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PUBLIC SERVICE
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KENTUCKY FRONTIER GAS, LLC
ALLEGED VIOLATION OF UNDERGROUND FACILITY DAMAGE PREVENTION ACT
CASE NO. 2019-00280, et al.

RESPONSE TO COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION

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PUBLIC SERVICE COMMISSION

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

KENTUCKY FRONTIER GAS, LLC	)	
ALLEGED VIOLATION OF UNDERGROUND	)	CASE NO. 2019-00280
FACILITY DAMAGE PREVENTION ACT	)	

RESPONSE TO COMMISSION STAFF'S INITIAL REQUEST FOR INFORMATION

Submitted by:

John N. Hughes
124 West Todd St.
Frankfort, KY 40601
502 227 7270
Attorney for Kentucky Frontier Gas, LLC

DECLARATION OF STEVEN SHUIL

I, Steven Shute, am a Member of Kentucky Frontier Gas, LLC, the Applicant in the referenced matter. I have read the responses and I have full authority to sign this declaration. The facts set forth therein are true and correct to the best of my knowledge, information and belief. Pursuant to KRS 523.020-040, I certify under penalty of false swearing that the foregoing is true and correct.

Dated this 24th day of. October 2019.

Steven Shute, Member,
Kentucky Frontier Gas, LLC

1. In its responses to the initiating Orders in the Damage Prevention Cases, Kentucky Frontier states that over ten years, it has acquired 12 small, dysfunctional gas systems with no or limited maps of the systems. For each system,

a. Identify the name of the system and the the date it was acquired by Kentucky Frontier.

b. State the total number of miles in the pipeline by pipe diameter size and pipe material.

c. State whether Kentucky Frontier obtained a system map from a prior owner or operator of the system. If so, produce a copy of the map.

d. Describe all efforts by Kentucky Frontier to locate and map pipelines in the system.

e. Identify by date, location, and pipe material all incidents of excavation damage to the system's pipelines that occurred during the period from January 1, 2016, to September 30, 2019.

f. For each incident of excavation damage, provide an estimate of the volume and cost of natural gas lost as a result of the incident and the cost to repair the damage.

g. State whether Kentucky Frontier investigated the cause of each of the incidents of excavation damage on the system, and, if so, state the results of each investigation. In particular, your response should state whether Kentucky Frontier provided a temporary marking of the approximate location of the line that was damaged before the activity causing the damage occurred.

h. For each incident of excavation damage for which Kentucky Frontier determined an excavator was at fault, state whether Kentucky Frontier sought to recover the cost of repairing the damage from the excavator and, if so, how much was billed and recovered. If Kentucky Frontier did not seek to recover the cost of repairing excavation damage to the pipeline, explain why it did not.

Witness Shute/Harris

Response:

1.a. Identify the name of the system and the date it was acquired by Kentucky Frontier.

See spreadsheet.

Belfry Gas, Inc. , East Kentucky Utilities, Inc. , Kentucky Frontier Gas, LLC , Mike Little Gas Company, Inc.: APPLICATION OF KENTUCKY FRONTIER GAS, LLC FOR APPROVAL OF ASSUMPTION OF EXISTING DEBT AND FINANCING OF NEW DEBT AND JOINT APPLICATION WITH BELFRY GAS, INC., EAST KENTUCKY UTILITIES, INC., ELAM UTILITY COMPANY, INC., AND MIKE LITTLE GAS COMPANY FOR APPROVAL OF TRANSFER AND ACQUISITION OF ASSETS AND STOCK, AND ISSUANCE OF A CERTIFICATE OF CONVENIENCE AND NECESSITY, IF NECESSARY Case No. 2005-00348

Auxier Road Gas: APPLICATION OF KENTUCKY FRONTIER GAS COMPANY, LLC FOR APPROVAL OF TRANSFER OF AUXIER ROAD CORPORATION STOCK 2009-00442

Peoples Gas: APPLICATION OF KENTUCKY FRONTIER GAS COMPANY, LLC FOR APPROVAL OF TRANSFER OF PEOPLE'S GAS COMPANY ASSETS Case No. 2009-00492

Cow Creek, Dema, Interstate, DLR: APPLICATION OF KENTUCKY FRONTIER GAS COMPANY, LLC FOR APPROVAL OF TRANSFER OF STOCK OF COW CREEK GAS, INC., DEMA GAS COMPANY, INC., PURCHASE OF FARM TAP AND ROYALTY GAS CUSTOMERS OF INTERSTATE NATURAL GAS COMPANY AND TRANSFER OF A PORTION OF DLR ENTERPRISES, INC. PIPELINE TO COW CREEK GAS, INC. 2010-00076

BTU Gas: APPLICATION OF KENTUCKY FRONTIER GAS, LLC FOR APPROVAL OF TRANSFER OF ASSETS OF THE FORMER B.T.U. GAS COMPANY AND APPROVAL OF FINANCING OF ACQUISITION 2012-00099

Public Gas: JOINT APPLICATION OF KENTUCKY FRONTIER GAS, LLC AND PUBLIC GAS COMPANY FOR APPROVAL OF TRANSFER AND ACQUISITION OF ASSETS AND FINANCING 2015-00299

KFG has subsequently acquired two small municipal gas systems: Blaine Municipal Gas: July 2012; Daysboro Municipal Gas October 2019.

1.b. State the total number of miles in the pipeline by pipe diameter size and pipe material.

See spreadsheet.

1.c. State whether Kentucky Frontier obtained a system map from a prior owner or operator of the system. If so, produce a copy of the map.

See 1.d and attached motion for deviation.

1d. Describe all efforts by Kentucky Frontier to locate and map pipelines

in the system.

The original systems maps (blueprint style) were maintained by previous companies. However, some of these maps were 30 years old without updates when KFG obtained the systems. We received the initial GIS map files from Public Gas or its contractor. These were in KML format, and had to be converted to a shapefile format. At the same time, Frontier had a contractor clean up and convert its paper and PDF maps to CAD files, which could better be used for GIS.

After the initial GIS map was created for Public, our internal GIS specialists spent hundreds of hours converting the Frontier maps to GIS for the remainder of the systems. Even though a lot of these maps were older, they were the best source of locations we had for the obtained systems, and often the only information we were supplied. Most of these systems had no actual employees, or the operators didn't transfer with the system sales and were unavailable afterward.

It's hard to say how accurate the maps are since some of the systems don't have locate wire, and many facilities are un-locatable. We had to trust the locations of the old maps since that's all we had, or at least use them as a starting point.

We have also used the GIS system to map meters, valves, regulators, and leak surveys among other things. The leak survey maps have been irreplaceable in planning our pipeline replacement projects (PRP). We have been successful in replacing miles of steel pipe with new PE pipe and mapped all new facilities.

Since our GIS system has been implemented, we have assigned smartphones and tablets with a GIS application to all field operating employees. They are trained to confirm or change locations of facilities whenever possible on our GIS map. With a large system with unconfirmed locations, even an extensive GIS mapping database cannot always be 100% on all locations of facilities.

Since there is a significant amount of PE line without tracer wire in some our systems (installed by previous owners), it has been difficult to confirm the locations of those lines. With the new 811 regulations, KFG has invested in technology to help locate and track these lines once we confirm their locations when they are dug up (intentionally or not). We have been using the RFID balls and sticks to mark and map previously un-locatable lines, and are looking into a vac truck and/or trailer to daylight lines quickly in the future.

1.e. Identify by date, location, and pipe material all incidents of excavation

damage to the system's pipelines that occurred during the period from January 1, 2016, to September 30, 2019.

See spreadsheet.

1.f. For each incident of excavation damage, provide an estimate of the volume and cost of natural gas lost as a result of the incident and the cost to repair the damage.

See spreadsheet.

1.g. State whether Kentucky Frontier investigated the cause of each of the incidents of excavation damage on the system, and, if so, state the results of each investigation. In particular, your response should state whether Kentucky Frontier provided a temporary marking of the approximate location of the line that was damaged before the activity causing the damage occurred.

See spreadsheet.

1.h. For each incident of excavation damage for which Kentucky Frontier determined an excavator was at fault, state whether Kentucky Frontier sought to recover the cost of repairing the damage from the excavator and, if so, how much was billed and recovered. If Kentucky Frontier did not seek to recover the cost of repairing excavation damage to the pipeline, explain why it did not.

Due to the nature of being in a rural area, Utilities generally have a close working relationship with other utilities, road department and construction companies. As such, we do not practice invoicing for line breaks unless it is total gross negligence.

Spreadsheet

Information responsive to DR 1 & 2

KPSC Case 19-00280 etal
DR1 Q1.a-b

Company	Date Acquired	3/4" to 2"	3"	4"	6"
		Miles of PE or Steel pipe			
Blaine	7/1/2012	4.6 PE			
Cow Creek / OCC	5/1/2010	6 PE			
Cow Creek / Sigma	5/1/2010	17 PE	5.9 PE	22.8 PE	1.8 PE
BTU	7/1/2011	42.1 PE/2.3 ST	20.9 PE	13.7 PE	
East Kentucky Utilities	12/1/2008	22.5 PE	7.2 PE	4.8 PE/.7 ST	
Mike Little Gas	12/1/2008	7.7 PE/.4 ST	4 PE/1.3 ST	3 PE	
Belfry	12/15/2008	7.9 PE/8.2 ST	4.9 PE/4.5 ST		
Peoples	3/1/2010	5.1 PE/1.9 ST	2.6 PE/.4 ST		
Auxier Road	1/1/2010	25.1 PE	4.6 PE	20.3 PE	3.4 PE
Dema	5/1/2010	3.9 PE			
Public	12/1/2015	19.5 PE/2.5 ST	10.5 PE/2.5 ST	4.5 PE/6 ST	
DLR	5/1/2010			3.5 PE	6.6 PE

KPSC Case 19-00280 etal
DR1 Q2

Date of Damage	Lat.	Long	City	Pipe Material	Date of Installation	Damage by
2/14/2019	37.64483	-82.27058	Belfry	1" PE	Feb. 2019	Excavation
Tap	37.64484	-82.27052				
9/5/2019	37.61928	-82.26783	Main St. Belfry	3" PE	2018 PRP	Excavation
9/21/2018	37.63715	-82.29391	Forest Hills-Belfry	2" PE	2017 PRP	Excavation
3/21/2016	37.511593	-82.148086	Phelps	3" PE	April 6, 2015	Rock Chipper

KPSC Case 19-00280 etal
DR1 Q1.e+f

Excavation Damages to Main Lines			
Year: 2016			
Number of Damages	6		Total
	Est. Units	Unit Cost	
	MCF	$	
Est. Gas Loss	2.7	$4.57	$12.34
	Hours	$	
Est Labor Cost	66.5	$21.17	$1,407.81
	Unit	$	
Est. Parts/Fittings	1	$262.90	$262.90
	FT.	$	
Est. Pipe Footage	15	$1.50	$22.50
	Hours	$	
Est. Equipment	66.5	$50.00	$3,325.00
		Total	**$5,030.54**
		Number of Hits	**6**
		Avg. cost per damage	**$838.42**

KPSC Case 19-00280 etal
DR1 Q1.e.

Date	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe footage	Time in min. gas blowing	811/Marked
3/21/2016	Hwy 194 E-Phelps	27	2-3" EF coup	$34.00	3" PE	3	50	Yes/Yes
3/23/2016	Spring Street-Hazel Green	6	2-2" EF coup	$28.00	2" PE	3	45	No
4/5/2016	N Church St	16	4-4" EF Coup	$104.00	4" PE	4	25	Yes
4/8/2016	Panbowl Road-Jackson	4	2-2" EF coup	$28.00	2" PE	3	20	No
11/15/2016	Buchanan Frk Rd-Campton	4.5	2-1 1/4" EF coup	$18.90	1 1/4" PE	2	25	No
12/16/2016	Hardy	9	2-1 1/4" Comp	$50.00	1 1/4" St	0	Unclear	No
		66.5		$262.90		15	165	

KPSC Case 19-00280 etal
DR1 Q1.e.

Date	Damaged By?	Notes
3/21/2016	Rock Chipper	Contractor hit the line setting power poles.
3/23/2016	Backhoe	Frederick & May broke the line during water line installation.
4/5/2016	Excavator	Combs Construction broke the line twice during building demo, did not give time to respond to 811
4/8/2016	Backhoe	Breathitt Co Road dept broke the line while replacing a drain tile.
11/15/2016	Excavator	Property owner broke the line digging out a pond.
12/16/2016	Unclear	Property owner broke line while cutting down trees, 2 places

KPSC Case 19-00280 etal
DR1 Q1.e+f

Excavation Damages to Service Lines			
Year: 2016			
Number of Damages	18		Totals
	Est. Units	Unit Cost	
	MCF	$	
Est. Gas Loss	9.1	$4.57	$41.59
	Hours	$	
Est Labor Cost	87.25	$21.77	$1,899.43
	Unit	$	
Est. Parts/Fittings	1	$345.73	$345.73
	FT.	$	
Est. Pipe Footage	148	$0.90	$133.20
	Hours	$	
Est. Equipment	87.25	$50.00	$4,362.50
		Total	$6,782.45
		Number of Hits	18
		Avg. cost per damage	$376.80

KPSC Case 19-00280 etal
DR1 Q1.e.

Date	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe footage	Time in min. gas blowing	811 Yes Or No	Notes	Notes
4/4/2016	Mill Br Rd-Salyersville	4	2-1" EF coup	$18.90	1" PE	10	25	No	Shovel	Property owner broke the line digging for their water line.
4/13/2016	Hwy 540-Vancleve	5.5	0	$0.00	1" PE	2	45	No	Trencher	Property owner broke the line trenching for their water line.
4/21/2016	Falcon rd-Salyersville	4	2-3/4" SF coup	$4.10	3/4" PE	2	110	NO	Excavator	Contractor broke the line digging to lay a drain pipe.
4/23/2016	Mine fork Rd-Salyersville	3.5	2-1" SF coup	$5.06	1" PE	2	Unclear	No	Not known	Break not called in until next day by property owner.
5/19/2016	Mill Branch-Weeksbury	14	3-3/4" x 1/2" red	$12.00	3/4" PE	2	Unclear	No	Bush hog	Customer called in, not sure when the line was broken was
			1" CTS coup	$10.00						damaged by the Floyd Co Road Dept.
			2-3/4" coup	$17.00						
6/7/2016	Smith Lane-Vancleve	2	1" comp coup	$23.00	0	0	65	No	Posthole	Property owner broke the line while digging on their property.
6/8/2016	Ky Rt 1428-Allen	4	2-1" EF coup	$18.90	1" PE	8	23	No	Excavator	Water Dogs Construction broke the line during a sewer install.
6/8/2016	Lakeside Drive-Jackson	4	2-1" EF coup	$18.90	1"PE	1	25	Yes	Excavator	HEJ Construction broke the line while digging out a drain line.
6/20/2016	Broadway St-Hazel Green	6.75	2-1" EF coup	$18.90	1" PE	4	45		Excavator	Contractor broke the line digging for a swimming pool.
6/27/2016	Hwy 1812 N-Jackson	3	2-1 1/4" EF coup	$18.90	1 1/4" PE	0.5	20	No	Shovel	Customer broke the line replacing septic tank.
7/15/2016	Lakeside Drive-Jackson	1.5	2-1 1/4" EF coup	$18.90	1 1/4" PE	1	10		Excavator	Jackson City Utilities broke the line while digging for water line.
7/22/2016	E Mountain Pkwy-Salyersville	10	2-1" EF coup	$18.90	1" PE	4	30	No	Excavator	Contractor broke the line installing a sign for VIP fuels.
8/1/2016	Lakeside Drive-Jackson	7	2-1 1/4" EF coup	$18.90	1 1/4" PE	5	20	Yes	Excavator	Jackson City Utilities broke the line while digging for line.
8/22/2016	Ky Rt 40-Salyersville	6	2-1" EF coup	$18.90	1" PE	2	10	No	Excavator	DOT broke the line digging out a ditch line.
11/21/2016	Lawson St-Prestonsburg	1	1-1" SF cap	$4.30	1" PE	0	23	No	Trencher	Property owner broke the line trenching for a water line.
12/1/2016	Washington St-Campton	4	2-1" EF coup	$18.90	1" PE	3	20	No	Excavator	Banks Excavation broke the line during excavation.
12/8/2016	Elm Street-Jackson	6	2-1 1/4" EF coup	$18.90	1 1/4" PE	3	55	No	Excavator	Jackson City Utilities broke the line while digging for water line.
			2x 1 1/4" Bushing	$6.00						
			1 1/4" Transition	$13.80						
			2" steel valve	$35.77						
			1x2" Nipple	$2.50						
12/9/2016	Puncheon-Salyersville	1	1" SF cap	$4.30	1"PE	0	45	No	Excavator	Contractor broke line during a road repair job.
		87.25		$345.73		49.5	571			

Excavation Damages to Main Lines
Year: 2017

Number of Damages	14		Total
	Est. Units	Est. Costs	
	MCF	$	
Est. Gas Loss	8.3	$5.33	$44.24
	Hours	$	
Est Labor Cost	177.5	$22.42	$3,979.55
	Unit	$	
Est. Parts/Fittings	1	$873.02	$873.02
	FT.	$	
Est. Pipe Footage	37	$1.20	$44.40
	Hours	$	
Est. Equipment	177.5	$50.00	$8,875.00
		Total	**$13,816.21**
		Number of Hits	**14**
		Avg. cost per damage	**$986.87**

Date	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe footage	Time in min. gas blowing	811 Yes Or No
2/14/2017	Melvin, Ky	51.5	1-4" valve	$362.00	4" PE	4	45	Yes
			1-4" Coup	$26.00				
4/11/2017	Cain Br-Prestonsburg	8	2" St nipple	$2.00	2" St	0	60	No
5/2/2017	Elk Creek-Salyersville	13.5	4 x 3" EF coup	$68.00	3" PE	3	40	No
5/18/2017	Sandbottom-Salyerrsville	25.5	2 x 1" EF coup	$18.90	1" PE	1	55	No
6/27/2017	Coburn Hollw-Belfry	2	1 x 14" nipple	$10.00	1" St	0	20	No
			1" comp coup	$23.00				
6/29/2017	379 Bridge Hollw-Jackson	5	3 x 2" EF Coup	$42.00	2" PE	4	15	
7/12/2017	Beech Hollow-Belfry	8	1 x 24" Nipple	$14.00	1" St	0	30	No
			1 x 12" Nipple	$8.50				
			1" Valve	$31.77				
			1" 90	$2.50				
			1" coupling	$9.45				
			1" Street El	$5.00				
7/19/2017	E Falcon Road-Salyersville	14	2 x 4" EF coup	$52.00	4"PE	1	65	No
9/28/2017	Stonecoal Rd-Garrett	23.5	2 x 4" EF coup	$52.00	4"PE	3	10	Yes
10/5/2017	Rice Branch-Prestonsburg	6	3 x 2" EF Coup	$42.00	2" PE	15	40	Yes/M
10/10/2017	Elk Creek-Salyersville	10.5	2 x 2" EF Coup	$28.00	2" PE	2	55	No
10/31/2017	Sandbottom-Salyerrsville	3	2 x 1" EF coup	$18.90	1" PE	2	33	No
11/15/2017	Pleasant Hill-Salyersville	3	2 x 2" EF Coup	$28.00	2" PE	1	30	No
11/21/2017	Kelly Branch-Salyersville	4	2 x 2" EF Coup	$28.00	2" PE	1	18	No
		177.5		**$872.02**		**37**	**516**	

Broken By?	Notes
Excavator	Floyd County Road Dept while cleaning out ditch.
Excavator	Floyd County Road Dept broke line while cleaning out a ditch.
Excavator	Frederick and May Construction broke the line while excavating.
Auger	Foothills Telephone broke the line while digging a hole.
Excavator	Pike County Road Dept hit the line while cutting out the bank of a creek.
Excavator	L&L Construction broke the same line twice while installing a water line.
Bush Hog	Pike County Road Dept broke the line cutting weeds along roadside.
Excavation	Magoffin Water hit the line during a bore
Excavator	Francis Water contractor broke the line installing a water main.
Excavator	Floyd Co road dept hit the line while cleaning ditches.
Bore	L&L Construction hit the line while boring under the road.
Backhoe	Property owner hit the line digging for a water line.
Excavator	L&L Construction hit the line during a sewer installation.
Excavator	Magoffin County Water hit the line repairing a water line.

Excavation Damages to Service Lines
Year: 2017

Number of Damages	14		Total
	Est. Units	Est. Costs	
	MCF	$	
Est. Gas Loss	1.5	$5.33	$8.00
	Hours	$	
Est Labor Cost	65.5	$22.45	$1,470.48
	Unit	$	
Est. Parts/Fittings	1	$292.59	$292.59
	FT.	$	
Est. Pipe Footage	148	$0.39	$57.72
	Hours	$	
Est. Equipment	65.5	$50.00	$3,275.00
		Total	**$5,103.78**
		Number of Hits	**14**
		Avg. cost per damage	**$364.56**

Date	Lat	Long	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size
2/20/2017			473 Hwy 15S-Jackson	1	1 x 1" EF Coupling	$9.45	1"
3/15/2017			Ky Rt 7-Salyersville	8	2 x 2x1 Reducers	$16.12	1"
					2 x 2" EF coupling	$28.00	
					3 x 1" EF coupling	$28.35	
3/24/2017			144 Patrick Dr-Salyersville	3	2 x 1 3/4" EF coup	$23.24	1" PE
					3/4" EF coup	$6.75	
					1" EF coup	$9.45	
5/11/2017			Hwy 30 West-Jackson	1	1 1/4" Cap	$4.75	1 1/4" PE
6/6/2017	37.75414	-82.65435	Honey Branch-Debord	7	3 x 1" EF coupling	$28.35	1" PE
6/12/2017			Lick Creek Rd-Salyersville	3.5	3 x 1" EF coupling	$28.35	1" PE
7/9/2017	37.79262	-82.99942	E Falcon Road-Salyersville	6	3/4" cap	$2.00	3/4" PE
7/10/2017			Mccoy Caney Drive-Phelps	8	1" EF coup	$9.45	1" PE
					1" SF cap	$4.30	
8/6/2017	37.4426	-82.79478	Shop Branch-Wayland	4	1" SF cap	$4.30	1"PE
9/7/2017	37.75753	-83.06942	Coal Branch-Salyersville	4	2 x 3/4" SF coup	$4.10	3/4" PE
10/2/2017			Millbranch Rd-Salyersville	4	1 1/4" EF coup	$9.45	1 1/4" PE
11/2/2019	37.75632	-83.10171	Pleasant Hill-Salyersville	3.5	2 x 1" SF coup	$5.06	1" PE
					1" EF coupling	$9.45	
					1" Union Valve	$38.31	
					1' x 12" Nipple	$14.00	
11/8/2017	37.75663	-83.10246	Pleasant Hill-Salyersville	8.5	2 x 1" SF coup	$5.06	1" PE
11/30/2017			Adam Rd-Rogers	4	1" SF cap	$4.30	1" PE
				65.5		**$292.59**	

Pipe footage	Time in min. gas blowing	811 Yes or No	Broken by?	Notes
2	10	Yes/M	Excavator	Walker Construction broke line installing drain tiles.
119	45	No	Excavator	Ranger Contracting broke the line during excavation.
3		Yes/M	Excavator	Property owner broke the line installing a drain.
0	20	No	Excavator	Thacker Grigsby broke the line while excavating.
5	63		Excavator	Dotson Contracting broke the line during excavation.
11	58	No	Excavator	Frederick & May Construction broke the line during a bridge project
0	15	No	Excavator	Magoffin County Water broke the line installing a sewer line.
1	66	No	Excavator	UMG broke the line installing a new water service.
0	30	No	Shovel	Property owner broke the line while installing a fence.
1	20	No	Bush hog	Magoffin County Road Dept broke line while cleaning out a creek.
0	75	Yes/M	Shovel	Property owner broke the line while installing a water line.
5	50	No	Excavator	L&L Construction broke the line while digging out a ditch.
1	Unclear	No	Excavator	L&L Construction broke the line while digging out a ditch.
0	45	No	Backhoe	Breathitt County Road Dept broke the line cleaning out a ditch.
148	497			

Excavation Damages to Main Lines
Year: 2019

Number of Damages	16		Total
	Est. Units	Unit Cost	
	MCF	$	
Est. Gas Loss	6.8	$5.36	$36.45
	Hours	$	
Est Labor Cost	134	$25.31	$3,391.54
	Unit	$	
Est. Parts/Fittings	1	$969.45	$969.45
	FT.	$	
Est. Pipe Footage	30	$1.50	$45.00
	Hours	$	
Est. Equipment	134	$50.00	$6,700.00
		Total	**$11,142.44**
		Number of Hits	**16**
		Avg. cost per damage	**$696.40**

Date	Lat.	Long	City	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe Footage	in min. gas blc
1/18/2019	37.63917	-82.68107	Prestonsburg	1	2 EF Coup.	$28.00	2"	2	10
1/23/2019	37.68306	-82.82172	Prestonsburg	20	4' valve 2-4" EF Coup,	$362.00 $75.00	4"	0	60
2/4/2019	37.44526	-82.80734	Wayland	4	2 EF Coup.	$28.00	2"	2	33
2/13/2019	37.65533	-82.27114	Belfry	5	2 EF Coup.	$28.00	2"	2	8
2/14/2019 Tap	37.64483 37.64484	-82.27058 -82.27052	Belfry	4	2 EF Coup. 2x1 Tap Tee 2-2 SF Coup 1- 1"SF elbow	$28.00 $11.15 $28.00 $2.50	2" 1"	2 3	5
3/12/2019	37.74070	-83.04477	Salyersville	6	2 EF Coup.	$28.00	2"	4	56
3/14/2019	37.70233	-82.77659	Prestonsburg	12	4 EF Coup.	$75.00	4"	2	20
3/20/2019	37.44471	-82.80593	Wayland	7	2 EF Coup.	$28.00	2"	3	38
3/28/2019	37.76279	-83.08925	Salyersville	13	3" EF Coup.	$34.00	3"	1	29
3/28/2019	37.32406	-82.68414	Weeksbury	8	3- 2" EF Coup 1- 2" 45 Ell	$28.00 $6.00	2"	1	12
5/7/2019	37.48029	-82.84337	Garrett	4	2" Cap 1-2" EF Coup.	$20.00	2"	0	48960
8/14/2019	37.68000	-83.04975	Salyersville	6.5	2" EF Coup	$28.00	2"	4	18
9/5/2019	37.61928	-82.26783	Belfry	7	3" EF Coup 1" SF Cap	$34.00 $4.30	3"	1	35
9/10/2019	37.64072	-82.25941	Belfry	3	2" EF Coup	$28.00	2"	2	8
9/11/2019	37.35464	-82.69130	Bevinsville	4.5	2" EF Coup 2" Cap	$28.00 $3.50	2"	0	64
									49356
				105		$935.45		29	396

11 Yes Or N	Damage BY	Notes
Y	Excavator	Prestonsburg City Utilities broke the line digging for water line.
N	Excavation	Water Dogs Construction broke the line while shooting a mole undergroung.
Y	Sawzaw	T&N Construction sawed through a steel line with the assumption it was dead.
N	Excavator	R&L Paving broke the line while removing a tree stump.
	Excavation	Mountain Water District broke the line during installation of water line. New service 2019
Y	Excavator	Hawk Eye Contracitng borke the line while installing a drain and manhole.
Y	Excavator	Duncan Construction broke the line while digging out a creek bed.
Y	Excavator	T&N Construction broke the line while digging out ditch for drain line.
Y	Excavation	L&L Excavating broke the line while shooting a mole underneath the road.
N	Excavator	Floyd Co Road Dept broke the line while installing a drain ine.
N	Excavation	Floyd Co. Road Dp, hit line and never told anyone. Got the call from a man said the meter was running fast we may have a leak. We did bill the County for gas loss $2893.76. DID PSC Fine them? ID 31625
N	Excavator	C&C Construction broke the line while repairing a slip along roadside.
Y	Excavator	2018 PRP line Hit J&L Cosntruction broke the line digging out a sewer line.
Y	Excavator	Water Dogs Construction broke the line diggin out a sewer line.
Y	Excavator	Floyd Co Road Dept broke the line while installing a drain ine.
Total		
	<-------	This is taking out the line break 5/7/2019

Excavation Damages to Service Lines
Year: 2019

Number of Damages	9		Total
	Est. Units	Unit Cost	
	MCF	$	
Est. Gas Loss	1.8	$5.36	$9.65
	Hours	$	
Est Labor Cost	54	$25.31	$1,366.74
	Unit	$	
Est. Parts/Fittings	1	$198.45	$198.45
	FT.	$	
Est. Pipe Footage	23.5	$0.35	$8.23
	Hours	$	
Est. Equipment	54	$50.00	$2,700.00
		Total	**$4,283.06**
		Number of Hits	**9**
		Avg. cost per damage	**$475.90**

Date	Lat.	Long	City	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe Footage	Time in min. gas blowing
1/7/2019	37.44514	-82.80802	Wayland	3.5	2 EF Coup.	$18.90	1"	2	40
1/17/2019	37.47969	-82.83256	Garrett	2	2 EF Coup.	$18.90	1"	1	45
2/25/2019	37.77502	-82.67593	Van Lear	2	2 EF Coup.	$18.90	1"	1	30
3/8/2019	37.66695	-83.30723	Vancleve	9	2 EF Coup.	$18.90	1"	3	120
3/28/2019	37.76405	-83.08822	Salyersville	9	4 EF Coup.	$37.80	1"	6	87
5/2/2019	37.51627	-82.15366	Belfry	5	2 EF Coup.	$18.90	1"	1	90
6/10/2019	37.51334	-82.15533	Phelps	24	3 EF Coup.	$28.35	1"	4	90
8/6/2019	37.73679	-82.76353	Auxier	2	2 EF Coup.	$18.90	1"	3.5	75
8/7/2019	37.68290	-83.03643	Salyersville	1.5	2 EF Coup.	$18.90	1"	2	30
Total				58		$198.45		23.5	607

811 Yes or No	Damage by	Notes
N	Excavator	T&N construction hit line while installing a drain pipe.
Y	Post hole	5 Star Electric broke the line with a posthole digger, setting a power pole.
N	Excavator	Mills and Son Construction broke the line while installing a drain line.
N	Excavator	Breathitt Co road dept broke the line while installing a drain pipe.
Y	Excavator	L&L construction broke the same line twice while installing a drain line along the roadway.
N	Excavator	Mountain Water District broke the line while installing a new sewer service.
N	Backhoe	Jacky Smith broke the line while using a backhoe on his property.
N	Excavator	Floyd Co road dept broke the line while cleaning out a ditch line.
N	Backhoe	Rondal Reed broke the line digging out a ditch on his property.

Excavation Damages to Main Lines
Year: 2018

Number of Damages	12		Total
	Est. Units	Unit Cost	
	MCF	$	
Est. Gas Loss	13	$5.78	$75.14
	Hours	$	
Est Labor Cost	107.65	$23.40	$2,519.01
	Unit	$	
Est. Parts/Fittings	1	$871.90	$871.90
	FT.	$	
Est. Pipe Footage	69	$1.50	$103.50
	Hours	$	
Est. Equipment	107.65	$50.00	$5,382.50
		Total	**$8,952.05**
		Number of Hits	**12**
		Avg. cost per damage	**$746.00**

Date	Lat.	Long	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size	Pipe footage
2/27/2018	37.736873	-83.064024	Ky Rt 7-Salyersville	6	3" EF coup	$17.00	3" PE	NA
					3" cap	$12.90		
3/27/2018	37.30959	-82.70142	Weeksbury	9	2- 3" coup	$34.00	3" PE	3
6/5/2018	37.62477	-82.72091	Allen	10	2- 3" coup	$34.00	3" PE	3
6/25/2018	37.73445	-83.06151	Ky Rt 7-Salyersville	9	3- 2" coup	$42.00	2" PE	5
9/21/2018	37.63715	-82.29391	Forest Hills-Belfry	4	2- 2" EF coup	$28.00	2" PE	2
10/12/2018	37.76163	-82.65395	Honey Branch-Debord	10.15	4" Valve	$362.00	4" PE	0
					4" EF coup	$54.00		
10/18/2018	37.7403	-83.04641	E Mtn Parkway-Salyersville	7.5	4" EF coup	$54.00	4" PE	2
10/23/2018	37.74377	-83.0566	Hardin Drive-Salyersville	5	3- 2" EF coup	$42.00	2" PE	10
10/30/2018	37.68972	-82.79627	Abbott Mtn-Prestonsburg	12	2- 4" EF coup	$54.00	4" PE	34
11/16/2018	37.74894	-83.0677	Parkway Drive-Salyersville	8	4- 2" EF coup	$56.00	2" PE	5
11/29/2018	37.68607	-82.81435	Abbott Creek-Prestonburg	3	2- 2" EF coup	$28.00	2" PE	2
12/10/2018	37.74029	-83.0463	E Mtn Parkway-Salyersville	24	2- 4" EF coup	$54.00	4" PE	3
				107.65		**$871.90**		**69**

Time in min. gas blowing	811/Marked	Damaged By?	Notes
150	No	Excavator	Bizzack Construction hit the line digging for a drain pipe.
	No	Excavator	Capped the line off
55	No	Excavator	Floyd County Road Dept broke the line installing a drain line.
20	Yes/No	Excavator	Boca Construction hit the line installing a sewer line.
150	No	Excavator	Bush&Burchett hit the line digging for a burn pit.
240	No	Excavator	Mountain Water District broke the line while repairing a water line.
35	Yes/No	Auger	Elliott Contracting broke a line installing a power pole.
30	No	Excavator	Bush&Burchett broke the line installing a culvert.
13	No	Bulldozer	
15	Yes/No	Excavator	Nova Inc broke the line during excavation.
10	No	Excavator	Salyersville Water broke the line installing a sewer line.
30	Yes/No	Excavator	Boca Construction hit the line installing a sewer line.
60	No	Excavator	Hinkle contracting hit the line during drain installation

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Excavation Damages to Service Lines
Year: 2018

Number of Damages	13		Total
	Est. Units	Unit Cost	
	MCF	$	
Avg. Gas Loss	0.7	$5.25	$3.68
	Hours	$	
Avg. Labor Cost	54	$23.40	$1,263.60
	Unit	$	
Avg. Parts/Fittings	1	$174.76	$174.76
	FT.	$	
Avg. Pipe Footage	19	$1.50	$28.50
	Hours	$	
Avg. Equipment	54	$50.00	$2,700.00
		Total	**$4,170.54**
		Number of Hits	**13**
		Avg. cost per damage	**$320.81**
			Per Year

Date	Lat	Long	Location	Man Hrs worked	Fittings	Price of Fittings	Pipe Size
3/5/2018	37.75691	-83.10392	Pleasant Hill-Salyersville	4	2- 1" EF coup	$18.90	1" PE
5/13/2018	37350450	-82.81657	Rebel Road-Allen	7.5	2- 3" EF coup	$34.00	3" PE
6/28/2018	37.48365	-82.83551	West Garrett	2.5	2- 1" SF coup	$5.06	1" PE
6/29/2018	37.33445	-82.68882	Mill Branch-Melvin	8	1/2" EF coup	$5.00	1/2" CTS
7/11/2018	37.75726	-83.09376	Elk Creek-Salyersville	2	2- 1" SF coup	$5.06	1" PE
7/23/2018	37.63042	-82.7093	Allen	3	2- 1" SF coup	$5.06	1" PE
9/17/2018	37.70295	-82.77171	Cliff Rd-Prestonsburg	2.5	2- 1" SF coup	$5.06	1" PE
10/6/2018	37.74397	-83.09326	Connelly Farm Rd-Salyersville	1.5	1" SF cap	$4.30	1" PE
10/9/2018	37.63036	-82.71957	Ky Rt 1428-Allen	5	2-1" SF coup	$5.06	1" PE
					1-1" SF cap	$4.30	
10/16/2018	37.47828	-82.82069	Stonecoal Rd-Garrett	2	1" EF coup	$9.45	1" PE
10/30/2018	37.62261	-82.72355	Dwale	3	1" EF coup	$9.45	1" PE
11/5/2018	37.78957	-83.06248	Hud Adams Rd-Salyersville	7	2- 1" EF coup	$18.90	1" PE
11/29/2018	37.68608	-82.81422	Abbott Creek-Prestonsburg	3	2- 1" SF coup	$5.06	1" PE
12/11/2018	37.74011	-83.04563	E Mountian Pkwy-Salyersville	8	2-1 1/4" EF coup	$18.90	1" PE
					2-1" EF coup	$18.90	
					2-1 1/4"x1" BF red	$11.66	
				59		$184.12	

Pipe footage	Time in min. gas blowing	811/Marked	Broken by?	Notes
2	19	No	Excavator	L&Lcontracting broke the line installing a sewer line
1	31	No	Backhoe	Homeowner broke the line installing a drain pipe.
1	20	No	Excavator	Francis Water broke the line installing a water service.
0	0	No	Bush Hog	Floyd Co Road Dept borke the line cutting out weeds
3	0	No	Excavator	L&L Contracting broke the service line installing a sewer line.
3	27	No	Excavator	Boca Construction broke the line installing a sewer line.
2	0	Yes/No	Excavator	Boca Construction broke the line installing a sewer line.
0	45	Yes/Yes	Ditchwitch	Property owner broke the line digging on property.
1ft	35	Yes/NM	Excavator	Water Dogs Construction broke line installing a sewer line.
1	32	No	Bush Hog	DOT hit the line while cleaning out a ditch.
0	22	No	Posthole Dig	Property owner broke the line digging on property.
2	16	Yes/Yes	Excavator	Construction company broke line during a road bore.
3	16	Yes/No	Excavator	Boca Construction broke the line installing a sewer line.
1	16	No	Excavator	Hinkle Contracting broke the line digging for a drainage box.
19	279			

2. Identify by date, location, pipe material, and date of installation of all incidents of excavation damage to underground gas pipelines installed by Kentucky Frontier and not purchased as part of another system.

Witness: Harris

Response: See spreadsheet.

3. With certain inapplicable exceptions, 49 C.F.R. § 614(a) requires each operator of a buried pipeline to carry out a written program to prevent damage to that pipeline from excavation activities. Produce a copy of the written damage prevention program of Kentucky Frontier, including all revisions to the program since January 1, 2016.

Witness: Harris

Response: Damage Prevention Program is in the Frontier O&M manual at Section 690, attached.

690.1 PURPOSE

The purpose of the utility's Damage Prevention Program is to decrease the number and severity of line hits due to excavation near gas lines. The intent of this program is to notify contractors who may excavate within the service area that the Utility has a program, and how to get locates of buried gas lines. In addition, customers and the general public should be informed of the Damage Prevention Program.

690.2 APPLICABLE CODES AND REGULATIONS

DOT 192	OPS Title 49 CFR Part 192.614
APWWA	National Utility Color Code

690.3 EXCAVATION

Excavation means digging, drilling, post-holing, blasting, boring, tunneling, backfilling, removal of structures by explosive or mechanical means, and any other earth moving operations.

690.4 EXCAVATOR LISTING

The utility will maintain a list of excavators operating in the service area. The list will be updated periodically.

690.5 NOTIFICATION

Excavators on the list will be notified in writing of the utility's Damage Prevention Program and how to obtain a line locate. Customers and the general public will be informed of the Damage Prevention Program and how to obtain a line locate through the use of various media, including suitable utility bill inserts and radio, TV and newspaper advertisements.

690.6 RECEIVING LINE LOCATION REQUESTS

All locate requests will be routed to the appropriate One-Call center for the area to be excavated. The person who receives line location requests will record each locate call received. The caller will be told whether or not there are gas lines in the area to be excavated. If there are gas lines in the vicinity, caller will be told how and when the utility will mark the gas line locations. Caller should be asked to have a representative on site when the lines are marked, to assure a better channel of communication.

When the utility receives notification of the locate request from the One-Call center, the appropriate operator or contractor should be immediately notified, with location, nature of excavation, and the deadline for locating the line. The faxed notification should be filed and kept for 2 years.

690.7 INSPECTION AFTER EXCAVATION OR BLASTING

During and after any excavation around a transmission or distribution pipeline, operator shall visually inspect the excavated section to verify that the pipe and coating were not damaged. Any required repair shall also be recorded on a Examine Excavated Pipe Report. In the case of nearby directional drilling (within 48") or blasting (depending on the energy and distance), the inspection shall include a leakage survey.

690.8 NATIONAL UTILITY COLOR CODES

Underground utilities have a national color code for all flags or temporary markers. Utilities and the public have a way of defining each other's lines. The utility's gas line locations will be marked with SAFETY YELLOW.

The National Utility Color Code is as follows:

Safety Yellow	Natural gas or oil lines; distribution & transmission systems
Safety Blue	Water or slurry pipelines
Safety Green	Sewer systems
Safety Red	Electrical distribution and transmission
Safety Orange	Telephone, fiber optic, cable TV & other communications

SECTION 691 PIPE LOCATORS

691.1 GENERAL

Utilities have the duty to accurately locate and mark existing underground pipes, cables and other underground facilities. Accurate line locating and marking is necessary to prevent damage during excavation, both by the gas utility and others digging nearby.

691.2 PRINCIPLES OF OPERATION

- Underground utilities must be metallic or have a metal locate wire to enable the typical pipe locator to work. Steel-copper-aluminum lines can be directly located, and plastic lines are installed with a copper tracer wire.
- A typical pipe locator consists of a radio transmitter and a directional radio receiver.
- The transmitter generates an electromagnetic field in a buried metallic object by either conduction or induction.
- The receiver detects and indicates this electromagnetic field by audible and visual means.
- A *conductive* locator requires a metallic connection to the underground line, usually through a test station or a gas riser.
- An *inductive* locator does not require a direct connection to the line. It lies on the surface and uses electromagnetic induction to generate the field in the buried line.

691.3 USE OF PIPE LOCATORS

- A pipe locator should be used *every* time a proposed excavation will be in the immediate area of a gas line, for which the exact location is not precisely known.
- Every locator is different. Method of operation of each pipe locator is detailed in the operating manual supplied with each locator. Each employee operating a locator should be familiar with the operation and limitations of the specific instrument, including training on buried lines whose precise position is known.
- The transmitter is properly connected to the gas line, whether by direct metallic connection (conduction) or the transmitter is placed near and oriented toward the line (induction).
- The indicated line location must be adequately marked or staked.
- Natural gas lines are always marked with *Safety Yellow* marking paint or flags. Other utilities are marked with other distinctive colors.
- If onsite, the excavator or foreman for the excavating project should be informed of the line locates, the methods used in marking line locations, and the general area covered by this particular line locate.
- Many pipe locators can estimate depth. This estimate should never be taken as fact; when a proposed excavation will cross or closely approach a gas line, the line must be exposed by hand to verify actual location.

691.4 MAINTENANCE

- Field repair of a locator is limited to replacement or recharging of batteries.
- Repairs to locator electronics must be performed by the manufacturer.
- A pipe locator is an electronic instrument and as such should be handled with care. The instrument should be kept dry at all times and should occasionally be opened to blow out any dust and to check the battery connections.

SECTION 695 LINE MARKERS

695.1 PURPOSE

This section provides the standards procedure for locating gas pipeline markers.

695.2 APPLICABLE CODES AND REGULATIONS

DOT 192 OPS Title 49 CFR Part 192.707

695.3 LIMITATIONS

Pipeline markers and warning signs indicate only the presence of a pipeline. The marker does not have to be placed directly over the line. Line markers should not be used or relied upon to determine the exact location of the pipeline, in lieu of an actual locate.

Pipeline location within a ROW corridor may wander both horizontally and vertically (depth). The pipeline may not follow a straight course between markers. Additionally, there may be multiple pipelines located in the same corridor.

695.4 LOCATION OF MARKERS

1) Place and maintain line markers on gas pipelines in Class 1 or 2 locations (rural or low population density) at:

- Public road-street-highway or railroad crossings;
- Wherever necessary to identify the location of a gas main to reduce the possibility of damage or interference. Although not specified by DOT, examples of good locations for line markers include:
    - River and creek crossings, drainages, ditches (at water's edge)
    - Public paths and trails
    - Fence lines, property lines, between fields
    - Culverts (if parallel a roadway)

695.4 LOCATION OF MARKERS (continued)

- Pipeline appurtenances (block valves, test stations, reg stations, etc)
- Foreign underground utility crossings (if significant - pipelines, primary power, fiber optic and many-pair telephone cables)
- Line-of-sight breaks such as prominent points, ridges, lines of trees
- Every 500ft on long-distance lines for continuous line-of-sight

2) Line markers in Class 3 or 4 locations (urban or high population density) are much more difficult to place and maintain, because the public finds them ugly and obtrusive in city settings.

- Markers are required on gas transmission pipelines where practical.
- If the Utility has a Damage Prevention Program, most natural gas distribution mains and service lines within towns and residential areas *are not marked.*

3) In all Class locations, markers are required on gas pipelines at:

- Above-ground sections of gas main accessible to the public, for example bridge crossings, overhead creek crossings, regulator stations, block valves, etc.
- Utility may install line markers and warning signs of its own design at other locations where additional safeguards are deemed prudent.

695.5 WARNING LABEL

Each utility has its own designs for line markers and warning signs. The following information shall appear on each line marker or warning sign:

- The word, "WARNING", "CAUTION", or "DANGER"
- "Natural Gas" or "Gas" as product contained
- Utility's name and 24-hour emergency phone number
- Letters must be at least 1" high with 1/4" stroke

4. Pursuant to 49 C.F.R. § 192.614(c)(5), the damage prevention program required by 49 C.F.R. § 192.614(a) must provide for temporary marking of buried pipelines in the area of excavation before, as far as practical, the activity begins. State whether Kentucky Frontier has written procedures for responding to pipeline location requests and providing temporary marking of underground pipelines in the area of excavation before the activity begins. If so, produce a copy of the procedures and all versions of the procedures in effect since January 1, 2016.

Witness: Harris
Response: The Frontier O&M plan has generic descriptions of the procedures for locating pipelines and facilities in response to an 811 request:

690.6 RECEIVING LINE LOCATION REQUESTS

All locate requests will be routed to the appropriate One-Call center for the area to be excavated. The person who receives line location requests will record each locate call received. The caller will be told whether or not there are gas lines in the area to be excavated. If there are gas lines in the vicinity, caller will be told how and when the utility will mark the gas line locations. Caller should be asked to have a representative on site when the lines are marked, to assure a better channel of communication.

When the utility receives notification of the locate request from the One-Call center, the appropriate operator or contractor should be immediately notified, with location, nature of excavation, and the deadline for locating the line. The faxed notification should be filed and kept for 2 years.

691.2 PRINCIPLES OF OPERATION

· Underground utilities must be metallic or have a metal locate wire to enable the typical pipe locator to work. Steel-copper-aluminum lines can be directly located, and plastic lines are installed with a copper tracer wire.
· A typical pipe locator consists of a radio transmitter and a directional radio receiver.
· The transmitter generates an electromagnetic field in a buried metallic object by either conduction or induction.

· The receiver detects and indicates this electromagnetic field by audible and visual means.
· A conductive locator requires a metallic connection to the underground line, usually through a test station or a gas riser.
· An inductive locator does not require a direct connection to the line. It lies on the surface and uses electromagnetic induction to generate the field in the buried line.

691.3 USE OF PIPE LOCATORS

· A pipe locator should be used every time a proposed excavation will be in the immediate area of a gas line, for which the exact location is not precisely known.
· Every locator is different. Method of operation of each pipe locator is detailed in the operating manual supplied with each locator. Each employee operating a locator should be familiar with the operation and limitations of the specific instrument, including training on buried lines whose precise position is known.
· The transmitter is properly connected to the gas line, whether by direct metallic connection (conduction) or the transmitter is placed near and oriented toward the line (induction).
· The indicated line location must be adequately marked or staked.
· Natural gas lines are always marked with Safety Yellow marking paint or flags. Other utilities are marked with other distinctive colors.
· If onsite, the excavator or foreman for the excavating project should be informed of the line locates, the methods used in marking line locations, and the general area covered by this particular line locate.
· Many pipe locators can estimate depth. This estimate should never be taken as fact; when a proposed excavation will cross or closely approach a gas line, the line must be exposed by hand to verify actual location.

With the significant change in PSC practices, Frontier has developed a more specific 811 Procedure:

Upon receiving the email notification of an 811 ticket, the field operations supervisor determines where the line is and if it will need to be handled by the line locating crew. The first procedure is to call the person who is listed on the ticket as a contact person to verify location or make an appointment to meet onsite. The line locating crew will then determine

what instruments they will need and verify that they are in working order before leaving for the site. Upon arrival the crew determines if the line is locatable by tracer wire or steel and if it is, they will begin walking it out using the appropriate line locating equipment. If the line is not locatable, the crew will make a determination if there is a point of entry for the locator wire that can be inserted and located. If a point of entry is not able to be found, the crew will then use other means to locate, such as potholing or excavating. With our most recent purchase, we now have a line locator that is aimed specifically at unlocatable lines using sound wave technology.

After the line is located, the crew will then put down yellow paint and flags along the located area of gas pipe and will take several pictures for documentation. The technician will then document everything on the locate information form which will then be turned in along with the pictures to be downloaded into the computer system.

5. As required by 49 C.F.R. § 192.603(b), each operator is to keep records necessary to administer the procedures established under 49 C.F.R. § 192.605, including the procedures established as part of an operator's written damage prevention program. Identify and describe all records that Kentucky Frontier has maintained pursuant to 49 C.F.R. § 192.603(b) to administer the procedures in its written damage prevention program for the period January 1, 2016, to present, including records of actions taken by Kentucky Frontier in response to line-locate requests.

Witness: Harris

Response: Per our damage prevention program Kentucky Frontier Gas is a member of Ky 811 and receives all tickets by email. The ticket is then printed out and given to the line locating crew, who in turn determines the location and begins the process of contacting the caller listed on the ticket. If feasible, the crew responds to and goes out to locate the line the same day as receipt. After the line is located, the crew then puts down paint and marking flags to indicate the location of the line. The ticket is then turned back in along with the KFG line locate information form and all pictures taken for documentation. All 811 tickets are kept in office for 5 years as well as a newly instated process of records being inputted into a computer program.

6. Admit that Kentucky Frontier failed to provide temporary marking of the pipelines damaged by excavation activity that are the subject of the Damage Prevention cases now pending before the Commission.

Witness: Harris

Response: As will be addressed in the hearing, Frontier was not contacted by the excavator on several of these cases or was contacted too many weeks in advance of the actual excavation, and one case was not even an excavation damage case.

In some cases, the Frontier locator technician did not put down paint marking for unlocatable lines, because we were doing our best to follow the statute:

KRS 367.4903

(11) "Approximate location," when referring to an underground facility, means:

(b) For nonmetallic facilities without metallic tracer, the underground facility shall be located as accurately as possible from field location records and shall require notification from the operator of the inability to accurately locate the facility;

The statute does not require that utilities put down paint when the exact location is not determinable.

7. In the 2018 Status of Pipeline Replacement Project (PRP) file in Case No. 2017-00263, Kentucky Frontier states that it spent $22,600 on 15 miscellaneous projects due to leaks, dig-ins, and washouts. Provide a breakdown of costs of each individual project and indicate if any of the projects were subject to the Damage Prevention cases now pending before the Commission.

Witness: Shute

Response: None of these projects was a result of the cases cited.

8. In the 2018 PRP report filed on April 17, 2019, Kentucky Frontier states that it expended $1,731 on ERSI/GIS. Provide the status of the ERSI/GIS project, including the total funds expended to date, the percentage completion of the project, and the estimated completion of the project.

Witness: Shute

Response: Frontier has mapped more than 95% of the mains, or every system that had paper maps. We estimate that only 20% of service lines are mapped. However, nearly 100% of all meter locations are mapped in GIS, and the service lines are generally short and run directly out to the main. GIS data acquisition will never be completed as long as KFG is in business. Frontier expenditures to date are about $7,100 for GIS licenses and about $40,000 in labor and contractor costs.

9. In its responses to the initiating orders in the Damage Prevention Cases, Kentucky Frontier states that it had about 3,000 line-locate requests in 2018 through the 811 system. According to the Kentucky Contact Center, Kentucky Frontier had 1,415 line-locate tickets in 2018. Explain the discrepancy.

Witness: Harris

Response: At the end of 2015, Kentucky Frontier Gas purchased and merged operations with the company formerly known as Public Gas. Up until that point, we had been operating under one office/shop location. The Jackson office / shop set up by Public Gas was kept open, as the areas of service were quite a distance away from Prestonsburg. In doing so, we kept the separate 811 member IDs for Frontier and Public Gas, to have 811 requests sent to 2 separate offices. Ticket totals for member ID 0470 (Kentucky Frontier Gas) for the year of 2018 were 1,415 and ticket totals for member ID 0618 (Public Gas) were 1,576. This is a combined total of 2,991 responses for this time period.

10. According to the Kentucky Contact Center, Kentucky Frontier had 910 line-locate tickets for the period January 1, 2019, to September 30, 2019. Explain the reduction in the monthly average number of line-locate requests received by Frontier in 2018 and through September in 2019.

Witness: Harris

Response: As stated in 9 above, the total of 910 is the count for Kentucky Frontier member ID 0470. The current totals ending October 22, are 1,005 for Frontier and 492 for Public Gas. The projected 811 totals for 2019 could be about 2000, vs 3000 in 2018.

GIS makes 811 much more efficient. Over the course of the time that Frontier has used the ArcGIS program, our Field Operations Manager and GIS specialist have progressively updated the mapping systems throughout all of the service areas of the various small distribution companies. Upon review of the sectors in Kentucky 811 mapping for both Frontier and Public Gas, we discovered there were sectors of line included that were outside of our coverage areas. This was especially true in the inherited Public Gas mapping, as many sections of Jefferson Gas transmission lines were included. In February 2019, the GIS specialist worked with a Kentucky 811 representative to update our coverage area. This resulted in a big reduction in 811 tickets being received and the results, as expected, have led to a much more streamlined process in responding to and locating lines per 811 requests.

11. Some of the excavation damage incidents that are the subject of the Damage Prevention cases now pending before the Commission are dig-ins on steel pipe. Does Kentucky Frontier contend that these lines were not locatable?

Witness; Harris

Response: There is only one incident involving steel pipe. Case No. 2019-00319 for Incident 31348 should not have been brought against Frontier, because it isn't an excavation incident and thus is not subject to PSC fines.

The contractor had properly exposed a gas line in the location specified by Frontier. This was a PE main inserted into an old steel gas main. Without further consulting Frontier, a contractor worker cut the live gas line with a hacksaw. This particular case isn't an excavation incident and Frontier should not be subject to PSC fines. On the other hand, the contractor damaged the Frontier line and should be fined by PSC for not properly investigating this pipeline before they sawed it in half.

Kentucky Frontier Gas contends steel lines are usually easy to locate, accurately. There are no cases in recent memory where a poor locate by Frontier resulted in a dig-in on a steel line.

12. On page 2 of Kentucky Frontier's response filed on September 17, 2019, Kentucky Frontier lists six investments it has made or plans to make in the near future to help it locate "untraceable" lines.

a. Provide an update as to whether those items have been purchased or ordered.

b. Will the purchase of any of these items require debt financing?

c. Confirm whether Kentucky Frontier will seek to recover the cost of the investments in a future rate case.

Witness: Shute/Harris

Response:

12 a. Frontier has purchased a new line locator and the 4 items listed:

- 3M marker balls (initial order);
- vLoc3 Pro specialized locator to find marker balls;
- Gas Tracker sonic locator system;
- Jameson live main insertion reels & tools.

Frontier is actively searching for a used vacuum excavator trailer and expects to purchase before end of year. Frontier is researching the Jameson tools and possible camera systems, for purchase before the next construction season.

12.b. Will the purchase of any of these items require debt financing?

The vac trailer may require debt financing, but the term will be less than 2 years.

12.c. Confirm whether Kentucky Frontier will seek to recover the cost of the investments in a future rate case.

Frontier has had a PRP Pipeline Replacement Program in effect since 2013. This seems to be the most appropriate funding mechanism for the improvement of pipelines to make them traceable, or to replace sections if necessary.

PRP expenditures are currently considerably ahead of collections. As we get more experience in tracing pipelines, Frontier will evaluate the prospective costs,

added to the cost of known leaking lines already subject to PRP. If these figures are projected to overwhelm the PRP collections, then Frontier will file for an increase in either PRP or General rates to cover the deficits.

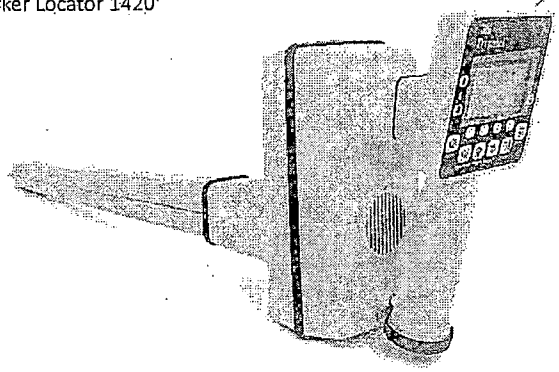
KPSC Case 19-00280 etal
DR1 Q12

Equipment Purchased for Locating Lines		
Date	Items	Cost
4/12/2016	Jameson Gas Line Tracer Kit	$1,007.80
2/27/2018	Jameson Gas Line Tracer Kit	$919.12
3/15/2018	Sure Lock Locater	$3,966.00
7/18/2019	Gas Tracker	$8,500.00
7/18/2019	vLoc 3-Pro Locater	$4,597.50
7/18/2019	vLoc 3 MLA, Marker Ball Adapter	$850.00
8/15/2019	50 - Near Surface Markers	$431.00
8/15/2019	60 - Marker XR Balls	$612.00
8/15/2019	200 - Near Surface Markers	$1,293.00
	Total	**$22,176.42**

1420 MARKER LOCATOR

Microprocessor-based systems that quickly and efficiently locate underground markers—years after construction or maintenance.

ITEM ID	PRODUCT DESCRIPTION
Contact Us	Marker Locator 1420



1420-ID MARKER LOCATOR

- Detects industry-standard electronic markers frequencies
- 3M ID marker read/write capability and depth estimation
- Marker maximum read range up to 8 ft. (2.4m) depth
- GPS communication capability for GIS mapping of pipe/ cable path and electronic markers
- Light weight with excellent balance and ergonomics
- Large backlit, high-resolution graphic display

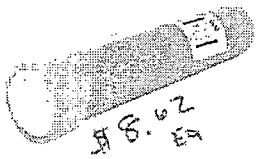
POINT MARKING

Unlike surface features, maps and other methods of recording position, the 3M™ Marker is a constant point of reference you can depend on.

ITEM ID	PRODUCT DESCRIPTION
42871	EMS Near Surface Marker - Gas
15483	EMS Ball Marker - Gas
42870	EMS Full Range Marker - Gas

EMS ID MARKERS

- Operate in all soil types; under asphalt; cement; and wet or dry soil
- Are color-coded to APWA standards
- Provide easy positive identification with each utility having its own frequency
- Can be customized to include customer-specific information

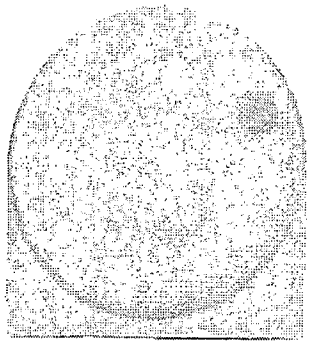


NEAR SURFACE MARKER

- For depths up to 2 ft

BALL MARKER

- For depths up to 5 ft



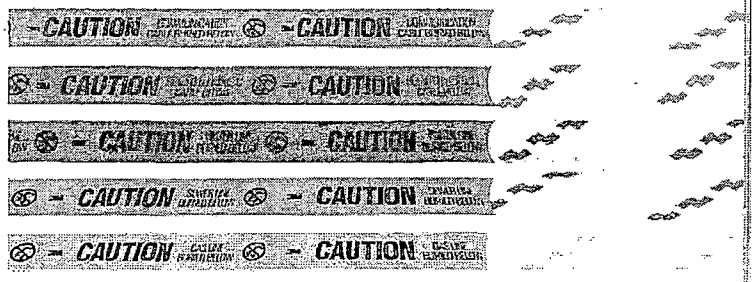
FULL RANGE MARKER

- For depths up to 8 ft

PATH MARKING

A virtually maintenance free solution for marking and locating the path of underground plastic pipes and conduits that helps eliminate the problems and costs associated with tracer wire and test stations.

ITEM ID	PRODUCT DESCRIPTION
37028	EMS Tape - Gas 7615
45564	EMS Tape - Gas 7615XR
45094	EMS Rope - Gas 7705-HTS



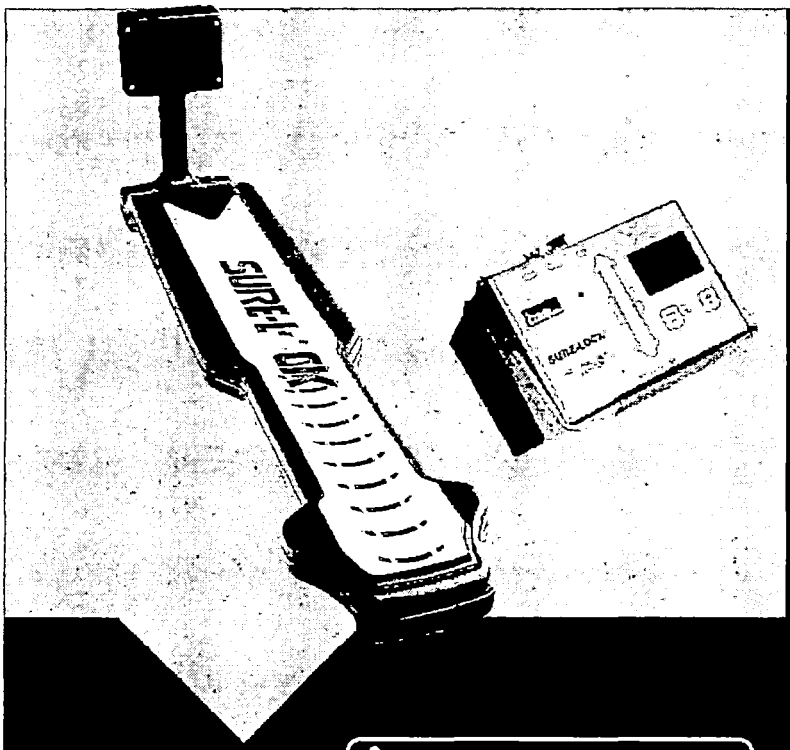
EMS PATH MARKING TAPE AND ROPE

- For depths up to 4 ft
- Can be installed near or above buried assets
- Easy to follow, creating a detectable path above ground
- For use in open trench and HDD
- They do not require batteries and there is no need to hook up an external transmitter or spend time searching for access points
- The markers work independently
- They come in 5 frequencies, creating a unique identification for each utility type

SURE-LOCK® *All Pro*

The Sure-Lock All Pro is "plug and play" with no programming required. The All Pro model was designed with a focus on increasing locating accuracy and productivity. The integrated receiver and transmitter allow you to configure the optimal frequency to locate even difficult utilities quickly and reliably.

The All Pro offers a broad spectrum of frequencies ranging from 8.1K to 480 kHz. This range accommodates audio, radio and ultra-high frequencies, allowing you to easily search for your target conductor like cable and insulated pipe. It can even finds poor conductors such as bare steel, cast iron, unbonded cable, broken tracer wire and helps verify dead end utilities.



FEATURES:

- Multi-jacking
- Simple two-button operation
- Continuous depth reading
- Phase locked loop technology reduces bleed off
- Weather resistant, durable, rugged
- 2 year manufacturer's warranty

HEATH CONSULTANTS

Your Safety... Our Commitment

9030 Monroe Road, Houston, TX 77061
www.heathus.com PH:713.844.1300

8/18

APPLICATION

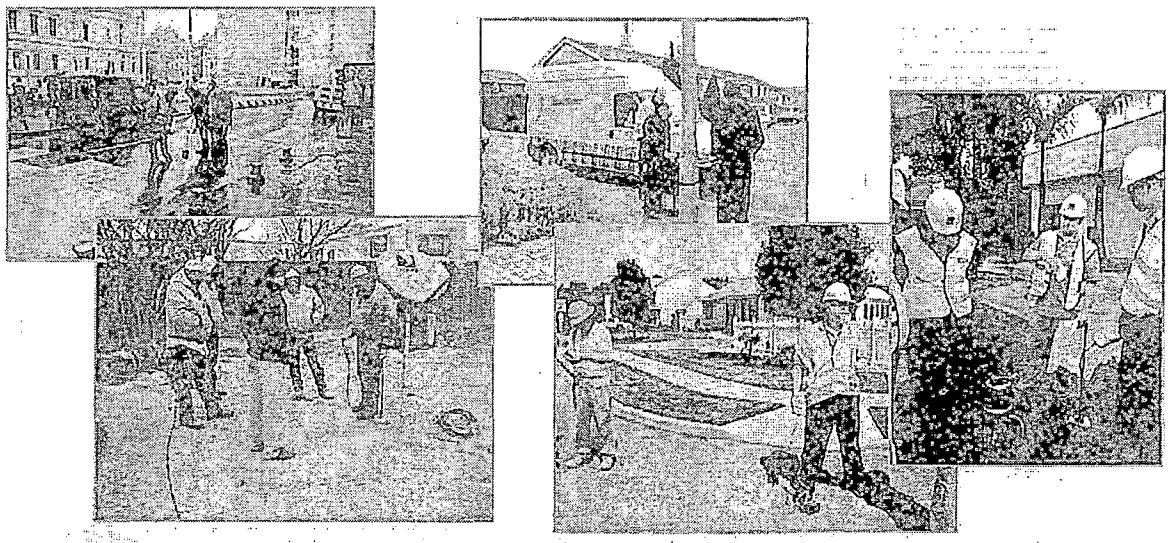
GasTracker™ is an instrument for tracing and identifying buried plastic gas pipes.

The method used is based on the **propagation of a complex acoustic wave.** Thanks to the **application-specific sensor** and **signal analysis software,** it is able to trace the position and direction of a buried plastic pipe from the surface.

WHY ?

Generally **out-dated maps are used to locate existing gas lines.** The **GasTracker™** was developed to provide an easier, more efficient means to locate pipes **resulting in a savings of time and money.**

Manufactured in France and validated almost one decade ago by the French group GDF, **it is now used on all continents.** This **unique signal injection method** is internationally patented.



TECHNICAL SPECIFICATIONS

The **GasTracker™** transmitter is mounted **in shock and waterproof insulated ABS carrying cases** (IP65). It includes a battery pack, which gives an operating time of approximately 5 to 6 hours. It works at normal pressure range of plastic gas pipe networks, so up to approx. 7 bars (100psi).

The GasTracker™ is CE marked. (European Union Standard)

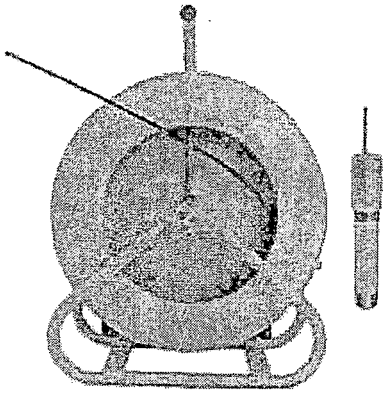
	TRANSMITTER	HAND-HELD	LISTENING DEVICE
SUPPLY	- Internal rechargeable batteries autonomy : approx. 5 h	- Internal rechargeable batteries autonomy : approx. 8 h	- Supplied by the hand-held Receiver
WEIGHT	Transmitter case with accessories : 33 lb / 15 kg	2 lb / 0.9 kg	2 lb / 0.9 kg
		Receiver case with accessories: 33 lb / 15 kg	
TEMPERATURE RANGE	-4°F to + 130°F / -20°C to +55°C		

JAMESON

SERVICE LINE TRACER

Traceable rodder locates live plastic gas service lines from meter to main.

ITEM ID	PRODUCT DESCRIPTION
24082	Gas Line Tracer Kit 3/16" X 100" w/Bullet Tip
Contact Us	Gas Line Tracer Kit 3/16" X 200" w/Bullet Tip
Contact Us	Gas Line Tracer Kit 3/16" X 300" w/Bullet Tip
41688	Gas Line Tracer Kit 1/8" X 300" w/Bullet Tip $12.00
45095	Gas Line Tracer Kit 1/8" X 300" w/Flexible Tip



REPLACEMENT PARTS IN STOCK!

SERVICE LINE TRACER KIT

- Stuffing box attaches to any riser
- No blow-by while feeding rod into live line up to 125 PSI
- Small bullet tip guides rod from riser to service transition
- Use with transmitter & receiver to trace gas line from above ground
- Available with 1/8" rod to get past 90° elbow
- Dimensions: 22" X 17" X 7"

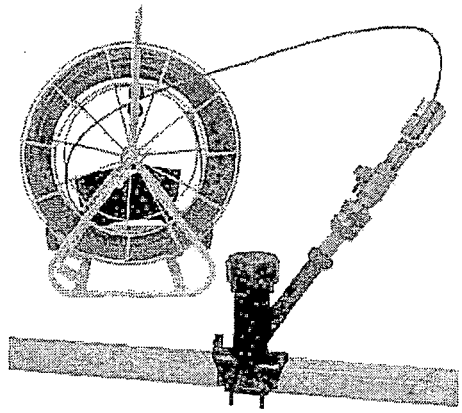
PARTS & ACCESSORIES

ITEM ID	PRODUCT DESCRIPTION
Contact Us	O-Rings for Gas & Water Main Tracer
22639	O-Ring Pack for G&W Service Line Tracer
45096	O-Ring for Gas Service Line Stuffing Box
22578	Bullet Tip Repair Kit Gas/Water
22640	Lubricated Wipes for Gas Tracer
24128	Stuffing Box for Service Line Tracer
44171	Stuffing Box Main Tracer
45098	Stuffing Box and Accessories Kit 1/8"
45114	Stuffing Box/Accessory Kit 3/16"
24532	Gas Tracer Bullet Tapered Tip Repair Kit
25053	End Ferrule Repair Kit for Main Line
44091	Directional Entry Tool With Case

MAIN LINE TRACER

Traceable rodder with electrofusion or mechanical insertion tee.

ITEM ID	PRODUCT DESCRIPTION
29800	Live Tracer for Gas Main 1/4" X 600' $2179.00
Contact Us	Live Tracer for Gas Main 1/4" X 600' w/Rod Marked in 5' increments
29801	Tap Tee 2 EF Insertion ML $325 ea
32741	Tap Tee 4 EF Insertion for Tracer ML $325 ea
32799	Tap Tee 6 EF Insertion for Tracer ML $351 ea



MAIN LINE TRACER KIT

- No blow-by while feeding rod into live main up to 125 PSI
- Trace main from above ground with transmitter & receiver
- Less disruption to roads and landscapes
- Minimal pavement breakage, excavation and restoration
- Electrofusion or mechanical tees
- Now available with rod marked in 5' increments

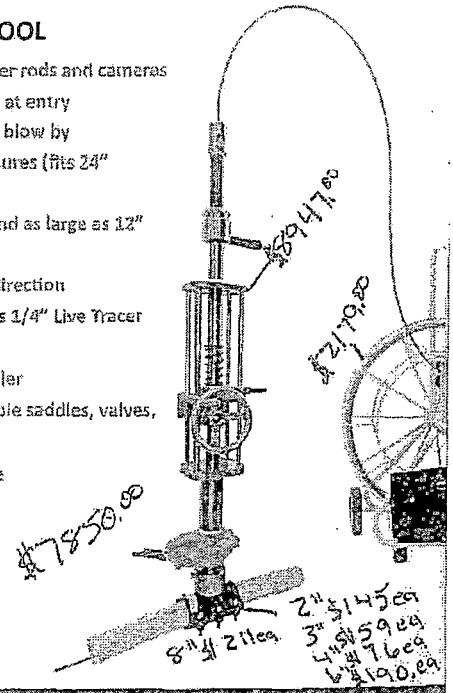
DIRECTIONAL ENTRY TOOL

Enables vertical insertion of tracer rods and cameras into live gas mains, facilitating the difficult first bend at entry.

ITEM ID	PRODUCT DESCRIPTION
44091	Directional Entry Tool With Case

DIRECTIONAL ENTRY TOOL

- Enables vertical insertion of tracer rods and cameras
- Facilitates the difficult first bend at entry
- Works on live gas mains with no blow by
- Compatible with keyhole procedures (fits 24" minimum keyhole)
- Works on mains as small as 2" and as large as 12"
- Attaches to plastic or steel pipes
- Rotates 360° to insert in either direction
- Optimized for use with Jameson's 1/4" Live Tracer For Gas Mains
- Fits camera heads 1-3/8" or smaller
- Works with commercially available saddles, valves, and tap tools
- Includes heavy duty storage case



KEY FEATURES/BENEFITS

POWER TO PERFORM

Equipped with a 24.8-hp (18.5-kW) Kubota® diesel engine for more power and performance.

PROVEN PRODUCTIVITY

The HX30 provides optimal suction and water pressure for mid-sized jobs and features a new patent-pending make-or-break seal design, which optimizes air flow for increased efficiency and simplified plumbing.

ENGINEERED FOR VERSATILITY

Optional jib boom has an exclusive dual articulation, providing the widest range of motion in the industry.

CUSTOMER-DRIVEN DESIGN

Featuring a low-profile design, the machine offers better visibility and maneuverability without compromising ground clearance.

SIMPLIFIED MAINTENANCE

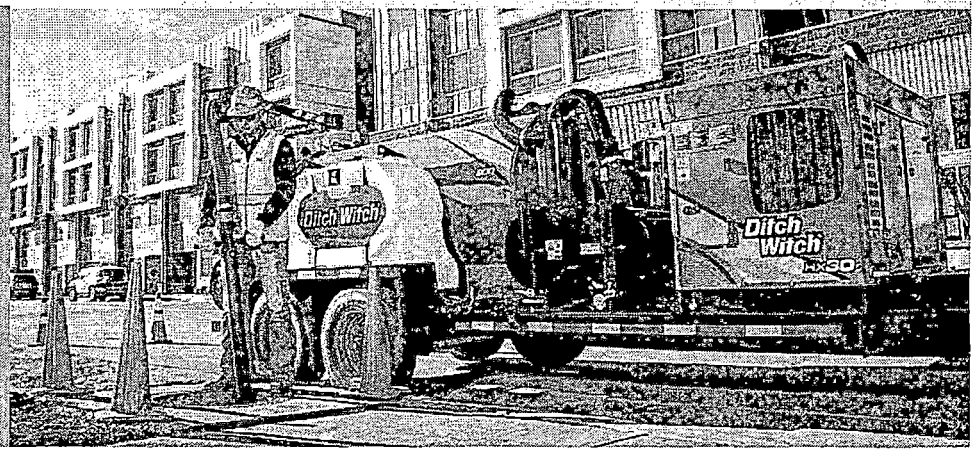
All maintenance points are more accessible with a liftoff power pack door design, making it easier to perform routine maintenance.

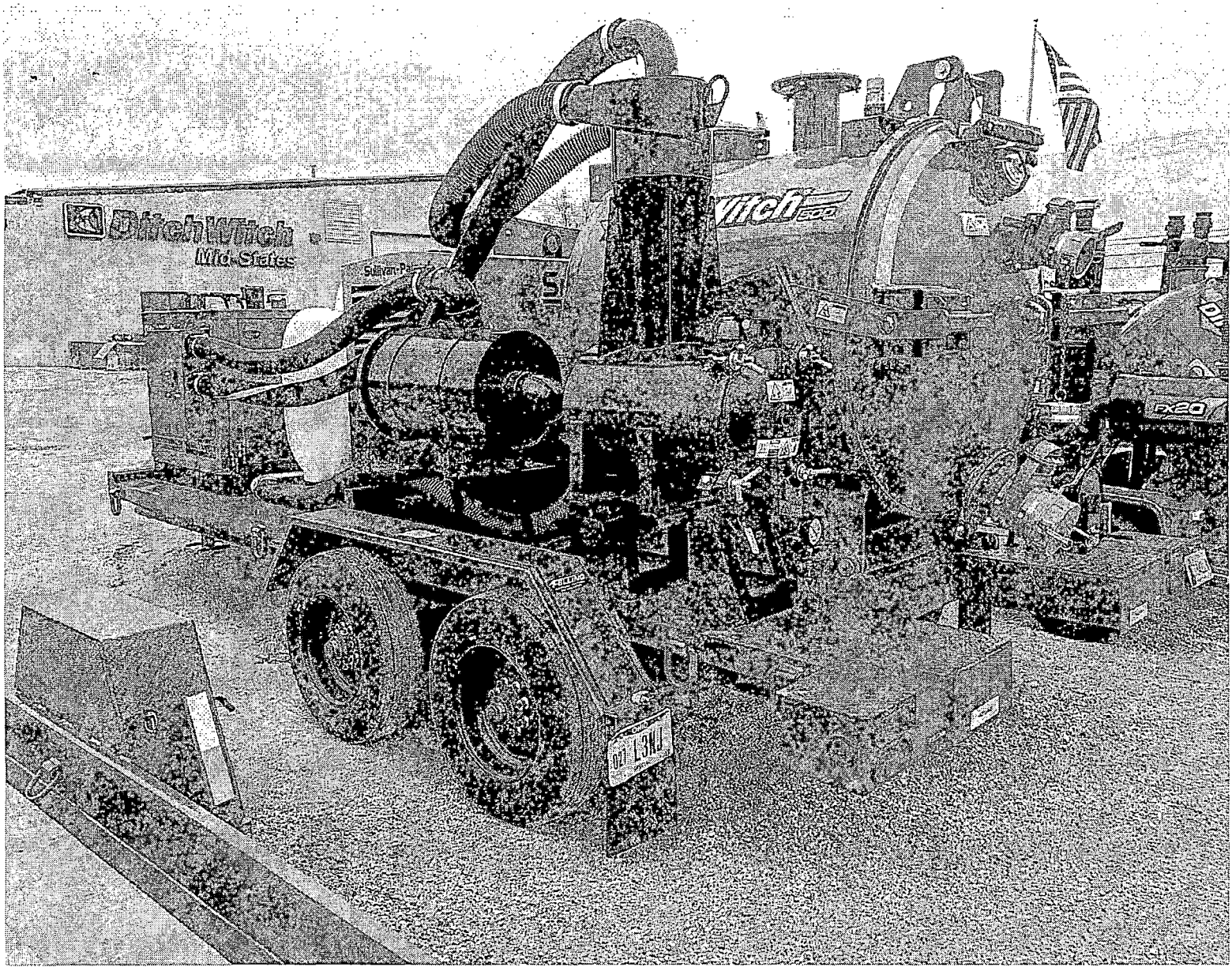
SUPERIOR FILTRATION

Standard cyclonic filtration system minimizes filter cleaning frequency and increases productivity.

INTRODUCING THE

HX30 VACUUM EXCAVATOR




DitchWitch
Mid-States
Ditch 500
RX20

Filing

CONTAINS

LARGE OR OVERSIZED

MAP(S)

RECEIVED ON:
(10/25/2019)