

CHANGE ORDER FORM			
TO:	City of Duluth	DATE:	11/2/2018
	Room 211 City Hall, 411 West 1st Street	CHANGE ORDER NO.:	1
	Duluth, MN 55802	LSC JOB NO.:	00117700104
ATTN:	Howard Smith, P.E., Project Engineer	PROJECT:	Natural Gas Pipeline - ILI Support
PHONE:	218-730-5092		
EMAIL:	<a href="mailto:hsmith@DuluthMN.gov">hsmith@DuluthMN.gov</a>	DESCRIPTION:	ILI Post Run Support
		CLIENT WO#, PO#, or CONTRACT #	1727

- |  |  |   |
|--|--|---|
| <input checked="" type="checkbox"/> Project Schedule | <input checked="" type="checkbox"/> Project Deliverables | <input checked="" type="checkbox"/> Project Scope |
| <input checked="" type="checkbox"/> Contract Amount  | <input type="checkbox"/> Roles/Responsibilities          | <input type="checkbox"/> Materials                |
| <input type="checkbox"/> Procedure                   | <input type="checkbox"/> Other                           |   |

Change Order (CO) Prepared By: Derek Sederberg

Item	Description of Change(s) to Contract	Budget Change (Hrs)	Budget Change (\$)
1	Additional ILI Execution Support & ILI Post Run Support		\$ 28,498.50
2			
3			
4			
5			
6			
7			
8			
	Current Change Order Total		\$ 28,498.50
	Original Contract Amount		\$ 34,458.00
	Prior Change Orders Total		\$ -
	<b>Revised Contract Amount</b>	<b>0.00</b>	<b>\$ 62,956.50</b>

**JUSTIFICATION SUMMARY**

See attachment for detail.

**Approved**

City of Duluth

*Company*

*Signature*

Howard Smith, P.E., Project Engineer

*Print or Type Name and Title*

*Date*

**Approved**

Lake Superior Consulting, LLC

*Company*

*Signature*

Derek Sederberg

*Print or Type Name and Title*

11/2/2018

*Date*



Work Summary: City of Duluth – 2018 –  
10-inch Natural Gas Pipeline – ILI Post  
Run Support

Job #: 0117700104

Submitted: November 2, 2018

Prepared for:

**City of Duluth**

Attention:

**Howard Smith, P.E., Project Engineer**

City of Duluth Engineering Department

Room 211 City Hall

411 West 1st Street

Duluth, MN 55802

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## 1 Work Summary

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### 1.1 Background

During the first half of 2018, LSC assisted the City of Duluth by completing an in-line inspection (ILI) tool run on its 10-inch natural gas transmission pipeline. The pipeline, which is approximately 5.3 miles long and was constructed in 2003, provides service for the City of Duluth's natural gas distribution system.

LSC is well positioned to support the City of Duluth with a long history of supporting pipeline integrity projects and expertise in ILI services.

### 1.2 Understanding of Project

A 230-foot portion of pipeline is located within a regulated high consequence area (HCA) which requires the operator to assess and manage that section's integrity per CFR 49 Part 192 Subpart O. The baseline integrity assessment was a hydrostatic test in fall 2003 for all the buried mainline and a nitrogen pressure test for all the station piping. Post-construction caliper and MFL tools were run in 2003, separate from the baseline assessment. The re-assessment interval was set at 15 years following American Society of Mechanical Engineers (ASME) B31.8S. Re-assessment is required by CFR 49 Part 192 every seven years even when the calculated re-assessment interval exceeds 7 years; Confirmatory Direct Assessment (CDA) is an acceptable interim method per §192.937 (5).

As a result of discussions from the City of Duluth's 2012 CDA, LSC understands that the City of Duluth has determined an assessment schedule with ILI as the primary assessment method and CDA every seven years if the established ILI re-assessment interval is greater than seven years. This will meet current regulatory requirements. The City of Duluth's assessment schedule called for an ILI assessment in the year 2018.

The City of Duluth has requested that LSC provide a proposal for follow-up ILI services as a result of the tool run, specifically including ILI acceptance, dig selection, dig support, repair recommendations, and tool validation. The tool run was completed May 8th, 2018.

## 1.3 Scope of Work

LSC's scope of work will include the following items (outlined further below):

- ILI Data Acceptance and Review
- Dig Selection and Dig Package Creation
- Dig Support
- ILI Validation and Final Reporting

### 1.3.1 ILI Run Execution – Additional Scope

Additional effort was required during the ILI tool run. Additional tool tracking occurred due to the total number of tool runs completed. Also due to a lack of established procedures along with a lack of asset tracking/documentation, additional effort was required to develop a pigging procedure for the City.

### 1.3.2 ILI Data Acceptance and Review

LSC will evaluate tool run data coverage, and complete multiple data checks, including a comparison against historical ILI data as well as as-built information, on the 2018 ILI vendor report for acceptance.

**Deliverables:** ILI Acceptance Checklist

### 1.3.3 Dig Selection and Dig Package Creation

Following a preliminary review of ILI data, there was found to be no time-response anomalies requiring examination/remediation. LSC will determine validation dig locations, providing adequate anomaly information required for ILI tool validation. Dig selection will consist of the following:

- Alignment of all available data sets (CIS, DCVG, annual data, historical ILI runs, as-built data, foreign line crossings, and current ILI data.
- Running all applicable data through LSC's "Dig Selection Funnel", which identifies appropriate digs to ensure integrity, and tool validation.
- Comprehensive review of applicable anomalies in the ILI tool vendor's raw data program, to ensure proper classification of each anomaly.
- Generation of dig packages for use during survey, excavation, and direct examination.
- Engineering support of survey personnel and the NDE technician during direct examination.

**Deliverables:** Dig Selection Summary, KMZ of all called anomalies, and Dig Packages

### 1.3.4 Dig Support

LSC will provide a Non-Destructive Examination (NDE) Technician to confirm dig and anomaly locations, examine defects, document findings, inspect coating, document site information, and complete any reports that may be required by the City of Duluth. The NDE Technicians may utilize Ultrasonic Testing (UT) and Magnetic Particle Testing (MT). Advanced NDE methods such as Phased Array UT and Creaform laser scanning are not assumed to be required at this time, but can be utilized if requested, at an additional cost.

LSC will provide engineering support to review raw ILI data prior to and during digs, provide quality control (QC) of NDE reports, and provide repair selection advice during digs (if required).

**Deliverables:** Non-destructive examination (NDE) reports, City of Duluth required inspection reports (if necessary), and as-built reports for any cut-outs/repairs with GPS coordinates.

### 1.3.5 ILI Validation and Final Reporting

LSC will provide engineering support to create an API 1163 validation report to summarize findings (e.g. predicted vs. observed results, unity plots, statistics, dig summaries), perform remaining strength and response time calculations, and determine a recommended reassessment interval based on NDE results and tool performance.

LSC will provide a statistical analysis of tool performance, evaluation of the integrity assessment process, and final data integration for long term management.

**Deliverables:** API 1163 validation report, summary of repair selection, statistical analysis of predicted feature populations and measured population samples, review and summary of assessment process, and data integration for long term management (incorporates data into client system). Also, a run-to-run comparison analysis, summarizing:

- 2003 post-construction ILI dent and MFL tool features against 2018 features; types, quantities, sizing, etc.
- Newly reported features in 2018 (present in 2018, but not present in 2003)
- Missing reported features from 2003 (present in 2003, but not present in 2018)
- Analysis of 2003 ILI data to 2018 ILI data to evaluate/compare populations of newly identified and previously reported features

## 1.4 Work Plan

An LSC Project Manager will assume project management responsibilities to coordinate efforts between the following parties:

- LSC and the project team from the City of Duluth
- LSC and the City of Duluth’s chosen excavation contractor (or City of Duluth’s dig crew)

All office-based technical work scopes will be executed by at least one Duluth-based Integrity Engineer, including close collaboration with a Senior Integrity Engineer. Multiple Integrity Engineers will be utilized as necessary based on schedule needs.

Field work scopes will be executed by LSC personnel as follows:

- Dig Inspection (NDE) – Senior NDE Technician based out of Bloomington, MN (mobilizing and billing from the Duluth Office during field work)

All on-site LSC personnel will possess the Operator Qualifications (OQs) required by the City of Duluth.

## 1.5 Schedule

The City of Duluth ran an ILI tool on May 8<sup>th</sup>, 2018 and received the final ILI report from Rosen on July 19<sup>th</sup>, 2018. Through indications from the City of Duluth, LSC assumes dig selection will occur in CY 2018 and dig execution will be completed in CY2018 or in Q2 of CY2019, with reporting to follow immediately afterward. LSC is available to begin the ILI acceptance and dig selection process immediately upon acceptance of this proposal.

## 1.6 Statement of Fees

Our best estimate for the overall cost of the project, on a time and materials basis, is \$28,498.50 For a detailed breakdown of the project costs, see Appendix 1.

## 1.7 Assumptions

- LSC assumes the City of Duluth will utilize its own dig crew for all digs.
- LSC assumes the City of Duluth will utilize its own survey crews for all dig staking and four-way sweeps.
- Dig Inspection costs are estimated assuming the following:
  - Four (4) digs will result from the ILI tool run.
  - Per the request of the City of Duluth: each dig will be one day in duration, which will be staffed by one (1) Senior NDE Technician, working 8-hour days.
  - Any additional dig inspection time required will be billed on a time and materials basis.
- The cost estimate for Dig Inspection is displayed as a day rate with an estimated duration multiplier, however this will be billed on a time and materials basis.
- All required permits will be obtained by the City of Duluth.

## 1.8 Exceptions

LSC takes no exception to this project.

## 1.9 Terms & Conditions

The pricing contained herein, is subject to the parties reaching mutually agreeable terms of a contract or purchase order.

### 1.9.1 Invoicing Procedure

Charges will be billed monthly. Invoices are due and payable within thirty (30) days of undisputed invoice receipt. Invoices not paid within thirty (30) days shall accrue interest paid at the rate of 8% per annum (.67% per month).

### 1.9.2 Travel Expenses

Travel, meals, and living expenses incurred for personnel assignments will be billed according to the rate sheet, please see Appendix 2 – Rate Sheet.



## 1.10 Summary

This is our best estimate for the completion of the scope of work for the City of Duluth – 2018 – 10-inch Natural Gas Pipeline – ILI Post Run Support project. Thank you for taking the time to review this information. We are confident that we will provide the highest level of service at a competitive price.

If there are any additional questions regarding this proposal, please contact:

Derek Sederberg

218-491-5682

[dsederberg@LSConsulting.com](mailto:dsederberg@LSConsulting.com).

Thank you.

## APPENDIX 1 - DETAILED ESTIMATE

#	Description	Rate	Unit	Qty	Total
<b>1</b>	<b>Tool Tracking and Pigging Procedure Additional Scope</b>				
2	Additional Tool Tracking	\$3,275.00	Ea	1	\$ 3,275.00
3	Additional Effort for Tool Procedure Development	\$3,259.00	Ea	1	\$ 3,259.00
<b>4</b>	<b>Subtotal - ILI Run Work</b>				<b>\$ 6,534.00</b>
<b>5</b>	<b>ILI Data Acceptance and Review</b>				
6	Engineer II	\$ 93.00	hour	16	\$ 1,488.00
7	Project Manager	\$ 131.00	hour	2	\$ 262.00
<b>8</b>	<b>Subtotal - ILI Data Acceptance and Review</b>				<b>\$ 1,750.00</b>
<b>9</b>	<b>Dig Selection</b>				
10	Engineer II	\$ 93.00	hour	56	\$ 5,208.00
11	Project Manager	\$ 131.00	hour	8	\$ 1,048.00
<b>12</b>	<b>Subtotal - Dig Selection</b>				<b>\$ 6,256.00</b>
<b>13</b>	<b>Dig Support</b>				
14	Senior NDE Tech	\$ 105.00	hour	8	\$ 840.00
15	Senior NDE Tech - OT	\$ 126.00	hour		\$ -
16	4x4 Vehicle	\$ 65.00	day	1	\$ 65.00
17	Mileage	\$ 0.545	mile	25	\$ 13.63
18	GPS	\$ 60.00	day	1	\$ 60.00
19	Line Locator	\$ 50.00	day	1	\$ 50.00
20	Standard Direct Exam Equipment Package	\$ 150.00	day	1	\$ 150.00
21	Sampling Consumables	\$ 20.00	day	1	\$ 20.00
<b>22</b>	<b>Subtotal - Daily Rate</b>				<b>\$ 1,198.63</b>
<b>23</b>	<b>Subtotal - Dig Support (Estimated 4 Days)</b>				<b>x4 \$ 4,794.50</b>
<b>24</b>	<b>ILI Validation and Final Reporting</b>				
25	Engineer II	\$93.00	hour	76	\$ 7,068.00
26	Project Manager	\$131.00	hour	16	\$ 2,096.00
<b>28</b>	<b>Subtotal - Repair Recommendation, ILI Validation and Final Reporting</b>				<b>\$ 9,164.00</b>
<b>29</b>	<b>Costs</b>				<b>\$28,498.50</b>

Table A.1 Statement of Fees

## APPENDIX 2 - RATE SHEET

CUSTOMER: CITY OF DULUTH

EFFECTIVE: JANUARY 1, 2018 – DECEMBER 31, 2018

### ENGINEERING, DESIGN AND SURVEY SERVICES

JOB CLASSIFICATION	REGULAR TIME		OVERTIME	
<b>ENGINEERING</b>				
PRINCIPAL ENGINEER	\$	195.00	\$	195.00
SENIOR ENGINEER	\$	165.00	\$	165.00
ENGINEER VI	\$	144.00	\$	144.00
ENGINEER V	\$	131.00	\$	131.00
ENGINEER IV	\$	117.00	\$	117.00
ENGINEER III	\$	107.00	\$	107.00
ENGINEER II	\$	93.00	\$	93.00
ENGINEER I	\$	80.00	\$	80.00
ENGINEERING TECHNICIAN	\$	63.00	\$	63.00
EXPERT WITNESS – CALL FOR PROPOSAL				
ENGINEERING DISCIPLINES INCLUDE: MECHANICAL, CHEMICAL, CIVIL, STRUCTURAL, ELECTRICAL, INDUSTRIAL & METALLURGICAL				
<b>COMPUTER AIDED DESIGN (CAD)</b>				
SENIOR CAD DESIGNER	\$	102.00	\$	122.00
CAD DESIGNER III	\$	84.00	\$	101.00
CAD DESIGNER II	\$	74.00	\$	89.00
CAD DESIGNER I	\$	68.00	\$	82.00
CAD TECHNICIAN III	\$	68.00	\$	82.00
CAD TECHNICIAN II	\$	62.00	\$	74.00
CAD TECHNICIAN I	\$	52.00	\$	62.00
<b>GEOGRAPHIC INFORMATION SYSTEMS (GIS)</b>				
GIS MANAGER	\$	96.00	\$	96.00
GIS ANALYST	\$	86.00	\$	103.00
GIS SPECIALIST II	\$	75.00	\$	90.00
GIS SPECIALIST I	\$	60.00	\$	72.00
GIS TECHNICIAN	\$	52.00	\$	62.00
<b>SURVEY SERVICES</b>				
REGISTERED LAND SURVEYOR	\$	125.00	\$	125.00
SURVEY SUPERVISOR	\$	68.00	\$	82.00
SENIOR DATA TECHNICIAN	\$	63.00	\$	76.00
DATA TECHNICIAN	\$	47.00	\$	56.00
3 PERSON SURVEY CREW*	\$	165.00	\$	189.00
2 PERSON SURVEY CREW*	\$	138.00	\$	157.00
1 PERSON SURVEY CREW*	\$	102.00	\$	114.00

\*SURVEY CREW RATES INCLUDE RTK GPS, STANDARD SURVEY CREW FIELD EQUIPMENT & 4x4 VEHICLE (DOES NOT INCLUDE MILEAGE).

**PROJECT MANAGEMENT AND INTEGRITY MANAGEMENT SERVICES**

<b>JOB CLASSIFICATION</b>		<b>REGULAR TIME</b>		<b>OVERTIME</b>
<b>PROJECT MANAGEMENT SERVICES</b>				
SENIOR PROJECT MANAGER	\$	165.00	\$	165.00
PROJECT MANAGER	\$	131.00	\$	131.00
ASSOCIATE PROJECT MANAGER	\$	112.00	\$	112.00
PROJECT COORDINATOR	\$	93.00	\$	93.00
SR. TECHNICAL RECORDS/COMPLIANCE AUDITOR	\$	84.00	\$	101.00
TECHNICAL RECORDS/COMPLIANCE AUDITOR	\$	74.00	\$	89.00
PROJECT ACCOUNTANT	\$	74.00	\$	74.00
TECHNICAL WRITER	\$	69.00	\$	69.00
OFFICE MANAGER	\$	64.00	\$	64.00
OFFICE CLERK	\$	46.00	\$	55.00
DATA ENTRY CLERK	\$	39.00	\$	47.00
<b>QUALITY ASSURANCE SERVICES</b>				
SR. QUALITY AUDITOR	\$	110.00	\$	110.00
QUALITY AUDITOR	\$	94.00	\$	94.00
QA/QC SPECIALIST III	\$	82.00	\$	98.00
QA/QC SPECIALIST II	\$	73.00	\$	88.00
QA/QC SPECIALIST I	\$	55.00	\$	66.00
<b>SOFTWARE &amp; DATABASE SERVICES</b>				
SR. SOFTWARE PROGRAMMER	\$	140.00	\$	140.00
SOFTWARE PROGRAMMER II	\$	110.00	\$	110.00
DATABASE PROGRAMMER	\$	79.00	\$	79.00
<b>INTEGRITY MANAGEMENT SERVICES</b>				
SR. SPECIALIST, INTEGRITY MANAGEMENT	\$	185.00	\$	185.00
SPECIALIST III, INTEGRITY MANAGEMENT	\$	162.00	\$	162.00
SPECIALIST II, INTEGRITY MANAGEMENT	\$	136.00	\$	136.00
SPECIALIST I, INTEGRITY MANAGEMENT	\$	105.00	\$	105.00
GENERALIST, INTEGRITY MANAGEMENT	\$	89.00	\$	89.00
<b>CATHODIC PROTECTION</b>				
SR. PROJECT MANAGER, CATHODIC PROTECTION	\$	165.00	\$	165.00
AC MITIGATION MODELING	\$	165.00	\$	165.00
CATHODIC PROTECTION TECH IV, NACE CERTIFIED	\$	146.00	\$	146.00
SR. CATHODIC PROTECTION TECH	\$	125.00	\$	125.00
CATHODIC PROTECTION TECH III, NACE CERTIFIED	\$	105.00	\$	105.00
CATHODIC PROTECTION TECH II, NACE CERTIFIED	\$	87.00	\$	104.00
CATHODIC PROTECTION TECH I, NACE CERTIFIED	\$	76.00	\$	91.00
CATHODIC PROTECTION TECH	\$	63.00	\$	76.00
<b>COATING INSPECTION</b>				
SENIOR COATINGS SPECIALIST	\$	185.00	\$	185.00
COATINGS SPECIALIST	\$	125.00	\$	125.00
CIP III – NACE CERTIFIED	\$	101.00	\$	121.00
CIP II – NACE CERTIFIED	\$	84.00	\$	101.00
CIP I – NACE CERTIFIED	\$	74.00	\$	89.00
<b>GEOLOGICAL AND/OR ENVIRONMENTAL</b>				
GEOTECHNICAL/GEOLOGIST	\$	110.00	\$	110.00
GEOLOGY/ENVIRONMENTAL III	\$	94.00	\$	94.00
GEOLOGY/ENVIRONMENTAL II	\$	84.00	\$	84.00
GEOLOGY/ENVIRONMENTAL I	\$	73.00	\$	73.00
<b>NON DESTRUCTIVE EXAMINATION (NDE)</b>				
NDE TECH, LEVEL III	\$	150.00	\$	150.00
NDE TECH, SENIOR (WITH PAUT)	\$	131.00	\$	157.00
NDE TECH, SENIOR	\$	105.00	\$	126.00
NDE TECH	\$	89.00	\$	107.00
NDE TECH, ASSISTANT	\$	74.00	\$	89.00

**OPERATIONAL SERVICES**

<b>JOB CLASSIFICATION</b>		<b>REGULAR TIME</b>		<b>OVERTIME</b>
<b>TRENCHLESS TECHNOLOGIES</b>				
SR. SPECIALIST, TRENCHLESS TECHNOLOGIES	\$	185.00	\$	185.00
SPECIALIST III, TRENCHLESS TECHNOLOGIES	\$	162.00	\$	162.00
SPECIALIST II, TRENCHLESS TECHNOLOGIES	\$	136.00	\$	136.00
SPECIALIST I, TRENCHLESS TECHNOLOGIES	\$	115.00	\$	115.00
GENERALIST, TRENCHLESS TECHNOLOGIES	\$	90.00	\$	90.00
<b>COMMISSIONING</b>				
SENIOR COMMISSIONING SPECIALIST	\$	120.00	\$	120.00
COMMISSIONING SPECIALIST III	\$	101.00	\$	121.00
COMMISSIONING SPECIALIST II	\$	90.00	\$	108.00
COMMISSIONING SPECIALIST I	\$	79.00	\$	95.00
<b>CONSTRUCTION INSPECTION</b>				
CONSTRUCTION ADVISOR	\$	117.00	\$	117.00
ASSISTANT CONSTRUCTION ADVISOR	\$	109.00	\$	109.00
SENIOR CONSTRUCTION/EQUIPMENT SPECIALIST	\$	102.00	\$	122.00
CONSTRUCTION/EQUIPMENT SPECIALIST	\$	94.00	\$	113.00
SENIOR CRAFT INSPECTOR	\$	79.00	\$	95.00
CRAFT INSPECTOR III	\$	69.00	\$	83.00
CRAFT INSPECTOR II	\$	59.00	\$	71.00
CRAFT INSPECTOR I	\$	50.00	\$	60.00
<b>WELDING INSPECTION</b>				
SENIOR WELDING SPECIALIST, AWS CERTIFIED	\$	99.00	\$	119.00
WELDING SPECIALIST, AWS CERTIFIED	\$	83.00	\$	100.00
WELDING SPECIALIST	\$	64.00	\$	77.00
<b>FIELD TECHNICIAN &amp; OTHER</b>				
PIG TRACKING TECH*	\$	109.00	\$	125.00
SENIOR SAFETY AUDITOR	\$	84.00	\$	101.00
SAFETY AUDITOR	\$	69.00	\$	83.00
GENERAL FIELD TECHNICIAN	\$	63.00	\$	76.00
FIELD OFFICE MANAGER	\$	64.00	\$	77.00

\*PIG TRACKING TECH INCLUDES 4x4 VEHICLE, PER DIEM AND TRACKING EQUIPMENT (DOES NOT INCLUDE MILEAGE).

ON-SITE WORK WILL BE BILLED FROM THE TIME LEAVING THE OFFICE UNTIL THE TIME RETURNED. OVERTIME IS DEFINED AS ANY HOURS AFTER EIGHT (8) HOURS PER DAY AND ALL TIME SPENT ON WEEKENDS OR HOLIDAYS.

**PER DIEM CHARGES MAY APPLY-** WHEN WORKING OVERNIGHT (INCLUDES BOTH LODGING AND MEALS). M&I PER DIEM MAY APPLY WHEN WORKING > 65 MILES FROM HOME WITHOUT AN OVERNIGHT STAY.

**DEDICATED EMPLOYMENT SERVICES** - HOURLY BILLING RATE IS OBTAINED BASED ON AGREED UPON WAGE RATE PAID TO EMPLOYEE PLUS 24% LSC MARKUP PLUS BENEFITS RECEIVED & PAYROLL TAXES/INSURANCE.

**DIRECT CHARGES & EQUIPMENT**

<b>DESCRIPTION</b>	<b>BILLING RATE</b>
4 GAS DETECTOR (MINI MAX4 or EQUIVALENT)	\$25.00 PER DAY
4X4 VEHICLE	\$65.00 PER DAY (+ MILEAGE)
NON 4x4 VEHICLE	\$40.00 PER DAY (+ MILEAGE)
AIR MOVER - VENTURI 2"	\$50.00 PER DAY
AIR VAC / AIR LANCE (PLUS AIR COMPRESSOR RENTAL NOT INCLUDED)	\$375.00 PER DAY (+ RENTAL)
ARGO	\$250.00 PER DAY
ATV	\$75.00 PER DAY
COATING INSPECTION KIT	\$50.00 PER DAY
COMMISSIONING EQUIPMENT PACKAGE (INCLUDES: 4x4 Vehicle, Electrical and Mechanical General Field Cases)	\$90.00 PER DAY
COMMISSIONING E&I FIELD PACKAGE (INCLUDES: Insulation Tester, Earth Ground Tester, Process Calibrator, Portable Vibration Calibrator, Field Communicator, Phase Rotation Meter)	\$70.00 PER DAY
COMMUNICATION PACKAGE (INCLUDES: Laptop Computer On-Site, Cellular Phone, Digital Camera)	\$16.00 PER DAY (\$60/day outside U.S.)
CREAFORM 3D LASER EQUIPMENT	\$490.00 PER DAY
CURRENT INTERRUPTER	\$15.00 PER UNIT PER DAY
DCVG/ACVG or PCM SURVEY EQUIPMENT	\$60.00 PER DAY
DOT TRUCK AND TRAILER (10,000 lb – 25,999 lb GVWR COMBINATION)	\$130.00 PER DAY (+ MILEAGE)
DRILLING EQUIPMENT FOR 1-1/2" SURVEY TESTING HOLES	\$30.00 PER HOLE
EQUIPMENT RENTAL	COST PLUS 10%
ELECTRICAL RESISTIVITY METER	\$110.00 PER DAY
FIELD DATA LOGGER	\$60.00 PER DAY
FLAME IONIZATION DETECTOR	\$60.00 PER DAY
FLUKE SCOPE METER	\$40.00 PER DAY
GAS SNIFFERS	\$50.00 PER DAY
GENERATOR	\$30.00 PER DAY
GPS EQUIPMENT	\$60.00 PER DAY
HV HOLIDAY DETECTOR	\$50.00 PER DAY
HYDROTEST DATA RECORDER	\$90.00 PER DAY
INSULATED FLANGE TESTING EQUIPMENT	\$25.00 PER DAY
JOB TRAILER	\$150.00 PER DAY
LASER SCANNER, 3D	CALL FOR QUOTE
LINE LOCATOR	\$50.00 PER DAY
LV HOLIDAY DETECTOR	\$30.00 PER DAY
MATERIALS	COST PLUS 10%
MAGNETIC PARTICLE CONSUMABLES (16 oz. CAN)	\$25.00 PER CAN
MILEAGE	IRS CURRENT PUBLISHED RATE
MOBILE FIELD PRINTER & SCANNER (High Speed Color Laser 11" x 17")	\$50.00 PER DAY
MULTI METER	\$15.00 PER DAY
NONSTANDARD OFFICE MATERIALS	COST
NONSTANDARD PHOTOCOPIES/DOCUMENT ASSEMBLY	\$0.15 PER COPY
OUTSIDE SERVICES	COST PLUS 10%
PER DIEM (INCLUDES BOTH LODGING AND MEALS [GT 65 MILES])	\$157.00
PER DIEM M&I (MEALS AND INCIDENTAL EXPENSES ONLY [GT 65 MILES])	\$42.00
PHASED ARRAY	\$350.00 PER DAY
PIN BRAZER	\$185.00 PER DAY
PLOTTING C SIZE BLACK AND WHITE MINIMAL COLOR FULL COLOR D SIZE BLACK AND WHITE MINIMAL COLOR FULL COLOR	  \$3.50 PER COPY \$4.50 PER COPY \$6.50 PER COPY  \$4.50 PER COPY \$5.50 PER COPY \$8.50 PER COPY
PMI GUN	\$325.00 PER DAY
PORTABLE CURRENT SOURCE	\$30.00 PER DAY
POSTAGE & OVERNIGHT/EXPRESS SHIPPING/FREIGHT CHARGES	COST
RTK GPS	\$210.00 PER DAY
SOIL RESISTIVITY/GROUNDING METER	\$45.00 PER DAY
SPECIAL INSURANCE REQUIREMENTS	COST

DESCRIPTION	BILLING RATE
STANDARD CIS EQUIPMENT PACKAGE (INCLUDES: Field Data Logger, GPS, Line Locator, 2 Stationary Data Loggers)	\$240.00 PER DAY
STANDARD DCVG SURVEY EQUIPMENT PACKAGE (INCLUDES: DCVG Equipment, Generator, Portable Current Source, GPS, Line Locator)	\$230.00 PER DAY
STANDARD HDD SURVEY EQUIPMENT PACKAGE (INCLUDES: 1 Current Interrupter, Generator, GPS, Multi Meter, Portable Current Source, Soil Resistivity Meter, Zero Resistance Ammeter)	\$225.00 PER DAY
STANDARD DIRECT EXAM EQUIPMENT PACKAGE (INCLUDES: Direct Inspection Equipment, Coating Inspection Kit, Generator, Soil Resistivity Meter)	\$150.00 PER DAY
STANDARD SURVEY CREW FIELD EQUIPMENT (INCLUDES: Magnetic Locator, Prism Pole, Tripod, Tribrach, Adapter, Prism, Navigation GPS, Lath Bag 48", Prism Adapter, Hammer, Prism Bag, Survey Sign w/Base, Traffic Beacon, Offset Pole Holder Kit, Fire Extinguisher (10 lb.), First Aid Kit, Cones, 100' Tape, 25' Tape & Topo Shoe)	\$40.00 PER DAY
STANDARD SWEEP CREW FIELD EQUIPMENT (INCLUDES: Navigation GPS, Fire Extinguisher (10 lb.), Lath Bag 48", Hammer, First Aid Kit, Cones, Survey Sign w/Base, Traffic Beacon)	\$20.00 PER DAY
STATIONARY DATA LOGGER	\$35.00 PER DAY
STRAY CURRENT MAPPER	\$175.00 PER DAY
TECHNICIAN VEHICLE (INCLUDES SMALL TOOLS)	\$120.00 PER DAY (+ MILEAGE)
TELEBRINNELER	\$30.00 PER DAY
THERMAL IMAGING INFRARED CAMERA – ELECTRICAL/MECHANICAL	\$45.00 PER DAY
TOTAL STATION	\$50.00 PER DAY
TRAVEL AND LIVING EXPENSES (WHERE PER DIEM DOES NOT APPLY)	COST PLUS 10%
ULTRA SONIC COUPLANT (12 oz.)	\$7.00
ULTRA SONIC THICKNESS GAUGE (UT STRAIGHT BEAM)	\$30.00 PER DAY
ULTRA SONIC THICKNESS GAUGE (UT SHEAR WAVE)	\$50.00 PER DAY
UTV & TRAILER	\$150.00 PER DAY
ZERO RESISTANCE AMMETER	\$30.00 PER DAY