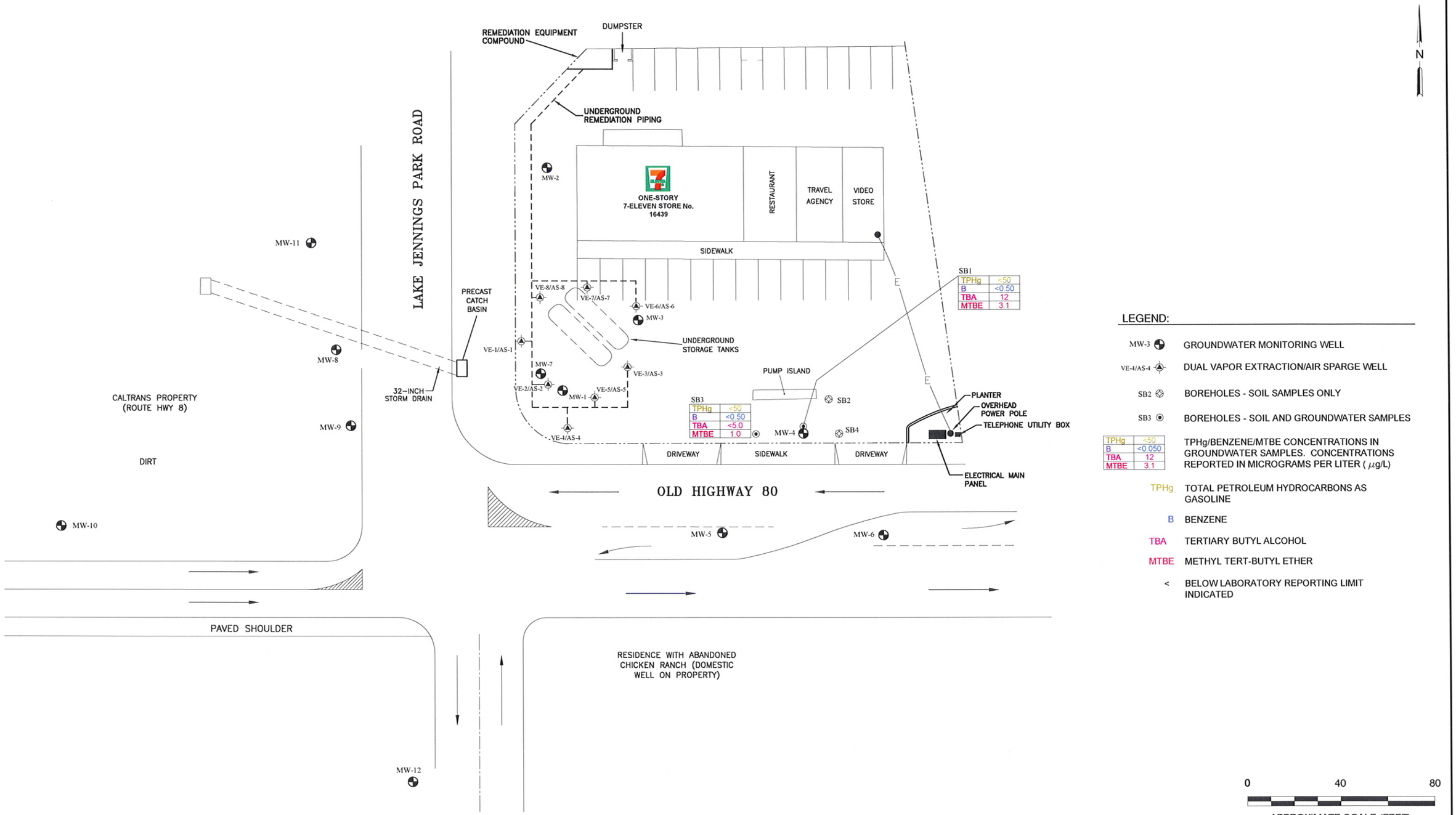


LEGEND:

MW-3	GROUNDWATER MONITORING WELL
VE-4/AS-4	DUAL VAPOR EXTRACTION/AIR SPARGE WELL
SB2	BOREHOLES - SOIL SAMPLES ONLY
SB3	BOREHOLES - SOIL AND GROUNDWATER SAMPLES
TPHg <50 B <0.050 TBA 12 MTBE 3.1	TPHg/BENZENE/MTBE CONCENTRATIONS IN GROUNDWATER SAMPLES. CONCENTRATIONS REPORTED IN MICROGRAMS PER LITER (μg/L)
TPHg	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
TBA	TERTIARY BUTYL ALCOHOL
MTBE	METHYL TERT-BUTYL ETHER
<	BELOW LABORATORY REPORTING LIMIT INDICATED

0 40 80

APPROXIMATE SCALE (FEET)

Stantec
2655 CAMINO DEL RIO NORTH, SUITE 302
SAN DIEGO, CALIFORNIA
PHONE: (619) 296-6195/296-6199 (FAX)

PREPARED FOR:
7-ELEVEN STORE No. 16439
14110 OLD HIGHWAY 80
EL CAJON, CALIFORNIA

GROUNDWATER
SAMPLE CONCENTRATIONS
TEMPORARY MONITORING WELLS

FIGURE: 4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
08EL.16439.08	JA			7/22/08

Attachment A

Drilling Permit

PERMIT #LMON105539
A.P.N. # 7-11 STORE #16739
EST #H20203-004

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION
MONITORING WELL PROGRAM
SOIL BORING CONSTRUCTION PERMIT

SITE NAME: 7-11 STORE #16739

SITE ADDRESS: 14110 OLD HIGHWAY 80, EL CAJON, CA 92019

PERMIT FOR: **5 SOIL BORINGS**

PERMIT APPROVAL DATE: MARCH 6, 2008

PERMIT EXPIRES ON: JULY 4, 2008

RESPONSIBLE PARTY: 7-ELEVEN, INC.

PERMIT CONDITIONS:

1. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90, Part III, Section 19.D. **Drill cuttings are not an acceptable fill material.**

2. All borings must be properly destroyed within 24 hours of drilling.

3. Placement of any sealing material at a depth greater than 30 feet must be done using the tremie method.

4. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, II, E- 4. (**http://www.sdcounty.ca.gov/deh/lwq/sam/manual_guidelines.html**). In addition, drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.

5. Within 60 days of completing work, submit a well construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5, Pages 6 & 7.

6. This office must be given 48-hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact the Well Permit Desk at 619) 338-2339.

NOTE: **This permit does not constitute approval of a work plan as defined in Section 2722 of Article 11 of C.C.R., Title 23. Work plans are required for all unauthorized release investigations in San Diego County.**

APPROVED BY: M Crystal DATE: 03/06/2008
MARISUE CRYSTAL

NOTIFIED: by email 3/6/08 msc

DEH: SAM-9075 (1/06)

Attachment B

Borehole/Well Logs and Legend

PROJECT: **7-Eleven Store No. 16439**
LOCATION: **11410 Old Highway 80 El Cajon, CA**
PROJECT NUMBER: **08EL.16439.08**

WELL / PROBEHOLE / BOREHOLE NO: **SB1** PAGE 1 OF 1

Stantec

DATE: STARTED: **6/26/2008** COMPLETED: **6/26/2008**

DRILLING COMPANY: **TestAmerica**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow-Stem Auger**
SAMPLING EQUIPMENT: **NA**

NORTHING (ft):
LATITUDE:
GROUND ELEV (ft):
INITIAL DTW (ft): **NE**
STATIC DTW (ft): **NE**
WELL CASING DIAMETER (in): **2**
LOGGED BY: **Jay Dasinger**

EASTING (ft):
LONGITUDE:
TOC ELEV (ft):
BOREHOLE DEPTH (ft): **10**
WELL DEPTH (ft): **9.5**
BOREHOLE DIAMETER (in): **8**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count/ft	Headspace PID (ppm)	Depth (feet)	Well Construction
		SM	3 inches asphalt 7" fill SM; Silty SAND, dark reddish gray (5YR 4/2) fine sand with 30-40% silt, trace coarse-grained sand, some clay, dry, very dense, no hydrocarbon (HC) odor, angular weathered rock, 1", dark gray Bedrock-Santiago Peak Volcanics							Steel plate Hydrated Bentonite chips Sch. 80 2" PVC 0.020 well screen #3 Monterey sand
10			Borehole terminated at 10 feet bgs. Cleared to 2.5' bgs using air knife on 6/25/08 Temporary well destroyed on 7/3/08							

GEO FORM 304_SECOR037_16439 SB1-SB3.GPJ SECOR037.GDT 8/12/08

PROJECT: **7-Eleven Store No. 16439**
LOCATION: **11410 Old Highway 80 El Cajon, CA**
PROJECT NUMBER: **08EL.16439.08**

WELL / PROBEHOLE / BOREHOLE NO: **SB3** PAGE 1 OF 1

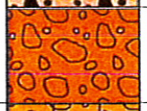
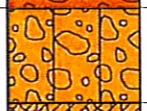
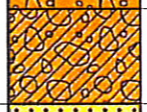
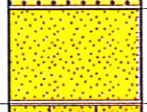
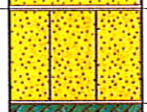
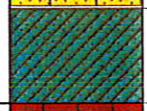
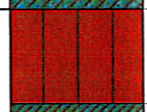
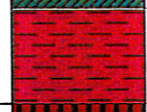
DATE: STARTED: **6/26/2008** COMPLETED: **6/26/2008**

DRILLING COMPANY: **TestAmerica**
DRILLING EQUIPMENT: **CME 75**
DRILLING METHOD: **Hollow-Stem Auger**
SAMPLING EQUIPMENT: **NA**

NORTHING (ft):
EASTING (ft):
LATITUDE:
LONGITUDE:
GROUND ELEV (ft):
TOC ELEV (ft):
INITIAL DTW (ft): **NE**
BOREHOLE DEPTH (ft): **10**
STATIC DTW (ft): **NE**
WELL DEPTH (ft): **9**
WELL CASING DIAMETER (in): **2**
BOREHOLE DIAMETER (in): **8**
LOGGED BY: **Jay Dasinger**
CHECKED BY:

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count/ft	Headspace PID (ppm)	Depth (feet)	Well Construction
		SM	3 inches asphalt over 7" fill SM; Silty SAND, dark reddish brown (5YR 3/2), fine sand with 30% silt, trace coarse-grained sand, some clay, dry, very dense, no hydrocarbon odor								Steel plate
			Bedrock-Santiago Peak Volcanics							Hydrated Bentonite chips
5									5	Sch. 80 2" PVC 0.020 well screen
										#3 Monterey sand
10			Borehole terminated at 9.5 feet bgs. Cleared to 3' bgs using air knife on 6/25/08 Temporary well destroyed on 7/3/08						10	
15									15	
20									20	
25									25	

DEFINITION OF TERMS

PRIMARY DIVISIONS			GRAPHIC SYMBOL	GROUP SYMBOL	SECONDARY DIVISIONS
COARSE GRAINED SOILS More Than Half Of Material Is Larger Than No. 200 Sieve Size	GRAVELS More Than Half Of Coarse Fraction Is Larger Than No. 4 Sieve	Clean Gravels (Less Than 5% Fines)		GW	Well graded gravels, gravel-sand mixtures, little or no fines.
				GP	Poorly graded gravels or gravel-sand mixtures, little or no fines.
		Gravel With Fines		GM	Silty gravels, gravel-sand-clay mixtures, non-plastic fines.
				GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS More Than Half Of Coarse Fraction Is Smaller Than No. 4 Sieve	Clean Sands (Less Than 5% Fines)		SW	Well graded sands or gravelly sands, little or no fines.
				SP	Poorly graded sands or gravelly sands, little or no fines.
		Sands With Fines		SM	Silty sands, sand-silt mixtures, plastic fines.
				SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS More Than Half Of Material Is Smaller Than No. 200 Sieve Size	SILTS AND CLAYS Liquid Limit Is Less Than 50%			ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity.
				CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
				OL	Organic silts and organic silty clays of low plasticity.
	SILTS AND CLAYS Liquid Limit Is Greater Than 50%			MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
				CH	Inorganic clays of high plasticity, fat clays.
				OH	Organic clays of medium to high plasticity, organic silts.
HIGHLY ORGANIC SOILS				PT	Peat and other highly organic soils.

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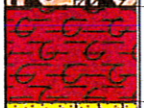
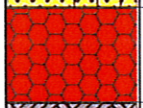
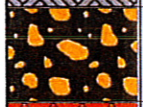
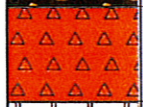
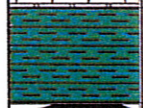
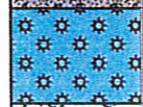
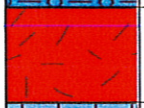
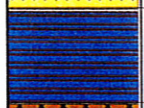
BOREHOLE/WELL LOG LEGEND

GRAPHIC SYMBOL	Description
	GP-GC - Poorly graded Gravel with Clay
	GW-GM - Well graded Gravel with Silt
	OLSH - High plasticity organic Clay or Silt with shells
	SP-SM - Poorly graded Sand with Silt
	SW-SC - Well graded Sand with Clay
	SW-SM - Well graded Sand with Silt
	Basalt
	Bedrock
	Boulders and Cobbles
	Breccia
	Chalk
	Claystone
	Coal
	Concrete
	Coral
	Decomposed Granite

GRAPHIC SYMBOL	Description
	Fill
	Gypsum
	Igneous
	Limestone
	Metamorphic
	Sandstone
	Shale
	Siltstone
	Till
	Top Soil

Stantec

BOREHOLE/WELL LOG LEGEND

GRAIN SIZES

U.S. Standard Series Sieve				Clear Square Sieve Openings			
200	40	10	4	3/4"	3"	12"	
SILT and CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	Fine	Medium	Coarse	Fine	Coarse		

RELATIVE DENSITY

Sand and Gravels	Blows/Foot†
Very Loose	0 - 4
Loose	5-10
Medium Dense	11-30
Dense	31-50
Very Dense	Over 50

CONSISTENCY

Silt and Clays	Strength ‡	Blows/Foot†
Very Soft	0 - 1/4	0 - 2
Soft	1/4 - 1/2	2 - 4
Firm	1/2 - 1	4 - 8
Stiff	1 - 2	8 - 16
Very Stiff	2 - 4	16 - 32
Hard	Over 4	Over 32

† Number of blows of 140 pound hammer falling approximately 30 inches to drive a 2 inch O.D. (1-3/8 inch I.D.) standard pentetration test (SPT) split spoon (ASTM D-2488).

‡ Unconfined compressive strength in tons/sq.ft. as determined by laboratory testing or approximated by the standard penetration test (ASTM D-2488), pocket penetrometer, torvane, or visual observation.

Graphic Log Symbols

- LPH OR PSH — Liquid-Phase Hydrocarbons/ Phase Separated Hydrocarbons
- Sample
- Grab Sample
- Ground Water (Initial)
- Ground Water (Static)

Well Design Symbol

- < > — Centralizer

Abbreviations Used

MSL	Mean Sea Level
A/C	Asphalt/Concrete
Bent	Bentonite
bgs	Below Ground Surface
dia	Diameter
'	Feet
LPH	Liquid-Phase Hydrocarbons
PSH	Phase Separated Hydrocarbons
GW	Groundwater
HC	Hydrocarbon
"	Inches
med	Medium
mod	Moderate
NA	Not Applicable
NE	Not Encountered
NM	Not Measured
NR	Not Recorded
ppm	Parts Per Million

Well Design Fill Patterns

- Asphalt
- Concrete
- Concrete Slurry
- Bentonite
- Bentonite Grout
- Sand
- Screened Interval

Stantec

BOREHOLE/WELL LOG LEGEND

Attachment C

Well Development, Purging, and Sampling Logs

WELL DEVELOPMENT LC

Stantec

Well Number: SB1

Client: 7 - Eleven Inc.

Job No: 08EL. 16439.08

Location: 7-Eleven # 16439 11410 Old Hwy 80 El Cajon, CA

Sample Time:

SECOR Rep: JAY DASINGER

Sample #:

DEVELOPMENT/PURGING LOG

DATE 6/30/08	TIME	DTFP (0.01) ft.	DTW (0.01) ft.	DTB (0.01)	Vol. Purged (Gal.)	pH	Temp °C	EC µ mohs	Water Description (odor, turbidity, color)
Gauge Well	0800	—	6.11	9.25	—				—
Purge	0926	—			0				
	0931	—	8.40		2.5	7.80	26.8	4770	No odor, moderate, tan
	0947	—	8.38	↓	2.5	7.77	26.8	4750	" " "
	1023	—	8.80	9.25	2.5	7.79	26.8	4770	" " "

Well Volume Calculations

• Water Column	(WCH)	DTB-DTW	3.14
• Casing Diameter		2",4"	2"
• Casing Capacity (gal/ft)	(CK)	2"(0.16), 4"(.65) 6"(1.47)	.16
• Casing WC Volume	(CV)	(CK) (WCH)	0.50
• Borehole Diameter		6",8",10"	8"
• Borehole Capacity	(BK)	6"(1.47),8"(2.63), 10"(4.04)	2.63
• Borehole WC Volume	(BV)	(BK)(WCH)	8.26
• Porosity	(N)	Sand(.25)	.25
• Annulus WC Volume	(AV)	(BV-CV)(N)	1.94
• Total Well Volume	(TV)	CV+AV	2.44
• Min. Development Vol.	(DV)	(3)(TV)	7.32
• Free Product Thickness	(Well)	DTW-DTFP	

Recovery Calculations

• Bailer/Pump Type	PVC
• Pump Rate (GPM)	
• DTW Before Purging	6.11
• DTW After Purging	
• Recovery Time After 80% WC Recharge	
• Recovery Time To Static Water Level	
• Recharge Rate(ft/min)	
• Comments	

Slow Recharge

WELL DEVELOPMENT LC

Stantec

Well Number: SB3

Client: 7-Eleven Inc.

Job No:

Location: 7/11 Store No. 16439 11410 Old Hwy 80 El Cajon, CA

Sample Time:

SECOR Rep: JAY DASINGER

Sample #:

DEVELOPMENT/PURGING LOG

DATE 6/30/08	TIME	DTFP (0.01) ft.	DTW (0.01) ft.	DTB (0.01)	Vol. Purged (Gal.)	pH	Temp °C	EC µ mohs	Water Description (odor, turbidity, color)
Gauge Well	0820	—	6.25	9.05	—				
Purge	0856	—			0				
	0904	—	8.91		2.18	8.07	26.8	4560	No odor, Moderate, tan
	0935	—	8.53	↓	2.18	8.07	26.7	4590	" " "
	1015	—	8.48	9.05	2.18	8.05	26.7	4580	" " "

Well Volume Calculations

• Water Column	(WCH)	DTB-DTW	2.8
• Casing Diameter		2",4"	2"
• Casing Capacity (gal/ft)	(CK)	2"(0.16), 4"(.65) 6"(1.47)	0.16
• Casing WC Volume	(CV)	(CK) (WCH)	0.45
• Borehole Diameter		6",8",10"	8"
• Borehole Capacity	(BK)	6"(1.47),8"(2.63), 10"(4.04)	2.63
• Borehole WC Volume	(BV)	(BK)(WCH)	7.36
• Porosity	(N)	Sand(.25)	.25
• Annulus WC Volume	(AV)	(BV-CV)(N)	1.73
• Total Well Volume	(TV)	CV+AV	2.18
• Min. Development Vol.	(DV)	(3)(TV)	6.54
• Free Product Thickness	(Well)	DTW-DTFP	—

Recovery Calculations

• Bailer/Pump Type	PVC
• Pump Rate (GPM)	
• DTW Before Purging	6.25
• DTW After Purging	8.48
• Recovery Time After 80% WC Recharge	
• Recovery Time To Static Water Level	
• Recharge Rate(ft/min)	
• Comments	

SLOW RECHARGE

STANTEC

International Incorporated

WELL PURGING/SAMPLING LOG

Project Name:	7-Eleven Store No. 16439	Well No.:	SB1
Project Number:	08EL.16439.08.0603	Date:	7/3/2008
Project Address:	14110 Old Hwy 80, El Cajon, CA		

Well GPS: Latitude: Longitude: Sampled by: JAY D Checked by: [signature] License #: 7205

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in.) (BD): 6 8 10 12

Casing Diameter (in.) (CD): 2 4 6 8

Total Well Depth (ft.) (WD): 9.25 **Product Thickness (ft.):** 0

Static Water Level (ft.) (DTW1): 5.65 **Time measured:**

Water Column (ft.) (WC=WD-DTW1): 3.60 **Filter Pack Porosity (P): 0.25**

Borehole Volume (BV) Calculation *: $BV = 0.041 * [CD^2+P(BD^2-CD^2)]*(WC)$

Casing Diameter (in.):	Borehole Diameter (in.):	Calculated Borehole Volume (gal.):
2	8	0.779 * (WC)
4	10	1.517 * (WC)

1 Borehole Volume (gals): 2.80

1/2 Borehole Volume (gals): 1.40

* This equation is taken from the SAM Manual and applies to wells constructed straddling the water table only. For submerged screens, document all calculations. Porosity is expressed in decimal form.

EQUIPMENT/METHODS

Water Level Meter Type and ID: BP-WLM-1

pH/Temp/Conductivity Meter Type and ID: EC-PH

Purge Equipment: __Submersible Pump -3; X Bailer; __Other:

Sample Equipment: __Teflon Bailer; X Disposable Bailer; __Bladder Pump; __Centrifugal Pump; __Other:

Decon Method: X Steam/High Pressure Wash (X); X 3 Stage (Alconox, tap water, DI rinse); __Other:

Purging Method:

___ Method 1, remove 3 BV, sample after well recovers 80% of total purged drawdown.

X Method 2, remove 1 BV, test parameters until stable per SAM Manual, sample after well recovers 80% of total purged drawdown.

___ Method 3, Low-flow - install pump at least 2 hours prior to start of purging. Follow detailed methodology in SAM Manual.

___ Method 4, remove 1 BV, sample after 2 hours. Note - if well recovers 80% of total purged drawdown, use another method.

___ Method 5, non-purge method.

PURGING INFORMATION

Time	Depth to Water (feet below top of casing)	Drawdown (feet)	Water Volume Purged (gal)	Measured Parameters: Conductivity (µmhos)	Temperature (°C)	pH	Water Description (odor, turbidity, color)
0839							
0847	8.84	3.19	3	3490	27.9	7.88	No Odor, moderate,
0909	9.10	3.45	1.5	3480	27.9	7.87	tan
1027	6.17		SAMPLE				

Total Water Purged (gal): 4.5

Average pumping rate (gpm): 0.15

Maximum Drawdown Depth (DTW2; feet below TOC): 9.10

Drawdown Water Column = (DTW2-DTW1) = (9.10) - (5.65):

RECOVERY CALCULATIONS

80% recovery of drawdown from purging = DTW1 + (0.2)(Drawdown Water Column)

80% recovery of drawdown from purging = 5.65 + (0.2)(3.45) = 6.34

Well Recovery Type: X Fast ___ Slow

SAMPLING INFORMATION

Time of Sample: 1027

Depth to Water at Time of Sampling (DTW3): 6.17

$\%\ Recovery = 1 - \frac{(DTW1) - (DTW3)}{(DTW1) - (DTW2)}$ 85

$\%\ of\ Recovery = 1 - \frac{(5.65)-(6.17)}{(5.65)-(9.10)} = \frac{-0.52}{-3.45}$ %

Quantity	Container Type	Filtered (Y/N)	Sample Preservatives	Analytical Methods to Perform
3	40mL VOAs	N	HCL & ICE or None	TPHg, BTEX, MTBE, DIPE, TAME, ETBE, TBA (EPA 8260B)

STANTEC

International Incorporated

WELL PURGING/SAMPLING LOG

Project Name:	7-Eleven Store No. 16439	Well No.:	SB3
Project Number:	08EL.16439.08.0603	Date:	7/3/2008
Project Address:	14110 Old Hwy 80, El Cajon, CA		

Well GPS: Latitude: Longitude: | Sampled by: JD | Checked by: [signature] | License #: 7205

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in.) (BD): 6 8 10 12

Casing Diameter (in.) (CD): 2 4 6 8

Total Well Depth (ft.) (WD):	9.05	**Product Thickness (ft.):**	0
Static Water Level (ft.) (DTW1):	5.38	**Time measured:**	
Water Column (ft.) (WC=WD-DTW1):	3.67	**Filter Pack Porosity (P): 0.25**	

Borehole Volume (BV) Calculation *: $BV = 0.041 * [CD^2+P(BD^2-CD^2)]*(WC)$

Casing Diameter (in.):	Borehole Diameter (in.):	Calculated Borehole Volume (gal.):
2	8	0.779 * (WC)
4	10	1.517 * (WC)

1 Borehole Volume (gals): 2.86

1/2 Borehole Volume (gals): 1.43

* This equation is taken from the SAM Manual and applies to wells constructed straddling the water table only. For submerged screens, document all calculations. Porosity is expressed in decimal form.

EQUIPMENT/METHODS

Water Level Meter Type and ID: BP-WLM-1

pH/Temp/Conductivity Meter Type and ID: EC-pH

Purge Equipment: __Submersible Pump -3; X Bailer; __Other:

Sample Equipment: __Teflon Bailer; X Disposable Bailer; __Bladder Pump; __Centrifugal Pump; __Other:

Decon Method: __ Steam/High Pressure Wash; X 3 Stage (Alconox, tap water, DI rinse); Other:

Purging Method:

___ Method 1, remove 3 BV, sample after well recovers 80% of total purged drawdown.

X Method 2, remove 1 BV, test parameters until stable per SAM Manual, sample after well recovers 80% of total purged drawdown.

___ Method 3, Low-flow - install pump at least 2 hours prior to start of purging. Follow detailed methodology in SAM Manual.

___ Method 4, remove 1 BV, sample after 2 hours. Note - if well recovers 80% of total purged drawdown, use another method.

___ Method 5, non-purge method.

PURGING INFORMATION

Time	Depth to Water (feet below top of casing)	Drawdown (feet)	Water Volume Purged (gal)	Measured Parameters: Conductivity (µmhos)	Temperature (°C)	pH	Water Description (odor, turbidity, color)
0821							
0831	8.25		3	3190	27.3	8.14	No Odor, Light,
0857	8.54	3.16	1.5	3200	27.3	8.14	+/- clear
1011	6.01		SAMPLE				

Total Water Purged (gal): 4.5

Average pumping rate (gpm): 0.13

Maximum Drawdown Depth (DTW2; feet below TOC): 8.54

Drawdown Water Column = (DTW2-DTW1) = (8.54) - (5.38):

RECOVERY CALCULATIONS

80% recovery of drawdown from purging = DTW1 + (0.2)(Drawdown Water Column)

80% recovery of drawdown from purging = 5.38 + (0.2)(3.16) = 6.01

Well Recovery Type: X Fast ___Slow

SAMPLING INFORMATION

Time of Sample: 1011

Depth to Water at Time of Sampling (DTW3): 6.01

% Recovery = 1 - $\frac{(DTW1) - (DTW3)}{(DTW1) - (DTW2)}$ 80

% of Recovery = 1 - $\frac{(5.38)-(6.01)}{(5.38)-(8.54)} = \frac{-0.63}{-3.16}$ %

Quantity	Container Type	Filtered (Y/N)	Sample Preservatives	Analytical Methods to Perform
3	40mL VOAs	N	(HCL & ICE) or None	TPHg, BTEX, MTBE, DIPE, TAME, ETBE, TBA (EPA 8260B)

Attachment D

Soil and Groundwater Sample Laboratory Reports and Chain-of-Custody Documentation

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Arturo Hoyos
Stantec Consulting Corp - San Diego
2655 Camino Del Rio North, Suite 302
San Diego, CA 92108

Subject : 5 Soil Samples
Project Name : 7-Eleven #16439
Project Number : 08EL.16439.08

Dear Mr. Hoyos,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08**

Sample : **SB1-1.5'** Matrix : Soil Lab Number : 63559-01
Sample Date :06/25/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/04/2008
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	07/04/2008
1,2-Dichloroethane-d4 (Surr)	105		% Recovery	EPA 8260B	07/04/2008
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	07/04/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08**

Sample : **SB2-2'** Matrix : Soil Lab Number : 63559-02
Sample Date :06/25/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	07/03/2008
1,2-Dichloroethane-d4 (Surr)	99.9		% Recovery	EPA 8260B	07/03/2008
Toluene - d8 (Surr)	99.0		% Recovery	EPA 8260B	07/03/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08**

Sample : **SB3-2.5'** Matrix : Soil Lab Number : 63559-03
Sample Date :06/25/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	07/03/2008
1,2-Dichloroethane-d4 (Surr)	99.0		% Recovery	EPA 8260B	07/03/2008
Toluene - d8 (Surr)	99.9		% Recovery	EPA 8260B	07/03/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08**

Sample : **SB4-2.5'** Matrix : Soil Lab Number : 63559-04
Sample Date :06/25/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	07/03/2008
1,2-Dichloroethane-d4 (Surr)	99.3		% Recovery	EPA 8260B	07/03/2008
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	07/03/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 63559
Date : 07/07/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08**

Sample : **SB4-4'** Matrix : Soil Lab Number : 63559-05
Sample Date :06/25/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Toluene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethylbenzene	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Total Xylenes	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Methyl-t-butyl ether (MTBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Diisopropyl ether (DIPE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethyl-t-butyl ether (ETBE)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-amyl methyl ether (TAME)	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-Butanol	**< 0.0050**	0.0050	mg/Kg	EPA 8260B	07/03/2008
TPH as Gasoline	**< 1.0**	1.0	mg/Kg	EPA 8260B	07/03/2008
1,2-Dichloroethane-d4 (Surr)	97.2		% Recovery	EPA 8260B	07/03/2008
Toluene - d8 (Surr)	99.3		% Recovery	EPA 8260B	07/03/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 63559

Date : 07/07/2008

QC Report : Method Blank Data

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethylbenzene	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Toluene	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Total Xylenes	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Diisopropyl ether (DIPE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Ethyl-t-butyl ether (ETBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Methyl-t-butyl ether (MTBE)	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-Butanol	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
Tert-amyl methyl ether (TAME)	< 0.0050	0.0050	mg/Kg	EPA 8260B	07/03/2008
TPH as Gasoline	< 1.0	1.0	mg/Kg	EPA 8260B	07/03/2008
1,2-Dichloroethane-d4 (Surr)	106		%	EPA 8260B	07/03/2008
Toluene - d8 (Surr)	99.7		%	EPA 8260B	07/03/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 63559

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 07/07/2008

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	63512-10	<0.0050	0.0397	0.0397	0.0318	0.0362	mg/Kg	EPA 8260B	7/3/08	80.1	91.1	12.8	70-130	25
Methyl-t-butyl ether	63512-10	<0.0050	0.0397	0.0397	0.0349	0.0372	mg/Kg	EPA 8260B	7/3/08	88.1	93.7	6.21	70-130	25
Tert-Butanol	63512-10	<0.0050	0.198	0.198	0.170	0.174	mg/Kg	EPA 8260B	7/3/08	86.0	87.7	1.97	70-130	25
Toluene	63512-10	<0.0050	0.0391	0.0391	0.0320	0.0369	mg/Kg	EPA 8260B	7/3/08	81.6	94.2	14.3	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 63559

Date : 07/07/2008

QC Report : Laboratory Control Sample (LCS)

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	0.0392	mg/Kg	EPA 8260B	7/3/08	91.1	70-130
Methyl-t-butyl ether	0.0391	mg/Kg	EPA 8260B	7/3/08	95.3	70-130
Tert-Butanol	0.195	mg/Kg	EPA 8260B	7/3/08	86.6	70-130
Toluene	0.0386	mg/Kg	EPA 8260B	7/3/08	95.6	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

KIFF Analytical LLC

2795 2nd Street Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 63559

Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Arturo Hoyos	California EDF Report? ☑ Yes ☐ No
Company / Address: Stantec 2655 Camino del Rio North, Ste. 302, San Diego, CA 92108	Sampling Company Log Code: SISD
Phone #: 619-296-6195 / Fax #: 619-296-6199	Global ID: T0607301281
Project #: 08EL.16439.08 / P.O. #:	EDF Deliverable To (Email Address): Jenna.Martinez@stantec.com
Project Name: 7-Eleven #16439	Sampler Signature: Jay Dasinger
Project Address: 14110 Old Highway 80, El Cajon, CA	

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Sleeve	Poly	Glass	Tedlar	1 4oz Jar	Preservative: HCl	HNO_3	None	ZnAc & NaOH	Matrix: Water	Soil	Air	Analysis Request: 5 Oxygenates/TPH Gas/BTEX (8260B)	TAT	For Lab Use Only
SB1-1.5'	6/25/2008	1130						X						X		X	1 wk	01
SB2-2'	6/25/2008	1310						X						X		X	1 wk	02
SB3-2.5'	6/25/2008	1020						X						X		X	1 wk	03
SB4-2.5'	6/25/2008	1204						X						X		X	1 wk	04
SB4-4'	6/25/2008	1208						X						X		X	1 wk	05
																	1 wk	
																	1 wk	
																	1 wk	
																	1 wk	
																	1 wk	
																	1 wk	

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☑ 1 wk

Relinquished by	Date	Time	Received by
Jay Dasinger	7/2/08	12:00	Kiff Analytical Rep
Kiff Analytical Rep	7/2/08	12:00	
	070308	1036	Kiff Analytical

Remarks:

5 Oxygenates include: MTBE, TAME, TBA, DIPE & ETBE

Bill to:

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
1.6	TJB	070308	1027	IR-1	(Yes) / No

Distribution: Original - Lab; Photocopy - Originator
Rev: 081105

KIFF Analytical LLC

Report Number : 63637
Date : 07/11/2008

Arturo Hoyos
Stantec Consulting Corp - San Diego
2655 Camino Del Rio North, Suite 302
San Diego, CA 92108

Subject : 2 Water Samples
Project Name : 7-Eleven #16439
Project Number : 08EL.16439.08.0410

Dear Mr. Hoyos,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF Analytical LLC

Report Number : 63637
Date : 07/11/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08.0410**

Sample : **SB1** Matrix : Water Lab Number : 63637-01
Sample Date :07/03/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Methyl-t-butyl ether (MTBE)	**3.1**	0.50	ug/L	EPA 8260B	07/11/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Tert-Butanol	**12**	5.0	ug/L	EPA 8260B	07/11/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	07/11/2008
1,2-Dichloroethane-d4 (Surr)	104		% Recovery	EPA 8260B	07/11/2008
Toluene - d8 (Surr)	94.1		% Recovery	EPA 8260B	07/11/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 63637
Date : 07/11/2008

Project Name : **7-Eleven #16439**
Project Number : **08EL.16439.08.0410**

Sample : **SB3** Matrix : Water Lab Number : 63637-02
Sample Date :07/03/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Methyl-t-butyl ether (MTBE)	**1.0**	0.50	ug/L	EPA 8260B	07/11/2008
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	07/11/2008
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	07/11/2008
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	07/11/2008
1,2-Dichloroethane-d4 (Surr)	103		% Recovery	EPA 8260B	07/11/2008
Toluene - d8 (Surr)	103		% Recovery	EPA 8260B	07/11/2008

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 63637

Date : 07/11/2008

QC Report : Method Blank Data

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08.0410**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	07/11/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	07/11/2008
1,2-Dichloroethane-d4 (Surr)	104		%	EPA 8260B	07/11/2008
Toluene - d8 (Surr)	93.2		%	EPA 8260B	07/11/2008
Benzene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Toluene	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	07/11/2008
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	07/11/2008
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	07/11/2008
1,2-Dichloroethane-d4 (Surr)	103		%	EPA 8260B	07/11/2008
Toluene - d8 (Surr)	104		%	EPA 8260B	07/11/2008

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 63637

Date : 07/11/2008

QC Report : Matrix Spike/ Matrix Spike Duplicate

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08.0410**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	63652-03	<0.50	40.1	40.1	41.0	40.0	ug/L	EPA 8260B	7/11/08	102	99.6	2.52	70-130	25
Methyl-t-butyl ether	63652-03	20	40.1	40.1	53.7	53.8	ug/L	EPA 8260B	7/11/08	84.4	84.7	0.349	70-130	25
Tert-Butanol	63652-03	<5.0	200	200	202	203	ug/L	EPA 8260B	7/11/08	101	102	0.535	70-130	25
Toluene	63652-03	<0.50	39.5	39.5	37.8	36.8	ug/L	EPA 8260B	7/11/08	95.7	93.1	2.67	70-130	25
Benzene	63651-01	<0.50	40.1	40.1	40.5	39.6	ug/L	EPA 8260B	7/11/08	101	98.7	2.20	70-130	25
Methyl-t-butyl ether	63651-01	<0.50	40.1	40.1	42.5	41.1	ug/L	EPA 8260B	7/11/08	106	103	3.37	70-130	25
Tert-Butanol	63651-01	<5.0	200	200	198	202	ug/L	EPA 8260B	7/11/08	99.1	101	2.00	70-130	25
Toluene	63651-01	<0.50	39.5	39.5	40.7	39.0	ug/L	EPA 8260B	7/11/08	103	98.7	4.10	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

Report Number : 63637

QC Report : Laboratory Control Sample (LCS)

Date : 07/11/2008

Project Name : **7-Eleven #16439**

Project Number : **08EL.16439.08.0410**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	39.9	ug/L	EPA 8260B	7/11/08	98.5	70-130
Methyl-t-butyl ether	40.0	ug/L	EPA 8260B	7/11/08	85.2	70-130
Tert-Butanol	199	ug/L	EPA 8260B	7/11/08	97.7	70-130
Toluene	39.9	ug/L	EPA 8260B	7/11/08	91.3	70-130
Benzene	40.1	ug/L	EPA 8260B	7/11/08	103	70-130
Methyl-t-butyl ether	40.1	ug/L	EPA 8260B	7/11/08	109	70-130
Tert-Butanol	200	ug/L	EPA 8260B	7/11/08	102	70-130
Toluene	39.5	ug/L	EPA 8260B	7/11/08	109	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd Street, Suite 300 Davis, CA 95618 530-297-4800

KIFF Analytical LLC

2795 2nd Street Suite 300
Davis, CA 95616
Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 63637

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Arturo M. Hoyos	California EDF Report? ☑ Yes ☐ No
Company / Address: Stantec 2655 Camino del Rio North, Ste. 302, San Diego, CA 92108	Sampling Company Log Code: SISD
Phone #: 619-296-6195 / Fax #: 619-296-6199	Global ID: T0607301281
Project #: 08EL.16439.08.0410 / P.O. #:	EDF Deliverable To (Email Address): jmartinez@secor.com
Project Name: 7-Eleven #16439	Sampler Signature: Jay Dasinger
Project Address: 14110 Old Highway 80, El Cajon, CA	

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Container:	Preservative: HCl	Preservative: HNO_3	Preservative: None	Preservative: ZnAc & NaOH	Matrix: Water	Matrix: Soil	Matrix: Air	Matrix:	Analysis Request: 5 Oxygenates/TPH Gas/BTEX (8260B)	TAT	For Lab Use Only
SB1	7/3/2008	1027	3						X				X				X	1 wk	01
SB3	7/3/2008	1011	3						X				X				X	1 wk	02
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	
																		1 wk	

TAT: ☐ 12 hr ☐ 24 hr ☐ 48hr ☐ 72 hr ☑ 1 wk

Relinquished by:	Date	Time	Received by:
JAY DASINGER	7/9/08	13:06	Kiff Analytical Rep
Kiff Analytical Rep	7/9/08	13:03	
	071008	0829	Received by Laboratory: Kiff

Remarks: 5 Oxygenates include: MTBE, TAME, TBA, DIPE & ETBE

Bill to:

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
1.6		071008	0829	IR-1	(Yes) / No

Distribution: Original - Lab; Photocopy - Originator
Rev: 081105

Stantec Consulting Services Inc.
9179 Aero Drive
San Diego CA 92123
Tel: (619) 296-6195
Fax: (619) 296-6199

January 27, 2012
File: 211701006

Mr. Craig Burnett
County of San Diego
Department of Environmental Health
Land and Water Quality Division
P.O. Box 129261
San Diego, CA 92112

Reference: Quarterly Groundwater Monitoring Report – Fourth Quarter 2011
7-Eleven Store #16439
14110 Old Highway 80
El Cajon, CA 92021
Unauthorized Release # H20203-004

Dear Mr. Burnett:

Stantec Consulting Services Inc. (Stantec) has prepared the following report describing results of groundwater monitoring conducted on December 16, 2011, at the above-referenced site (Figure 1). The purpose of this work was to monitor hydrocarbon concentrations in groundwater and to evaluate trends in groundwater flow direction at the site. This report covers the fourth calendar quarter of 2011 (Fourth Quarter 2011) and is intended to satisfy the reporting requirements of the County of San Diego, Department of Environmental Health, Land and Water Quality Division (LWQD), the San Diego Water Board (SDWB), and requirements in Title 23 of the California Code of Regulations.

Groundwater Elevation and Movement Direction

On December 16, 2011, groundwater depth measurements were obtained from nine monitoring wells (MW-2 through MW-4 and MW-7 though MW-12). Depth to groundwater ranged from 4.06 feet below ground surface (bgs) in MW-4 to 11.11 feet bgs in MW-12. Calculated groundwater surface elevations ranged from 649.97 feet above mean sea level (MSL) in MW-10 to 665.68 feet above MSL in MW-4. The average hydraulic gradient was 0.06 with groundwater flow direction toward the southwest. The groundwater elevation contour map for this event is presented as Figure 2. Copies of the Gauging/Purging/Sampling Field Logs are presented in Attachment A.

Groundwater Purging and Sampling

Well MW-1 was not purged or sampled due to improper screen interval. Wells MW-5 and MW-6 were destroyed on May 19, 2010. Wells MW-2 through MW-4 and MW-7 though MW-12 were purged and sampled on December 16, 2011. Purging and sampling was conducted in accordance with the attached Monitoring Well Purging and Sampling Procedures (Attachment B). Groundwater samples were collected in laboratory-supplied glass containers. Containers were capped with Teflon™ septa and placed on ice for transport under chain-of-custody to Kiff Analytical LLC (Kiff), located in Davis, California. Kiff is a hazardous waste laboratory certified by the California Department of Health Services for the required analytical test methods.

Analytical Methods

Groundwater samples collected from the monitoring wells were analyzed for total petroleum hydrocarbons characterized as gasoline (TPHg), and benzene, toluene, ethylbenzene, and total xylenes (BTEX) using Environmental Protection Agency (EPA) Test Method 8260B. In addition, the samples were analyzed for methyl-t-butyl ether (MTBE), t-amyl-methyl ether (TAME), t-butyl alcohol (TBA), di-isopropyl ether (DIPE), and ethyl-t-butyl ether (ETBE) using EPA Test Method 8260B.

Analytical Results

TPHg was detected in the groundwater sample collected from MW-4 at a concentration of 1,600 micrograms per liter (µg/L). TPHg was below a laboratory reporting limit of 50 µg/L in the remaining wells. Benzene was detected in groundwater samples collected from MW-4 and MW-7 at concentrations of 1.4 µg/L and 3.1 µg/L, respectively. Benzene was not detected above a laboratory reporting limit of 0.50 µg/L in remaining wells. MTBE was detected in the groundwater samples collected from MW-4, MW-7, MW-8, and MW-9 at concentrations of 0.74 µg/L, 17 µg/L, 20 µg/L, and 9.1 µg/L, respectively. MTBE concentrations were below a laboratory reporting limit of 0.50 µg/L in the remaining wells.

Recent and historical groundwater data are summarized in Table 1. A groundwater summary map is presented as Figure 2. A benzene and MTBE isoconcentration map is presented as Figure 3. A copy of the analytical report and chain-of-custody documentation is included as Attachment C. Hydrographs for monitoring wells MW-2 through MW-12 are included as Attachment D.

Air Sparging/Soil Vapor Extraction

A combined air sparging/soil vapor extraction (AS/SVE) system was installed at the site in 1999 and began operating on February 15, 2000. The SVE system consisted of a combined thermal and catalytic oxidizer unit (located north of the existing 7-Eleven store building) manifolded to eight soil vapor extraction wells (VE-1, VE-2, VE-3, VE-4, VE-5, VE-6, VE-7, and VE-8). A positive displacement blower capable of 250 standard cubic feet per minute (scfm) air flow applied vacuum to the vapor extraction wells drawing petroleum hydrocarbon vapors from impacted soil in the subsurface to the oxidizer unit where they were abated. System flow rates varied depending on well vacuum, temperature and humidity. In June 2003, the SVE system was replaced with a blower and carbon canisters. The AS system consisted of a 10-horsepower air compressor, capable of supplying up to 35 scfm of filtered atmospheric air at a regulated pressure, manifolded to eight air sparge wells (AS-1, AS-2, AS-3, AS-4, AS-5, AS-6, AS-7, and AS-8). Well construction details are summarized in Table 2. The layout of the former AS/SVE system is presented on Figure 4.

The SVE system began operation on February 15, 2000, in catalytic destruction mode and operated intermittently to the end of August 2001. On August 29, 2001, the SVE system was shut down pending conversion to a carbon system. On November 15, 2001, the SVE system was dismantled and transported to another 7-Eleven site. In June 2003, a blower and carbon canisters were installed on site to allow air sparge system operations to resume. The SVE system started operating in carbon adsorption mode on July 3, 2003, and the AS system began operating on September 5, 2003. Historic influent, process, and effluent vapor sample analytical results are presented in Table 3.

The system was shut down on November 11, 2004, to evaluate potential rebound in hydrocarbon concentrations in groundwater. In a letter dated September 27, 2005, SECOR International Incorporated (now Stantec) formally requested that the AS/SVE system be permanently shut down.

The system was decommissioned and the compound was removed during the Fourth Quarter 2008.

Hydrocarbon Recovery Calculations

The total mass of hydrocarbons treated by the vapor extraction system was estimated using the following equation:

$$M = \frac{V\ C\ Mw\ F_1\ T}{F_2\ F_3}$$

Where:
- M = Total Mass of Hydrocarbons Treated, pounds
- V = Average Volumetric Standardized Flow Rate, scfm
- C = Average Contaminant Concentration, ppmv
- Mw = Molecular Weight, lb/lb-mole
- TPH = 86 lb/lb-mole
- F_1 = Hour to Minute Conversion, 60 min/hr
- F_2 = Conversion Factor for ppm, 1 x 10^6
- F_3 = Ideal Gas Molar Volume, 359 ft^3/lb-mole
- T = Total System Operation Time, hours

Using the above equation, the vapor extraction system treated approximately 2,394 pounds of hydrocarbons from start-up to November 2004. Figures 5 and 6 illustrate pounds of hydrocarbons removed versus time and source TPH concentrations versus time, respectively, for the vapor extraction system.

Conclusions and Recommendations

Compared to the most recent monitoring event (Fourth Quarter 2010; June 20, 2011 for MW-8), TPHg concentrations increased in MW-4; decreased in MW-9; and remained below the laboratory reporting limits in wells MW-2, MW-3, MW-7, MW-8 and MW-10 through MW-12. Benzene concentrations increased in MW-7, decreased in MW-4 and remained below laboratory reporting limits in the remaining monitoring wells. MTBE concentrations decreased in MW-4, MW-7 through MW-9 and remained below laboratory reporting limits in wells MW-2 and MW-3 and MW-10 through MW-12.

On March 23, 2011, a confirmation drilling report and closure request was submitted to the LWQD. The purpose of the confirmation assessment was to evaluate the effectiveness of soil vapor extraction treatment operations in reducing hydrocarbon concentrations in soil beneath the site. And for the LWQD to consider site closure (no further action). In response to the above report, in a letter dated June 30, 2011, the LWQD requested additional information to properly evaluate the site for closure. On October 31, 2011, Stantec prepared and submitted an addendum to the closure report.

If necessary, the next groundwater sampling event will be conducted during the Second Quarter 2012. The LWQD response to the closure addendum is pending.

Limitations

This report has been prepared for the exclusive use of 7-Eleven Inc. as it pertains to their site located at 14110 Old Highway 80 in El Cajon, California. The findings and conclusions rendered in this report are opinions based primarily on field testing of soil vapor and groundwater samples collected during this project. This report does not reflect subsurface variations which may exist

between sampling points. These variations cannot be anticipated nor can they be entirely accounted for even with additional exhaustive testing.

All work has been performed with the degree of skill generally exercised by practicing engineers and geologists in the environmental field. Stantec makes no other warranty, either expressed or implied, concerning the conclusions and professional advice which is contained within the body of this report.

If you have any questions, please call the undersigned at (619) 296-6195.

Respectfully,

STANTEC CONSULTING SERVICES INC.

PROFESSIONAL GEOLOGIST
PATRICK A. McCONNELL
No. 7205
STATE OF CALIFORNIA

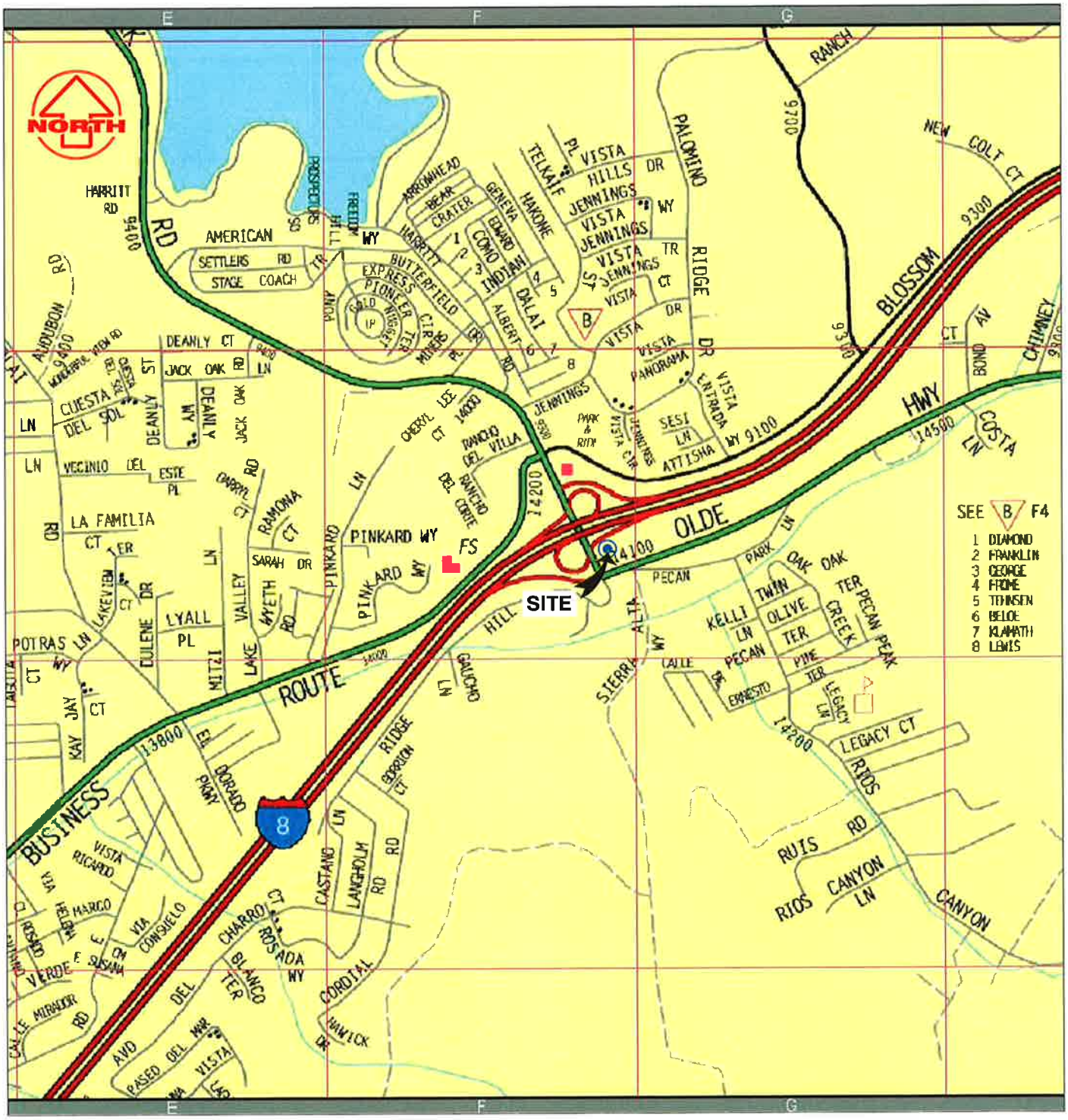
Arturo M. Hoyos
Project Manager

Patrick A. McConnell, PG#7205
Principal Geologist

Enclosures:
Figure 1 - Site Location Map
Figure 2 - Groundwater Summary Map – Fourth Quarter 2011
Figure 3 – Benzene and MTBE Isoconcentration Map – Fourth Quarter 2011
Figure 4 – Site Plan with Former Remediation System Layout
Figure 5 - Pounds of Hydrocarbons Removed Versus Time
Figure 6 - Influent Hydrocarbon Concentration versus Time
Table 1 - Summary of Groundwater Quality and Elevation Data
Table 2 - Well Construction Summary
Table 3 - Soil Vapor Extraction System Sample Analytical Results
Attachment A - Gauging / Purging / Sampling Field Logs
Attachment B - Monitoring Well Purging and Sampling Procedures
Attachment C - Laboratory Report / Chain-of-Custody Documentation
Attachment D - Hydrographs

cc: Jose Rios, 7-Eleven Inc.
John Wainwright, Stantec

FIGURES



Stantec
9179 AERO DRIVE
SAN DIEGO, CALIFORNIA
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PREPARED FOR:				FIGURE:
7-ELEVEN STORE NO. 16439 14110 Old Highway 80 El Cajon, California		**SITE LOCATION MAP**		**1**
JOB NUMBER: 211701006	**DRAWN BY:** JB	**CHECKED BY:** RJO	**APPROVED BY:**	**DATE:** 8/7/06

16439-STLOC.DWG