

PUBLIC NOTICE

PROPOSED LEAKING UST (LUST) CASE CLOSURE

The Arizona Department of Environmental Quality (ADEQ) is considering closure of the following leaking underground storage tank (LUST) cases:

LUST Case File #2735.01-.03 Sa Facility ID # 0-008078 14 Yavapai County Sa

Safari Gas and Repair 145 West Highway 89A Sedona, Arizona 86336

The site is located at 145 West Highway 89A in Sedona, Arizona and a convenience store and automotive repair garage with retail sales of gasoline and diesel fuel operates. The current underground storage tank (UST) system is comprised of two 10,000- and one 12,000-gallon USTs, four dispensers and product conveyance piping. In March 1993, two 6,500- gallon and one 8,500-gallon gasoline USTs were removed from the site. The installation date of the removed USTs is unknown. Releases from the former UST system were reported to ADEQ in March 1993 and ADEQ assigned LUST File Nos. 2735.01, 2735.02 and 2735.03 to the former southeastern 6,500-gallon UST, north dispenser and south dispenser, respectively, based on detectable concentrations of benzene and total recoverable petroleum hydrocarbons (TRPH) in soil samples collected beneath the removed UST system. In May 1993, the current UST system was installed in the same location as the removed UST system. Previous consultants on behalf of the UST owner/operator installed and collected groundwater samples from nine onsite and offsite groundwater monitor wells (MW-1 through MW-9) between December 1995 and May 1999. These same consultants supervised the majority of site characterization activities to investigate the extent and degree of impacted media. ADEQ approved the *Site Characterization Report* in December 1999.

In August 2007, ATC on behalf of the ADEQ State Lead Unit installed offsite groundwater monitor wells MW-10 and MW-11 and conducted a groundwater sampling event. Laboratory analytical results indicated the presence of dissolved phase benzene, toluene, ethylbenzene and total xylenes (BTEX) at wells MW-2, MW-3 and MW-4 at concentrations above their respective ADEQ established Aquifer Water Quality Standards (AWQS). Offsite monitor wells MW-8, MW-9 and MW-10 appear to have been installed with the intention of monitoring offsite groundwater quality associated with the subject site; however, these wells appear to be more appropriately associated with the east adjacent Former Sedona Chevron site (ADEQ LUST File No. 0364.04, Facility ID No. 0-001076).

ATC oversaw operation of an ozone injection system (OIS) between January 2015 and December 2016 and three in-situ chemical oxidation (ISCO) injection events between October and December 2017 in three wells.

ATC submitted a *Corrective Action Completion Report* that indicates that the concentrations of chemicals of concern (COCs) exceeding the applicable regulatory standard is limited to ethylene dibromide (EDB) in MW-2, and methyl tert butyl ether (MTBE) in monitoring well MW-4. Sentinel well location MW-11 has not shown any contamination over applicable regulatory standards since 2007. EDB was added to leaded gasoline to prevent the build-up of lead oxide deposits in internal combustion engines. Leaded gasoline was sold until the early 1990s. MTBE was an oxygenate additive in unleaded gasoline until approximately 2004.

Data provided by ATC in the *Corrective Action Completion Report* received January 9, 2019, and all other available site information has been used by ADEQ to determine whether remaining levels of contaminants at the site are adequately protective of human health and the environment. A site-specific risk assessment and detailed file/information search were also completed.

Based upon the results of remedial activities and site specific information, the above-referenced LUST site is eligible for alternative LUST closure under Arizona Revised Statutes (A.R.S.) §49-1005(E). Arizona Administrative Code (A.A.C.) R18-12-263.04 allows case closure of a LUST site with groundwater contamination above the Arizona AWQS or Tier 1 Corrective Action Standards. ADEQ has considered the results of a site-specific assessment and the rule specific criteria below:

1. Threatened or impacted drinking water wells: ATC conducted a review of the Arizona Department of Water Resources (ADWR) Wells-55 Registry, which indicated sixty-six ADWR-registered wells within an approximate one-half mile radius of the subject site, including 15 potential water supply wells. Forty-six of these registered wells appear to be soil borings, monitor wells or remediation wells associated with the subject site or east adjacent Former Sedona Chevron site. 'Exempt" and "non-exempt" (e.g. apparent potential water supply wells) located on the ADWR 55-wells registry within an approximate half-mile radius of the site indicates the nearest water supply wells are located approximately 1,000 feet northwest and east of the site. Additional supply wells are located approximately 1,500 feet south of the site. The approximate locations of these 10 potential potable water supply wells appear to be located within approximately 1,500 feet of the site. There are no identified drinking water wells within ½ mile of the site. The Arizona Water Company (AWC) provides drinking water to this part of the City. Five AWC wells are located between ½ and 1 mile from the site, but none of these wells are located down gradient from the site.

Based on laboratory analytical results of groundwater samples collected by ATC at the locations of monitor wells MW-2 and MW-11 on 12 occasions between August 14, 2007 and May 23, 2018, the lateral extent of dissolved phase benzene, EDB and MTBE do not extend to well MW-11, located approximately 475 feet southwest of MW-2. The results also suggest that the concentrations of dissolved phase benzene, EDB and MTBE decrease with distance away from the release locations. Results of the BIOSCREEN Model are consistent with this empirical evidence.

2. Other exposure pathways: Limited soil data was identified with the ADEQ LUST File and no soil samples have been collected by ATC during execution of the subject contract. During drilling for installation of the ozone sparge wells (OS-8 through OS-13) competent sandstone or siltstone bedrock was encountered at depths between approximately nine and 14 feet bgs. The presence of competent bedrock impedes the ability to collect soil samples to determine current soil conditions and analyze soil samples for current suite of petroleum hydrocarbon release chemicals of concern (e.g. full list of VOC, PAH and TEL). However, it appears as through soil impacts were previously addressed by the excavation and disposal of impacted soil associated with the former USTs and assigned LUST File Nos. in March 1993. ATC conducted a soil vapor survey in November 2014 to evaluate the potential for vapor intrusion into the current and hypothetical, future site buildings. Five permanent soil vapor probes (SV-6 through SV-10) were installed to a depth of five feet bgs at the corners and west of the current UST basin. Field and laboratory quality assurance/quality control (QA/QC) was acceptable. ATC utilized the laboratory analytical VOC results of the soil vapor samples collected at these soil vapor probes and the EPA on-line version of the Johnson and Ettinger (J&E) Model to perform a Tier 3 Risk Assessment. Analytes detected at concentrations exceeding 10 percent of their respective EPA Regional Screening Levels for Resident Air were included in the model. The Tier 3 Risk Assessment evaluation using the J&E Model indicates



(for the chemicals evaluated) a "best fit" Excess Lifetime Cancer Risk (ELCR) of 5.123 x 10-8 and a Hazard Index (HI) of 1.133 x 10-3. These calculated values are below the target ELCR of 1 x 10-6 and HI of 1, which indicates an acceptable level of vapor intrusion risk into hypothetical, concrete slab ongrade onsite buildings, used for residential purposes. The ADWR database shows two registered "exempt" wells within 500 feet down gradient of the LUST site. Both wells listed irrigation as the registered water use. One well (#55-645227) is capped according to the 1982 ADWR well registration form. The other well (#627298) is registered to the Coconino National Forest and was installed in the early 1900s according to the 1982 ADWR well registration form. There is no well pumping data in the ADWR database, which implies the well is not used. Based on laboratory analytical results of groundwater samples collected by ATC at the locations of monitor well MW-2 and MW-11 on 12 occasions between August 2007 and May 2018, the lateral extent of dissolved phase benzene, EDB and MTBE do not extend to well MW-11, located approximately 475 feet southwest of MW-2. The results also suggest that the concentrations of dissolved phase benzene, EDB and MTBE decrease with distance away from the release locations. Results of the BIOSCREEN Model are consistent with this empirical evidence.

Incidental dermal contact with the groundwater is considered *de minimis* risk. Oak Creek is located approximately 600 feet east of the site. Although the hydrologic relationship between groundwater underlying the site and vicinity and Oak Creek has not been determined, ATC collected six surface water samples from Oak Creek in February 2007 for laboratory analysis of volatile organic compounds (VOC) using Environmental Protection Agency (EPA) Method 8260B. No VOC were detected at concentrations above their respective minimum laboratory method reporting limits. The nearest residential property is an apartment building located south adjacent to the site. No schools, daycare facilities, hospitals or nursing homes were observed within a one-half mile radius of the site.

3. Groundwater plume stability: The maximum dissolved-phase VOC contamination beneath the site appear to have existed around the former northern dispenser island and have decreased in extent and concentration between 2007 and 2018. Based on groundwater elevation data collected on 16 occasions between January 1996 and September 2018 the average calculated flow direction is bearing 221 degrees (southwest) under an average calculated gradient of 0.0738 foot per foot. Monitor wells MW-1 through MW-4 were installed near the source. VOC contamination in down gradient off-site wells MW-8, MW-9 and MW-10 was reported beginning in 1998. In May 2018, all on site wells and MW-8 and MW-9 show no VOC contamination present over an applicable regulatory standard. The average depth to groundwater beneath the site has ranged from approximately 45 to 81 feet bgs from 1994 to 2018. Seasonal groundwater trends are apparent with the highest groundwater elevations typically recorded in the spring and the lowest groundwater elevations in the fall. Depth to groundwater was generally observed to decrease to the south of the Site. The gradient was observed to be approximately 0.0084 feet per foot (ft. /ft.) with a flow direction approximately southwest. Groundwater elevations site wide were observed to have fallen by approximately 2 to 4 ft. since November 2017. In order to evaluate the attenuation of dissolved phase benzene and MTBE concentrations (there is insufficient EDB data for trend evaluation) at groundwater monitor well MW-2 and MW-4, respectively, ATC analyzed the data collected between January 1996 and November 2018 using the Mann-Kendall Statistical Method. The Mann-Kendall analysis was run using an applied Microsoft Excel spreadsheet developed by GSI Environmental Inc., which utilizes up to 40 data inputs to generate an output trend. The trend is categorized as "Increasing", "Probably Increasing", "Decreasing", "Probably Decreasing", "Stable" or "No Trend". ATC used a concentration of 0.01 micrograms per liter (µg/L) for non-detect values reported by the laboratory for this analysis. The Mann-Kendall Statistical Method analysis indicates that the concentrations of dissolved phase benzene and MTBE are decreasing at MW-2 and MW-4, respectively.



ATC analyzed the biodegradation and transport of dissolved phase benzene and EDB down gradient of MW-2 and dissolved phase MTBE down gradient of MW-4 using BIOSCREEN Version 1.4. The software is programmed into a Microsoft Excel workbook and was developed for the Air Force Center for Environmental Excellence. The BIOSCREEN software uses a combination of site-specific data and assumed values to simulate contaminant transport and attenuation through biodegradation. The software allows the user to analyze a groundwater plume under one of three assumptions regarding the rate of natural attenuation: No Decay, First-Order Decay or Instantaneous Decay. According to the EPA BIOSCREEN Natural Attenuation Decision Support System User's Manual, the First-Order Decay Model is most appropriate for petroleum hydrocarbon modeling scenarios. ATC utilized the BIOSCREEN Model to determine the maximum theoretical extent of dissolved phase EDB relative to the estimated releases source area, which was treated as monitor well MW-2. ATC assumed that the source concentration of EDB is equal to the dissolved phase concentration (0.336 µg/L) reported at the location of MW-2 during the most recent (November 13, 2018) sampling event. The BIOSCREEN Model was also utilized for MTBE using the source zone concentration (310 µg/L) reported at well MW-4 during the most recent sampling event at that location (September 28, 2018. Using the first-order decay rate assumption, the model predicts EDB will be detected at concentrations exceeding its ADEQ established AWQS of 0.05 µg/L at a maximum down gradient distance of less than four feet in two years. The model also predicts MTBE will be detected at concentrations exceeding its ADEQ established Tier 1 Cleanup Standard of 94 µg/L at a maximum down gradient distance of approximately 35 feet in 10 years. While benzene was not detected at well MW-2 during the most recent groundwater sampling event, benzene was detected at concentrations just above its ADEQ established AWQS during groundwater sampling events performed in May and September 2018. ATC utilized the maximum observed benzene concentration (7.23 µg/L; September 28, 2018 duplicate sample result) in the BIOSCREEN model to simulate the maximum theoretical extent of dissolved phase benzene emanating from monitor well location MW-2. Using the first-order decay rate assumption, the model predicts benzene could be detected at concentrations above its ADEQ AWQS of 5 µg/L at a negligible distance of less than two feet down gradient in two years.

Characterization of the groundwater plume: Previous consultants to the UST owner/operator 4. supervised the majority of site characterization activities to investigate the extent and degree of impacted media. These investigations included the installation of onsite groundwater monitor wells MW-1 through MW-4 in December 1995 and offsite wells MW-5 through MW-9 in 1996. It is noted that no groundwater sample data collected at monitor well MW-1, reportedly installed at the location assigned ADEO LUST File No. 2735.01, was found within the ADEQ LUST file. This well has not been located by ATC or others since at least April 2002. Offsite groundwater monitor wells MW-5, MW-6 and MW-7 are likely have been abandoned by others and were reportedly devoid of water when accessed in the mid- to late-1990's. Offsite monitor wells MW-8 and MW9 appear to have been installed with the intention of monitoring offsite groundwater quality associated with the subject site; however, these wells appear to be more appropriately associated with the east adjacent Former Sedona Chevron site. Groundwater samples collected by ATC since February 2018 were collected after measuring depth to groundwater and purging in accordance with ATC's Standard Operating Procedure for low-flow groundwater sampling. During purging, physical water quality parameters (oxidation-reduction potential, conductivity, pH, temperature and dissolved oxygen) were recorded at regular intervals. Groundwater samples were prepared for laboratory analysis of VOCs using EPA Method 8260B and, during some sampling events for selected samples, EDB using EPA Methods 504.1 or 8011 to achieve a reporting level below the AWQS, polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270C SIM and tetraethyl lead (TEL) using McCampbell Analytical Method MAI-Organic Pb given the age of the former UST system. Historically and recently (May, September and November 2018), groundwater samples collected at



monitor well MW-2 have contained dissolved phase benzene and/or EDB at concentrations exceeding their respective ADEQ established AWQS. MTBE was detected at a concentration above its ADEQ established Tier 1 Cleanup Standard both historically and during the most recent groundwater sampling event at well MW-4 (September 2018). Additional dissolved phase VOC (toluene, ethylbenzene and/or total xylenes) have been detected at concentrations above their respective ADEQ established AWQS or Tier 1 Cleanup Standard on at least one occasion at wells MW-2, MW-3 and/or MW-4. These additional dissolved phase VOC have not been detected at these wells at concentrations above their respective ADEQ AWQS during four groundwater sampling events since February 2017. Analytical data presented indicates that, as of November 2018, dissolved phase EDB is present at a concentration exceeding its ADEQ established AWQS at the location of monitor well MW-2. Benzene was detected at concentrations above its ADEQ established AWQS during the two previous (May and September 2018) groundwater sampling events. MTBE was detected at a concentration above its ADEQ established Tier 1 Cleanup Standard both historically and during the most recent groundwater sampling event at well MW-4 (September 2018). Therefore, the current dissolved phase COCs are benzene, EDB and MTBE.

- 5. Natural Attenuation: Natural attenuation processes include diffusion, dispersion, sorption, volatilization, and biodegradation. A decreasing trend in chemical concentrations in groundwater has been established, which supports natural attenuation is occurring. Hydrologic and geochemical data can be used to indirectly demonstrate the type(s) of natural attenuation processes. Field measurements for oxidation-reduction potential, conductivity, pH, temperature and dissolved oxygen) were recorded at regular intervals. ATC analyzed the biodegradation and transport of dissolved phase benzene and EDB down gradient of MW-2 and dissolved phase MTBE down gradient of MW-4 using BIOSCREEN Version 1.4. ATC utilized the BIOSCREEN Model to determine the maximum theoretical extent of dissolved phase EDB relative to the estimated releases source area, which was treated as monitor well MW-2. Using the first-order decay rate assumption, the model predicts EDB will be detected at concentrations exceeding its ADEQ established AWQS of 0.05 µg/L at a maximum down gradient Distance of less than four feet in two years. The model also predicts MTBE will be detected at Concentrations exceeding its ADEQ established Tier 1 Cleanup Standard of 94 µg/L at a maximum down-gradient distance of approximately 35 feet in 10 years. While benzene was not detected at well MW-2 during the most recent groundwater sampling event, the model predicts benzene could be detected at concentrations above its ADEQ AWQS of five µg/L at a negligible distance of less than two feet down gradient in two years
- 6. Removal or control of the source of contamination. Following removal of the former UST system on March 16, 1993, approximately 2,000 cubic yards of soil was reportedly excavated from the former UST basin and dispensers. Soil samples were collected for laboratory analysis of BTEX using EPA Method 8020 and TRPH using Method BLS-181. Laboratory analytical results did not indicate BTEX at concentrations above their respective residential Soil Remediation Levels. The excavation was reportedly terminated at maximum depths of approximately 22 feet bgs beneath the former USTs and approximately eight feet bgs beneath the former dispensers and product piping. ATC operated an ozone injection system (OIS) at the site between January 2015 and December 2016. The OIS delivered an estimated 1,023 pounds of ozone to the water bearing zone via six injection wells (OS-8 through OS-13). OIS operations ended in December 2016 due to equipment performance issues. Following OIS operation activities, ATC oversaw the execution of three in-situ chemical oxidation (ISCO) injection events between October 2017 and December 2017 by Regenesis Remediation Services (RRS). RRS injected a total of approximately 5,088 pounds of PersulfOx® as a 10 or 15 percent solution at groundwater monitor wells MW-2, MW-3 and MW-4 during the three events.



- 7. Requirements of A.R.S. §49-1005(D) and (E): The results of the corrective action completed at the site assure protection of public health, welfare and the environment, to the extent practicable, the clean-up activities competed at this site allow for the maximum beneficial use of the site, while being reasonable, necessary and cost effective.
- 8. Other information that is pertinent to the LUST case closure approval: The facility and LUST files were reviewed for information regarding prior cleanup activities, prior site uses and operational history of the UST system prior to removal.

Groundwater data for MW-2 (source area)

Date	PSH	Benzene	EDB	Depth to
	thickness in	AWQS is 5 μg/L	AWQS is 0.05 μg/L	water (feet)
	feet			
January 1996		320		57.47
December 1997	Sheen			
August 1998		500		59.66
May 1999		350		59.67
July 2000		1100		
April 2002	Sheen			67.30
June 2006		1200		
February 2007	0.03			61.62
January 2008	0.02	980		61.69
No sampling				
August 2012		380		
April 2013		500		53.56
June 2014		450		58.78
January 2015				
Ozone injection				
system start				
May 2015		236	<5.00	58.39
August 2015		221	<25.0	59.25
January 2016		575	<10.0	57.64
December 2016				
Ozone injection				
system end				
February 2017		10.5	<2.50	57.57
October- December				
2017 ISCO				
February 2018		1.01	< 0.00414	59.49
March 2018		<1.00	<2.00	59.87
May 2018		5.20	0.208	60.28
September 2018		6.46/7.23	0.495/0.487	60.25
November 2018		<1.66	0.336	58.52



Groundwater data for MW-4 (source area)

Date	PSH thickness	Benzene AWQS is 5 µg/L	MTBE Tier 1 Corrective Action	Depth to water (feet)
	in feet	AWQ5 is 5 μg/L	Standard is 94 µg/L	water (leet)
January 1996	micet	1900		56.90
December 1997	Sheen			
August 1998		180	16	61.22
May 1999		610	210	62.49
July 2000		490		
April 2002	Sheen			62.72
June 2006		150	3000	
August 2007		150	1900	58.55
January 2008		6200	18000	57.70
No sampling				
August 2012		5200	5200	53.63
April 2013		3600	5700	56.20
June 2014		530	740	58.60
January 2015 Ozone				
injection system				
start				
May 2015		646	1580	58.58
August 2015		279	775	59.22
January 2016		15.7	507	60.20
December 2016				
Ozone injection				
system end				
February 2017		<5.00	507	61.79
October- December				
2017 ISCO				
February 2018		< 0.100	4.48	56.51
March 2018		< 0.100	1.04	56.85
May 2018		<1.00	30.4	57.29
September 2018		<1.00	310	56.01

Groundwater data for MW-3 (down gradient of source)

Date	Benzene AWQS is 5 μg/L	MTBE Tier 1 Corrective Action Standard is 94 µg/L	EDB AWQS is 0.05 µg/L	Depth to water (feet)
January 1996	400			64.53
December 1997	990			
August 1998	940	<40		61.22
May 1999	600	12		61.37



July 2000	NS			
April 2002	NS			
June 2006	1200	440		
August 2007	1200	220		68.10
January 2008	1000	200		64.44
No sampling				
August 2012	1100	98		57.96
April 2013	940	430		59.25
June 2014	780	60		62.01
January 2015				
Ozone injection				
system start				
May 2015	791	63	< 5.00	60.99
August 2015	423	257	<25.0	61.69
January 2016	383	349	< 5.00	62.70
December 2016				
Ozone injection				
system end				
February 2017	84.2	<10.0	<2.50	61.92
October-				
December 2017				
ISCO				
February 2018	< 0.100	< 0.100	< 0.00423	62.13
March 2018	< 0.100	< 0.100	< 0.200	62.88
May 2018	<1.00	<1.00	< 0.100	63.62
September 2018	<1.00	<1.00	< 0.100	63.95

Groundwater data for MW-11 (down gradient 475 feet from MW-2)

Date	Benzene	MTBE	EDB	Depth to
	AWQS is 5 μg/L	Tier 1 Corrective	AWQS is 0.05 μg/L	water
		Action Standard is		(feet)
		94 μg/L		
August 2007	1	<5		41.59
March 2008	<1	<5		38.33
No sampling				
August 2012	<1.0	4.4		41.76
April 2013	<1.0	<1.0		40.79
June 2014	<1.0	< 5.0		41.71
January 2015				
Ozone injection				
system start				
May 2015	< 0.500	< 2.00	< 0.500	40.93
August 2015	NS	NS	NS	NS
January 2016	< 0.500	< 2.00	< 0.500	39.83



December 2016				
Ozone injection				
system end				
February 2017	< 0.500	10.3	< 0.500	34.69
October-				
December 2017				
ISCO				
February 2018	< 0.100	32.3	< 0.00423	37.55
March 2018	< 0.100	24.3	< 0.200	36.92
May 2018	<1.00/<1.00	21.4/21.4	<0.0101/<0.0101	38.69

Site specific information concerning this closure is available for review during normal business hours at the ADEQ Records Center http://www.azdeq.gov/function/assistance/records.html, 1110 W. Washington St., Suite 140, Phoenix, AZ 85007. ADEQ welcomes comments on the proposed LUST case closure. Please call the Records Center at 602-771-4380 to schedule an appointment. A 30-day public comment period is in effect commencing March 8, 2019 and ending April 8, 2019. Comments may be submitted by mail or email. Written comments should be sent to:

Arizona Department of Environmental Quality Waste Programs Division Attn: Debi Goodwin 1110 W. Washington Street Phoenix, AZ 85007

or electronically mailed to: dg1@azdeq.gov.

If sufficient public interest is demonstrated during the public comment period, ADEQ may announce and hold a public meeting. ADEQ will consider all submitted comments and reserves the right to respond to those comments following the public comment period. For more information on this notice, please contact the Sr. Risk Assessor, Debi Goodwin at (602) 771-4453 or at dgl@azdeq.gov. or the Project Manager, Samar Bhuyan at sjb@azdeq.gov or (602) 771-4252.

Copies of the cited statutes and rules can be found at: http://www.azleg.gov/ArizonaRevisedStatutes.asp?Title=49, and http://www.azsos.gov/public_services/Title_18/18-12.htm

ADEQ will take reasonable measures to provide access to department services to individuals with limited ability to speak, write or understand English and/or to those with disabilities. Requests for language interpretation, ASL interpretation, CART captioning services or disability accommodations must be made at least 48 hours in advance by contacting Ian Bingham, Title VI Nondiscrimination Coordinator at 602-771-4322 or Bingham.Ian@azdeq.gov. Teleprinter services are available by calling 7-1-1 at least 48 hours in advance to make necessary arrangements.

ADEQ tomará las medidas razonables para proveer acceso a los servicios del departamento a personas con capacidad limitada para hablar, escribir o entender inglés y / o para personas con discapacidades. Las solicitudes de servicios de interpretación de idiomas, interpretación ASL, subtitulados de CART, o



adaptaciones por discapacidad deben realizarse con al menos 48 horas de anticipación contactando a Ian Bingham, Coordinador de Anti-Discriminación del Título VI al 602-771-4322 o Bingham.Ian@azdeq.gov. Los servicios de teleimpresores están disponibles llamando al 7-1-1 con al menos 48 horas de anticipación para hacer los arreglos necesarios.













