

# LEAK LOCATION SERVICES, INC.

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## *Qualification Statement - 2017*

### 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 principals 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 155 years of commercial geomembrane leak location experience. LLSI has performed more than 3,380 leak location surveys and more than 494,800,000 square feet of survey. LLSI has successfully performed leak location surveys worldwide for more than 24 years. LLSI has provided leak location services in 47 states, eight Canadian provinces, and 28 foreign countries.

In 2016, LLSI completed 199 geomembrane leak location surveys. The area surveyed was more than 33,766,000 square feet (775 acres). In the last three years, LLSI has surveyed 95,474,000 square feet (2,192 acres) of geomembrane. These surveys were performed in accordance with ASTM standards D7002, D7007, D7240, and D7953.

LLSI has developed, designed, and built the specialized equipment required to perform these services. The LLSI leak location equipment, software, and procedures are custom-designed and fabricated by LLSI to produce unequalled leak detection capabilities. The equipment and procedures have been improved and optimized through 24 years of field applications.

### II. PERSONNEL QUALIFICATIONS

The personnel qualifications of Leak Location Services, Inc. are unmatched in the world. Seven LLSI leak location personnel have more than five 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, and CPR. In addition, LLSI subscribes to the ISN, PICS, PEC, Browz, and CanQual safety programs. Resumes of the LLSI personnel follow.

#### **MATTHEW KEMNITZ - Owner and President**

Mr. Kemnitz is the Operations Officer / Project Engineer at Leak Location Services, Inc. He has obtained the Engineer in Training certification, has a Bachelors of Science Degree in Mechanical Engineering from the University of Texas at Arlington, and has completed course work toward a Masters Degree in Civil Engineering. As Operations Officer, Matthew Kemnitz is responsible for:

- Scheduling of projects
- Project Consulting



Since 1992

[www.llsi.com](http://www.llsi.com) [results@llsi.com](mailto:results@llsi.com)

- Management of systems related to the delivery of LLSI's services to clients
- Ensuring that business operations are efficient
- Management of payables/receivables and payroll
- Management of LLSI technicians and 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 Client Relations Officer and is a Project Manager at Leak Location Services, Inc. Mr. Kemnitz joined the company in 2013 and is a business professional equipped with more than 30 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**

Mr. Ortiz is a Senior Project Manager/ Safety Manager at Leak Location Services, Inc. He has a BS in Environmental Science from the University of Phoenix and a BA in Psychology with a focus in industrial and organizational psychology from The University of Texas at San Antonio. Mr. Ortiz has first-hand knowledge of all geomembrane leak location methods. He is responsible for developing proposals, reports, safety plans, training new employees, implementing safety programs, and conducting safety meetings. He began working at LLSI in 2008 and he is a certified MSHA safety instructor.

In 2016, Mr. Ortiz performed 19 geomembrane leak location surveys including an area of 3,039,100 square feet. Mr. Ortiz has also installed an Electrical Leak Imaging and Monitoring System (ELIM) system as well as performed two ELIM System data collections and surveys.

### **MARTIN MORALES**

Mr. Morales is a Senior Staff Technician 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 Bachelors Degree in Electronic Engineering Technology from DeVry Institute. He began performing geomembrane leak location services in 1998. His experience includes leading crews for about 440 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, and equipment construction, troubleshooting, and maintenance.

In 2016 alone, Mr. Morales led or performed 23 geomembrane leak location surveys for a total area of 5,991,900 square feet of geomembrane. These included 4,501,500 square feet of geomembrane covered with water.

### **BRYAN BERGEMANN**

Mr. Bergemann is a Senior Staff Technician who began performing geomembrane leak location surveys in 1995. Mr. Bergemann holds the distinctions of having performed more geoelectric leak location surveys and more area than anyone in the world. His experience includes leading crews for more than 624 geomembrane leak location surveys. He is thoroughly familiar with the work, including field applications, and equipment construction, and maintenance.

In 2016, Mr. Bergemann performed and supervised 42 geomembrane leak location projects including an area of 8,536,900 square feet including 3,654,800 square feet of survey with earth materials in the geomembrane.

### **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 368 projects. In 2016 Mr. Barraza led or worked on 29 geomembrane leak location projects including an area of 7,386,700 square feet of geomembrane. Of that total 4,677,200 square feet were on geomembrane covered with earth materials.

### **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 of the implementations of leak location surveys.

In 2016 alone, Mr. Hefley supervised or performed 33 geomembrane leak location surveys including a total area of 9,227,499 square feet. These included 4,094,800 square feet of geomembrane covered with earth materials and 4,199,700 square feet of geomembrane covered with water.

### **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 2016, he performed 51 geomembrane leak location surveys including an area of 8,124,000 square feet of geomembrane including 4,515,000 square feet of bare geomembrane.

**JAMES HAYNES**

Mr. Haynes is a Field Technician and has a BA 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 on 53 geomembrane leak location surveys. In 2016 he surveyed 9,557,800 square feet of geomembrane including an area of 7,134,400 square feet of geomembrane covered with earth materials.

**III. EXPERIENCE**

The areas surveyed by current LLSI leak location personnel for three classes of leak location surveys for the past three years are shown in Table 1.

Table 1. Full-Time On-Site Leak Location Field Experience for the Last Three Years (2014 - 2016)

Survey Operator	Survey Type - ASTM D 7007, D7002, D7240, D7953			Total (sq. ft.)
	Earth	Water	Bare	
Bryan Bergemann	8,889,800	5,030,000	5,191,100	19,110,900
Martin Morales	3,673,800	7,475,500	1,625,600	12,774,920
Edgar Barraza	11,740,200	6,991,000	5,198,500	23,929,700
Thane Hefley	9,489,800	7,302,700	3,796,900	20,589,400
Pissanu Gatesuwan	2,160,100	6,645,900	7,019,000	15,825,000
John Ortiz	6,510,800	2,384,000	883,300	9,778,100
Matthew Kemnitz	2,182,000	523,000	230,000	2,935,000
Dale Kemnitz	2,146,000	586,000	1,008,000	3,740,000
James Haynes	12,717,400	1,903,600	2,179,800	16,800,800
Total	59,509,900	38,841,700	27,132,200	

**IV. PUBLICATIONS**

LLSI personnel have published more than 30 technical papers about the leak location method and applications in the last 24 years. A list of most of these publications is available on the LLSI web site at [www.llsi.com/publication](http://www.llsi.com/publication). Many of the publications can be downloaded.

**V. PROJECTS**

In the year 2016, LLSI completed 199 geomembrane leak location surveys including more than 33,766,000 square feet (775 acres) of geomembrane. Table 2 lists the survey type, leak location operators, area, and number of leaks located for these geomembrane leak location surveys completed in 2016.

Table 2. Leak Location Surveys Completed in 2016

Completion Date	Survey Type	Surveyor(s)	Sq. Ft	Leaks
13-Jan	Puddle	Barraza	70,000	4
26-Jan	Towed	Gatesuwan	110,000	0
28-Jan	Earth	Barraza, Haynes	1,183,400	12

Completion Date	Survey Type	Surveyor(s)	Sq. Ft	Leaks
28-Jan	Puddle	Hefley	307,900	21
9-Feb	Towed	Morales, Hefley, Gatesuwan	1,070,000	29
9-Feb	Wading	Morales, Hefley, Gatesuwan	70,000	12
20-Feb	Earth	Bergemann	210,000	2
22-Feb	Towed	Bergemann	366,500	10
26-Feb	Spark	Gatesuwan	18,000	7
26-Feb	Spark	Gatesuwan	18,000	8
9-Mar	Towed	Bergemann	521,500	5
9-Mar	Earth	Haynes	270,000	9
9-Mar	Puddle	Gatesuwan	30,000	7
9-Mar	Puddle	Gatesuwan	30,000	7
12-Mar	Puddle	Gatesuwan	73,600	7
12-Mar	Puddle	Gatesuwan	73,600	7
15-Mar	Spark	Gatesuwan	30,000	6
15-Mar	Spark	Gatesuwan	30,000	6
18-Mar	Towed	Ortiz	73,000	4
20-Mar	Spark	Gatesuwan	73,600	52
20-Mar	Spark	Gatesuwan	73,600	52
22-Mar	Puddle	Morales	148,200	0
22-Mar	Towed	Haynes	32,500	10
31-Mar	Earth	Ortiz	36,300	2
3-Apr	Puddle	Gatesuwan	101,000	2
5-Apr	Puddle	Hefley	13,000	1
5-Apr	Puddle	Hefley	13,000	3
6-Apr	Puddle	Barraza	55,000	26
6-Apr	Spark	Gatesuwan	101,000	16
13-Apr	Wading	Barraza	109,000	30
14-Apr	Puddle	Barraza	200,000	2
21-Apr	Puddle	Hefley	84,000	1
28-Apr	Wading	Ortiz, Gatesuwan	529,000	10
29-Apr	Towed	Bergemann, Haynes	1,140,000	29
29-Apr	Towed	Barraza	67,000	3
1-May	Puddle	Bergemann	43,600	4
5-May	Puddle	Bergemann	109,000	40
5-May	Towed	Morales	207,000	0
6-May	Puddle	Hefley	335,000	13
11-May	Earth	Bergemann	44,000	0
11-May	Puddle	Gatesuwan	101,000	0
12-May	Spark	Gatesuwan	101,000	5
17-May	Earth	Hefley, Haynes	1,075,500	0
18-May	Towed	Barraza, Hefley	370,000	6
19-May	Wading	Barraza	80,000	17
22-May	Puddle	Hefley	180,000	1
22-May	Towed	Hefley	108,000	6
24-May	Puddle	Gatesuwan	252,000	0
24-May	Puddle	Bergemann	252,000	5
26-May	Towed	Morales, Haynes	71,500	6
27-May	Towed	Bergemann	30,000	10
8-Jun	Puddle	Morales	150,000	1
8-Jun	Towed	Hefley	15,000	5
8-Jun	Towed	Hefley	15,000	2
8-Jun	Towed	Hefley	37,500	12

Completion Date	Survey Type	Surveyor(s)	Sq. Ft	Leaks
8-Jun	Towed	Hefley	72,000	8
8-Jun	Towed	Hefley	2,300	0
9-Jun	Puddle	Haynes	252,000	2
10-Jun	Puddle	Gatesuwan	580,000	9
15-Jun	Earth	Bergemann	291,000	0
17-Jun	Earth	Ortiz	147,100	2
17-Jun	Puddle	Gatesuwan	28,000	8
17-Jun	Puddle	Gatesuwan	39,200	0
18-Jun	Earth	Barraza	370,000	0
18-Jun	Puddle	Bergemann	196,000	20
18-Jun	Spark	Gatesuwan	150,000	0
20-Jun	Puddle	Gatesuwan	186,000	1
20-Jun	Spark	Gatesuwan	28,000	4
24-Jun	Earth	Hefley	60,000	1
24-Jun	Earth	Bergemann, Hefley	580,000	3
24-Jun	Spark	Gatesuwan	186,000	26
25-Jun	Puddle	Morales, Haynes	150,000	4
25-Jun	Towed	Bergemann	45,000	12
25-Jun	Towed	Bergemann	54,000	10
26-Jun	Puddle	Barraza	220	0
30-Jun	Earth	Bergemann	129,600	1
1-Jul	Puddle	Barraza	300,000	0
5-Jul	Puddle	Haynes	135,200	8
5-Jul	Towed	Bergemann	52,700	15
5-Jul	Towed	Bergemann	43,400	9
12-Jul	Towed	Morales	588,000	14
12-Jul	Towed	Hefley	44,000	1
16-Jul	Puddle	Gatesuwan	150,000	2
16-Jul	Towed	Ortiz	95,000	13
19-Jul	Puddle	Barraza	150,000	0
19-Jul	Spark	Gatesuwan	39,200	1
21-Jul	Elim	Morales	522,720	0
22-Jul	Earth	Ortiz, Haynes	400,000	0
26-Jul	Towed	Barraza	24,000	0
26-Jul	Puddle	Haynes	12,100	5
26-Jul	Wading	Gatesuwan	125,000	0
28-Jul	Towed	Gatesuwan	54,000	8
28-Jul	Towed	Gatesuwan	25,000	1
6-Aug	Puddle	Barraza	60,000	0
7-Aug	Puddle	Gatesuwan	1,200,000	2
10-Aug	Earth	Bergemann	487,000	2
11-Aug	Earth	Ortiz	158,000	3
12-Aug	Earth	Ortiz	90,000	0
12-Aug	Earth	Barraza, Haynes	1,350,000	2
13-Aug	Earth	Ortiz	10,000	2
13-Aug	Towed	Bergemann	196,000	13
15-Aug	Puddle	Bergemann	30,000	0
16-Aug	Puddle	Haynes	252,000	2
16-Aug	Towed	Gatesuwan	56,900	0
16-Aug	Towed	Gatesuwan	34,500	0
17-Aug	Puddle	Barraza	28,800	1
21-Aug	Puddle	Bergemann	210,000	1

Completion Date	Survey Type	Surveyor(s)	Sq. Ft	Leaks
23-Aug	Earth	Barraza	1,000	0
23-Aug	Tow, wade, raft	Morales, Hefley	860,600	10
24-Aug	Earth	Ortiz	25,000	1
25-Aug	Puddle	Barraza	130,000	2
25-Aug	Puddle	Barraza	252,000	0
25-Aug	Towed	Bergemann	1,760	3
25-Aug	Towed	Bergemann	13,400	17
25-Aug	Towed	Bergemann	3,840	8
29-Aug	Towed	Gatesuwan	193,000	1
29-Aug	Towed	Gatesuwan	138,000	1
30-Aug	Earth	Barraza, Haynes	121,000	0
2-Sep	Puddle	Morales	52,000	52
9-Sep	Puddle	Barraza	350,000	3
12-Sep	Earth	Morales	95,800	0
12-Sep	Puddle	Gatesuwan	65,000	0
12-Sep	Towed	Bergemann, Hefley	366,500	6
14-Sep	Spark	Gatesuwan	65,000	1
15-Sep	Earth	Bergemann	40,000	0
16-Sep	Puddle	Barraza	1,000	0
20-Sep	Puddle	Bergemann	31,500	0
20-Sep	Puddle	Barraza	90,000	3
21-Sep	Towed	Morales	44,800	15
21-Sep	Earth	Ortiz, Haynes	562,100	20
21-Sep	Earth	Ortiz, Haynes	161,300	2
21-Sep	Earth	Ortiz, Haynes	350,000	3
22-Sep	Towed	Hefley	60,000	1
22-Sep	Towed	Hefley	40,000	1
23-Sep	Puddle	Gatesuwan	95,100	1
25-Sep	Spark	Gatesuwan	95,100	0
28-Sep	Earth	Bergemann	10,000	1
30-Sep	Earth	Haynes	6,300	0
30-Sep	Earth	Haynes	6,300	0
30-Sep	Earth	Haynes	6,300	0
30-Sep	Earth	Haynes	6,300	0
30-Sep	Earth	Haynes	6,300	0
3-Oct	Puddle	Bergemann	35,000	9
3-Oct	Puddle	Bergemann	35,000	4
3-Oct	Towed	Bergemann, Haynes	54,000	11
4-Oct	Earth	M. Kemnitz	8,000	0
5-Oct	Earth	Bergemann, Hefley	505,000	2
5-Oct	Earth	Ortiz	160,000	0
5-Oct	Earth	Morales	95,800	1
6-Oct	Puddle	Bergemann	35,000	0
6-Oct	Puddle	Bergemann	35,000	0
6-Oct	Puddle	Ortiz	3,000	1
6-Oct	Puddle	Ortiz	46,800	0
7-Oct	Puddle	Gatesuwan	110,000	2
12-Oct	Earth	Barraza, Gatesuwan	698,800	0
13-Oct	Earth	Haynes	240,000	1
13-Oct	Earth	Ortiz	130,000	3
13-Oct	Towed	Bergemann, Gatesuwan	409,600	3
13-Oct	Towed	Bergemann, Gatesuwan	90,900	2

13-Oct	Towed	Bergemann, Gatesuwan	196,000	0
13-Oct	Towed	Morales	100,000	3
13-Oct	Towed	Morales	100,000	2
14-Oct	Towed	Bergemann	164,900	5
18-Oct	Towed	Barraza	270,000	0
20-Oct	Puddle	Barraza	80,000	6
20-Oct	Puddle	Gatesuwan	70,000	0
23-Oct	Puddle	Haynes	17,500	2
23-Oct	Puddle	Haynes	4,000	1
24-Oct	Spark	Gatesuwan	70,000	2
25-Oct	Earth	Morales	1,500	0
27-Oct	Puddle	Barraza	22,500	0
3-Nov	Puddle	Gatesuwan	70,000	1
4-Nov	Spark	Gatesuwan	70,000	11
4-Nov	Towed	Hefley	56,000	0
4-Nov	Towed	Hefley	51,200	2
4-Nov	Wading	Haynes	252,000	0
5-Nov	Long pole	Haynes	50,600	2
9-Nov	Earth	Bergemann, Hefley	326,000	0
11-Nov	Puddle	Morales	78,000	0
11-Nov	Puddle	Morales	40,000	1
17-Nov	Wading	Bergemann	120,000	3
18-Nov	Puddle	Ortiz	52,500	1
18-Nov	Puddle	Gatesuwan	56,000	0
21-Nov	Earth	Barraza, Hefley, Gatesuwan	753,000	9
21-Nov	Earth	Bergemann, Haynes	522,700	0
21-Nov	Spark	Gatesuwan	56,000	20
29-Nov	Towed	Hefley	1,000	2
30-Nov	Earth	Morales	40,000	0
30-Nov	Earth	Bergemann, Hefley	509,500	2
30-Nov	Spark	Morales	78,000	0
1-Dec	Towed	Hefley	55,000	1
2-Dec	Earth	Gatesuwan	283,100	1
7-Dec	Earth	Haynes	205,000	5
7-Dec	Earth	Hefley	96,500	1
7-Dec	Puddle	Morales	38,400	2
15-Dec	Towed	Hefley	45,000	10
19-Dec	Earth	Barraza	200,000	1
20-Dec	Puddle	Ortiz	10,000	1
21-Dec	Earth	Haynes	152,400	2
<b>199 Surveys</b>		<b>Total</b>	<b>33,781,240</b>	<b>1,041 Leaks</b>
			<b>775.51 Acres</b>	