feet bgs.	

**Notes:** Muddy Creek Formation begins at 30 feet bgs.

WELL CONSTRUCTION TRONOX CAPTURE WP.GPJ ENSR CA.GDT 4/25/08

*Client:* Tronox LLC  
*Project Number:* 04020-023-160  
*Site Description/Location:* West Side of Interceptor Well Field, Henderson, NV  
*Coordinates:* 26719770.85 N 827174.4 E *Elevation:* 1753.93 FT  
*Drilling Method:* Sonic with continuous coring  
*Sample Type(s):* Split Spoon and Core *Boring Diameter:* 11 In.

**Well No. I-AA**

*Sheet:* 2 of 2  
*Monitoring Well Installed:* Yes  
*Screened Interval:* 26-46 ft.

*Weather:* NA *Logged By:* E. Krish *Date/Time Started:* 12/2/2007 11:45 *Depth of Boring:* 47 ft.  
*Drilling Contractor:* Boart Longyear / D. Cervantez *Backfill:* NA *Date/Time Finished:* 12/4/2007 10:00 *Water Level:* 30 ft.

DEPTH (ft)	Sample ID	Sample Depth (ft)	Blows per 6"	Recovery (ft)	Headspace (ppm)	USCS	Graphic Log	MATERIAL IDENTIFICATION, color, description of fine grained material (silt and clay) description of coarse grained material (sand and gravel), structural or mineralogical features, density or stiffness, moisture content, odors or staining.	Well Diagram
.....						ML		<b>MUDDY CREEK FORMATION:</b> INTERBEDDED CLAYEY SILT AND SILT, light brown (10YR 5/6), non-calcareous except in the thin scattered nodular caliche zones, locally contains trace very fine to medium grained sand, 5-10% clay nodular caliche zone at 30-31 bgs. Groundwater encountered at 30 feet bgs. (continued)	
40									
.....								CLAYEY SILT AND SILT, 5-10% clay nodular caliche zone from 46 to 47 feet bgs.	
45									

Total Depth = 47 feet.  
 Boring Terminated  
 Target depth achieved

**Notes:** Muddy Creek Formation begins at 30 feet bgs.



# Well Log

Project Number: 2027.02		<b>Boring No.: I-AB</b>	
Project Name: Vertical Delineation / Capture Zone Eval.		Logged by: Dana R. Brown	
Drilling Contractor: Boart Longyear		Date Started: 08/14/09	Date Completed: 08/14/09
Drilling Method: Rotary Sonic		Total Depth (ft bgs): 51.0	Depth to Water (ft bgs): 29.0
Borehole Dia. (in): 10.0	Completion: Monument	Surface Elevation (ft MSL):	Top of Casing (ft MSL): 1754.034
Blank Casing: SCH 80 PVC Casing Dia. (in): 6 From (ft bgs): 0 To: 25	Slotted Casing: Factory slotted SCH 80 PVC, 0.020" Slots Casing Dia. (in): 6 From (ft bgs): 25 To: 45	Filter Pack Type: Silica Sand Size: #10-20 Interval (ft bgs) From: 20 To: 51	
Remarks: Boring advanced with 10.0" casing to 51.0'; Neat Cement from 0' to 16'; 3/8" Holeplug from 16' to 20'.			

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Well Construction	
1						Silty Sand (SM): Pale yellowish brown 10 YR (6/2), very loose to loose, dry. 10% fine angular to sub-angular gravel to 3/8"+, 60% fine to medium sub-angular sand, 30% non-plastic fines. Probable fill material, many fractured angular gravel clasts.					
2								81.7	0.4		
3									0.4		0.5
4									2.3		0.3
5				SM	QAI						
6											
7											
8											
9							Moist to damp @ 9.0'				
10							Gravel lens 10.0' - 11.0', 10% angular to sub-angular gravel to 1/2".	56.7	0.7		
11				SM	QAI			17.6	1.0		
12						Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, damp to wet. 5% fine sub-angular gravel to 1/2"-, 60% fine to medium sub-angular sand, 35% non-plastic fines. Soils wetted from pond infiltration.					
13				SM	QAI			24.4	0.8		
14						Silty Sand (SM): Very pale orange 10 YR (8/2), very loose, dry. 60% fine sub-angular sand, 35% non-plastic fines. Unconsolidated, non-bedded fine sands, with very fine silt. Damp at upper contact, dry below 13.0'					
15								47.8	1.3		
16						Elastic Silt (MH): Moderate yellowish brown 10 YR (5/4), very dense, wet. 5% fine sand, 95% moderate-plastic fines. No odor or staining. No resistance to sonic bit, driller lowered the casing through this unit. Poor recovery. 16.0' to 21.0' Driller-no resonance applied, too soft to drill. Unconsolidated sediments, 98%+non-plastic silt.					
17				MH	QAI			10.8	0.7		
18											
19											
20											
21											
22						Silty Sand (SM): Dark yellowish orange 10 YR (6/6), loose to medium-dense, dry to damp. 5% fine sub-angular gravel to 3/4"-, 65% fine to medium sand, 30% non-plastic fines. No odor or staining.					
23								9.3	0.4		
24								0.9	0.2		
25								1.8	0.3		
26				SM	QAI			388	6.5		
27											
28											
29						@ 28.0' Color change to pale yellowish brown 10 YR (6/2). Fining to 2% fine sub-angular gravel to 3/8"+, 60% sand, 38% fines.	▽	185	1.8		
30								26.9	1.4		
31											
32						Sandy Silt (ML): Dark yellowish brown 10 YR (6/6), medium stiff, wet. Trace sub-angular gravel to 3/8"+, 25% fine to medium sub-angular sand, 75% non-plastic fines. No odor or staining.					
33				ML	Tmcf			13.1	1.5		
34								71.5	1.5		

DRB-ENVIRO WELL LOG TRONOX-1.GPJ 12/1/09

# Well Log

Project Number: 2027.02	<b>Boring No.: I-AB</b>
Project Name: Vertical Delineation / Capture Zone Eval.	Logged by: Dana R. Brown
Drilling Contractor: Boart Longyear	Date Started: 08/14/09
	Date Completed: 08/14/09

Depth (ft)	Sample I.D. Sample Time	Sample Type	Graphic Log	USCS Code	Formation Name	Material Description	Water Level	10.6 ev PID (ppm)	11.7 ev PID (ppm)	Well Construction
36				ML	Tmcf					
37				ML	Tmcf	Silt with Sand (ML): Moderate yellowish brown 10 YR (5/4), stiff to medium-stiff, wet. Trace sub-angular coarse sand/fine gravel to 3/8", 15% fine sub-angular sand, 85% non-plastic fines. Trace caliche as nodules to 1/16". No odor or staining.	328	1.4		
38				ML	Tmcf		346	2.4		
39										
40				ML	Tmcf	Sandy Silt (ML): Dark yellowish brown 10 YR (6/6), medium stiff, wet. Trace sub-angular gravel to 3/8"+, 25% fine to medium sub-angular sand, 75% non-plastic fines. No odor or staining.	443	3.9		
41				ML	Tmcf		15.5	0.9		
42										
43										
44				SW	Tmcc	Well graded Sand with Gravel (SW): Dark yellowish brown 10 YR (6/6), loose, wet. 15% fine sub-angular gravel to 3/4"-, 80% fine to coarse sub-angular sand (5/35/60), 5% non-plastic fines. No odor or staining.	45.3	1.7		
45										
46				ML	Tmcf	Sandy Silt (ML): Dark yellowish brown 10 YR (4/2), medium dense, wet. 5% fine sub-angular gravel to 3/8"+, 65% fine to medium sub-angular sand with up to 15% coarse sub-angular sand (15/40/45), 30% non-plastic fines. Up to 1% caliche as nodules and grain coatings. No odor or staining. No recovery 47.5' - 50.0'	62.1	0.8		
47										
48										
49										
50										
51										
52						Total depth 51.0' @ 10:20, 8-14-09				
53										
54										
55										
56										
57										
58										
59										
60										
61										
62										
63										
64										
65										
66										
67										
68										
69										
70										
71										
72										
73										
74										

DRB-ENVIRO WELL LOG TRONOX-1.GPJ 12/1/09

SOIL BORING LOG KM-5655-B

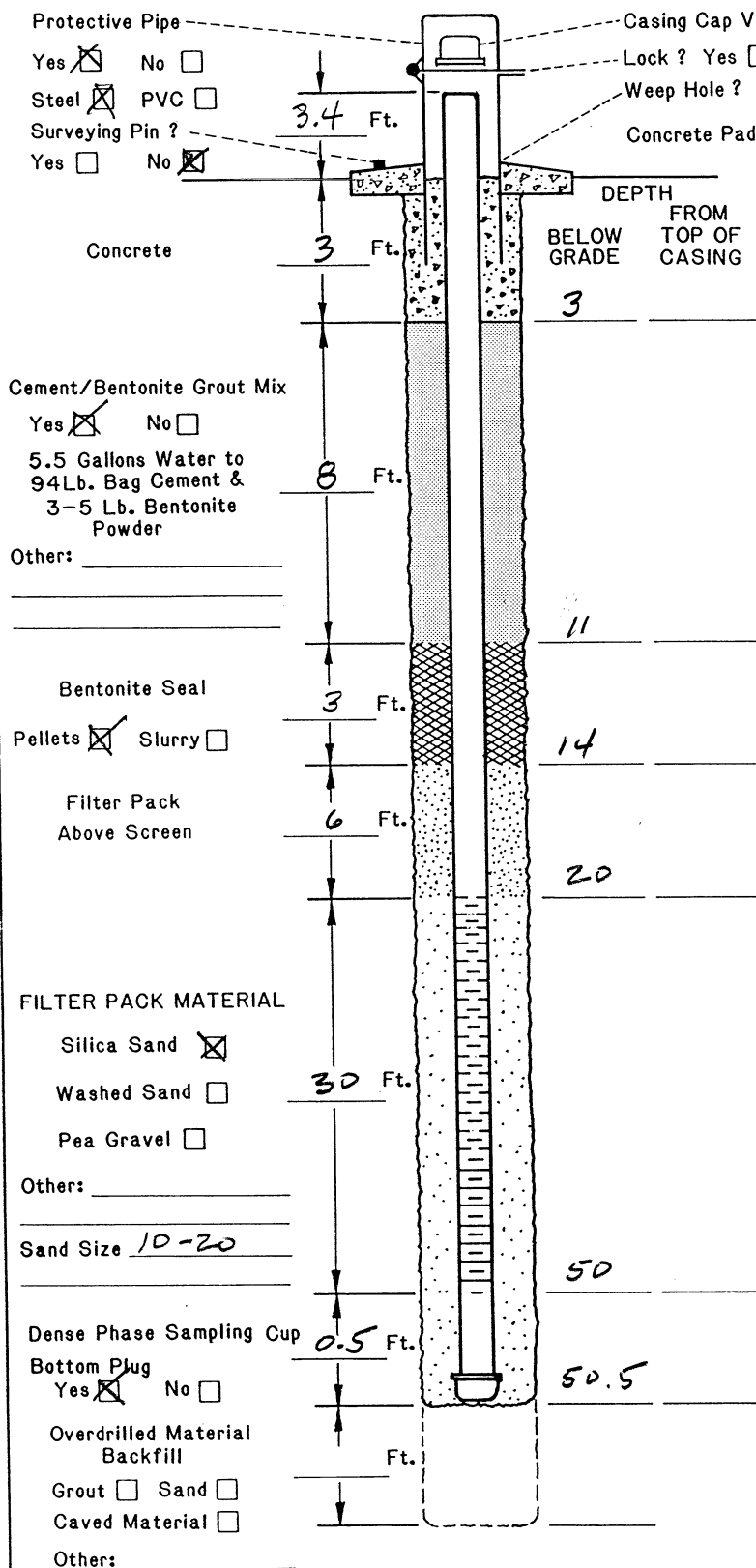
KERR-McGEE CORPORATION Hydrology Dept. - S&EA Division	KM SUBSIDIARY KMC LLC	LOCATION HENDERSON, NV	BORING NUMBER I-Y
---	--------------------------	---------------------------	----------------------

DEPTH IN FEET	LITHOLOGIC DESCRIPTION	GRAPHIC LOG	UNIFIED SOIL FIELD CLASS.	BLOWS PER 6"	PID (ppm)	SOIL SAMPLE				REMARKS OR FIELD OBSERVATIONS
						NO.	TYPE	DEPTH	REC.	
5	0-9 silty gravelly SAND gry oran (10YR 7/4) and pale yell brn (10YR 7/2). 10-20% silt in vf-vl sd w/ 10-20% volc granule- pea gravel. Calcareous.		SP/ SM							
15	9-19 sdy GRAVEL pale yell brn (10YR 7/2). 20-30% vf-vc sd in gran-pea grav. to 2". 17-18 cobbles to 4"-5"		GP							
26	19-26 SAND. gry oran (10YR 7/4). vf-m w/minor cg. SA-SR. clean. sl. calcareous... com. calc. 23'-26'		SP							
28	26-28 Gravel. gry oran. volc pebbles to 3". calcified		GW							wet @ 27
30	28-50 TD sdy SILT & SILT. Mod yell orange (10YR 7/6). 10-20% vfg sd in silt.		ML							MC @ 28'
35	Calcareous throughout w/ minor sd-size caliche nodules									

EXPLANATION	Water Table (24 Hour)	<b>GRAPHIC LOG LEGEND</b> CLAY SILT SAND GRAVEL SILTY CLAY CLAYEY SILT DEBRIS FILL HIGHLY ORGANIC (PEAT) SANDY CLAY CLAYEY SAND	DATE DRILLED 9-14-00	PAGE 1 of 2	
	Water Table (Time of Boring)		DRILLING METHOD PERCUSSION	DRILLED BY LAYNE	
	PID NO. TYPE Photoionization Detection (ppm) Identifies Sample by Number Sample Collection Method	SPLIT-BARREL AUGER ROCK CORE	THIN-WALLED TUBE CONTINUOUS SAMPLER NO RECOVERY	LOGGED BY ED KRISH	
	DEPTH Depth Top and Bottom of Sample REC. Actual Length of Recovered Sample in Feet	EXISTING GRADE ELEVATION (FT. AMSL) LOCATION OR GRID COORDINATES			



**KERR-McGEE CORPORATION  
HYDROLOGY DEPARTMENT  
MONITORING WELL INSTALLATION DIAGRAM**



Casing Cap Vent? Yes  No   
 Lock? Yes  No   
 Weep Hole? Yes  No   
 Concrete Pad \_\_\_\_\_ Ft. x \_\_\_\_\_ Ft. x \_\_\_\_\_ Inches

**DRILLING INFORMATION:**

- Borehole Diameter = 10.75 Inches.
- Were Drilling Additives Used? Yes  No   
 Revert  Bentonite  Water   
 Solid Auger  Hollow Stem Auger
- Was Outer Steel Casing Used? Yes  No   
 Depth = \_\_\_\_\_ to \_\_\_\_\_ Feet.
- Borehole Diameter for Outer Casing \_\_\_\_\_ Inches.

**WELL CONSTRUCTION INFORMATION:**

- Type of Casing: PVC  Galvanized  Teflon   
 Stainless  Other \_\_\_\_\_
- Type of Casing Joints: Screw-Couple  Glue-Couple  Other \_\_\_\_\_
- Type of Well Screens: PVC  Galvanized   
 Stainless  Teflon  Other \_\_\_\_\_
- Diameter of Casing and Well Screens:  
 Casing 6 Inches, Screen 6 Inches.
- Slot Size of Screen: 0.020
- Type of Screen Perforation: Factory Slotted   
 Hacksaw  Drilled  Other \_\_\_\_\_
- Installed Protector Pipe w/Lock: Yes  No

**WELL DEVELOPMENT INFORMATION:**

- How was Well Developed? Bailing  Pumping   
 Air Surging (Air or Nitrogen)  Other \_\_\_\_\_
- Time Spent on Well Development? \_\_\_\_\_ / \_\_\_\_\_ Minutes/Hours
- Approximate Water Volume Removed? \_\_\_\_\_ Gallons
- Water Clarity Before Development? Clear   
 Turbid  Opaque
- Water Clarity After Development? Clear   
 Turbid  Opaque
- Did Water have Oder? Yes  No   
 If Yes, Describe \_\_\_\_\_
- Did Water have any Color? Yes  No   
 If Yes, Describe \_\_\_\_\_

**WATER LEVEL INFORMATION:**

Water Level Summary (From Top of Casing)  
 During Drilling 28.79 Ft. Date 9-14-00  
 Before Development 28.85 Ft. Date 9-19-00  
 After Development \_\_\_\_\_ Ft. Date \_\_\_\_\_

Driller/Firm LAYNE Drill Rig Type AP-1000 Date Installed 9-14-00  
 Drill Crew HORMANN Well No. I-Y Kerr-McGee Hydrologist ED KRISH

32.25  
 3.40  
 27 > 70C  
 14 3.8

IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA  
PROOF OF COMPLETION OF WORK

!Read the filing instructions on back of this form!

STATE OF California  
(Where Sworn) ..... (1)

COUNTY OF Alameda  
(Where Sworn) .....

Comes now Kimberly Kuwabara, CEM, ENVIRON International Corporation (2), on behalf of the Permittee of record, known as Nevada Environmental Response Trust (NERT) (3), who after being first duly sworn, deposes and says that at least \$20,000.00 (4) has been expended in work performed or improvements made to develop water as set forth under the conditions of Permit No. 79866E

The description of the Point of Diversion of the above named permit is as follows:

I. Describe the well or diversion structure as per Item 5 in the instructions:  
Descriptions of extraction wells I-AC and I-AD are presented on the attached sheet.

II. If the terms of the permit call for a measuring device, describe this as per Item 6 in the instructions:  
Information regarding measuring devices installed in extraction wells I-AC and I-AD is presented on the attached sheet.

III. Please include any other information relevant to this proof:  
Construction of wells I-AC and I-AD was completed in 2010, but the wells did not begin pumping until 2014. Recently, NERT has been working with NDEP to determine the appropriate timing for groundwater extraction from these wells.

Said work described above being essential to the actual diversion of the water required under said permit.

The works of diversion were completed on or about See attached sheet (7) (date). The point of diversion is located within the (8) NW ¼ SE ¼ of Section 12, Township 22 S, Range 62 E, MDB&M.

Well Driller or Diversion Works Construction Contractor WDC Exploration (9)

For underground source, attach copy of the well log. If possible, provide a well log number ..... (10)

And, if possible, please provide the present static water level: See attached (11) feet below land surface.

State of California  
County of Alameda

Signed Kimberly Kuwabara (12)  
Permittee or Agent

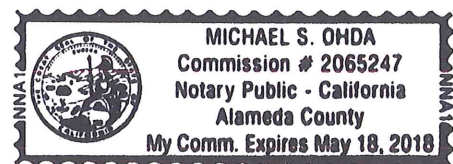
Address 2200 Powell Street, Suite 700  
Street Address or PO Box  
Emeryville, CA, 94608  
City, State, ZIP Code

Phone (510) 420-2525  
Phone number is required

Subscribed and sworn to before me on July 1, 2014 (13)

by Michael S. Ohda, Notary Public

Michael S. Ohda  
Signature of Notary Public



(Notary Seal)

## FILING THE PROOF OF COMPLETION OF WORK

1. Indicate the State and County in which the proof is notarized.
2. Write in the name of the person signing the proof. If other than the permittee, give authority for signing. Name of representative MUST match exactly the name in signature block.
3. The proof represents a sworn statement as the person signing the proof confirms the veracity of the information provided therein. Attach additional sheets if necessary.
4. Indicate the approximate amount of money spent on the works to divert water.
5. **Important!** Describe the work performed and prior improvements made to develop the water allowed under the conditions of the permit. *Do not reference previously submitted proofs.*
  - (a). If this is an underground point of diversion (well), describe the diameter and depth of casing, the size, name and type of pump, and the name and size (hp) of motor installed.
  - (b). For a point of diversion on a stream, spring, lake, or other surface water source, fully describe the completed works used to divert or store water, e.g., dams, ditches, pipelines, pumping stations, etc., from the point of diversion to the place of use.
6. Describe the flow meter, or other measuring device that is installed, if required by the terms of the permit. For meters, include the make, model, serial number, current reading and date of that reading. If the flow rate is measured by weir, headgate, ditch company, power meter, "bucket and watch," etc., this must be mentioned and the measuring device described in full detail.
7. Indicate the approximate date the well or other diversion works were completed.
8. Describe the point of diversion by public land survey. This description must match the legal description of the permit.
9. Provide the name of the well driller, or diversion works construction contractor.
10. If applicable, attach a copy of the well log. If possible give the State Engineer's well log number.
11. If possible please provide the present static water level before pumping began.
12. Sign the form in the presence of the Notary Public.
13. Affix Notary Public's stamp/seal and signature.

### **FAILURE TO PROVIDE CORRECT AND COMPLETE ANSWERS TO THESE INQUIRIES CAN RESULT IN IMMEDIATE REJECTION OF YOUR PROOF!**

The Proof of Completion of Work must be filled out entirely, signed, notarized and received in the Office of the State Engineer, Nevada Division of Water Resources, 901 S. Stewart Street, Suite 2002, Carson City, Nevada 89701, together with the \$60.00 statutory filing fee on or before the due date on the permit and not later than 30 days from the date of any final notice received from this office. A separate Proof must be submitted with the \$60.00 filing fee for each individual permit. If you have any questions, please call (775) 684-2800 or in Las Vegas (702) 486-2770, or visit our web page at:

<http://water.nv.gov>

**Supporting Information - Proof of Completion**

**Permit to Appropriate Water, Permit No. 79866E, Nevada Environmental Response Trust**

**Extraction Well I-AC**

**Extraction Well I-AD**

<b>Description of Point of Diversion</b>			
<b>Part I</b>			
<u>Casing</u>	Diameter (inches):	6	6
	Depth (feet bgs):	50	45
<u>Pump</u>	Type:	Stainless steel, submersible	Stainless steel, submersible
	Name:	Grundfos (5S05-13)	Grundfos (5S05-13)
	Size:	4"	4"
<u>Motor</u>	Name:	Franklin Electric (234 521 94 04 S)	Franklin Electric (234 521 94 04 S)
	Size:	460V, 3P, 0.5 hp	460V, 3P, 0.5 hp
<b>Part II</b>			
<u>Measuring Device (Totalizer)</u>	Make:	Daniel L. Jerman Company	Daniel L. Jerman Company
	Model:	DLJ75P	DLJ75P
	Serial number:	13008720	13008721
	Current Reading:	267	1806
	Date of Reading:	6/3/2014	6/3/2014

Present static water level prior to pumping (feet bgs):

29.17

29.52

Well Construction Completion Date:

6/15/2010

6/16/2010

Date of Connection to Extraction and Treatment System:

3/4/2011

3/4/2011

Approximate Date Pumping Began:

May 2014

May 2014

Notes:

bgs = below ground surface



PROJECT NAME Tronox BORING LOCATION \_\_\_\_\_  
 PROJECT NUMBER 2027.02 PROJECT LOCATION Henderson, NV  
 DATE STARTED 6/14/10 COMPLETED 6/15/10 TOC ELEVATION \_\_\_\_\_ HOLE SIZE 9"  
 DRILLING CONTRACTOR WDC GROUNDWATER LEVELS:  $\nabla$  AT TIME OF DRILLING 33.00 ft  
 DRILLING METHOD Sonic  $\nabla$  AFTER DRILLING 26.2 ft AT END OF DRILLING ---  
 LOGGED BY EK CHECKED BY \_\_\_\_\_ SURFACE CONDITIONS: \_\_\_\_\_  
 NOTES: \_\_\_\_\_

DEPTH (ft)	SAMPLE TYPE NUMBER	FORMATION	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
1					WELL GRADED SAND WITH SILT AND GRAVEL (SW-SM); reddish brown (5YR 5/4), 75% fine to medium grain with common coarse to very coarse angular to sub rounded well graded sand, 15% granules/pea gravel to 3/4", 10% silt, moderate caliche cement and grain coatings.	
2						
3						
4						
5						
6						
7						
8						
9						
10						
11		Qal	SP-SM		Common calcareous cement and coatings from 17-23'.	
12						
13						
14						
15						
16						
17						
18						
19						
20		Qal				
21		Qal			SILTY SAND (SM); yellowish brown (10YR 5/4), 80% fine to medium grain with trace coarse to very coarse grain sub angular to sub rounded moderately well sorted sand, 10-25% silt, 5% angular to sub angular volcanic granules, damp at 24'.. Sp(?) calcareous cement/coatings from 23-25'. $\nabla$ Common calcareous cement/coatings from 25-28'.	
22						
23						
24		Qal				
25						
26		Qal	SM			
27		Qal				
28		Qal				
29						
30						
31		Qal	ML		SILT WITH SAND (ML); yellowish brown (10YR 5/4), 70% calichified silt, 30% fine to coarse grain sub angular to sub rounded sand, common calichification and grain coatings. $\nabla$ SILT INTERBEDDED WITH SANDY SILT (ML); yellowish brown (10YR 5/4), 10% very fine grain sand, 20-30% very fine grain sand locally, non-calcareous. Sandy zones at: 43-44' 20-30% very fine grain sand, 47.5-50' 20-30% very fine grain sand.	
32						
33						
34						
35		UMC?ML				

GENERAL NORTHGATE ENV. FORMATION OS 2027.02 T. 23 BORING LOGS.GPJ 11/11/10

PROJECT NAME Tronox BORING LOCATION \_\_\_\_\_  
PROJECT NUMBER 2027.02 PROJECT LOCATION Henderson, NV

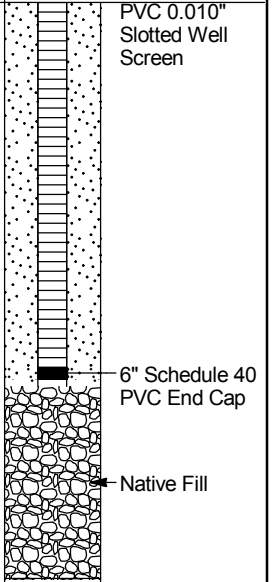
DEPTH (ft)	SAMPLE TYPE NUMBER	FORMATION	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
36					SILT INTERBEDDED WITH SANDY SILT (ML); yellowish brown (10YR 5/4), 10% very fine grain sand, 20-30% very fine grain sand locally, non-calcareous. Sandy zones at: 43-44' 20-30% very fine grain sand, 47.5-50' 20-30% very fine grain sand. (continued)	<p>PVC 0.010" Slotted Well Screen 10-20 Filter Pack Sand</p>
37						
38						
39						
40						
41		UMCFML			20-30% very fine grain sand from 43-44' bgs.	<p>6" EP 7 1/4" 2" Schedule 40 PVC Blank Casing 6" EP 7 1/4" 2" Schedule 40 PVC End Cap</p>
42						
43						
44						
45						
46					20-30% very fine grain sand from 47.5' to 50' bgs.	
47						
48						
49						
50					Bottom of borehole at 50.0 feet bgs.	

PROJECT NAME Tronox BORING LOCATION \_\_\_\_\_  
 PROJECT NUMBER 2027.02 PROJECT LOCATION Henderson, NV  
 DATE STARTED 6/15/10 COMPLETED 6/16/10 TOC ELEVATION \_\_\_\_\_ HOLE SIZE 9"  
 DRILLING CONTRACTOR WDC GROUNDWATER LEVELS:  $\nabla$  AT TIME OF DRILLING 33.00 ft  
 DRILLING METHOD Sonic AFTER DRILLING --- AT END OF DRILLING ---  
 LOGGED BY EK CHECKED BY \_\_\_\_\_ SURFACE CONDITIONS: \_\_\_\_\_  
 NOTES: I-AD is 10' north of M-180. Lithologic descriptions from M-180

DEPTH (ft)	SAMPLE TYPE NUMBER	FORMATION	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
1					FILL; brown and dark yellowish brown, sands, gravels, cement debris.	<p>Cement/Bentonite Grout</p> <p>6" Schedule 40 PVC Riser</p> <p>Hydrated Bentonite Chips</p> <p>10-20 Filter Pack Sand</p> <p>6" Schedule 40</p>
2						
3						
4						
5						
6						
7					SILTY SAND (SM); reddish brown (5Y 5/4), 60-65% very fine to medium grain with common coarse to very coarse grain sub angular to sub rounded sand, 5-10% angular to sub angular volcanic gravel to 3/4", 20% silt, common calcareous coatings and soft cement t	
8						
9						
10						
11						
12						
13						
14						
15		SM				
16						
17						
18						
19					Varying amount of calichification, abundant and hard from 18.5-19' and 23-24'.	
20						
21						
22						
23						
24						
25					WELL GRADED SAND WITH SILT (SW-SM); grayish brown (10YR 5/2), fine to coarse grain sand, <10% silt to 26' then 20% silt, 10-15% volcanic angular to sub angular gravel to 1/2" with trace to 1-2", non calcareous to 26' then moderately calcareous to 28'.	
26		SW-SM				
27						
28						
29					SILT (ML); yellowish brown (10YR 5/4), common to abundant hard to soft caliche zones and nodules.	
30		ML				
31		SW			SAND (SW); yellowish brown (10YR 5/4), fine to coarse grain poorly sorted sub angular to sub rounded sand, 5-10% volcanic angular to sub angular gravel to 3/8", 6" bed of angular to sub angular gravel to 1" in silty matrix at 30'.	
32		CL			CLAY (CL); very pale brown (10YR 8/2), abundant caliche zones and nodules to 3-4".	
33					$\nabla$ SILT WITH SAND (ML); very pale brown (10YR 7/4), coarse grain silt, 10-20% very fine grain sand, non calcareous.	
34		ML				
35						

GENERAL NORTHGATE ENV. FORMATION\_OS 2027.02\_T\_23\_BORING\_LOGS.GPJ 11/11/10

PROJECT NAME Tronox BORING LOCATION \_\_\_\_\_  
PROJECT NUMBER 2027.02 PROJECT LOCATION Henderson, NV

DEPTH (ft)	SAMPLE TYPE NUMBER	FORMATION	U.S.C.S.	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
36			ML			 <p>PVC 0.010" Slotted Well Screen</p> <p>6" Schedule 40 PVC End Cap</p> <p>Native Fill</p>
37					SILT (ML); very pale brown (10YR 7/4), coarse grain silt, trace very fine grain sand.	
38						
39						
40		ML				
41						
42						
43						
44						
45						
46						
47						
48						
49						
50					Bottom of borehole at 50.0 feet bgs.	