



LEAK LOCATION SERVICES, INC.

Qualifications Statement – 2019

I. INTRODUCTION

Leak Location Services, Inc. (LLSI) is the world leader in geoelectric leak location testing. Our highly experienced and trained staff have the in-depth understanding of electrical leak location methods to successfully perform leak location services with the efficiency required to keep projects on time and within the cost proposed.

The founders of LLSI began the development of the geoelectric leak location method at Southwest Research Institute in 1980 and the first commercial leak location survey was performed in 1985. Leak Location Services, Inc. was formed in 1992 as a Texas corporation.

The technical staff of LLSI have a combined total of more than 89 years of commercial geomembrane leak location experience. LLSI has performed more than 3,630 leak location surveys and surveyed more than 549,640,000 square feet of survey. LLSI has successfully performed leak location surveys in 47 states, eight Canadian provinces, and 28 foreign countries.

In 2018, LLSI completed 134 geomembrane leak location surveys. The area surveyed was more than 30,091,500 square feet (690 acres). In the last three years, LLSI has surveyed more than 86,119,300 square feet (1,977 acres) of geomembrane. These surveys were performed in accordance with ASTM standards D6747, D7002, D7007, D7240, and D7953.

LLSI has developed, designed, and built the specialized equipment required to perform these services. LLSI leak location equipment, software, and procedures are custom designed and fabricated by LLSI employees to produce unequaled leak detection capabilities. The equipment and procedures have been improved and optimized through 26 years of field applications.

II. PERSONNEL QUALIFICATIONS

The personnel qualifications of Leak Location Services, Inc. are unmatched in the world. Five LLSI leak location supervisors have at least eight years of experience and have surveyed more than 9 million square feet of geomembrane in the last three years. Table 1 in Section III of this document lists the leak location experience in the last three years.

LLSI holds training meetings to maximize operator proficiency and knowledge. LLSI field personnel also have received safety training for OSHA HAZWOPER, OSHA Construction Safety and Health, OSHA 30 Hour Construction Industry Outreach, MSHA work at surface mines, SafeLand USA, confined space entry, first aid, CPR and AED. In addition, LLSI subscribes to ISNetworld, PICS, PEC, Browz, and CanQual safety programs. Resumes of the LLSI personnel follow.

MATTHEW KEMNITZ

Mr. Kemnitz is the President of Leak Location Services, Inc. (LLSI). He has obtained the Engineer in Training certification, has a Bachelor of Science Degree in Mechanical Engineering from the University of Texas at Arlington, and has completed course work toward a Master's Degree in Civil Engineering. As President, Matthew Kemnitz is responsible for:

- Scheduling of projects
- Project Consulting
- Management of systems related to the delivery of LLSI's services to clients
- Ensuring business operations are efficient
- Management of payables/receivables and payroll
- Management of LLSI technicians, implementation of rewards/recognition, and coaching practices to align personnel with company goals
- Improvement of systems and equipment
- Prioritizing of company, employee, and client requirements

Mr. Kemnitz has expert knowledge of the principles and application of all leak location methods and is fluently conversant as a technical consultant to clients for potential and ongoing projects. He has been instrumental in promoting industry education of the leak location method through his technical papers and presentations at major industry events. Mr. Kemnitz has personally supervised numerous leak location surveys. Mr. Kemnitz has performed multiple ELIM (Electrical Leak Imaging and Monitoring) System data collections and surveys and is principal in updating the design of these systems.

Through his prior positions, Mr. Kemnitz developed skills in the design of large scale civil engineering projects on a variety of scales, and was involved with various elements of site design, erosion control, grading, drainage, sewer, water, storm water and franchise utilities. His skills also include preparation of feasibility studies, obtaining permits, final engineering design and site plans, and supplying accurate projections of production costs. Additionally, he interfaced with project managers, CAD technicians, city employees, and senior staff to assess client needs and devise appropriate technical solutions to meet them.

DALE KEMNITZ

Dale Kemnitz is the Operations Manager at Leak Location Services, Inc. Mr. Kemnitz joined the company in 2013 and is a business professional equipped with more than 39 years combined leadership expertise with diverse business development capabilities in environmental services, engineering support, and commercial product services. Relative to his position is his track record of building, maintaining, and cultivating business relationships, along with procuring and managing accounts. Mr. Kemnitz' business skills include enhanced operational productivity, efficiency, and improved performance of organizations through skillful application and understanding of internal business processes and environments as affected by external forces and

trends. He has first-hand knowledge of all geomembrane leak location methods with most of his experience in geomembranes covered with earth materials.

JOHN ORTIZ

John Ortiz is a Senior Project Manager and Safety Manager at LLSI. Mr. Ortiz has been employed with LLSI since 2008. He has obtained a Bachelor of Science in Civil Engineering from the University of North Dakota and is a certified MSHA safety instructor. Mr. Ortiz is also responsible for developing safety plans, implementing safety programs and conducting safety training. Mr. Ortiz is a technical expert in each geomembrane leak location survey method and provides consulting to clients for projects requiring these services. He has performed more than 280 geomembrane leak location surveys including an area of 36,482,695 square feet (838 acres). Mr. Ortiz has also installed an Electrical Leak Imaging and Monitoring (ELIM) System as well as performed several ELIM System data collections. Mr. Ortiz's responsibilities at LLSI also include developing proposals, work plans, submittals, and reports; training employees, managing projects and scheduling field technicians. In 2018, Mr. Ortiz supervised 13 geomembrane leak location surveys including an area of approximately 1,550,940 square feet (35 acres).

MARTIN MORALES

Mr. Morales is the Field Services Manager for field applications of the geoelectric leak location method and is the Shop Manager for the construction and repair of the custom LLSI leak location equipment. He has a Bachelor of Science Degree in Electronic Engineering Technology from DeVry Institute. He began performing geomembrane leak location services in 1998. His experience includes leading crews for more than 475 geomembrane leak location projects. He was the on-site supervisor for the installation of four permanent leak monitoring systems. He is thoroughly familiar with the work, including field applications, equipment construction, troubleshooting, and maintenance. In 2018, Mr. Morales performed or supervised 17 geomembrane leak location surveys for a total area of approximately 4,267,320 square feet of geomembrane (98 acres).

EDGAR BARRAZA

Mr. Barraza is a Senior Field Technician and started work at LLSI in 2002. He has an Associate of Applied Science in Electronic Engineering Technology from Hallmark Institute. He has first-hand knowledge and all leak location methods, including leading more than 430 projects. In 2017 Mr. Barraza led or worked on 31 geomembrane leak location projects including an area of 6,017,480 square feet of geomembrane (138 acres).

THANE HEFLEY

Mr. Hefley is a Senior Field Technician and has an Associate of Applied Science in Electronic Engineering Technology from Hallmark Institute. He started work at LLSI in 2002. He has experience in all the implementations of leak location surveys. In 2017, Mr. Hefley supervised or performed 30 geomembrane leak location surveys including a total area of 5,408,074 square feet (124 acres).

PISSANU GATESUWAN

Mr. Gatesuwan is a Senior Field Technician and has an Associate Degree in Computer and Electronics Engineering Technology from ITT Technical Institute. He started work at LLSI in 2008. He is experienced in electronic equipment fabrication and in all types of leak location surveys provided by LLSI. In 2017, he performed 31 geomembrane leak location surveys including an area of 5,574,890 square feet of geomembrane (128 acres).

JAMES HAYNES

Mr. Haynes is a Field Technician and has a Bachelor of Arts in Business Management from Whitworth University. He has training in higher-level leadership and heavy aircraft maintenance in the Air Force where he was responsible for training new employees for preflight servicing. He joined LLSI in 2015 and has performed or supervised more than 100 geomembrane leak location surveys. In 2017, he performed 26 geomembrane leak location surveys including an area of 5,703,510 square feet of geomembrane (130 acres).

III. EXPERIENCE

Table 1 shows the area surveyed, in square feet, by current LLSI field supervisors for the previous three years.

Table 1. Leak Location Supervisor Experience for the Previous Three Years (2016 - 2019)

Survey Operator	Survey Type - ASTM D 7007, D7002, D7240,			Total (sq. ft.)
	Earth	Water	Bare	
James Haynes	10,827,478	5,728,578	3,318,357	19,874,413
Edgar Barraza	11,157,321	3,829,936	3,071,772	18,059,029
Thane Hefley	11,555,931	2,986,743	2,491,520	17,034,194
Pissanu Gatesuwan	4,941,046	4,145,002	4,530,827	13,616,875
John Ortiz	5,870,924	2,277,662	161,000	8,309,586
Martin Morales	2,587,257	3,903,140	1,589,500	8,079,897
Total	46,939,957	22,871,061	15,162,976	84,973,994

IV. PUBLICATIONS

LLSI founders and personnel have published more than 30 technical papers regarding leak location methods and applications over 25 years. A list of most of these publications is available and can be downloaded from the LLSI web site at www.llsi.com/publication.

V. PROJECTS

In the year 2018, LLSI completed 134 geomembrane leak location surveys including more than 30,091,500 square feet (690 acres) of geomembrane. Table 2 lists the survey type, leak location operators, area, and number of leaks located for the geomembrane leak location surveys completed in 2018.



Table 2. Leak Location Surveys Completed in 2018

Survey Type	Surveyor (s)	Area Surveyed (Sq. Ft.)	Leaks
Soil	Haynes	360,000	1
Water Puddle	Gatesuwan	108,900	2
Deep Water	Barraza, Gatesuwan	190,500	2
Soil	Barraza	70,580	1
Soil	Haynes	376,500	3
Soil	Haynes	135,000	2
Soil	Bergemann	135,000	0
Soil	Ortiz	112,500	1
Water Puddle	Bergemann	112,500	4
Water Puddle	Bergemann	84,000	6
Soil	Haynes	84,000	3
Deep Water	Hefley	20,800	10
Deep Water	Hefley	20,800	0
Soil	Ortiz	65,000	1
Soil	Haynes	65,000	0
Soil	Barraza, Haynes	115,200	1
Soil	Bergemann	115,200	6
Soil	Bergemann	72,800	2
Soil	Hefley	72,800	2
Deep Water	Barraza, Gatesuwan	85,000	4
Soil	Haynes, Gatesuwan	85,000	1
Water Puddle	Hefley, Barraza	435,600	9
Soil	Gatesuwan, Barraza	1,525,000	9
Soil	Gatesuwan	327,115	0
Soil	Haynes	100,000	1
Spark	Hefley	400	75
Spark	Gatesuwan	52,000	35
Soil	Haynes	590,000	2
Soil	Hefley	145,500	1
Deep Water	Hefley	90,000	1
Deep Water	Hefley	350,000	1
Soil	Haynes	35,000	0
Soil	Morales	35,000	0
Soil	Morales	15,000	1
Soil	Bergemann	15,000	0
Shallow Water	Barraza	15,000	4
Shallow Water	Ortiz	163,000	2



Deep Water	Hefley	81,500	8
Deep Water	Hefley	63,000	4
Soil	Hefley	185,000	2
Deep Water	Haynes, Morales	1,081,000	26
Soil	Haynes	413,800	1
Soil	Ortiz	8,275	3
Spark	Hefley	19,200	0
Soil	Barraza	7,750	0
Shallow Water	Morales	25,000	13
Deep Water	Hefley, Gatesuwan	255,600	4
Deep Water	Hefley, Gatesuwan	255,600	21
Deep Water	Hefley, Gatesuwan	255,600	7
Deep Water	Hefley, Gatesuwan	255,600	7
Shallow Water	Gatesuwan, Bergemann	60,000	11
Deep Water	Barraza, Gatesuwan, Haynes, Morales	435,600	1
Deep Water	Barraza, Gatesuwan, Haynes, Morales	3,484,800	24
Water Puddle	Gatesuwan	328,125	8
Water Puddle	Gatesuwan	305,000	5
Soil	Haynes, Gatesuwan	633,000	13
Soil	Hefley, Barraza	472,000	0
Soil	Morales	204,000	5
Soil	Ortiz	60,000	1
Soil	Hefley	200,000	2
Deep Water	Haynes	155,000	7
Deep Water	Ortiz	322,917	18
Soil	Morales	53,000	0
Soil	Haynes, Barraza	400,000	5
Soil	Hefley	26,000	2
Deep Water	Morales	454,000	10
Soil	Barraza	175,000	4
Soil	Morales	80,460	0
Deep Water	Morales	80,460	0
Soil	Gatesuwan	56,700	26
Deep Water	Morales	12,800	3
Deep Water	Gatesuwan	385,250	0
Deep Water	Hefley	91,200	8
Soil	Gatesuwan	208,200	1
Deep Water	Hefley	357,190	3
Deep Water	Hefley	37,250	2
Shallow Water	Barraza	115,200	33
Water Puddle	Gatesuwan	4,200	0



Water Puddle	Morales	150,000	0
Water Puddle	Barraza	83,750	8
Water Puddle	Haynes	103,000	243
Deep Water	Ortiz	19,800	8
Deep Water	Ortiz	64,600	26
Deep Water	Ortiz	1,350	2
Deep Water	Ortiz	96,600	9
Soil	Barraza	10,760	0
Soil	Barraza	32,290	0
Soil	Ortiz	150,000	0
Soil	Hefley	645,834	0
Deep Water	Ortiz	112,500	1
Water Puddle	Haynes	182,250	0
Water Puddle	Gatesuwan	14,500	0
Water Puddle	Hefley	35,000	0
Soil	Barraza	53,000	0
Deep Water	Morales	118,000	8
Water Puddle	Gatesuwan	50,000	0
Soil	Gatesuwan	104,540	0
Water Puddle	Morales	150,000	9
Water Puddle	Morales	150,000	0
Shallow Water	Hefley	13,100	9
Shallow Water	Gatesuwan	1,800	0
Shallow Water	Gatesuwan	300,000	0
Deep Water	Hefley	87,000	8
Shallow Water	Barraza	100,000	0
Deep Water	Barraza	168,000	5
Water Puddle	Barraza	46,250	3
Water Puddle	Barraza	46,250	0
Water Puddle	Barraza	46,250	0
Water Puddle	Barraza	46,250	0
Soil	Barraza	296,000	2
ELIM	Kemnitz	522,720	0
Shallow Water	Gatesuwan	168,000	1
Deep Water	Hefley	36,300	1
Deep Water	Barraza	490,830	6
Water Puddle	Gatesuwan	8,800	4
Spark	Haynes	247,160	19
Deep Water	Hefley	195,000	6
Deep Water	Barraza	168,000	8
Water Puddle	Haynes	56,700	7



Water Puddle	Haynes	51,000	4
Shallow Water	Barraza	51,000	0
Deep Water	Hefley	150,000	5
Soil	Ortiz, Gatesuwan	588,000	4
Soil	Hefley, Barraza	778,533	16
Soil	Hefley, Barraza	778,533	16
Soil	Hefley, Barraza	788,533	15
Water Puddle	Gatesuwan	198,400	4
Spark	Gatesuwan	198,400	1
Water Puddle	Haynes	197,500	0
Water Puddle	Morales	724,000	3
Soil	Haynes	100,000	2
Soil	Barraza	100,000	2
Soil	Morales	245,000	3

